



MILADY<sup>®</sup>

STANDARD

NAIL TECHNOLOGY

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# MILADY

## STANDARD

7th Edition

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# NAIL TECHNOLOGY



Australia • Brazil • Mexico • Singapore • United Kingdom • United States

**Milady Standard Nail Technology,  
Seventh Edition**

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# Preface

## ■ TO THE STUDENT

Congratulations! You have chosen a career filled with unlimited potential, one that can take you in many directions and holds the possibility to make you a confident, successful professional. As a nail professional, you will play a vital role in the lives of your clients. Your clients will come to rely on you to provide them with ongoing service, helping them to look and feel their best.

According to *Nails* magazine industry statistics, in 2013, professional nail technicians performed more than 7.5 billion dollars' worth of manicuring, pedicuring, and nail enhancement services for millions of fashion-conscious clients in the United States. The business of nails continues to progress and grow with new breakthroughs in product technologies, application techniques, and business strategy. The need for educated and competent nail technicians is expanding in the same way. *Milady Standard Nail Technology*, 7th edition, is the complete first step to basic nail technology that all professional nail technicians need to kick off their career.

You are fortunate because you will learn from gifted instructors who will share their skills and experiences with you. You will meet other industry professionals at seminars, workshops, and conventions where you will learn the latest techniques, specific product knowledge, and management procedures. All of the experiences in which you have the opportunity to participate will provide you with additional insights into the profession you have chosen. You will build a network of professionals to turn to for career advice, opportunity, and direction. Whatever direction you choose, we wish you a successful and enjoyable journey!

## ■ TO THE INSTRUCTOR

This seventh edition of *Milady Standard Nail Technology* was prepared with the help of many instructors and professionals. Milady surveyed instructors, practicing nail professionals, and state board officials from across the United States and received in-depth comments from a host of experts to learn what needed to be changed, added, or deleted from the previous edition.

*Milady Standard Nail Technology*, 7th edition, contains new and updated information on many subjects, including infection control, product chemistry, manicuring, pedicuring, electric filing, monomer liquid and polymer powder nail enhancements, and UV and LED gels. Chapter 19, The Creative Touch, is loaded with the latest nail art mediums and techniques.

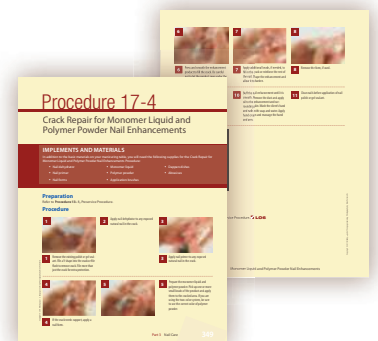
As instructors you asked Milady to make your job easier by aligning overlapping content between *Milady Standard Nail Technology* and *Milady Standard Cosmetology*, and we listened! This alignment includes the following chapters: History and Opportunities; Life Skills; Your Professional Image; Communicating for Success; Infection Control: Principles and Practices; General Anatomy and Physiology; Skin Structure, Growth, and Nutrition; Nail Structure and Growth; Nail Disorders and Diseases; The Basics of Chemistry; The Basics of Electricity; Seeking Employment; On the Job, Business Skills; Manicuring; Pedicuring; Monomer Liquid and Polymer Powder Nail Enhancements; and UV Gels. We also listened when you asked for photographs and art that depict nail technicians performing

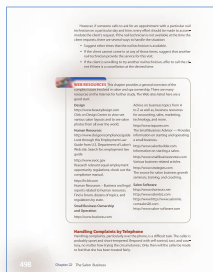
their work and serving their clients; we conducted a 6-day photo shoot to update more than 230 pieces of art throughout the book, including procedural art.

## ■ FEATURES OF THIS EDITION

In response to *your needs*, this exciting new edition of *Milady Standard Nail Technology, 7th edition*, includes the following features:

- **Chapters and Parts.** The book is organized into 22 chapters and four parts—making it is very easy to use.
- **Full-Color Art.** All art is in full color, with brand-new photographs to show you step-by-step procedures for manicuring, pedicuring, tips and wraps, electric filing, monomer liquid and polymer powder nail enhancements, UV gels, and a completely new basic nail art.
- **Learning Objectives and Review Questions.** Learning objectives provide measurable outcomes-based goals for the students in each chapter. These objectives are reinforced by review questions that assess how well the student has mastered the goals established in the learning objectives.
- **Actual Photos of Skin and Nail Disorders and Diseases.** Full-color photos are included to help students identify skin and nail disorders and diseases more accurately.
- **Client Consultation Guidelines.** A complete chapter focuses on client consultation and gives suggestions for identifying and meeting the needs of each individual client.
- **Chemical Safety Coverage.** A complete chapter is devoted to the important topic of chemical safety in the nail salon. Students will learn to identify the chemicals commonly used in the nail salon, how they can cause harm, how to protect themselves and their clients, and how to read Safety Data Sheets (SDSs) (formerly known as Material Safety Data Sheets [MSDSs]).
- **State Licensing Exam Topics.** The topics required for state licensing examinations are presented in a complete, easy-to-read fashion.
- **Safety Cautions.** Highlighted safety cautions alert students to services that include potentially dangerous procedures. These cautions explain how to avoid dangerous situations and how to provide services in a safe, clean environment.
- **Tips.** These tips provide hints on the most efficient and effective ways to complete step-by-step procedures and help students improve their nail technology skills.
- **Regulatory Agency Alerts.** Because state regulations vary, regulatory agency alerts remind students to check with their instructors for specific regulations in their state.
- **Business Tips.** These tips help nail technicians improve their business relations to achieve complete customer satisfaction.





- **Application Tips.** These tips give additional insight to nail technicians as they perform the service procedures.
- **Web Resources.** Throughout the text, the reader will be directed to a variety of useful and informational Web sites that they can use in and out of school.

## ■ SUPPLEMENTS FOR THE STUDENT AND INSTRUCTOR

*Milady Standard Nail Technology, 7th Edition*, features these supplements:

### **Available Translations**

- *SPANISH TRANSLATED MILADY STANDARD NAIL TECHNOLOGY CORE TEXTBOOK*
  - A Spanish translation of the core textbook
- *SPANISH STUDY RESOURCE FOR MILADY STANDARD NAIL TECHNOLOGY*
  - A Spanish translation of the student Workbook and the Exam Review
- *VIETNAMESE TRANSLATED STUDY SUMMARY FOR MILADY STANDARD NAIL TECHNOLOGY*
  - *This translated text includes the chapters most requested by nail tech schools with significant Vietnamese student populations, including Infection Control; Nail Disorders and Diseases; Nail Structure, Growth, and Nutrition; Manicuring; Pedicuring; Electric Filing; Nail Tips; and Wraps; UV Gels; The Creative Touch (nail art); and the glossary of key terms and definitions from the core textbook.*
  - *Exam review questions in Vietnamese*

### **Milady Standard Nail Technology Workbook**

This interactive workbook provides students with exercises, problems to solve, ideas to think about, and resolutions to create that will engage their interest and contemplative skills. The four-color workbook includes short-answer and short essay questions; sentence completion, matching, definition, and labeling activities; crossword puzzles; and word review activities. The workbook also includes tips on preparing for the practical exam.

### **Milady Standard Nail Technology Student Exam Review**

This student book of exam reviews contains multiple-choice-type questions similar to those found on state nail technology licensing exams. Questions are arranged in groups under major subject areas.

## New Student Supplement: Milady Standard Nail Technology Coursemate

CourseMate is an online tool that combines classroom management with interactive student tools. CourseMate provides instructors with all the reporting tools they need to track student engagement, while students access interactive study tools in a dynamic, online learning environment.

### Get Started with Coursemate:

1. Students receive a Printed Access Card that contains a code and instructions for accessing their course.
2. Instructors set up free access to CourseMate through Milady.
3. Through a simple process, instructors set up a unique course key to share with their students that will enable the engagement tracker to begin tracking each student's activity.

Component 1	Component 2	Component 3
<b>Interactive eBook</b>	<b>Student Learning Pathway</b>	<b>Engagement Tracker</b>
Features highlighting, note taking, book marking, and in-text search so that students can immediately jump to the section they need to reference.	Includes Chapter Preparation, Study Notes, Audio Glossary, Flash Cards, Quizzes, Videos, Crossword Puzzles, and Games. Each of these activities is reported directly to the Engagement Tracker so that the instructor is aware of the student's progress.	A Web-based reporting and tracking tool that allows the instructor to see each student's progress across all of the activities. View an individual student's progress through each of the tools, including time spent and, where applicable, grades and completion percentage. Also, view a class as a whole and immediately identify the students that need help.

## ***Milady Standard Nail Technology Course Management Guide on CD***

This step-by-step, simple-to-use course guide has been designed specifically to help the nail technology instructor set up and operate a successful nail technology training program. It includes:

- Guidelines for starting and implementing a nail technology program
- Detailed lesson plans for each chapter in the book along with a chapter test
- Learning reinforcement ideas or activities that can be implemented in the nail technology classroom
- Answers to review questions at the end of each textbook chapter and answers to the *Milady Standard Nail Technology Workbook*
- A computerized test bank for instant creation of review tests with answer keys
- An image library that includes all images in the text for use as handouts or in PowerPoint® presentations

## ***Milady Standard Nail Technology Instructor Support Slides***

The Instructor Support Slides contain a complete PowerPoint® presentation for every textbook chapter along with a new interactive feature of audio pronunciation for difficult terminology.

## ***Milady Standard Nail Technology DVD Series***

This ALL NEW DVD series brings to life complete coverage of the practical applications of the textbook. This series will enhance classroom learning and is essential for remedial work and individual learning.

## ***Instructor Website for Milady Standard Nail Technology***

This new instructor Web site contains all the content an instructor needs in one password-protected Web site. The instructor Web site includes the materials found in the following individual products:

- The Course Management Guide on CD
- The Instructor Support Slides
- Answers to the English and Spanish workbooks



# About the Authors

## ■ ALISHA RIMANDO BOTERO

Alisha Rimando Botero is recognized as one of the nail industry's leading experts in training and education. In her first 2 years as an educator, she taught classes in over 100 beauty schools and vo-techs across the United States. In her 14 years of experience, Botero's work has been described as "groundbreaking"; she has been a platform artist and motivational speaker for more than 1,500 promotional and educational events. She has competed in over 100 nail competitions around the globe, winning a World Championship in 2005. Botero has worked with R&D chemists to develop artificial nail enhancement products, nanotechnology skin care and cuticle treatments, polish collections, and natural nail treatments. One of her innovative product lines was awarded an industry ABBIE for best packaging, and several others have been recognized with readers' choice awards for best products.

As executive vice president and creative director of Artistic Nail Design, Botero continues to challenge herself and her team to create high-quality products and superior education for the professional nail market.



Photo courtesy of Alisha Rimando Botero

## ■ JOHN HALAL

John Halal began his career in the beauty industry as a hairstylist over 43 years ago. He is a licensed cosmetology instructor, a former salon and school owner, and currently the director of education at Tricoci University of Beauty Culture. Halal is an affiliate member of the Society of Cosmetic Chemists (SCC) and the treasurer of Beauty Changes Lives (BCL). He is the immediate past president of the American Association of Cosmetology Schools (AACCS) and the current president of the Indiana Cosmetology and Barbering Association (ICBA). John is the author of *Hair Structure and Chemistry Simplified* and *Milady Hair Care and Product Ingredient Dictionary*. He is also a contributor to the *Milady Standard Cosmetology Textbook* and several other Milady publications. Halal obtained his associate's degree, with highest distinction, from Indiana University. He is a member of the Golden Key National Honor Society and Alpha Sigma Lambda. He has authored numerous articles on a wide variety of topics and been published in several professional trade magazines. He often travels as a guest speaker to address both professional and consumer groups.



Photo courtesy of John Halal

## ■ MARY ANN KILGORE

Mary Ann Kilgore holds a B.A. in psychology and a M.A. in industrial organizational psychology. She is a licensed cosmetologist. After graduating from high school, she followed her passion for beauty and enrolled in cosmetology school. She opened a full-service salon just 5 years after graduating. With salon ownership experience and over a dozen years of dedication as a hair designer, she can clearly relate to the role of being a manager in a creative industry. Kilgore has a thirst for learning; while working in the salon during the day, she attended college and earned her master's degree in psychology in 2001. She transitioned her career into a corporate role and still maintained a small clientele.



Photo courtesy of Mike Steele

Photo courtesy of Jim McConnell, McConnell Labs, Inc.



With more than 15 years of training development and facilitation experience, Kilgore has designed and delivered a wide range of learning solutions for teams in areas such as finance, human resources, customer service, operations, manufacturing, and the beauty industry. She has also managed a team of beauty consultants in a leading retail beauty store. She now holds a position as a salon consultant for a national beauty product company and works as a nail technologist.

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Jim McConnell received his B.S. in chemistry from the University of Oregon in 1986. He has been a chemist in the field of polymers since 1988. After graduating from the University of Oregon, he worked as a catalytic chemist in the petroleum industry and as a urethane and epoxy chemist in the wood products, concrete coating, and steel coating industries for 12 years. He and his wife, Lezlie, founded McConnell Labs, Inc., in 1998, making Light Elegance Nail Products for their salon in Eugene, Oregon. They soon began selling the UV gel products internationally. McConnell has contributed to numerous nail technology magazines around the world to answer questions, contribute chemistry, and explain UV light technology. He has served on the board of various committees for SSPC (Steel Structures Painting Council) and NACE (National Association of Corrosion Engineers).

Photo courtesy of Janet McCormick, MS, Nail Technician, Esthetician and Author, Frostproof, FL



## ■ JANET MCCORMICK, MS, CIDESCO

Janet McCormick is a licensed and experienced esthetician and manicurist, a sought-after trainer, a former spa director, and the former owner of successful salons. The author of three books, she has also contributed chapters to the industry's leading textbooks for two specialties and written hundreds of highly respected articles in the beauty industry trade magazines.

McCormick is co-owner of Medinail Learning Center, which provides two certifications—the Advanced Nail Technician certification program for salon-based nail technicians and the Medical Nail Technician certification, a program to prepare nail technicians to work in podiatry offices. She is also owner of Spa Techniques, a consulting and training firm, and writes under that banner.

Photo courtesy of Vicki Peters



## ■ VICKI PETERS

As a nail technician, Vicki Peters has wowed the industry with her championship nails. As a cover artist and author, her work has been published worldwide more than any other tech in the history of the nail business. As an educator, she has trained techs from Russia, Germany, Japan, Ireland, the United Kingdom, Canada, Mexico, Africa, Australia, and the United States. As an industry leader, she has mentored thousands and pioneered the industry to new levels. Peters is a 31-year veteran nail technician, past competition champion, judge and competition director, technical educator, and featured business speaker. She is also author of the *Milady Nails Q&A Book*, *Drilltalk*, *The Competitive Edge*, and *Novartis' Nail Healthy Guide*. Her nail artistry has been on the covers of *TV Guide*, *Dayspa*, *Nails*, *Nailpro*, *Nailpro Europe*, and numerous fashion magazines. Her expertise in the nail business ranges from salon work and hands-on technical experience to R&D, education, and lecturing worldwide.

## ■ DOUGLAS SCHOON

Doug Schoon has over 30 years of experience as a research scientist, international lecturer, author, and educator; he has become a recognized authority in the professional beauty industry. He led Creative Nail Design's (CND) research and development program for 19 years, and for the last 6 years has been president of his own consulting firm, Schoon Scientific. He works as a strong advocate for salon safety and represents the professional nail industry on scientific and technical issues in the United States, Europe, Canada, Australia, and Japan.

Schoon is the author of several books and video and audio training programs as well as hundreds of articles about salon chemicals, chemical safety, and disinfection. As a writer and speaker, he is applauded for his ability to make complex theories and concepts seem interesting and easy to understand. His latest book, *Nail Structure & Product Chemistry, Second Edition*, Cengage Learning, is also considered an excellent resource for nail professionals. Currently, Schoon is a co-chair of the Nail Manufacturers Council (NMC) of the Professional Beauty Association (PBA).

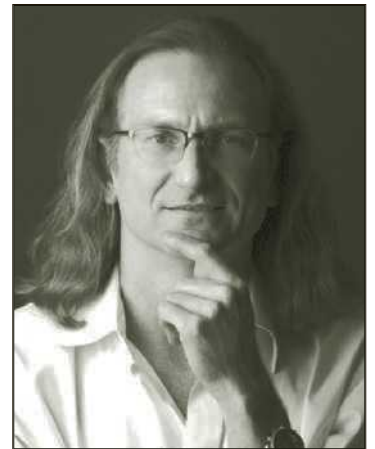


Photo courtesy of Doug Schoon

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Jeryl Spear is a veteran stylist and previous salon owner who perfected her craft over a 20-year stint in the beauty business. After spending 4 years as executive editor of Beauty Launchpad, in 2011 Jeryl became the editor in chief and creative director of *HOT* beauty magazine, a leading trade publication (print and digital) that focuses on all specialties within the professional-beauty industry (<http://www.hot.hairshow.us>).



Photo courtesy of Jeryl Spear

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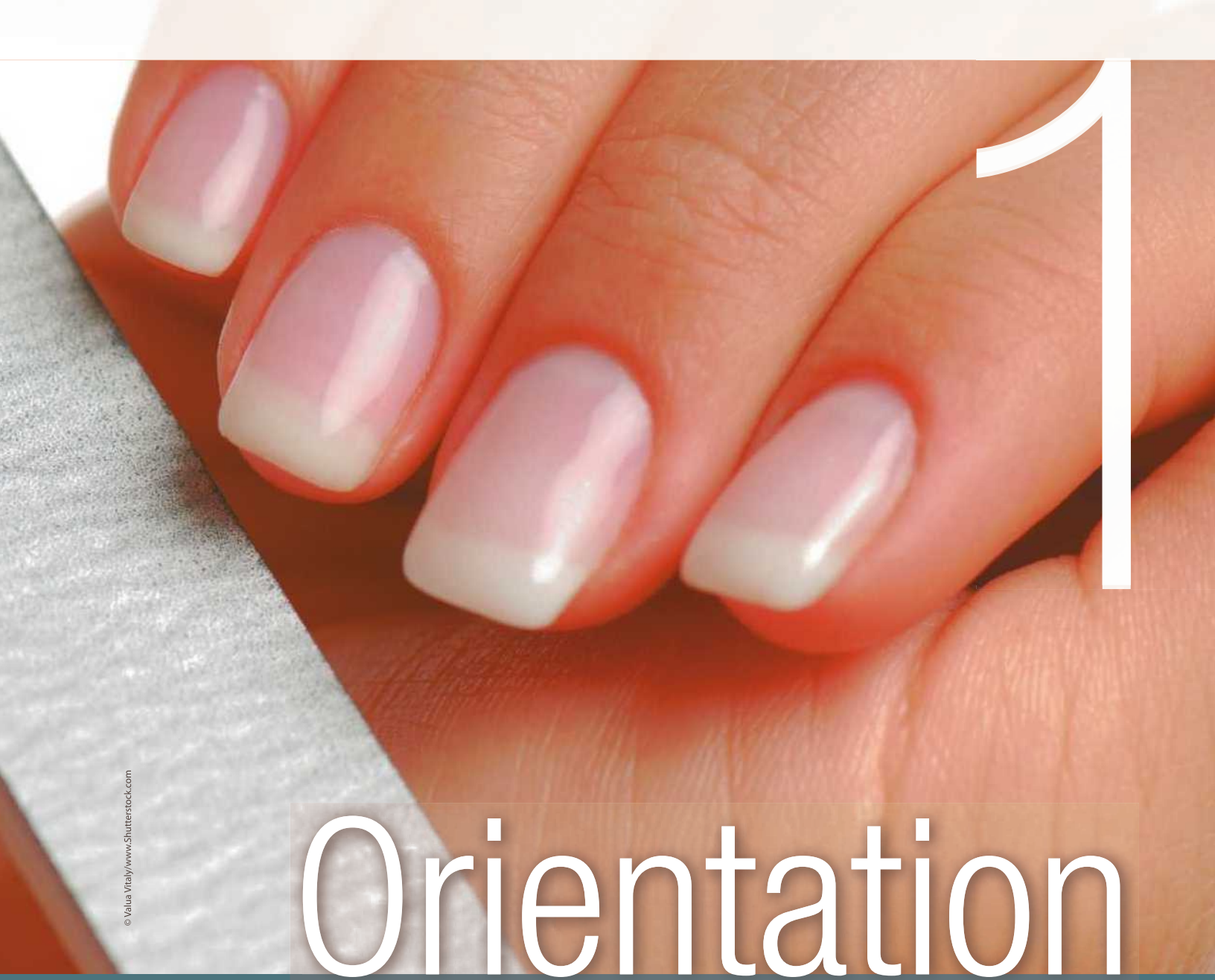
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# Orientation



**CHAPTER 1**  
History  
and Career  
Opportunities

**CHAPTER 2**  
Life Skills

**CHAPTER 3**  
Your Professional Image

**CHAPTER 4**  
Communicating for Success

# 1

# History and Career Opportunities

## Chapter Outline

- Why Study the History of Beauty and Nail Technology and Career Opportunities for Nail Technicians?
- A Brief History of Cosmetology and Nail Technology
- Career Paths for Nail Technicians



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# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **LO1** Explain the origins of personal beautification.
- ✓ **LO2** Discuss the advancements made in nail technology during the twentieth and early twenty-first centuries.
- ✓ **LO3** List several career opportunities available to a licensed nail technician.

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## Key Terms


Page number indicates where in the chapter the term is used.

**cosmetology** / 4

**nail technology** / 4

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**Cosmetology** is a term used to encompass a broad range of beauty specialties, including hairstyling, nail technology, and esthetics. It is the art and science of beautifying and improving the nails, hair, and skin and the study of cosmetics and their applications. In this text, we will primarily focus on **nail technology**, which is defined as “the art and science of beautifying and improving the nails and skin of the hands and feet.”

## WHY STUDY THE HISTORY OF BEAUTY AND NAIL TECHNOLOGY AND CAREER OPPORTUNITIES FOR NAIL TECHNICIANS?

Nail technicians should have a thorough understanding of the history of beauty and nail technology as well as career opportunities available, because:

- ▶ Knowing the history of your profession can help you predict and understand upcoming trends.
- ▶ Learning about the many different nail care services will help broaden your offerings or assist you in developing one or more specialties within your practice.
- ▶ Learning about the many possible career paths will help you see the wide range of opportunities open to nail technicians.

## ■ A BRIEF HISTORY OF COSMETOLOGY AND NAIL TECHNOLOGY

Personal beautification dates back to the dawn of history, with each subsequent period contributing new approaches to beautifying the hair, skin, and nails. While scientists and beauty visionaries in the twenty-first century have made many breakthroughs in beauty products, even they have been heavily influenced by past uses and achievements.

## The Egyptians

The Egyptians were the first to cultivate beauty in an extravagant fashion and to use cosmetics as part of their personal beautification habits, religious ceremonies, and burial preparations. In fact, as early as 3000 B.C., Egyptians used minerals, insects, and berries to create makeup for their eyes, lips, and skin and henna to stain their hair and nails a rich, warm red. In Ancient Egypt and during the Roman Empire, military commanders stained their nails and lips in matching colors before important battles.

Queen Nefertiti (circa 1400 B.C.) used a henna paste to stain her nails a deep red, wore lavish makeup designs, and used custom-blended essential oils as signature scents. Queen Cleopatra (circa 50 B.C.), who preferred a rust-red nail hue, took this dedication to beauty to an entirely new level by erecting a personal cosmetics factory next to the Dead Sea.



## The Chinese

History shows that during the Shang Dynasty (1600 B.C.), Chinese aristocrats rubbed a tinted mixture of gum arabic, gelatin, beeswax, and egg whites onto their nails to turn them crimson or ebony. Throughout the Chou Dynasty (1100 B.C.), gold and silver nails were strictly reserved for royal family members. In fact, during this early period in history, nail tinting was so closely tied to social status that commoners who were caught wearing the royal nail colors faced a punishment of death. Extraordinarily long nails were also a status symbol of the ancient Chinese elite. Some even wore gold, jewel-adorned nail guards to protect against damaging their lengthy symbols of wealth and leisure.

## The Greeks

During the Golden Age of Greece (beginning in 500 B.C.), hairstyling became a highly developed art. The ancient Greeks also made lavish use of perfumes and cosmetics in their religious rites, in grooming, and for medicinal purposes. They built elaborate baths and developed excellent methods of dressing the hair and caring for the skin and nails.

Greek soldiers often applied red color their lips and nails red when preparing for battle. Greek women used white lead powder on their faces, kohl on their eyes, and ground cinnabar—a brilliant red mineral that is a chief source of mercury—on their cheeks and lips. Interestingly, these powder and ointment preparations represent the basis of many cosmetic formulations still in use today.

## The Romans

Celebrating the power of cosmetics to beautify one's appearance, Roman philosopher Plautus (254–184 B.C.) wrote, "A woman without paint is like food without salt." Roman women used a mixture of chalk and white lead to powder their complexions. They also used hair color to indicate their class status: noblewomen colored their hair red, middle-class women colored their hair blond, and poor women colored their hair black. Both men and women used sheep blood mixed with fat to add color to their nails.

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## The Middle Ages

The Middle Ages is the period in European history that falls between classical antiquity and the Renaissance, beginning with the downfall of Rome in A.D. 476 and lasting until about 1450. Many tapestries, sculptures, and other artifacts from this period show towering headdresses, intricate hairstyles, and the use of cosmetics on the skin and hair. Women wore colored makeup on their cheeks and lips, but not on their eyes or nails.

## The Renaissance

During the Renaissance period (A.D. 1450–1600), Western civilization made the transition from medieval to modern history. Paintings and written records tell us a great deal about the grooming practices throughout this period. Both men and women wore elaborate clothing and used fragrances and cosmetics, although highly colored preparations for the lips, cheeks, eyes, and nails were discouraged. They may have avoided colored nail cosmetics, but wealthy people manicured their nails. Archeological digs have uncovered cosmetic tools from the Renaissance period, including nail cleaners—some doubling as ear scoops—made of bone or metal in a wide variety of designs.

## The Victorian Age

The reign of Queen Victoria of England (A.D. 1837–1901) was known as the Victorian Age. Fashions in dress and personal grooming were drastically influenced by the social customs of this austere period in history. To preserve the health and beauty of the skin, women used beauty masks and packs made from honey, eggs, milk, oatmeal, fruits, vegetables, and other natural ingredients. Rather than use cosmetics such as rouges or lip stains, Victorian women pinched their cheeks and bit their lips to induce natural color. Nails were sometimes tinted with red oil and then buffed with a chamois cloth. **LO1**

## The Twentieth Century

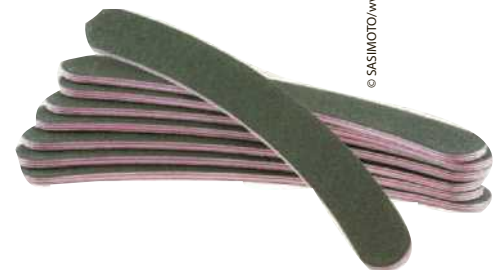
In the early twentieth century, the invention of motion pictures coincided with an abrupt shift in American attitudes. As viewers saw pictures of celebrities with flawless complexions, beautiful hairstyles, and manicured nails, the standards of feminine beauty began to change. This era also signaled the onset of industrialization, which brought a new prosperity to the United States. Beauty applications began to follow the trends set by celebrities and society figures.

### 1901 to 1919

**1904:** Max Factor began manufacturing and selling makeup to movie stars that wouldn't cake or crack, even under hot studio lights.

**1910:** Flowery Manicure Products introduced the first emery board that is nearly identical to the emery boards used today.

**1917:** Women massaged commercial powders, pastes, and creams onto their nails and then buffed them to a gleaming finish. One such polishing paste was Graf's Hyglo Nail Polish Paste. Some women applied a clear varnish to their nails with a very small camel hair brush.



## 1920s

The cosmetics industry grew exponentially. Cosmetics advertising in magazines swelled from \$2.5 million in 1915 to \$25 million in 1925. The total sales of cosmetics and toiletries mushroomed from \$8.6 million in 1909, to \$33.5 million in 1920.

## 1930s

In 1932, inspired by a new, opaque paint that was being produced for the automobile industry, Charles Revson marketed the first successful nail lacquer brand in a variety of colors. This beauty milestone marked a dramatic shift in nail cosmetics, as every woman literally had an array of nail polish colors at her fingertips. Early screen sirens Jean Harlow and Gloria Swanson glamorized this hip new nail lacquer trend by appearing in films wearing matching polish on their fingers and toes.

## 1940s

The aerosol can was invented, eventually leading to the marketing of the first hair sprays in 1948. Shiny lips also came into vogue for the first time when women began applying petroleum jelly over their lipstick. Nail polish applications omitted the moon at the base of the nail and sometimes did not include the tip of the nail.

## 1950s

The 1950s saw the introduction of tube mascara, improved hair care and nail products, and the boom and then death of the weekly manicure appointment. In the early 1950s, red nail lacquer was extremely popular, with nail technicians leaving the moon—the whitish, half-moon shape at the base of the nail plate—unpolished. As the decade progressed, full-coverage, frosted pastel colors—especially light coral, silver-white, pink, and apricot-gold—were all the rage. Hot oil manicures were the ultimate luxury in nail and hand care.

## 1960s

Juliette (paper) nail wraps—the precursor to silk and fiberglass wraps—were commonly used to protect natural nail tips. (Juliettes are credited with establishing the now familiar biweekly nail maintenance appointment.) Detached nail tips were reattached with model airplane glue and reinforced with thin strands of cotton. Human nail clippings were also used to add nail length. Clients brought their separated nail tips to their appointments for reattachment. Nail technicians also created “nail banks,” which consisted of nails donated by all of their clients! Frosted nail shades continued to be extremely popular. Hot oil manicures continued to be the luxury service of choice.

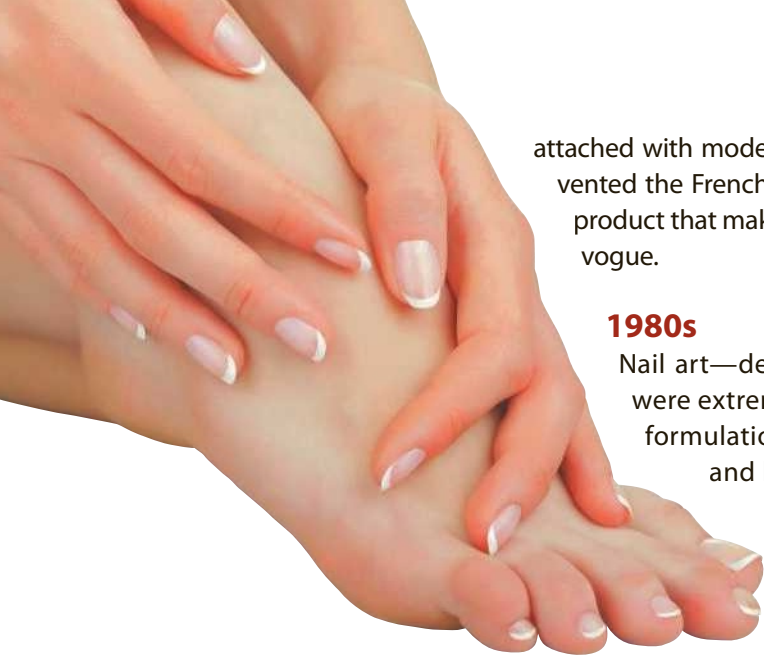
## 1970s

Nail technicians offered the first monomer liquid and polymer powder nail services. Plastic nail tips affixed with cyanoacrylate adhesive replaced nail clippings



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attached with model airplane glue to instantly extend nail length. Jeff Pink invented the French manicure (clear nail bed with white tip) and Ridgefiller (a product that makes ridged nails appear smooth). Squared nail tips came into vogue.

### 1980s

Nail art—decals, jewels, metallic strips, and hand-drawn images—were extremely popular. Monomer liquid and polymer powder nail formulations continued to improve in terms of ease of application and longevity for wearers.

### 1990s

The day spa business took hold, ushering in a huge resurgence in natural manicure and pedicure services. Airbrush (spray) guns were commonly used to apply nail designs, especially the white tip of a French manicure. In 1998, the first spa pedicure system was introduced to the professional beauty industry.

Other notable achievements of the twentieth century include:

- UV gel systems grew in popularity.
- Color UV gel and monomer liquid and polymer powder nail enhancements swept the industry.
- The popularity of natural nail care services reached a high point.
- Demand for pedicure services reached an all-time high.
- Nail technicians had unprecedented career choices.
- Nail enhancement performance vastly improved.
- Nail polish became safer and longer-lasting.

## Twenty-First Century

Nail grooming has reached an all-time zenith in terms of client demand and product and service choices. It is no longer considered a luxury; it is an expected part of every client's grooming ritual. An unprecedented demand for nail services of all types has created a critical shortage of nail technicians in the beauty industry.

Here are some examples of the exciting changes we've seen thus far:

- UV gel nail polish sweeps the nation. In addition to being called "gel nail polish," it is commonly referred to as a gel manicure, soft-gel manicure, and soak-off gel polish. Each coat of "polish" must be cured under a UV lamp for up to one minute, depending on the brand.
- Gel polish manicures have dramatically driven the growth of the professional nail industry since their introduction in 2010. This is largely because the manicure results last two weeks or longer—including no chipping or surface dulling—and nails are no thicker than they would be with a regular manicure polish. The one drawback: Unless a client has unusually strong and flexible nails, the nail plate must be kept relatively short.

Beyond defining your area of expertise, you must also decide whether you want to work in one or more of the following environments:

- Nail salon
- Full-service salon (hair, skin, and nail services)
- Day spa (skin, body, nail, and hair services that emphasize beauty and wellness) **(Figure 1-1)**
- Medical spa, medical office, or foot spa

- UV gel enhancements grow by leaps and bounds because of their adhesion and natural leveling capabilities, permanent shine properties, and no-odor formulations. Color and glitter UV gel and monomer liquid and polymer powder products also gain in popularity.
- Nail polish formulations evolve to embody chip-resistant, fade-resistant characteristics. Manufacturers continue to improve their nail polish formulas by eliminating many unsafe ingredients. Manicuring implements improve dramatically by incorporating new ergonomic designs and enhanced workmanship.
- A bevy of professional, natural nail care treatments and systems enter the professional beauty arena, allowing nail technicians to address specific nail concerns.
- Foot-and-hand skin treatment products continue to grow in numbers and popularity, including many scrubs, masks, and serums that specifically address dryness, dullness, and skin-aging issues. **LO2**



**Figure 1-1** Pedicures are high-demand services that many nail clients faithfully book on a monthly basis.

## CAREER PATHS FOR NAIL TECHNICIANS

Once you have completed your schooling and are licensed, you will be amazed at how many career opportunities will open up to you. The possibilities can be endless for a dedicated nail technician who approaches his or her career with a strong sense of personal integrity. Because rules and regulations vary from state to state, it is important to know which services are allowed in your state of licensure and the steps you must take to get there.

Within the professional nail industry, there are numerous specialties. They include the following:

- **Nail technician in a traditional salon or spa.** Today, clients are eagerly requesting a variety of nail services that require a combination of skills. Natural nail services—gel polish manicures and luxurious pedicures as well as nail-strengthening treatments—monomer liquid and polymer powder nail enhancements, and odorless UV gel nail enhancements, are all very popular salon and day spa services. You can now specialize in one specific area of your field (e.g., natural nails, pedicures, or nail enhancements) or be a full-service nail technician who offers many different types of nail services (**Figure 1-2**).
- **Medical nail technician/advanced nail technician.** Because many physicians now recognize the benefits of using medical nail technicians (MNTs) and advanced nail technicians (ANTs) to perform safe manicures and pedicures on at-risk patients, you have a golden opportunity to take your postlicensing career to a whole new level.

To become an MNT, you are required to take specialty courses and complete an internship under the direction of a podiatrist or physician. Once your advanced training is complete and you have been certified as an MNT, you have the choice of working in a variety of medical settings, including a medical spa or podiatry office. Duties vary, but could include assisting physicians with patients as well as performing cosmetic pedicures in a dedicated salon room.

You may also choose to become an ANT. An ANT must successfully complete an advanced training course that focuses on safely providing services for at-risk clients in a salon or spa setting. Becoming an ANT also gives you greater respect among salon clients and the opportunity to benefit from physician referrals.

- **Salon management.** If business is your calling, you will find diverse management opportunities in the salon and spa environment. They include inventory manager, retail sales manager, department head, special events manager (promotions), assistant manager, and general manager. With experience, you can also add salon owner to your list of career possibilities. To ensure your success, it is wise to enroll in business classes to learn more about managing products, departments, and, above all, people (**Figure 1-3**).



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▲ **Figure 1-2** Nail technicians have the choice of providing basic to luxurious pedicures as well as medical-based nail and foot services.



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▲ **Figure 1-3** Moving into management and even salon ownership are possible career paths for nail technicians.



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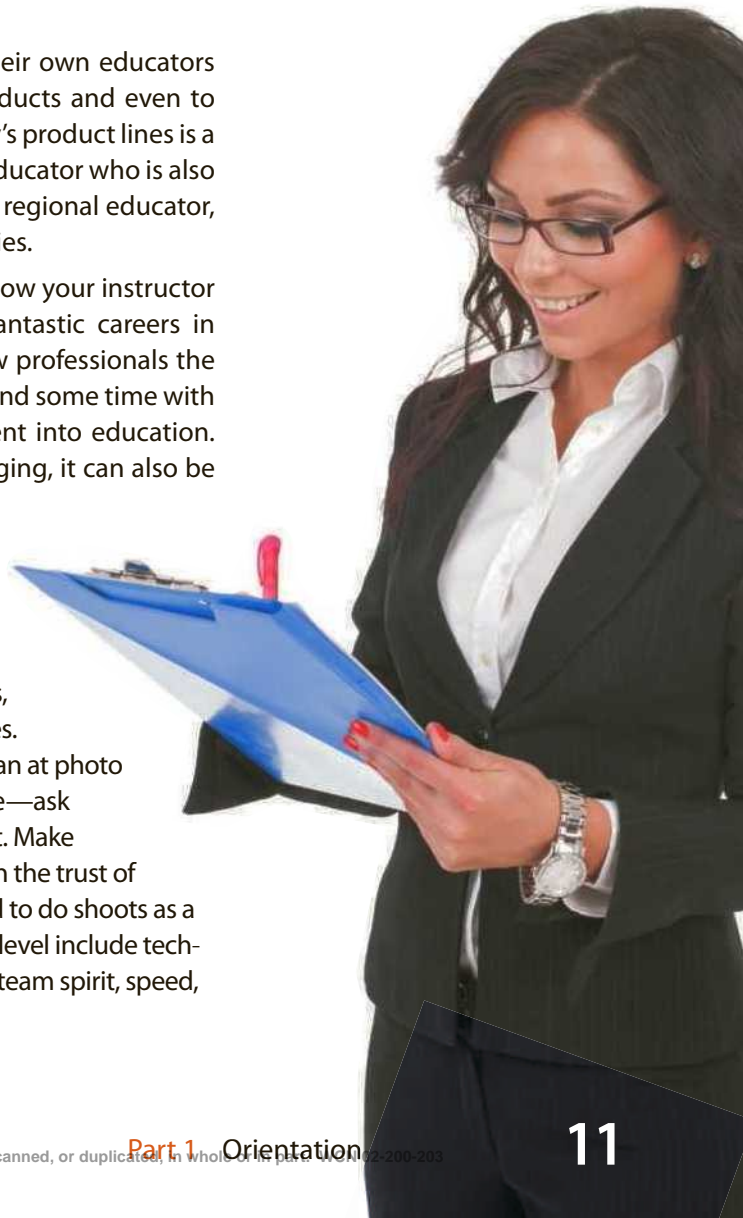


- **Salon educator.** Many companies, such as manufacturers and salon chains, hire experienced salon professionals and train them to educate others. This kind of education can take many forms, ranging from technical to management and interpersonal relationship training. A salon educator can work with small salons, as well as large organizations and trade associations, to help develop the beauty industry's most valuable resource—salon personnel (**Figure 1-4**).
- **Distributor sales consultant.** The salon industry depends heavily on its relationships with product distributors in order to stay abreast of changes in the marketplace. In addition to selling products, distributor sales consultants (DSCs) provide information about new products, trends, and techniques. This specialty provides an excellent opportunity for highly skilled and trained cosmetology professionals. The DSC is the salon's link to the rest of the industry. It is also a relationship that represents the most effective method for professional beauty product companies to reach salon professionals and owners.
- **Manufacturer educator.** Most manufacturers hire their own educators to train salon professionals on how to use their products and even to provide advanced education. Mastery of the company's product lines is a must for manufacturer educators. An accomplished educator who is also a good public speaker can advance to field educator, regional educator, or even director of education for nail-centric companies.
- **Beauty school instructor.** Have you ever wondered how your instructor decided to start teaching? Many instructors had fantastic careers in salons before dedicating themselves to teaching new professionals the tricks of the trade. If this career path interests you, spend some time with your school's instructors and ask them why they went into education. While educating new nail technicians can be challenging, it can also be very rewarding.
- **Film/editorial nail technician.** Working behind the scenes at magazine and Internet photo shoots, or backstage on movies and TV sets, begins by volunteering. Even someone right out of school can volunteer by networking with photographers, editorial stylists, and nail technicians who already work behind the scenes. Once you are officially assisting a seasoned nail technician at photo shoots—even if it means you are volunteering your time—ask photographers for one or two images in lieu of payment. Make sure they show off your nail work! Eventually, as you gain the trust of those who have allowed you to assist, you will be invited to do shoots as a paid nail technician. The qualities required to get to this level include technical expertise, persistence, networking skills, reliability, team spirit, speed, and attention to detail. **LO3**



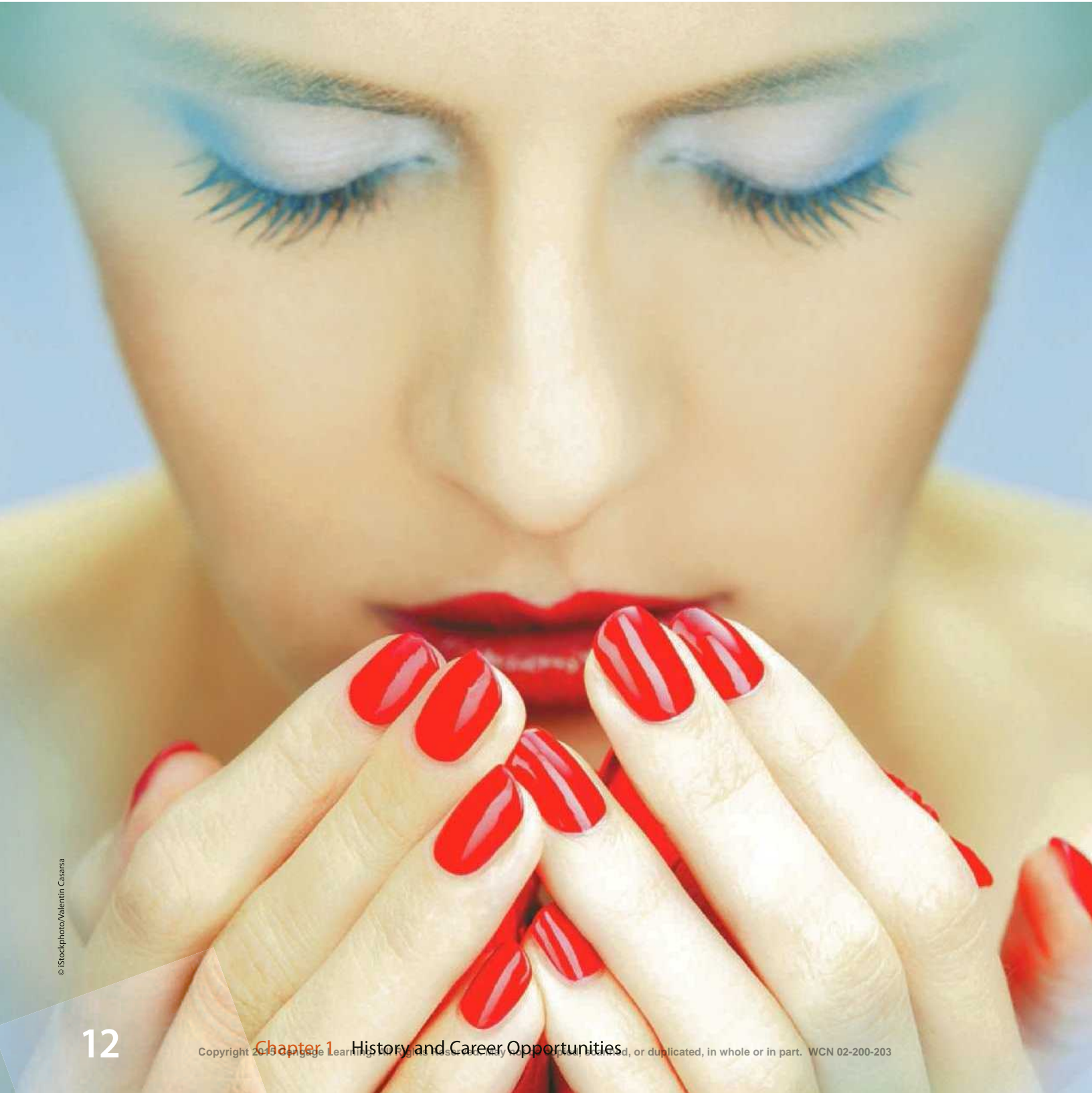
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▲ **Figure 1-4** Educators can work part-time and still service a clientele or work full-time as a teacher or trainer.



## ■ Review Questions

1. What are the origins of personal beautification?
2. What are some of the advancements that were made in nail technology during the twentieth and early twenty-first centuries?
3. What are some of the career opportunities available to licensed nail technicians?

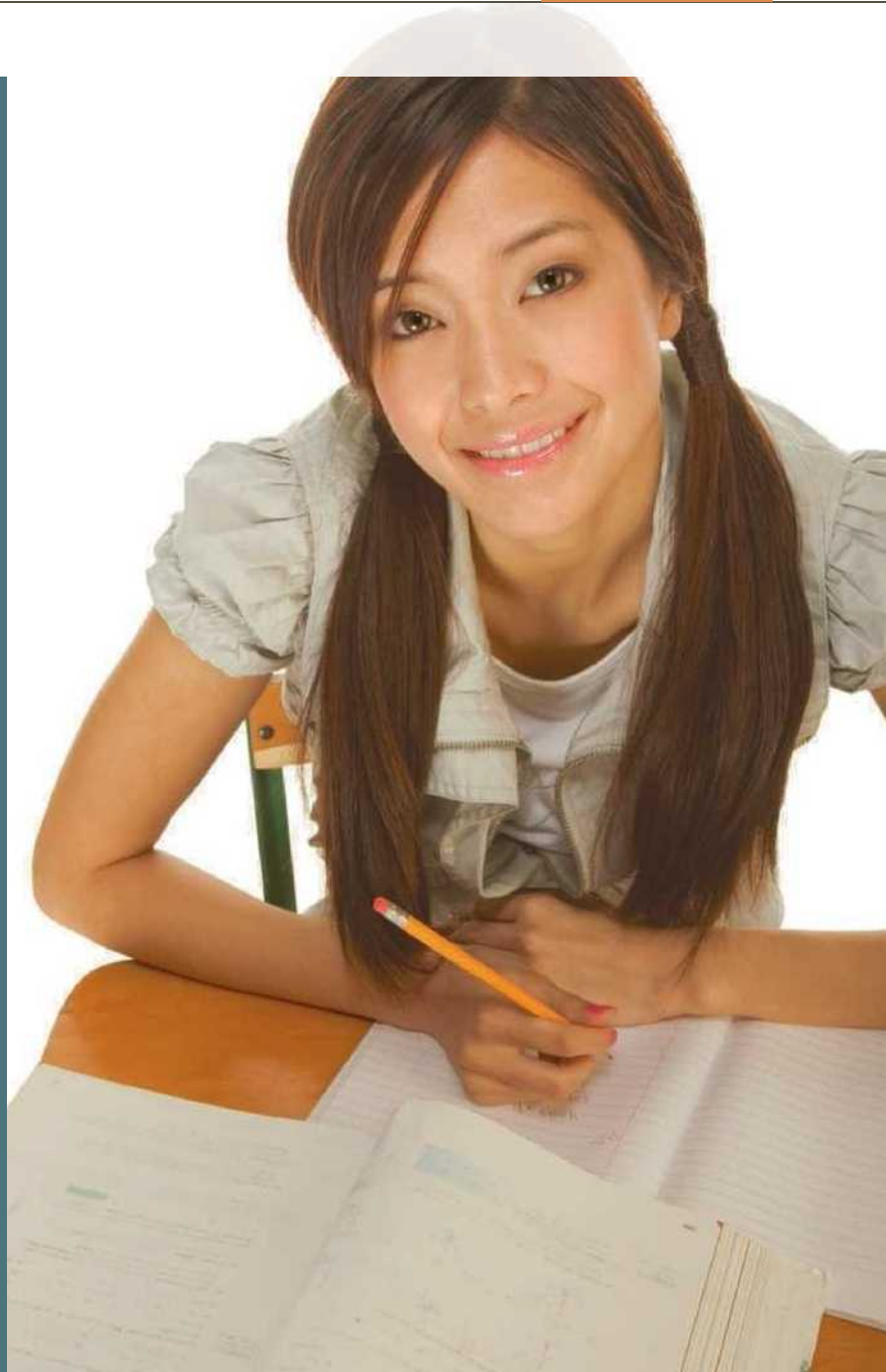


# Life Skills

# 2

## Chapter Outline

- Why Study Life Skills?
- Life Skills
- Guidelines for Success
- Rules of Success
- Recognizing and Managing Stress
- Motivation and Self-Management
- Managing Your Career
- Goal Setting
- Time Management
- Study Skills
- Ethics
- Personality Development and Attitude





# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **LO1** List the principles that contribute to personal and professional success.
- ✓ **LO2** Create a mission statement.
- ✓ **LO3** Explain how to set short- and long-term goals.
- ✓ **LO4** Discuss the most effective ways to manage time.
- ✓ **LO5** Describe good study habits.
- ✓ **LO6** Define ethics.
- ✓ **LO7** List the characteristics of a healthy, positive attitude.

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## Key Terms

Page number indicates where in the chapter the term is used.

- |                               |                             |
|-------------------------------|-----------------------------|
| <b>ethics</b> / 26            | <b>perfectionism</b> / 17   |
| <b>game plan</b> / 17         | <b>prioritize</b> / 23      |
| <b>goal setting</b> / 21      | <b>procrastination</b> / 17 |
| <b>mission statement</b> / 20 |                             |



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**S**chool presents one set of challenges, and staying on course for your entire career has another. Life skills are particularly important in the field of nail technology because the hard-and-fast rules that apply to more structured industries are frequently absent in the salon. By its nature, the salon is a creative workplace where you are expected to exercise your artistic talent. The salon is also a highly social atmosphere that requires strong self-discipline and excellent people skills. Besides making a solid connection with each client, you must always stay focused on the task at hand. You must display competence and enthusiasm every time you take care of a client's needs—no matter how you feel, or how many hours you have been at work. Your livelihood and your personal feelings of success depend on how well you maintain this attitude.

## WHY STUDY LIFE SKILLS?

Nail technicians should have a thorough understanding of life skills because:

- ▶ Practicing good life skills will lead to a more satisfying and productive career in the beauty industry.
- ▶ Nail technicians work with many different types of clients. Having good life skills can help you keep these interactions positive, in any situation.
- ▶ The ability to deal with difficult clients, coworkers, and even friends comes from having well-developed life skills.
- ▶ Having good life skills builds high self-esteem, which, in turn, helps you achieve your goals.

## ■ LIFE SKILLS

Some of the most important life skills for you to remember and practice in (and outside) the salon include:

- Being genuinely caring and helpful to others.
- Making good friends.
- Feeling good about yourself.
- Having a sense of humor to bring you through difficult situations.
- Maintaining a cooperative attitude.
- Approaching all your work with a strong sense of responsibility.
- Being consistent in your work.
- Successfully adapting to different situations.
- Sticking to a goal and seeing a job to completion.
- Mastering techniques that will help you to become more organized.
- Developing a deep reservoir of common sense.

## ■ GUIDELINES FOR SUCCESS

The definition of success is very personal. There are some basic principles, however, that form the foundation of all personal and business success. You can put yourself on the path to success right now by examining and putting these principles into practice:

- **Build self-esteem.** Self-esteem is based on inner strength and begins with trusting your ability to reach your goals. It is essential that you develop self-esteem while you are still a student.
- **Visualize success.** Imagine yourself working in your dream salon, competently handling clients, and feeling at ease and happy with your situation. The more you practice visualization, the more easily you will turn your vision into reality (**Figure 2-1**).



▲ **Figure 2-1** Visualize your success.

▼ **Figure 2-2** Spend time doing things that you enjoy and do well.



- **Build on your strengths.** Practice doing whatever helps you maintain a positive self-image. If you are good at doing something (e.g., playing the guitar, taking photographs, running, cooking, gardening, or singing), the time you invest in that activity will allow you to feel good about yourself (**Figure 2-2**). Also remember that there may be things you are good at that you cannot see.
- **Be kind to yourself.** Stop self-critical or negative thoughts that can work against you. If you make a mistake, tell yourself that it is okay and you will do better next time.
- **Define success for yourself.** Do not depend on other people's definition of success. Instead, become a success in your own eyes. What is right for your sister or a friend, for instance, may not be right for you.
- **Practice new behaviors.** Because creating success is a skill, you can help develop it by practicing positive new behaviors, such as speaking with confidence, standing tall, staying true to yourself, or even remembering to use good grammar.
- **Keep your personal life separate from your work.** Talking about yourself and others at work is personally counterproductive and can cause the whole salon to suffer.
- **Keep your energy up.** Successful nail technicians do not run themselves ragged, nor do they eat, sleep, and drink beauty. They take care of their personal needs by spending time with family and friends, having hobbies, enjoying recreational activities, and living a full life.
- **Respect others.** Make a point of relating to everyone you know with a conscious feeling of respect. Exercise good manners with others by using words such as *please*, *thank you*, and *excuse me*. Do not interrupt people when they are speaking, and practice being a good listener.

- **Stay productive.** There are three bad habits that can keep you from maintaining peak performance: (1) procrastination, (2) perfectionism, and (3) lack of a game plan. You will see a near instant improvement in your productivity when you work on eliminating these troublesome tendencies.

1. **Procrastination** is putting off until tomorrow what you can do today. This destructive, yet common, habit is a characteristic of poor study habits. (“I’ll study tomorrow instead of today.”) It may also be a symptom of taking on too much, which, in turn, is a symptom of faulty organization.
2. **Perfectionism** is an unhealthy compulsion to do things perfectly. Success is not defined as doing everything perfectly. In fact, someone who never makes a mistake may not be taking risks necessary for growth and improvement. A better definition of success is not giving up, even when things get really tough.
3. Lacking a game plan. Having a **game plan** is the conscious act of planning your life, rather than just letting things happen. While an overall game plan is usually organized into large blocks of time (5 to 10 years), it is just as important to set daily, monthly, and yearly goals. Where do you want to be in your career 5 years from now? What do you have to do this week, this month, and this year to move closer to that goal?



## ■ RULES FOR SUCCESS

To be successful, you must take ownership of your education. While your instructors can create motivational circumstances and an environment to assist you in the learning process, the ultimate responsibility for learning is yours. To realize the greatest benefits from your education, commit yourself to the following rules that will take you a long way down the road of success:

- Attend all classes.
- Arrive for class early.
- Have all the necessary materials ready.
- Listen attentively to your instructor.
- Highlight important points.
- Take notes for later review.
- Pay close attention during summary and review sessions.
- When something is not clear, ask. If it is still not clear, ask again.

Even after you complete school, you should regularly seek continuing education opportunities. Never stop learning. The nail technology industry is constantly changing. There are always new trends, techniques, products, and information. Throughout your career, you should read industry magazines and books and attend advanced educational classes.



## ■ RECOGNIZING AND MANAGING STRESS

Stress can affect your body, thoughts, feelings, and behavior. Managing your stress levels while you are in school and in the workplace is essential to having a healthy and fulfilling career as a nail technician and personal life.

### Signs of Stress

Being able to recognize common symptoms of stress will give you a head start on managing whatever is causing the discomfort as well as your symptoms.

Common effects of stress include:

#### BODY

- Headache
- Muscle tension or pain
- Chest pain
- Fatigue
- Stomach upset
- Sleep problems

#### MOOD

- Anxiety
- Restlessness
- Lack of motivation or focus
- Irritability or anger
- Sadness or depression

#### BEHAVIOR

- Over- or undereating
- Angry outbursts
- Drug or alcohol abuse
- Tobacco use
- Social withdrawal

### Alleviating Stress

Learning to deal with stress effectively takes time, thought, and practice. Quite often, it also requires adopting healthier habits and removing sources of stress.

- **Identify the source.** You may find that your stress arises from something that is easy to correct. Better organizing your morning activities before school, for instance, could make the start of school or work stress-free. One solution may be to get up 15 minutes earlier than you usually do or to spend less time on the computer and more time preparing for your day. (Read the section “Time Management” for more tips.)

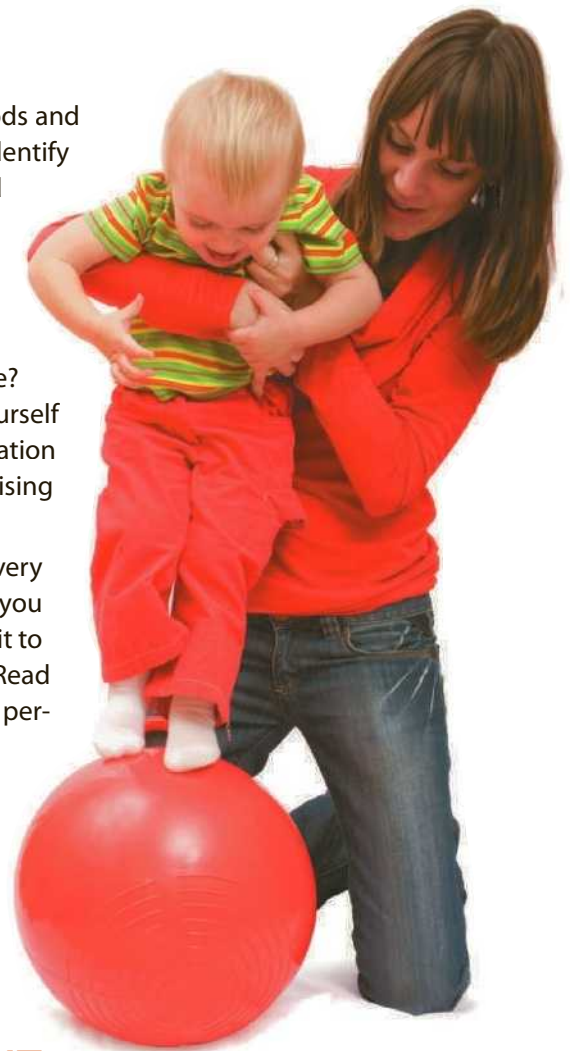


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- **Monitor your moods.** Practice staying connected with your moods and emotions. When you feel your mood shift, even a little bit, try to identify the source. For examples, If you feel unprepared or disorganized during class, then focus on resolving the problem. If you are worried about a certain skill you have not yet mastered, seek the advice of a teacher or mentor.
- **Control your inner dialog.** Be conscious of what you think about all day. Are you obsessing about a negative situation or challenge? If you are, your stress levels could become unbearable. Train yourself to consider and think about what is good in your immediate situation and in your life. Deal with any and all concerns proactively by devising ways to make them better.
- **Make time for yourself.** What do you like to do every day? Every week? Depriving yourself of personal enjoyment guarantees that you will feel stressed. It is important to book personal time and commit to it as seriously as you would for study, work, or attending school. (Read the section “Time Management” for more tips on how to schedule personal time.)
- **Set reasonable standards.** Never expect perfection. Instead, expect yourself to do the best that you possibly can. Be forgiving of yourself if you fall short of your expectations and make a realistic plan to do better. Worrying about your performance will not improve your performance; it will only make you feel stressed.



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## ■ MOTIVATION AND SELF-MANAGEMENT

Motivation propels you to do something. Self-management involves knowing what you want to achieve and keeping yourself on track so that you do eventually achieve your goal. When you are hungry, for example, you are motivated to eat. But it is self-management that helps you to decide how you will get food. A motivated student finds it much easier to learn. The best motivation for you to learn comes from an inner desire to grow your skills as a professional—a lifelong pursuit that is motivated by the ever-changing world of professional beauty.

If you are personally drawn to nail technology, then you are likely to be interested in the material you will be studying in school. If your motivation comes from some external source—for instance, your parents, friends, or a vocational counselor—you could have a difficult time finishing school and jump-starting your beauty career. To achieve success, you need more than an external push; you must feel a sense of personal excitement and a good reason for staying the course. You are the one in charge of managing your own life and learning. To do this successfully, you need good self-management skills.

## Your Creative Capability

One self-management skill we can draw on is creativity. Creativity means having a talent such as painting, acting, applying makeup, or doing artificial nails. Creativity is also an unlimited inner resource of ideas and solutions. To enhance your creativity, keep these guidelines in mind:

▼ **Figure 2-3** Build strong relationships for support.



- Do not be self-critical. Criticism blocks the creative mind from exploring ideas and discovering solutions to challenges.
- Do not look to others for motivation. Tapping into your own creativity will be the best way to manage your own success.
- Change your vocabulary. Build a positive vocabulary by using active problem-solving words like explore, analyze, and determine, and other words of this nature.
- Do not try to go it alone. In today's hectic and pressured world, many talented people find that they are more creative in an environment where people work together and share ideas. This is where the value of a strong salon team comes into play (**Figure 2-3**). **LO1**

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## MANAGING YOUR CAREER

As you navigate your beauty career, you will come up against difficulties—shallow spots, rocks, swift currents, and even an occasional iceberg—no matter how creative, talented, or motivated you are. Knowing how to manage your career will make all the difference in staying afloat.

▼ **Figure 2-4** Example of a personal mission statement.



## Design a Mission Statement

Every successful business has a business plan. An essential part of this plan is the **mission statement**. A mission statement establishes the values that a business or an individual lives by and sets up future goals (**Figure 2-4**). To also succeed in life, you need a well thought-out sense of purpose and a reason for being.

Try to prepare a personal mission statement in one or two sentences that communicates who you are and what you want for your life. One example of a simple, yet thoughtful, mission statement is: "I am dedicated to pursuing a successful career with dignity, honesty, and integrity." Whatever you want for your future will be based on the mission statement that you make now. It will point you in a solid direction and help you to feel secure when things temporarily are not working out as planned. For reinforcement, keep a copy of your mission statement where you can see it and read it every day. **LO2**

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## ■ GOAL SETTING

Some people never have a specific goal in mind. They go through life one day at a time without really deciding what they want, where they can find it, or how they are going to live their lives once they get it. They drift aimlessly from one activity to the next. Does this describe you? Or do you have drive, desire, and a dream? If so, do you have a reasonable idea of how to go about meeting your goal?

**Goal setting** is the identification of short- and long-term goals that help you decide what you want out of your life.

When you know what you want, you can draw a circle around your destination and chart the best course to get there. By mapping out your goal, you will see where you need to focus your attention, and what you need to learn in order to fulfill your dreams.



### How Goal Setting Works

There are two types of goals: short term and long term. An example of a short-term goal is to get through a competency exam successfully. Another short-term goal would be to graduate from cosmetology school. Short-term goals are usually those you wish to accomplish in a year or less.

Long-term goals are measured in larger sections of time, perhaps 5 or 10 years, or even longer. An example of a long-term goal is becoming a salon owner in 5 years.

Once you have organized your thoughts about your goals, write them down in short-term and long-term columns. Divide each set of goals into workable segments. In this way, your goals will not seem out of sight or overwhelming. For example, one of your long-term goals should be to build a full clientele. At first, the prospect of accomplishing this might seem to require an overwhelming amount of time and effort. However, when you separate this into short-term goals (such as finding suitable employment and marketing your skills), you will see that each step on the way to the long-term goal can be accomplished without too much difficulty or stress.

The important thing to remember about goal setting is to have a plan and to reexamine it often in order to make sure that you are staying on track. Even people who have fame, fortune, and widespread respect continue to set goals for themselves. While they may adjust their goals and action plans as they go along, successful people know that goals move them toward additional successes (Figure 2-5 and Figure 2-6).



#### LO3

## HOW TO SET AND TRACK SHORT-TERM GOALS

NUMBER	GOAL-SETTING CHECKLIST	COMPLETION DATE	DONE
1.	Read Chapter 2. Action Steps: Read first part at lunch; finish it after dinner.	6/09/2014	<input type="checkbox"/>
2.	Practice speaking to clients in a pleasing voice. Action Steps: Do with family tonight.	6/10/2014	<input type="checkbox"/>
3.	Create my own mission statement. Action Steps: Review sample in Chapter 2; write my own.	6/15/2014	<input type="checkbox"/>
4.	Start learning trends. Action Steps: Search online, read trade and beauty magazines. Make a 5-word "trend list."	6/20/2014	<input type="checkbox"/>
5.	Prepare to pass the Chapter 2 exam. Action Steps: Review what I read, ask instructor any questions, have study session with 2 friends.	7/10/2014	<input type="checkbox"/>
6.	Practice being on time! Action Steps: Set alarm for 15 minutes earlier. Give self \$1 every time I get to class 10 minutes early.	Start 6/20 5 days in a row by 7/20	<input type="checkbox"/>
7.	Build my vocabulary. Action Steps: Buy book or find Website. Learn 1 new word a day.	Daily	<input type="checkbox"/>

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▲ **Figure 2-5** A sample of how to set and track short-term goals.

## MY GOALS

NUMBER	GOAL-SETTING CHECKLIST	COMPLETION DATE	DONE
1.			
2.			
3.			
4.			
5.			
6.			
7.			

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▲ **Figure 2-6** Photocopy this template and fill in your own goals.



# Activity

According to estimates, the average person spends as much as 4 hours every day checking e-mail, looking at Web sites, and watching videos. The average teenager sends nearly 80 text messages a day! To find out if you are managing your time well, try this exercise.

- Write down the time in the morning when you first go online, check e-mail, or send a text message.
- Do what you normally do online, noting the time that you finish these activities.
- Throughout the day, try to estimate (and add to your list) how much additional time you spend on these activities.
- Add up the total time at the end of your day.

Are you surprised? Time-management experts recommend that you avoid e-mailing, Web browsing, and texting for the first 45 minutes or hour of the day. Instead, use that time to plan your day, review reading materials for school, or do other work. This first hour of the day may be the best time to accomplish concrete tasks because it is quiet and often interruption-free. Starting your day by being productive helps you develop good time-management skills for life.

## ■ TIME MANAGEMENT

One thing that all time management experts agree on is that each of us has an *inner organizer*. When we pay attention to our natural rhythms, we can learn how to manage our time more efficiently, allowing us to reach our goals faster and with less frustration. Here are some of the most effective ways to manage time:

- Learn to **prioritize** by ordering tasks on your to-do list from most important to least important.
- Make sure the time management system you design works for you. For example, if you need a fair amount of flexibility, schedule in some blocks of unstructured time.
- Never take on more than you can handle. Learn to say “no” firmly but kindly, and mean it. You will find it easier to complete your tasks if you limit your activities and do not spread yourself too thin.
- Learn problem-solving techniques that will save you time and needless frustration.



# fyi

In the salon, the most important aspect of time management is staying on schedule with your bookings so that you can greet each client at the scheduled appointment time. This means completing a service during the time allotted. Some salons book manicures on the hour; others book them at 45-minute intervals. Accomplished nail technicians can do a manicure in half an hour, but they usually schedule clients for longer periods of time to upsell more services, prepare their stations for their next client, and interact with salon clients.

Making sure that you arrive on time, start your first client as soon as he or she arrives, and stay on schedule will take you a long way toward success as a nail technician. The front desk and salon manager can be a tremendous help if you find yourself falling behind or if you have the opportunity to add on an extra service and need help fitting it into your day. With experience, you'll learn to accommodate late clients and add on services like a pro.



▲ **Figure 2-7** Keep a schedule for yourself and be sure to refer to it on a frequent basis.

- Give yourself some down time whenever you are frustrated, overwhelmed, worried, or feeling guilty about something. You lose valuable time and energy when you are in a negative state of mind. Unfortunately, there may be situations—such as when you are in the classroom—in which you cannot get up and walk away. To handle these difficult times, try practicing the technique of deep breathing. Just fill your lungs as much as you can and then exhale slowly. After about 5 to 10 breaths, you will usually find that you have calmed down and that your inner balance has been restored.

- Carry a notepad or organizer with you at all times. You never know when a good idea might strike or when you need to add a task to your schedule. Write these things down before they slip your mind!

- Make daily, weekly, and monthly schedules that show exam times, study sessions, and any other regular commitments. Plan your leisure time around these commitments, rather than the other way around (**Figure 2-7**).
- Identify times during the day when you are typically energetic and when you typically want or need to relax. Plan your schedule accordingly.
- Reward yourself with a special treat or activity for work well done and time managed efficiently.
- Do not neglect physical activity. Remember that exercise and recreation stimulate clear thinking and efficient planning.
- Schedule at least one additional block of free time each day. This will be your hedge against events that come up unexpectedly, like car trouble, baby-sitting problems, helping a friend in need, or any other unforeseen circumstances.
- Understand the value of to-do lists for the day and the week. These lists help you prioritize your tasks and activities, key elements to organizing your time efficiently (**Figure 2-8**).



▲ **Figure 2-8** Example of a to-do list.

- Make time management a habit.

✓ **LO4**

## STUDY SKILLS

If you find studying overwhelming, divide your study time into smaller segments. For example, instead of trying to study for 3 hours at a stretch and suffering a personal defeat when you fold after 40 minutes, set the bar lower by studying in smaller chunks of time. If your mind tends to wander in class, try writing down key words or phrases as your instructor discusses them. Any time you lose your focus, you can stay after class and ask questions based on your notes.

Another way to get a better handle on studying is to find other students who are open to being helpful and supportive. The more you discuss new material with others, the more comfortable you will become with the material. In the end, everyone will be more successful. If possible, study together (**Figure 2-9**).



◀ **Figure 2-9** Studying with a friend can be effective and fun.

## Establishing Good Study Habits

Part of developing consistently good study habits is to know where, when, and how to study.

### Where

- Establish a comfortable, quiet spot where you can study uninterrupted.
- Have everything you need—computer, books, pens, paper, proper lighting, and so on—before you begin studying.
- Remain as alert as possible by sitting upright. Reclining will make you sleepy!

### When

- Start out by estimating how much study time you need.
- Study when you feel most energetic and motivated.
- Practice effective time management by studying during blocks of time that would otherwise be wasted—such as while you are waiting in the doctor's office, taking a bus across town, and so forth.

## FOCUS ON...


### The Goal

Determine whether your goal-setting plan is an effective one by asking yourself these key questions:

- Are there specific skills I will need to learn in order to meet my goals?
- Is the information I need to reach my goals readily available?
- Am I willing to seek out a mentor or a coach to enhance my learning?
- What is the best method or approach that will allow me to accomplish my goals?
- Am I open to finding better ways of putting my plan into practice?

### How

- Study just one section of a chapter at a time, instead of reviewing the entire chapter at once.
- Make a note of key words and phrases as you go along.
- Test yourself on each section to ensure that you understand and remember the key points of each chapter.

Remember that every effort you make to follow through on your education is an investment in your future. The progress you make with your learning will increase your confidence and self-esteem across the board. In fact, when you have mastered a range of information and techniques, your self-esteem will soar right along with your grades.  **LO5**

## ETHICS

**Ethics** are the moral principles by which we live and work. In the salon setting, ethical standards should guide your conduct with clients and fellow employees. When your actions are respectful, courteous, and helpful, you are behaving in an ethical manner. There are five professional behaviors that will show you are an ethical person. You can practice ethics in the salon every day by:

- Providing skilled and competent services.
- Being honest, courteous, and sincere.
- Avoiding sharing clients' private matters with others—even your closest friends.
- Participating in continuing education and staying on track with new information, techniques, and skills.
- Providing clients accurate information about treatments and products.

 **LO6**

## FOCUS ON...

### Professional Ethics

Ethical people often embody the following qualities:

- **Self-care.** Many service providers suffer from stress and eventually burn out because they focus too much of their energy and time on other people and too little on themselves. If you are to be truly helpful to others, it is essential to take care of yourself. Try the Self-Care Test to assess how you are doing (Figure 2–10).
- **Integrity.** Maintain your integrity by matching your behavior and actions to your values. For example, if you believe it is unethical to increase your sales by recommending products that clients don't really need, then do not engage in that behavior. On the other hand, if you feel that a client would benefit from certain products and additional services, it would be unethical not to give the client that information.
- **Discretion.** Do not share your personal problems with clients. Likewise, never breach confidentiality by repeating personal information that clients have shared with you.
- **Communication.** Your responsibility to behave ethically extends to your communications with customers and coworkers. In other words, you should always be honest.



## THE SELF-CARE TEST

Some people know intuitively when they need to stop, take a break, or even take a day off. Other people forget when to eat. You can judge how well you take care of yourself by noting how you feel physically, emotionally, and mentally. Here are some questions to ask yourself to see how you rate according to the self-care scale.

1. Do you wait until you are exhausted before you stop working?
2. Do you forget to eat nutritious food and substitute junk food on the fly?
3. Do you say you will exercise and then put off starting a program?
4. Do you have poor sleep habits?
5. Are you constantly nagging yourself about not being good enough?
6. Are your relationships with people filled with conflict?
7. When you think about the future, are you unclear about the direction you will take?
8. Do you spend most of your spare time watching TV?
9. Have you been told you are too stressed and yet you ignore these concerns?
10. Do you waste time and then get angry with yourself?

Score 5 points for each yes. A score of 0–15 says that you take pretty good care of yourself, but you would be wise to examine those questions you answered yes to. A score of 15–30 indicates that you need to rethink your priorities. A score of 30–50 is a strong statement that you are neglecting yourself and may be headed for high stress and burnout. Reviewing the suggestions in these chapters will help you get back on track.



## FOCUS ON... The Whole Person

An individual's personality is the sum total of her or his inborn characteristics, attitudes, and behavioral traits. While you may not be able to alter most of your inborn characteristics, you certainly can work on your attitude. This is a process that continues throughout your life. In both your business and personal life, a pleasant attitude gains more associates, clients, and friends.

▲ Figure 2-10 Self-care test.

## PERSONALITY DEVELOPMENT AND ATTITUDE

Some occupations require less interaction with people than others. For example, computer programmers do not usually interact with all different sorts of people every day. Nail technicians, however, deal with people from all walks of life—every day. It is useful, therefore, to have some sense of how different personality traits and attitudes can affect your success.

Refer regularly to the following characteristics of a healthy, positive attitude to ensure that they match your self-description.

- **Diplomacy.** Being assertive is a good thing because it helps people understand your position. However, it is a short step from being assertive to aggressive, or even bullying. Take your attitude temperature to see how well you practice the art of diplomacy. Diplomacy—also known as *tact*—is the ability to deliver truthful, even sometimes critical or difficult, messages in a kind way.



- **Pleasing tone of voice.** The tone of your voice is an inborn personality trait, but if your natural voice is harsh or if you tend to mumble, you can consciously improve by speaking more softly or more clearly. Also, if you have a positive attitude, this will shine through in a pleasant delivery, even if your natural tone of voice is not ideal.
- **Emotional stability.** Our emotions are important, but they do require some control. Some people express themselves excessively or inappropriately. When they are happy, they get almost frantic; when they are angry, they fly into a rage. Learning how to handle a confrontation and how to share your feelings without going overboard are important indicators of maturity and emotional stability.

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- **Sensitivity.** Sensitivity is a combination of understanding, empathy, and acceptance. Being sensitive means being compassionate and responsive to other people.
- **Values and goals.** Neither values nor goals are inborn characteristics; we acquire them as we move through life. Values and goals guide our behavior and give us direction.
- **Receptivity.** To be receptive means to be interested in other people and to be responsive to their opinions, feelings, and ideas. This means taking the time to really listen, instead of just pretending to do so (**Figure 2-11**).



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▲ **Figure 2-11** Being receptive is an important personal skill.

- **Effective communication skills.** Effective communicators usually have warm, caring personalities. They have an easy time talking about themselves and listening to what others have to say. When they want something, they can ask for it clearly and directly; they pay attention when somebody else is speaking to them. **LO7**

## ■ Review Questions

1. What principles contribute to personal and professional success?
2. How do you create a mission statement? (Give an example.)
3. How do you go about setting short- and long-term goals?
4. What are some of the most effective ways to manage time?
5. How would you describe good study habits?
6. What is the definition of the word *ethics*?
7. List the characteristics of a healthy, positive attitude.

# 3

# Your Professional Image

## Chapter Outline

- Why Study the Importance of Your Professional Image?
- Beauty and Wellness
- Appearance Counts
- Your Physical Presentation



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# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **L01** Discuss the importance of personal hygiene.
- ✓ **L02** Explain the concept of dressing for success.
- ✓ **L03** Discuss ergonomic principles and demonstrate ergonomically correct postures and movements.

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## Key Terms

Page number indicates where in the chapter the term is used.

**ergonomics** / 37

**personal hygiene** / 33

**physical presentation** / 36

**professional image** / 34

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**F**irst impressions are important in any situation. However, because you are in the image business, how you look and present yourself has a bigger-than-usual impact on your future success. Because you will be working in a style-driven environment, you need to look stylish: this includes your nails, clothing, makeup, and hair. When your appearance and the way that you conduct yourself are in harmony with the professional beauty business, your chances of being successful increase dramatically!

Your personality and abilities of course also come into play, but how you look is the first and most important clue that leads potential clients to decide that you can make them look great, too. Add in your behavior, the attitude you project, the way you interact with others, your communication skills, and how you physically hold yourself, and you will create a complete, professional image (**Figure 3-1**).



▲ **Figure 3-1** Project a professional image.

## WHY STUDY THE IMPORTANCE OF YOUR PROFESSIONAL IMAGE?

Nail technicians should have a thorough understanding of the importance of their professional image because:

- ▶ Clients rely on beauty professionals to look good, well cared for, and in step with current styles and fashions. They are more likely to entrust their appearance to a beauty professional who has a positive professional image.
- ▶ Finding a salon that mirrors your professional image and behavior is crucial to your flourishing in your career.
- ▶ Behaving professionally includes having a genuine interest in your own day-to-day activities, being concerned about others, and knowing how to appropriately interact with managers, coworkers, and clients.

## ■ BEAUTY AND WELLNESS

Being well groomed begins with looking and smelling fresh. This is especially important in the beauty business, where practitioners are frequently only inches away from their clients during services.

### Personal Hygiene

It is a given that you should shower or bathe every day, apply deodorant, and keep a neat, clean appearance. Beyond these basic hygiene habits, there are special considerations when working in a salon.

One weak moment of drinking coffee right before performing a service, or wearing something that needs laundering because you did not plan ahead, could spell disaster. Rather than telling you that you smell offensive, most clients will simply not return for another service. Equally distressing, they will typically tell their friends about the bad experience they had while sitting at your station or even post about your odor problem online!

**Personal hygiene** is the daily maintenance of cleanliness achieved through healthful habits (**Figure 3–2**). Working as a nail technician, where you are often just inches away from clients, means that you must be extremely meticulous about your hygiene.

One of the best ways to ensure that you always smell fresh and clean is to create a hygiene pack to use at work. This pack should include the following items:

- Toothbrush and toothpaste
- Mouthwash
- Sanitizing hand wipes or liquid to clean your hands between clients (when soap and water are not available)
- Dental floss
- Deodorant or antiperspirant

Your hygiene pack helps you maintain the following good personal hygiene habits:

- Wash your hands throughout the day as required, including at the beginning of each service.
- Use deodorant or antiperspirant.
- Brush and floss your teeth and use mouthwash or breath mints throughout the day as needed.



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◀ **Figure 3–2** Practice meticulous personal hygiene every day.



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- Do self-checks periodically to ensure that you smell and look fresh.
- If you smoke cigarettes, *do not* smoke during work hours. Many clients find the lingering smell offensive. If you smoke during your lunch break, brush your teeth, use mouthwash, and wash your hands afterward! **LO1**

## CAUTION:

### Perfume

Because a significant number of people are sensitive or allergic to a variety of chemicals, including perfume oils, many salons have a no-fragrance policy for staff members during work hours.

## APPEARANCE COUNTS

Naturally, in the line of work that you have chosen, an extremely important element of your image is having well-groomed hair, skin, and nails. They will serve as an advertisement for your commitment to professional beauty. Make sure that you:

- Put thought into your appearance every day.
- Keep up with your haircut and color.
- Take care of your skin and use sunscreen.
- Determine the best length and grooming style for your nails and meticulously maintain their appearance.
- Change your style frequently—or as often as you feel comfortable—to keep up with trends. You do not have to be super trendy, but even a nail technician with a classic look or image should get subtle, seasonal updates, such as shorter bangs or a more vibrant hair color.

## Personal Grooming

Many salon owners and managers consider appearance, personality, and poise just as important as technical knowledge and skills. One of the most vital aspects of good personal grooming is the careful maintenance of your wardrobe. First and foremost, your clothes must be clean—not simply free of visible dirt, but stain free, a feat that is sometimes difficult to achieve in a salon environment. Because you are constantly coming into contact with products and chemicals that can instantly damage fabrics, it is a good idea to invest in an apron or smock to wear while handling such products. Be mindful about spills and drips when using chemicals and avoid leaning on counters in the work area—particularly in the dispensary.

▼ **Figure 3-3** Be guided by your salon's dress code.



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Photography by Dino Petrocelli.

### Dress for Success

What you wear outside of work is your choice. However, while you're at work, your wardrobe selection should express a professional image that is consistent with the image of the salon (**Figure 3-3**). Your **professional image** is the impression you project through both your outward appearance and your conduct in the workplace. Commonsense should rule when it comes to choosing clothes to wear at work. When shopping for work clothes, you should always visualize how you would look in them while performing professional client services. Is that image acceptable to your clients?

To some degree, your clothing should reflect the fashions of the season. Depending on where you work, you may be



encouraged to wear stylish torn jeans and faded tees, or they may be expressly forbidden. Just remember, the best way to ensure that you are dressed for success is to “tune in” to your salon’s culture and clientele, so that you can make the best clothing choices.

While you should always follow your salon’s dress code, here are guidelines to help you achieve a look that is appropriate almost anywhere:

- Wear clothing that is clean, fresh, and in step with fashion.
- Choose clothing that is functional and comfortable—as well as stylish.
- Accessorize your outfits, but make sure that your jewelry does not clank and jingle while working. This can be irritating to fellow professionals and drive clients to distraction.
- Wear shoes that are comfortable, have a low heel, and offer good support. Ill-fitting shoes and high heels are not the best choices to wear when performing pedicures and portable services within the salon.

### **Wearing Makeup in the Salon**

Makeup is an exciting category for beauty professionals. It helps to promote your professional image and represents profitable sales for salons. You should always use makeup to accentuate your best features. With that said, it is vital to wear makeup at work. A freshly scrubbed face may look great for a leisurely day at the beach, but it does nothing to promote your image as a beauty professional. Unless you are working in a trendy urban salon, things like heavily blackened eyes are generally best left for after work. As with clothing, let the salon’s image be your guide in makeup application (**Figure 3–4**).

### **Maintaining Perfect Hands and Nails**

Even though you will be very busy taking care of salon clients, you must make your own hand-and-foot care your first priority. Your hands and feet must be meticulously groomed at all times, including having well-cared-for skin and



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◀ **Figure 3–4** Expertly applied makeup is part of having a professional image.



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▲ **Figure 3-5** Having impeccably maintained nails will give prospective clients a compelling reason to try your services.

nails. Wearing freshly applied fingernail polish is also essential to creating a positive professional image (**Figure 3-5**)! Wearing polish at work was once nearly considered impossible due to the constant contact with polish remover. Today, the latest gel polishes and colored artificial enhancements—which cannot be removed with nonacetone remover—have resolved this issue. **LO2**

## Behaving Professionally

Beyond hygiene, grooming, and clothing, a professional image and appearance are affected by your behavior, etiquette, and interactions with others. Keeping a positive attitude at work helps you behave appropriately and project a positive image. Ask yourself how employees would appear to you if they were rude to customers, screamed at colleagues, or crudely asked, “Yeah?” to find out what a customer wanted.

Politeness is the hallmark of professionalism; this includes your treatment of your coworkers. Being rude to other nail technicians, hairstylists, or support staff not only creates a negative work environment but will also cause you to lose many important opportunities. Being rude to coworkers makes them lose respect for you, diminishes the number of referrals they are willing to give you, and prevents you from gaining valuable advice that senior service providers would otherwise be more than happy to share.

Specific communication skills will be discussed in Chapter 4, “Communicating for Success.” For now, keep in mind that all on-the-job behavior is part of your professional image.

## YOUR PHYSICAL PRESENTATION

Having good posture and following ergonomic practices will make you look and feel better while caring for clients. Being consistent with this will also help you to have a long-lasting and pain-free career.

### Posture

Good physical posture, an even gait, and careful movements are very important parts of your **physical presentation**. They show off your figure to its best advantage and convey an image of confidence. From a health standpoint, good posture and healthy movements can also prevent fatigue and many other physical problems. When you work within the field of nail technology, sitting improperly can put a great deal of stress on your neck, shoulders, back, and legs. Stress on the body can result in strain and/or injury. Good posture, on the other hand, allows you to get through your day feeling strong and doing your best work (**Figure 3-6**).



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▲ **Figure 3-6** Good physical presentation is important.



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Some guidelines for achieving and maintaining good work posture include:

- Keep the neck elongated and balanced directly above the shoulders.
- Lift your upper body so that your chest is out and up (do not slouch).
- Hold your shoulders level and relaxed, not scrunched up.
- Sit with your back straight.
- Pull in your abdomen so that it is flat.

## Ergonomics and Your Body

Each year, thousands of beauty professionals report musculoskeletal disorders caused by repetitive motions and stressful body positions. Busy nail technicians who sit all day and hold their bodies in unnatural positions for long periods of time are susceptible to problems of the hands, wrists, shoulders, neck, back, and legs. If not attended to, these problems can become career-threatening.

Prevention is the key to alleviating these problems. An awareness of your body posture and movements, coupled with better work habits and proper tools and equipment, will enhance your health and comfort. An understanding of ergonomics is useful as well. **Ergonomics** is the study of how a workplace and its tools should be designed for maximum comfort, safety, efficiency, and productivity.

It attempts to fit the job to the person, rather than the other way around. Examples include a nail technician's stool that can be raised or lowered to accommodate different heights and nippers and clippers that are designed to avoid putting stress on the wrists or finger joints.

Stressful repetitive motions have a cumulative effect on the muscles and joints. Monitor yourself as you work to see if you are:

- Gripping or squeezing implements too tightly.
- Bending the wrist up or down constantly when using the tools of your profession.
- Holding your arms away from your body as you work.
- Holding your elbows more than a 60-degree angle away from your body for extended periods of time (**Figure 3-7**).
- Bending forward and/or twisting your body to get closer to your client.



▲ **Figure 3-7** Be careful not to extend your elbows more than a 60-degree angle away from your body for long periods of time.

► **Figure 3-8** Be sure to rest your wrists in a straight or neutral position as much as possible.



▼ **Figure 3-9** Follow proper ergonomic techniques when performing nail services in order to protect yourself and your client.



Try the following measures to avoid some of the problems previously discussed:

- Rest your wrists while working and keep them in a straight or neutral position as much as possible (**Figure 3-8**).
- When performing a manicure, do not reach across the table; have the client extend her hands across the table to you. This is ergonomically correct for you and your client (**Figure 3-9**).
- Use ergonomically designed implements.
- Keep your back and neck straight.
- Break up repetitiveness of the motions you use by including regular stretching exercises in your daily routine.

In every aspect of your work, always put your health first and then the task at hand. It will serve you well in the beauty business and ensure a long, injury-free career. **LO3**



## ■ Review Questions

1. List four basic habits of personal hygiene.
2. Define the term *professional image*.
3. List the elements of professional image.
4. List the general guidelines of dressing for success.
5. Identify what is included in a hygiene pack.
6. How often should you freshen up throughout the day?
7. What is the role of posture in good health?
8. Assess your own work posture. How can it be improved?
9. Define the term *ergonomics*.
10. Give examples of ergonomically beneficial equipment.

# 4

# Communicating for Success

## Chapter Outline

- Why Study Communicating for Success?
- Human Relations
- Communication Basics
- The Client Consultation/  
Needs Assessment
- Special Issues in Communication
- In-Salon Communication



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# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **L01** List the golden rules of human relations.
- ✓ **L02** Define effective communication.
- ✓ **L03** Conduct a successful client consultation/needs assessment.
- ✓ **L04** Explain how to handle an unhappy client.
- ✓ **L05** Describe how to build open lines of communication with coworkers and salon managers.



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## Key Terms

Page number indicates where in the chapter the term is used.

**client consultation (needs assessment)** / 49

**client consultation form** / 45

**effective communication** / 45

**employee evaluations** / 57

**reflective listening** / 50



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**D**o you have outstanding technical skills? Are you ready to unleash your artistic talents? If so, then you are on your way to becoming successful in your chosen career path. It is important to realize, though, that technical and artistic skills can only take you so far. In order to have a thriving clientele, you must also master the art of communication (**Figure 4-1**). Effective human relations and communication skills build lasting client relationships, accelerate professional growth, and help prevent misunderstandings in the workplace.



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**▲ Figure 4-1** Communication is part of building lasting relationships with your clients.

## WHY STUDY COMMUNICATING FOR SUCCESS?

Nail technicians should have a thorough understanding of communicating for success because:

- ▶ Effective communications will serve as the basis for all long-lasting relationships with clients and coworkers.
- ▶ As a professional, you will need to build strong relationships based on trust, clarity, and loyalty in order to have a successful career.
- ▶ You must be able to verbalize your thoughts and ideas with clients, colleagues, and supervisors.
- ▶ The close-knit salon and spa environment will present complex and sometimes difficult interpersonal issues. You will need effective ways to communicate in order to navigate them successfully.
- ▶ Practicing and perfecting professional communication ensures that clients will enjoy their experience with you and will encourage their continued patronage.
- ▶ The ability to control communication and effectively express ideas in a professional manner is a necessary skill for success in any career. This is particularly true in one as personal as nail technology.

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## ■ HUMAN RELATIONS

No matter where you work, you will find that some people are harder to get along with than others. It is not always possible to understand what people need, even when you know them well. Though you think you understand what people want, you cannot always satisfy their wishes. This can lead to misunderstandings.

The ability to understand people is the key to operating effectively in many professions. It is especially important in the salon and spa environment, where customer service is central to success. Most of your interactions will depend on your ability to communicate successfully with a wide range of people: supervisors, coworkers, clients, and various vendors who come into the salon to sell products. When you clearly understand the motives and needs of others, you will be in a better position to do your job professionally.

Because all people have the same needs, the best way to understand others is to begin with a clear understanding of yourself. When you know and understand your motivations, it is easier to appreciate others and to help them meet their goals. When people treat us with respect and listen to us, we feel good about them and about ourselves. By treating others with respect, you create an environment in which customers and staff develop confidence in you. Mutual respect—which transforms a good nail technician into a trusted advisor and colleague—naturally follows.

Here is a brief look at the basics of human relations, along with some practical tips for dealing with situations that you are likely to encounter:

- Human beings are social animals. We like to interact with other people. As human beings, we enjoy giving our opinion and take pleasure in having people help us. Also, we feel pride when we use our abilities to help others.
- A fundamental factor in human relations involves a person's sense of security. When people feel secure, they are happy, calm, and confident. When people feel secure, they can be a joy to be around. On the other hand, when people feel insecure, they can become worried, anxious, and overwhelmed.
- No matter how secure you are as an individual and a beauty professional, there will be times when you encounter people and situations that are difficult to handle. Some people create conflict wherever they go. Try to remember that these people are feeling insecure; if they weren't, they wouldn't be acting in that way.

To become skilled in human relations, learn to make the best of any situation. Here are some good ways to handle the ups and downs of human relations:

- *Respond instead of reacting.* A man was asked why he did not get angry when a driver cut him off. "Why should I let someone else dictate my emotions?" he replied. A wise fellow, don't you think? He might have even saved his own life by not reacting with "an eye-for-an-eye" mentality.





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Photography by Dino Petrocilli.

▲ **Figure 4-2** Be attentive to your client's needs.

- *Believe in yourself.* When you do, you trust your judgment, uphold your values, and stick to what you believe is right. It is easy to believe in yourself when you have a strong sense of self-worth. Believing in yourself makes you feel strong enough to handle almost any situation in a calm, helpful manner.
- *Talk less, listen more.* There is an old saying that we were given two ears and one mouth for a reason. Listen more than you talk. When you are a good listener, you are fully attentive to what other people are saying.

- *Be attentive.* Each client is different. Some are clear about what they want, some are demanding, while others may be hesitant. If you have an aggressive client, ask your manager for advice. You will likely be told that what usually calms down difficult clients is agreeing with them. Follow up by asking what you can do to make the service more satisfactory (**Figure 4-2**).
- *Take your own temperature.* If you are tired or upset, your interactions with clients may be affected. An important part of succeeding in a service profession is to take care of yourself and your own personal conflicts first, so that you can take the best possible care of your clients.

Human relations can be rewarding or demoralizing. The results you achieve will depend on how much you are willing to give and how well you have prepared yourself for that day's services.

## The Golden Rules of Human Relations

Keep the following guidelines in mind and you will deal with difficult situations more successfully:

- Communicate from your heart; problem solve from your head.
- A smile is worth a million times more than a sneer.
- It is easy to make an enemy; it is harder to keep a friend.
- See what happens when you ask for help instead of just reacting.
- Show people you care by listening to them and trying to understand their point of view.
- Compliment people, even if they are challenging or unpleasant.



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- For every service you do for others, do not forget to do something for yourself.
- Laugh often.
- Show patience with other people's flaws.
- Build shared goals; be a team player and a partner to your clients.
- Always remember that listening is the best relationship builder.

## LO1

## COMMUNICATION BASICS

**Effective communication** is the act of successfully sharing information between two people (or groups of people) so that the information is successfully understood. You can communicate through words, voice inflections, facial expressions, body language, or visual tools (e.g., a portfolio of your work). When you and your client are both communicating clearly about an upcoming service, your chances of pleasing that person soar.

### Meeting and Greeting New Clients

One of the most important communications you will have is the first time you meet a client. Be polite, genuinely friendly, and inviting in every way you communicate with the client. You should keep in mind that your clients are coming to you for services and paying for your expertise with their hard-earned money (**Figure 4-3**). This means you need to court them every time they come to see you; if not, you may lose them to another nail technician or salon.

To earn a client's trust and loyalty, you should:

- Always approach a new client with a smile on your face. If you are having a difficult day, keep it to yourself. The time you spend with your client is for his or her needs, not yours.
- Always introduce yourself. Names are a powerful communication tool and should be used.
- Set aside a few minutes to take new clients on a quick tour of the salon.
- Introduce clients to people they may have interactions with while in the salon, including potential service providers for other services such as skin care or makeup.

Be yourself. Do not try to fool clients by representing yourself as someone or something you are not. **LO2**

### Intake Form

Prior to sitting at your station, every new client should fill out an intake form—also called a client questionnaire or **client consultation form**. This form can prove to be an extremely useful communication and business tool (**Figure 4-4**).



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**Figure 4-3** Welcome your client to the salon.

# CLIENT CONSULTATION FORM

Dear Client,

Our sincerest hope is to serve you with the best nail care services you've ever received! We want you to be happy with today's visit, and we also want to build a long-lasting relationship filled with trust and complete satisfaction with our services. In order for us to do this, we would like to learn more about you, your nail care needs, and your preferences. Please take a moment to answer the questions below as completely and as accurately as possible.

Thank you and we look forward to building a "beautiful" relationship!

\_\_\_\_\_

Name

Address \_\_\_\_\_

Phone Numbers: Day \_\_\_\_\_ Evening \_\_\_\_\_

Mobile \_\_\_\_\_

Email Address: \_\_\_\_\_

What is your preferred method of communication? \_\_\_\_\_

Gender: \_\_\_\_\_ Male \_\_\_\_\_ Female

How did you hear about our salon? \_\_\_\_\_

If you were referred to our salon, who referred you?

\_\_\_\_\_

*Please answer the following questions in the spaces provided. Thanks!*

1. Approximately when was your last nail care service?

\_\_\_\_\_

2. In the past year, have you had any of the following services done either in or out of a salon?

\_\_\_\_\_ Manicure \_\_\_\_\_ Pedicure

\_\_\_\_\_ Nail Enhancements \_\_\_\_\_ Other

▲ **Figure 4-4** Typical client consultation form. (continued)

## CLIENT CONSULTATION FORM

3. It is important that you discuss with your nail technician any chronic condition(s) you may have, so that precautions can be considered. Examples of conditions would be circulatory diseases, diabetes, peripheral artery disease (PAD), arthritis, high blood pressure, and others.

4. How would you characterize your natural nails?

- Normal                       Strong  
 Brittle                       Flexible  
 Other

5. Do you regularly receive any of the following nail services?  
(Check all that apply):

- Monomer and Polymer Nail Enhancements  
 Monomer and Polymer Nail Enhancements with UV Gel Overlay  
 UV Gel Nail Enhancements  
 Fabric Wraps (Circle Type: Silk, Linen, or Fiberglass)  
 Manicure  
 Natural Nail Treatments  
 Paraffin Hand Treatments

6. Do you receive any of the following foot services? (Check all that apply):

- Basic Pedicure                       Spa Pedicure  
 Masks or Paraffin Foot Treatments

7. Please share information about your most successful and least successful types of nail services. \_\_\_\_\_  
\_\_\_\_\_

8. What types of frequent activities do you engage in that could cause damage to your nails? \_\_\_\_\_  
\_\_\_\_\_

9. What are your goals for today's nail appointment? \_\_\_\_\_  
\_\_\_\_\_

10. Do you have a special occasion coming up in the near future where your nails must look their absolute best? If so, when?  
\_\_\_\_\_

▲ **Figure 4-4** Typical client consultation form. (continued)

## FOCUS ON...

### Understanding the Total Look Concept

While the enhancement of your client's image should always be your primary concern, it is important to remember that nails, skin, and hair are reflective of an entire lifestyle. How can you help a client make choices that reflect a personal sense of style? Start by doing a little research. Look for books or articles that describe different fashion styles and become familiar with them. This exercise is useful for developing a profile of the broad fashion categories that you can refer to when consulting with clients.

For example, a person may be categorized as having a classic style if she prefers simple and sophisticated clothing, monochromatic colors, and no bright patterns. A person who prefers classic styling in clothing would likely want a simple, elegant, and sophisticated look with respect to her nails, makeup, and hair.

Someone who prefers a more dramatic look, on the other hand, will choose nail designs, hairstyles, clothing, and accessories that demand greater attention and allow for more options (Figure 4-5 and Figure 4-6).

Some salon intake forms ask for a lot of detailed information; others do not. In school, the consultation form may be accompanied by a release statement in which the client acknowledges that the service is being provided by a student who is under instruction. This helps protect the school and the student from legal action.

### How to Use the Client Intake Form

The client intake form can be used from the moment a new client calls the salon to make an appointment. When scheduling the appointment, let the client know that you and the salon will require some information before you can begin the service, and that it is important for the client to arrive 15 minutes ahead of her appointment time to fill out a brief form. Also allow time in your schedule to do a 5- to- 15-minute client consultation.



► **Figure 4-5** A classic look.

Courtesy of Artistic Nail Design. Photography by Ted Emmons.



► **Figure 4-6** A dramatic look.

Courtesy of Artistic Nail Design. Photography by Ted Emmons.

## ■ THE CLIENT CONSULTATION/NEEDS ASSESSMENT

The **client consultation**, also known as a **needs assessment**, is the verbal communication with a client that determines his or her needs and how to achieve the desired results. The consultation is one of the most important parts of any service and should always be done before starting the actual service. A consultation should be performed, to some degree, as part of every single service and salon visit. The consultation keeps communication on target. Effective client consultations keep your clientele looking current, stylish, and satisfied with your services. A happy client means repeat business for both you and the salon.

### Preparing for the Client Consultation

For the client consultation to be effective, it is important that you be well prepared to make the most of this dialogue. To facilitate the process, you should:

- Have a variety of pictures showing different nail shapes, lengths, and designs.
- Have a portfolio of your work on hand. To create one, keep a camera or your smartphone handy and, with the client's permission, take photos of your work.
- When you show the photos, explain why you performed the various services the way you did. This will help new clients understand why certain things can or cannot be achieved. It will also reassure them of your expertise, skill, and knowledge.

### The Consultation Area

Presentation counts for a lot in a business that is concerned with style and appearance. Once you have brought the client to your station to begin the consultation process, make sure she is comfortable. The two of you are about to begin an important conversation that will clue you in on her needs and preferences. It is your responsibility to find out what the client's needs are and to make recommendations that meet those needs. To do so effectively, you will need a freshly cleaned and uncluttered workspace.

### The 10-Step Consultation Method

Every consultation should be structured so that you cover all the key points, which lead to a successful conclusion. While this may seem like a lot of information to memorize, it will become second nature as you become more experienced.

To ensure that you cover all the bases, keep a list of the following 10 key points at your station. Modify the list as needed for each actual service.

1. *Review the intake form.* Read the intake form carefully and refer to it often during the consultation process. Feel free to make comments that break the ice and initiate conversation with the client
2. *Assess your client's nails.* Are they long, short, or somewhere in between? Are the nails healthy and strong? Brittle or weak?

3. *Discover likes and dislikes.* Always ask clients what they like or do not like about their nails. Delve into their nail histories to learn which nail services they have had in the past (e.g., nail enhancements) and the outcome of those services.
4. *Analyze your client's hands and fingertips.* Determine the ideal length and shape of the nails, based on the shape of their fingertips and nail bed. Ask clients to share their preferred nail lengths and shapes, and why.
5. *Review clients' lifestyles.* What do their career and personal lifestyles entail?
  - Do they spend a great deal of time outdoors? Do they swim every day?
  - Are they executives in a conservative industry? Artists? Stay-at-home parents? Do they have hobbies, such as woodworking or sculpturing, that are rough on their nails?
  - Do they have strong personal styles that they wish to project?
  - How much time are they willing to invest in nail services?
6. *Show and tell.* Encourage clients to flip through your photo collections and point out finished looks that they like and why. This is a good time to get a real grasp on whether they understand, and accept, any personal limitations. Listening to clients and then repeating—in your own words—what you think they are telling you is critical to having a clear understanding of what both of you are really saying. This is known as **reflective listening**. Mastering this listening skill will help you to always be on target with your services and build a deep trust with your clients.
7. *Make suggestions.* Once you have enough information, you can make valid suggestions. Narrow your selections to lifestyle and other characteristics applicable to the desired service.

When making suggestions, be clear by referencing the parameters mentioned in Step 7. Tactfully discuss any unreasonable expectations they may have shared with you by picking out photos that are unrealistic based on their characteristics or personal needs.

8. *Upsell services.* Never hesitate to suggest additional services to make new looks complete or better in some way. For example, you may have provided a manicure service, but by recommending a pedicure or even a color service by a stylist you trust, you could help them achieve their total desired look.
9. *Discuss upkeep and maintenance.* Counsel all clients on the lifestyle limitations associated with a given nail style or service as well as salon and home maintenance commitments needed to keep their nails looking their best at all times.
10. *Review the consultation.* Reiterate everything that you have agreed on. Make sure to speak in measured, precise terms and use visual tools to demonstrate the end results. This is the most critical step of the consultation process because it determines the ultimate service(s). Take your time and be thorough. **LO3**



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## Concluding the Service

Once services are finished and the client has let you know that she is satisfied, take a few more minutes to record the results on her client record form (Figure 4-7). Ask for her reactions and record them. Note anything you did that you might want to do again, as well as anything that does not bear repeating. Also, make notes of the final results and any retail products that you recommended. Be sure to date your notes and file them in the proper place.

CLIENT RECORD FORM

FIRST NAME: \_\_\_\_\_ LAST NAME: \_\_\_\_\_

Confirm appointments (Check one or more methods of contact):

Home phone    Work phone    Cell    E-mail    Text

PHONE Home: \_\_\_\_\_ Cell: \_\_\_\_\_ Work: \_\_\_\_\_, ext. \_\_\_\_\_

E-MAIL 1. \_\_\_\_\_ 2. \_\_\_\_\_

Address 1 \_\_\_\_\_  
 \_\_\_\_\_

Address 2 \_\_\_\_\_  
 \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip code \_\_\_\_\_

Female    Male   Birthday (month/day): \_\_\_\_\_

Married: \_\_\_\_\_ Children: \_\_\_\_\_ Anniversary: \_\_\_\_\_

Profession: \_\_\_\_\_ Primary service provider: \_\_\_\_\_

Referred by: \_\_\_\_\_

Service notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Retail history: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

▲ Figure 4-7 Client record form.

## FOCUS ON...

### Retailing

The best way to make retailing recommendations is to use this three-step plan to discuss the *what*, *why*, and *how* of the recommendation.

1. Once you have chosen a product for the client, explain, "This is *what* I recommend.
2. Next, explain *why* you recommend it.
3. Finally, describe *how* she should use the product at home.

Educating the client using these three steps helps her to better understand your recommendations and makes selling home-care products much easier.

## Did You Know?

When referring to patrons, some salons use the word *client*, while others use *guest*. Spas are more likely to use *guest* because of the amount of time the client spends on the premises and the fact that spa guests often have lunch during their visits. Medical spas have returned to using *client* because many of these spas are bound by medical privacy laws when it comes to record keeping. Additionally, *guest* is never used in the professional medical field. Go with the culture of the business in which you are working and you will not go wrong.

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## ■ SPECIAL ISSUES IN COMMUNICATION

Although you may do everything in your power to communicate effectively, you will sometimes encounter situations that are beyond your control. Your reactions to situations, and your ability to communicate in the face of challenges, are critical to being successful in a people profession.

### Handling Tardy Clients

Tardy clients are a fact of life in every service industry. Because nail technicians are so dependent on appointments and scheduling to maximize working hours, a client who is very late for an appointment, or one who is habitually late, can cause problems. One tardy client can make you late for every other service that day. The pressure involved in making up for lost time takes its toll. Beyond being rushed and feeling harried, you risk inconveniencing the rest of your clients who are prompt for their appointments. No one benefits—not you, not the salon, and certainly not your clients—when tardy clients cause scheduling conflicts to arise.

Here are a few guidelines for handling late clients:

- Know and abide by the salon's appointment policy. Many salons set a limit on the amount of time they allow a client to be late before requiring them to reschedule. Generally, if clients are more than 15 minutes late, they should be asked to reschedule. Most clients will accept responsibility and be understanding about the rule, but you may come across a few clients who insist on being serviced immediately. Explain to them that you have other appointments and are responsible to those clients as well. Also explain that rushing through the service is unacceptable to both of you.
- If your tardy client arrives and you have the time to take her without jeopardizing other appointments, let your client know why you are taking her even though she is late. You can deliver this information and still remain pleasant and upbeat.
- As you get to know your clients, you will learn who is habitually late. You may want to schedule such clients for the last appointment of the day, or ask them to arrive earlier than their actual appointment time.
- If you are running very late, have the receptionist call or text your clients to apprise them of the situation. The receptionist can give them the opportunity to reschedule or to come a little later than their scheduled time.

### Handling Scheduling Mix-Ups

We are all human, and we all make mistakes. Chances are you have gone to an appointment on a certain day at a certain time, only to discover that you are in the wrong place at the wrong time. The way you are treated at that moment will determine if you ever patronize that business again. As a professional, be polite when you get involved with a scheduling mix-up. Never argue about who is correct. Once you have the chance to consult your appointment book, you can say, "Oh, Mrs. Montez, I have you in my appoint-



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ment book for 10 o'clock, and unfortunately I already have clients scheduled for 11 and 12 o'clock. I'm so sorry about the mix-up. Can I reschedule you for tomorrow at 10 o'clock?" Even though the client may be fuming, you need to stay detached. Move the conversation away from who is at fault and squarely into resolving the confusion. Make another appointment for the client and be sure the salon has her telephone number so that the appointment can be confirmed.

## Handling Unhappy Clients

No matter how hard you try to provide excellent service to your clients, once in a while you will encounter a client who is dissatisfied. Always remember that your ultimate goal should be to make the client happy enough to pay for the service and return to the salon in the future (**Figure 4-8**).



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**Figure 4-8** Accommodate an unhappy client promptly and calmly.

Here are some guidelines to follow:

- Try to find out why the client is unhappy. Ask for specifics.
- If it is possible to change what she dislikes, do so immediately. If that is not possible, look at your schedule to see how soon you can fit her in to make the adjustment. You may need to enlist the help of the receptionist, if you have to reschedule other appointments.
- If the problem cannot be fixed, honestly explain why. The client may not be happy but will usually appreciate your honesty. Sometimes you can offer other options that minimize the client's disappointment.
- Never argue with the client or try to force your opinion on her.
- Do not hesitate to ask for help from a more experienced nail technician or your salon manager. If, after you have tried everything, you are unable to satisfy the client, defer to your manager's advice on how to proceed.
- Talk with your salon manager after the experience. A good manager will not hold the event against you, but will view it as an inevitable fact of life from which you can learn. Follow your manager's advice and move on to your next client. **LO4**



## Handling Differences

As a nail technician, you will find the clients you are most likely to attract are similar to yourself in age, style, and tastes. On the other hand, you will also serve clients who are very different from you. This is a positive element in your career. Without both older and younger clients, and ones from different social groups, you will not be able to build a solid client base.

When working with clients who come from a different generation, the basic rules of professionalism should guide you. Older clients, in particular, do not like gum chewing, slang, or the use of *yeah* instead of *yes*. They like to hear *please* and *thank you*. They prefer to keep the topics of conversation professional. Some like to be addressed by the honorific, such as “Mrs. Smith,” rather than by their first names. When you meet an older client for the first time, ask how he or she would like to be addressed. Some clients are also sensitive to verbiage about aging. When referring to their hands, do not refer to aging skin. Instead, talk about dryness and solutions to remedy the condition.

Younger clients may not be up on proper etiquette, but many keep up with the latest celebrity looks, so you need to do the same. If these clients are your peers, relate to their image needs, while always maintaining a professional demeanor.

When it comes to slang, the same word can have a different meaning across cultures, which is why it is always best to avoid using slang terms. If the word is fashion-related and your client uses it, use it as well to indicate that you understand and are aware of current trends. Never use cultural slang words you do not fully understand. When in doubt say, “I have never heard that expression before. What exactly does it mean?”

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### FOCUS ON...

#### Talking Points

Let’s imagine a long-time client reveals to you, one day, that she and her husband are going through a messy divorce. You care for her and want to be sympathetic as she reveals increasingly personal details. Other practitioners and their clients are soon listening to every word of this conversation. You want to be helpful and supportive, but this is not the right time or place. What can you do?

Here are some solutions to consider:

- Tell her you understand that the situation is very difficult, but that while she is in the salon, you want to do everything in your power to give her a break from it. Let her know gently that while she is in your care, you should both concentrate on her enjoyment of the services and not the things that are stressing her.
- Change the subject. What topic could you shift to that seems the most natural?
- Find a reason to excuse yourself. When you return, change the subject.
- Acknowledge her by saying, “I’m sorry to hear that.” Suggest a mini-relaxation service the salon is promoting to help get her mind off her troubles.

## Getting Too Personal

Sometimes when a client forms a bond of trust with her nail technician, she may have a hard time differentiating between a professional and a personal relationship. This will be her problem. Be sure you do not make it your problem. Your job is to handle your client relationships tactfully and sensitively, with professionalism and respect. Do not engage in an attempt to fulfill the role of counselor, career guide parental sounding board, or motivational coach for any of your clients.

If your client gets too far off topic, use neutral subjects to bring her back to a conversation about her beauty needs. If she tells you about a personal problem, simply listen and tell her you are sorry. Then ask, "What can we do to make your visit better today?"

If your client is gossiping, change the subject as soon as you can. Try something like, "I just noticed your hands are dry. Let's do a warm paraffin treatment so that your hands look as beautiful as your nails." Then describe the treatment and recommend home care.

Books, movies, videos, and celebrities can all be used to move into conversations about a particular look or style. As a rule, avoid discussing religion and politics. When you cannot find a way to move the conversation back to something beauty related, simply listen and then change the subject. In a worst-case scenario, apologize and excuse yourself, either verbally or physically, to check her client record, to ask another nail technician an important question, or to see if a certain polish is in stock. When you return your attention to the client, move the conversation back to beauty.

## ■ IN-SALON COMMUNICATION

Behaving in a professional manner is the first step in making meaningful in-salon communication a reality. The salon and spa community is a close-knit one in which beauty professionals spend long hours working side-by-side. For this reason, it is important to maintain boundaries. Remember, the salon is your place of business and, as such, must be treated respectfully and carefully.

## Communicating with Coworkers

In a work environment, you will not have the opportunity to hand-pick your colleagues. There will always be people you like or relate to better than others.

Keep these points in mind as you interact and communicate with coworkers:

- *Treat everyone with respect.* Regardless of whether or not you like someone, your colleagues are professionals who deserve your respect.
- *Remain objective.* Different types of personalities working over long and intense hours are likely to breed some degree of dissension. Make every effort to remain objective. Resist being pulled into spats and cliques.





- *Be honest and be sensitive.* Many people use the excuse of being honest as a license to say anything to anyone. While honesty is always the best policy, using unkind words or actions at work is never a good idea. Be sensitive; think before you speak.
- *Remain neutral.* There may come a time when you are called on to choose sides. Do whatever you can to avoid this in a dispute.
- *Seek help from someone you respect.* If you find yourself at odds with a coworker, seek out someone who is not involved and can be objective, such as the manager. Ask for advice about how to proceed and then really listen.
- *Do not take things personally.* How many times have you had a bad day, or had been thinking about something totally unrelated to work, when a colleague asked you what was wrong, or if were you mad at her? Just because someone is behaving in a certain manner, and you happen to be there, does not mean his or her behavior involves you. If you are confused or concerned by someone's actions, find a private place and an appropriate time to ask him or her if something is wrong.
- There is a time and a place for everything, but the salon is never the place to discuss your personal life and relationships.

## Communicating with Managers

Another very important relationship for you within the salon is the one you will build with your manager. The salon manager is generally the person with the most responsibility regarding the salon's overall operation. Often, in addition to running a hectic salon, she also has a personal clientele.

Your manager is probably the one who hired you and thus responsible for your training. Your manager has a vested interest in your success. As a salon employee, you might see the manager as a powerful figure of authority, but it is also important to remember that she is a human being. The best thing you can do to support your manager is to try to understand the decisions and rules that she makes, whether or not you agree with them.

Here are some guidelines for interacting and communicating with your salon manager.

- *Be a problem solver.* When you need to speak with your manager about some issue or problem, think of some possible solutions beforehand. This will indicate that you are working in the salon's best interest and trying to be an asset in the salon's success.
- *Get the facts straight.* Make sure that all your facts and information are accurate before you speak to your salon manager. This way, you avoid wasting your manager's time trying to solve a problem that might not really exist.
- *Be open and honest.* When you find yourself in a situation you do not understand, or do not have the experience to deal with, tell your salon manager immediately. Be willing to listen and learn.
- *Do not gossip or complain about colleagues.* Going to your manager with gossip or to tattle on a coworker could very well make you appear as a

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troublemaker. If you are having a legitimate problem with someone, it is only appropriate to tell your manager after you have already tried everything in your power to resolve the situation.

- *Be open to constructive criticism.* It is never easy to hear that you need improvement in any area, but keep in mind that part of your manager's job is to help you achieve your professional goals and ensure the salon's success. It is the manager's job to evaluate your skills and offer suggestions on how to improve and expand them. Keep an open mind and do not take her criticism personally.

## Communicating During an Employee Evaluation

Salons and spas that are well run will make it a priority to conduct frequent and thorough **employee evaluations**. Sometime in the course of your first few days of work, your salon manager will tell you when you can expect your first employee evaluation. If your manager does not mention it, you might ask her about it and request a copy of the form she will use or for a list of the criteria on which you will be evaluated. The following are some points to keep in mind as you begin your tenure in the salon or spa.

- Take some time to look over the employee evaluation document. Be mindful that the behaviors and activities most important to the salon are likely to be the ones on which you will be evaluated. You can begin to review and rate yourself in the weeks and months ahead, so you can assess your progress and performance.
- Remember, the criteria on the evaluation are there for the purpose of helping you become a better nail technician and to ensure the salon's success. Make the decision to approach the evaluation positively.
- As the time for the evaluation draws near, try filling out the form yourself. In other words, perform a self-evaluation, even if the salon has not asked you to do so. Be objective and carefully consider your comments.
- Before your evaluation meeting, write down any thoughts or questions so you can share them with your manager. Do not be shy. If you want to know when you can take on more services, when your pay scale might be increased, or when you might be considered for a promotion, this meeting is the appropriate time and place to ask. Many beauty professionals never take advantage of this crucial communication opportunity to discuss their future advancements, because they are too nervous, intimidated, or unprepared to discuss these issues. Participate proactively in your career and in your success by communicating your desires and interests.
- When you meet with your manager, show her your self-evaluation and tell her you are serious about your improvement and growth. Your manager will appreciate your input and your initiative. If you are being honest with yourself, there should be no surprises.
- At the end of the meeting, thank your manager for taking the time to complete the evaluation and for the feedback and guidance she gave you. **LO5**



## ■ Review Questions

1. What are the golden rules of human relations?
2. Define effective communication.
3. List some of the information that should go on a client consultation card.
4. What is the total look concept?
5. How should you prepare for a client consultation?
6. List and describe the 10 steps of a successful client consultation.
7. How should you handle tardy clients?
8. How should you handle a scheduling mix-up?
9. How should you handle an unhappy client?
10. List at least five things to remember when communicating with your coworkers.
11. List at least four guidelines for communicating with salon managers.





# General Sciences

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## CHAPTER 5

Infection Control: Principles  
and Practices

## CHAPTER 6

General Anatomy and  
Physiology

## CHAPTER 7

Skin Structure and Growth

## CHAPTER 8

Nail Structure and Growth

## CHAPTER 9

Nail Disorders and Diseases

## CHAPTER 10

Basics of Chemistry

## CHAPTER 11

Nail Product Chemistry  
Simplified

## CHAPTER 12

Basics of Electricity

# 5

# Infection Control: Principles and Practices

## Chapter Outline

- Why Study Infection Control?
- Regulation
- Principles of Infection
- Principles of Prevention
- Standard Precautions
- The Professional Salon Image
- Procedures



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# Learning Objectives


After you have completed this chapter, you will be able to:

- ✓ **L01** Discuss state laws and rules and explain the differences between them.
- ✓ **L02** List the types and classifications of bacteria.
- ✓ **L03** Define hepatitis and human immunodeficiency virus (HIV) and explain how they are transmitted.
- ✓ **L04** Explain the differences between cleaning, disinfecting, and sterilizing.
- ✓ **L05** List the types of disinfectants and how they are used.
- ✓ **L06** Discuss Standard Precautions.
- ✓ **L07** List your responsibilities as a salon professional.
- ✓ **L08** Describe how to safely clean and disinfect salon tools and equipment.

## Key Terms

Page number indicates where in the chapter the term is used.

<b>acquired immunity</b> / 76	<b>disease</b> / 65	<b>Material Safety Data Sheet (MSDS)</b> / 63	<b>quaternary ammonium compounds (quats)</b> / 80
<b>acquired immunodeficiency syndrome (AIDS)</b> / 74	<b>disinfectants</b> / 65	<b>Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)</b> / 71	<b>Safety Data Sheet (SDS)</b> / 63
<b>antiseptics</b> / 85	<b>disinfection</b> / 67	<b>microorganisms</b> / 67	<b>sanitizing</b> / 62
<b>asymptomatic</b> / 85	<b>efficacy</b> / 78	<b>mildew</b> / 75	<b>scabies</b> / 75
<b>bacilli</b> / 69	<b>exposure incident</b> / 86	<b>motility</b> / 70	<b>single use (disposable)</b> / 82
<b>bacteria</b> / 67	<b>flagella</b> / 70	<b>multiuse (reusable)</b> / 82	<b>sodium hypochlorite</b> / 80
<b>bactericidal</b> / 67	<b>fungi</b> / 75	<b><i>Mycobacterium fortuitum</i></b> / 65	<b>spirilla</b> / 69
<b>binary fission</b> / 70	<b>fungicidal</b> / 67	<b>natural immunity</b> / 76	<b>spore</b> / 70
<b>biofilms</b> / 71	<b>hepatitis</b> / 74	<b>nonpathogenic</b> / 67	<b>Standard Precautions</b> / 85
<b>bloodborne pathogens</b> / 73	<b>hospital disinfectants</b> / 65	<b>occupational disease</b> / 72	<b>staphylococci</b> / 69
<b>chelating soaps (chelating detergents)</b> / 84	<b>human immunodeficiency virus (HIV)</b> / 74	<b>parasites</b> / 75	<b>sterilization</b> / 76
<b>clean (cleaning)</b> / 76	<b>immunity</b> / 76	<b>parasitic disease</b> / 72	<b>streptococci</b> / 69
<b>cocci</b> / 69	<b>indirect transmission</b> / 68	<b>pathogenic</b> / 68	<b>systemic disease</b> / 72
<b>contagious disease</b> / 71	<b>infection</b> / 66	<b>pathogenic disease</b> / 72	<b>toxins</b> / 75
<b>contamination</b> / 74	<b>infection control</b> / 67	<b>phenolic disinfectants</b> / 80	<b>tuberculocidal disinfectants</b> / 65
<b>diagnose</b> / 67	<b>infectious</b> / 72	<b>porous</b> / 82	<b>tuberculosis</b> / 65
<b>diagnosis</b> / 72	<b>infectious disease</b> / 67	<b>pus</b> / 70	<b>virucidal</b> / 67
<b>diplococci</b> / 69	<b>inflammation</b> / 70		<b>virus</b> / 73
<b>direct transmission</b> / 68	<b>local infection</b> / 71		



There is a great deal of confusion and misuse of the terms “cleaning,” “sanitizing,” “disinfecting,” and “sterilizing” within the beauty industry, including at the state regulatory level. In previous editions of this chapter, and in many commercially available products, the word **sanitizing** has been used to mean “clean” or “cleaning.” The publisher’s goal is to end any possible confusion about the use and definition of these words by clearly defining them here and within the glossary. Milady has opted to consistently use “cleaning,” instead of using “cleaning” in one sentence and “sanitizing” in another sentence, since these terms have similar meanings and accomplish the same outcome: removing dirt and germs.

The word “cleaning” is defined as a mechanical process (scrubbing) using soap and water or detergent and water to remove dirt, debris, and many disease-causing germs. Cleaning also removes invisible debris that interferes with disinfection.

The word “sanitizing” is defined as a chemical process used to reduce the number of disease-causing germs on surfaces to a safe level, which is what cleaning accomplishes. The word “disinfecting” is defined as a chemical process that uses specific products to destroy organisms on nonporous surfaces.

## WHY STUDY INFECTION CONTROL?

Nail technicians should have a thorough understanding of infection control principles and practices because:

- ▶ To be a knowledgeable, successful, and responsible professional in the field of nail technology, you are required to understand the types of infections you may encounter in the salon and their modes of transmission.
- ▶ Understanding and practicing proper infection control within the laws and rules will safeguard your business.
- ▶ Respecting the chemicals in the cleaning and disinfecting products that you use, and knowing how to safely use them, will help keep you, your clients, and your salon environment safe.

## ■ REGULATION

Various federal and state agencies regulate the practice of nail technology. Federal agencies set guidelines for the manufacturing, sale, and use of equipment and chemical ingredients; for the type of disinfectants used in salons; and for safety in the workplace, placing limits on the types of services you can perform in the salon. For example, nail professionals are prohibited from cutting or puncturing the living skin and from removing callused skin, warts, corns, in-grown nails, etc. State agencies are responsible for regulating licensing, enforcement, and the conduct of nail technicians when they are working in the salon.

### Federal Agencies

#### Occupational Safety and Health Administration (OSHA)

The Occupational Safety and Health Administration (OSHA) was created as part of the U.S. Department of Labor to regulate and enforce safety and health standards to protect employees in the workplace. Regulating employee exposure to potentially toxic substances and informing employees about possible hazards of materials used in the workplace are key points of the Occupational Safety and Health Act of 1970. This regulation created the Hazard Communication Act, which requires that chemical manufacturers and importers assess the potential hazards associated with their products. The **Material Safety Data Sheet (MSDS)** is a result of this law.

In 2012, along with representatives from most nations who participate in the United Nations (UN), OSHA agreed to comply with the Globally Harmonized System of Classification and Labeling of Chemicals System (GHS). This initiative was designed to create label standards to be used around the globe and includes the use of specific pictograms to indicate possible safety concerns as well as adoption of a 16-category, standard-format **Safety Data Sheet (SDS)** to replace the MSDS. In 1983, the Hazard Communication Standard (HCS) gave workers the “right to know”; however, the new GHS gives workers the “right to understand.” Many of the standards set by OSHA are important to the nail industry because of the products used in salons. These standards address issues relating to the handling, mixing, storing, and disposing of products; general safety in the workplace; and the technician’s right to know about any potentially hazardous ingredients contained in the nail products he or she uses and how to avoid these potential hazards.

#### Safety Data Sheet (SDS) Replaces Material Safety Data Sheet (MSDS)

As of June 2015, the HCS requires a manufacturer, distributor, or importer to supply an SDS (previously known as an MSDS) for each professional product sold. Both the MSDS and the SDS contain information compiled by a manufacturer about its product, including the names of potentially hazardous ingredients, safe use and handling procedures, precautions to reduce the risk of accidental harm or overexposure, flammability warnings, useful disposal guidelines, and medical and first aid information, should it ever be needed for any reason.

The new SDS contains 16 categories of information. All SDS sheets will be organized identically. The categories are:



1. Identification: product identifier; manufacturer or distributor with contact information (including emergency phone number); recommended use of product and restrictions on use
2. Hazard identification: All potential hazards of using the product
3. Composition/information on ingredients: includes information on chemical ingredients
4. First-aid measures: includes important symptoms/effects—acute and delayed; required treatment
5. Fire-fighting measures: lists suitable extinguishing techniques; equipment; chemical hazards from fire
6. Accidental release measures: lists emergency procedures; protective equipment; proper methods of containment and cleanup
7. Handling and storage: lists precautions for safe handling and storage, including incompatibilities
8. Exposure controls/personal protection: lists OSHA's permissible exposure limits (PEL); personal protective equipment (PPE)
9. Physical and chemical properties: lists the chemical's characteristics
10. Stability and reactivity: lists chemical stability and possibility of hazardous reactions
11. Toxicology information: includes routes of exposure; related symptoms; acute and chronic effects
12. Ecological information: includes effects on wastewater and environment
13. Disposal consideration: includes proper disposal and disposal restrictions
14. Transport information: includes restrictions on transportation
15. Regulatory information: lists agencies responsible for regulation of product
16. Revision date: lists original date of document and any revision

In addition, pictograms that are internationally recognized will be used to ensure that information is being communicated in easily recognizable formats.

When necessary, the SDS can be taken to a doctor so that the situation can be properly treated. OSHA and state regulatory agencies require that SDSs for all professional products be kept in the salon, available for reference by nail technicians and other staff during normal hours of business. Either OSHA or state board inspectors can issue fines to salons that do not have SDSs available during regular business hours. There are also SDS-related training requirements. Employers must regularly (e.g., yearly) train workers on how to read and understand SDSs and OSHA regulations.

Federal and state law requires nail salons to obtain an SDS from the manufacturers and/or distributors for each professional product that you use. You can often download them from the product manufacturer's or the distributor's website. The absence of SDSs may pose a health risk to anyone in a salon who is exposed to potentially hazardous materials and is a violation of federal and state regulations. Take the time to read all of this information to be certain that you are protecting yourself and your clients to the best of your ability.

## Environmental Protection Agency (EPA)

The Environmental Protection Agency (EPA) registers many different types of disinfectants that are sold and used in the United States. **Disinfectants (dis-in-FEK-tents)** are chemical products that destroy most bacteria, fungi, and viruses on surfaces. Most disinfectants do not destroy spores. EPA-registered disinfectants are products used on nonporous surfaces that destroy organisms such as bacteria, viruses, and fungi when used according to the instructions on their label. The two types of disinfectants that are used in salons are hospital and tuberculocidal. **Hospital disinfectants** (HOS-pih-tal dis-in-FEK-tents) are effective in cleaning blood and body fluids from nonporous surfaces in the salon, thus controlling the spread of **disease** (dih-ZEEZ)—an abnormal condition of all or part of the body, or its systems or organs, that makes it incapable of carrying on normal function.

**Tuberculocidal disinfectants** (tuh-bur-kyoo-LOH-sy-dahl dis-in-FEK-tent) are proven to kill the bacteria that causes **tuberculosis** (tuh-bur-kyoo-LOH-sus), a disease that is caused by bacteria that are transmitted by coughing or sneezing, not by salon implements or services. The bacteria that causes tuberculosis is very difficult to kill, so the tuberculosis organism is used to test the efficacy of disinfectants. Tuberculocidal disinfectants are also classified as hospital disinfectants; however, this does not mean that you should use them in the salon. In fact, tuberculocidal disinfectants can be harmful to salon tools and equipment and require special methods of disposal. Review the rules in your state to be sure that the product you choose complies with requirements; also check with the implement or equipment manufacturer to determine if there are any incompatibilities with various disinfectants.

It is against federal law to use any disinfecting product contrary to its labeling. Before a manufacturer can sell a product for disinfecting surfaces, salon tools, implements, or equipment, it must obtain approval from the EPA and a registration number. Only then does the product qualify as a disinfectant for use in the salon, and only in the manner dictated by the manufacturer's label. For example, pedicure and manicure basins, bowls, or tubs must be disinfected with a product that is specifically approved by the EPA for use with these types of tools and equipment. If you do not follow the instructions for mixing, contact time, and the type of surface the disinfecting product can be used on, you have not complied with federal law and can be held to blame if there is a lawsuit.

A single nail technician can put many clients at risk unless stringent cleaning and disinfection guidelines are performed every day. A case in point was the spread of a bacterium called **Mycobacterium fortuitum** (MY-koh-bak-TIR-ee-um for-TOO-i-tum), a microscopic organism that normally exists in low concentrations in tap water. Until an incident occurred, health officials had considered it to be completely harmless and not infectious. In 2000, over 100 clients of a California salon had serious skin infections on their legs after receiving pedicures. The infection caused stubborn, ugly sores that lingered for months, required the use of strong antibiotics, and, in some cases, caused permanent scarring. The source of the infection was traced to the salon's whirlpool foot spas. Salon staff did





not clean the foot spas properly, resulting in a buildup of hair and debris that created the perfect breeding ground for bacteria.

The outbreak was a catalyst for change in the industry. As a result, the state of California issued specific requirements for pedicure equipment in the hope of preventing a future outbreak. In spite of their efforts at that time, there have since been other outbreaks affecting hundreds of clients, and not only in California. In Texas, the family of a paraplegic woman sued a salon, charging that the woman died because of an improperly disinfected pumice stone that caused an infection on her foot that spread and resulted in a fatal heart attack. As a result of media scrutiny, many clients have become more aware of the cleanliness practices of nail salons, and the industry has become more enlightened about the importance of cleaning and disinfection practices, especially for pedicure equipment.

## State Regulatory Agencies

State regulatory agencies exist to protect the health and safety of professionals and of consumers who receive nail and pedicure services in salons and spas. State regulatory agencies include licensing agencies, state boards of cosmetology, commissions, OSHA and health departments. These agencies require that everyone working in a nail salon or spa follow specific procedures. Enforcement of the rules through inspections and investigations of consumer complaints is also part of an agency's responsibility. The agency can issue penalties against both

the salon owner and the operator that range from warnings to fines, probation, and suspension or revocation of licenses and business permits. It is vital that you understand and follow the laws and rules in your state at all times—your salon's reputation, your license, and the client's safety depend on it.

## Laws and Rules—What Is the Difference?

*Laws* are written by both the federal and state legislatures that determine the scope of practice (what each license allows the holder to do) and establish guidelines for regulatory agencies to make rules. Laws are also called *statutes*. *Rules* or *regulations* are more specific than laws. Rules are written by a regulatory agency or state board and determine how the law will be applied. Rules establish specific standards of conduct and can be changed or updated frequently.

### ✓ LO1

## ■ PRINCIPLES OF INFECTION

Being a salon professional is fun and rewarding, but it also carries a great responsibility. One careless action could cause injury or **infection** (in-FEK-shun)—the invasion of body tissues by disease-causing pathogens—and you could lose your license or ruin the salon's reputation. Fortunately, preventing the spread of infections is easy if you have learned what to do and you practice that at all times. Safety begins and ends with *you* (**Figure 5-1**).

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## Infection Control

**Infection control** is the methods used to eliminate or reduce the transmission of infectious organisms. There are four types of potentially harmful and infectious organisms that are important to practitioners of nail technology: bacteria, fungi, viruses, and parasites. An **infectious disease** is caused by pathogenic (harmful) organisms that enter the body. An infectious disease may or may not be spread from one person to another.

Remember, nail professionals are never allowed to **diagnose**, determine the nature of a disease from its symptoms, treat, or recommend treatments for infections, disease, or abnormal conditions. Never attempt to treat or service any abnormal condition or injury or other unhealthy conditions. Instead, clients must be referred to their physicians for diagnosis and treatment. Nail professionals are only permitted to service healthy nails and skin. What you will learn in this chapter will teach you how to properly clean and disinfect tools and equipment so they are safe to use on clients. These steps are designed to prevent infection or disease. **Disinfection** is a chemical process that uses specific products to destroy organisms on nonporous surfaces. Disinfectants used in salons must be **bactericidal** (back-teer-uh-SYD-ul), capable of destroying bacteria; **fungicidal** (fun-jih-SYD-ul), capable of destroying fungi; and **virucidal** (vy-rus-SYD-ul), capable of destroying viruses. Be sure to mix and use these disinfectants according to the instructions on their labels to ensure their effectiveness.

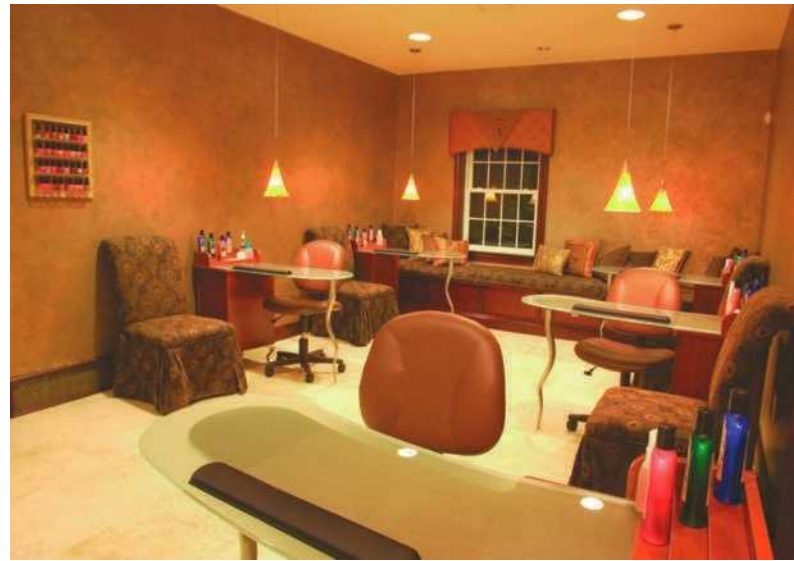
Contaminated salon tools and equipment may spread infections from client to client if the proper disinfection steps are not taken after every client. You have a professional and legal obligation to protect consumers from harm by using proper infection-control procedures. If clients are infected or harmed because a service or an infection-control procedure is not performed correctly, you may be found legally responsible for their injuries or infections.

## Bacteria

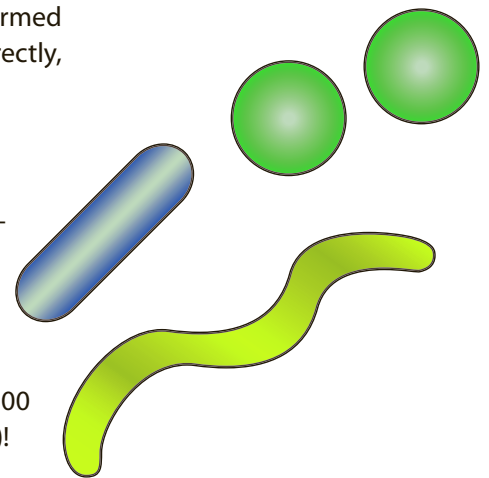
**Bacteria** (bak-TEER-ee-ah) are one-celled **microorganisms** (my-kroh-OR-gah-niz-ums), organisms of microscopic or submicroscopic size, with both plant and animal characteristics. Some are harmful, some are harmless. Bacteria can exist almost anywhere: skin, water, air, decayed matter, body secretions, clothing, or under the free edge of nails. Bacteria are so small they can only be seen with a microscope. In fact, 1,500 rod-shaped bacteria will fit comfortably on the head of a pin (**Figure 5–2**)!

### Types of Bacteria

There are thousands of different kinds of bacteria that fall into two primary types: pathogenic and **nonpathogenic**. Most bacteria are nonpathogenic (non-path-uh-JEN-ik): they are harmless organisms that may perform useful functions and



▲ **Figure 5–1** A sparkling-clean salon gains your clients' confidence.



▲ **Figure 5–2** Some general forms of bacteria.

are safe to come in contact with since they do not cause disease or harm. They can perform many helpful functions. For example, bacteria are used to make yogurt, cheese, and some medicines. In the human body, nonpathogenic bacteria help the body break down food, protect against infection, and stimulate the immune system. **Pathogenic** (path-uh-JEN-ik) bacteria are considered harmful because they may cause disease or infection in humans when they invade the body. Preventing the spread of pathogenic microorganisms is why salons and schools must maintain the highest standards for infection control at all times. If good practices are not learned and followed starting in school, many graduating nail technicians will never learn or practice them. **Table 5–1, Causes of Disease**, presents terms and definitions related to pathogens.

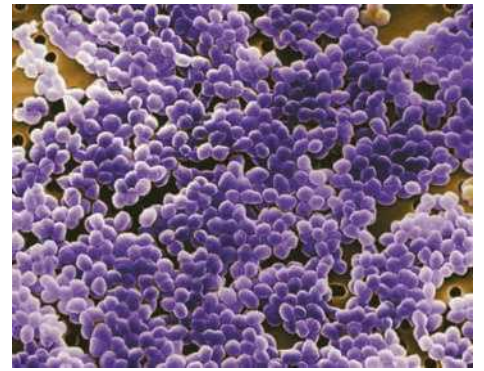
**Table 5–1 CAUSES OF DISEASE**

<b>TERM</b>	<b>DEFINITION</b>
<b>Bacteria</b> (singular: bacterium)	One-celled microorganisms having both plant and animal characteristics. Some are harmful; others are harmless.
<b>Direct Transmission</b>	The transmission of blood or body fluids through touching (including shaking hands), kissing, coughing, sneezing, and talking.
<b>Indirect Transmission</b>	The transmission of blood or body fluids through contact with an intermediate contaminated object, such as a tweezer, metal pusher, nipper, or an environmental surface.
<b>Infection</b>	The invasion of body tissues by disease-causing pathogens.
<b>Germ</b>	A nonscientific synonym for disease-producing organisms.
<b>Microorganism</b>	Any organism of microscopic or submicroscopic size.
<b>Parasite</b>	Organisms that grow, feed, and shelter on or in another organism (referred to as the host), while contributing nothing to the survival of that organism. Parasites must have a host to survive.
<b>Toxins</b>	Various poisonous substances naturally produced by some microorganisms (bacteria and viruses). All toxins are natural substances.
<b>Virus</b> (plural: viruses)	A parasitic submicroscopic particle that infects and resides in cells of biological organisms. A virus is capable of replication only through taking over the host cell's reproduction function.

## Classifications of Potentially Pathogenic Bacteria

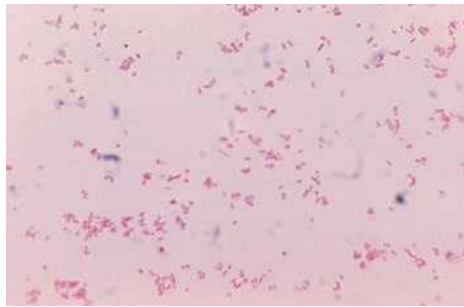
Bacteria have distinct shapes that help to identify them. Potentially pathogenic bacteria are classified as follows:

1. **Cocci** (KOK-sy)—Round-shaped bacteria that appear singly (alone) or in groups (**Figure 5-3**).
  - **Staphylococci** (staf-uh-loh-KOK-sy)—Pus-forming bacteria that grow in clusters, like a bunch of grapes. They cause abscesses, pustules, and boils (**Figure 5-4**).
  - **Streptococci** (strep-toh-KOK-eye)—Pus-forming bacteria arranged in curved lines resembling a string of beads. They cause infections such as strep throat and blood poisoning (**Figure 5-5**).
  - **Diplococci** (dip-lo-KOK-sy)—Spherical bacteria that grow in pairs and cause diseases such as pneumonia (**Figure 5-6**).



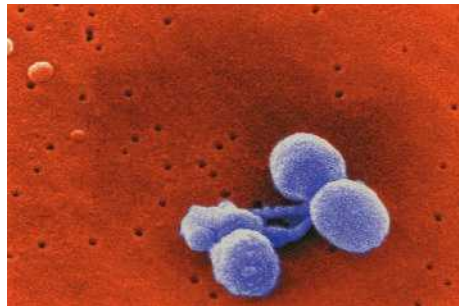
Janice Haney Carr/Public Health Image Library

▲ **Figure 5-3** Cocci.



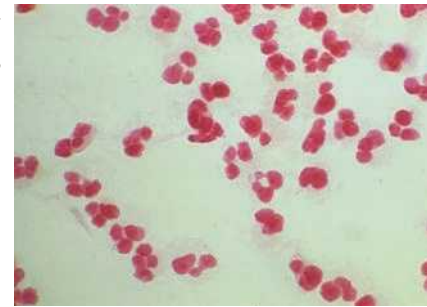
Gilda Jones/CDC/Public Health Image Library

▲ **Figure 5-4** Staphylococci.



Public Health Image Library (PHIL)

▲ **Figure 5-5** Streptococci.



Dr. Norman Jacobs/CDC/Public Health Image Library

▲ **Figure 5-6** Diplococci.

2. **Bacilli** (bah-SIL-ee), singular bacillus—Short, rod-shaped bacteria. They are the most common bacteria; some types produce diseases such as tetanus (lockjaw), typhoid fever, tuberculosis, and diphtheria (**Figure 5-7**).
3. **Spirilla** (spy-RIL-ah)—Spiral or corkscrew-shaped bacteria. They are subdivided into subgroups, such as *Treponema papillida*, which causes syphilis, a sexually transmitted disease (STD); or *Borrelia burgdorferi*, which causes Lyme disease (**Figure 5-8**).



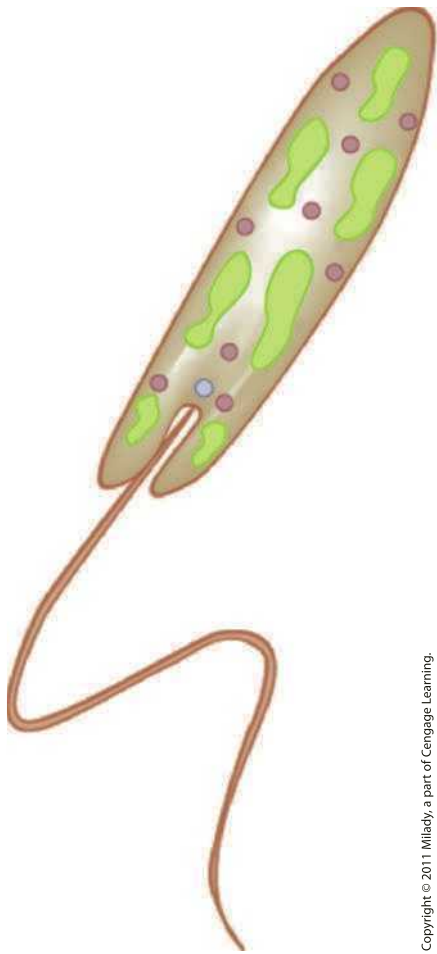
© Juan Gaertner/www.Shutterstock.com

▲ **Figure 5-7** Bacilli.



The Global Biodiversity Information Facility:  
GBIF Backbone Taxonomy, 2013-07-01. Accessed via  
<http://www.gbif.org/species/2220355> <<http://www.gbif.org/species/2220355>> on 2013-11-22. Photo by Wolfram Adlamsing.

▲ **Figure 5-8** Spirilla.



▲ Figure 5-9 Bacteria with flagellum.

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## Movement of Bacteria

Different bacteria move in different ways. Cocci rarely show active **motility** (moh-TIL-ee-tee), or self-movement. They are transmitted in the air, in dust, or within the substance in which they settle. Bacilli and spirilla are both capable of moving and use slender, hairlike extensions, known as **flagella** (flu-JEL-uh) (singular: flagellum), for locomotion (moving about). A whiplike motion of these hairs moves the bacteria in liquid (**Figure 5-9**). You may also hear people refer to cilia (SIL-ee-uh) as the hairlike extensions on cells. Cilia are shorter than flagella. Cilia move cells, but cilia and flagella have a different motion. Flagella move in a snake-like motion, while cilia move in a rowing-like motion.

## Bacterial Growth and Reproduction

Bacteria are tiny, microscopic bags generally consisting of an outer cell wall that contains liquid called protoplasm. Bacterial cells manufacture their own food from what they can absorb from the surrounding environment. They give off waste products, grow, and reproduce. The life cycle of bacteria consists of two distinct phases: the active stage and the inactive or spore-forming stage.

### Active Stage

During the active stage, bacteria grow and reproduce. Bacteria multiply best in warm, dark, damp, or dirty places where food is available. When conditions are favorable, bacteria grow and reproduce. When they reach their largest size, they divide into two new cells. This division is called **binary fission**. The cells that are formed are called daughter cells and are produced every 20 to 60 minutes, depending on the bacteria. The infectious nail pathogen *Staphylococcus aureus* undergoes binary fission every 27 to 30 minutes. When conditions become unfavorable and difficult for them to thrive, the bacteria either die or become inactive.

### Inactive or Spore-forming Stage

Certain fungi and bacteria, such as the anthrax and tetanus bacilli, coat themselves with wax outer shells that are able to withstand long periods of famine, dryness, and unsuitable temperatures. In this stage, **spores** can be blown about and are not harmed by most disinfectants, heat, or cold.

When favorable conditions are restored, the spores change into the active form and begin to grow and reproduce. Although spores are dangerous if they enter the body during a surgical procedure and become active, they pose little risk to clients in a salon.

## Bacterial Infections

An infection occurs when body tissues are invaded by disease-causing or pathogenic bacteria. There can be no bacterial infection without the presence of pathogenic bacteria. So if they are eliminated, clients cannot become infected.

**Pus** is a fluid created by tissue **inflammation** (in-fluh-MAY-shun)—a condition in which a part of the body reacts to protect itself from injury, irritation, or infection. Inflammation is an unhealthy condition characterized by redness, heat, pain, and swelling. Inflamed tissues contain white blood cells, bacteria, and dead cells, while the presence of pus is a sign of a bacterial infection. A **local**

**infection**, such as a pimple or abscess, is confined to a particular part of the body and is indicated by a lesion containing pus. Inflamed skin should never receive services in the salon setting, since it likely indicates infection or some other medical condition.

Staphylococci (staph) are among the most common human bacteria, and are normally carried by about one-third of the population. Staph can be picked up on doorknobs, countertops, and other surfaces, but are more frequently spread through skin-to-skin contact, such as shaking hands or using unclean files or implements when performing services. If these bacteria get into the wrong place they can be very dangerous. Although rare considering the number of nail services performed, every year there are lawsuits brought against nail salons and nail technicians for allegedly causing staph infections during the performance of their services. Don't let this happen to you or your clients.

Staph is responsible for food poisoning and a wide range of diseases, including toxic shock syndrome. Some types of infectious bacteria are highly resistant to certain antibiotics—for example, the staph infection **Methicillin-resistant *Staphylococcus aureus* (MRSA)**. Historically, MRSA occurred most frequently among people with weakened immune systems or those who had undergone medical procedures. Today, it has become more common in otherwise healthy people. Clients who appear completely healthy may carry this organism and bring it into the salon to infect others. Some may not be aware of their infection; others may show more obvious symptoms. The symptoms usually appear as skin infections, such as pimples and boils, that can be difficult to cure. MRSA infections have at times resulted in death, which is why it is important to clean and disinfect all tools and implements used in the nail salon. You owe it to yourself and your clients. Remember: If proper cleaning and disinfection procedures had been observed, these deaths could likely have been avoided. There is a large amount of scientific and medical evidence to prove that cleaning and disinfection work very well to protect against the spread of infection. When consistently and properly performed, they are the best way to ensure that your clientele are protected.

Also, *never* perform your services if the client's hands or feet show visible signs of infections or other unhealthy conditions. Nail technicians are only allowed to work on healthy nails and skin. Nail technicians are *never* permitted to diagnosis, treat, or service unhealthy conditions, nor can they suggest or prescribe any type of treatment for these conditions. To do so is in violation of federal law.

When a disease spreads from one person to another, it is said to be a **contagious disease** (kon-TAY-jus dih-ZEEZ). Some of the more common contagious diseases that will prevent a salon professional from servicing a client are the common cold, ringworm, conjunctivitis (pinkeye), viral infections, and natural nail or toe and foot infections. The chief source for spreading these infections is dirty hands, especially dirt under the fingernails and on the webs between the fingers. Disease may also be spread by contaminated implements, cuts, infected nails, open sores, pus, mouth and nose discharges, shared drinking cups, telephone receivers, door knobs, and towels. Uncovered coughing or sneezing and spitting in public also spread germs. **Table 5–2, Terms Related to Disease**, lists general terms and definitions that are important for an understanding of disease in general.

## Did You Know?

One of the main causes of infection from a salon's whirlpool foot spas can be traced to debris building up to create a thin, film-like coating called biofilms.

**Biofilms** are a highly protective breeding ground for bacteria and fungi and can serve as nests in which huge colonies of these microorganisms can grow and multiply. Biofilms are often highly resistant to solely soaking in an EPA-registered disinfectant. Once biofilms have a chance to form and get established, they can only be removed by a thorough scrubbing with a stiff bristle brush and soap and water. The bad-tasting film in your mouth and on your teeth when you wake up each morning is an example of a biofilm. The biofilm forms each night while you sleep. Brushing your teeth only temporarily removes the biofilm; it will quickly reform. This is one of the main reasons why we must brush our teeth often to keep them healthy. Just as rinsing your mouth out in the morning won't get your teeth and mouth clean, quickly washing and rinsing basins, tools, and implements won't get them clean, either. A proper cleaning requires the use of a brush with bristles that are stiff enough to thoroughly scrub the surface free of biofilms and other debris. Don't let biofilms build up in your salon; use a brush that has been properly cleaned and disinfected!

**Table 5–2 TERMS RELATED TO DISEASE**

<b>TERM</b>	<b>DEFINITION</b>
<b>Allergy</b>	A reaction due to extreme sensitivity to certain foods, chemicals, or other normally harmless substances.
<b>Contagious Disease</b>	Also known as <i>communicable disease</i> ; a disease that is spread from one person to another. Some of the more contagious diseases are the common cold, ringworm, conjunctivitis (pinkeye), viral infections, and natural nail or toe and foot infections.
<b>Contamination</b>	The presence, or the reasonably anticipated presence, of blood or other potentially <b>infectious</b> (caused by or capable of being transmitted by infection) materials on an item's surface or visible debris or residue such as dust, hair, and skin.
<b>Decontamination</b>	The removal of blood or other potentially infectious materials on an item's surface and the removal of visible debris or residue such as dust, hair, and skin.
<b>Diagnosis</b>	The determination of the nature of a disease from its symptoms and/or diagnostic tests. Federal regulations prohibit nail professionals from performing a diagnosis.
<b>Disease</b>	An abnormal condition of all or part of the body, or its systems or organs, that makes the body incapable of carrying on normal function.
<b>Exposure Incident</b>	Contact with nonintact (broken) skin, blood, body fluid, or other potentially infectious materials that is the result of the performance of an employee's duties.
<b>Infectious Disease</b>	Disease caused by pathogenic (harmful) microorganisms that enter the body. An infectious disease may or may not be spread from one person to another person.
<b>Inflammation</b>	Condition in which a part of the body reacts to injury, irritation, or infection. An inflammation is characterized by redness, heat, pain, and swelling.
<b>Occupational Disease</b>	Illnesses resulting from conditions associated with employment, such as prolonged and repeated overexposure to certain products or ingredients.
<b>Parasitic Disease</b>	A disease caused by parasites, such as lice and mites.
<b>Pathogenic Disease</b>	A disease produced by organisms, including bacteria, viruses, fungi, and parasites.
<b>Systemic Disease</b>	A disease that affects the body as a whole, often due to under- or overfunctioning internal glands or organs. The disease is carried through the blood stream or the lymphatic system.

## Viruses

A **virus** (VY-rus) is a parasitic submicroscopic particle that infects and resides in the cells of a biological organism. A virus is capable of replication only when it takes over the host cell's reproduction machinery. Viruses are so small that they can only be seen under the most sophisticated and powerful microscopes. They cause common colds and other respiratory and gastrointestinal (digestive tract) infections. Other viruses that plague humans are measles, mumps, chicken pox, smallpox, rabies, yellow fever, hepatitis, polio, influenza, and HIV, which causes AIDS.

An example of a common viral infection often seen in nail salons is the human papillomavirus (HPV) (**Figure 5–10**). The virus can infect the bottom of the foot and resembles small black dots, usually in clustered groups. HPV is highly contagious, difficult to kill, and can be passed from pedicure client to pedicure client by dirty implements and foot baths. If the client shows signs of HPV infection, do not perform a pedicure service. However, many people have no visible symptoms, making infection control for every client even more important!

One difference between viruses and bacteria is that a virus can live and reproduce only by penetrating other cells and becoming part of them, while bacteria can live and reproduce on their own. Bacterial infections can usually be treated with specific antibiotics, while viruses are hard to kill without harming the body in the process. Viruses are also not affected by antibiotics. When available, vaccinations prevent viruses from growing in the body but are not available for all viruses. Vaccines are available for hepatitis B and varicella (the virus that causes the shingles); you should consider receiving these vaccines as well as those for the seasonal flu and pneumonia. **LO2**

## Warts

A wart is caused by a highly contagious virus that has infected an area of the skin and created a generally small, rough growth that resembles a solid blister with a cauliflower-like appearance. The virus gains access through broken tissue to create a localized area of infection that can grow and spread to other areas. In the salon, warts are most likely found on the bottom of the feet (plantar warts) or on the fingers or palms (palmar wart). A typical infection can last months or years and may disappear only to spontaneously recur. Treatments are available, but preventing the spread of the virus is easily accomplished by always properly following cleaning and disinfection practices and procedures. Nail professionals should *never* attempt to treat any wart nor provide services to these areas of skin. Clients with warts on their feet or hands should be referred to a physician for diagnosis and treatment, if required.

## Bloodborne Pathogens

Disease-causing microorganisms that are carried in the body by blood or body fluids, such as hepatitis and HIV, are called **bloodborne pathogens**. The spread of bloodborne pathogens is possible through nipping, clipping, facial treatments, waxing, tweezing, or any time the skin is cut, shaved, or broken. Use great care to avoid cutting or damaging clients' skin during any type of service. Intentional cutting of any living skin is considered outside the scope of the nail technician's licensed and approved practices. Federal law allows only qualified

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Photography by Joseph Schuyler.



▲ **Figure 5–10** Plantar wart caused by human papillomavirus (HPV).

medical professionals to cut living skin, since this is considered a medical procedure. This means that nail technicians are not allowed to trim or cut the skin around the nail plate. Cutting hardened tissue and removing a callus are both considered medical procedures. Cutting the living tissue is what creates the hardened tissue, as the body seeks to protect itself from the injury. Even if the client insists, nail technicians may not intentionally cut any living skin for any reason. Normally, once the cutting is discontinued, the hardened tissue will eventually disappear and the skin around the nail plate will revert back to a healthy, normal appearance.

## Hepatitis

A bloodborne virus causes **hepatitis** (hep-uh-TY-tus), a disease that damages the liver. In general, it is difficult to contract hepatitis; however, hepatitis is easier to contract than HIV because it can be present in all body fluids of those who are infected. Unlike HIV, hepatitis can live on a surface outside the body for long periods of time. It is vital that all surfaces with which a client comes into contact are thoroughly cleaned.

There are two types of hepatitis that are of concern within the salon: hepatitis B and hepatitis C. Hepatitis B is the most difficult to kill on a surface, so check the label of the disinfectant you use to be sure that the product is effective against it. Hepatitis B and C are spread from person to person through blood and less often through other body fluids, such as semen and vaginal secretions. Those who work closely with the public can be vaccinated against hepatitis B. You may want to check with your doctor to see if this is an option for you.

## HIV/AIDS

**Human immunodeficiency virus (HIV)** (HYOO-mun ih-MYOO-noh-di-FISH-en-see VY-rus) is the virus that causes **acquired immunodeficiency syndrome (AIDS)** (uh-KWY-erd ih-MYOO-no-di-FISH-en-see sin-droh-m). AIDS is a disease that breaks down the body's immune system. HIV is spread from person to person through blood and less often through other body fluids, such as semen and vaginal secretions. A person can be infected with HIV for many years without having symptoms, but testing can determine if a person is infected within six months after exposure to the virus. Sometimes, people who are HIV-positive have never been tested and do not know they are infecting other people.

HIV is spread mainly through the sharing of needles by intravenous (IV) drug users, and less often by unprotected sexual contact or accidents with needles in healthcare settings. The virus is less likely to enter the bloodstream through cuts and sores. It is not spread by holding hands, hugging, kissing, sharing food, or using household items such as the telephone or toilet seats. There are no documented cases of the virus being spread by food handlers; insects; casual contact; or hair, skin, nail, and pedicure salon services.

If you accidentally cut a client who is HIV-positive and you continue to use the implement without cleaning and disinfecting it, you risk puncturing your skin or cutting another client with a contaminated tool. Know that proper disinfection will completely eliminate any **contamination** risks. However, it is important to understand that there is no indication that salon services transmit HIV nor does any authoritative body believe that salon services are a source of HIV transmission. **LO3**



## Fungi

**Fungi** (FUN-jl), single-cell organisms that grow in irregular masses that include molds, mildews, and yeasts, can produce contagious diseases, such as ringworm. **Mildew** (MIL-doo) affects plants or grows on inanimate objects, but does not cause human infections in the salon. Nail infections can be spread by using dirty implements or by not properly preparing the surface of the natural nail before enhancement products are applied. Nail infections can occur on both hands and feet. Fungal infections are much more common on the feet than hands, but bacterial infections can occur on both. Both bacterial and fungal infections can be spread to other nails, or to other clients, unless everything that touches the client's skin is either properly disposed of (disposable or single-use items) or properly cleaned and disinfected before reuse. The FDA has determined that topical treatments applied directly to the fingernails, skin, and toenails are not effective in eliminating fungal infections. In short, they don't work. The FDA prohibits the sale of antifungal products for fingernails and toenails without a medical prescription (**Figure 5–11**).

### How Pathogens Enter the Body

Pathogenic bacteria, viruses, or fungi can enter the body through:

- Broken skin, such as a cut or scratch (intact skin is an effective barrier to infection).
- The mouth (contaminated water, food, or fingers).
- The nose (inhaling dusts or sprays from sneezing).
- The eyes or ears (less likely, but possible).
- Unprotected sex.

The body prevents and controls infections with:

- Healthy, unbroken skin—the body's first line of defense.
- Body secretions, such as perspiration and digestive juices.
- White blood cells within the blood that destroy bacteria.
- Antitoxins that counteract the **toxins** (TAHK-sin), any of various poisonous substances produced by some microorganisms (bacteria and viruses).

### Parasites

**Parasites** are organisms that grow, feed, and shelter on or in another organism while contributing nothing to the survival of that organism (referred to as a host). They must have a host to survive. Parasites can live on or inside of humans and animals. They also can be found in food, on plants and trees, and in water.

**Scabies** (SKAY-beez) is a contagious skin parasitic disease that is caused by the itch mite, which burrows under the skin (**Figure 5–12**). Contagious diseases and conditions caused by parasites should only be treated by a doctor. Contaminated countertops, tools, and equipment should be thoroughly cleaned and then disinfected with an EPA-registered disinfectant used as directed or 10 percent bleach solution for 10 minutes.



Courtesy of Godfrey F. Mix, DPM, Sacramento, CA

▲ **Figure 5–11** Nail fungus.

## Did You Know?

All toxins are produced by living things, so all toxins are naturally derived.

Nature is filled with many naturally occurring poisons, carcinogens, and toxins. Don't be fooled into thinking that anything natural must be safe. "Natural" simply means that the substance occurs in nature and many harmful substances are all natural.

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▲ **Figure 5–12** Scabies.

## Immunity

**Immunity** is the ability of the body to destroy and resist infection. Immunity against disease can be either natural or acquired and is a sign of good health. **Natural immunity** is partly inherited and partly developed through healthy living. **Acquired immunity** is immunity that the body develops after overcoming a disease or through inoculation (such as flu vaccinations), or through exposure to natural allergens, such as pollen, cat dander, and ragweed.

## ■ PRINCIPLES OF PREVENTION

Proper infection control can prevent the spread of disease caused by exposure to potentially infectious materials on an item's surface. Infection control also will prevent exposure to blood and visible debris or residue such as dust, hair, and skin. Proper infection control requires two steps: cleaning and then disinfecting with an appropriate EPA-registered disinfectant. When these two steps are followed correctly, virtually all pathogens of concern in the salon can be effectively eliminated. **Sterilization**, which is the process that destroys all microbial life, is a method that can be incorporated but is very rarely mandated. Effective sterilization typically requires the use of an autoclave to complete: this piece of equipment incorporates heat and pressure. For sterilization to be effective, items must be small enough to fit into the autoclave chamber, pre-cleaned beforehand and the autoclave must be tested and maintained per the manufacturer's specifications. The Centers for Disease Control and Prevention (CDC) requires that autoclaves be tested weekly to ensure they are properly sterilizing implements. The accepted method is called a spore test. Sealed packages containing test organisms are subjected to a typical sterilization cycle and then sent to a contract laboratory that specializes in autoclave performance testing.

## Cleaning

The first step of any infection control method is to **clean**; that is, a mechanical process (scrubbing) using soap and water or detergent and water to remove all visible dirt, debris, and many disease-causing germs from tools, implements, and equipment. Proper cleaning also removes invisible debris that interferes with disinfection. Nail technicians are required to clean before they disinfect. When a surface is properly cleaned, the number of contaminants on the surface is greatly reduced, as is the risk of infection. The vast majority of contaminants and pathogens can be washed from the surfaces of tools and implements through proper cleaning. A surface must be properly cleaned before it can be properly disinfected: This is why cleaning is an important part of disinfecting nail tools and equipment. Using a disinfectant without cleaning first is like using mouthwash without brushing your teeth—it just does not work properly!

Cleaned surfaces can still harbor small amounts of pathogens, but the fewer there are, the less likely they can spread infections. Putting antiseptics on your skin will drastically lower the number of pathogens on your hands, but it will not clean your hands nor remove residual contaminants, such



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as monomer or UV gel. The proper cleaning of the hands requires liquid soap, running water, a nail brush, and a clean towel. Do not underestimate the importance of proper cleaning and hand washing. They are the most powerful and important ways to prevent the spread of infection. Some common methods of cleaning in a salon include:

- Washing with soap and water and scrubbing with a clean and properly disinfected brush.
- Using an ultrasonic unit.
- Using a cleaning solvent (i.e., on metal bits for electric files).

## Disinfecting

The second step of infection control is disinfecting. Disinfection is the chemical process that uses specific products to destroy organisms on nonporous surfaces. This process requires the use of an EPA-registered disinfectant prepared and applied following the manufacturer's instructions. All surfaces must be cleaned prior to disinfection.

The disinfecting process is not effective against bacterial spores, which is much more of an issue for hospitals where surgical procedures are performed. In the salon setting, disinfection is extremely effective and is considered to be the EPA-approved method for controlling microorganisms on surfaces such as shears, nippers, and other multiuse tools and equipment and nonporous surfaces.

**Disinfectants** are EPA-registered products used on nonporous surfaces that destroy organisms such as bacteria, viruses, and fungi when used according to the disinfectant label instructions. *Disinfectants are not for use on human skin, hair, or nails.* Never use disinfectants as hand cleaners since they can cause skin irritation and/or allergy. All disinfectants clearly state on the label to avoid skin contact. This means avoid contact with your skin as well as the client's. Do not put your fingers directly into any disinfecting solution. These are pathogen pesticides that can be harmful to the skin if not properly used. If you mix a disinfectant in a container that is not labeled by the manufacturer, it must be properly labeled with the contents and the date mixed.

## Sterilization

A second method of infection control is cleaning and then sterilizing. The word "sterilize" is often used incorrectly. **Sterilization** is the process that completely destroys all microbial life, including spores. The most effective methods of sterilization use high-pressure steam autoclaves. Simply exposing instruments to steam is not enough. To be effective against spores and certain disease-causing pathogens, the steam must be pressurized in an autoclave. Dry heat forms of sterilization are less efficient and require longer times at higher temperatures but still can be used in the salon.

Sterilization is not useful for many items in the salon setting (e.g., pedicure basins, countertops, door knobs or anything else that won't fit inside the relatively small autoclave); therefore, it can never replace disinfection in salons. Training for the use of autoclaves can be found by searching the internet and from the manufacturers of autoclaves. For example, dirty implements cannot



# Did You Know?

While some clients who have impaired immune systems will share that information with you, many will not: either they do not know it is important or they do not know that they have a compromised immune system. These people are at very high risk of infection if they come into contact with pathogens in the salon. Keeping in mind that you won't always know who these people are, it is important to practice proper infection control before every client! One example is a diabetic whose immune system does not work effectively and who also has impaired healing. Most diabetics are diabetic for 7 years prior to being diagnosed, which means that even if you ask, they will say "no" because they have not yet been diagnosed! Another example is clients who are on medication for things like asthma, rheumatoid arthritis, and fibromyalgia: these medications are designed to dull the immune system, and as such make these clients particularly susceptible to infection. Remember, you don't know everyone who sits in your chair. Treat everyone as though they deserve the best in disinfection!

be properly sterilized without pre-cleaning. Autoclaves need regular maintenance and testing to ensure they are in good working order and performing properly. Color indicator strips on autoclave bags can provide false readings, so you should never rely solely on these to ensure proper sterility. Autoclaves offer complete destruction of all microorganisms, which is an advantage over liquid disinfectants.

The Centers for Disease Control and Prevention (CDC) *requires* that autoclaves be tested *weekly* to ensure that they are properly sterilizing implements. The accepted method is called a spore test. Sealed packages containing test organisms are subjected to a typical sterilization cycle and then sent to a contract laboratory that specializes in autoclave performance testing. You can find laboratories to perform this type of test by simply doing an Internet search for *autoclave spore testing*. Nail techs can obtain self-spore testing vials or mail-in spore testing kits. Other regular maintenance is also required to ensure that the autoclave reaches the proper temperature and pressure.

Salons should always follow the manufacturer's recommended schedule for cleaning, changing the water, service visits, replacement parts, etc. Be sure to keep a logbook of all usage, testing, and maintenance for the state board to inspect. Showing your logbook to clients can provide them with peace of mind and confidence in your ability to protect them from infection. Salons that are not prepared to meet each of these requirements should not invest in or utilize an autoclave. Those salons should instead rely on the proper use of a salon disinfectant. **LO4**

## Read Labels Carefully!

Manufacturers take great care to develop highly effective disinfection systems. However, disinfectants can be potentially harmful and/or rendered ineffective when used improperly. If you do not follow proper guidelines and instructions, any professional salon product can be potentially dangerous. Like all products, disinfectants must always be used exactly as the label dictates. If used improperly, disinfectants cannot be expected to perform properly and will not protect you or your clients.

## Choosing a Disinfectant

To use a disinfectant properly, you must read and follow the manufacturer's instructions. Mixing ratios (dilution) and contact time are very important. Not all disinfectants are mixed to the same concentration, so be sure to mix the correct amount according to the instructions on the label. If the label does not have the word "concentrated" on it, the product is already premixed and must be used as is. All EPA-registered disinfectants, even those sprayed on large surfaces, will specify a contact time in their directions for use. (Contact time is the amount of time the surface must remain wet with disinfectant in order for the disinfectant to be effective.)

Disinfectants must have **efficacy** claims on the label. Efficacy is the ability to produce an effect. As applied to disinfectant claims, efficacy is the effectiveness with which a disinfecting solution kills specific organisms when used according to the label instructions. Salons pose a much lower infection risk when compared to hospitals. Cleaning and disinfection standards are much stricter in hospitals than in salons, and for good reason. Some types of disinfectants are much too dangerous for use in the salon environment, especially since the risk of caus-

ing serious infection is low. Even so, there is a risk of spreading certain types of infections to nail clients; therefore, it is important to always clean and disinfect correctly. Fortunately, any EPA-registered liquid hospital disinfectant will be effective enough for salons. For this reason, when salon implements accidentally come into contact with blood, body fluids, or unhealthy conditions, they should be cleaned and then completely immersed in a liquid EPA-registered hospital disinfectant solution that shows effectiveness against HIV, hepatitis, or tuberculosis. Of course, you should wear gloves and follow the proper Standard Precautions protocol for cleaning exposure incidents (described later in this chapter).

## Disinfectants for Large Surfaces

Some surfaces are too large to completely immerse in an EPA-registered disinfectant. A wide range of disinfecting surface cleaners is available for use on countertops, arm/foot rest, door handles, etc. Always follow the manufacturer's directions and heed all precautions when using any disinfectant, including those designed for cleaning and disinfecting large surfaces. Typically, instructions may be to spray the surface and wipe the surface clean, spray again and allow the surface to remain wet for the time specified by the product's label, and wipe dry. It is important to note that none of these work instantly and typically require five to ten minutes to be effective.



▲ **Figure 5-13** Completely immerse tools in disinfectant.

## Proper Use of Disinfectants

All implements must be thoroughly cleaned of all visible matter or residue before soaking in disinfectant solution, because residue can interfere with the disinfectant and prevent proper disinfection. Properly cleaned implements and tools, free from all visible debris, must be completely immersed in disinfectant solution. Complete immersion means there is enough liquid in the container to cover all surfaces of the item being disinfected, including the handles, for at least 10 minutes or according to the manufacturer's directions (**Figure 5-13**).

## Disinfectant Tips

1. Use only on pre-cleaned, hard, nonporous surfaces—not disposable single use abrasive files or buffers. May be used on implements such as abrasive files made of metal, glass and ceramic, or indicated in the manufacturer's directions that the file is designed for multiple uses. Read the manufacturer's directions and follow them carefully.
2. Always wear gloves and safety glasses when handling disinfectant solutions.
3. Always dilute products according to the instructions on the label.
4. A contact time of 10 minutes is required unless the product label specifies differently.
5. To disinfect large surfaces such as tabletops, carefully apply disinfectant onto the pre-cleaned surface and allow it to remain wet for 10 minutes (unless the product label specifies differently).

# fyi

Not all household bleaches are as effective as EPA-registered disinfectants. To be effective, the bleach must contain at least 5 percent sodium hypochlorite and be diluted properly to a 10 percent solution consisting of nine parts water to one part bleach. "Low odor" or "scented" bleaches are often diluted to contain less than 5 percent sodium hypochlorite and therefore are not considered effective as disinfectants.

## CAUTION:

Disinfectants must be registered with the EPA. Look for an EPA registration number on the label.

6. The entire implement, including the handles, must be completely immersed in the solution.
7. Change the disinfectant according to the instructions on the label. If the disinfectant is not changed as instructed, it will no longer be effective and may begin to promote the growth of pathogens.
8. Proper disinfection of a whirlpool, pipe-less or air-jet pedicure spa requires that the disinfecting solution circulate for 10 minutes (unless the product label specifies otherwise).

### CAUTION:

Improperly mixing disinfectants to be weaker or more concentrated than the manufacturer's instructions can dramatically reduce their effectiveness. Always add the disinfectant concentrate to the water when mixing and always follow the manufacturer's instructions for proper dilution. Safety glasses and gloves are recommended to protect against accidental splashes and skin contact.

### CAUTION:

Bleach and other disinfectants are not a magic potion! All disinfectants, including bleach, are inactivated (made less effective) in the presence of oils, lotions, creams, hair, skin, nail dusts and filings, etc. If bleach is used to disinfect pedicure equipment, it is critical to use a detergent first to clean away residues left by pedicure products.

## Types of Disinfectants

Disinfectants are not all the same. Some are appropriate for use in the salon, and some are not. You should be aware of the different types of disinfectants and those that are recommended for salon use.

### Quats

**Quaternary ammonium compounds** (KWAT-ur-nayr-ree uh-MOH-neeum), also known as quats (KWATZ), are disinfectants that are very effective when used properly in the salon. The most advanced type of these formulations are called multiple quats: They contain sophisticated blends of quats that work together to dramatically increase the effectiveness of these disinfectants. Multiple-quat solutions usually disinfect implements in 10 minutes. These formulas may contain antirust ingredients; however, leaving tools in the solution for prolonged periods can cause dulling or damage. They should be removed from the solution after the specified period, rinsed (if required), dried, and stored in a clean, covered container.

### Phenolics

**Phenolic (fi-NOH-lik) disinfectants** are powerful tuberculocidal disinfectants. Phenolics have a very high pH and can cause damage to the skin and eyes. Some can be harmful to the environment if put down the drain. Phenolic disinfectants have been used reliably over the years to disinfect salon tools; however, they do have other drawbacks. Phenol can damage plastic and rubber and can cause certain metals to rust. Phenolic disinfectants should never be used to disinfect pedicure tubs or equipment. Extra care should be taken to avoid skin contact with phenolic disinfectants.

### Bleach

Household bleach, 5.25 percent **sodium hypochlorite** (SOH-dee-um hy-puh-KLOR-ite), is an effective disinfectant for all uses in the salon. Bleach has been used extensively as a disinfectant. Using too much bleach can damage some metals and plastics, so be sure to read the label for safe use. Bleach can be corrosive to metals and plastics and can cause skin irritation and eye damage. To mix bleach solution, always follow the manufacturer's directions. Disinfectants should be mixed fresh daily, not stored. **LO5**

## Disinfectant Safety

Disinfectants are classified by the EPA as pesticides (poison) for pathogens and may cause serious skin and eye damage. Some disinfectants appear clear, while

others are a little cloudy, especially phenolic disinfectants. Always use caution when handling disinfectants, avoid skin and eye contact, and follow the following safety tips.

## Safety Tips for Disinfectants

### ALWAYS

- Always refer to the disinfectant's SDS and instruction label before use to ensure safe handling and correct use.
  - Always wear gloves and safety glasses when mixing disinfectants (**Figure 5–14**).
  - Always avoid skin and eye contact.
  - Always add a disinfectant to water (not water to a disinfectant) to prevent foaming, which can result in an incorrect mixing ratio. Water should be room temperature or cool, never hot.
  - Always use tongs or gloves to remove implements from disinfectants and use a draining basket for rinsing multiple items at the same time.
  - Always keep disinfectants out of reach of children.
  - Always carefully measure and use disinfectant products according to label instructions.
- Always follow the manufacturer's instructions for mixing, using, and properly disposing of disinfectants.
- Always carefully follow the manufacturer's instructions regarding when to replace the disinfectant solution in order to ensure the healthiest conditions for you and your client. Replace the disinfectant solution every day—and more often if the solution becomes soiled or contaminated.

### NEVER

- Never pre-mix large amounts of disinfectants; mixing them freshly on a daily basis is best.
- Never guess or estimate the amount of disinfectant to mix. Always carefully measure before mixing.
- Never let quats, phenols, bleach, or any other disinfectant come into contact with your skin. If you do get disinfectants on your skin, immediately wash your hands with liquid soap and warm water. Then rinse the area and dry thoroughly.
- Never place any disinfectant or other product in an unmarked container (**Figure 5–15**).

Jars or containers used to disinfect implements are often incorrectly called wet sanitizers. The purpose of these containers is to hold a disinfectant solution—not to clean. Disinfectant containers must be covered but not airtight. Remember to clean the container every day and to wear gloves. Always follow the manufacturer's instructions for disinfecting products.



▲ **Figure 5–14** Wear gloves and safety glasses while handling disinfectants.

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## CAUTION:

### Disinfectants Not Appropriate for Salon Use

Years ago, paraformaldehyde (incorrectly called formalin tablets) was used as a fumigant (a gaseous substance capable of destroying pathogenic bacteria). These tablets are not effective and should never be relied upon to disinfectant implements or other equipment. Glutaraldehyde is another example of a disinfectant that is not safe for salon use. The only effective methods of controlling pathogens in the salon is by complete immersion in an EPA-registered disinfectant, or sterilization in an autoclave.

▼ **Figure 5–15** All containers should be labeled.



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## fyi

*Multiuse, reusable or disinfectable* are words used in marketing and sales copy to tell the user that the item can be disinfected.

## fyi

Absorbent nail files must be properly disposed of if the skin is accidentally cut or comes into contact with unhealthy skin or nails. If nail files cannot be disinfected or autoclaved, they are considered disposable items that must be thrown away after a single use.

### CAUTION:

Ultraviolet (UV) sanitizers actually do not sanitize, nor do they clean or disinfect. These devices may be useful storage containers; however, *never* rely on them for anything other than a dust-free storage space (i.e., for properly cleaned and disinfected implements).

### Disinfect or Dispose?

How can you tell which items in the salon can be disinfected and used more than once? There are two types of items used in salons: multiuse, or reusable, and single-use, or disposable. If the process of cleaning and disinfecting damages the item or changes its condition, it is a single-use item.

**Multiuse**, or reusable, items can be cleaned, disinfected, and used on more than one person, even if the item is accidentally exposed to blood or body fluid. Examples of multiuse items are towels, nippers, shears, pushers, some types of nail files, bits, and buffers. Always check with the product manufacturer if you are unsure if an item can be properly disinfected.

**Porous** describes an item that is made or constructed of a material that has pores or openings that allow liquids to be absorbed. Some porous items can be safely cleaned, disinfected, and used on more than one client. Examples are towels, linens, and some nail files and buffers. An example of a porous item that cannot be properly disinfected is a pumice-type abrasive for calluses. This should not be used in salons since it cannot be properly cleaned and disinfected between clients.

If a porous item contacts broken skin, blood, body fluid, or any unhealthy condition, it must be discarded immediately. Do not try to disinfect it. If you are not sure whether an item can be safely cleaned, disinfected, and used again, throw it out. Remember: *When in doubt, throw it out!*

**Single-use, or disposable**, items cannot be used more than once, either because they cannot be properly cleaned so that all visible residue is removed—such as pumice stones used for pedicures—or because cleaning and disinfecting damages or contaminates them. Examples of disposable items are wooden sticks, cotton balls, sponges, gauze, tissues, paper towels, pumice stones and some nail files and buffers. Single-use, or disposable, items must be thrown out after use.

### Keep a Logbook

Salons should always follow the manufacturer's recommended schedule for cleaning and disinfecting tools and implements, disinfecting foot spas and basins, scheduling regular service visits for equipment, and replacing parts when needed. Although your state may not require that you keep a logbook of all equipment usage, cleaning, disinfecting, testing, and maintenance, it may be advisable to keep one. Showing your logbook to clients provides them with peace of mind and confidence in your ability to protect them from infection and disease.

### Disinfection Procedures

**Tools and Implements.** Tools and implements must be cleaned and disinfected after each time they are used and before they may be used on another client. Be certain to dilute and mix disinfectants according to the label on the product that you choose. Mix disinfectants according to the manufacturer's directions, always adding disinfectant to the water (**Figure 5-16**).

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Photography by Dino Perrocelli.



▲ **Figure 5-16** Carefully pour the disinfectant into the water when preparing disinfectant solution.

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Cleaning and Disinfecting Nonelectrical Tools and Equipment page 88



**Towels and Linens.** Clean towels and linens must be used for each client. After a towel or linen has been used on a client, it must not be used again until it has been properly laundered. Store soiled linens and towels separately from clean linens and towels in covered or closed containers. You should store clean towels in covered or closed containers, even if your state regulatory agency does not require it. Whenever possible, use disposable paper towels, especially in rest rooms.

**Work Surfaces.** Before beginning a service for each client, all work surfaces must be cleaned and disinfected. It is not necessary to disinfect tables and chairs unless the customers touch them with their skin, but they certainly need to be cleaned regularly (**Figure 5–17**). Clean doorknobs, phone receivers, and other handles that are used on a regular basis daily to reduce transferring germs to your hands.

### Individual Client Packs for Nail Services

Some states do not allow technicians to save a client pack with items such as nail files and buffers. This is because clients can become infected by their own implements. For example, bacteria commonly found on the skin in low concentrations can multiply to high concentrations during storage and could cause an infection during the next service. Therefore, you must follow these steps to protect clients if your state allows client packs:

1. Each item must be properly cleaned, disinfected, and dried *before* use, even if it is being used on the same client. If clients bring their own implements to the salon, they must be cleaned and disinfected before they can be used in order to prevent pathogens from contaminating other items in the salon.

Each item must be properly cleaned, disinfected, and dried *before* being placed in the client pack in order to prevent contamination of the storage pack. Never store single-use items in client packs between services. Instead, use new single-use items during the service and then dispose of them.

2. Never use bags or containers with an airtight seal to store tools or implements. These provide an environment that encourages the growth of bacteria or other pathogens if the item is not properly cleaned, disinfected, and dried thoroughly before being stored.
3. Remember, state rules require that *all* tools and equipment must be cleaned and disinfected before each use—even if they're used on the same person!

Even if a client insists on bringing his or her tools to the salon, you must clean and disinfect the item for 10 minutes or as specified by the disinfectant manufacturer's label before you use them. For this reason, it is not recommended that clients be allowed to bring their own implements. Home implements could be harboring infectious organisms and contaminate other items in the salon, especially since some clients use these same implements on their entire family, and sometimes even on pets. Remember, it is your license that is at risk if there is a problem, even if your client brings her tools with her. This very risky practice should be discouraged for the safety of all who visit the salon.

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**▲ Figure 5–17** Clean and disinfect manicure tables.

### CAUTION:

Products and equipment that have the word “sanitizer” on the label are merely cleaners and not disinfectants—pedicure sanitizers have no ability to disinfect a pedicure basin and should never be used for this purpose. Items must be both properly cleaned and disinfected after each and every use or before they are used on another client. Take time to understand the definitions of words such as clean/sanitize, disinfect, and sterilize. If you don't understand the differences among these words, you risk not passing your licensure exam and you're not likely to be able to properly protect your clients from the risk of infection.



## Disinfecting Foot Spas and Pedicure Equipment

All equipment that contains water for pedicures, including whirlpool spas, pipeless units, foot baths, basins, tubs, sinks, and bowls must be cleaned and disinfected after every pedicure, and the information must be entered into a logbook. Inspectors may issue fines if there is no logbook, and potential new clients may leave the salon.

**Detergents and Soaps.** **Chelating soaps** or **chelating detergents** are specially designed to break down stubborn films and are very important for removing the residue of pedicure products, such as scrubs, salts, and masks. The chelating agents in these detergents work in all types of water, are low sudsing, and are specially formulated to work in areas with hard tap water, which reduces the effectiveness of cleaners and disinfectants. Hard water is more likely to create difficult-to-remove residues on surfaces and inside pipes. Check with your local distributor for pedicure cleaners that are effective in hard water. This will be stated on the label.

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### CAUTION:

Most pedicure spas hold 5 gallons of water; check with the manufacturer so that you use the correct amount of disinfectant.

#### Remember:

1 gallon = 128 ounces

5 gallons = 640 ounces

So, if you are working with a pedicure spa that holds 5 gallons of water, you will have to measure the correct amount of water needed to cover the jets and then add the correct amount of disinfectant.

**Additives, Powders, and Tablets.** There is no additive, powder, or tablet that eliminates the need for you to clean and disinfect. There is no shortcut to proper cleaning and disinfection and no replacement for EPA-registered liquid disinfectant solutions. Water sanitizers (e.g., sanitizing tablets or other similar additives) do not properly clean or disinfect equipment. They are designed for Jacuzzis and hydrotherapy tubs where no oils, lotions, etc., are used, so they don't work properly with salon equipment. Never rely solely on water sanitizer additives to protect your clients.

Products that contain Chloramine T, for example, are not effective disinfectants for any type of salon equipment. These products do not replace proper cleaning and disinfection and provide little to no protection for clients.

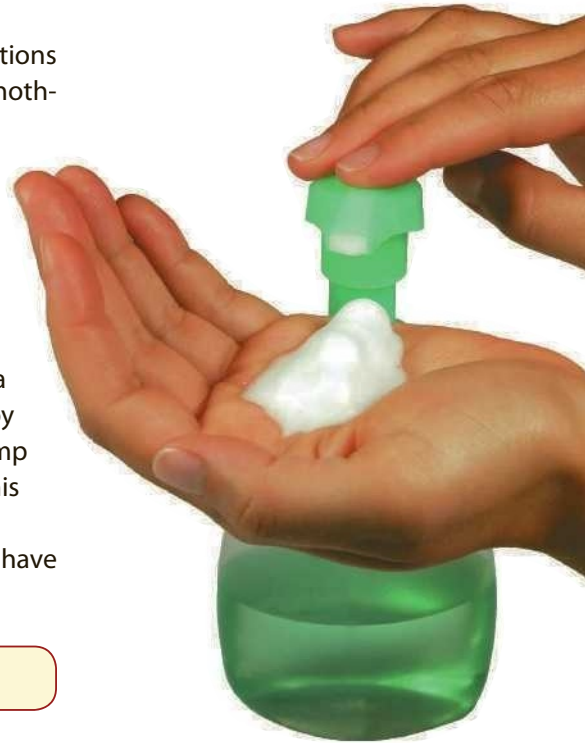
**Go to** Procedure 5-2 **Cleaning and Disinfecting Foot Spas or Basins** page 90

**Dispensary.** The dispensary must be kept clean and orderly, with the contents of all containers clearly marked. Always store products according to the manufacturer's instructions, away from heat, and out of direct sunlight. Federal law requires that the salon keep SDSs for all products used in the salon.

**Handling Disposable Supplies.** All disposable supplies (single use), such as wooden sticks, cotton, gauze, nail wipes, single-use nail files, and paper towels should be stored in a manner to prevent preservice contamination and thrown away after one use. Anything exposed to blood must be placed in a plastic bag and marked with a biohazard sticker or disposed of according to OSHA standards (separated from other waste and disposed of according to federal, state, and local regulations).

**Hand Washing.** Washing your hands is one of the most important actions you can take to prevent the spread of pathogens from one person to another. Hand washing removes pathogens from the folds and grooves of the skin and from under the free edge of the nail plate by lifting and rinsing them from the surface. In the salon, both your hands and your clients' hands should be thoroughly washed with soap and warm water before each service. Never perform a service without asking clients to first wash their hands and be sure to provide them with a clean and disinfected nail brush. Medical studies suggest that antimicrobial and antibacterial soaps are no more effective than regular soaps or detergents. Using a moisturizing hand lotion can help prevent dry skin, which can be caused by repeated hand washing. When washing hands, use a liquid soap in a pump container. Bar soaps can grow bacteria. Avoid using very hot water, since this can damage the skin.

For your protection, be sure to wash your hands thoroughly after you have completed the service.



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**Waterless Hand Sanitizers.** **Antiseptics** (ant-ih-SEP-tiks) are chemical germicides registered and regulated by the FDA that are formulated for use on skin. Antiseptics can contain either alcohol or benzalkonium chloride (less drying to the skin than alcohol). Neither type can clean the hands of dirt and debris; this can only be accomplished with liquid soap, a soft bristle brush, and water. When washing hands, use liquid soaps in pump containers. Bar soaps can grow bacteria. Use hand sanitizers only after properly cleaning your hands and never use an antiseptic to disinfect instruments or other surfaces, since they are ineffective for that purpose.

## ■ STANDARD PRECAUTIONS

The Centers for Disease Control (CDC) has published guidelines called **Standard Precautions** that require the employer and the employee to assume that all human blood and body fluids are infectious for bloodborne pathogens. Because it is impossible to identify many clients with infectious diseases, the same infection-control practices should be used with all clients. In most instances, clients who are infected with the hepatitis B virus or other bloodborne pathogens are **asymptomatic**, which means that they show no symptoms or signs of infection. Bloodborne pathogens are more difficult to kill than those that live outside the body.

OSHA sets safety standards and precautions that protect employees when they are potentially exposed to bloodborne pathogens. Exposure to bloodborne and other pathogens can occur in the salon. Nail technicians may:

1. Potentially be exposed to bloodborne pathogens when exposed to blood or body fluid;
2. Potentially be exposed to airborne pathogens through the illness of the client or coworker, or pathogens that may potentially be released if filing infected nails;

3. Potentially expose their eyes to debris during filing or trimming of the nails. For these reasons, nail technicians must wear gloves when working with clients, dust masks when filing (electronic or hand filing), and protective eyewear when filing (electronic or hand filing).

Precautions include washing hands, wearing gloves whenever there is a potential for blood exposure, and proper handling and disposal of sharp instruments and items that have been contaminated by blood or other body fluids. It is important that specific procedures are followed if blood or body fluid is present.

## An Exposure Incident: Contact with Blood or Body Fluid

Accidents happen. An **exposure incident** (previously called blood spill) is contact with nonintact skin, blood, body fluid, or other potentially infectious materials that results from the performance of an employee's duties. Should this occur, follow the steps outlined in Procedure 5-4. **LOG**

### THE PROFESSIONAL SALON IMAGE

Infection-control practices should be a part of your normal routine as well as for those who work with you. This way, you and your coworkers can project a steadfast professional image. The following are some simple guidelines that will keep the salon looking its best.

1. Keep floors and workstations dust-free. Mop floors and vacuum carpets every day.
2. Keep trash in a covered waste receptacle to reduce chemical odors and fires.
3. Clean fans and humidifiers at least once each week. Keep the ceiling and wall vents clean and free from dust, which can blow from dirty vents and escape into the salon. Ventilation ducts should be thoroughly cleaned on a yearly basis.
4. Keep all work areas well lit.
5. Keep rest rooms, including door handles, clean.
6. Provide toilet tissue, paper towels, liquid soap, properly disinfected soft-bristle nail brushes, and a container for used brushes in the restroom.
7. Do not allow the salon to be used for cooking or living quarters.
8. Never place food in the same refrigerator used to store salon products.
9. Prohibit eating, drinking, and smoking in areas where services are performed or where product mixing occurs (i.e., a back bar area).
10. Empty waste receptacles regularly throughout the day. A metal waste receptacle with a self-closing lid works best to help control vapors and prevent accidental fires.



11. Make sure all containers are properly marked and stored.
12. Never place any tools or implements in your mouth or pockets.
13. Properly clean and disinfect all tools before reuse, including any implements brought into the salon by a client.
14. Store clean and disinfected tools in a clean, covered container. Clean drawers may be used for storage if only clean items are stored in them. Always isolate used/dirty implements from disinfected implements.
15. Avoid touching your face, mouth, or eye areas during services.
16. Clean and disinfect all work surfaces after every client. This includes manicure tables, workstations, and pedicure foot spas and basins.
17. Have clean, disposable paper towels available for each client.
18. Always properly wash your hands before and after each service.
19. Never provide a nail service to clients who have not properly washed their hands and carefully scrubbed under their nails with a disinfected nail brush.

Use effective exhaust systems in the salon. Replacing the air in the salon with fresh air at least four times every hour is the recommended minimum, not maximum. This will help ensure proper air quality in the salon.

## Your Professional Responsibility

You have many responsibilities as a salon professional, but none is more important than protecting your clients' health and safety. Never take shortcuts for cleaning and disinfection. You cannot afford to skip steps or save money when it comes to safety.

- Remember, *it is your professional and legal responsibility to follow state laws and rules.*
- Keep your license current and notify the licensing agency if you move or change your name.
- Check the state website regularly (monthly, for example) for any changes to the rules. **LO7**

# Procedure 5-1

## Cleaning and Disinfecting Nonelectrical Tools and Equipment

Nonelectrical tools and equipment include pushers, nippers, tweezers, nail clippers, and multiuse abrasive nail files.

### IMPLEMENTS AND MATERIALS

- Disposable gloves
- Safety glasses
- Timer
- Scrub brush
- Liquid disinfectant
- Disinfectant container
- Liquid soap
- Disposable towels
- Tongs
- Covered storage container

**1** Put on gloves and safety glasses.



**2** Rinse all implements with warm running water and then scrub them thoroughly with soap or detergent, a properly disinfected nail brush, and warm water. If necessary, brush grooved items and open-hinged implements to scrub the hinged area.



**3** Rinse away all traces of soap or detergent from the implements with warm running water. The presence of soap in most disinfectants can cause them to become ineffective. Soap is most easily rinsed off in warm, but not hot, water. Hotter water will not work any better.



**4** Dry implements thoroughly with a clean or disposable towel or allow them to air-dry on a clean towel. Your implements are now properly cleaned and ready to be disinfected.



**6** After the required disinfection time has passed, remove tools and implements from the disinfection solution with tongs, or gloved hands, rinse them well, and pat them dry.

**5** If the disinfection solution is dirty, or if the solution has been contaminated, it must be replaced. Completely immerse the cleaned implements in an appropriate disinfection container holding an EPA-registered disinfectant for the required time (usually 10 minutes) and set a timer. Make sure any hinged implements are in the open position before placing them in the solution.



**7** Store dry, disinfected implements in a clean, covered container until needed.

**8** Remove gloves and thoroughly wash your hands with liquid soap, then rinse and dry them with a clean cloth or disposable towel.

**LO8**

# Procedure 5-2

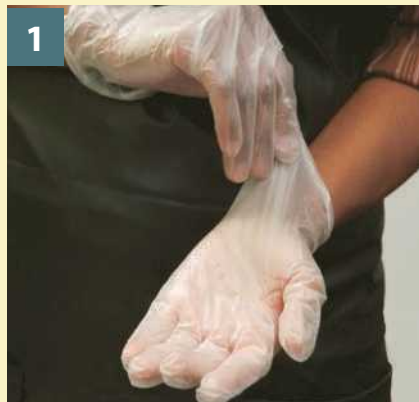
## Cleaning and Disinfecting Foot Spas or Basins

### CLEANING AND DISINFECTING WHIRLPOOL FOOT SPAS AND AIR-JET BASINS

#### IMPLEMENTS AND MATERIALS

- Disposable gloves
- Safety glasses
- Timer
- Scrub brush
- Liquid soap
- Chelating detergent
- Liquid disinfectant
- Paper towel
- Cleaning logbook

After every client:



**1** Put on gloves and safety glasses.



**2** Drain all water from the basin.



**3** Scrub all visible residue from the inside walls of the basin with a brush and liquid soap and water. Use a clean and disinfected brush with a handle. Brushes must be cleaned and disinfected after each use; otherwise they can transfer pathogens to other foot spas.



**4** Rinse the basin with clean water and drain.



**5** Refill the basin with clean water to cover the jets. Measure the correct amount of disinfectant and add it to the water in the basin.

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6

6 Set the timer and circulate the correct amount (read the product label for mixing instructions) of the EPA-registered hospital disinfectant through the basin for the amount of time indicated on the disinfectant label (usually 10 minutes).



7

7 Clean and disinfect all external parts and surfaces.



8

8 Drain, rinse, and wipe dry with a clean paper towel.



9

9 Enter the disinfection information into the salon's logbook, if required by state law or by salon policy.

In addition to the procedures performed after each client, these are performed at the end of every day:



10

10 Put on gloves and safety glasses.



11

11 Remove the screen and any other removable parts. (A screwdriver may be necessary.)



12

12 Clean the screen and other removable parts and the area behind these with a clean, disinfected brush and liquid soap and water to remove all visible residue. Replace the properly cleaned screen and other removable parts.

13 Fill the basin with warm water and chelating detergent (cleansers designed for use in hard water).

13

14 Circulate the chelating detergent through the system for 5 to 10 minutes, following the manufacturer's instructions. If excessive foaming occurs, discontinue circulation and let soak for the remainder of the time, as instructed.

14

15 Drain the soapy solution and rinse the basin.

15

# Procedure 5-2 continued

## Cleaning and Disinfecting Foot Spas or Basins (continued)



16

16

Refill the basin with clean water, set the timer, and circulate the correct amount (as indicated in mixing instructions on the label) of the EPA-registered hospital disinfectant through the basin for the amount of time indicated on the disinfectant label (usually 10 minutes).



17

17

Drain, rinse with clean water, and wipe dry with a clean paper towel.

18

Allow the basin to dry completely.

19



19

Enter the disinfection information into the salon's logbook, if required by state law or by salon policy.

In addition to the procedures performed after each client and at the end of each day, these are performed at least once each week:



20

Put on gloves.



21

Drain all water from the basin.



22

Remove the screen and any other removable parts. (A screwdriver may be necessary.)

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23

**23** Clean the screen and other removable parts and the area behind these with a brush and liquid soap and water to remove all visible residue. Replace the properly cleaned screen and other removable parts.



24

**24** Scrub all visible residue from the inside walls of the basin with a brush and liquid soap and water. Use a clean and disinfected brush with a handle. Brushes must be cleaned and disinfected after each use.



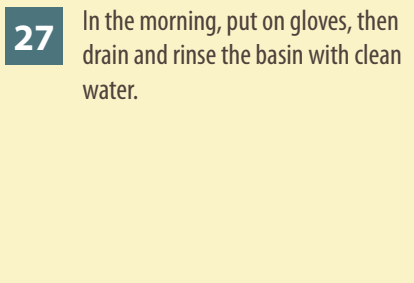
25

**25** Fill the basin with clean water, set the timer, and circulate the correct amount of the EPA-registered hospital disinfectant (as indicated in mixing instructions on the label) through the basin for 10 minutes or for the time recommended by the manufacturer.



26

**26** Do *not* drain the disinfectant solution. Instead, turn the unit off and leave the disinfecting solution in the unit overnight.



27

In the morning, put on gloves, then drain and rinse the basin with clean water.



28

**28** Refill the basin with clean water and flush the system.



29

**29** Enter the disinfection information into the salon's logbook, if required by state law or by salon policy.

# Procedure 5-2 continued

## Pipeless Foot Spas

For units with footplates, impellers, impeller assemblies, and propellers.

After every client:

- 30** Put on gloves and safety glasses. Drain all water from the foot basin or tub.
- 31** Remove impeller, footplate, and any other removable components according to the manufacturer's instructions.
- 32** Thoroughly scrub impeller, footplate, and/or other components and the areas behind each with liquid soap and a clean, disinfected brush to remove all visible residue. Reinsert impeller, footplate, and/or other components or completely immerse the removable parts in disinfectant for the required time as instructed on the disinfectant label.
- 33** Refill the basin with water, set the timer, and circulate the correct amount of the EPA-registered hospital disinfectant (as indicated in mixing instructions on the label) through the basin for 10 minutes or for the time recommended by the manufacturer.
- 34** Drain, rinse with clean water, and wipe dry with a clean paper towel.

- 35** Enter the disinfection information into the salon's logbook, if required by state law or by salon policy.
- 

In addition to procedures performed after each client, these procedures are performed at the end of every day:

- 36** Put on gloves and safety glasses. Fill the basin with warm water and chelating detergent.

- 37** Circulate the chelating detergent through the system for 5 to 10 minutes (follow manufacturer's instructions). If excessive foaming occurs, discontinue circulation and let soak for the remainder of the time, as instructed.

- 38** Drain the soapy solution.
- 

- 39** Rinse the basin with clean water.

- 40** Refill the basin with clean water, set the timer, and circulate the correct amount of the EPA-registered hospital disinfectant (as indicated in mixing instructions on the label) through the basin for 10 minutes or for the time recommended by the manufacturer.

- 41** Drain, rinse with clean water, and wipe dry with a clean paper towel.
- 

- 42** Enter the disinfection information into the salon's logbook, if required by state law or by salon policy.

# Procedure 5-2 continued

## Pipeless Foot Spas (continued)

In addition to procedures performed after each client and at the end of each day, these procedures are performed at least once each week:

- 43** Put on gloves and safety glasses. Drain all water from the basin.
- 44** Remove impeller, footplate, and any other removable components according to the manufacturer's instructions.
- 45** Thoroughly scrub impeller, footplate, and/or other components and the areas behind each with liquid soap and a clean, disinfected brush to remove all visible residue. Reinsert impeller, footplate, and/or other components.

---

- 46** Refill the basin with water, set the timer, and circulate the correct amount of the EPA-registered hospital disinfectant (as indicated in mixing instructions on the label) through the basin for 10 minutes or for the time recommended by the manufacturer.
- 47** Do *not* drain the disinfectant solution. Instead, turn the unit off and leave the disinfecting solution in the unit overnight.
- 48** In the morning, put on gloves, then drain and rinse the basin with clean water.

---

- 49** Refill the basin with clean water and flush the system.
- 50** Enter the disinfection information into the salon's logbook, if required by state law or by salon policy.

# Non-Whirlpool Foot Basins or Tubs

This includes basins, tubs, footbaths, sinks, and bowls—all nonelectrical equipment that holds water for a client's feet during a pedicure service unless they are considered disposable.

After every client:

- 1 Put on gloves and safety glasses. Drain all water from the foot basin or tub.
- 2 Clean all inside surfaces of the foot basin or tub to remove all visible residue with a clean, disinfected brush and liquid soap and water.
- 3 Rinse the basin or tub with clean water and drain.
- 4 Refill the basin with clean water and the correct amount of the EPA-registered hospital disinfectant (as indicated in mixing instructions on the label). Set the timer and leave the disinfectant solution in the basin for 10 minutes or the time recommended by the manufacturer.
- 5 Drain, rinse with clean water, and wipe dry with a clean paper towel.
- 6 Enter the disinfection information into the salon's logbook, if required by state law or by salon policy.

In addition to procedures performed after each client, these procedures are performed at the end of every day:

- 1 Put on gloves and safety glasses. Drain all water from the foot basin or tub.
- 2 Clean all inside surfaces of the foot basin or tub to remove all visible residue with a clean, disinfected brush and liquid soap and water.
- 3 Fill the basin or tub with water and the correct amount of the EPA-registered hospital disinfectant (as indicated in mixing instructions on the label). Set the timer and leave the disinfectant solution in the basin for 10 minutes or for the time recommended by the manufacturer.
- 4 Drain, rinse with clean water, and wipe dry with a clean paper towel.
- 5 Enter the disinfection information into the salon's logbook, if required by state law or by salon policy.

# Procedure 5-3

## Proper Hand Washing

Hand washing is one of the most important procedures in your infection-control efforts and is required in every state before beginning any service.

### IMPLEMENTS AND MATERIALS

- Liquid soap in a pump container
- Nail brush
- Disposable paper towels



- 1** Turn the water on. The water should be warm, not hot. Wet your hands, and pump soap from a pump container onto the palm of your hand. Vigorously rub your hands together until a lather forms. Wash past your wrists and a minimum of 20 seconds.



- 2** Wet and pump soap on a clean, disinfected nail brush. Brush your nails horizontally back and forth under the free edges and then vertically up and down along the nail folds of the fingernails. The process for brushing both hands should take about 60 seconds total. Rinse hands in running water.



- 3** Use a clean cloth or a paper towel for drying your hands, according to the salon policies or state rules/regulations.



- 4** After drying your hands, use the towel to turn off the water and open the washroom door, and then dispose of the towel. Touching a doorknob with your bare fingers can recontaminate your hands.



# Procedure 5-4

## Handling an Exposure Incident During a Manicure

### IMPLEMENTS AND MATERIALS

- Disposable gloves
- Cotton
- Antiseptic
- Bandages
- Plastic bag
- Biohazard sticker (optional depending on laws)
- Liquid soap
- Nail brush
- Disposable paper towels
- Sharps box (optional depending on laws)

Should you accidentally cut a client, calmly take the following steps:



1

1 Immediately put on gloves unless you already have them on and tell your client what has occurred. Apologize and proceed.



2

2 Apply slight pressure to the wound with cotton to stop the bleeding and then clean with an antiseptic.



3

3 Apply an adhesive bandage to completely cover the wound.



**4** Remove any implements that may have been contaminated, placing them in your container for “dirty” items. If surfaces were contaminated, spray or wipe with approved disinfectant and allow to sit for the contact time listed on the product label.



**5** Discard all disposable, contaminated objects, such as wipes or cotton balls and your gloves, in a plastic bag. Place the plastic bag in a closed trash container with a liner bag. Deposit sharp disposables in a sharps box. Dispose of trash items and sharps containers as required by state/local law. Wash your hands with soap and warm water. Put on a new pair of gloves before you return to the service. Remember to dry any surfaces sprayed with disinfectant and always use new implements to replace those that were contaminated. Recommend that the client see a physician if any signs of redness, swelling, pain, or irritation develop.



**6** After the service has completed, thoroughly clean and disinfect all tools and implements used during the service. Completely immerse tools and implements in an EPA-registered hospital disinfectant solution for 10 minutes.

## ■ Review Questions

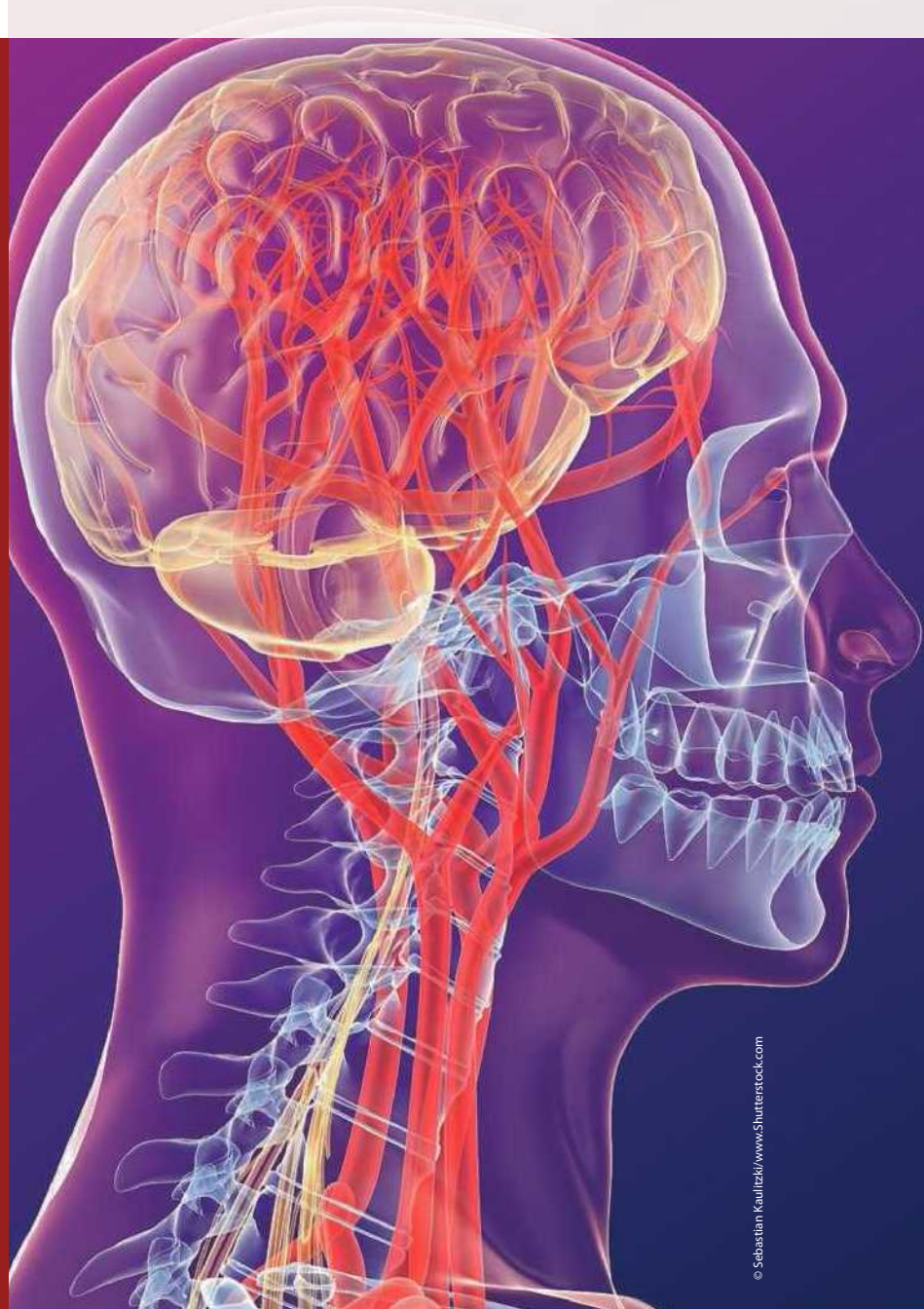
1. What is the primary purpose of regulatory agencies?
2. What are SDSs? Where can you get them?
3. List the four types of organisms that are pertinent to nail technology.
4. What is a contagious disease?
5. Is HIV a risk in the salon? Why or why not?
6. What is the difference between cleaning, disinfecting, and sterilizing?
7. What is complete immersion?
8. List at least six precautions to follow when using disinfectants.
9. How do you know if an item can be disinfected?
10. Can porous items be disinfected?
11. What are Standard Precautions?
12. What is an exposure incident?
13. Describe the procedure for handling an exposure incident in the salon.
14. List the steps for cleaning and disinfecting whirlpool foot spas and air-jet basins after each client.

# 6

# General Anatomy and Physiology

## Chapter Outline

- Why Study Anatomy and Physiology?
- Cells
- Tissues
- Organs and Body Systems
- The Skeletal System
- The Muscular System
- The Nervous System
- The Circulatory System
- The Lymphatic/Immune System
- The Endocrine System
- The Digestive System
- The Excretory System
- The Respiratory System
- The Integumentary System
- The Reproductive System



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# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **LO1** Define and explain the importance of anatomy, physiology, and histology to the nail profession.
- ✓ **LO2** Describe cells, cell structure, and cell reproduction.
- ✓ **LO3** Define tissue and identify the types of tissues found in the body.
- ✓ **LO4** Name the 11 main body systems and explain their basic functions.

## Key Terms

Page number indicates where in the chapter the term is used.

<b>abductors</b> / 113	<b>cell membrane</b> / 105	<b>epithelial tissue</b> / 107	<b>joint</b> / 109
<b>abductor digiti minimi</b> / 114	<b>cells</b> / 105	<b>excretory system</b> / 123	<b>kidneys</b> / 107
<b>abductor hallucis</b> / 114	<b>central nervous system (CNS)</b> / 114	<b>exhalation</b> / 124	<b>latissimus dorsi</b> / 112
<b>adductors</b> / 113	<b>circulatory system (cardiovascular system or vascular system)</b> / 118	<b>exocrine glands (duct glands)</b> / 122	<b>leukocytes</b> / 120
<b>adipose tissue</b> / 107	<b>common peroneal nerve</b> / 116	<b>extensors</b> / 112	<b>liver</b> / 107
<b>adrenal glands</b> / 123	<b>connective tissue</b> / 107	<b>extensor digitorum longus</b> / 113	<b>lungs</b> / 123
<b>anabolism</b> / 106	<b>cytoplasm</b> / 105	<b>eyes</b> / 107	<b>lymph</b> / 118
<b>anatomy</b> / 105	<b>deep peroneal nerve (anterior tibial nerve)</b> / 117	<b>femur</b> / 110	<b>lymphatic/immune system</b> / 121
<b>anterior tibial artery</b> / 121	<b>deltoid</b> / 112	<b>fibula</b> / 110	<b>lymph capillaries</b> / 121
<b>aorta</b> / 119	<b>dendrites</b> / 116	<b>flexors</b> / 112	<b>lymph nodes</b> / 118
<b>arteries</b> / 119	<b>diaphragm</b> / 124	<b>flexor digiti minimi</b> / 114	<b>lymph vascular system (lymphatic system)</b> / 118
<b>atrium</b> / 118	<b>digestive enzymes</b> / 123	<b>flexor digitorum brevis</b> / 114	<b>median nerve</b> / 116
<b>autonomic nervous system (ANS)</b> / 115	<b>digestive system (gastrointestinal system)</b> / 123	<b>gastrocnemius</b> / 113	<b>metabolism</b> / 106
<b>axon (axon terminal)</b> / 116	<b>digital nerve</b> / 116	<b>glands</b> / 122	<b>metacarpus</b> / 109
<b>belly</b> / 111	<b>dorsal nerve (dorsal cutaneous nerve)</b> / 117	<b>heart</b> / 118	<b>metatarsal</b> / 110
<b>bicep</b> / 112	<b>dorsalis pedis artery</b> / 121	<b>hemoglobin</b> / 120	<b>mitral valve (bicuspid valve)</b> / 119
<b>blood</b> / 119	<b>endocrine glands (ductless glands)</b> / 122	<b>histology (microscopic anatomy)</b> / 105	<b>motor nerves (efferent nerves)</b> / 116
<b>blood vascular system</b> / 118	<b>endocrine system</b> / 122	<b>hormone</b> / 122	<b>muscular system</b> / 110
<b>body systems</b> / 108		<b>humerus</b> / 109	<b>muscle tissue</b> / 107
<b>brain</b> / 115		<b>inhalation</b> / 124	<b>myology</b> / 111
<b>capillaries</b> / 119		<b>insertion</b> / 111	<b>nerves</b> / 116
<b>cardiac muscle</b> / 111		<b>integumentary system</b> / 124	<b>nerve tissue</b> / 107
<b>carpus</b> / 109		<b>interstitial fluids</b> / 121	<b>nervous system</b> / 114
<b>catabolism</b> / 106		<b>intestines</b> / 107	<b>neurology</b> / 114
			<b>neuron</b> / 116

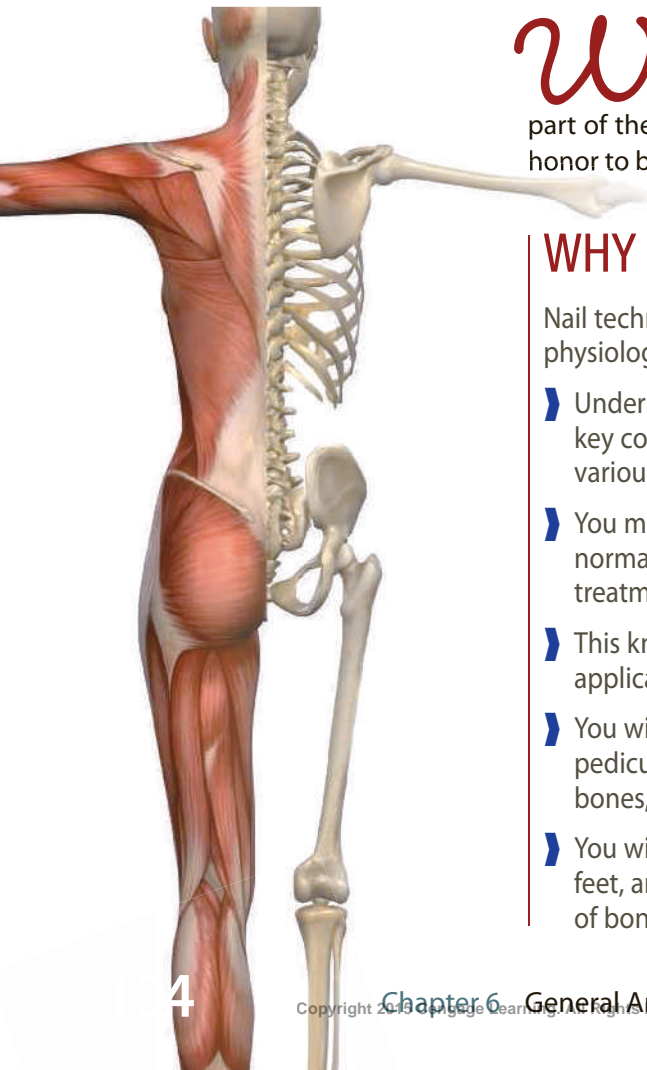
# Key Terms

**nonstriated muscles (smooth muscles)** / 111  
**nucleus** / 105  
**onycholysis** / 115  
**organs** / 107  
**origin** / 111  
**os** / 109  
**osteology** / 109  
**ovaries** / 123  
**pancreas** / 123  
**parathyroid glands** / 123  
**patella** / 110  
**pectoralis major** / 112  
**pectoralis minor** / 112  
**pericardium** / 118  
**peripheral nervous system (PNS)** / 114  
**peroneus brevis** / 113  
**peroneus longus** / 113  
**phalanges (digits)** / 109

**physiology** / 105  
**pineal gland** / 122  
**pituitary gland** / 122  
**plasma** / 120  
**platelets** / 120  
**popliteal artery** / 121  
**posterior tibial artery** / 121  
**pronators** / 112  
**protoplasm** / 105  
**pulmonary circulation** / 118  
**radial artery** / 120  
**radial nerve** / 116  
**radius** / 109  
**red blood cells** / 120  
**reflex** / 116  
**reproductive system** / 124  
**respiration** / 123

**respiratory system** / 123  
**saphenous nerve** / 117  
**sensory nerves (afferent nerves)** / 116  
**serratus anterior** / 112  
**skeletal system** / 108  
**skin** / 107  
**soleus** / 113  
**spinal cord** / 115  
**stomach** / 107  
**striated muscles (skeletal muscles)** / 111  
**superficial peroneal nerve (musculocutaneous nerve)** / 117  
**supinator** / 112  
**sural nerve** / 117  
**system** / 107  
**systemic circulation** / 118  
**talus** / 110

**tarsal** / 110  
**testes** / 123  
**thorax** / 124  
**thyroid gland** / 123  
**tibia** / 110  
**tibial nerve** / 116  
**tibialis anterior** / 113  
**tissue** / 106  
**trapezius** / 112  
**triceps** / 112  
**tricuspid valve** / 118  
**ulna** / 109  
**ulnar artery** / 120  
**ulnar nerve** / 116  
**valves** / 118  
**veins** / 119  
**ventricle** / 118  
**white blood cells (white corpuscles or leukocytes)** / 120



Whether applying a new set of tips or performing a manicure or foot massage, licensed nail technicians are permitted to touch people as part of their profession. This is true of very few other occupations, and it is an honor to be able to aid others in achieving a greater sense of well-being.

## WHY STUDY ANATOMY AND PHYSIOLOGY?

Nail technicians should have a thorough understanding of anatomy and physiology because:

- ▶ Understanding how the human body functions as an integrated whole is a key component in understanding how a client's skin and nails may react to various treatments and services.
- ▶ You must be able to recognize the difference between what is considered normal and abnormal for the body in order to determine whether specific treatments and services are appropriate.
- ▶ This knowledge will help determine a scientific basis for the proper application of services and products.
- ▶ You will be responsible for performing safe and effective manicure and pedicure services aided by your knowledge of hand and foot nerves, bones, and muscle structure.
- ▶ You will be able to perform manipulations involving the hands, forearms, feet, and lower legs safely and effectively as a result of your understanding of bones, muscles, nerves, and circulation.

**Anatomy** is the study of the human body structures that can be seen with the naked eye as well as the various parts from which they are constructed. In other words, anatomy is the science of the structure of the human body or other organisms and their parts.

**Physiology** (fiz-ih-OL-oh-jee) is the study of the functions and activities performed by the body's structures.

**Histology** (his-TAHL-uh-jee) is the study of tiny structures found in tissue. It is also called **microscopic anatomy**. **LO1**

## CELLS

**Cells** are the basic units of all living things, from bacteria to plants and animals and including human beings. Without cells, life does not exist. As a basic functional unit, the cell is responsible for carrying on all life processes. There are trillions of cells in the human body, and they vary widely in size, shape, and purpose.

### Basic Structure of the Cell

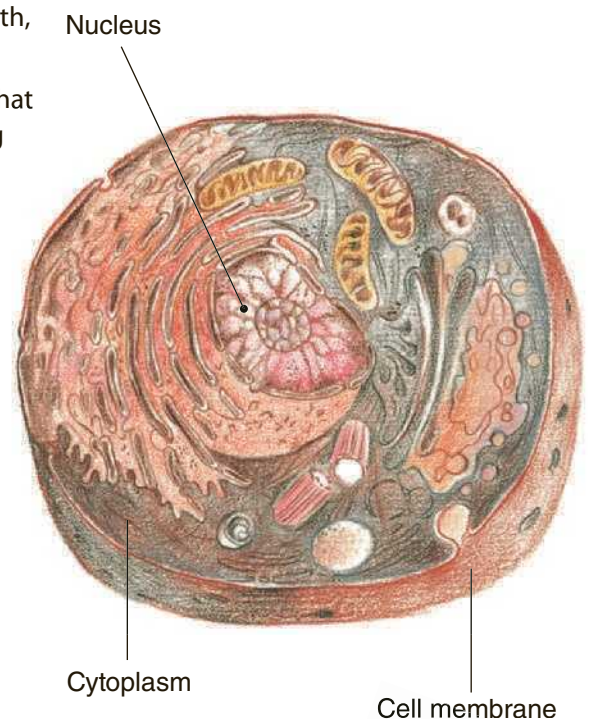
The cells of all living things are composed of a substance called **protoplasm** (PROH-toh-plaz-um), a colorless, jelly-like substance found inside cells in which food elements such as proteins, fats, carbohydrates, mineral salts, and water are present. You can visualize the protoplasm of a cell as being similar to the white of a raw egg. In addition to protoplasm, most cells also include the following components (**Figure 6–1**):

- The **nucleus** (NOO-klee-us) is the dense, active protoplasm found in the center of the cell. It plays an important part in cell reproduction and metabolism. You can picture the nucleus as the yolk of a raw egg.
- The **cytoplasm** (sy-toh-PLAZ-um) is the part of the protoplasm that exists outside of the nucleus and inside the cell wall. The protoplasm surrounds the nucleus and is needed for growth, reproduction, and self-repair.
- The **cell membrane** (SELL MEM-brayn) is the cell part that encloses and holds the protoplasm while still allowing soluble substances (e.g., nutrients or waste by-products), to enter and leave the cell.

### Cell Reproduction and Division

Cells have the ability to reproduce, thus providing new cells for the growth and replacement of worn or damaged cells. The usual process of cell reproduction of human tissues occurs when the cell divides into two identical cells, called daughter cells, through a process known as "mitosis." As long as conditions are favorable, the cell will grow and reproduce. This is true of human cells, plant cells, and single-cell creatures such as bacteria. Favorable conditions include an adequate supply of food, oxygen, and water; suitable temperatures; and the ability to eliminate waste by-products. If conditions become unfavorable, the cell will become impaired or may die. For instance,

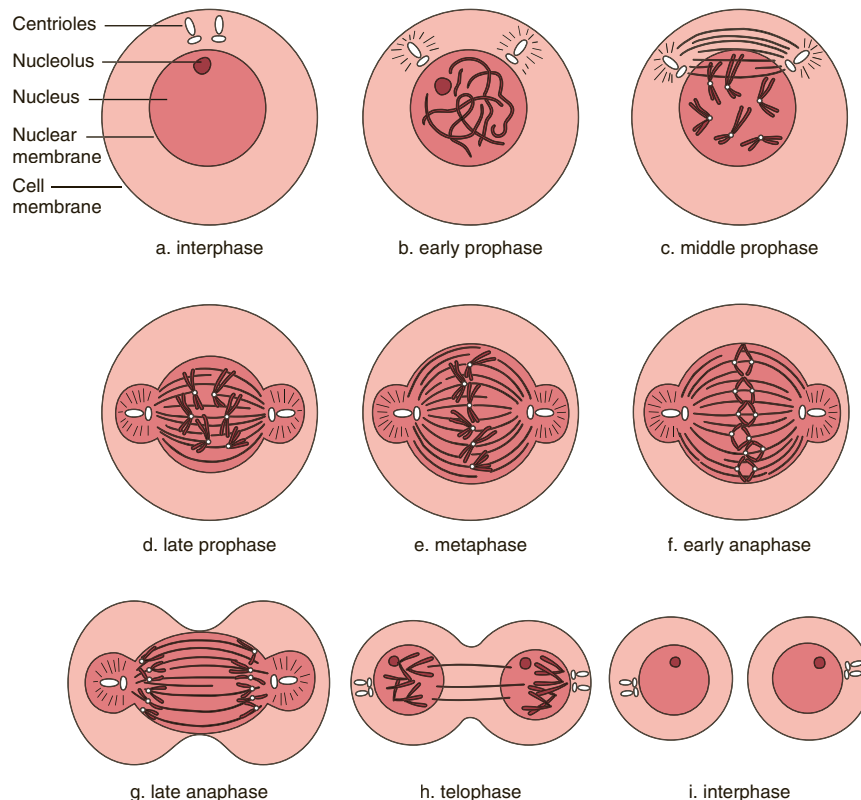
▼ **Figure 6–1** Anatomy of the cell.



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when blood flow is restricted to part of the body, such an unfavorable condition could lead to an unusual buildup in the levels of toxins within the cells, which in turn may cause the cell to die (Figure 6–2). **LO2**

► **Figure 6–2** Phases of mitosis.



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## Did You Know?

A toxin is a poisonous substance produced by microorganisms (bacteria and viruses). You know that a bee sting injects a toxin into the skin that causes a painful burning sensation, but did you know that your skin is constantly creating toxins? As our skin cells metabolize nutrients, the process creates toxins that must be removed before they cause damage by becoming too concentrated inside the cell. Fortunately, our bodies have highly efficient ways of dealing with these toxins. Tiny blood and lymph capillaries in the skin collect toxins and transport them away to be later removed from the body. So remember, the normal flow of blood moving through the skin helps ensure that the concentration of toxins in the skin cells are kept at safe levels and that the skin remains healthy.

## Cell Metabolism

**Metabolism** (muh-TAB-uh-liz-um) is a chemical process that takes place in living organisms, through which the cells are nourished and carry out their activities. Metabolism occurs in two distinctly different phases.

**Anabolism** (uh-NAB-uh-liz-um) is called “constructive metabolism” because it is the process of combining smaller molecules to build larger and more complex molecules. During this process, the body focuses on storing water, food, and oxygen for a later time when these substances will be needed for cell growth, reproduction, or repair.

**Catabolism** (kuh-TAB-uh-liz-um) is the phase of metabolism in which larger, more complex molecules are broken down within the cells to create smaller, simpler molecules. As a result of this breakdown, energy is released so that it may be used or stored for later use.

Anabolism and catabolism are carried out simultaneously and continually, 24 hours a day, within the cells as part of their normal processes.

## TISSUES

A **tissue** (TISH-oo) is a collection of similar cells that performs a specialized function. Each type of tissue has a specific function and can be recognized by its characteristic appearance. Body tissues are composed of large amounts of



water, along with various other substances. The human body is about 60 percent water.

There are four types of tissue in the body.

- **Connective tissue** is fibrous tissue that binds together, protects, and supports the various parts of the body. Examples include bone; cartilage; ligaments; tendons; fascia, which separates muscles; liquid tissue, such as blood, lymph, and fat; and **adipose tissue** (ADD-ih-pohz TISH-oo), which lends smoothness, contour, and cushioning.
- **Epithelial tissue** (ep-ih-THÉE-lee-ul TISH-oo) is a protective covering on body surfaces. Skin, mucous membranes, the tissue inside the mouth, the lining of the heart, digestive and respiratory organs, and glands are all examples of epithelial tissue.
- **Muscle tissue** contracts and moves various parts of the body.
- **Nerve tissue** carries messages to and from the brain and controls and coordinates all bodily functions. Nerve tissue is composed of specialized cells known as neurons, which make up the nerves, brain, and spinal cord. **LO3**

## Did You Know?

An average adult body is 50 to 65 percent water—which equals roughly 45 qt (42.5 l). Men’s bodies contain more water than women’s bodies do. A man’s body is 60 to 65 percent water, compared to 50 to 60 percent for a woman. In infants, the figure is amazingly higher at 70 percent. Water content differs throughout various tissues in the body; for instance, blood is made up of 83 percent water, and muscle is 75 percent water.

## ORGANS AND BODY SYSTEMS

**Organs** are structures composed of specialized tissues that allow them to perform specific functions. A body **system** consists of a group of body organs acting together to perform one or more functions. **Table 6–1, Some Major Body Organs and Their Functions**, lists some of the most important organs of the body.

**Table 6–1 NINE MAJOR BODY ORGANS AND THEIR FUNCTIONS**

ORGAN	FUNCTION
Brain	Controls the body
Eyes	Control the body’s vision
Heart	Circulates the blood
Kidneys	Excrete water and waste products
Liver	Removes waste created by digestion
Lungs	Supply oxygen to the blood and exhale waste gases
Skin	External protective coating that covers the body
Stomach	Digests food, along with the intestines
Intestines	Digest food, along with the stomach

**Table 6–2 ELEVEN MAIN BODY SYSTEMS AND THEIR FUNCTIONS**

SYSTEM	FUNCTION
<b>Circulatory</b>	Controls the steady circulation of the blood through the body by means of the heart and blood vessels
<b>Digestive</b>	Changes food into nutrients and wastes; consists of mouth, stomach, intestines, salivary and gastric glands, and other organs
<b>Endocrine</b>	Affects the growth, development, sexual functions, and health of the entire body; consists of specialized glands
<b>Excretory</b>	Purifies the body by eliminating waste matter; consists of kidneys, liver, skin, large intestine, and lungs
<b>Integumentary</b>	Serves as a protective covering and helps regulate the body's temperature; consists of skin and its accessory organs, such as oil and sweat glands, sensory receptors, hair, and nails
<b>Lymphatic or Immune</b>	Protects the body from disease by developing immunities and destroying disease-causing toxins and bacteria
<b>Muscular</b>	Covers, shapes, and holds the skeletal system in place; the muscular system contracts and moves various parts of the body
<b>Nervous</b>	Controls and coordinates all other systems inside of the body and makes them work harmoniously and efficiently; consists of the brain, spinal cord, and nerves
<b>Reproductive</b>	Produces offspring and passes on the genetic code from one generation to another.
<b>Respiratory</b>	Enables breathing, supplying the body with oxygen, and eliminating carbon dioxide and other gases as waste products; consists of the lungs and air passages
<b>Skeletal</b>	Forms the physical foundation of the body; consists of 206 bones that vary in size and shape and are connected by movable and immovable joints

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## Did You Know?

People often complain of joint pain, which is usually caused by inflammation of the tissue surrounding the joint.

**Body systems** are groups of body organs acting together to perform one or more functions. The human body is composed of 11 major systems, as shown in **Table 6–2, Eleven Main Body Systems and Their Functions.** **LO4**

### THE SKELETAL SYSTEM

The **skeletal system** is the physical foundation of the body. Humans are born with 300 bones; however, some of these fuse together over time, so eventually

the body ends up with 206 bones that vary in size and shape and are connected by movable and immovable joints. **Osteology** (ahs-tee-AHL-oh-jee) is the study of anatomy, structure, and function of the bones. **Os** (AHS) means bone, and is used as a prefix in many medical terms, such as osteoarthritis, (os-te-o-ar-thri-tis) a joint disease.

Except for the tissue that forms the major part of the teeth, bone is the hardest tissue in the body. It is composed of connective tissue consisting of about one-third organic matter, such as cells and blood, and two-thirds minerals, mainly calcium carbonate and calcium phosphate.

The primary functions of the skeletal system are to:

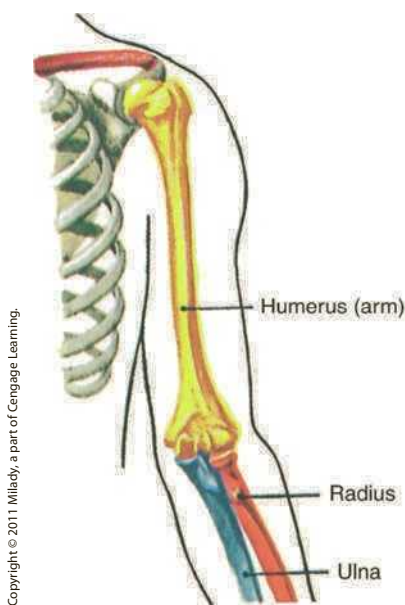
- Give shape and support to the body.
- Protect various internal structures and organs.
- Serve as attachments for muscles and act as levers to produce body movement.
- Help produce both white and red blood cells (one of the functions of bone marrow).
- Store most of the body's calcium supply, as well as phosphorus, magnesium, and sodium.

A **joint** is the connection between two or more bones of the skeleton. There are two types of joints: movable, such as elbows, knees, and hips; and immovable, such as the pelvis or skull, which allows little or no movement.

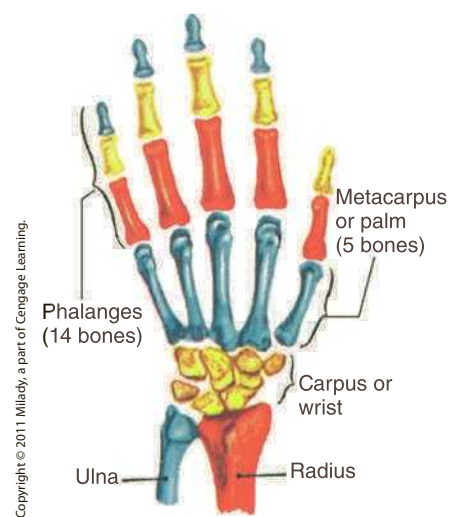
## Bones of the Arms and Hands

Important bones of the arms and hands include the following:

- **Humerus** (HYOO-muh-rus). Uppermost and largest bone of the arm, extending from the elbow to the shoulder.
- **Ulna** (UL-nuh). The ulna is the longer bone of the forearm. It is larger at the elbow than at the wrist and is located on the little finger side of the hand.
- **Radius** (RAY-dee-us). The radius is the shorter of the two bones of the forearm. It is largest at the wrist and is located on the thumb side of the hand.
- **Carpus** (KAR-pus). The wrist: a flexible joint composed of a group of eight small, irregular bones held together by ligaments.
- **Metacarpus** (met-uh-KAR-pus). Bones of the palm of the hand; parts of the hand containing five bones between the carpus and phalanges.
- **Phalanges** (fuh-LAN-jeez). Bones of the fingers or toes, or **digits** (Figures 6-3 and 6-4).



▲ **Figure 6-3** Bones of the arm.



▲ **Figure 6-4** Bones of the hand.

## Did You Know?

Painful inflammation involving the carpus area can be caused by repetitive motions, such as flexing your wrist excessively or locking it in a bent position while using a nail file. Keeping the wrist straight, without flexing, while filing can help prevent these injuries.

## Did You Know?

The purpose of fingernails is to provide protection for the delicate tips of the phalanges in the hand. If a phalange is accidentally broken, the finger loses much of its fine dexterity and has a more difficult time picking up very small objects, such as sewing needles and coins.

## Bones of the Leg, Ankle, and Foot

The four bones of the leg are:

- The **femur** (FEE-mur) is a heavy, long bone that forms the leg above the knee.
- The **tibia** (TIB-ee-ah) is the larger of the two bones that form the leg below the knee. The tibia may be visualized as a bump on the big-toe side of the ankle.
- The **fibula** (FIB-ya-lah) is the smaller of the two bones that form the leg below the knee. The fibula may be visualized as a bump on the little-toe side of the ankle.
- The **patella** (pah-TEL-lah), also called the accessory bone, forms the cap of the knee joint (**Figure 6–5**).

The ankle joint is made up of three bones:

- The tibia, which comes down from the leg.
- The fibula, which comes down from the leg.
- The **talus** (TA-lus), or ankle bone, of the foot.

The foot is made up of 26 bones. These can be subdivided into three general categories: seven **tarsal** (TAHR-sul) bones (talus, calcaneus, navicular, three cuneiform bones, and the cuboid); five **metatarsal** (met-ah-TAHR-sul) bones, which are long and slender, like the metacarpal bones of the hand; and 14 bones called phalanges, which compose the toes. The phalanges of the feet are similar to the hand's phalanges, which are commonly called finger bones. There are three phalanges in each toe, except for the big toe, which has only two (**Figure 6–6**).

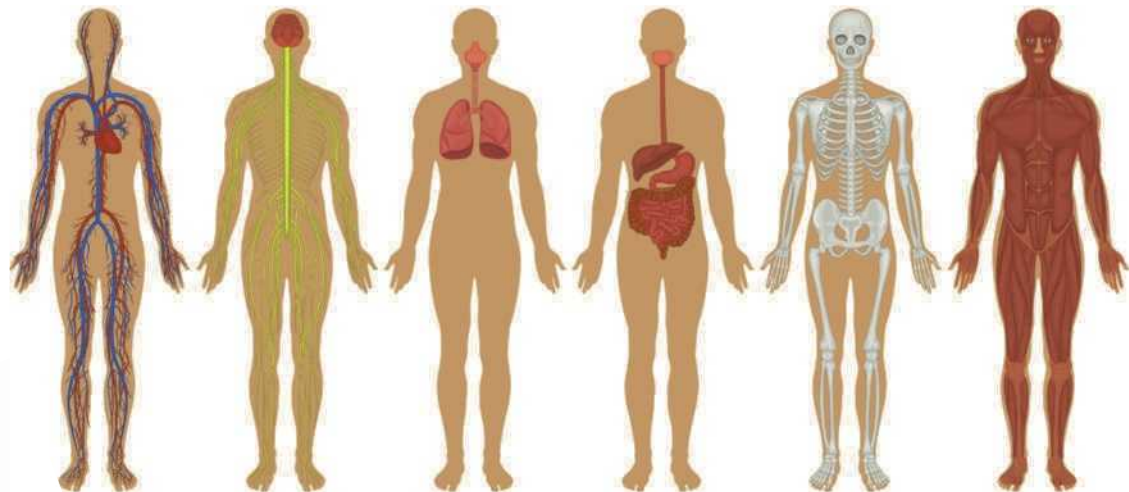
## THE MUSCULAR SYSTEM

The **muscular system** is the body system that covers, shapes, and supports the skeletal tissue. It contracts and moves various parts of the body.

The nail technician must be concerned with the voluntary muscles that control movements of the arms, hands, lower legs, and feet. It is important to know where these muscles are located and what they control. These muscles become fatigued from excessive work or injury and can benefit greatly from the massaging techniques you can incorporate into your services.



▲ **Figure 6–5** Bones of the leg.



**Myology** (my-AHL-uh-jee) is the study of the structure, function, and diseases of the muscles. The human body has over 600 muscles, which are responsible for approximately 40 percent of the body's weight. Muscles are fibrous tissues that have the ability to stretch and contract according to the demands of the body's movements. There are three types of muscular tissue.

**Striated muscles** (STRY-ayt-ed), also called **skeletal muscles**, are attached to the bones and are voluntary or consciously controlled. Striated (skeletal) muscles assist in maintaining the body's posture and protect some internal organs (**Figure 6–7**).

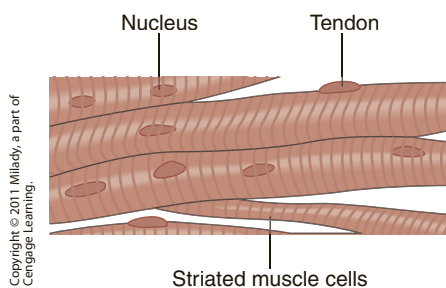
**Nonstriated muscles**, or **smooth muscles**, are involuntary and function automatically, without conscious will. These muscles are found in the internal organs of the body, such as the digestive or respiratory systems (**Figure 6–8**).

**Cardiac muscle** is the involuntary muscle that is the heart. This type of muscle is not found in any other part of the body (**Figure 6–9**).

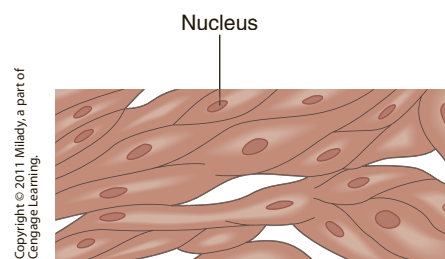
A muscle has three parts. The **origin** is the part that does not move; it is attached to the skeleton and is usually part of a skeletal muscle. The **insertion** is the part of the muscle at the more movable attachment to the skeleton. The **belly** is the middle part of the muscle. Pressure in massage is usually directed from the insertion to the origin and moving toward the belly of the muscle.

Muscular tissue can be stimulated by:

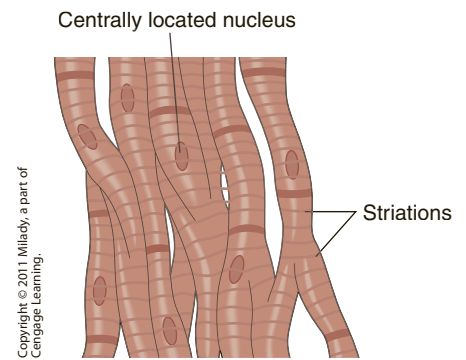
- Massage (pressure and friction created by hand, electric vibrator, or water jets)
- Electrical current (high frequency or faradic—alternating or interrupted—current)
- Infrared light (heating lamps and a normal component of natural sunlight)
- Dry heat (heating caps)
- Moist heat (steamers or warm steam towels)
- Nerve impulses (through the neurons of the nervous system)



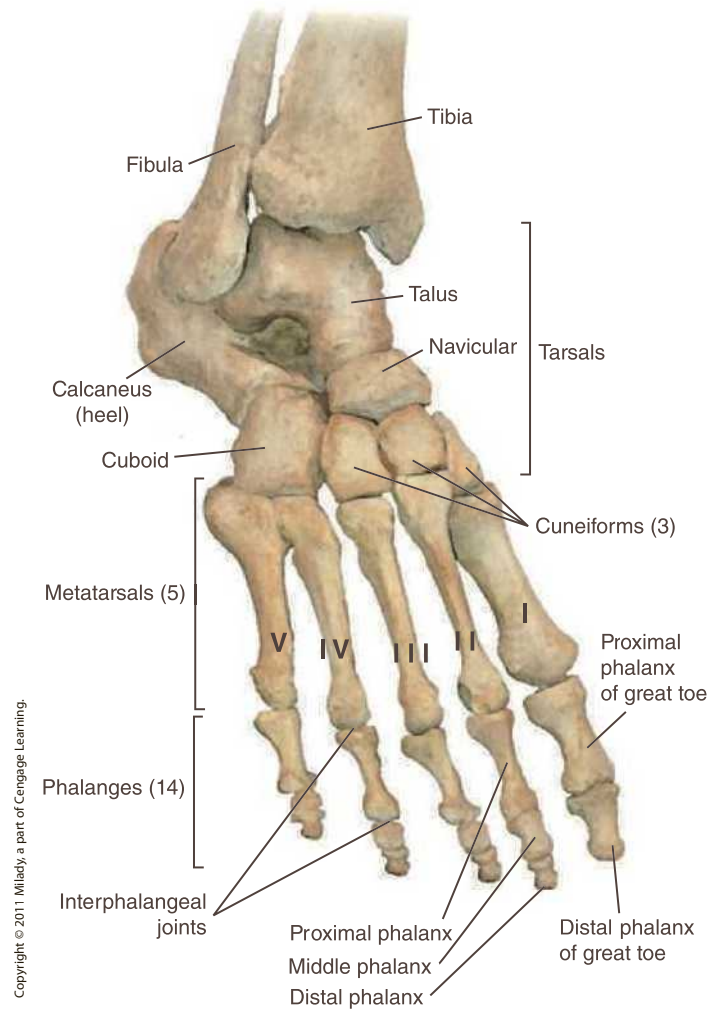
▲ **Figure 6–7** Striated muscle cells.



▲ **Figure 6–8** Nonstriated muscle cells.



▲ **Figure 6–9** Cardiac muscle cells.



▲ **Figure 6–6** Bones of the foot and ankle.

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## Muscles that Attach the Arms to the Body

The muscles that attach the arms to the body are briefly summarized below.

- **Latissimus dorsi** (lah-TIS-ih-mus DOR-see). A large, flat triangular muscle covering the lower back.
- **Pectoralis major** (pek-tor-AL-is MAY-jor) and **Pectoralis minor**. Muscles of the chest that assist the swinging movements of the arm.
- **Serratus anterior** (ser-RAT-us an-TEER-ee-or). Muscle of the chest that assists in breathing and in raising the arm.
- **Trapezius** (trah-PEE-zee-us). Muscle that covers the back of the neck and upper and middle region of the back; rotates and controls swinging movements of the arm.

## Muscles of the Shoulder and Arm

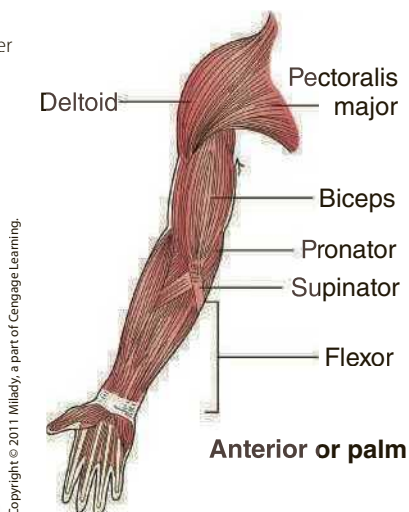
There are three principal muscles of the shoulders and upper arms (**Figure 6–10**):

- **Bicep** (BY-sep). Muscle producing the contour of the front and inner side of the upper arm; they lift the forearm and flex the elbow.
- **Deltoid** (DEL-toyd). Large, triangular muscle covering the shoulder joint that allows the arm to extend outward and to the side of the body.
- **Tricep** (TRY-sep). Large muscle that covers the entire back of the upper arm and extends the forearm.

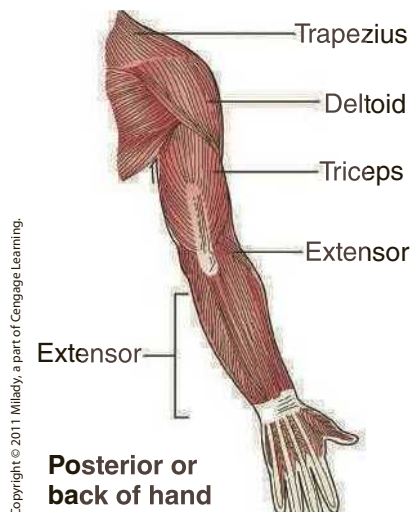
The forearm is made up of a series of muscles and strong tendons (**Figure 6–11**). As a nail technician, you will be concerned with:

- **Extensors** (ik-STEN-surs). Muscles that straighten the wrist, hand, and fingers to form a straight line.
- **Flexors** (FLEK-surs). Extensor muscles of the wrist, involved in bending the wrist.
- **Pronators** (proh-NAY-tohrs). Muscles that turn the hand inward so that the palm faces downward.
- **Supinator** (SOO-puh-nayt-ur). Muscle of the forearm that rotates the radius (forearm) outward and the palm upward.

► **Figure 6–10** Muscles of the anterior shoulder and arm.



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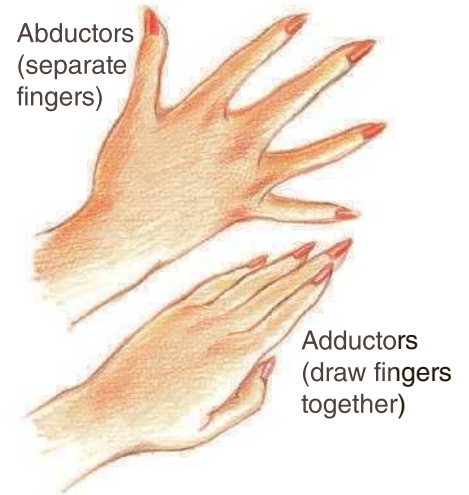
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◀ **Figure 6–11** Muscles of the posterior shoulder and arm.

## Muscles of the Hand

The hand is one of the most complex parts of the body, with many small muscles that overlap from joint to joint, providing flexibility and strength to open and close the hand and fingers. Important muscles to know include the:

- **Abductors** (ab-DUK-turz). Muscles that separate the fingers (**Figure 6–12**).
- **Adductors** (ah-DUK-turz). Muscles at the base of each finger that draw the fingers together (**Figure 6–12**).



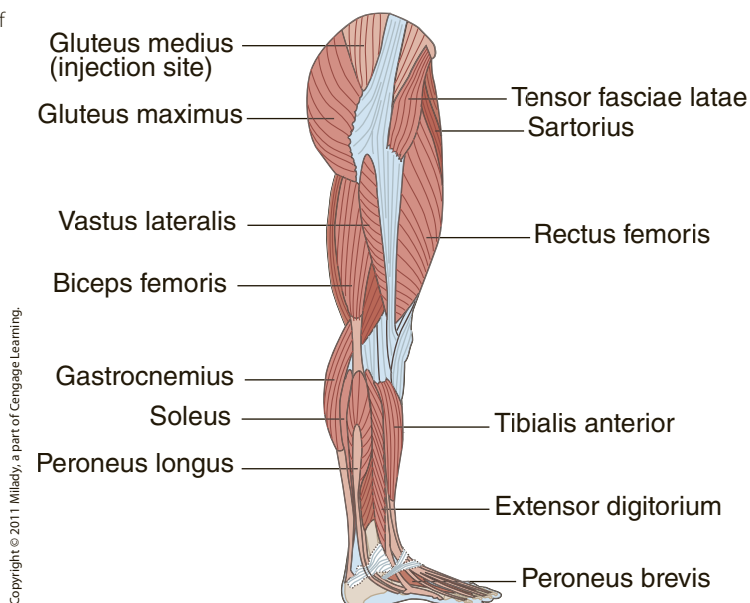
▲ **Figure 6–12** Muscles of the hand.

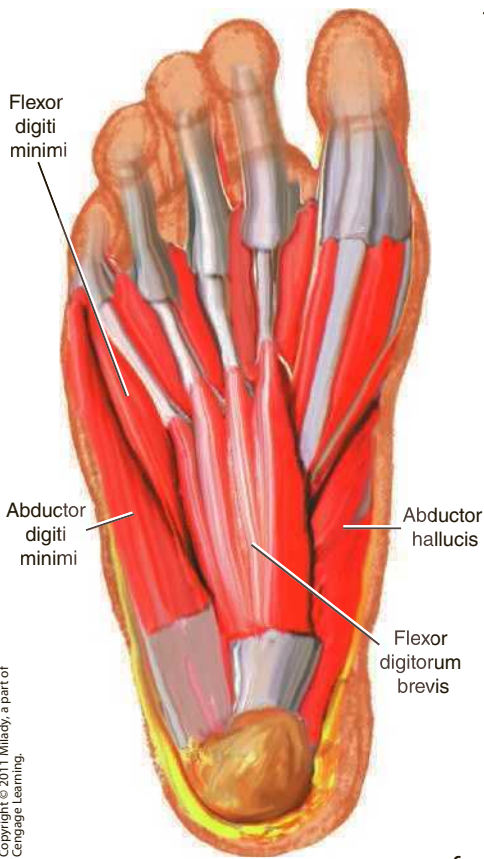
## Muscles of the Lower Leg and Foot

As a nail technician, you will use your knowledge of the muscles of the foot and leg during a pedicure. The muscles of the foot are small and provide proper support and cushioning for the foot and leg (**Figure 6–13**). The muscles of the lower leg include:

- The **extensor digitorum longus** (eck-STEN-sur dij-it-TOHR-um LONG-us) bends the foot up and extends the toes.
- The **tibialis anterior** (tib-ee-AHL-is an-TEHR-ee-ohr) covers the front of the shin. It bends the foot upward and inward.
- The **peroneus longus** (per-oh-NEE-us LONG-us) covers the outer side of the calf and inverts the foot and turns it outward.
- The **peroneus brevis** (BREV-us) originates on the lower surface of the fibula. It bends the foot down and out.
- The **gastrocnemius** (gas-truc-NEEM-e-us) is attached to the lower rear surface of the heel and pulls the foot down.
- The **soleus** (SO-lee-us) originates at the upper portion of the fibula and bends the foot down.

► **Figure 6–13** Muscles of the leg and foot.





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▲ **Figure 6–14** Muscles of the foot (bottom).

The muscles of the feet include (**Figure 6–14**):

- The **flexor digiti minimi** (FLEK-sur-dij-it-ty MIN-eh-mee) moves the little toe.
- The **flexor digitorum brevis** (FLEKS-or dij-it-TOHR-um BREV-us) moves lesser toes and helps maintain balance while walking.
- The **abductor hallucis** (ab-DUK-tohr ha-LU-sis) moves the great toe and helps maintain balance while walking and standing.
- The **abductor digiti minimi** separates the toes.

## ■ THE NERVOUS SYSTEM

The **nervous system** is an exceptionally well-organized body system, composed of the brain, spinal cord, and nerves, that is responsible for controlling and coordinating all other systems inside and outside of the body and making them work harmoniously and efficiently. Every square inch of the human body is supplied with fine fibers known as nerves; there are over 100 billion nerve cells, known as neurons, in the body. The scientific study of the structure, function, and pathology of the nervous system is known as **neurology** (nuh-RAHL-uh-jee).

An understanding of how nerves work will help you perform services in a more proficient manner when administering massage techniques during manicures and pedicures. It will also help you understand the effects that these treatments have on the body as a whole.

## Divisions of the Nervous System

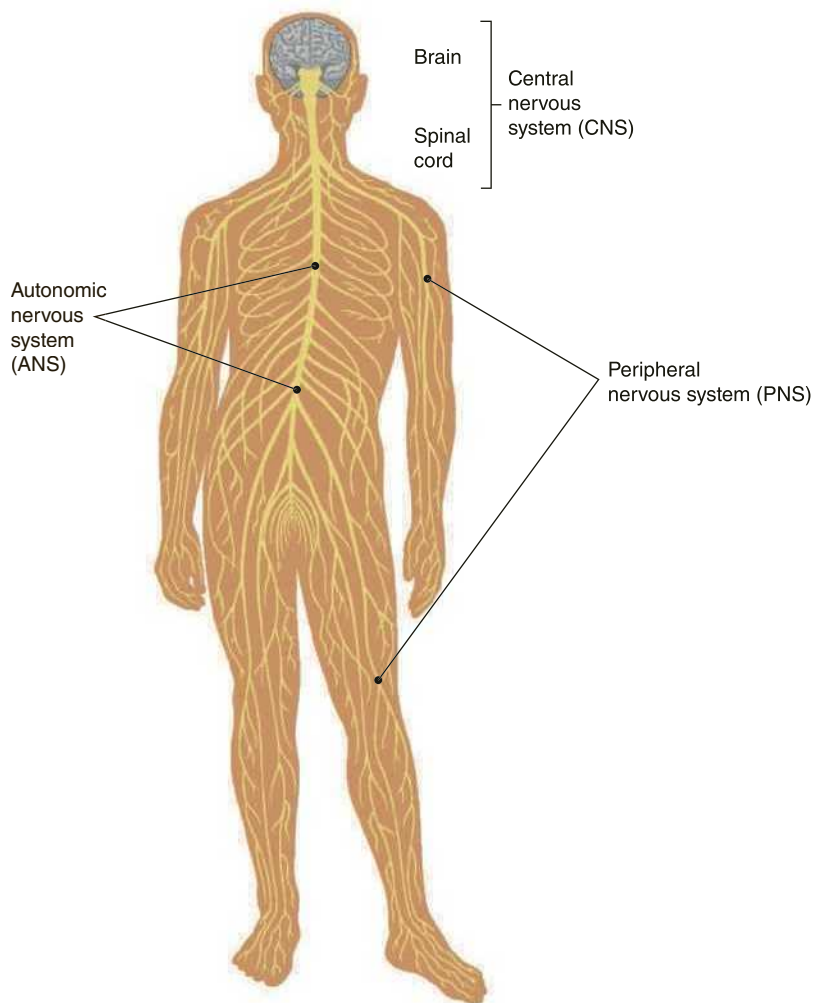
The nervous system, as a whole, is divided into three main subdivisions.

- The **central nervous system (CNS)** consists of the brain, spinal cord, spinal nerves, and cranial nerves. It controls consciousness and many mental activities, voluntary functions of the five senses (seeing, hearing, feeling, smelling, and tasting), and voluntary muscle actions, including all body movements and facial expressions.
- The **peripheral (puh-RIF-uh-rul) nervous system (PNS)** is a system of nerves that connects the peripheral (outer) parts of the body to the CNS; it has both sensory and motor nerves. Its function is to carry impulses, or messages, to and from the CNS.

## Activity

There are sensory nerve endings in the nail bed, underneath the nail plate, which are specialized to detect pressure on the nail plate. Push down on your nail plate. Do you feel the pressure as these sensitive nerve endings are activated and send impulses back to the brain?





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▲ **Figure 6–15** Principal parts of the nervous system.

- The **autonomic (aw-toh-NAHM-ik) nervous system (ANS)** is the part of the nervous system that controls the involuntary muscles; it regulates the action of the smooth muscles, glands, blood vessels, heart and even normal breathing (**Figure 6–15**).

## The Brain and Spinal Cord

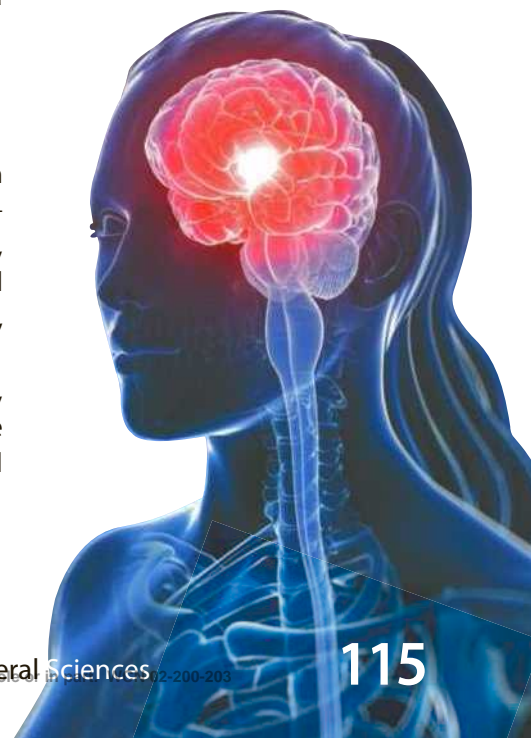
The **brain** is the largest and most complex nerve tissue in the body. The brain is contained in the cranium and weighs a little less than 3 pounds, on average. It controls sensation, muscles, activity of glands, and the power to think, sense, and feel. It sends and receives messages through 12 pairs of cranial nerves that originate in the brain and reach various parts of the head, face, and neck.

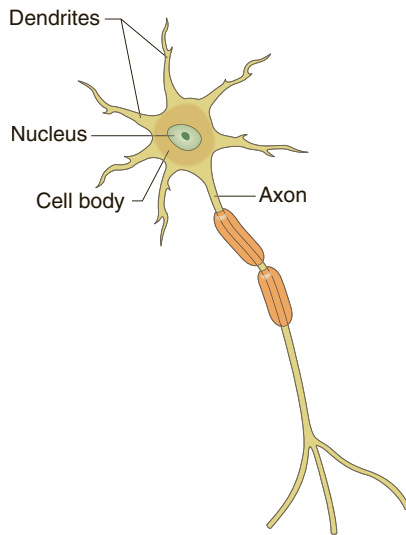
The **spinal cord** is the portion of the CNS that originates in the brain, extends down to the lower extremity of the trunk, and is protected by the spinal column. Thirty-one pairs of spinal nerves extending from the spinal cord are distributed to the muscles and skin of the trunk and limbs.

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## Did You Know?

The nail bed may be able to detect small changes in applied pressure, but it lacks nerve endings that specialize in detecting heat. The nail bed cannot feel heat unless it becomes excessive enough to damage these delicate tissues. Therefore, nail technicians must be especially cautious to avoid excessive heat caused by friction, such as overaggressively filing the nail plate. By the time a client notices the heat buildup, it may be too late, and nail bed damage may already have occurred. Friction burn injuries can cause the client's nail beds to release part of the nail plate and create an open space underneath; a condition known as **onycholysis**.





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▲ **Figure 6–16** A neuron or nerve cell.

## Nerve Cell Structure and Function

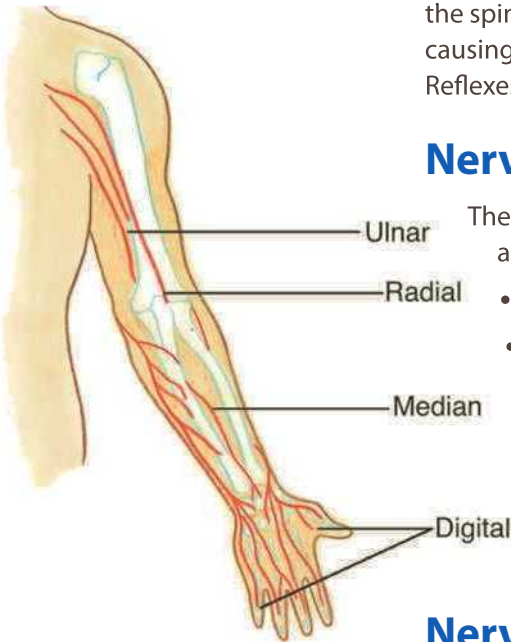
A **neuron** (NOO-rah-n), or nerve cell, is the primary structural unit of the nervous system. It is composed of the cell body, nucleus, dendrites, and the axon. **Dendrites** (DEN-dryts) are tree-like branches of nerve fibers extending from the nerve cell that carry impulses toward the cell and receive impulses from other neurons. The **axon** (AK-sahn) and **axon terminal** send impulses away from the cell body to other neurons, glands, or muscles (**Figure 6–16**). Nerves are whitish cords made up of bundles of nerve fibers held together by connective tissue through which impulses are transmitted. **Nerves** have their origin in the brain and spinal cord and send their branches to all parts of the body.

## Types of Nerves

**Sensory nerves** or **afferent nerves** (AAF-er-ent NURVS) carry impulses or messages from the sense organs to the brain, where sensations of touch, cold, heat, sight, hearing, taste, smell, pain, and pressure are experienced. Receptors are sensory nerve endings located close to the surface of the skin. If the skin on the hand is burned by a hot object, the skin receptors send impulses through the sensory nerves to the brain to warn of potential danger.

**Motor nerves**, or **efferent nerves** (EF-uh-rent NURVS), carry impulses from the brain to the muscles or glands. The transmitted impulses produce movement.

A **reflex** (REE-fleks) is an automatic reaction to a stimulus that involves the movement of an impulse from a sensory receptor along the sensory nerve to the spinal cord. A responsive impulse is sent along a motor neuron to a muscle, causing a reaction, such as the quick removal of the hand from a hot object. Reflexes do not have to be learned; they are automatic.



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▲ **Figure 6–17** Nerves of the arm and hand.

## Nerves of the Arm and Hand

The principal nerves supplying the superficial parts of the arm and hand are as follows:

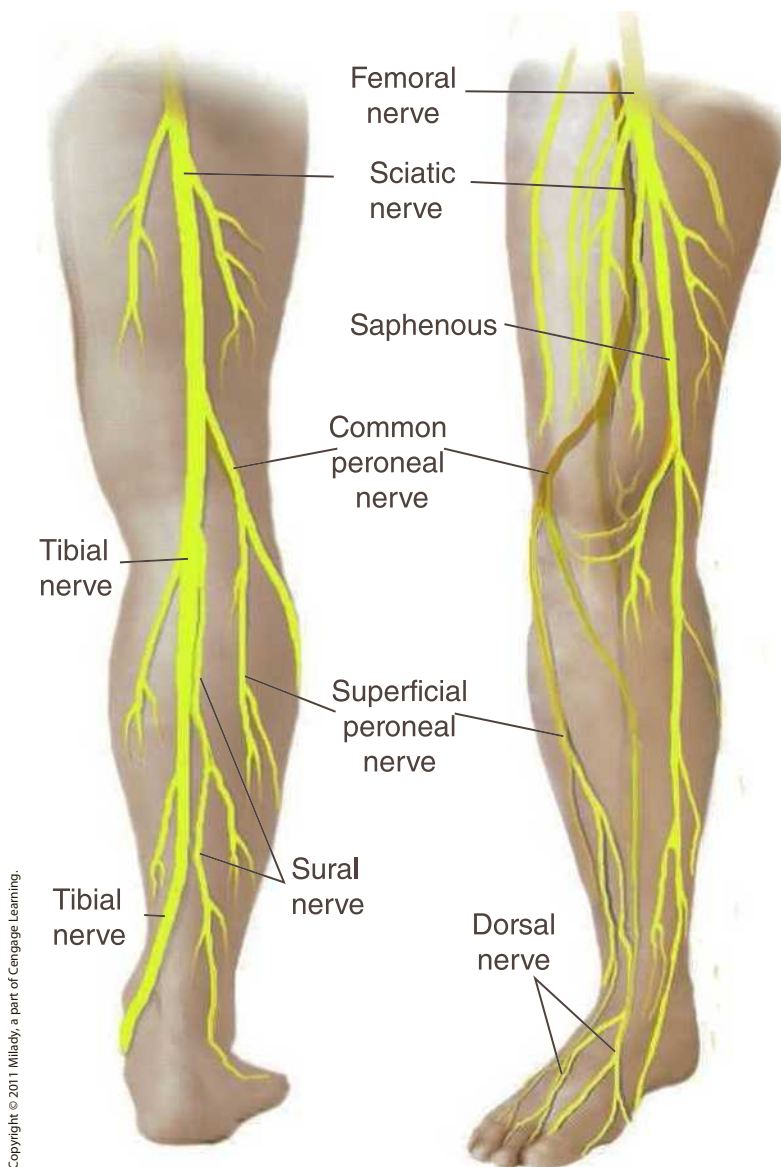
- **Digital** (DIJ-ut-tul) **nerve**. With its branches, supplies the fingers.
- **Radial** (RAY-dee-ul) **nerve**. With its branches, supplies the thumb side of the arm and back of the hand.
- **Median** (MEE-dee-un) **nerve**. A smaller nerve than the ulnar and radial nerves that, with its branches, supplies the arm and hand.
- **Ulnar** (UL-nur) **nerve**. With its branches, affects the little finger side of the arm and palm of the hand (**Figure 6–17**).

## Nerves of the Lower Leg and Foot

- The **tibial nerve** (TIB-ee-al NURV), a division of the sciatic nerve, passes behind the knee. It subdivides and supplies impulses to the knee, the muscles of the calf, the skin of the leg, and the sole, heel, and underside of the toes.
- The **common peroneal nerve** (KAHM-un per-oh-NEE-al NURV), also a division of the sciatic nerve, extends from behind the knee to wind

around the head of the fibula to the front of the leg where it divides into two branches. The **deep peroneal nerve**, also known as the **anterior tibial nerve**, extends down the front of the leg, behind the muscles. It supplies impulses to these muscles and also to the muscles and skin on the top of the foot and adjacent sides of the first and second toes. The **superficial peroneal nerve**, also known as the **musculocutaneous nerve** (MUS-kyoo-lo-kyoo-TAY-nee-us NURV), extends down the leg, just under the skin, supplying impulses to the muscles and the skin of the leg, as well as to the skin and toes on the top of the foot, where it is called the **dorsal nerve** (DOOR-sal NURV) or **dorsal cutaneous nerve**.

- The **saphenous nerve** (sa-FEEN-us NURV) supplies impulses to the skin of the inner side of the leg and foot.
- The **sural nerve** (SUR-ul NURV) supplies impulses to the skin on the outer side and back of the foot and leg (**Figure 6-18**).



◀ **Figure 6-18** Nerves of the lower leg and foot.

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## ■ THE CIRCULATORY SYSTEM

The **circulatory system**, also referred to as the **cardiovascular system** (KAHRD-ee-oh-VAS-kyoo-lur SIS-tum) or **vascular system**, controls the steady circulation of the blood through the body by means of the heart and blood vessels. The circulatory system is made up of two divisions:

The **blood vascular system**, which consists of the heart, arteries, veins, and capillaries that distribute blood throughout the body.

The **lymph vascular system** (LIMF VAS-kyoo-lur SIS-tum), or **lymphatic system**, which acts as an aid to the blood system and consists of the lymph spaces; lymphatics (lymph vessels); **lymph nodes** (LIMF NOHDS), which are special structures found inside the lymphatic vessels that filter lymph; and other structures. **Lymph** is a clear fluid that circulates in the lymphatics of the body, where it helps to carry wastes and impurities away from the cells, and is routed back into the circulatory system.

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## The Heart

The **heart** is often referred to as the body's pump. It is a muscular, cone-shaped organ that keeps the blood moving within the circulatory system. It is enclosed by a double-layered membranous sac known as the **pericardium** (payr-ih-KAR-deeum), which is made of epithelial tissue.

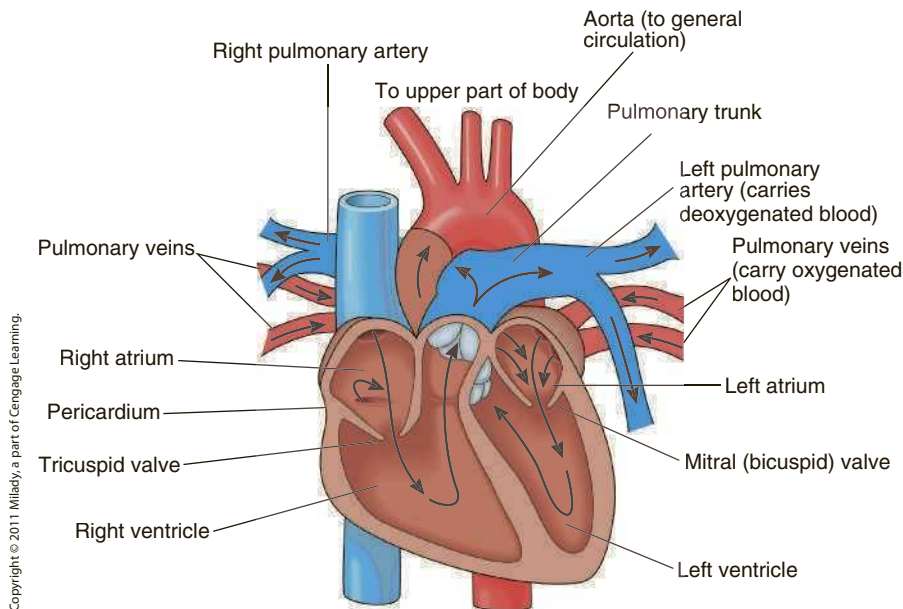
The heart is the approximate size of a closed fist, weighs approximately 9 ounces, and is located in the chest cavity. The heartbeat is regulated by the vagus nerve and other nerves in the ANS. A normal adult heart beats about 60 to 80 times per minute, but it can beat as high as 100 times per minute.

The interior of the heart contains four chambers and four valves. The upper, thin-walled chambers are the right **atrium** (AY-tree-um) and left atrium, through which blood is pumped to the ventricles. The two lower, thick-walled chambers are the right **ventricle** (VEN-truh-kul), one of the two lower chambers of the heart, and left ventricle. **Valves** are structures that temporarily close a passage or permit blood flow in only one direction. With each contraction and relaxation of the heart, the blood flows in, travels from the atria (plural of atrium) to the ventricles and is then driven out, to be distributed all over the body.

The blood is in constant and continuous circulation from the time that it leaves the heart until it returns to the heart. Two systems attend to this circulation. **Pulmonary circulation** (PUL-muh-nayr-ee sur-kyoo-LAY-shun) sends the blood from the heart to the lungs to be purified, then back to the heart again. **Systemic circulation** or general circulation carries the blood from the heart throughout the body and back to the heart. The following is an overview of how these systems work.

1. Deoxygenated blood flows from the body into the right atrium.
2. From the right atrium, it flows through the **tricuspid valve** into the right ventricle.
3. The right ventricle pumps the blood to the pulmonary arteries, which move the deoxygenated blood to the lungs. When the blood reaches the lungs, it releases waste gases (carbon dioxide) and replaces it with oxygen. The blood is then considered to be rich in oxygen.

- The oxygen-rich blood returns to the heart through the pulmonary veins and enters the left atrium.
- From the left atrium, the blood flows through the **mitral valve** (MY-trul VALV), or **bicuspid valve** (by-KUS-pid VALV), into the left ventricle.
- The blood then leaves the left ventricle and travels to all parts of the body (**Figure 6–19**).



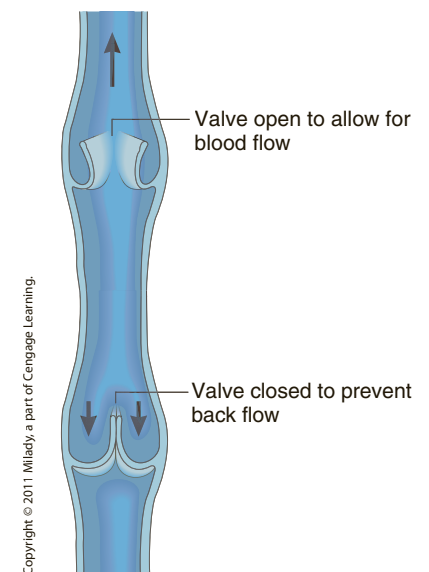
◀ **Figure 6–19** Anatomy of the heart.

## Blood Vessels

Blood vessels are tube-like structures that include the arteries, capillaries, and veins. The function of these vessels is to transport blood to and from the heart and then on to various tissues of the body.

- **Arteries** (AR-tuh-rees) are thick-walled, flexible tubes that carry oxygenated blood away from the heart to the capillaries. The largest artery in the body is the **aorta** (ay-ORT-uh). The arterial trunk carries oxygenated blood from the heart to be distributed by branch arteries through the body.
- **Capillaries** are tiny, thin-walled blood vessels that connect the smaller arteries to the veins. They bring nutrients to the cells and carry away waste materials.
- **Veins** are thin-walled blood vessels that are less flexible than arteries. They contain cup-like valves that prevent backflow and carry blood containing waste products from the capillaries back to the heart and lungs for cleaning and to pick up oxygen. Veins are located closer to the outer skin surface of the body than arteries (**Figure 6–20**).

Blood flow toward the heart



▲ **Figure 6–20** Valves in the veins.

## The Blood

**Blood** is a nutritive fluid circulating through the circulatory system (heart, veins, arteries, and capillaries) to supply oxygen and nutrients to cells and tissues and



to remove carbon dioxide and waste from them. There are approximately 8 to 10 pints of blood in the human body, which contribute about 1/20th of the body's weight. Blood is approximately 80 percent water. It is sticky and salty, with a normal temperature of 98.6 degrees Fahrenheit (36 degrees Celsius). It is bright red in the arteries (except for the pulmonary artery) and dark red in the veins. The color change occurs with the exchange of carbon dioxide for oxygen as the blood passes through the lungs, and the exchange of oxygen for carbon dioxide as the blood circulates throughout the body. Red blood is oxygen rich; blue blood is oxygen poor.

### Composition of the Blood

Blood is composed of red and white cells, platelets, plasma, and hemoglobin.

**Red blood cells** are produced in the red bone marrow. They contain **hemoglobin** (HEE-muh-gloh-bun), an iron-containing protein that temporarily binds with oxygen. The function of red blood cells is to carry oxygen from the lungs to the body cells and transport carbon dioxide from the cells back to the lungs.

**White blood cells**, also called **leukocytes** (LOO-koh-syts), perform the function of destroying disease-causing microorganisms.

**Platelets** (PLAYT-lets) are much smaller than red blood cells. They contribute to the blood-clotting process, which stops bleeding.

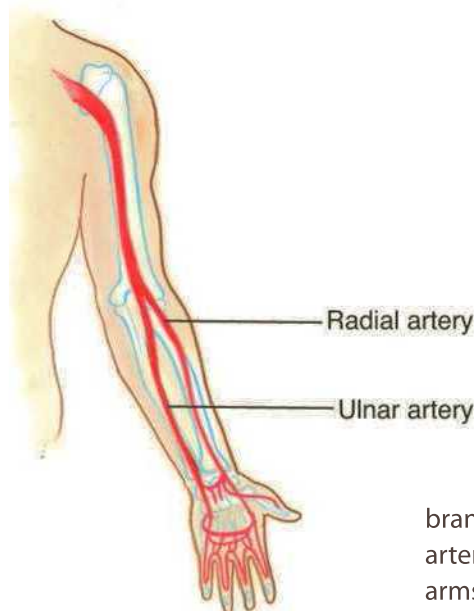
**Plasma** (PLAZ-muh) is the fluid part of the blood in which the red and white blood cells and platelets flow. It is about 90 percent water and also contains proteins and sugars. The main function of plasma is to carry food and other useful substances to the cells and to remove carbon dioxide from the cells.

### Chief Functions of the Blood

Blood performs the following critical functions:

- Carries water, oxygen, and food to all cells and tissues of the body.
- Carries away carbon dioxide and other waste products to be eliminated through the lungs, skin, kidneys, and large intestines.
- Helps to equalize the body's temperature, thus protecting the body from extreme heat or cold.
- Works with the immune system to protect the body from potentially harmful bacteria or toxins.
- Seals leaks found in injured blood vessels by forming clots which prevent further blood loss.

▼ **Figure 6–21** Arteries of the arm and hand.



### Blood Supply to the Arm and Hand

The ulnar and radial arteries are the main blood supply of the arms and hands. The **ulnar artery** and its numerous branches supply the little-finger side of the arm and palm of the hand. The **radial artery** and its branches supply the thumb side of the arm and the back of the hand. While the arteries are found deep in the tissues, the veins lie nearer to the surface of the arms and hands (**Figure 6–21**).

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## Blood Supply to the Lower Leg and Foot

There are several major arteries that supply blood to the lower leg and foot.

- The **popliteal (pop-lih-TEE-ul) artery**, which supplies blood to the foot, divides into two separate arteries known as the anterior tibial artery and the posterior tibial artery.
- The **anterior tibial (TIB-ee-al) artery** supplies blood to the lower leg muscles and to the muscles and skin on the top of the foot and adjacent sides of the first and second toes. This artery goes to the foot and becomes the dorsalis pedis artery.
- The **posterior tibial artery** supplies blood to the ankles and the back of the lower leg.
- The **dorsalis pedis artery** supplies the foot with blood.

As in the arm and hand, the important veins of the lower leg and foot are almost parallel with the arteries and take the same names (**Figure 6–22**).

### ■ THE LYMPHATIC/IMMUNE SYSTEM

The **lymphatic/immune system** is made up of lymph, lymph nodes, the thymus gland, the spleen, and lymph vessels that act as an aid to the blood system. Lymph is a colorless, watery fluid derived from blood plasma that has filtered through the capillary walls into the tissue space. The function of lymph is to protect the body from disease by helping to develop immunities that destroy disease-causing microorganisms as well as to drain the tissue spaces of excess **interstitial fluids** (in-tur-STISH-al FLOO-id) (blood plasma found in the spaces between tissue cells) to the blood. It then carries collected waste impurities away from the cells.

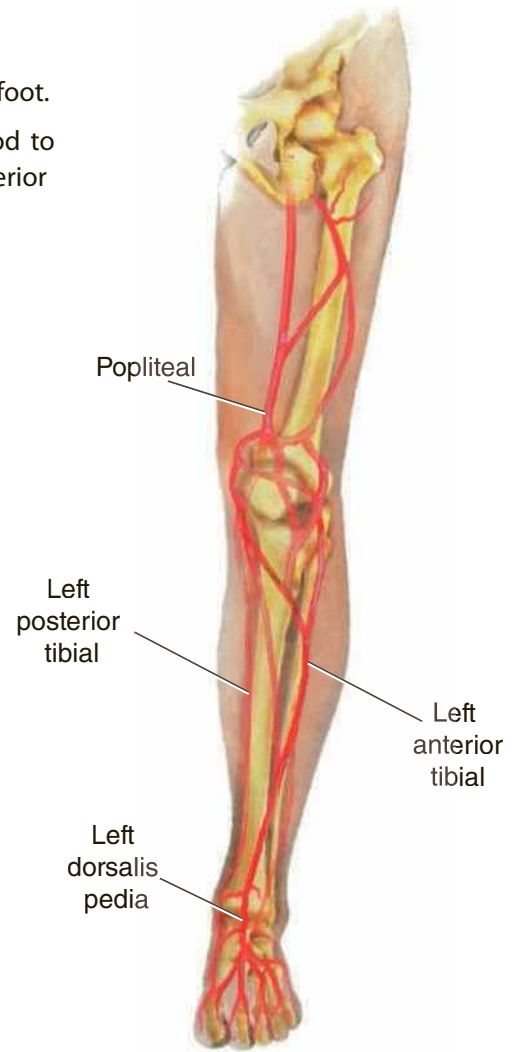
The lymphatic system is closely connected to the blood and the cardiovascular system. They both transport fluids, like rivers throughout the body. The difference is that the lymphatic system transports lymph, which eventually returns to the blood where it originated.

The lymphatic vessels start as tubes that are closed at one end. Clusters of these tubes form **lymph capillaries**, which are distributed throughout most of the body (except the nervous system).

The lymph from these vessels is filtered by the lymph nodes, which are gland-like structures found inside the lymphatic vessels. This filtering process helps to fight infection.

The primary functions of the lymphatic system are to:

- Carry nourishment from the blood to the body cells.
- Act as a defense against toxins and invading bacteria.
- Remove waste material from the body cells to the blood.
- Provide a suitable fluid environment for the cells.



▲ **Figure 6–22** Arteries of the lower leg and foot.

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## ■ THE ENDOCRINE SYSTEM

The **endocrine** (EN-duh-krin) **system** is a group of specialized glands that affect the growth, development, sexual activities, and health of the entire body.

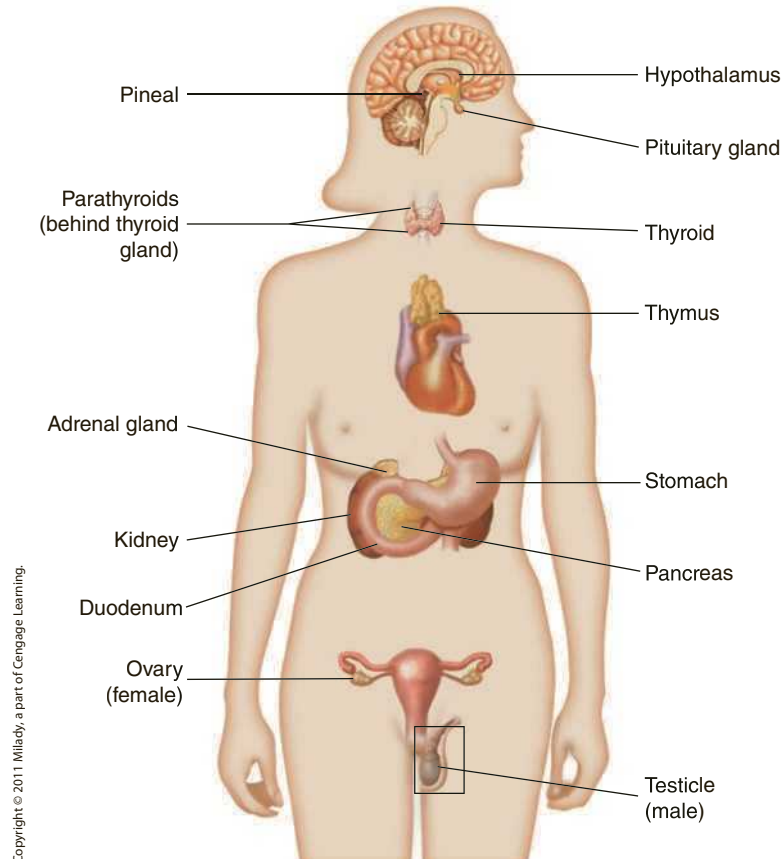
**Glands** are specialized organs that remove certain elements from the blood to convert them into new compounds. There are two main types of glands.

- **Exocrine glands** (EK-suh-krin GLANDZ), or **duct glands**, produce a substance that travels through small, tube-like ducts. Sweat and oil glands of the skin belong to this group.
- **Endocrine glands** or **ductless glands**, such as the thyroid and pituitary glands, release secretions called **hormone** (HOR-mohnz) directly into the bloodstream, which, in turn, influence the welfare of the entire body. Hormones, such as insulin, adrenaline, and estrogen, stimulate functional activity or secretion in other parts of the body.

Here is a list of the endocrine glands (**Figure 6–23**) and their functions.

- The **pineal gland** (PY-nee-ul GLAND) plays a major role in sexual development, sleep, and metabolism.
- The **pituitary gland** (puh-TOO-uh-tair-ee GLAND) is the most complex organ of endocrine system. It affects almost every physiologic process of the body: growth, blood pressure, contractions during childbirth, breast milk production, sex organ functions in both women and men, and thyroid gland function, the conversion of food into energy (metabolism).

► **Figure 6–23** The endocrine glands.





- The **thyroid gland** (THY-royd GLAND) controls how quickly the body burns energy (metabolism), makes proteins, and how sensitive the body should be to other hormones.
- The **parathyroid glands** (payr-uh-THY-royd GLANDZ) regulate blood calcium and phosphorus levels so that the nervous and muscular systems can function properly.
- The **pancreas** (PANG-kree-us) secretes enzyme-producing cells that are responsible for digesting carbohydrates, proteins, and fats. The islet of Langerhans cells within the pancreas control insulin and glucagon production.
- The **adrenal glands** (uh-DREEN-ul GLANDZ) secrete about 30 steroid hormones and control metabolic processes of the body, including the flight-or-flight response.
- The **ovaries** and **testes** function in sexual reproduction as well as determining male and female sexual characteristics.

## Did You Know?

If you consider the tremendous influence the endocrine glands and the hormones they secrete have over the body, you'll see that they are just as important to us as our brains.

## ■ THE DIGESTIVE SYSTEM

The **digestive system** (dy-JES-tiv SIS-tum), also called the **gastrointestinal** (gas-troh-in-TES-tunul) **system**, is responsible for breaking down food into nutrients and waste.

**Digestive enzymes** (EN-zymz) are chemicals that change certain kinds of food into a form that can be used by the body. The food, now in soluble form, is transported by the bloodstream and used by the body's cells and tissues. The entire process of digesting food that has been eaten takes about 9 hours.

## ■ THE EXCRETORY SYSTEM

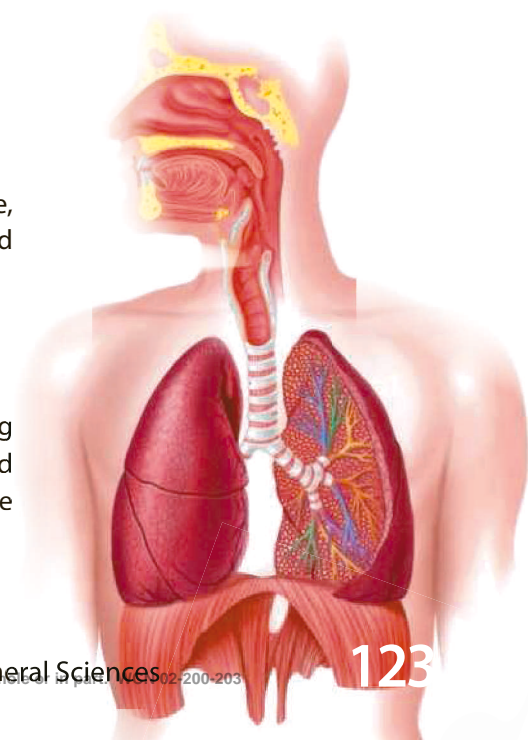
The **excretory system** (EK-skre-tor-ee SIS-tum) is responsible for purifying the body by eliminating waste matter. The metabolism of body cells forms toxic substances that, if retained, could poison the body.

Each of the following organs plays a crucial role in the excretory system:

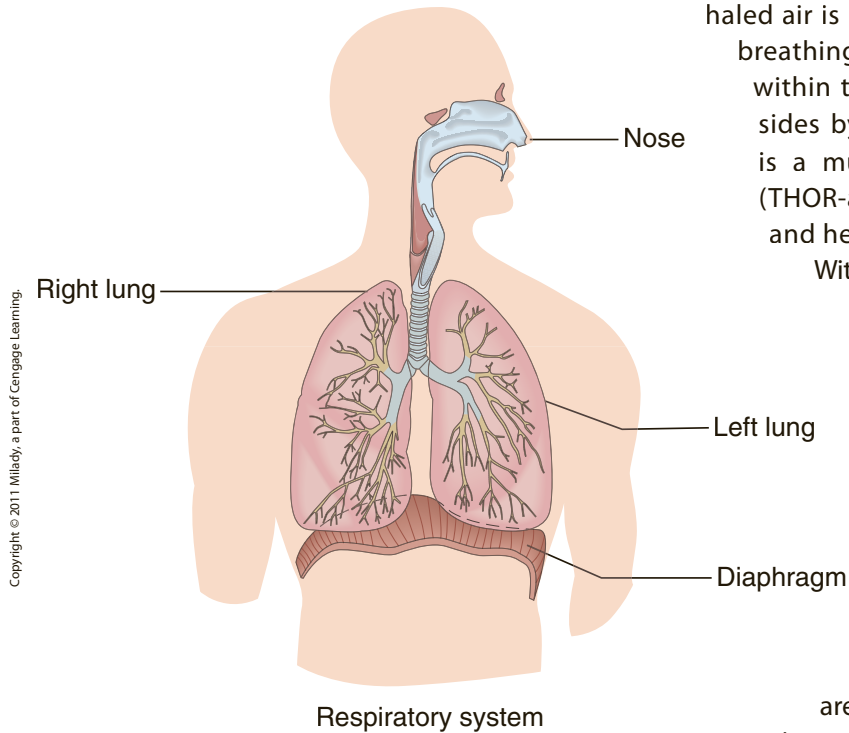
- The kidneys excrete waste containing urine.
- The liver discharges waste containing bile.
- The skin eliminates waste containing perspiration.
- The large intestine eliminates decomposed and undigested food.
- The lungs exhale carbon dioxide and other gases, such as formaldehyde, which is a normal by-product of metabolism that the body uses to build other important substances.

## ■ THE RESPIRATORY SYSTEM

The **respiratory system** (RES-puh-ra-tor-ee SIS-tum) enables breathing (**respiration**, the exchange of carbon dioxide and oxygen in the lungs and within each cell) and consists of the lungs and air passages. The **lungs** are



▼ **Figure 6–24** Respiratory system.



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spongy tissues composed of microscopic cells in which inhaled air is exchanged for carbon dioxide during one breathing cycle. The respiratory system is located within the chest cavity and is protected on both sides by the ribs. The **diaphragm** (DY-uh-fram) is a muscular wall that separates the **thorax** (THOR-aks), or chest, from the abdominal region and helps control breathing (**Figure 6–24**).

With each breathing cycle, an exchange of gases takes place. For instance, during **inhalation** (in-huh-LAY-shun), or breathing in through the nose or mouth, oxygen is passed into the blood. During **exhalation** (eks-huh-LAY-shun), or breathing outward, carbon dioxide (collected from the blood) is expelled from the lungs.

Oxygen is more essential than either food or water. Although people may survive for more than 60 days without food, and several days without water, if they are deprived of oxygen, they will die within minutes.

## Did You Know?

The world record for holding one's breath is 19 minutes and 21 seconds, set by Peter Colat of Switzerland in 2009.

## ■ THE INTEGUMENTARY SYSTEM

The **integumentary system** (in-TEG-yuh-ment-uh-ree SIS-tum) is made up of the skin and its various accessory organs, such as the oil and sweat glands, sensory receptors, hair, and nails. (Skin structure and growth are discussed in detail in Chapter 7.)

## ■ THE REPRODUCTIVE SYSTEM

The **reproductive system** (ree-proh-DUK-tiv SIS-tum) performs the function of reproducing and perpetuating the human race. Although important to the perpetuation of the species, it is not of major importance to the nail tech.

## ■ Review Questions

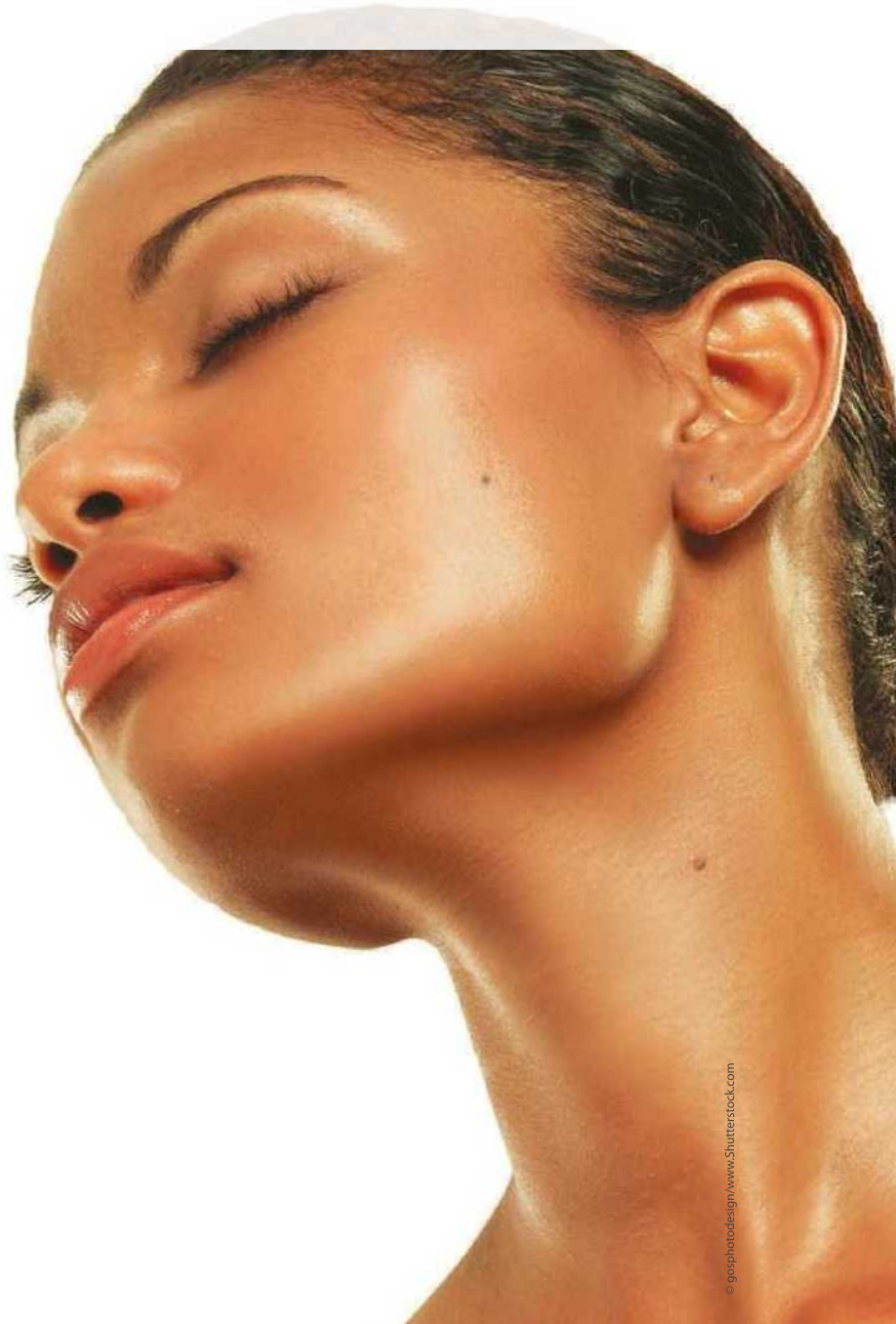
1. Why is the study of anatomy, physiology, and histology important to the nail technician?
2. Define anatomy, physiology, and histology.
3. Name and describe the three basic structures of a cell.
4. Define metabolism and list the two phases of cell metabolism and their purpose.
5. List and describe the functions of the four types of tissue found in the human body.
6. What are organs?
7. List and describe the functions of the main organs found in the body.
8. Name the 11 body systems and their main functions.
9. List the primary functions of the skeletal system.
10. Name and describe the three types of muscular tissue found in the body.
11. Name and describe the types of nerves found in the body and how they react.
12. Name and briefly describe the three types of blood vessels found in the body.
13. List and describe the composition of blood.
14. Name and discuss the two main types of glands found in the human body.
15. List the organs of the excretory system and their functions.

# 7

# Skin Structure, Growth, and Nutrition

## Chapter Outline

- Why Study Skin Structure, Growth, and Nutrition?
- Anatomy of the Skin
- Maintaining Skin Health
- Aging of the Skin
- Disorders of the Skin
- Preventing Skin Problems in the Salon



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# Learning Objectives


After completing this chapter, you will be able to:

- ✓ **LO1** Describe the structure and composition of the skin.
- ✓ **LO2** List the functions of the skin.
- ✓ **LO3** Describe how to maintain skin health and why it is important.
- ✓ **LO4** Describe the aging process and the factors that influence aging of the skin.
- ✓ **LO5** Define important terms relating to skin disorders and list which skin disorders may be handled in the salon, and which should be referred to a physician.
- ✓ **LO6** Explain ways to prevent skin problems from occurring as a result of salon products or services.

## Key Terms

Page number indicates where in the chapter the term is used.

<b>acne papule</b> / 134	<b>dermatitis</b> / 142	<b>melanin</b> / 132	<b>stratum germinativum</b> / 129
<b>adipose tissue</b> / 131	<b>dermatologist</b> / 128	<b>melanocytes</b> / 129	<b>stratum granulosum</b> / 129
<b>adverse skin reaction</b> / 139	<b>dermatology</b> / 128	<b>miliaria rubra</b> / 142	<b>stratum lucidum</b> / 129
<b>albinism</b> / 143	<b>dermis</b> / 129	<b>mole</b> / 144	<b>stratum spinosum</b> / 129
<b>allergic contact dermatitis</b> / 146	<b>eczema</b> / 142	<b>motor nerve fibers</b> / 131	<b>subcutaneous tissue</b> / 131
<b>anhidrosis</b> / 142	<b>elastin</b> / 133	<b>nevus</b> / 143	<b>subcutis tissue</b> / 131
<b>arrector pili muscles</b> / 130	<b>epidermis</b> / 129	<b>overexposure</b> / 146	<b>sudoriferous glands</b> / 133
<b>basal cell carcinoma</b> / 144	<b>esthetician</b> / 138	<b>papillary layer</b> / 130	<b>sweat glands</b> / 133
<b>basal cell layer</b> / 129	<b>excoriation</b> / 141	<b>papule</b> / 141	<b>tactile corpuscles</b> / 130
<b>bromhidrosis</b> / 142	<b>fissure</b> / 141	<b>psoriasis</b> / 143	<b>tan</b> / 144
<b>bulla (plural: bullae)</b> / 141	<b>hematoma</b> / 142	<b>pustule</b> / 141	<b>telangiectasias</b> / 139
<b>callus</b> / 129	<b>histamines</b> / 149	<b>reticular layer</b> / 130	<b>tubercle</b> / 141
<b>chloasma</b> / 143	<b>hyperhidrosis</b> / 142	<b>scale</b> / 141	<b>tumor</b> / 141
<b>cicatrix</b> / 141	<b>hypertrophy</b> / 144	<b>scar</b> / 141	<b>ulcer</b> / 142
<b>collagen</b> / 132	<b>initiator</b> / 147	<b>sebaceous glands</b> / 133	<b>ultraviolet energy</b> / 129
<b>comedo (plural: comedones)</b> / 134	<b>irritant contact dermatitis</b> / 146	<b>secretory coil</b> / 133	<b>verruca</b> / 144
<b>contact dermatitis</b> / 146	<b>keloid</b> / 141	<b>secretory nerve fibers</b> / 131	<b>vesicle</b> / 141
<b>corium</b> / 129	<b>keratin</b> / 129	<b>sensitization</b> / 146	<b>vitamin A</b> / 135
<b>crust</b> / 141	<b>keratoma</b> / 144	<b>sensory nerve fibers</b> / 131	<b>vitamin C</b> / 136
<b>cutis</b> / 129	<b>lentigenes</b> / 143	<b>skin tag</b> / 144	<b>vitamin D</b> / 136
<b>cyst</b> / 141	<b>lesion</b> / 140	<b>squamous cell carcinoma</b> / 144	<b>vitamin E</b> / 136
<b>derma</b> / 129	<b>leukoderma</b> / 143	<b>stain</b> / 143	<b>vitaligo</b> / 144
	<b>macule (plural: maculae)</b> / 141	<b>stratum corneum</b> / 129	<b>wheal</b> / 141
	<b>malignant melanoma</b> / 145		



Clear, glowing skin is one of today's most important hallmarks of beauty. With all the latest high-performance ingredients and state-of-the-art delivery systems, twenty-first century skin care has entered the realm of high technology, with products and services that truly help protect and preserve the health and beauty of the skin.

No matter how advanced the latest skin care technology may be, knowing how to care for skin begins with an understanding of its underlying structure and basic needs. As a nail technician, you also must recognize adverse conditions—including irritated or inflamed skin conditions, diseases, and infectious skin disorders—so these clients can be referred to a medical professional for treatment, if needed.

## WHY STUDY SKIN STRUCTURE, GROWTH, AND NUTRITION?

As a nail professional, an overview of skin structure, growth, and nutrition is important for you to:

- ▶ Understand the skin and how it normally functions when healthy.
- ▶ Recognize unhealthy conditions that should be referred to a physician.

## ANATOMY OF THE SKIN

The medical branch of science that deals with the study of skin—its nature, structure, functions, diseases, and treatment—is called **dermatology**.

A **dermatologist** is a physician engaged in the practice of treating the skin, its structures, functions, and diseases. Nail technicians can provide cleansing, preservation of health, and beautification of the skin on the hands, arms (below the elbow), feet, and legs (below the knee). They are not allowed to diagnose, prescribe, or provide any type of treatments nor should they ever recommend any treatments for abnormal conditions, illnesses, or diseases: to do so is a violation of federal law. For example, telling a client that he or she has a nail fungus and should use product X to get rid of it is an example of how a nail technician might improperly diagnosis and prescribe treatment for a medical condition. Instead, nail technicians should explain to the client that he or she appears to have an unhealthy nail condition that should be examined by a family doctor before any services can be provided and ask for written clearance from a doctor indicating the condition is not contagious and will not infect your other clients. The skin is the largest organ of the body. If the skin of an average adult were stretched out, it would cover over 3,000 square inches and weigh about 6 to 9 pounds. Our skin protects the network of muscles, bones, nerves, blood vessels, and everything else inside our bodies. It is our only barrier against the environment. The skin located under our eyes and around the eyelids is the thinnest skin of the body; the skin on the palms of our hands and soles of our feet is the thickest.

Healthy skin is slightly moist, soft, and flexible with a texture (feel and appearance) that ideally is smooth and fine-grained. The surface of healthy skin is slightly acidic and its immune responses react quickly to microscopic organisms that touch or try to enter it. Appendages of the skin include hair, nails, and sweat and oil glands.

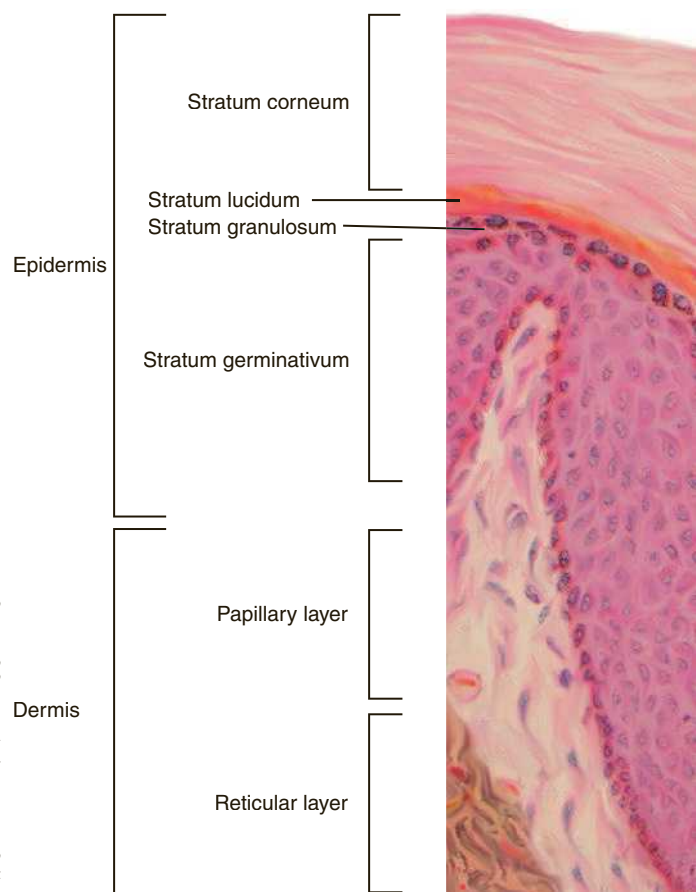
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Continued, repeated pressure on any part of the skin can cause it to thicken and develop into a **callus**, which is a very important and much-needed protective layer that prevents damage to the underlying skin; this layer should never be completely removed, since this can lead to injury and possible infection. The skin is composed of two main divisions: the epidermis and dermis (**Figure 7-1**).

The **epidermis** (ep-uh-DUR-mis) is the outermost and thinnest layer of the skin. It contains no blood vessels but has many small nerve endings. The epidermis is made up of the layers discussed below.

- The **basal cell layer**, also referred to as the **stratum germinativum** (jer-mih-nah-TIV-um), is the deepest layer of the epidermis. It is composed of several layers of differently shaped cells. It is the living layer of the epidermis: it produces new epidermal skin cells and is responsible for the growth of the epidermis.
- The spiny layer, also referred to as the **stratum spinosum**, is just above the basal cell layer. The spiny layer is where the process of skin cell shedding begins.
- The **stratum granulosum** (gran-yoo-LOH-sum), or granular layer, consists of cells that look like small, distinct granules. These cells are dying as they are pushed to the surface and will eventually replace dead cells as they are shed from the skin surface layer.
- The **stratum lucidum** (LOO-sih-dum) is the clear, transparent layer just under the skin surface; it consists of small cells through which light can pass.
- The **stratum corneum** (STRAT-um KOR-nee-um), or horny layer, is the outer layer of the epidermis. The corneum is the layer we see when we look at the skin and the layer cared for by salon products and services. Its scale-like cells are continually being shed and replaced by cells that are constantly rising to the surface from underneath. These cells contain significant amounts of **keratin**, a fibrous protein that is also the principal component of hair and nails. The cells combine with lipids or fats produced by the skin to help make the outer layer of the skin both protective and water-resistant.
- The stratum germinativum has special column-shaped cells that produce other cells called **melanocytes** (muh-LAN-uh-syts); these cells produce a dark skin pigment, called melanin, which helps to protect the sensitive cells in the dermis below from the potentially destructive effects of excessive exposure to **ultraviolet energy** of the sun or ultraviolet “tanning” lamps. The type of melanin produced also determines skin color.

The **dermis** (DUR-mis) is the underlying or inner layer of the skin. It is also called the **derma corium** (KOH-ree-um), or **cutis** (KYOU-tis). This highly sensitive layer of connective tissue is about 25 times thicker than the epidermis. Within its structure, there are numerous blood vessels, lymph vessels, nerves,



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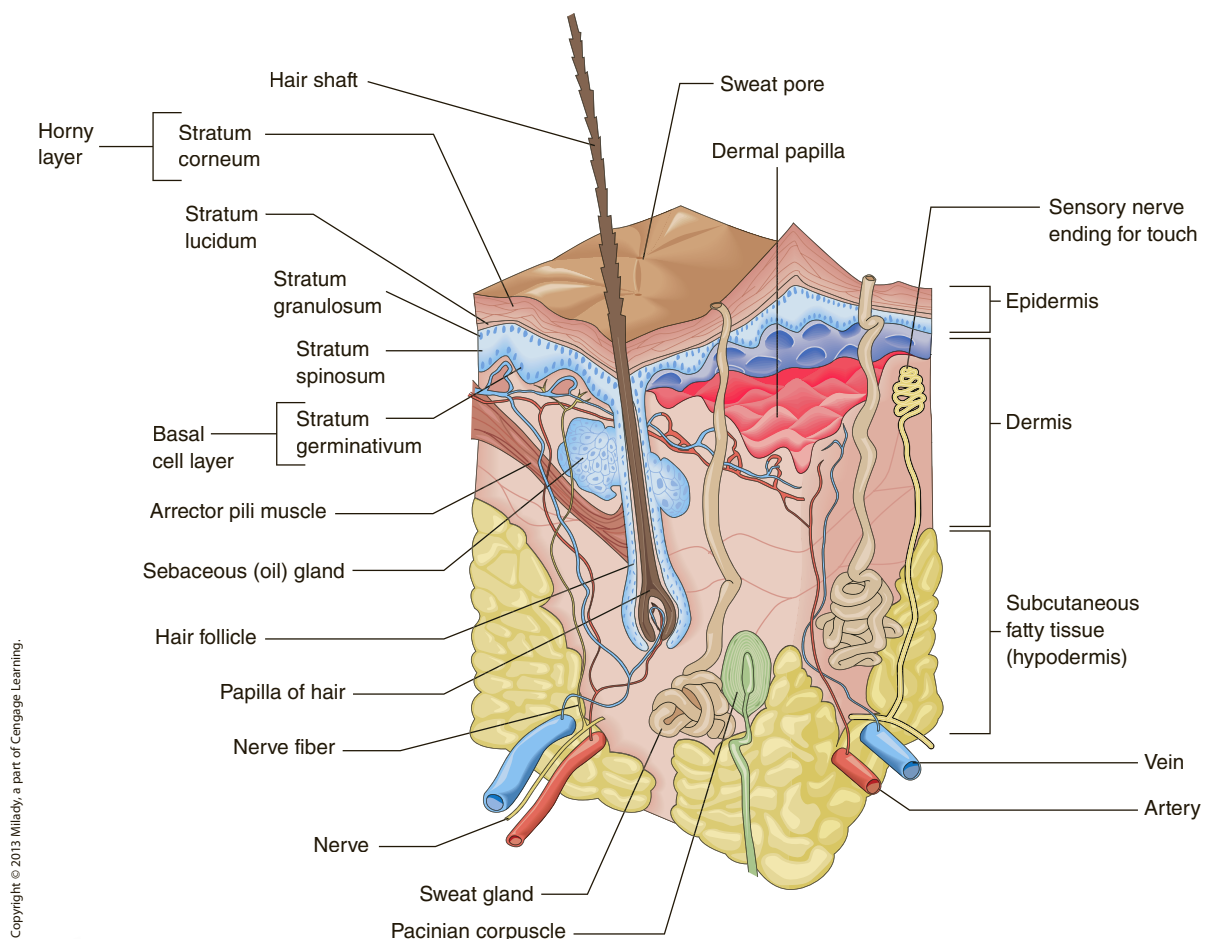
▲ **Figure 7-1** Layers of the skin.

## Did You Know?

A callus is nature's way of protecting the skin from damage and infection. Nail technicians can smooth a callus but should never completely remove it. The complete removal of a callus is a medical procedure that should never be performed in the salon. Although rare, several clients have died because of improper removal of calluses by nail technicians, which resulted in serious infection.

sweat glands, oil glands, and hair follicles as well as **arrector pili muscles** (tiny involuntary muscles at the base of the hair follicles that cause goose bumps) and papillae (small cone-shaped projections of elastic tissue that point upward into the epidermis). The dermis is made up of two layers: the papillary, or superficial layer; and the reticular, or deeper layer (**Figure 7–2**).

- The **papillary layer** (PAP-uh-lair-ee) is the outer layer of the dermis, directly beneath the epidermis. Here you will find the dermal papillae (puh-PIL-eye), which are small, cone-shaped elevations at the bottom of the hair follicles. Some papillae contain looped capillaries, and others contain small epidermal structures called **tactile corpuscles** (TAK-tile KOR-pusuls), with nerve endings that are sensitive to touch and pressure. This layer also contains melanocytes, the pigment-producing cells. The top of the papillary layer where it joins the epidermis is called the epidermal–dermal junction.
- The **reticular layer** (ruh-TIK-yuh-lur) is the deeper layer of the dermis that supplies the skin with all of its oxygen and nutrients. It contains the following structures within its network:
  - Fat cells
  - Sweat glands
  - Blood vessels
  - Hair follicles



▲ **Figure 7–2** Structures of the skin.



- Lymph vessels
- Arrector pili muscles
- Oil glands
- Nerve endings

The **subcutaneous tissue** (sub-kyoo-TAY-nee-us) is a fatty layer found below the dermis. This fat tissue is also called **adipose** or **subcutis** (sub-KYOO-tis) tissue, and varies in thickness according to the age, gender, weight and general health of the individual. It gives smoothness and contour to the body, contains fats for use as energy, and also acts as a protective cushion for the skin and underlying structures.

## How the Skin Is Nourished

Blood supplies nutrients and oxygen to the skin. Nutrients are molecules from food, such as protein, carbohydrates, and fats. These nutrients are necessary for cell life, repair, and growth.

Lymph, the clear fluids of the body that resemble blood plasma but contain only water and other colorless substances, bathe the skin cells, remove toxins and other cellular waste, and have immune functions that help protect the skin and body against disease. Networks of arteries and lymph vessels in the subcutaneous tissue send their smaller branches to hair papillae, hair follicles, and skin glands. The skin cannot be nourished from the outside in; it can only get nourishment from foods that we eat.

## Nerves of the Skin

The skin is covered with surface endings of the following nerve fibers:

- **Motor nerve fibers** are distributed to the arrector pili muscles attached to the hair follicles. These muscles can cause goose bumps when a person is frightened or cold.
- **Sensory nerve fibers** react to heat, cold, touch, pressure, and pain. These sensory receptors send messages to the brain.
- **Secretory nerve fibers** are distributed to the sweat and oil glands of the skin. Secretory nerves, which are part of the autonomic nervous system, regulate the excretion of perspiration from the sweat glands and control the flow of sebum (a fatty or oily secretion of the sebaceous glands) to the surface of the skin.



## Activity

Next time you're smoothing a callus, pay close attention. You'll come to a point where a thin layer of protective callus skin is all that remains. That's the time to stop removing additional layers of the callus. Check yourself to ensure that a thin, protective layer of callus skin remains to prevent blisters, skin damage, and possibly infection. If the area feels like soft, new skin, you have removed too much and may have put your client at risk of harmful infections.

# Did You Know?

The nail bed contains only pressure-related nerve endings and therefore, is not very sensitive to heat or temperatures below 115° Fahrenheit (46° Celsius). Above this temperature, the pressure-related nerve endings will be activated. Therefore, clients usually won't feel painful heat on the nail bed until the temperature rises to the point at which damage to this tissue can occur.

## Sense of Touch

The papillary layer of the dermis houses the nerve endings that provide the body with the sense of touch. These nerve endings register basic sensations, such as touch, pain, heat, cold, and pressure. Nerve endings are most abundant in the fingertips, where they are needed most. Complex sensations, such as vibrations, seem to depend on the sensitivity of a combination of these nerve endings.

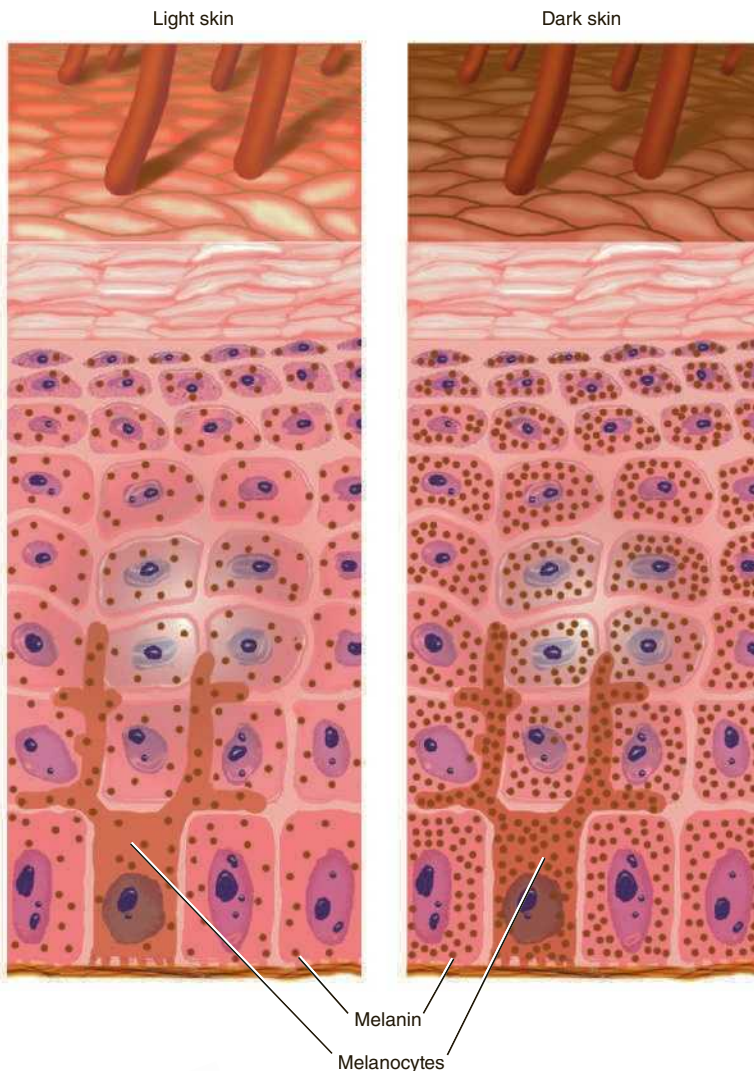
## Skin Color

The color of the skin—whether fair, medium, or dark—depends primarily on **melanin**, the tiny grains of pigment (coloring matter) deposited into cells in the basal cell layer of the epidermis and the papillary layers of the dermis. The color of the skin is a hereditary trait and varies among races and nationalities. Genes determine the amount and type of pigment produced in an individual.

The body produces two types of melanin: *pheomelanin*, which is red to yellow in color, and *eumelanin*, which is dark brown to black. People with light-colored skin mostly produce pheomelanin, while those with dark-colored skin mostly produce eumelanin. In addition, individuals differ in the size of melanin

particles which can create variations in skin shade.

Melanin helps to protect sensitive cells against excessive UV exposure, but that's not all that is needed to prevent skin damage. Daily use of a sunscreen with a sun protection factor (SPF) of 15 up to 50 can help the melanin in the skin protect it from burning and from receiving damage that can lead to skin cancer or premature aging. Sunscreen products with SPF values less than 15 may help prevent sunburn but will not help prevent skin cancer or premature aging. Sunscreens with SPF above 50 are no more effective at blocking UV, so they are unnecessary to use (**Figure 7-3**).



**Figure 7-3** Melanocytes in the epidermis produce melanin.

## Strength and Flexibility of the Skin

The skin gets its strength, form, and flexibility from two specific structures composed of flexible protein fibers found within the dermis. These two structures, which make up 70 percent of the dermis, are called collagen and elastin.

**Collagen** is a fibrous protein that gives the skin form and strength. This fiber makes up a large portion of the dermis and helps give structural support to the skin by holding together all the structures found in this layer.

When collagen fibers are healthy, they allow the skin to stretch and contract as necessary. If collagen fibers become weakened due to age, a lack of moisture, environmental damage such as sun tanning, routine unprotected sun exposure, or frequent changes in weight, the skin will begin to lose its tone and suppleness. Wrinkles and sagging are often the result of collagen fibers losing their strength.

Collagen fibers are interwoven with **elastin**, a protein similar to collagen that forms elastic tissue. This fiber gives the skin its flexibility and elasticity. Elastin helps the skin regain its shape, even after being repeatedly stretched or expanded.

Both of these fibers are important to the overall health and appearance of the skin. As we age, these fibers weaken, which results in a loss of elasticity to create skin sagging.

A majority of scientists now believe that most signs of skin aging under the age of 50 are caused by previous sun exposure. Keeping the skin healthy, protected, moisturized, and free of disease will slow the weakening process and help keep the skin looking young longer.

## Glands of the Skin

The skin contains two types of duct glands that extract materials from the blood to form new substances: the **sudoriferous glands** (sood-uh-RIF-uh-rus) or **sweat glands**, and the **sebaceous glands** (seh-BAY-shus) or oil glands (**Figure 7-4**).

### Sudoriferous (Sweat) Glands

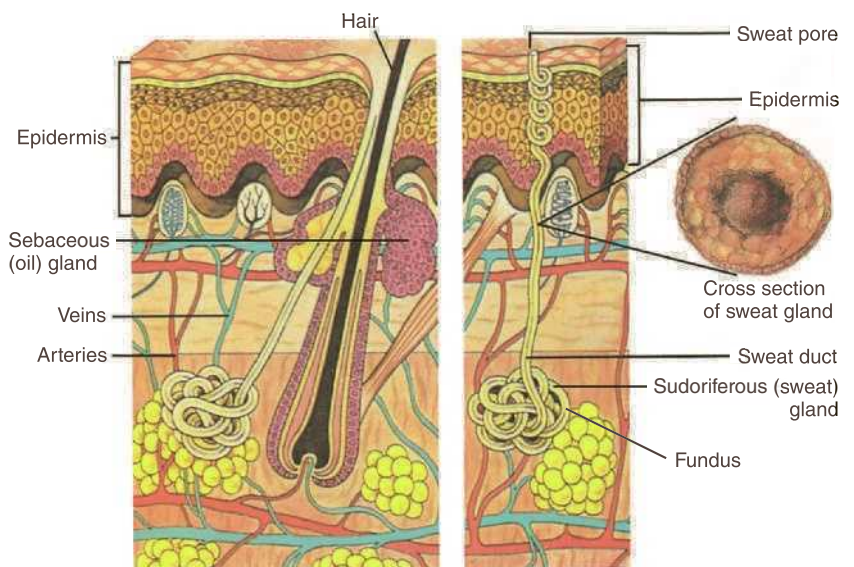
The sudoriferous or sweat glands, which excrete sweat from the skin, consist of a coiled base, or **secretory coil**, and a tube-like duct that opens at the surface of the skin to form the sweat pore. Practically all the parts of the body are supplied with sweat glands, but they are much more numerous on the palms, soles, and forehead and in the armpits.

The sweat glands regulate body temperature and help to eliminate waste products from the body. The evaporation of sweat cools the skin surface. The activity of these glands is greatly increased by heat, exercise, emotions, and certain drugs.

The excretion of sweat is controlled by the nervous system. Normally, one to two pints of liquids containing salts are eliminated daily through sweat pores in the skin.

### Sebaceous (Oil) Glands

The sebaceous or oil glands of the skin are connected to the hair follicles. They consist of little sacs with ducts that open into the follicles. These glands secrete sebum, a fatty or oily secretion that lubricates the skin and preserves the softness of the hair. Sebum is made up of about 25 percent squalene. Squalene is an excellent moisturizer and lubricant that replenishes skin lipids while softening and smoothing. Squalene helps maintain the skin in good condition and is



▲ **Figure 7-4** Sweat gland and oil production.



also a major component of olive oil. With the exception of the palms and soles, these glands are found in all parts of the body, particularly in the face and scalp, where they are larger.

Ordinarily, sebum flows through the oil ducts leading to the mouths of the hair follicles. However, when the sebum hardens and the duct becomes clogged, a pore impaction or **comedo** (plural: comedones), a hair follicle filled with keratin and sebum, is formed, which may lead to an **acne papule** or **pustule**. Acne is a skin disorder characterized by chronic inflammation of the sebaceous glands from retained secretions and bacteria. **LO1**

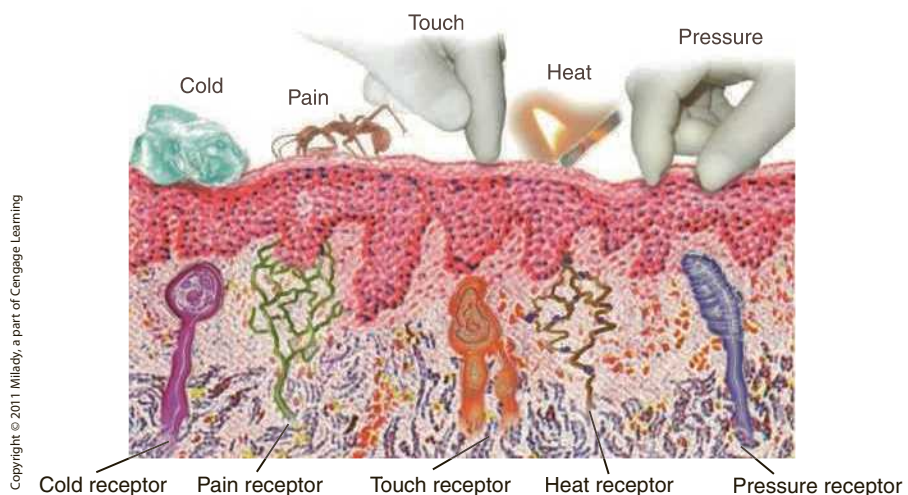
## Functions of the Skin

The principal functions of the skin are protection, sensation, heat regulation, excretion, and secretion.

**Protection.** The skin is a highly efficient barrier that protects the body from injury and bacterial, fungal, or viral invasion or absorption of harmful substances. The outermost layer of the epidermis is covered with a thin layer of sebum and fatty lipids between the cells produced through the cell renewal process, which help to make it chemical and water-resistant. When healthy and intact, this outermost layer is resistant to wide variations in temperature, minor injuries, chemical substances, and potentially infectious microorganisms. It is a myth that cosmetics absorb past the epidermis. The epidermis prevents absorption of a very large majority of what comes in contact with the surface of the skin, including cosmetics ingredients. Only traces of certain substances can make it past this effective barrier.

**Sensation.** By stimulating different types of sensory nerve endings, the skin can respond to heat, cold, touch, pressure, and pain. When stimulated, nerve endings send messages to the brain. You respond by saying, "Ouch," if you feel pain, by scratching an itch, or by pulling away when you touch something hot. Some sensory nerve endings are located near hair follicles (**Figure 7-5**).

► **Figure 7-5** Sensory nerve endings in the skin.



**Heat Regulation.** The skin protects the body from the environment while helping to maintain a constant internal temperature of about 98.6 degrees Fahrenheit (37 degrees Celsius). As changes occur in the outside temperature, the blood and sweat glands of the skin help maintain a constant body temperature by making the necessary adjustments, for example, allowing the body to be cooled by the evaporation of sweat.

**Excretion.** Perspiration from the sweat glands is excreted through the skin. Water lost through perspiration also removes salt and other chemical substances.

**Secretion.** Sebum is an oil secreted by the sebaceous glands. This oil lubricates the skin, keeping it soft and pliable. Sebum also helps keep hair soft, shiny, and in good condition. Emotional stress and hormone imbalances can increase the flow of sebum and can sometimes become excessive.

It is a myth that any significant amount of cosmetic ingredients can penetrate the skin. Absorption past the epidermis is limited to very few substances and only in tiny amounts. Very small amounts of some substances may be absorbed between the skin cells and through the hair follicles and sebaceous gland openings. Even so, cosmetic products are designed to not penetrate past the epidermis, making the skin a barrier to absorption. **LO2**

## ■ MAINTAINING SKIN HEALTH

For your own benefit, as well as the benefit of your clients, you should have a basic understanding of how best to maintain healthy skin. To keep the skin and the body healthy, the adage “You are what you eat” still holds true. Proper dietary choices help to regulate hydration (maintaining a healthy level of water in the body), oil production, and proper functioning of the cells. Eating foods found in all three basic food groups—fats, carbohydrates, and proteins—is the best way to support the health of the skin.

## Vitamins and Dietary Supplements

Vitamins play an important role in the skin’s health, often aiding in healing, softening, and fighting diseases of the skin. Vitamins such as A, C, D, and E have all been shown to have positive effects on the skin’s health when taken internally. Although experts agree that taking vitamins internally is still the best way to support the health of the skin, external applications have only limited value when applied to the skin. Vitamins are nutritional supplements, not cosmetic ingredients. In fact, the law prohibits manufacturers from claiming that any cosmetic has nutritional value. It is best when vitamins come from foods and not from supplements. Vitamin supplements can play a role in healthy living but are a poor substitute for a proper and healthy diet. The ingestion of vitamins may help the skin in significant ways if a deficiency exists, but even so, it’s best to get your vitamins from a balanced diet, not pills:

- **Vitamin A** supports the overall health of the skin and aids in the health, function, and repair





of skin cells. It has been shown to improve the skin's elasticity and thickness. Some common sources are milk, eggs, chicken, and fish.

- **Vitamin C** is an important substance needed for proper repair of the skin and various tissues. This vitamin aids in, and even speeds up, the healing processes of the body. Vitamin C is also vitally important in fighting the aging process and promotes the production of collagen in the skin's dermal tissues, keeping the skin healthy and firm. Some common sources are strawberries, oranges, peas, and broccoli.
- **Vitamin D** enables the body to properly absorb and use calcium, the element needed for proper bone development and maintenance. Vitamin D also promotes healthy, rapid healing of the skin. Some common sources are oily fish and dairy products.
- **Vitamin E** helps protect the skin from the harmful effects of the sun's rays. Some common sources are avocados, tomatoes, spinach, salmon, and blackberries.

All the nutrients that the body needs for proper functioning and survival must come primarily from the foods we eat, which is why a balanced diet is so important. If a person's daily food consumption is lacking in nutrients, he or she should eat better and not rely on vitamins and mineral supplements. Vitamins are supplements: they cannot make up for poor nutrition or unhealthy eating.

Clients will occasionally ask you about nutrition and their skin. While it is important that the nail professional know the basics of nutrition, nail technicians are not registered dietitians and should never give nutritional advice. Instead, refer the client to a registered dietician.

## Water and the Skin

Our bodies are mostly water: it is an essential item that no person can live without. To function properly, the body and skin both rely heavily on the benefits of water. Water composes approximately 60 percent of our body's total weight.

Research suggests that the benefits of water on human health and functioning are many:

- Even mild dehydration will slow metabolism by as much as 3 percent.
- Drinking lots of water can help stop hunger pangs for many dieters.
- Cracked skin on the feet and lips are often early warning signs of dehydration.
- Lack of water is a principal cause of daytime fatigue.
- A 2 percent drop in body water can trigger fuzzy short-term memory and trouble with basic math and may cause difficulty focusing on a computer screen or printed page.
- Much of the water that a body needs can come from many sources, including foods and drink.
- Drinking excessive amounts of water can lead to a potentially dangerous condition called hyperhydrosis.

Drinking clean water is essential to the health of the skin and body because it sustains the health of the cells, aids in the elimination of toxins and other waste, helps regulate the body's temperature, and aids in proper digestion. All these functions, when performed properly, help keep the skin healthy, vital, and attractive.

The amount of water needed by an individual varies, depending on body weight and the level of daily physical activity (**Figure 7–6**). There is no magic formula that tells us how much water we should drink every day; however, fortunately, the brain is always on the lookout to keep us healthy and will let us know that we feel thirsty long before our bodies become dehydrated. According to recommendations from the Mayo Clinic, women in general should consume approximately 9 cups of water per day, and men should drink 12 cups. This water can come from any type of beverage, including juices, tea, coffee, and many foods. It can be dangerous to consume large quantities of water over a short period, so be sure not to drink too much water. A condition called water intoxication can occur when too much water is consumed in a short period, causing tissues to suddenly swell with excess fluid. This is very rare, and usually occurs only in infants under 6 months of age and sometimes in athletes who have been sweating heavily. **LO3**



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▲ **Figure 7–6** Water is essential for human skin.

## ■ AGING OF THE SKIN

Aging of the skin is a process that takes many years and can be influenced by many different factors. One does not necessarily age as one's parents have.

Many outside factors such as the sun, environment, health habits, getting enough sleep and exercise, and maintaining a healthy lifestyle greatly influence the signs of skin aging to a large extent; it has been estimated that heredity may be responsible for only 15 percent of the factors that determine how skin ages.

## The Sun and Its Effects

The sun and its ultraviolet (UV) energy have the greatest negative impact on how our skin ages. Approximately 80 to 85 percent of our skin's aging is caused by the sun. As we age, the collagen and elastin fibers of the skin naturally weaken. This weakening happens at a much faster rate when the skin is frequently exposed to ultraviolet energy without proper protection. The UV energy of the sun reaches the skin in two different forms, as UVA and UVB energy. UV is not considered to be "light," since it is not visible to the human eye; therefore, the proper term is "UV energy." UVA and UVB energy influence the skin at different levels. UVA energy is deeper penetrating than visible light and causes the skin to tan by affecting the melanocytes, the cells of the epidermis that are responsible for producing melanin—the skin pigment. UV energy can weaken the collagen and elastin fibers, causing wrinkling and sagging in the tissues. UVB energy can cause sunburns. Melanin is designed to help protect the skin from UV energy, but can be altered or destroyed by large, frequent doses of UV energy exposure. Although UVB penetration is not as deep as UVA, both are damaging to the skin and may damage the eyes as well. On a positive note, UVB energy contributes to the body's synthesis of vitamin D and other important minerals. The amount of sun exposure necessary for vitamin D synthesis is

approximately 10 minutes per day; vitamin D can also be ingested from milk or vitamin-D-fortified orange juice.

If clients seek additional professional advice on how to protect their skin from the sun, refer them to a physician or a licensed **esthetician**, a specialist in cleansing, preservation of health, and beautification of the skin and body. However, as a consultant to your clients, you may wish to advise them about the necessary precautions to take when they are exposed to the sun:

- Before going out into the sun, wear a protective moisturizer or lotion with a sunscreen of at least SPF 15 on all areas of potential exposure.
- Avoid prolonged exposure to the sun during peak hours, when UV exposure is highest. This is usually between 10 A.M. and 3 P.M.
- Sunscreen should be applied *before* going out into the sun, not after.
- Apply sunscreen liberally and as directed! Many people apply too thin of a layer to protect the skin. This is a very common problem, so take care.
- Reapply after swimming or any activities that result in heavy perspiration. If the skin is exposed to hours of sun, such as during a boat trip or a day at the beach, sunscreen should be applied periodically throughout the day as a precaution. Water-resistant sunscreens are more effective under these conditions.
- Use a broad-spectrum sunscreen that filters out both UVA and UVB energy; check the expiration dates printed on the bottle to make sure that the sunscreen has not expired.
  - Avoid exposing children younger than 6 months to direct sunlight.
  - If your skin is prone to burning easily, wear a hat, protective clothing, and high SPF sunscreens when participating in outdoor activities. Redheads and blue-eyed blondes with pale skin are particularly susceptible to sun damage.
- In addition to following the above precautions, clients should be advised to regularly see a physician specializing in dermatology for check-ups of the skin, especially if any changes in coloration, size, or shape of a mole are detected, or if the skin bleeds unexpectedly or a lesion or scrape does not heal quickly.
- Home self-examinations can be an effective way to check for signs of potential skin cancer between scheduled doctor visits. When performing a self-care exam, clients should be advised to check for any changes in existing moles and pay attention to any new visible growths on the skin.

## Skin Aging and the Environment

While sun exposure may play a major role in how the skin ages, changes in our environment also greatly influence this aging process. Pollutants in the air from factories, automobile exhaust, and even second-hand smoke can all influence the appearance and overall health of our skin. While

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certain pollutants may lead to irritation or other types of **adverse skin reactions** that affect the surface appearance of the skin, they can also adversely alter the health of the underlying cells and tissues.

The best defense against these pollutants is the simplest one: follow a good daily skin care routine. Routine washing at night helps to remove the buildup of pollutants that have settled on the skin's surface throughout the day. The application of daily moisturizers, protective lotions, and even foundation products all help to protect the skin from airborne pollutants.

## Aging and Lifestyle

Aging of the skin cannot be blamed entirely on the outside influences of the sun or wind. What we choose to put into our bodies also has a profound effect on the overall aging process. The impact of poor choices can be seen most visibly on the skin. Smoking, drinking, illicit drug use, and making poor dietary choices all greatly influence the aging process. It is the responsibility of the practitioner to be aware of how these habits affect the skin, tactfully point out the effects to clients, and refer them to a physician or licensed esthetician.

Smoking and tobacco use may not only cause cancer, but have also been linked to premature aging and wrinkling of the skin. Inhaling nicotine in tobacco causes the contraction and weakening of the blood vessels and small capillaries that supply blood to the tissues. In turn, this contraction and weakening causes decreased circulation to the tissues. Eventually, the tissues are deprived of essential oxygen, and the effect of this becomes evident on the skin's surface. The skin may appear yellowish or gray in color and can have a dull appearance. The smoke can absorb into the nail plate or artificial nail enhancement and cause yellow stains (**Figure 7-7**).

The use of illicit drugs of abuse can affect the skin as much as smoking tobacco does. Some of these drugs have been shown to interfere with the body's intake of oxygen, thus affecting healthy cell growth. Both illicit and prescribed drugs can aggravate serious skin conditions, such as acne. Others can cause dryness, hypersensitivity to sunlight, or allergic reactions on the skin's surface.

The overuse of alcohol can have an equally damaging effect on the skin. Heavy or excessive intake of alcohol can overdilute blood vessels and capillaries, which over time may weaken fragile capillary walls to cause a condition called **telangiectasias** (te-lanj-ec-tay-jas). This condition may also be caused by tobacco use, sun exposure, or other environmental factors. Both smoking and drinking contribute to the aging process on their own, but the combination of the two can be devastating to the tissues and the appearance of the skin. The constant dilation and contraction of tiny capillaries and blood vessels, which can lead to deprivation of oxygen and water to the tissues, can quickly make the skin appear lifeless and dull. It is very difficult for the skin to adjust and repair itself. Usually, the damage done by these lifestyle habits is hard to reverse or diminish.

Like any other organ of the body, the skin is susceptible to a variety of diseases, disorders, and ailments. In your work as a nail technician you will often see skin disorders, so you must be prepared to recognize certain common skin conditions and know what services you can and cannot perform on that client's skin. Skin disorders should only be treated by a physician. Any healing or medicinal preparations must be prescribed by a physician. Nail technicians must never attempt to diagnose, treat, or prescribe treatment for any abnormal conditions of the nails, skin, hands or feet. Clients with abnormal skin or nails must be referred to a physician.

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▲ **Figure 7-7** Nail damage caused by smoking.

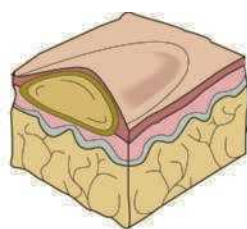
It is very important that a nail salon does not serve a client who is suffering from an open wound or visibly inflamed skin. The nail professional should be able to recognize abnormal conditions and recommend that the client see a physician to avoid more serious consequences. **LO4**

## DISORDERS OF THE SKIN

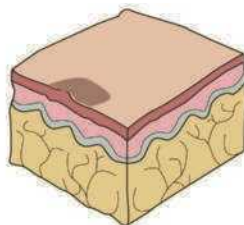
Listed below are a number of important terms relating to skin disorders that you should know.

### Skin Lesions

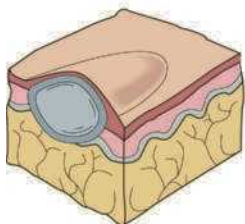
A **lesion** (LEE-zhun) is a mark on the skin. Certain lesions could indicate an injury or damage that changes the structure of tissues or organs. There are three types of lesions: primary, secondary, and tertiary. The nail technician is concerned with primary and secondary lesions only. If you are familiar with the principal skin lesions, you will be better equipped to recognize abnormal conditions that may not be treated in a salon (**Figure 7-8**).



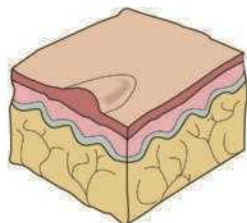
**Bulla:**  
Same as a vesicle only greater than 0.5 cm  
*Example:*  
Contact dermatitis, large second-degree burns, bulbous impetigo, pemphigus



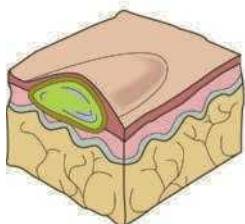
**Macule:**  
Localized changes in skin color of less than 1 cm in diameter  
*Example:*  
Freckle



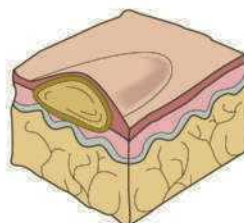
**Tubercle:**  
Solid and elevated; however, it extends deeper than papules into the dermis or subcutaneous tissues, 0.5-2 cm  
*Example:*  
Lipoma, erythema, nodosum, cyst



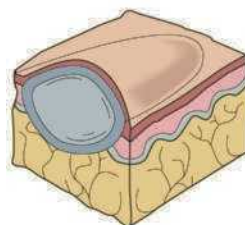
**Papule:**  
Solid, elevated lesion less than 0.5 cm in diameter  
*Example:*  
Warts, elevated nevi



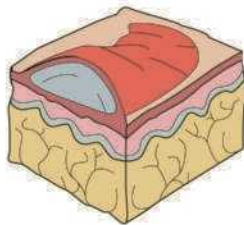
**Pustule:**  
Vesicles or bullae that become filled with pus, usually described as less than 0.5 cm in diameter  
*Example:*  
Acne, impetigo, furuncles, carbuncles, folliculitis



**Vesicle:**  
Accumulation of fluid between the upper layers of the skin; elevated mass containing serous fluid; less than 0.5 cm  
*Example:*  
Herpes simplex, herpes zoster, chickenpox



**Nodule/Tumor:**  
The same as a nodule only greater than 2 cm  
*Example:*  
Carcinoma (such as advanced breast carcinoma); **not** basal cell or squamous cell of the skin



**Wheal:**  
Localized edema in the epidermis causing irregular elevation that may be red or pale  
*Example:*  
Insect bite or a hive

▲ **Figure 7-8** Primary skin lesions.

The terms for the lesions listed below often indicate differences in the area of the skin layers affected and the size of the lesion. These disorders cannot be diagnosed by a nail technician or treated in the salon. They are presented only so that you can more easily spot abnormal conditions and know that a client who has them should be referred to a physician.

## Primary Lesions

Primary lesions are briefly summarized below:

- **Bulla** (BULL-uh) (plural: bullae). A large blister containing a watery fluid; similar to a vesicle but larger (**Figure 7-9**).
- **Cyst** (SIST). A closed, abnormally developed sac containing fluid or pus that is above or below the skin.
- **Macule** (MAK-yool) (plural: maculae) (MAK-yuh-ly). A spot or discoloration on the skin, such as a freckle. Macules are neither raised nor sunken.
- **Papule** (PAP-yool). A pimple; a small, circumscribed elevation on the skin that contains no fluid but may develop pus.
- **Pustule** (PUS-chool). An inflamed pimple containing pus (**Figure 7-10**).
- **Tubercle** (TOO-bur-kul). An abnormal, rounded, solid lump above, within, or under the skin; larger than a papule.
- **Tumor** (TOO-mur). A swelling; an abnormal cell mass resulting from excessive multiplication of cells that varies in size, shape, and color. Nodules are also referred to as tumors but are smaller bumps caused by conditions such as scar tissue, fatty deposits, or infections.
- **Vesicle** (VES-ih-kel). A small blister or sac containing clear fluid, lying within or just beneath the epidermis. Poison ivy and poison oak, for example, produce vesicles (**Figure 7-11**).
- **Wheal** (WHEEL). An itchy, swollen lesion that lasts only a few hours; caused by a blow, the bite of an insect, urticaria (skin allergy), or the sting of a nettle. Examples include hives and mosquito bites.

## Secondary Lesions

Secondary skin lesions develop in the later stages of disease (**Figure 7-12**).

These lesions include the following:

- **Crust** Dead cells that form over a wound or blemish while it is healing; an accumulation of sebum and pus, sometimes mixed with epidermal material. An example is the scab on a sore.
- **Excoriation** (ek-skor-ee-AY-shun). A skin sore or abrasion produced by scratching or scraping.
- **Fissure** (FISH-ur). A crack in the skin that penetrates the dermis, such as chapped hands or lips.
- **Keloid** (KEE-loyd). A thick scar resulting from excessive growth of fibrous tissue (**Figure 7-13**).
- **Scale** Any thin plate of epidermal flakes, dry, or oily. An example is abnormal or excessive dandruff.
- **Scar** or **cicatrix** (SIK-uh-triks). A light-colored, slightly raised mark on the skin formed after an injury or lesion of the skin has healed.



▲ **Figure 7-9** Bullae.

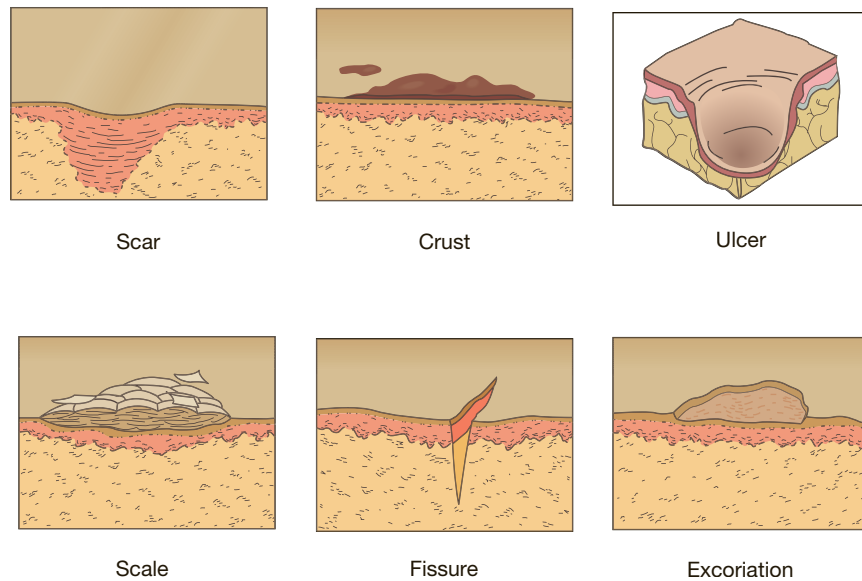


▲ **Figure 7-10** Papules and pustules.



▲ **Figure 7-11** Poison oak vesicles.

► **Figure 7-12** Secondary skin lesions.



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▲ **Figure 7-13** Keloids.

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- **Ulcer** (UL-sur). An open lesion on the skin or mucous membrane of the body, accompanied by pus and loss of skin depth.
- **Hematoma** (HEE-mah-toh-mah). A collection of blood that is trapped underneath the nail or skin. This blood can result in pain if pressure builds up between the nail plate and the nail bed; the excess blood may need to be drained by a physician.

## Disorders of the Sudoriferous (Sweat) Glands

- **Anhidrosis** (an-kih-DROH-sis). A deficiency in perspiration, often a result of fever or certain skin diseases.
- **Bromhidrosis** (broh-mih-DROH-sis). A foul-smelling perspiration, usually noticeable in the armpits or on the feet.
- **Hyperhidrosis** (hy-per-hy-DROH-sis). Excessive sweating with unknown causes. People with hyperhidrosis may sweat even when the temperature is cool or when they are at complete rest. This is a medical condition that is treatable.
- **Miliaria rubra** (mil-ee-AIR-ee-ah ROOB-rah). Prickly heat; acute inflammatory disorder of the sweat glands, characterized by the eruption of small red vesicles and accompanied by burning, itching skin. Caused by blockage of the sweat glands.

## Skin Inflammations

- **Dermatitis** (dur-muh-TY-tis). An abnormal inflammatory condition of the skin. The lesions come in various forms, such as vesicles or papules.
- **Eczema** (EG-zuh-muh). An inflammatory, painful itching disease of the skin; it is acute or chronic in nature and presents in many forms: from flakey or dry itchy skin to moist lesions. There are several different types of eczema. Eczema is not contagious and can be treated by a physician (**Figure 7-14**).



▲ **Figure 7-14** Eczema.

Photo courtesy of Centers for Disease Control and Prevention (CDC).

- **Psoriasis** (suh-RY-uh-sis). A skin disease characterized by red patches covered with silver-white scales usually found on the scalp, elbows, knees, chest, and lower back. Psoriasis is caused by the skin cells turning over faster than normal. It rarely occurs on the face. If irritated, bleeding points occur. Psoriasis can also affect the nail plates, causing them to develop surface pits, red spots on the nail bed, or other related symptoms. Psoriasis is not contagious (**Figure 7-15**).

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▲ **Figure 7-15** Psoriasis.

## Pigmentation Disorders

Pigment can be affected by internal factors such as heredity or hormonal fluctuations, or by outside factors such as prolonged exposure to the sun. Abnormal coloration accompanies every skin disorder and many systemic disorders. A change in pigmentation can also be observed when certain drugs are being taken internally. The following terms relate to changes in the pigmentation of the skin.

- **Albinism** (AL-bi-niz-em). Congenital leukoderma, or the absence of melanin pigment of the body, including the skin, hair, and eyes. Hair is silky white. The skin is pinkish white and will not tan. The eyes are pink, and the skin is sensitive to light and ages more rapidly.
- **Chloasma** (kloh-AZ-mah). A condition characterized by increased pigmentation on the skin or dark spots that are not elevated. Chloasma are incorrectly called liver spots, even though they have nothing to do with the liver. They are generally pools of melanin caused by cumulative sun exposure.
- **Lentigenes** (len-TIJ-e-neeZ) (singular: lentigo) (len-TY-goh). The technical term for freckles. Small yellow- to brown-colored spots on skin exposed to sunlight.
- **Leukoderma** (loo-koh-DUR-muh). A skin disorder characterized by light abnormal patches and caused by a burn or congenital disease that destroys the pigment-producing cells. It is classified as vitiligo and albinism (**Figure 7-16**).
- **Nevus** (NEE-vus). A small or large malformation of the skin due to abnormal pigmentation or dilated capillaries; commonly known as a birthmark.
- **Stain**. An abnormal brown or wine-colored skin discoloration with a circular and irregular shape. Its permanent color is due to the presence of darker pigment. Stains occur during aging; after certain diseases; and after the disappearance of moles, freckles, and liver spots. The cause is unknown (**Figure 7-17**).

### CAUTION:

Do not treat or remove hair from moles. Never attempt to treat any mole, skin tag, or other skin growth. These are medical procedures, and their removal is not within the scope of practice for which nail technicians are licensed.

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Photography by Joseph Schuyler.



▲ **Figure 7-16** Leukoderma.

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▲ **Figure 7-17** Port wine stain.



▲ **Figure 7-18** Vitiligo.

## Did You Know?

Clients with the following abnormal skin conditions and disorders should always be referred to a physician:

- Open wounds or red, irritated and/or inflamed skin.
- Basal cell carcinoma (a form of skin cancer).
- Squamous cell carcinoma (a form of skin cancer).
- Malignant melanoma (a serious form of skin cancer).
- Anhidrosis (a deficiency in perspiration often resulting from fever or skin disease).
- Hyperhidrosis (excessive sweating caused by heat or general body weakness).
- Eczema (an inflammatory, painful itching disease of the skin).
- Irregular mole (a mole that changes shape, color, or size).
- Verruca (an infectious wart).
- Psoriasis

- **Tan.** A change in the pigmentation of skin caused by exposure to ultra-violet energy from tanning beds or the sun.
- **Vitiligo** (vih-til-EYE-goh). Milky-white spots (leukoderma) of the skin. Vitiligo is hereditary and may be related to thyroid conditions. Skin with this condition must be carefully protected from overexposure to any source of UV energy (**Figure 7-18**).

## Hypertrophies of the Skin

A **hypertrophy** (hy-PUR-truh-fee) of the skin is an abnormal growth of the skin. Many hypertrophies are benign, or harmless.

- **Keratoma** (kair-uh-TOH-muh). An acquired and protective, superficial, thickened patch of epidermis commonly known as a callus, which is caused by pressure or friction on the hands and feet. If the thickening grows inward, it is called a corn.
- **Mole.** A small, brownish spot or blemish on the skin, ranging in color from pale tan to brown or bluish black. Some moles are small and flat, resembling freckles; others are raised and darker in color. Large dark hairs often occur in moles. Any change in a mole requires medical attention.
- **Skin tag.** A small brown or flesh-colored outgrowth of the skin. Skin tags occur most frequently on the neck of an older person. They can be easily removed by a dermatologist or qualified medical practitioner and should never be removed in the salon (**Figure 7-19**).
- **Verruca** (vuh-ROO-kuh). The technical term for wart; the hypertrophy of the papillae and epidermis. It is caused by a virus and is infectious. Verruca can spread from one location to another, particularly along a scratch in the skin.



▲ **Figure 7-19** Skin tags.

## Skin Cancer

Skin cancer—primarily caused from frequent overexposure to the sun—comes in three distinct forms, varying in severity. Each is named for the type of cells that it affects.

- **Basal cell carcinoma** (BAY-zul SEL kar-sin-OH-muh) is the most common type and the least severe. It is often characterized by light or pearly nodules (**Figure 7-20**).
- **Squamous (SKWAY-mus) cell carcinoma** is more serious than basal cell carcinoma and is often characterized by scaly red papules or nodules (**Figure 7-21**).

- **Malignant melanoma** (muh-LIG-nent mel-uh-NOH-muh), the third and most serious form of skin cancer is often characterized by black or dark brown patches on the skin that may appear uneven in texture, jagged, or raised (**Figure 7-22**).

Malignant melanomas often appear on individuals who do not receive regular sun exposure and are most commonly found on areas of the body that are not regularly exposed. This disease is referred to as the “city person’s cancer.” Malignant melanoma is the least common but most dangerous type of skin cancer.

If detected early, an individual with any of these three forms of skin cancer has a good chance for survival. It is important for a nail technician to be able to recognize the appearance of serious skin disorders in order to better serve clients. It is also important to remember that a nail technician should NEVER attempt to diagnose a skin or nail disorder or recommend treatment, but instead should ALWAYS sensitively suggest that the client seek the advice of a dermatologist or other qualified medical professional.

The American Cancer Society recommends using the ABCDE cancer checklist to help make potential skin cancer easier to recognize (**Figure 7-23**). When checking existing moles, look for changes in any of the following:

- A. Asymmetry.** One half of the mole does not match the other half.
- B. Border irregularity.** The edges of the mole are ragged or notched.
- C. Color.** The color of the mole is not the same all over. There may be shades of tan, brown, or black and sometimes even patches of red, blue, or white.
- D. Diameter.** The mole is wider than about 1/4” (although doctors are now finding melanomas that are smaller).



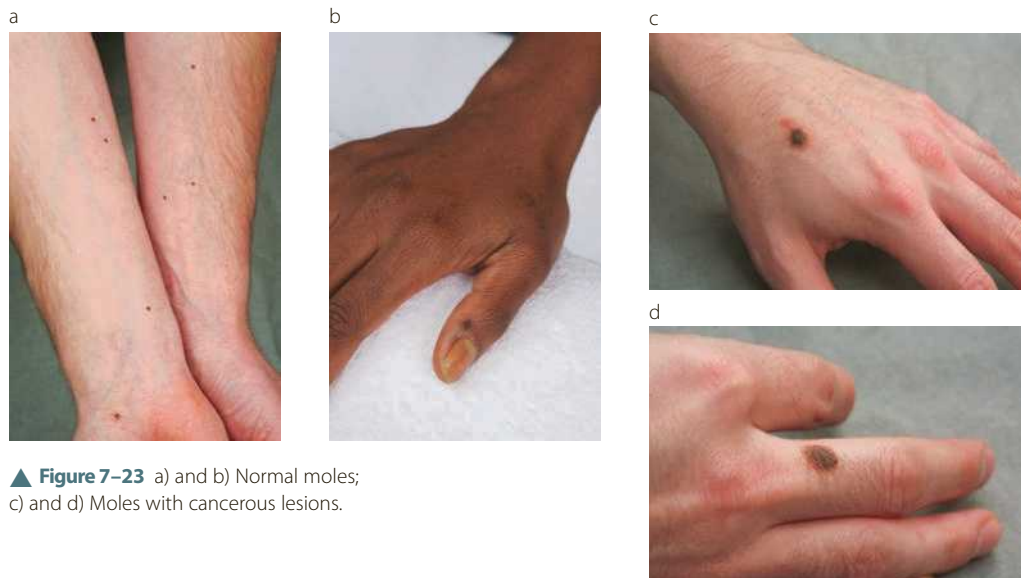
▲ **Figure 7-20** Basal cell carcinoma.



▲ **Figure 7-21** Squamous cell carcinoma.




▲ **Figure 7-22** Malignant melanoma.



▲ **Figure 7-23** a) and b) Normal moles; c) and d) Moles with cancerous lesions.

**E. Evolution.** The mole evolves or changes; it may include darkening or variations in color, it may itch or hurt; it may change in shape or growth.

If any of the above changes to a mole are noticed, refer the client to a physician for examination. For more information, contact the American Cancer Society at [www.cancer.org](http://www.cancer.org) or (800) ACS-2345.  **LOS**

## ■ PREVENTING SKIN PROBLEMS IN THE SALON

Skin problems are common in every facet of the professional salon industry. Nail, skin, and hair services can all cause problems for the sensitive client. Fortunately, the vast majority of finger nail-related problems can be easily avoided—if you understand how!

### Dermatitis

As explained above, dermatitis is a medical term for abnormal skin inflammation. There are many kinds of dermatitis, but only one is important in the salon. **Contact dermatitis** is the most common avoidable skin disease for nail technicians. Contact dermatitis is caused by touching certain substances to the skin. This type of dermatitis can be short or long term, depending on the cause. Contact dermatitis can have several causes. When the skin is irritated by a substance, it is called **irritant contact dermatitis**. It is also possible to become allergic to an ingredient in a product; this is called **allergic contact dermatitis**.

### Prolonged or Repeated Contact

The first most common reason for allergic reactions is prolonged or repeated direct skin contact. This type of skin problem does not occur overnight. Monomer liquid and polymer powder, nail wraps, and UV gels are all capable of causing allergic reactions. In general, it takes from 4 to 6 months of repeated exposure before sensitive clients show symptoms.

As a nail technician, you are also at risk. Prolonged, repeated, or long-term exposure can cause some people to become sensitive to certain ingredients found in products. This type of skin sensitization is usually caused by prolonged and/or repeated **overexposure. Sensitization** is a greatly increased or exaggerated allergic sensitivity to products. Simply touching monomer liquid or UV gels does not cause sensitivities. It usually requires months of improper handling and skin overexposure. Some likely places for skin allergies to occur are:

- Between a technician's thumb and pointer finger.
- On the nail technician's wrist, palm, or back of the hand.
- On the nail technician's face, especially the cheeks.
- On the client's eponychium, fingertips, or the sensitive tissues of the underlying nail bed.

If you examine the area where the problem occurs, you can usually determine the cause. For example, nail technicians often smooth wet nail application



brushes with their fingers. This is both prolonged and repeated contact! Eventually the area may become sore and inflamed.

The same problem occurs when technicians lay their arms on the towels contaminated with UV gel, monomer liquid and polymer powder, or filings. The palms and fingertips may be overexposed by picking up containers that have residual UV gel or monomer liquid on the outside. Small amounts of product on your hands are often transferred to the cheeks or face. Direct product contact with the skin is the cause of these facial irritations, not the vapors. Nail enhancement product vapors will not cause a skin allergy.

Touching a client's skin with any monomer liquid and polymer powder or UV gel has the same effect. This is the most common reason for client sensitivities. With each exposure during a service, the risk of skin sensitization increases; this helps explain why it is extremely important that you always leave a tiny, free margin (approximately 1/16") between the nail enhancement application and the living skin.

## Did You Know?

One of the most important rules of being a good nail technician is: *Never touch any nail enhancement product to the skin—the client's or yours.*

## Improper Product Consistency

The second most common reason for an allergy is improper product consistency. If too much monomer liquid is used, the result is an overly wet bead. Many technicians do not realize that the **initiator**—a special ingredient found in polymer powders that is needed to start the chemical reaction that causes the monomer liquid to harden or polymerize—can only harden a certain amount of the monomer liquid. Wet beads are incorrectly balanced. Beads with a consistency that is too wet will harden with some monomer liquid trapped inside. This extra monomer liquid may eventually work its way down to the nail bed and can cause an allergic reaction, especially for clients with highly damaged or overly thin nail plates. This situation also makes the fresh filings more likely to cause an allergic reaction when the nail technician's skin is exposed. It is very important to use only the polymer powders that were specifically designed to work with the monomer liquids of your choice. Using the incorrect polymer powder with your monomer liquid may result in improper curing (hardening), leading to a service breakdown and an increased risk of adverse skin reactions.

Service breakdown and an increased risk of adverse skin reactions are also problems that can occur with UV gel nail enhancements. In fact, many things can cause UV gels to improperly cure, including:

- Using a traditional or LED-style UV lamp unit not specifically designed for the chosen UV gel system.
- Applying product too thickly.
- Too short of a time under the UV lamp.
- Dirty lamps in the UV lamp unit.





- Old lamps that should be changed.
- Using a UV light unit not specifically designed for the chosen UV gel system.

What is the difference between a UV bulb and a UV lamp? A UV bulb is designed to emit the correct UV energy needed to cure UV gel nail enhancements. There are a number of different bulbs that are used to cure UV gels, e.g., 4- or 9-watt bulb and LED bulb—each emit UV energy.

A UV lamp (incorrectly referred to by some as a UV light) is a specialized electronic device that powers and controls UV lamps to cure UV gel nail enhancements. UV nail lamps may look similar at first, but there are big differences! The differences include the number and type of lamps in the unit, the distance the lamps are from the bottom of the unit where the hand is placed, the internal electronic components that cause the lamps to emit UV energy, and the overall size of the unit. These differences will all affect the curing power of the unit.

Remember that wattage is a measure of how much electricity the lamp consumes and does not indicate how much UV energy the lamps produce. Wattage is much like the measurement miles per gallon, which tells you how much gasoline it will take to drive your car a certain distance. Miles per gallon will not tell you how fast the car can go, just as wattage does not indicate how much UV energy a lamp will produce. For example, if a lamp unit has four lamps in it and each is 9 watts, then it is called a 36-watt lamp unit. Likewise, if the lamp unit only has three lamps and is also 9 watts, then it is called a 27-watt lamp unit. Wattage does not indicate how much UV energy a UV lamp unit will emit or which wavelengths of UV energy are produced, which can vary greatly. This is why it is best to always select the UV lamp unit designed for the UV gel system of your choice.

## Undercuring UV or LED Gel Enhancements

A third problem that can cause allergic reactions is undercuring the gel enhancements. Several thin coatings and longer exposures lead to the best and most complete cure. Refer to the manufacturer's instructions to determine how best to cure the UV or LED curing product of your choice and always follow these directions. UV gels are cured by a UV lamp and UV lights inside the unit (see sidebar). If the UV lights are dirty or have been used for too long, the unit may not provide enough energy to fully cure the enhancement. It is very important to always use UV lamp units that were specifically designed for the UV gel system you choose. There is no such thing as a UV lamp that works for all gel systems. If the incorrect UV or LED lamp is used, service breakdown and adverse skin reactions become much more likely. Also, if the nail technician's arm, wrist, hands, or fingers are overexposed to dusts from undercured artificial nails, the potential for developing allergic reactions becomes more likely. However, even if properly cured, it is best to avoid skin overexposure to fresh filings, since they may cause adverse skin reactions.

There are several other ways in which UV or LED gel services can cause irritation or allergic reaction including:

- The soft, goeey layer on top of gel enhancements must never come in contact with soft tissue. It is partially cured UV gel.

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- Using extra large or oversized brushes. Brushes that are too large do not save time—they cause skin exposure and may lead to allergic reactions.
- Mixing product lines or custom blending your own special mixture can also create chemical imbalances, which lead to allergic reactions. Do not take unnecessary risks. Always use products exactly as instructed and never mix your own products. If you do, do not be surprised when you or your clients develop skin problems.

It is estimated that adverse skin reactions—such as irritation or allergy—of the hands affect as much as 30 percent of all nail technicians sometime during their careers. Skin problems and allergies force many good nail technicians to give up successful careers. No one should suffer from any work-related allergy or irritation. With care, they are easily avoided.

## Allergic Contact Dermatitis

Allergy-causing substances can damage the epidermis. When the skin is damaged by an allergy-causing substance, the immune system springs into action. It floods the tissue with water, trying to dilute the irritant. This is why swelling occurs.

The body is trying to remedy the situation. The immune system also tells the blood to release chemicals, called **histamines**, which enlarge the vessels around the injury. Blood can then rush to the scene more quickly and help remove the allergy-causing substance.

You can see and feel all the extra blood under the skin. The entire area becomes red and warm and may throb. It is the histamines that cause the itchy feeling that often accompanies allergic contact dermatitis. After everything calms down, the swelling will go away. The surrounding skin is often left damaged, scaly, cracked, and dry. Unfortunately, skin allergies often are permanent, meaning once you become sensitive to a particular ingredient, you will always be sensitive, and continued exposure may increase sensitivity and lead to a worsening of the visible skin symptoms. If you can avoid repeated and/or prolonged contact with the allergy-causing substance, the symptoms may go away, but you will still be allergic to the ingredient which caused the reaction to occur.

Remember, to avoid allergies, use the following precautions when working with monomer liquids and polymer powders or UV gels:

- *Never* smooth the enhancement surface with additional liquid monomer.
- *Never* use monomer liquid to clean up the edges, under the nail, or the sidewalls.
- *Never* touch any monomer liquids, UV or LED gels, adhesives, or fresh enhancement dusts/filings to the skin.
- *Never* touch the bristles of the nail application brush with your fingers.
- *Never* mix your own special product blends.
- *Always* use a bead that has a medium consistency, never wet. Avoid using excess monomer liquid.
- *Always* follow the manufacturer's instructions exactly as they are printed!

### CAUTION:

Once a client or technician becomes allergic, things will only get worse if you continue using the same techniques. It is best to discontinue use of the products in question until you figure out what is wrong. Medications and illness do not make clients sensitive to nail products. Only prolonged and repeated contact with uncured or partially cured UV gel or monomer liquids causes these allergies.

## Irritant Contact Dermatitis

Unlike allergies, irritant contact dermatitis (irritation) can be temporary, and the damage caused to you or your clients will usually reverse itself after exposure is discontinued. Corrosives are one exception. A corrosive, such as a high-pH callus softener or alpha hydroxy acid peel, are types of irritants that can cause irreversible damage to living skin.

Surprisingly, tap water is a very common salon irritant. Hands that remain damp for long periods often become sore, cracked, and chapped. Avoiding the problem is simple. Always completely dry the hands. Regularly use moisturizing hand creams to compensate for loss of skin oils caused by hand washing.

Frequent hand washing, especially in hard water, can further irritate and damage the skin. Do not wash your hands excessively. Washing your hands more than 10 times a day can cause them to feel dry or become irritated and damaged. Cleansers, detergents, and hand sanitizers can worsen the problem. They increase the potential for damage by stripping away sebum and other natural skin chemicals that protect the skin. Prolonged or repeated contact with many solvents will strip away skin oils, leaving the skin dry or damaged.

Sometimes it is difficult to determine the cause of the irritation. One way to identify the irritant or allergy-causing substance is by observing the location of the reaction. Symptoms are always isolated to the contact area. The cause may be something that you may be doing to this part of the skin.

## Protect Yourself

Take extreme care to keep brush handles, containers, and tabletops clean and free from product dusts and residues. Repeatedly handling and working with these items will cause overexposure if they are not kept clean. Enhancement products are not designed for skin contact!

Many serious problems can be related to contact dermatitis. Do all that you can to protect yourself and your clients so you can both enjoy nail enhancements for a long time to come! **LOG**



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## ■ Review Questions

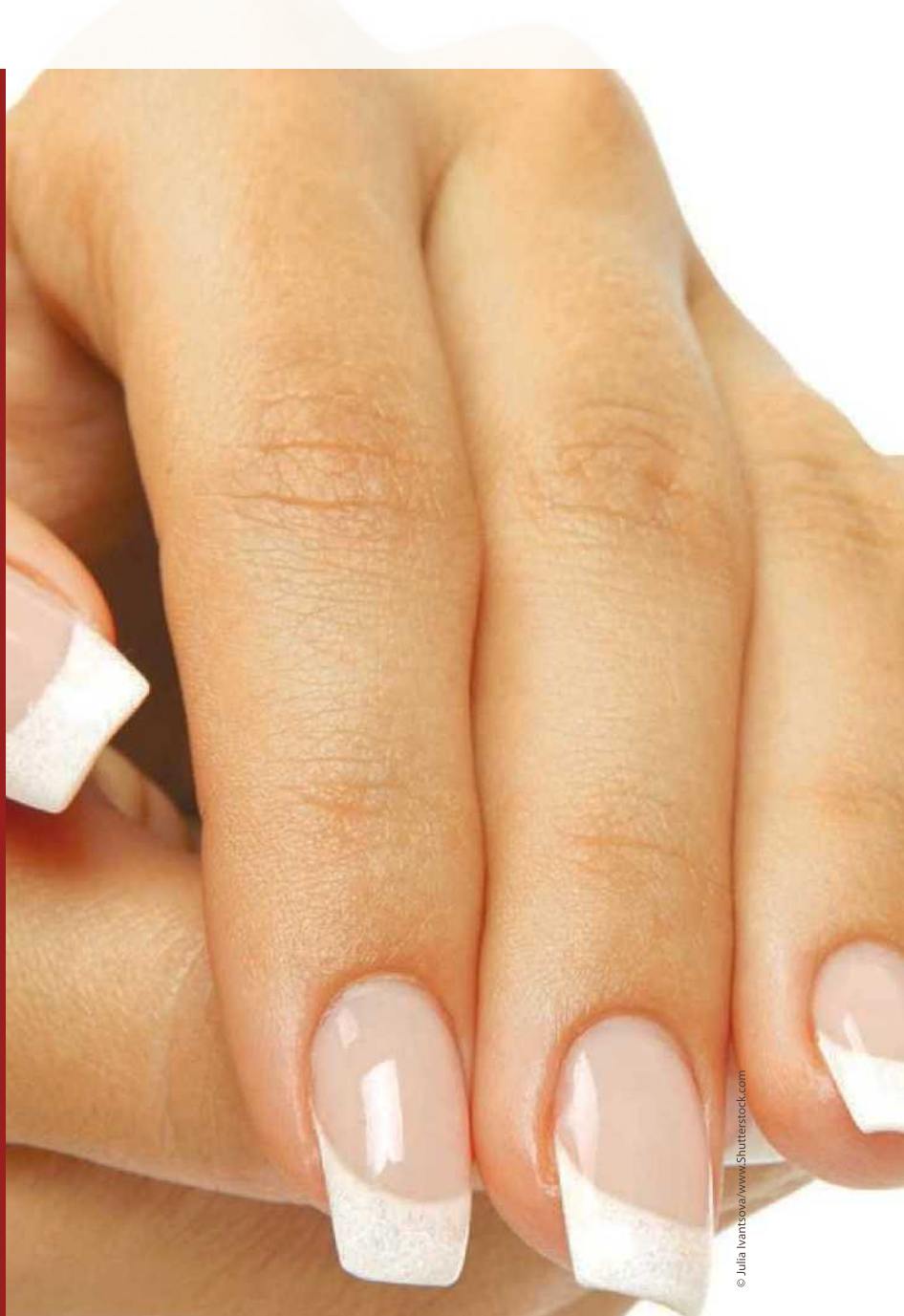
1. Define dermatology.
2. Briefly describe healthy skin.
3. Name the main divisions of the skin and the layers within each division.
4. List the three types of nerve fibers found in the skin.
5. Name the two types of glands contained within the skin and describe their functions.
6. What is collagen?
7. Explain the effect of overexposure to the sun on the skin.
8. What are the five important functions of the skin?
9. Why can't the skin be fed or nourished with cosmetic products?
10. What is the one essential item that no person can live without, and why is it essential to the skin and body?
11. List the factors that contribute to aging of the skin.
12. What is a skin lesion?
13. Name and describe at least five types of skin pigmentation disorders.
14. List at least six skin conditions and disorders that should be referred to a physician.
15. Name and describe the three forms of skin cancer.
16. Name the precautions that nail technicians can take to prevent allergic reactions to themselves and/or their clients.

# 8

# Nail Structure and Growth

## Chapter Outline

- Why Study Nail Structure and Growth?
- The Natural Nail
- Nail Anatomy
- Nail Growth
- Know Your Nails



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# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **LO1** Describe the structure and composition of nails.
- ✓ **LO2** Discuss how nails grow.

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## Key Terms

Page number indicates where in the chapter the term is used.

<b>bed epithelium</b> / 155	<b>lateral nail fold</b> / 157	<b>nail bed</b> / 155	<b>nail unit</b> / 154
<b>cuticle</b> / 155	<b>ligament</b> / 157	<b>nail folds</b> / 157	<b>natural nail</b> / 154
<b>eponychium</b> / 156	<b>lunula</b> / 155	<b>nail groove</b> / 157	<b>onyx</b> / 154
<b>free edge</b> / 155	<b>matrix</b> / 155	<b>nail plate</b> / 155	<b>sidewall</b> / 157
<b>hyponychium</b> / 156			

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When people think of nail services, they immediately envision pleasurable manicures, pedicures, and nail enhancements that produce strong gorgeous nails. While your goal for nail school should be to learn how to expertly groom, strengthen, and beautify the nails, it is equally important to understand nail physiology.

The **natural nail** is the hard protective plate located at the end of the finger or toe. It is an appendage of the skin and part of the integumentary system. The nail plates protect the tips of the fingers and toes, and their appearance can reflect the general health of the body. To provide professional services and care for your clients, you must educate yourself about the natural nail's structure and growth.

## WHY STUDY NAIL STRUCTURE AND GROWTH?

Nail technicians should have a thorough understanding of nail structure and growth because:

- ▶ Understanding the structure and growth of natural nails allows you to expertly groom, strengthen, and beautify nails.
- ▶ It is important to know the difference between the nail cuticle and the eponychium before you perform nail services.
- ▶ Understanding the structure and growth cycles of the natural nail will prepare you for more advanced nail services.

## ■ THE NATURAL NAIL UNIT

All of the parts of the finger from the tip to the first knuckle are referred to as the natural nail unit. The natural nail itself is technically referred to as the **onyx** (AHN-iks) and is composed mainly of keratin, the fiber-shaped protein found in skin and hair. The keratin in natural nails is more durable than the keratin in hair or skin.

A normal, healthy nail is firm and flexible, shiny, and slightly pink in color. Its surface is usually smooth and unspotted, with no splits or deep grooves. A healthy nail should be whitish and translucent in appearance, with the pinkish or beige color of the nail bed below showing through. The nail plate is relatively porous to water, allowing it to pass much more easily than it will pass through normal skin of equal thickness. The water content of the nail is related to the relative humidity of the surrounding environment. A healthy nail may look dry and hard but actually has a water content of between 15 and 25 percent. The water content directly affects the nail's flexibility. The lower the water content, the more rigid the nail becomes. Using an oil-based nail conditioner or nail polish to coat the plate can reduce water loss or prevent excessive absorption and improve flexibility.

## ■ NAIL ANATOMY

The natural nail is divided into several major parts, including the nail bed, matrix, nail plate, cuticle, eponychium, hyponychium, specialized ligaments, and nail folds. Each of these parts forms the natural **nail unit**.



## Nail Plate

The **nail plate** is the hardened keratin plate that sits on top of the underlying nail bed. The nail plate slowly slides across the nail bed while it grows and is the most visible and functional part of the nail unit. The nail plate is formed by the matrix cells. The sole job of the matrix cells is to create nail plate cells. The nail plate may appear to be one solid piece but is actually constructed of about 100 layers of nail cells. The **free edge** is the part of the nail plate that extends over the tip of the finger or toe.

## Nail Bed

The **nail bed** is the portion of living skin that supports the nail plate as it grows toward the free edge. Because it is richly supplied with blood vessels, the area under the nail plate can have a pinkish appearance in the area that extends from the lunula to the area just before the free edge of the nail. The nail bed is supplied with many nerves and is attached to the nail plate by a thin layer of tissue called the **bed epithelium** (ep-ih-THEE-lee-um). That bed epithelium helps guide the nail plate along the nail bed as it grows (**Figure 8-1**). Unfortunately, many nail technicians confuse the nail bed with the nail plate. As a professional, you should understand the difference and use the proper names for the parts of the nail unit—for example, nail polish is applied to the nail “plate,” not the nail “bed.”

## Matrix

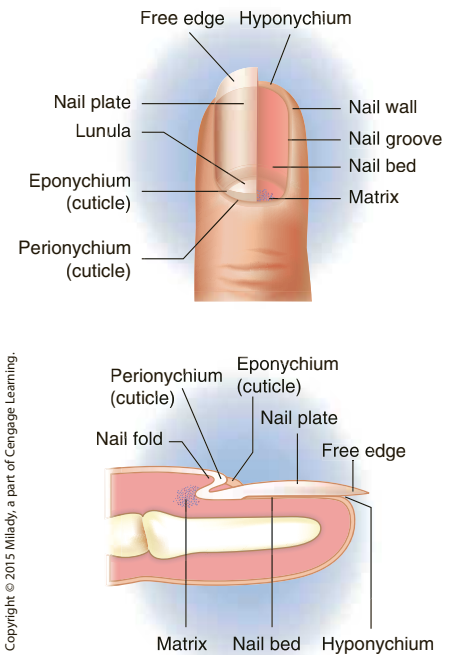
The **matrix** is the area where the nail plate cells are formed. It is composed of matrix cells that produce other cells that become the nail plate. The matrix area contains nerves, lymph, and blood vessels to nourish the matrix cells. As long as it is nourished and kept in healthy condition, the matrix will continue to create new nail plate cells.

The matrix extends from under the nail fold at the base of the nail plate. The visible part of the matrix that extends from underneath the living skin is called the **lunula** (LOO-nuh-luh). It is the whitish, half-moon shape underneath the base of the nail plate. This appearance is caused by the reflection of light off the surface of the visible part of the underlying nail matrix. The lighter color of the lunula shows the true color of the matrix. Everyone has a lunula, but not all lunulas are visible. Some lunulas cannot be seen; they are short and remain hidden under the eponychium. The growth of the nail plates can be affected if an individual is in poor health, if there is a nail disorder or disease present, or if there has been an injury to the matrix.

## Cuticle

The **cuticle** (KYOO-tih-kul) is the dead, colorless tissue attached to the nail plate. The cuticle comes from the underside of the skin that lies above the natural nail plate. This tissue is incredibly sticky and difficult to remove from the nail plate. Its job is to seal the space between the natural nail plate and the living skin above (the eponychium) to prevent the entry of foreign material and microorganisms and to help prevent injury and infection.

Sometimes the names used for professional nail products are confusing. To avoid this problem, know the proper names for the various parts of the nail



▲ **Figure 8-1** Structure of the natural nail.



unit and pay close attention to what the product is actually designed to do. For example, look at products marketed as *cuticle moisturizers*, *softeners*, or *conditioners*. The cuticle is dead skin on the nail plate, so why are there products designed to pamper, soften, and moisturize the cuticle? That does not make any sense! Cuticle moisturizers, softeners, or conditioners are *actually* designed for the *eponychium*, *lateral sidewalls*, and *hyponychium*—not for the cuticle!

*Cuticle removers* are properly named and are just what they say they are. These professional products can quickly dissolve soft tissue and, when carefully applied to the nail plate, they speed removal of stubborn cuticle tissue. Misunderstandings about the correct names for the parts of the nail cause a great deal of confusion and shed a poor light on the nail industry in general. Make sure you learn these terms and use them properly.

## Eponychium

The **eponychium** (ep-oh-NIK-eeum) is the living skin at the base of the nail plate covering the matrix area. The eponychium is often mistaken for the cuticle. They are not the same. The cuticle is the *dead tissue* adhered to the nail plate; the eponychium is the living tissue at the base of the nail plate. The cuticle comes from the underside of this area, where it completely detaches from the eponychium and becomes strongly attached to the new growth of nail plate. It is pulled free to form a seal between the natural nail plate and the eponychium.

Many people cannot tell the difference between the cuticle and the eponychium, but it is easy when you use these simple checklists:

- Is the tissue adhering directly to the nail plate but easily removed with gentle scraping?
- Is the tissue very thin and colorless but easily visible under close inspection?
- Is the tissue nonliving and not directly attached to living skin?

If you answered yes to *any* of the questions above, then this tissue is called the *cuticle*.

- Is the tissue any part of the skin that grows up to the base of the nail plate?
- Is the tissue any part of the skin that covers the nail matrix and lunula?
- If you cut deep enough into this tissue, will it bleed?

If you answered yes to *any* of the questions above, this tissue is called the *eponychium*.

Nail technicians are *permitted* to gently push back the eponychium, but are *prohibited* from cutting or trimming *any* part of the eponychium, since it is living skin. Even if this skin appears dry and hardened, it is part of the living eponychium. Cutting any part of the eponychium or other living skin is outside the scope of nail technology and not allowed under any conditions or circumstances; clients cannot give a nail technician permission to cut any living skin.

## Hyponychium

The **hyponychium** (hy-poh-NIK-eeum) is the slightly thickened layer of skin that lies between the fingertip and the free edge of the nail plate. It forms a



# Activity

Use a small magnifying glass to examine the cuticles and eponychiums of at least 10 friends or classmates. Observe how the thin cuticle tissue attaches to and rides on top of the nail plate as it emerges from under the eponychium at the base of the nail plate. Then examine the eponychium to see how these two differ in appearance. Identify which one can be removed and which should never be cut.

protective barrier that prevents microorganisms from invading and infecting the nail bed. When this area is damaged, the nail plate can separate from the nail bed; this can make infections under the nail plate more likely to occur, so this area should be treated with care.

## Specialized Ligaments

A **ligament** (LIG-uh-munt) is a tough band of fibrous tissue that connects bones or holds an organ in place. Specialized ligaments attach the nail bed and matrix bed to the underlying bone. They are located at the base of the matrix and around the edges of the nail bed.

## Nail Folds

The **nail folds** are folds of normal skin that surround the nail plate. These folds form the **nail groove** or furrow on each side of the nail. The **sidewall**, also called the **lateral nail fold**, is the fold of skin overlapping the side of the nail. **LO1**

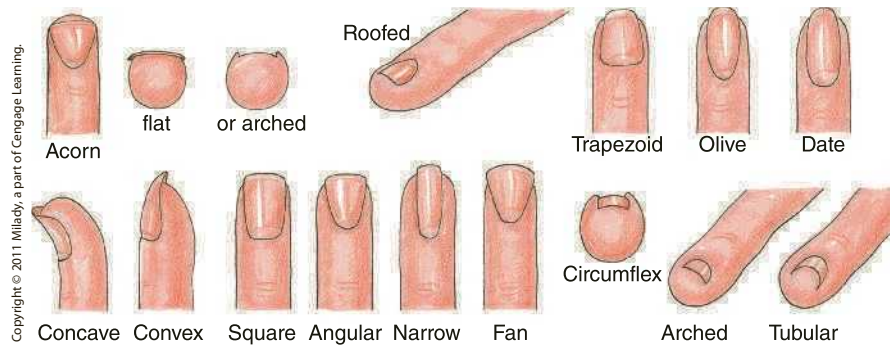
## NAIL GROWTH

The growth of the nail plate is affected by nutrition, exercise, and a person's general health. A normal nail plate grows forward from the matrix and extends over the tip of the finger. Normal, healthy nail plates can grow in a variety of shapes, depending on the shape of the matrix. The length, width, and curvature of the matrix determine the thickness, width, and curvature of the plate. For example, a longer matrix produces a thicker nail plate, and a highly curved matrix creates a highly curved free edge. Nothing can make the nail plate grow thicker: this would require the size of the matrix to grow larger.

The average rate of nail plate growth in the normal adult is about 1/10" to 1/8" (2.5 mm to 3 mm) per month. Nail plates grow faster in the summer than they do in the winter. Children's nails grow more rapidly, while those of elderly persons grow at a slower rate. The nail of the middle finger grows the fastest; the thumbnail grows the slowest. Nail growth rates increase dramatically during the last trimester of pregnancy because of hormonal changes in the body. The nail growth rate decreases dramatically after the delivery of the baby and returns to normal, as do hormone levels in the body. It is a myth that nail growth is caused by taking prenatal care vitamins; nail growth rates will accelerate whether or



► **Figure 8-2** Various shapes of nails.



not a woman takes these vitamins. Although toenail plates grow more slowly than fingernail plates, they are thicker because the toenail matrix is longer than the matrix found on fingernails (**Figure 8-2**).

## Nail Plate Malformation

If disease, injury, or infection occurs in the matrix, the shape or thickness of the nail plate can change. The plate will continue to grow as long as the matrix is healthy and undamaged. Ordinarily, complete replacement of the nail plate takes about 4 to 6 months. Toenail plates take 9 months to 1 year to be fully replaced. Nail plates are not shed automatically or periodically, as is the case with hair. The nail matrix is constantly creating new nail cells. Each time a new cell is created, it pushes the previously created cells upward and away from the matrix. This causes the plate to flow slowly toward the free edge, but only as quickly as new cells are produced. If nail cells are produced faster, the plate will grow more quickly. The reverse is also true. If a small portion of the matrix stops making new cells, the nail plate will become thinner and develop a narrow groove. As a person ages, parts of the nail matrix begins to permanently slow down production, causing the plate to develop a series of narrow grooves running down the length of the plate. This is a considered to be a normal part of the aging process. Often these grooves are mistaken for “ridges.” The matrix does not



grow any ridges in the nail plate, only grooves, and filing away these so-called “ridges” only thins and weakens the entire nail plate. You will learn more about nail plate malformation and common disorders in the next chapter. **LO2**

## KNOW YOUR NAILS

Many nail professionals are interested in nails because of the creative opportunities they present. As with every other area of cosmetology, this creativity must be grounded in a full awareness of the structure and physiology of the nails and the surrounding tissue.

Working on good, strong, healthy nails can be a pleasure. As a licensed nail professional, you are only allowed to work on healthy nails and skin with no visible signs of disease or infection. Working on healthy nails will be the canvas on which your creativity and artistry can soar!

## ■ Review Questions

1. What is the technical term for the nail unit?
2. What is the major protein which makes up the nail plate?
3. Describe the appearance of a normal, healthy nail.
4. Name the basic parts of the nail unit.
5. Explain the difference between the nail bed and the nail plate.
6. What part of the nail unit contains the nerve, lymph, and blood vessels?
7. Why are nail technicians not allowed to cut the skin around the base of the nail plate, even if the client requests it during the service?
8. Explain why the nail matrix produces grooves rather than ridges in the nail plate.

# 9

## Nail Disorders and Diseases

### Chapter Outline

- Why Study Nail Disorders and Diseases?
- Nail Disorders
- Nail Diseases



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# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **LO1** List and describe the various disorders and irregularities of nails.
- ✓ **LO2** Describe diseases of the nails that should not be treated in the salon.



## Key Terms

Page number indicates where in the chapter the term is used.

<b>Beau's lines</b> / 163	<b>nail psoriasis</b> / 169	<b>onychorrhexis</b> / 164	<b>pyogenic granuloma</b> / 170
<b>bruised nail beds</b> / 163	<b>nail pterygium</b> / 165	<b>onychosis</b> / 169	<b>ridges</b> / 165
<b>eggshell nails</b> / 163	<b>onychchia</b> / 169	<b>paronychia</b> / 170	<b>splinter hemorrhages</b> / 165
<b>hangnail</b> / 163	<b>onychocryptosis</b> / 169	<b>pincer nail</b> / 165	<b>tinea pedis</b> / 170
<b>leukonychia spots</b> / 163	<b>onychomadesis</b> / 169	<b>plicatured nail</b> / 164	<b>trumpet nail</b> / 165
<b>melanonychia</b> / 164	<b>onychomycosis</b> / 170	<b><i>Pseudomonas aeruginosa</i></b> / 167	
<b>nail disorder</b> / 162	<b>onychophagy</b> / 164		



To perform professional and responsible service and care, you need to learn not only about the structure and growth of the nail (as you did in Chapter 8), but you must also know when it is safe to work on a client. Nails are an interesting and surprising part of the human body. They are small windows into an individual's general health. You must be able to recognize conditions you may encounter while servicing clients. Some of these conditions are easily addressed in the salon—hangnails, for instance, or camouflaging a bruise on the nail bed—but some are medical conditions and/or infectious and cannot be treated by salon professionals. Some conditions may signal mild to serious health problems that warrant the attention of a doctor. You will need to be able to spot these situations to protect yourself and your clients. Carefully studying this chapter will vastly improve your expertise in caring for nails. It will also help ensure that you are protecting your clients, rather than promoting the spread of disease or preventing them from seeking the advice of a qualified medical professional.

A normal healthy nail is firm and flexible; it should be shiny and slightly pink in color, with more beige/yellow tones in some races. Its surface should be fairly smooth and unspotted, without any pits or splits. Certain health problems in the body can show up in the nails as visible disorders or poor nail growth.

## WHY STUDY NAIL DISORDERS AND DISEASES?

Nail technicians should have a thorough understanding of nail disorders and diseases because:

- ▶ You must be able to identify those conditions on a client's nails that should or should not be treated in the salon.
- ▶ You must be able to identify infectious conditions in order to take the appropriate steps to protect yourself and your clients from the spread of disease.
- ▶ You may be in a position to recognize conditions that may signal mild to serious health problems that warrant the attention of a doctor.

## ■ NAIL DISORDERS

A **nail disorder** is a condition caused by injury or disease of the nail unit. Most, if not all, of your clients have experienced one or more types of common nail disorder at some time in their lives. You should recognize normal and abnormal nail conditions and understand what to do. You may be able to help your clients with nail disorders in one of two ways.

- You can tell clients that they may have a disorder and refer them to a physician, if required.
- You can cosmetically improve certain nail plate conditions if the problem is cosmetic and *not* a medical condition or disorder.

It is your professional responsibility and a requirement of your license to know which option to choose. A client whose nail or skin is infected, inflamed, broken, or swollen should not receive services. That client should be referred to a





physician—if you determine that is the appropriate recommendation based on the client’s condition and your training.

**Bruised nail beds** are a condition in which a blood clot forms under the nail plate, forming a dark purplish spot. These discolorations are usually due to small injuries to the nail bed. The dried blood is absorbed into the bed epithelium on the underside of the nail plate and grows out with it. Treat this injured nail gently and advise your clients to be more careful with their nails if they want to avoid this problem in the future. Advise them to treat their nails like “jewels” and not “tools”! This condition can usually be covered with nail polish or camouflaged with an opaque nail enhancement.

**Eggshell nails** are noticeably thin, white nail plates that are much more flexible than normal. Eggshell nails are normally weaker and can curve over the free edge. The condition is usually caused by improper diet, hereditary factors, internal disease, or medication. Be very careful when manicuring these nails because they are fragile and can break easily. Use the fine side of an abrasive board (240 grit or higher) to file them gently; however, only do this if necessary. It would be best not to file a nail plate of this type. A thin protective overlay of an artificial nail enhancement product can be helpful.



▲ **Figure 9-1** Beau's lines.

**Beau's lines** are visible depressions running across the width of the natural nail plate (**Figure 9-1**). These usually result from major illness or injury that has traumatized the body, such as pneumonia, adverse drug reaction, surgery, heart failure, massive injury, or a long-lasting high fever. Beau's lines occur because the matrix slows down in producing nail cells for several weeks or months. This causes the nail plate to grow thinner. The nail plate thickness usually returns to normal after the illness or condition is resolved.

**Hangnail** is a condition in which the living skin around the nail plate splits and tears (**Figure 9-2**). Dryness of the skin or cutting this living tissue can result in hangnails. If there are no signs of infection or an open wound, advise the client that proper nail care—such as hot oil manicures or use of a skin conditioning lotion or oil—can aid in correcting such condition. Also, never cut the living skin around the natural nail plate, not even if it is dry and looks like it is not living tissue. Other than to carefully remove the thin layer of dead cuticle tissue on the nail plate, you should not cut skin anywhere on the hands or feet. Hangnails can be carefully trimmed, as long as the living skin is not cut or torn in the process. It is against state board regulations to intentionally cut or trim the client's skin, since this can lead to serious infections for which you and the salon may be legally liable. If not properly cared for, a hangnail can become infected. Clients with any symptoms of infections in their fingers, hands, toes, or feet should be referred to a physician. Signs of infection are redness, pain, swelling, or pus.

**Leukonychia spots** (loo-koh-NIK-ee-ah), or white spots, are a whitish discoloration found inside the nail plate, usually caused by injury to the nail matrix. They are not a symptom of any vitamin or mineral deficiency. Instead, they result from minor damage to the matrix. It is a myth that these are caused by a vitamin or mineral deficiency, e.g., calcium or zinc (**Figure 9-3**). They appear frequently in the nails but do not indicate disease. As the nail continues to grow, the white spots eventually disappear.

## Did You Know?

Clients cannot sign a waiver or verbally give a nail technician permission to disobey state or federal rules and regulations. For example, clients cannot give a nail technician permission to work on a diseased or infected finger or toenail: this is outside the scope of practice for nail technicians.



▲ **Figure 9-2** Hangnail.



▲ **Figure 9-3** Leukonychia spots.

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▲ Figure 9-4 Melanonychia.

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▲ Figure 9-5 Bitten nails.

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Other types of white spots that are sometimes found on the surface of the plate are caused by the improper removal of nail coatings. When a nail coating is forcibly peeled or scraped from the nail plate, it usually results in damage to the surface of the nail; an irregularly shaped white spot appears, which is actually a pit or group of pits on the upper surface of the nail plate.

**Melanonychia** (mel-uh-nuh-NIK-ee-uh) is darkening of the fingernails or toenails. It may be seen as a black band within the nail plate, extending from the base to the free edge. In some cases, it may affect the entire nail plate. A localized area of increased pigment cells (melanocytes), usually within the matrix, is responsible for this condition. As matrix cells form the nail plate, melanin is added within the plate by the melanocytes. This is a fairly common occurrence and considered normal in African Americans or Asians, but could be indicative of a disease condition in Caucasians (**Figure 9-4**).

**Onychophagy** (ahn-ih-koh-FAY-jee), or bitten nails, is the result of a habit that prompts the individual to chew the nail or the hardened, damaged skin surrounding the nail plate (**Figure 9-5**). Advise the client that frequent manicures and proper care of the hardened eponychium can often help to overcome this habit while improving the health and appearance of the hands. Sometimes, the application of nail enhancements can beautify misshapen nails and discourage the client from biting the nails. However, the bitten, damaged skin should not be treated by the nail professional, and if the skin is broken or infected, no services can be provided until the area is healed.

**Onychorrhexis** (ahn-ih-koh-REK-sis) refers to split or brittle nails that have a series of lengthwise ridges, giving a rough appearance to the surface of the nail plate. This condition is usually caused by injury to the matrix, excessive use of cuticle removers, harsh cleaning agents, aggressive abrasive filing techniques, or hereditary causes. Nail services can be performed only if the nail is not split to expose the nail bed. Nail enhancement product should NEVER be applied if the nail bed is exposed. This condition may be corrected by softening the nails with a conditioning treatment and instructing the client to wear protective gloves when using detergents or cleaners and to avoid overfiling (**Figure 9-6**). These nail plates are often brittle, so twice-daily treatments with a high-quality, penetrating nail oil can be very beneficial. Nail hardeners should always be avoided on brittle nails, since these products will increase their brittleness and worsen the condition.

**Plicatured nail** (plik-a-CHOO-RD) figuratively means “folded nail” (**Figure 9-7**) and is a type of highly curved nail plate often caused by injury to the matrix. This condition may be inherited. Plicatured nails often lead to ingrown nails.



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▲ Figure 9-6 Onychorrhexis.



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▲ Figure 9-7 Plicatured nail.

**Nail pterygium** (teh-RIJ-ee-um) is an abnormal condition that occurs when skin is stretched by the nail plate. This disorder is usually caused by serious injury, such as burns or an adverse skin reaction to nail enhancement products. The terms “cuticle” and “pterygium” do not mean the same thing and should never be used interchangeably. Nail pterygium is abnormal and caused by damage to the eponychium or hyponychium.

Do not attempt to treat nail pterygium; never push the extension of skin back with an instrument. Doing so will likely cause more injury to the tissues and make the condition worse. The gentle massage of conditioning oils or creams into the affected area may be beneficial. If this condition becomes irritated, painful, or shows signs of infection, recommend that the client see a physician for examination and proper treatment if necessary and discontinue providing services until the condition is resolved.

Mild **ridges** running vertically down the length of the natural nail plate are actually grooves, and not ridges at all. They are caused by uneven growth of the nails, usually the result of age. Older clients are more likely to have these ridges, and unless they become very deep and weaken the nail plate, they are perfectly normal. When manicuring a client with this condition, it is best to avoid buffing away these ridges, since this will overly thin and weaken the nail plate, which could lead to nail plate weakness and additional damage. Using a ridge filler is much less damaging to the natural nail plate; it can be used with colored polish to give a smooth appearance to the plate while keeping it strong and healthy, which should be the goal of all nail professionals.

**Splinter hemorrhages** are caused by physical trauma or injury to the nail bed that damages the capillaries and allows small amounts of blood flow. As a result, the blood stains the bed epithelium, the tissue that forms “rails” to guide the nail plate along the nail bed during growth. This blood oxidizes and turns brown or black, giving the appearance of a small splinter underneath the nail plate. Splinter hemorrhages will always be positioned lengthwise in the direction of growth; in other words, they point toward the front and back of the nail plate. The reason for this is in how the bed epithelium “rails” grow. Splinter hemorrhages are common. The vast majority of the time, they are associated with some type of hard impact or other physical trauma to the fingernail or toenail.

## Increased Curvature Nails

Nail plates with a deep or sharp curvature at the free edge have this shape because of the matrix. The greater the curvature of the matrix, the greater the curvature of the free edge. Increased curvature can range from mild to severe pinching of the soft tissue at the free edge. In some cases, the free edge pinches the sidewalls into a deep curve. This is known as **pincer nail** or **trumpet nail**. The nail can also curl in upon itself (**Figure 9–8**) or may be deformed only on one sidewall. In each of these cases, the natural nail plate should be carefully trimmed and filed. Extreme or unusual cases or painful conditions must be referred to a qualified medical doctor or podiatrist. A brief summary of nail disorders is found in **Table 9–1**. **LO1**

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▲ **Figure 9–8** Pincer or trumpet nail.

**Table 9–1 OVERVIEW OF NAIL DISORDERS**

<b>DISORDER</b>	<b>SIGNS OR SYMPTOMS</b>
<b>Beau’s lines</b>	Depressions running across the width of the nail plate; a result of serious illness or injury.
<b>Bruised nails</b>	Dark purplish spots, usually due to physical injury.
<b>Discolored nails</b>	Nails turn a variety of colors; may indicate surface staining, a systemic disorder, or poor blood circulation.
<b>Eggshell nails</b>	Noticeably thin, white plate, more flexible than normal; usually caused by improper diet, hereditary factors, internal disease, overfiling with an abrasive, and in unusual instances, medication.
<b>Hangnail</b>	Damaged skin attached to the living skin around the nail plate (often on the eponychium) becomes split or torn.
<b>Infected finger</b>	Redness, pain, swelling, or pus; must be referred to a physician.
<b>Leukonychia spots</b>	Whitish discoloration of the nails; usually caused by minor injury to the nail matrix. Not related to the body’s health or vitamin deficiencies.
<b>Melanonychia</b>	Significant darkening of the fingernails or toenails.
<b>Nail psoriasis</b>	Nail surface pitting, roughness, onycholysis, and bed discolorations.
<b>Nail pterygium</b>	Abnormal stretching of the skin around the nail plate; usually from serious injury or an allergic skin reaction.
<b>Onychophagy</b>	Bitten nails.
<b>Onychorrhexis</b>	Abnormal surface roughness on the nail plate.
<b>Pincer nails</b>	A form of dramatically increased nail curvature.
<b>Plicatured nails</b>	Sharp bend in one corner of the nail plate, creating increased curvature.
<b>Ridged nails</b>	Lengthwise grooves in the plate, often mistaken for ridges; seen in normal aging.
<b>Trumpet nails</b>	A form of dramatically increased nail curvature.

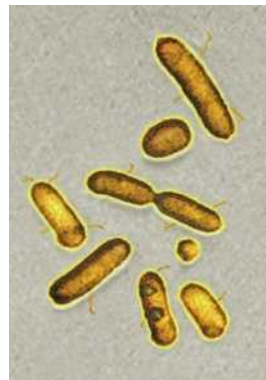
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## Nail Infections

Fungi (FUN-jy) (singular: fungus, FUNG-gus) are parasites; under some circumstances, fungi may cause infections of the feet and hands. Nail fungi are of concern to the nail salon because they are contagious and can be transmitted through contaminated implements. In some cases, fungi may spread from nail to nail on the client’s feet; however, they generally are restricted to one or two nails. It is much less likely that these pathogens will cause fingernail infections,

since fungi prefer to grow in conditions that are warm, moist, and dark, as are found inside of shoes. It is extremely unlikely that a nail technician could become infected from a client, but it is possible to transmit fungal infections from one client's foot or toe to another client.

With proper decontamination and disinfection practices, the transmission of fungal infections can be very easily avoided. Clients with a suspected nail fungal infection must be referred to a physician, and no services should be performed until the condition is fully resolved.



▲ **Figure 9-9** *Pseudomonas aeruginosa*.

### It Is Not a Mold!

In the past, discolorations of the nail plate (especially those between the plate and artificial enhancements) were generally referred to as “molds”, which is a type of fungus. Infections of the toenails are usually fungus but molds can grow on both fingernails and toenails above and below the nail plate. The discoloration is usually a bacterial infection that is caused by a type of bacteria, called *pseudomonas aeruginosa*. These naturally occurring skin bacteria can grow rapidly to cause an infection if conditions are correct for growth (**Figure 9-9**). Bacterial or

fungal (mold) infections can be caused by the use of implements that are contaminated with large numbers of these bacteria. Water does not cause infections but can support bacterial and fungal growth. Infections are caused by large numbers of bacteria or fungal organisms on a surface where the conditions are right for growth. This is why proper cleansing and preparation of the natural nail plate, as well as cleaning and disinfection or sterilization of implements, are so important. If these pathogens are not present, infections cannot occur. A typical bacterial infection on the nail plate can be identified in the early stages as a yellow-green spot that becomes darker in its advanced stages. The color usually changes from yellow to green to brown to black. Clients with these symptoms should be immediately referred to a physician for treatment. It is against state and federal laws for a nail professional to diagnose a nail infection or to recommend or provide any treatment for any nail infection. Do not remove the artificial nail unless directed to do so by the client's treating physician.

### CAUTION:

Nail infection caused by bacteria and fungi can be easily avoided by following state board guidelines for proper cleaning and disinfection. Do not take shortcuts or omit any of the cleaning and disinfection procedures when performing an artificial nail service. Do not perform nail services for clients who are suspected of having an infection of any kind on their nails. If you repeatedly encounter nail infections on your clients' nails, you should re-examine your cleaning, disinfection, preparation, and application techniques. Completely disinfect all other metal and reusable implements, throw away single-use nail files and wooden pushers sticks, wash linens or replace with disposable towels, and thoroughly clean the table surface before and after the procedure (**Figure 9-10**).



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▲ **Figure 9-10** Always practice strict cleaning and disinfecting protocol when working with finger or toenails.

## Activity

Go to a library or use the Internet to research “scope of practice” for medical doctors, dermatologists, and podiatrists. You should be familiar with what these professionals do as well as the strict limitations placed on nail technicians’ “scope of practice” so that you’ll better understand what you *cannot* do.

You should never provide any type of nail services to clients with a nail bacterial or fungal infection.

## ■ NAIL DISEASES

You may come across any of several nail diseases. A brief summary of nail diseases is found in **Table 9–2**. Any nail disease that shows signs of infection or inflammation (redness, pain, swelling, or pus) should not be diagnosed or treated in the salon. Medical examination is required for all nail diseases; any treatments will be determined by the physician.

**Table 9–2 OVERVIEW OF NAIL DISEASES**

DISEASE	SIGNS OR SYMPTOMS
<b>Onychia</b>	Inflammation of the matrix and shedding of the nail.
<b>Onychocryptosis</b>	Ingrown nails.
<b>Onycholysis</b>	Separation of the nail plate and bed, often due to physical injury or allergic reactions.
<b>Onychomadesis</b>	Separation and falling off of a nail from the nail bed.
<b>Onychomycosis</b>	Fungal infection of the natural nail plate.
<b>Paronychia</b>	Bacterial inflammation of the tissues around the nail plate, causing pus, swelling, and redness.
<b>Pyogenic granuloma</b>	Severe inflammation of the nail, in which a lump of red tissue grows up from the nail bed to the nail plate.
<b>Tinea pedis</b>	Red itchy patches of skin on the bottom of feet and/or between the toes.

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A person's occupation can cause a variety of nail infections. For instance, infections develop more readily in people who regularly place their hands in harsh cleaning solutions. Natural oils are removed from the skin by frequent exposure to soaps, solvents, and many other types of substances. The nail technician's hands are exposed daily to professional products. These products should be used according to manufacturer's instructions to ensure that they are being used correctly and safely. If those instructions or warnings tell you to avoid skin contact, you should take heed and follow such advice. If the manufacturer recommends that you wear gloves, make sure that you do so to protect your skin. Contact the product manufacturer if you are not sure how to use the product safely, and obtain the SDS (formally called MSDS).

Product manufacturers can always provide you with additional information and guidance. Call them whenever you have any questions related to safe handling and proper use.

**Onychosis** (ahn-ih-KOH-sis) is any deformity or disease of the nails. **Onychia** (uh-NIK-ee-uh) is an inflammation of the nail matrix followed by shedding of the natural nail plate. Any break in the skin surrounding the nail plate can allow pathogens to infect the matrix. Be careful to avoid injuring sensitive tissue, and make sure that all implements are properly cleaned and disinfected. Improperly cleaned and disinfected nail implements can cause this and other diseases, especially if an accidental injury occurs.

**Onychocryptosis** (ahn-ih-koh-krip-TOH-sis), or ingrown nails, can affect either the fingers or toes (**Figure 9–11**). In this condition, the nail grows into the sides of the tissue around the nail. Unusual pressure put on the soft tissue surrounding the nail plate while walking can contribute to the problem. If the tissue around the nail plate is not infected, or if the nail is not imbedded in the flesh, you can carefully trim the corner of the nail in a curved shape to relieve the pressure on the nail groove. However, if there is any redness, pain, swelling, or irritation, you may not provide any services. Nail professionals are not allowed to service ingrown nails. Refer the client to a physician, if appropriate.

Onycholysis (ahn-ih-KAHL-ih-sis) is the lifting of the nail plate from the bed without shedding, usually beginning at the free edge and continuing toward the lunula area (**Figure 9–12**). This is usually the result of physical injury, trauma, or allergic reaction of the nail bed and less often related to a health disorder. It often occurs when the natural nails are filed too aggressively, nail enhancements are improperly removed, or (on the toenails) when clients wear shoes without sufficient room for the toes. If there is no indication of an infection or open sores, a basic pedicure or manicure may be given. The nail plate should be short to avoid further injury, and the area underneath the nail plate should be kept clean and dry. If the trauma that caused the onycholysis is removed, the area will begin to slowly heal itself. Eventually, the nail plate will grow off the free edge, and the hyponychium will reform the seal that provides a natural barrier against infection (**Figure 9–13**).

**Onychomadesis** (ahn-ih-koh-muh-DEE-sis) is the separation and falling off of a nail plate from the bed. It can affect fingernails and toenails. In most cases, the cause can be traced to a localized infection, injuries to the matrix, or a severe systemic illness. Drastic medical procedures such as chemotherapy may also be the cause.

Whatever the reason, once the problem is resolved, a new nail plate will eventually grow again. If onychomadesis is present, do not apply enhancements to the nail plate. If there is no indication of an infection or of open sores, a basic manicure or pedicure service may be given.

**Nail psoriasis** often causes tiny pits or severe roughness on the surface of the nail plate. Sometimes these pits occur randomly, and sometimes they appear in evenly spaced rows. Nail psoriasis can also cause the surface of the plate to look like it has been filed with a coarse abrasive, or may create a ragged free edge, or both. (**Figure 9–14**).

People with skin psoriasis often experience these nail disorders. Neither skin nor nail psoriasis is an infectious disease. Nail psoriasis can also affect the nail bed, causing it to develop yellowish to reddish spots underneath the nail plate,



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▲ **Figure 9–11** Onychocryptosis.



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▲ **Figure 9–12** Onycholysis.



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▲ **Figure 9–13** Onycholysis caused by trauma.



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▲ **Figure 9–14** Nail psoriasis.

called salmon patches. Onycholysis is also much more prevalent in people with nail psoriasis. When all of these symptoms are present on the nail unit at the same time, nail psoriasis becomes a likely cause of the client's problem nails, and the client should be referred to a physician for diagnoses and treatment, if needed.

**Paronychia** (payr-uh-NIK-ee-uh) is a bacterial inflammation of the tissues surrounding the nail. Redness, pus, and swelling are usually seen in the skin fold adjacent to the nail plate.

Individuals who work with their hands in water, such as dishwashers and bartenders, or who must wash their hands continually, such as health care workers and food processors, are more susceptible to paronychia: their hands are often very dry or chapped from excessive exposure to water, detergents, and so on. This makes them much more likely to develop infections.

Toenails, because they spend a lot of time in a warm, moist environment, are often also more susceptible to paronychia infections. Use a moisturizing hand lotion to keep skin healthy and feet clean and dry.

**Pyogenic granuloma** (py-roh-JEN-ik gran-yoo-LOH-muh) is a severe inflammation of the nail in which a lump of red tissue grows up from the nail bed to the nail plate (**Figure 9-15**).

*Tinea pedis* is the medical term for fungal infections of the feet. These infections can occur on the bottoms of the feet and often appear as a red itchy rash in the spaces between the toes, most often between the fourth and fifth toe. There is sometimes a small degree of scaling of the skin. Clients should be advised to wash their feet every day and dry them completely. This will make it difficult for the infection to live or grow. Advise clients to wear cotton socks and change them at least twice per day. They should also avoid wearing the same pair of shoes each day, since it can take up to 24 hours for a pair of shoes to dry completely. Over-the-counter antifungal powders can help keep feet dry and may help speed healing (**Figure 9-16**).

**Onychomycosis** (ahn-ihkoh- my-KOH-sis) is a fungal infection of the nail plate. A less common form consists of whitish patches that can be scraped off the surface of the nail. This should not be confused with nail surface damage created by improper removal of some nail coatings, which is a more likely reason for surface white spots. Another common type of infection shows up as long whitish or pale yellowish streaks within the nail plate. A third common form causes the free edge of the nail to crumble and may even affect the entire plate. These types of infection often invade the free edge and spread toward the matrix. They cannot be treated by a nail technician and must be referred to a medical professional for evaluation and treatment, if necessary. **LO2**



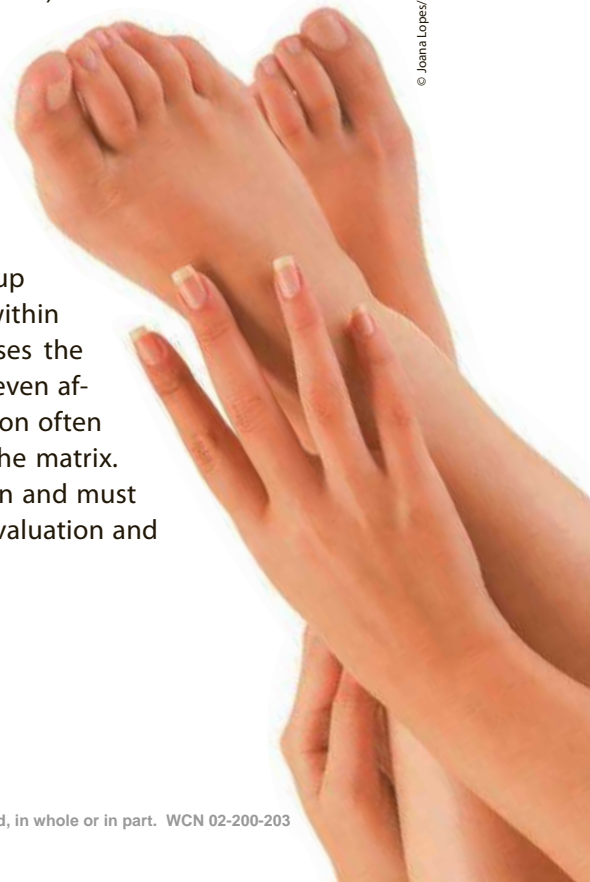
▲ **Figure 9-15** Pyogenic granuloma.

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▲ **Figure 9-16** *Tinea pedis*.

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## ■ Review Questions

1. What conditions do fungal organisms favor for growth?
2. Name two common causes of onycholysis.
3. In what situation should a nail service not be performed?
4. What is *Pseudomonas aeruginosa*? Why is it important to learn about it?
5. Name at least eight nail disorders and describe their appearance.
6. What is the most effective way to avoid transferring infections among your clients?
7. Can a nail technician offer treatment advice for a client who has developed a nail infection?
8. Can nail technicians treat an ingrown toenail if there is no sign of pus or discharge?

# 10

# The Basics of Chemistry

## Chapter Outline

- Why Study Chemistry?
- Chemistry
- Matter
- Potential Hydrogen (pH)



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# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **LO1** Explain the difference between organic and inorganic chemistry.
- ✓ **LO2** Discuss the different forms of matter: elements, compounds, and mixtures.
- ✓ **LO3** Explain the difference between solutions, suspensions, and emulsions.
- ✓ **LO4** Explain pH and the pH scale.

## Key Terms

Page number indicates where in the chapter the term is used.

<b>acidic</b> / 183	<b>elemental compounds</b> / 175	<b>ionization</b> / 183	<b>plasma</b> / 176
<b>acids</b> / 184	<b>elemental molecule</b> / 175	<b>lipophilic</b> / 180	<b>pure substance</b> / 178
<b>alkaline</b> / 183	<b>emulsifier</b> / 180	<b>matter</b> / 175	<b>silicones</b> / 182
<b>alkalis</b> / 184	<b>emulsion</b> / 180	<b>miscible</b> / 179	<b>solute</b> / 179
<b>anion</b> / 183	<b>exothermic reactions</b> / 177	<b>molecule</b> / 175	<b>solution</b> / 179
<b>atoms</b> / 175	<b>glycerin</b> / 182	<b>oil-in-water (O/W) emulsion</b> / 181	<b>solvent</b> / 179
<b>cation</b> / 183	<b>hydrophilic</b> / 180	<b>organic chemistry</b> / 174	<b>surfactants</b> / 180
<b>chemical change</b> / 177	<b>immiscible</b> / 179	<b>pH</b> / 182	<b>suspensions</b> / 179
<b>chemical properties</b> / 177	<b>inorganic chemistry</b> / 174	<b>pH scale</b> / 183	<b>vapor</b> / 177
<b>chemistry</b> / 174	<b>ion</b> / 182	<b>physical change</b> / 177	<b>volatile</b> / 182
<b>compound molecules</b> / 176		<b>physical mixture</b> / 178	<b>volatile organic compounds (VOCs)</b> / 182
<b>element</b> / 175		<b>physical properties</b> / 177	<b>water-in-oil (W/O) emulsion</b> / 181



Nail services are not possible without the use of chemicals. Why? Because everything you can see or touch, except light and electricity, is a chemical. Our entire world, our bodies, and even the oxygen we breathe are made of chemicals. Of course this means that all cosmetics, including nail products, are entirely made up of chemicals. Therefore, it is very important to understand what chemicals are and how they are used in the salon. To use professional products effectively and safely, all nail professionals need to have a basic understanding of chemistry. With this knowledge, you can troubleshoot and solve the common problems you may encounter in nail services. This chapter provides you with an important overview of basic chemistry.

## WHY STUDY CHEMISTRY?

Nail technicians should have a thorough understanding of chemistry because:

- ▶ Without an understanding of basic chemistry, you would not be able to use professional products effectively and safely.
- ▶ Every product used in the salon and in nail services contains some type of chemical.
- ▶ With an understanding of chemistry, you will be able to troubleshoot and solve common problems you may encounter in performing nail services.

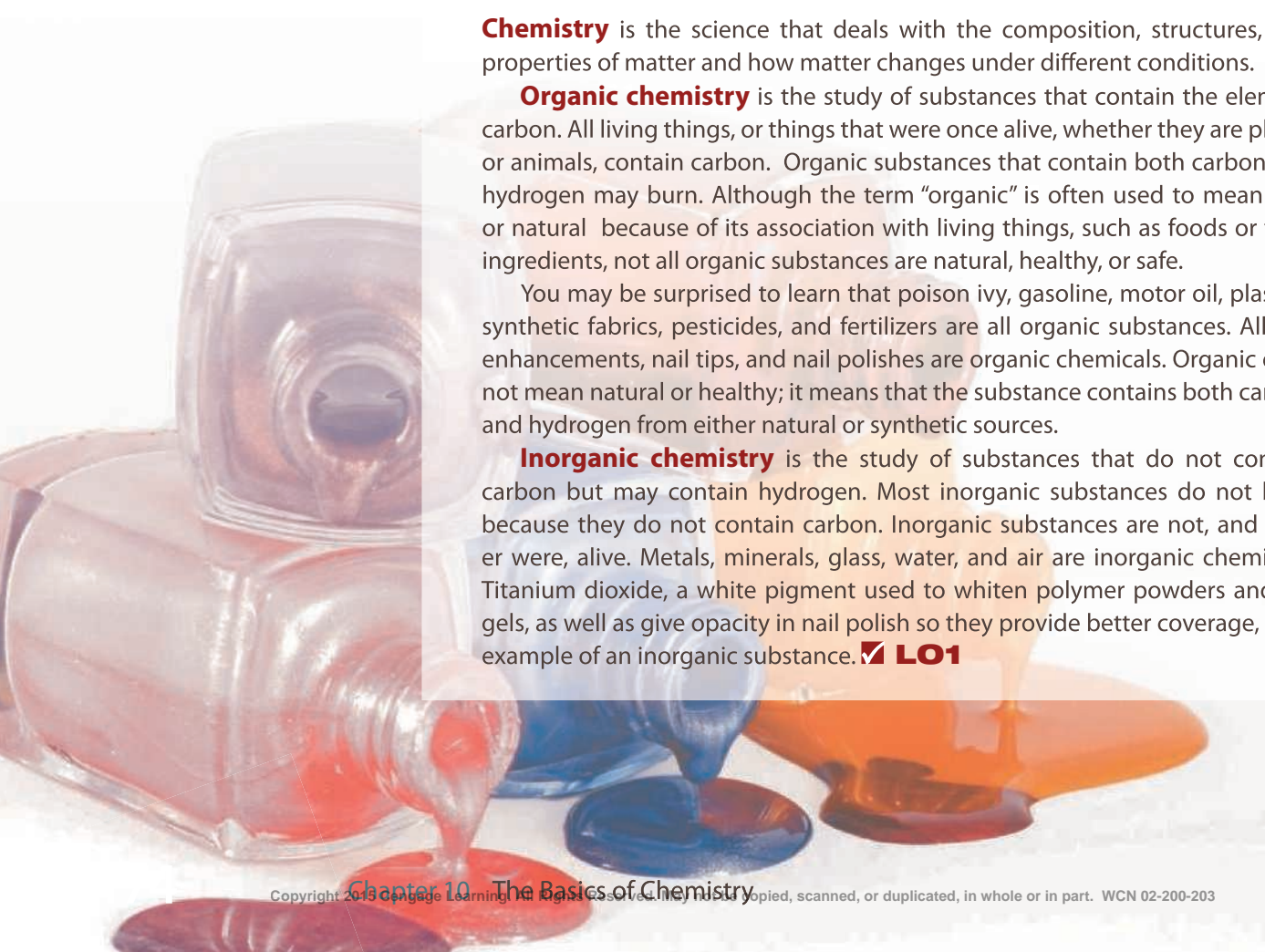
## CHEMISTRY

**Chemistry** is the science that deals with the composition, structures, and properties of matter and how matter changes under different conditions.

**Organic chemistry** is the study of substances that contain the element carbon. All living things, or things that were once alive, whether they are plants or animals, contain carbon. Organic substances that contain both carbon and hydrogen may burn. Although the term “organic” is often used to mean safe or natural because of its association with living things, such as foods or food ingredients, not all organic substances are natural, healthy, or safe.

You may be surprised to learn that poison ivy, gasoline, motor oil, plastics, synthetic fabrics, pesticides, and fertilizers are all organic substances. All nail enhancements, nail tips, and nail polishes are organic chemicals. Organic does not mean natural or healthy; it means that the substance contains both carbon and hydrogen from either natural or synthetic sources.

**Inorganic chemistry** is the study of substances that do not contain carbon but may contain hydrogen. Most inorganic substances do not burn because they do not contain carbon. Inorganic substances are not, and never were, alive. Metals, minerals, glass, water, and air are inorganic chemicals. Titanium dioxide, a white pigment used to whiten polymer powders and UV gels, as well as give opacity in nail polish so they provide better coverage, is an example of an inorganic substance. **LO1**



## ■ MATTER

**Matter** is any substance that occupies space and has mass (weight). All matter has physical and chemical properties and exists in the form of a solid, liquid, or gas. All matter is made from chemicals, so everything made out of matter is a chemical. Matter has physical properties that you can touch, taste, smell, or see. All matter is made up of chemicals. Visible light and electricity are the only examples of things you can see that are not made of matter, which explains why they are not considered to be chemicals. Light and electricity are forms of energy, and energy is not matter. Everything known to exist in the universe is either made of matter or energy; there are no exceptions to this rule.

Energy does not occupy space or have mass (weight). Energy is discussed in Chapter 12, “The Basics of Electricity.” This chapter is dedicated to matter.

## Elements

Elements are the building blocks of nature. An **element** is the simplest form of chemical matter and cannot be broken down into a simpler substance without a loss of identity. There are 90 naturally occurring elements, each with its own distinctive physical and chemical properties. All matter in the universe is made up of these 90 different chemical elements. Each element is identified by a letter symbol, such as O for oxygen, C for carbon, H for hydrogen, N for nitrogen, and S for sulfur.

## Atoms

**Atoms** are the chemical particles from which all matter is composed; therefore, all matter is made entirely of chemicals. Atoms are the structural units that make up the elements. Different elements are different from one another because the structure of their atoms is different. Each element is made from one type of atom, so differences between atoms are what make one element different from another. An atom is the smallest chemical particle of an element that retains the same properties of that element. Atoms cannot be divided into simpler substances by ordinary chemical means.

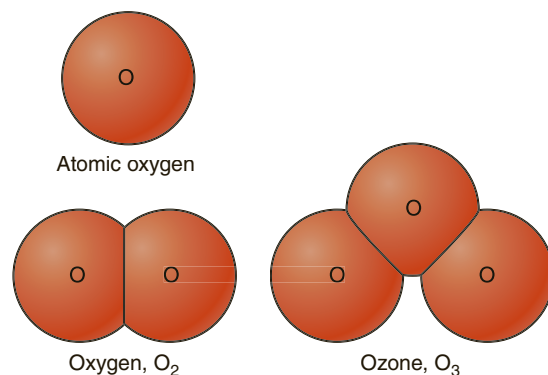
## Molecules

Just as words are made by combining letters, molecules are made by combining atoms. A **molecule** is a chemical combination of two or more different types of atoms. For example, water is made from hydrogen and oxygen molecules. Carbon dioxide is made from carbon and oxygen.

Atmospheric oxygen makes up much of the air you breathe along with other chemical substances like nitrogen and helium. This type of oxygen is different from the element that is also called oxygen. The oxygen we breathe is a molecule that contains two atoms of the element oxygen that are chemically bonded together in fixed proportions. It is written as  $O_2$ . Ozone is a potentially harmful form of the element oxygen and a major component of smog; it contains three atoms of the element oxygen, and is written as  $O_3$  (**Figure 10–1**). Molecules made from combining the atoms of one type of element are called **elemental compounds** or **elemental molecules**.

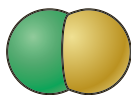
## Did You Know?

Since everything except light and electricity is a chemical, it is clear that using the word *chemical* to describe something does not mean it is dangerous or harmful. The overwhelming majority of chemicals you come into contact with every day are safe; most are even beneficial. Your own body is completely composed of chemicals. Millions of chemical reactions occur in the body every second, which is what keeps us alive. There is no such thing as a chemical-free product, so do not be fooled by misleading marketing claims.

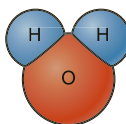


▲ **Figure 10–1** Elemental molecules contain atoms of the same element.

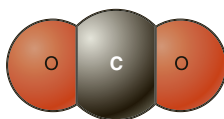
▼ **Figure 10–2** Compound molecules contain atoms of different sizes.



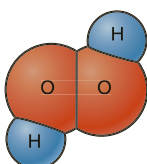
Sodium chloride, NaCl



Water, H<sub>2</sub>O



Carbon dioxide, CO<sub>2</sub>



Hydrogen peroxide, H<sub>2</sub>O<sub>2</sub>

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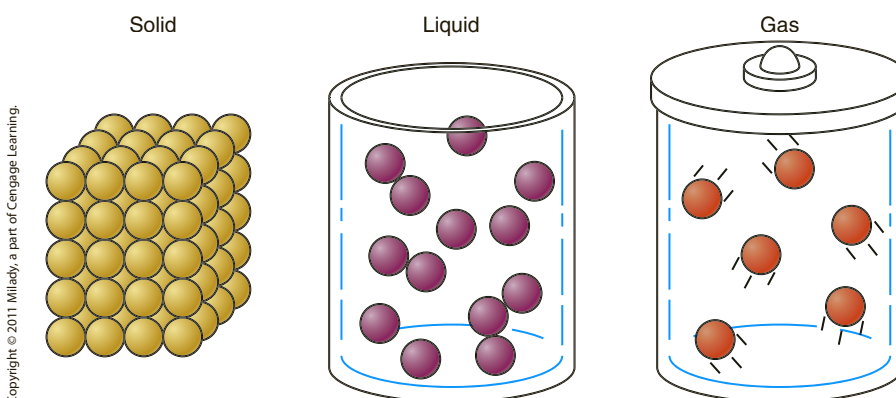
**Compound molecules** are made by combining two or more atoms of different elements (**Figure 10–2**). Sodium chloride (NaCl), or common table salt, is a chemical compound that contains one atom of the element sodium (Na) and one atom of the element chlorine (Cl).

## States of Matter

All matter exists in one of three different physical forms:

1. Solid
2. Liquid
3. Gas

These three forms are called the states of matter. Matter assumes one of these states, depending on its temperature (**Figure 10–3**).



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▲ **Figure 10–3** Solids, liquids, and gases.

Some substances, such as water (H<sub>2</sub>O) can exist in three different states of matter, depending on its temperature. For instance, when water freezes, it turns to ice. When ice melts, it turns to water. When water boils, it turns to steam vapor. When the steam cools, it turns back into water. The form of the water physically changes according to changes in the temperature, but it is still water (H<sub>2</sub>O). It does not become a different chemical—rather, it assumes different physical forms. Another example would be to dissolve sugar in water. If the water is evaporated, the sugar will be left behind but not chemically changed. These are examples of a physical change (see the section “Physical and Chemical Changes” in this chapter).

States of matter have the following distinct characteristics:

- Solids have a definite shape and volume. Ice is an example of a solid.
- Liquids have a definite volume, but not a definite shape. Water is an example of a liquid.
- Gases do not have a definite volume or shape and can never be liquid at normal temperatures and pressure. Propane is an example of a gas. It must be highly pressurized before it will turn into a liquid.

- Plasma is a special form of matter that behaves like a gas; however, unlike gases, plasmas conduct electricity. Plasmas are found in the Sun and other stars. On Earth, the most likely place you will find plasma is by observing lightning storms or by looking at a neon sign. When electricity is passed through the gases inside the types of tubes in a neon sign, a plasma is formed and visible light is emitted.

A **vapor** is a liquid that has evaporated into a “gas-like” state, but is not a gas. Vapors return to a liquid state when they cool down enough. Gases must be highly pressurized before they can become liquid, and when the pressure is lowered enough, the liquid becomes a gas once again. Steam is an example of a vapor. Vapors are not considered to be a unique state of matter but rather liquids that have undergone a physical change.

## Physical and Chemical Properties

Every substance has unique properties that allow us to identify it. Two important types of properties are physical and chemical.

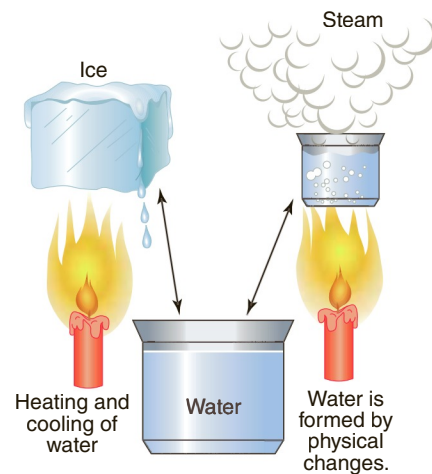
**Physical properties** are those characteristics that can be determined without a chemical reaction and do not involve a chemical change. Physical properties include color, size, weight, hardness, odor and gloss. **Chemical properties** are those characteristics that can only be determined by a chemical reaction and a chemical change in the substance. Chemical properties include the ability of iron to rust, wood to burn, or nail enhancements to polymerize or harden.

## Physical and Chemical Changes

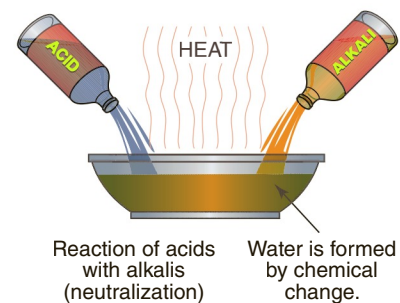
Matter can be changed in two different ways. Physical forces cause physical changes and chemical reactions cause chemical changes.

A **physical change** is a change in the form, or physical properties of a substance, without a chemical reaction or the creation of a new substance. No chemical reactions are involved in a physical change and no new chemicals are formed. Solid ice undergoes a physical change when it melts into liquid water and then converts into a vapor (**Figure 10-4**). A physical change occurs when an abrasive file is used on the nail plate and both the nail plate and the file are changed, or when nail polish is dissolved and removed with a remover solvent. When nail polish dissolves in a solvent, it is not chemically changed. In fact, nail polish is made by dissolving certain solid ingredients into a blend of solvents, which then re-form into a solid film when the solvent evaporates away.

A **chemical change** is an alteration in the chemical composition or makeup of a substance. These changes are the result of a chemical reaction that creates a new substance or substances, usually by combining or subtracting certain molecules. A chemical change results from chemical reactions that create new chemicals that are made from different molecules. These new chemical substances will have both different chemical and physical properties (**Figure 10-5**). An example of a chemical change is the polymerization (hardening) of nail products to create artificial nail enhancements when exposed to UV energy. Under certain circumstances, chemical reactions can release a significant amount of heat. These types of chemical reactions are called **exothermic** (ek-soh-THUR-mik) **reactions**. An example of a nail product that undergoes exothermic reaction is a nail enhancement during polymerization. Exothermic reactions normally occur whenever nail enhancement products polymerize.



▲ **Figure 10-4** Physical changes.



▲ **Figure 10-5** Chemical changes.

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# Did You Know?

The sugar in grapes chemically converts into ethyl alcohol in wine when it is fermented. When food is digested, it is chemically changed. These are both examples of chemical reactions.

Normally, clients cannot feel the tiny amount of heat being released. When properly applied, high-quality nail enhancement products should not create excessive amounts of heat nor should they make the client uncomfortable.

## Pure Substances and Physical Mixtures

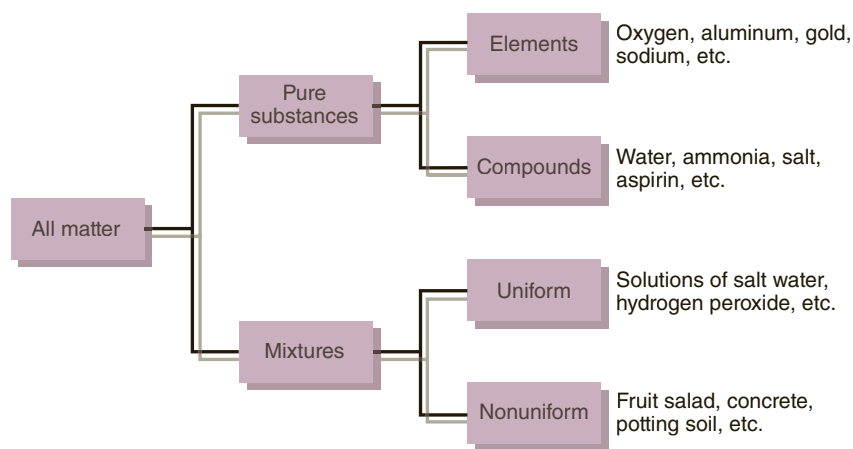
All matter can be classified as either a pure substance or a physical mixture (blend).

A **pure substance** is a chemical combination of a single type of matter. Pure substances have unique properties that are specific to the substance. All atoms, elements, elemental molecules, and compound molecules are pure substances. Water is a pure chemical substance that results from the combination of two atoms of the element hydrogen and one atom of the element oxygen, in definite proportions. Liquid water has different properties than either hydrogen or oxygen gas. Even so, like many substances, water does not naturally exist in a pure state. Water may contain chlorine, dissolved minerals such as calcium or sodium, and considerable amounts of dissolved oxygen. Even pure

air contains many substances, including nitrogen, helium, carbon dioxide gas, and water vapor.

A **physical mixture** is a physical combination of matter, in any proportions. The properties of a physical mixture are derived from combining the properties of each substance in the mixture. Saltwater is a physical mixture of salt and water, in any proportion that will dissolve the salt. The properties of saltwater are derived from the properties for both salt and water, for example, saltwater tastes salty. Most of the products nail technicians use to

perform services are physical mixtures (**Figure 10–6**). **Table 10–1** summarizes the differences between pure substances and physical mixtures. **LO2**



▲ **Figure 10–6** Pure substances and physical mixtures.

**Table 10–1 HOW PURE SUBSTANCES AND PHYSICAL MIXTURES ARE UNITED**

PURE SUBSTANCES	PHYSICAL MIXTURES
United chemically	United physically
In definite (fixed) proportions	In any proportions
Have unique chemical and physical properties	Have combined chemical and physical properties
Salt (NaCl) and water (H <sub>2</sub> O)	Salt water is a physical mixture of salt (NaCl) and water (H <sub>2</sub> O).



## Solutions, Suspensions, and Emulsions

Solutions, suspensions, and emulsions are all examples of physical mixtures. The differences among them are determined by the size of the particles and the solubility of the substances.

A **solution** is a stable, uniform blend of two or more substances. The **solute** is the substance that is dissolved into solution. The **solvent** is the substance that dissolves the solute and makes the solution; it is the matrix that holds the solute. Water is an extremely powerful and useful solvent. Water is known as the “universal solvent” because it has the ability to dissolve more substances than any other known solvent. When two liquids are mixed, they are determined to be either miscible or immiscible.

**Miscible** (MIS-uh-bul) liquids are mutually soluble, meaning that they can be mixed together to form stable solutions that cannot be easily separated. Water and rubbing alcohol are examples of miscible liquids, as are acetone (polish remover) and water.

**Immiscible** liquids are not capable of being mixed into stable solutions. Water and oil are examples of immiscible liquids. No matter how well they are mixed, eventually these two liquids will separate.

Solutions are soluble mixtures created when all solid particles have completely dissolved and all liquid components are completely soluble. Solutions are usually transparent, although they may be colored. They do not separate when left to stand undisturbed. Saltwater is a solution of a solid dissolved in a liquid. Water is the solvent that dissolves the salt (solute) and holds it in solution. The salt is no longer a solid because its individual molecules are now separated and moving freely in the water. Artificial nail monomers are examples of solutions that can contain both dissolved solids and blends of soluble liquids.

**Suspensions** are unstable mixtures of undissolved particles floating in a liquid. Suspensions contain larger and less miscible particles than solutions. The particles are generally visible to the naked eye but not large enough to settle quickly to the bottom. Suspensions are not usually transparent and may be colored. Suspensions are unstable and separate over time, which is why lotions, creams, and the glitter in nail polish may separate in the bottle.



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## Activity

Put a tablespoon of sugar in a cup of hot water. Cover it loosely with a paper towel and set it aside for a week. What happens when the water evaporates? What are the crystals that form inside the cup made from? Taste them to see whether your conclusions are right. When sugar dissolves in water, is it a physical or chemical change? What if you heated the sugar on an open flame? Would this cause a chemical or physical change?

**Table 10–2 SOLUTIONS, SUSPENSIONS, AND EMULSIONS**

<b>SOLUTIONS</b>	<b>SUSPENSIONS</b>	<b>EMULSIONS</b>
Miscible	Slightly miscible	Immiscible
No surfactant	No surfactant	Surfactant
No particles	Small particles	Largest particles
Stable mixture	Unstable mixture	Limited stability
Usually clear	Usually cloudy	Usually a solid color
Solution of nail monomer liquid	Nail polish	Hand lotions

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Oil and vinegar salad dressing is an example of a suspension, with tiny oil droplets temporarily suspended in the vinegar. The suspension will separate when left standing undisturbed; the dressing must be shaken well before it is poured onto a salad. Some lotions are suspensions and need to be shaken or mixed well before use. Calamine lotion, liquid mineral makeup, and nail polish are examples of suspensions.

An **emulsion** is an unstable physical mixture of two or more substances that normally will not stay blended without a special ingredient called an **emulsifier**. An emulsifier brings two normally incompatible materials together and binds them into a uniform and fairly stable blend. Eventually, emulsions separate, but usually very slowly, over time. A properly formulated emulsion, stored under ideal conditions can be stable for up to 3 years. Even so, it is best to use cosmetic products such as these within 1 year of purchase to ensure peak performance. Always refer to the product's instructions and cautions for specific details. **Table 10–2** offers a summary of the differences among solutions, suspensions, and emulsions.

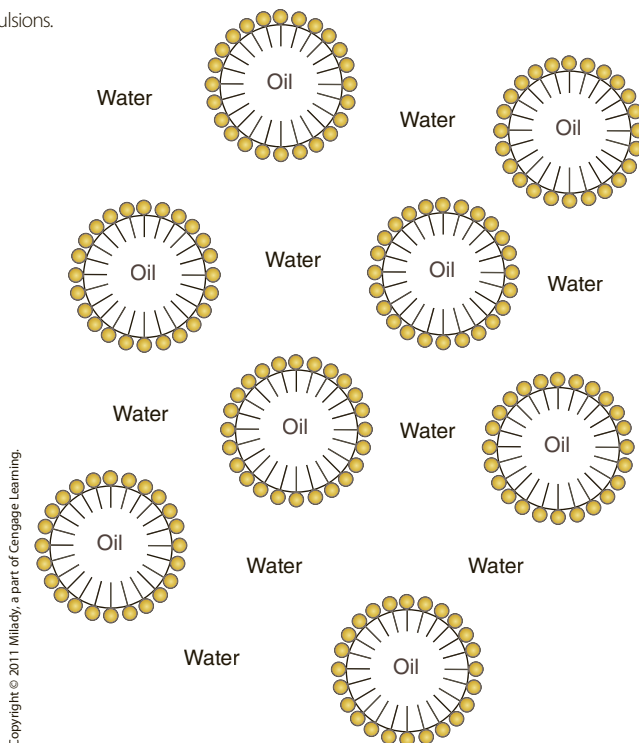
**Surfactants** (sur-FAK-tants) are substances that are often used as emulsifiers since they can act as a bridge to allow oils and water to mix, or emulsify and form emulsions. The term surfactant is a contraction for “surface active agent.” A surfactant molecule has two distinct parts (**Figure 10–7**).

The head of the surfactant molecule is **hydrophilic** (hy-drah-FIL-ik), meaning water loving; the tail is **lipophilic** (ly-puh-FIL-ik), meaning oil loving. As the old saying goes, “Like dissolves like”: this is true for surfactants. The hydrophilic head dissolves in water and the lipophilic tail dissolves in oil. So a surfactant molecule mixes with and dissolves in both oil and water and temporarily links them together to form an emulsion.



▲ **Figure 10–7** A surfactant molecule.

► **Figure 10–8** Oil-in-water emulsions.



In an **oil-in-water (O/W) emulsion**, oil droplets are emulsified in water. The droplets of oil are surrounded by surfactants with their lipophilic tails pointing inward toward the center of the droplet. These tiny oil droplets form an O/W emulsion because the oil is completely surrounded by water (**Figure 10–8**). An oil-in-water emulsion does not feel as greasy as a **water-in-oil (W/O) emulsion** because the oil is in a lower concentration than the water and is hidden by the surfactant molecules that completely surround it.

Mayonnaise is an example of an oil-in-water emulsion made of two normally immiscible liquids. Although oil and water are usually immiscible, the egg yolk behaves as the surfactant in mayonnaise that emulsifies the oil droplets in the water matrix. Without the egg yolk as an emulsifying agent, the oil and water would separate. Most of the emulsions used in a salon are oil-in-water. Lotions and creams are common examples.

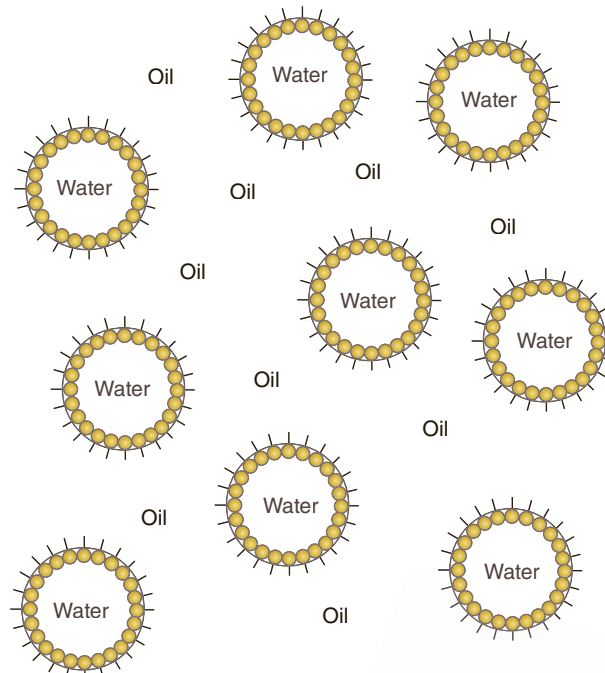
In a water-in-oil emulsion, water droplets are emulsified in oil. The droplets of water are surrounded by surfactants with their hydrophilic heads pointing in (**Figure 10–9**). Tiny droplets of water form the internal portion of a W/O emulsion because the water is completely surrounded by oil. W/O emulsions feel greasier than O/W emulsions because the water is hidden and oil forms the external portion of the emulsion. Foot balms are an example. Since W/O emulsions are so oily, they are not often used in nail salon products.

✓ **LO3**

## Did You Know?

Soaps were the first synthetic surfactants. Soaps were made about 4,500 years ago by boiling oil or animal fat with wood ashes. Modern soaps are made from animal fats or vegetable oils. Traditional bar soaps are highly alkaline and combine with the minerals in hard water to form an insoluble film that coats skin and can cause hands to feel dry, itchy, and irritated. They can also leave a film on the nail plate that could contribute to the lifting of the artificial nail enhancement. Modern synthetic surfactants have overcome these disadvantages and are superior to soaps; many are much milder on skin than soaps used in the past. Even so, they must also be completely removed from the nail plate before applying nail polish or artificial nail enhancements, or they may prevent proper adhesion to the nail plate.

▼ **Figure 10–9** Water-in-oil emulsions.



# Activity

Have you ever heard the saying, “Oil and water don’t mix”? Pour some water into a glass, and then add a little cooking oil (or other oil). What happens? Stir the water briskly with a spoon and then observe for a minute or two. What does the oil do?

## Other Physical Mixtures

Ointments, pastes, pomades, and styling waxes are semisolid mixtures made with any combination of petrolatum (petroleum jelly), oil, and wax. Powders are a physical mixture of one or more types of solids. White and/or colored polymer powders are examples of mixtures of powders and pigments.

## Common Product Ingredients

Some of the most common chemical ingredients used in salon products are described below.

Most people are familiar with **volatile** (VAHL-uh-tul) alcohols: they evaporate easily. Examples include isopropyl alcohol (rubbing alcohol) and ethyl alcohol (alcoholic beverages). But there are many other types of alcohols, from free-flowing liquids to hard, waxy solids. Fatty alcohols, such as cetyl alcohol and cetearyl alcohol, are nonvolatile alcohol waxes that are used as skin conditioners.

**Glycerin** (GLIS-ur-in) is a sweet, colorless, oily substance. It is used as a solvent and as a moisturizer in skin and body creams.

**Silicones** are a special type of ingredient used in nail polish dryers and as skin protectants. Silicones form a “breathable” film that does not cause comedones (blackheads). Silicones also impart a silky smooth feel on the skin and great shine to hair.

**Volatile organic compounds (VOCs)** are compounds that contain carbon (organic) and evaporate very quickly (meaning that they are volatile). For example, volatile organic solvents such as ethyl acetate and isopropyl alcohol are used in nail polish, base and top coats, and polish removers.

## ■ POTENTIAL HYDROGEN (pH)

Although **pH**, the abbreviation used for potential hydrogen, is often discussed with regard to salon products, it is one of the least understood chemical properties. Notice that the term pH is written with a small p (which represents a quantity) and a capital H (which represents the hydrogen ion). Understanding what pH is and how it affects the skin and nails is essential to understanding all salon services.

## Water and pH

Before you can understand pH, you need to first learn about ions. An **ion** (EYE-ahn) is an atom or molecule that carries an unbalanced electrical charge.

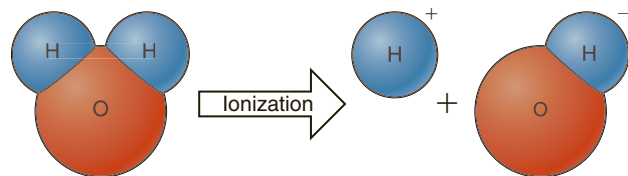


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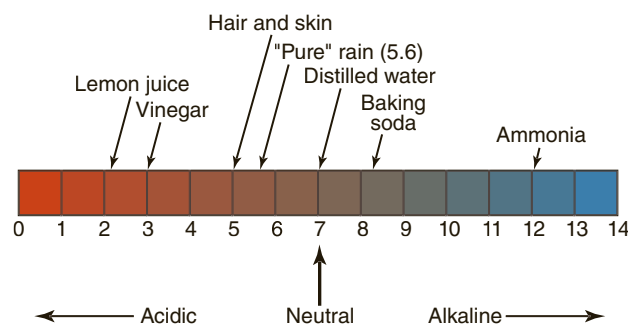
**Ionization** (eye-ahn-ih-ZAY-shun) causes an atom or molecule to split in two, creating a pair of ions with opposite electrical charges. An ion with a negative electrical charge is an **anion** (AN-eye-on). An ion with a positive electrical charge is a **cation** (KAT-eye-un).

In water, some of the water molecules ( $H_2O$ ) naturally ionize into hydrogen ions and hydroxide ions. The pH scale measures these ions. The hydrogen ion ( $H^+$ ) is **acidic**; the more hydrogen ions there are in a substance, the more acidic it will be. The hydroxide ion ( $OH^-$ ) is alkaline; the more hydroxide ions the substance has, the more alkaline it will be. pH is only possible because of this ionization of water. Only products that contain water can have a pH.

In pure water, each water molecule that ionizes produces one hydrogen ion and one hydroxide ion (**Figure 10-10**). Pure water has a neutral pH because it contains the same number of hydrogen ions as hydroxide ions. It is an equal balance of 50 percent acid and 50 percent alkaline. The pH of any substance is always a balance of both acidity and alkalinity. As acidity increases, alkalinity decreases. The opposite is also true: as alkalinity increases, acidity decreases. Even the strongest acid also contains some alkalinity (**Figure 10-11**). Pure water is 50 percent acidic and 50 percent alkaline.



▲ **Figure 10-10** The ionization of water.



▲ **Figure 10-11** The pH scale.

## The pH Scale

The **pH scale** measures the acidity and alkalinity of a substance. It has a range of 0 to 14. A pH of 7 indicates a neutral solution; a pH below 7 indicates an acidic solution; and a pH above 7 indicates an **alkaline** solution.



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The term *logarithm* (LOG-ah-rhythm) means multiples of 10. Since the pH scale is a logarithmic scale, a change of one whole number represents a tenfold change in pH. That means that a pH of 8 is 10 times more alkaline than a pH of 7. A change of two whole numbers represents a change of 10 times 10, or a hundredfold change. That means that a pH of 9 is 100 times more alkaline than a pH of 7. A small change on the pH scale indicates a large change in the pH.

pH is always a balance of both acidity and alkalinity. Pure water has a pH of 7, which is an equal balance of acid and alkaline. Although a pH of 7 is neutral on the pH scale, it is not neutral compared to the hair and skin, which has an average pH of 5. Pure water, with a pH of 7, is 100 times more alkaline than a pH of 5. Pure water is 100 times more alkaline than your hair and skin. Pure water can cause the hair to swell as much as 20 percent and is drying to the skin.

## Did You Know?

For a product to have a pH, it must contain water. Oils, waxes, nail polish, and nail monomers have no pH because they contain no water.

## Acids and Alkalis

All **acids** owe their chemical reactivity to the hydrogen ion ( $H^+$ ). Acids have a pH below 7.0 and turn litmus paper from blue to red. Alpha hydroxy acids (AHA) are examples of acids found in salons. Citric acid is often used to help adjust the pH of a lotion or cream.

All **alkalis** (AL-kuh-lyz) owe their chemical reactivity to the hydroxide ( $OH^-$ ) ion. The terms *alkali* and *base* are interchangeable. Alkalis have a pH above 7.0 and turn litmus paper from red to blue. They feel slippery and soapy on the skin. Alkalis soften and swell the cuticle on the nail plate and callused skin.

Sodium hydroxide, commonly known as lye, is a very strong alkali used in drain cleaners and callus softeners. Lye may be especially dangerous if it gets into the eyes, so always wear safety glasses to avoid eye contact. Eye exposure could result in serious damage or blindness. Products that contain lye must be used according to their manufacturer's instructions. Consult the product's SDS (formally called MSDS) for more specific information on safe use.

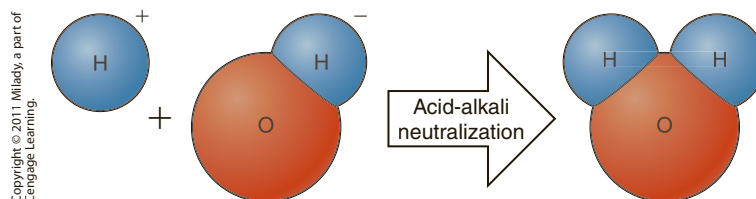
With regards to callus removers, avoid their use, since your license does not allow you to remove a callus. You may only smooth calluses with a gentle abrasive to make them more cosmetically attractive. High pH (12 to 13.5) callus softeners can be useful for softening the callus so that it can be smoothed more easily, but these products should be kept off living skin. Take special precautions while using a callus softener to avoid skin contact surround the callus. After just a few minutes of skin contact, some products can cause injury, so prevent contact and carefully rinse all traces from the hands or feet. Excessive exposure can result in the feet becoming red and irritated and a serious and painful skin burn that develops quickly. Residuals that are left on the client's skin can lead to severe irritation, so take the time to ensure proper removal.



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## Acid-Alkali Neutralization Reactions

The same reaction that naturally ionizes water ( $H_2O$ ) into hydrogen ( $H^+$ ) ions and hydroxide ions ( $OH^-$ ) also runs in reverse. When acids ( $H^+$ ) and alkalis ( $OH^-$ ) are mixed together in equal proportions, they neutralize each other to form water ( $H_2O$ ) (**Figure 10–12**). Liquid soaps are usually slightly acidic and can help neutralize alkaline callus softener and remove any residues left on the skin after rinsing. **LO4**



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▲ **Figure 10–12** Acid-alkali neutralization reaction.

## ■ Review Questions

1. What is chemistry?
2. Why is a basic understanding of chemistry important?
3. What is the difference between organic and inorganic chemistry?
4. What are atoms?
5. What are elements?
6. What are the physical and chemical properties of matter? Give examples.
7. What is the difference between a physical and chemical change? Give examples.
8. Describe the four states of matter.
9. Explain elemental molecules, compound molecules, pure substances, and physical mixtures.
10. What is the difference between solutions, suspensions, and emulsions? Give examples.
11. Define pH and the pH scale.

# 1 1

# Nail Product Chemistry Simplified

## Chapter Outline

- Why Study Nail Product Chemistry?
- Understanding Chemicals
- Adhesion, Adhesives, and Primers
- A Clean Start
- Fingernail Coatings
- The Overexposure Principle





# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **L01** Discuss the basic chemistry of nail salon products.
- ✓ **L02** Explain adhesion and how adhesives work.
- ✓ **L03** Identify the two main categories of nail coatings.
- ✓ **L04** Describe the basic chemistry of all nail enhancements.
- ✓ **L05** Describe the overexposure principle and its application to nail care products.

## Key Terms

Page number indicates where in the chapter the term is used.

<b>acrylates</b> / 195	<b>corrosive</b> / 189	<b>monomers</b> / 193	<b>polymerization</b> / 193
<b>acrylics</b> / 195	<b>cross-linker</b> / 194	<b>nail primer</b> / 189	<b>polymers</b> / 193
<b>adhesion</b> / 189	<b>cyanoacrylates</b> / 195	<b>oligomer</b> / 194	<b>simple polymer chains</b> / 194
<b>adhesive</b> / 189	<b>evaporate</b> / 188	<b>overexposure</b> / 197	<b>thermal initiators</b> / 194
<b>catalyst</b> / 194	<b>gas</b> / 188	<b>overfiling</b> / 190	<b>UV stabilizers</b> / 196
<b>chemical</b> / 188	<b>methacrylates</b> / 195	<b>photoinitiators</b> / 194	
<b>coatings</b> / 192	<b>methyl methacrylate monomer (MMA)</b> / 195	<b>plasticizers</b> / 196	



**A**lmost everything you do depends on chemistry. And with a little chemical product knowledge, you can troubleshoot and solve common salon problems that may cause service breakdowns and problem nails for your clients. Chemical knowledge is the key to becoming a great nail professional. Even if you just want to “do nails,” your success depends on having an understanding of chemicals and chemistry.

It is incorrect to think that all chemicals are dangerous or toxic substances. Educating your client not only makes your job easier, but it definitely helps increase your sales tactics. You will also boost your credibility as a professional who keeps up-to-date with industry issues.

## WHY STUDY NAIL PRODUCT CHEMISTRY?

Nail technicians should have a thorough understanding of chemicals and chemistry because:

- ▶ You will be better equipped to solve problems when things go wrong.
- ▶ You will have a deeper understanding about how professional products work.
- ▶ You are less likely to be fooled by improper claims and advertising.

## UNDERSTANDING CHEMICALS

It is incorrect to think that all chemicals are dangerous or toxic substances. The vast majority of chemicals that you will come in contact with during your lifetime are completely safe; most are beneficial. That is because everything around you is made of chemicals. The walls, this book, food, vitamins, even oxygen and water are chemicals. In fact, everything you can see or touch, except light and electricity, is a **chemical**. Most chemicals are found as molecules. Molecules are like tiny building blocks They can be arranged and rearranged into an unlimited number of combinations. Petroleum oil can be chemically converted into vitamin C. Acetone can be changed into water or oxygen. Paper can be made into sugar. The possibilities are endless. In medieval times, alchemists searched in vain for ways to turn lead into gold. Today, it is possible to do so, but the process costs more than the value of the gold.

## Vapors and Gases

Most people are very familiar with the definitions of solid and liquid. It is easy to see that something liquid is not a solid. However, since people cannot easily see the differences between a **gas** and a vapor, these terms are often confused. There is a very important difference between these two terms. (Bear in mind that all professions have a specific set of terms practitioners must be familiar with. So as a nail professional, you should always strive to use the proper terminology.)

Gases are very different from vapors. Vapors are formed when liquids **evaporate** into the air. Any substance that is liquid at room temperature will form a vapor. The higher the temperature, the faster the vapor will form. A vapor will turn back into a liquid if it is cooled again. Water, alcohol, and acetone form vapors. All types of nail enhancement systems will form vapors. Monomer



liquids (even odorless monomer), UV gels, wrap resins, and adhesives all form vapors—not gases or fumes.

Fumes are a blend of soot-like particles mixed with vapors. They usually result from burning substances, such as candles, incense, cigarettes, and gasoline in a car engine. They must not be confused with vapors, which are described above. It would be incorrect to use the term “fume” when speaking about a vapor or gas. Obviously, there is a big difference between water vapor and cigarette fumes (smoke). Nail monomers emit vapors, not fumes. **LO1**

## ADHESION, ADHESIVES, AND PRIMERS

### Adhesion

**Adhesion** is a force of nature that makes two surfaces stick together. Adhesion results when the molecules on one surface are attracted to the molecules on another surface. Paste sticks to paper because its molecules are attracted to paper molecules. Oils, waxes, and soil will contaminate a surface and block adhesion. This is why a clean, dry surface will provide better adhesion.

### Adhesives

An **adhesive** is a chemical that causes two surfaces to stick together. Adhesives allow incompatible surfaces to be joined. Scotch® tape is a plastic that is coated with a sticky adhesive. Without the adhesive, the plastic film would not stick to paper. The sticky adhesive layer acts as a “go-between” and holds the tape to the paper. Adhesives are like a ship’s anchor. One end of the anchor is attached to the ship, and the other end attaches to the ground.

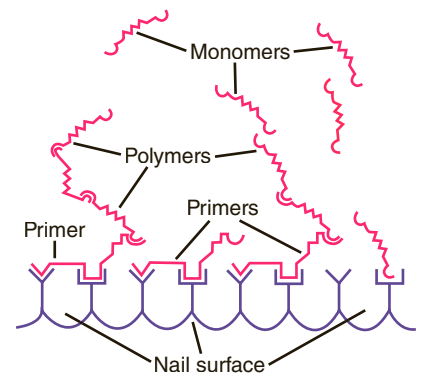
There are many types of adhesives. Different adhesives are compatible with different surfaces.

### Nail Primer

A **nail primer** is a substance that improves adhesion. A nail polish base coat is a type of primer. Why? Because the base coat makes the nail polish adhere better. A base coat acts as the “go-between” or “anchor.” It improves adhesion.

Other types of primers are sometimes required with nail enhancements. There are three basic types: acid-based, nonacid, and acid-free. These are especially useful if the client has oily nail plates, where adhesion is a problem. Some types of nail primers act like double-sided sticky tape (**Figure 11-1**). One side sticks well to the nail enhancement and the other side holds tightly to the nail plate. These types of primers create physical bonds. Newer types of primers chemically bond with the enhancement and the nail plate to create a chemical linkage. A common misconception is that nail primers “eat” or “etch” the nail. This is completely false!

Nail clippings can soak for many years in any primer without dissolving. Still, nail primers are for professional use and must be used with caution. Some are very corrosive to soft tissue and eyes. A **corrosive** is a substance that can cause



**▲ Figure 11-1** Many primers act as “double-sided sticky tape” to anchor monomers firmly to the surface of the natural nail plate.

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visible and possibly irreversible permanent skin or eye damage. Nail primers, like most professional nail products, must never touch the skin! Acid-based primers are corrosive and can cause painful burns and scars to soft tissue and eyes. This is why corrosive primers must be kept in containers with child-resistant caps, and safety glasses should be worn when these products are in use.

Even though primers will not damage or etch the nail plate, corrosive acid-based primers can burn the nail bed tissue if the nail plate is improperly filed. Overfiling the natural nail will excessively thin the nail, making it more porous. If too much primer is used, the nail plate may become overly saturated and tiny amounts may reach the nail bed, potentially leading to the separation of the nail plate from the bed. Use primer sparingly! One very thin coat is enough for most clients. If you find that you rely on two or more coats to prevent lifting, something is wrong! Check your nail preparation and application procedure for problems. Primer can become a crutch, covering up improper application or inadequate nail plate preparation. In the long run, it is better to get to the root of the problem and improve your technique rather than rely on excessive amounts of primer.

Not all primers are corrosive to skin. Noncorrosive primers, sometimes called nonacid or acid-free primers, do not contain methacrylic acid, the acid-base primer ingredient. Nonacid primers may actually contain other types of acidic substances, while acid-free primers contain no acids and have a neutral pH. Both types are noncorrosive to skin and, therefore, will prevent burning of the soft tissue. They must be used with caution and skin contact must be avoided (**Figure 11–2**). Prolonged and repeated skin contact caused by improper application can lead to an allergic reaction over time. If you never bring the product into contact with the skin, it is extremely unlikely that the client will become allergic to the product. Product vapors do not cause skin allergies. These types of allergies are caused by repeated product skin contact. Thus, it is best to avoid all contact between nail enhancement products and soft tissues.



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▲ **Figure 11–2** Avoid contact with the skin when using nail primers, adhesives, wraps, monomer liquids, polymer powders, and UV gels.

## ■ A CLEAN START

Good adhesion depends on proper technique and high-quality products. The best way to ensure success is to start with a clean, dry surface. Washing the hands and scrubbing the nail plate removes surface oils and contaminants that interfere with proper adhesion. Scrubbing also gets rid of the bacteria and fungi that cause fingernail infections. Skipping this important step is a major contributor to fingernail infections and can lead to product lifting, mainly at the base of the nail plate near the eponychium. Improper nail preparation is a leading cause of most types of nail enhancement product lifting.

A nail dehydrator temporarily removes surface moisture from the nail plate. Excessive moisture on the surface of the plate can interfere with product adhesion, just as surface oils can. Nail dehydrators remove traces of both moisture and oil. But, within 30 minutes, the normal natural oils and moisture will return to the nail plate. How is that information useful? It should suggest that for problem lifters, it might help to dehydrate only one hand at a time, very thoroughly, and after a good scrubbing.

It is a myth that nail enhancements and tips do not stick unless you “rough up the nail.” This is absolutely false and potentially harmful to clients’ nails.

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Adhesion is best when the nail plate is clean and dry. Use only a medium/fine (240 grit) abrasive or buffer to remove only the surface shine. Avoid using heavy-grit abrasives, heavy-handed filing (too much downward pressure), and improper use of electric files. These can strip away the layers of the natural nail plate. The thinner the nail plate, the weaker it will be. This is not what your

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clients pay for when they come to you for service. Thinner nail plates create a weaker foundation for nail enhancements. The thicker the nail plate, the better the foundation will be for these types of services. In other words, your clients will have better success wearing nail enhancements if you do not overfile the nail plate! This is extremely important to remember. How you treat the natural nail when applying nail enhancements can make or break your professional nail career. So, read the following section very carefully. Keeping the nail plate thick, strong, and healthy is the nail professional's first duty!

When nail enhancements are removed, clients are likely to see damage caused by heavy filing. They mistakenly blame primers and nail enhancements for what they see. Rough filing damages both the nail plate and the underlying sensitive tissues of the nail bed. Do not be a nail professional who does this to customers or you might not be a nail professional for very long! Also, heavy abrasives and **overfiling**, excessively roughing up the nail plate, may cause the nail plate to lift and separate from the nail bed. Overfiling may cause potentially dangerous, excessive thinning of the nail plate. Once this occurs, clients are more susceptible to developing infections under the nail plate. It must be avoided at all costs.

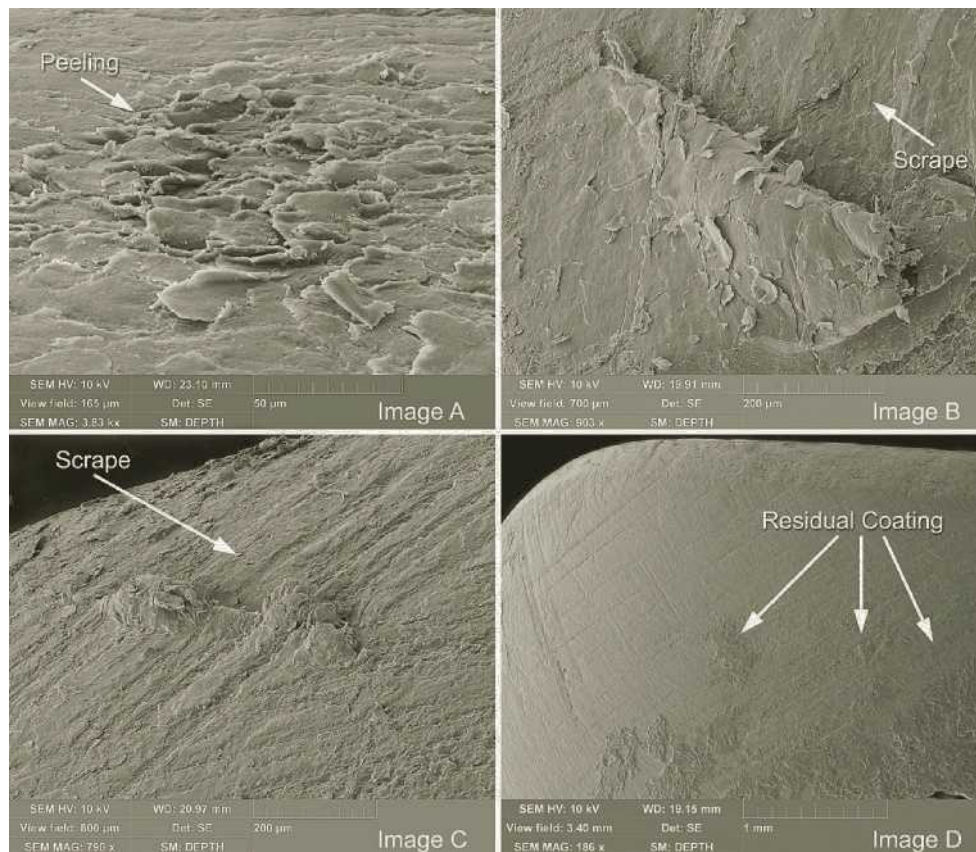
Overfiling the nail plate causes more problems for nail professionals than you might realize. Overfiling is one of the leading causes of nail enhancement service breakdown. It can lead to lifting, breaking, free-edge chipping, and free-edge product separation or "curling." It also can promote allergic reactions and may cause painful friction burns to the soft tissue of the nail bed.

If you feel that you need to rough up the nail plate to get good adhesion, then something is wrong! Many nail professionals have great success without roughing up the nail plate. Why? The answer is simple: They properly spend more time and attention preparing the nail plates by removing all dead tissue from the side walls and cuticle area as well as bacteria, fungi, oil, and moisture from the nail plate. They use correct application techniques and high-quality professional products. Lifting problems can usually be traced back to one of those key areas, and usually most of these problems are caused by improper nail preparation.

Some of the newer UV gel manicure products are designed to be removed more easily and frequently, but even these must be removed with caution. Soaking the nail plate in any liquid, including water or acetone, will temporarily soften the nail plate's surface for up to 60 minutes. The use of metal or wooden pushers to scrape or pry away residual products can lead to pitting and gouging of the nail surface. When several of these microscopic pits or gouges occur in a small area, the surface is roughened and can appear as whitish spots on

## Did You Know?

Nail enhancements are not designed to be taken off frequently (more than twice per year). Product removal is the most potentially damaging service that can be performed. Even when done carefully, complete removal can damage and dry the nail plate. It is best to leave the enhancements in place and only remove them when clients no longer want to wear them. Even removing them three or four times a year can be damaging. It is better for the nail tech to leave them in place and keep them properly maintained.



Courtesy Doug Schoon, Schoon Scientific

▲ **Figure 11-3** All nail coatings must be removed carefully, since improper removal may seriously damage the nail. This nail damage was created when UV nail coatings were forcibly scraped from the nail plate with a wooden pusher stick.

the nail. When these spots are highly magnified, as shown in **Figure 11-3**, the causes become obvious. Image A shows how nail cells are pulled away from the surface when a small piece of residual coating is pried from the nail plate. Images B and C show the effects of a wooden implement used to scrape off residual products. Image D is magnified 150 times to show residual product left on the nail plate. Imagine how much more damage could be created with a metal implement. Whenever removing any type of coating from the nail plate, heavy-handed scraping or filing must be avoided in order to protect the client's nails from excessive damage. If the coating is not completely removed after exposure to remover solvents, more time should be allowed for the remover to properly soften the coating so that it can be gently removed without damage. It is the nail technician's professional responsibility to avoid nail damage and to properly remove nail coatings. **LO2**

## ■ FINGERNAIL COATINGS

As a nail professional, you must perform many tasks. The most important of these is to apply coatings to the nail plate. **Coatings** are products that cover the nail plate with a hardened film. Examples of typical coatings are



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nail polish, top coats, nail enhancements, and adhesives. The two main types of coatings include:

- Coatings that cure or polymerize (chemical reaction)
- Coatings that harden upon evaporation (physical reaction)

Nail enhancements and UV gel manicures are examples of coatings created by chemical reactions. Nail polish, base- and top coats are examples of coatings created by evaporation.

The following is a brief overview of the chemistry behind these products.

## Monomers and Polymers

Creating a nail enhancement is a good example of a chemical reaction. Trillions of molecules must react to make just one sculptured nail. Durable and long-lasting coatings or nail enhancements are all created by chemical reactions. All monomer liquid and polymer powder nail enhancements, UV gels, wraps, and adhesives work in this fashion.

The molecules in the product join together in extremely long chains, with each chain containing millions of molecules. These gigantic chains of molecules are called **polymers** (POL-uh-murs). Polymers can be liquids, but they are usually solid. The chemical reaction that makes polymers is called **polymerization** (puh-lim-uh-ruh-ZAY-shun). Sometimes the terms cure, curing, or hardening are used, but they all have the same meaning.

There are many different types of polymers. Teflon®, nylon, hair, and wood are polymers. Proteins are also polymers. Nail plates are made of many proteins, including keratin. So, nail plates and hair are also made from polymers.

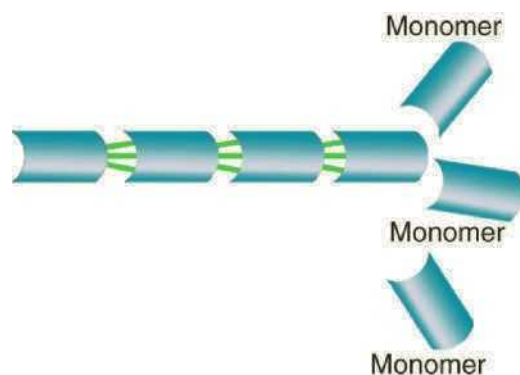
The individual molecules that join to make the polymer are called **monomers** (MON-uh-murs). In other words, monomers are the molecules that make up polymers. For example, amino acids are monomers that join together to make a polymer that is commonly called keratin (**Figure 11-4**). **LO3**

## Understanding Polymerization

If you understand the simple basics of polymerization, you will be able to prevent many common salon problems. Monomer liquid, polymer powder nail enhancements, and UV gels and wraps all seem very different, but they are actually quite similar. Each type of product is made from a different but closely related monomer. Monomers are like track runners milling about at the starting line, patiently waiting for the race to begin. The race starts when the proper signal is given. Once given, the runners do not stop until they cross the finish line.

The same is true for monomer molecules. They are like the runners, waiting for something to trigger polymerization. This is done by a special ingredient called an initiator. Initiator molecules energize! They carry extra energy. Each time an initiator touches a monomer, the initiator excites it with a boost of energy. But the monomer molecules do not like the extra energy and try to get rid of it. They do this by attaching themselves to the tail end of another monomer and passing the energy along. The second monomer uses the same trick to get rid of the energy.

As this game of tag continues, the chain of monomers gets longer and longer. A billion monomers can join in less than a second! Soon, the many growing monomer chains begin to get in each other's way. They become tangled



▲ **Figure 11-4** A simple polymer chain grows by adding monomers in a head-to-tail fashion.

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and knotted, which explains why the product starts to thicken. Eventually, the chains are much too long and crowded to freely move around. The product has become a teeming mass of microscopic-sized strings. When this occurs, the surface is hard enough to file, but it will be several days before the chains reach their ultimate lengths. This explains why all nail enhancements become stronger during the first 48 hours. Initiators get the extra energy they pass on from either heat or light. Liquid and powder systems use **thermal initiators** that gather energy from the heat of the room or hand; UV curing products use **photoinitiators** that derive their extra energy when exposed to UV.

A **catalyst** is a substance that speeds up a chemical reaction by making initiators work more efficiently or by helping chemical reactions happen more easily. Catalysts are found in every type of nail enhancement product and are the reason why nail enhancements harden so quickly.

An **oligomer** is a short chain of monomers that has had the growth of its chain halted before it became a polymer. Oligomers are useful because they can be joined quickly and easily into long chains to create polymers. In a sense, oligomers are like microwave dinners that are partially cooked so that they finish cooking more quickly in your kitchen. Oligomers are important ingredients in UV gels and are what give the gels their sticky consistency. Without oligomers, UV gel products might take two or three hours to harden into nail enhancements, instead of two or three minutes.

## Simple Versus Cross-Linking Polymer Chains

Normally, the head of one monomer reacts with the tail of another, and so on. The result is a long chain of monomers attached head to tail. These are called **simple polymer chains**. Wraps and tip adhesives form this type of polymer. In these polymers, the tangled chains are easily unraveled by solvents, which helps explain why they are easily removed. Polymer chains can also be unraveled by force. Products with simple polymer chains are easily damaged by sharp impacts or heavy stresses. Dyes and stains can also get lodged between the tangled chains. Nail polishes, marker ink, foods, and many other things may cause unsightly stains on the surface.

To overcome these problems, UV gels and monomer liquid and polymer powder nail enhancements use small amounts of special monomers called cross-linkers. A **cross-linker** is a monomer that joins different polymer chains together. These cross-links are like rungs on a ladder. Cross-links create strong net-like polymers. The result is a single three-dimensional structure of great strength and flexibility known as a nail enhancement.



## Activity

Polymers are everywhere in nature: hair, nails, even wood. Use the Internet or your local library and find five other useful, naturally occurring polymers not mentioned in the book. You should be able to find five easily. There are many thousands of examples! Explain how the five that you found are useful.



Nail plates and hair also contain cross-links, which make them tough, durable, and resilient. Besides increasing the strength of both natural nails and nail enhancements, cross-links make them more resistant to staining. Cross-links are also more resistant to solvents, including water and acetone. This explains why cross-linked nail enhancements take longer to remove in acetone than products that are not cross-linked—such as wraps and tip adhesives—and why they are more resistant to the effects of water.

The differences between the various types of nail enhancement products are not as great as you might imagine. All nail enhancements and adhesives are based on a family of chemical ingredients called the **acrylics**. Yes, all of them are acrylics, even though most nail professionals use this term only in reference to monomer liquid and polymer powder systems. There are three main types of acrylics used to make all nail enhancements and glues. They are:

- Methacrylates
- Acrylates
- Cyanoacrylates

**Methacrylates** are used to make all monomer liquid and polymer powder systems and at least one type of UV gel. All other UV gels are based on another type of acrylic called **acrylates**. All nail adhesives (glues) and wraps are based on **cyanoacrylates**. Even though these three types of acrylics are closely related, they are different enough to create the unique properties that make these types of products useful to nail technicians. In other words, their physical properties may be very different, but the chemistry behind nail enhancement products and adhesives is very similar. **LO4**

**Methyl methacrylate monomer (MMA)** is a substance with continued use in some nail salons despite both U.S. and international prohibitions and bans. Many nail technicians do not understand why they should not use MMA and wrongly believe that “toxicity” is the reason. This is untrue. When properly used, MMA is a safe substance that is widely used around the world for many applications. MMA is the preferred bone repair cement for implantation into the body. MMA is not a carcinogen, is not absorbed into the blood to affect health, does not cause brain tumors, and is not dangerous to inhale in a salon environment that has proper ventilation. There are four main reasons that MMA monomer makes a poor ingredient for nail enhancement products and should never be used:

- MMA nail products do not adhere well to the nail plate without shredding the surface of the nail plate with a coarse abrasive or electric file. Excessively thinning the nail plate will make it become weaker.
- MMA creates nails that are rigid and difficult to break. When jammed or caught, the overly filed or thinned natural nail plate will often break instead of the MMA enhancement. This can cause serious nail damage.
- MMA is extremely difficult to remove and will not dissolve in product removers. It is often pried off, creating still more damage. Since MMA products tend to discolor and become brittle more quickly than traditional products, they must be removed more often. The difficult removal process often causes a lot of nail damage.
- The FDA and most state boards of cosmetology say not to use it! This is the most important reason. The FDA bases its prohibition on the large number of consumer complaints resulting from the use of MMA nail enhancements in the late 1970s. It continues to maintain this position today.

## Did You Know?

Methacrylates and cyanoacrylates used in the nail industry are in the “monomer” form, while acrylates are usually used as “oligomers.” This explains why UV gels are usually thicker and stickier in consistency than powder and liquid overlays.

## Evaporation Coatings

Nail polishes, top coats, and base coats also form coatings. However, these products are entirely different. They do not polymerize or cure. No chemical reactions occur, and they contain no monomers or oligomers. These products all work strictly by evaporation. The majority of the ingredients are volatile or quickly evaporating solvents. Special polymers are dissolved in these solvents. These polymers are not cross-linked polymers, so they dissolve easily. As the solvents evaporate, they leave behind a smooth polymer film. This film can hold pigments, which give it color. Artist paints and hair sprays work in the same fashion. These types of products also contain ingredients called **plasticizers**, which are used to keep the products flexible, and **UV stabilizers**, which control color stability and prevent sunlight from causing fading or discoloration. These types of ingredients are also found in nail enhancement products, where they serve the same function. Of course, the strength of non-cross-linked polymers is much lower than cross-linked nail enhancement polymers. This is why polishes are prone to chipping and are so easily dissolved by removers. Now you can see for yourself the great difference between coatings that cure or polymerize and those that harden upon evaporation.

## “Better for the Nail” Claims

Some believe that certain types of nail enhancement products are “better” for the natural nail. Or that some are natural or organic and that others are not. This is absolutely false! These are claims designed to fool nail technicians. All nail enhancements are made from organic substances. No one type of nail enhancement product is better for the nail plate than another.

What is better for the nail? That is easy to answer. The best thing for the natural nail is a highly skilled, educated, and conscientious nail professional. She is the natural nail’s best friend. Good nail professionals protect the health of the nail plate and prevent natural nail damage and infection. The job of every nail professional is to nurture the nail plate and surrounding skin. When problems occur, they are usually caused by improper nail plate preparation, improper application or maintenance, or improper removal. It is wise to educate yourself about the products you are using and their proper application. Any nail enhancement product can be applied, worn, and removed safely. It is up to you to use your knowledge and skill to see that it happens. Teach your clients to routinely maintain their nail enhancements in order to help ensure that their nails will always be in perfect condition. For example, suggest professional products designed to penetrate the natural and enhanced nail to keep it flexible: penetrating nail oils.

## Protect Yourself

Take extreme care to keep brush handles, containers, and tabletops clean and free from product dusts and residues. Repeatedly handling these items will cause

## Did You Know?

Two common myths are that some UV gel nail enhancement products are made from sugar and that some types of polymer powders are edible. Both are false marketing claims. All UV gels are made from oligomers, not sugar. And no nail enhancement products are edible. They are cosmetics, not food, and it is illegal and inappropriate to market them in this fashion.

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overexposure if the items are not kept clean. Nail enhancement products are not designed for skin contact! If you avoid contact, neither you nor your client will ever develop an allergic reaction. Many serious problems can be related to contact dermatitis. Do not fall into the trap of developing bad habits.

## ■ THE OVEREXPOSURE PRINCIPLE

People usually think of toxic substances as dangerous poisons. You may hear the term “toxic” often, but should nail professionals try to avoid products that are toxic? The answer to this question may surprise you.

Paracelsus, a famous sixteenth-century physician, was the first to talk about poisons and toxins in a scientific way. What he said was so profound that scientists to this day quote him regularly. He said, “All substances are poisons; there is none that is not a poison. Only the dose differentiates a poison and a remedy.” Paracelsus was right. He was the first to recognize that everything on Earth is toxic to some degree. There is nothing in the world that is completely nontoxic. In fact, the word “nontoxic” is a made-up marketing term that has no precise scientific meaning.

To understand how to safely use and handle your products, review the manufacturer’s Safety Data Sheets or SDS (formally called MSDS) for important safety information that will help you protect yourself and your clients.

The *overexposure principle* is the modern-day expression of what Paracelsus learned. This important principle says that **overexposure** determines toxicity.

The next time someone tells you that a product is “nontoxic,” think about what you have learned. Salt water is very toxic to drink. Still, you can safely swim in the ocean without fear of poisoning. Rubbing alcohol is also quite toxic. A tablespoonful could poison and kill a small child, but it is safe to use if kept out of reach of children. Toxicity does not make a substance automatically unsafe; instead it means that you must learn how to use it in a safe manner.

## Preventing Inhalation Overexposure

An important problem in the salon industry is the lack of proper ventilation. When a new salon takes over an existing space that was previously occupied by another business (such as a travel agency), it makes sense that additional ventilation will be required. A salon’s ventilation requirements are likely to significantly exceed the needs of other types of businesses. In other words, the existing ventilation in a retail space is not likely to be adequate for a nail salon.

Proper ventilation is an important requirement that must not be ignored. Ensuring that the salon has proper ventilation is a federal OSHA mandate that all salon owners and workers should take seriously. The OSHA Hazard Communication Standard requires that all salons have proper ventilation. What is “proper” ventilation? For salons, this means ventilation that is adequate for the type of work being performed and sufficient to protect nail technicians from becoming overexposed to vapors and dusts. Besides ensuring that the existing building ventilation is properly maintained and in good working order, nail salons generally require additional ventilation such as is provided by local source capture ventilation systems (**Figure 11–5**). These systems are designed to capture vapors and dusts at the source and remove them from the air before

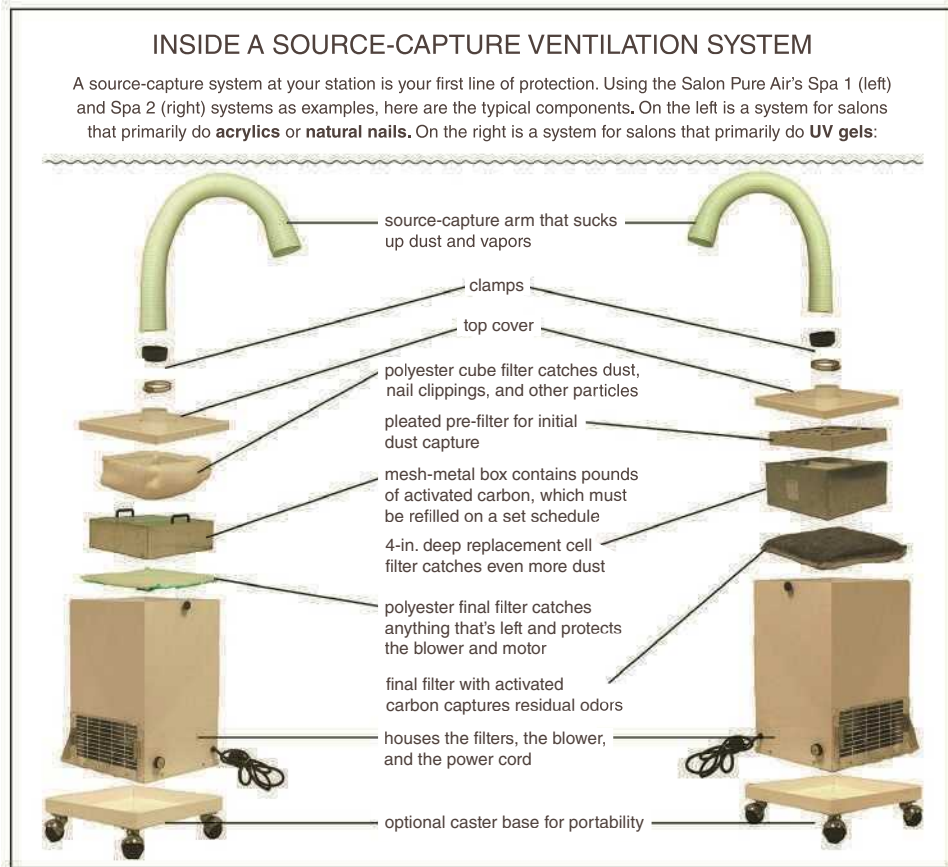
### CAUTION:

During the removal process of some nail enhancement products, your client’s fingertips must soak in acetone. Place a clean terry cloth towel over the container. This helps to slow evaporation and minimize the acetone vapors in the salon air. Acetone is frequently used to remove nail polish and to dissolve nail enhancements and other coatings. It is one of the safest solvents used in nail salons. When used as a polish remover, acetone dissolves old polish (the solute). Acetone works quickly because it is a good solvent for artificial nail products. However, it is highly flammable and must be used with appropriate caution. It should always be kept away from excessive heat, open flames, sparks, or other sources of ignitions.

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▲ **Figure 11–5** The best way to control dust in the salon is with a professional source capture ventilation system designed to collect and remove dust particles from the air or to ventilate them to the outdoors.



▲ **Figure 11-6** The ventilation system should have an activated carbon filter that is a minimum of 3" thick for absorption of vapors.

they have a chance to escape into the salon. When properly maintained and used, local source capture ventilation systems are one of the most effective ways to help ensure safe working conditions. The ventilation system should have a prefilter that captures dusts and an activated carbon filter that is 3" thick for absorption of vapors (**Figure 11-6**). Systems with less than a 3" thick bed of activated carbon cannot properly absorb vapors nor can they remove them from the salon air. Many types of local exhaust systems are mobile and can be easily transported from one station to another, if needed. These devices capture vapors and dusts at their source, which is why they are more effective than home- and office-style air cleaners.

Fans and open windows are not substitutes for proper ventilation or local exhaust ventilation: they will simply circulate vapors and dust around the room. These do not protect the breathing zone, which is an invisible 2-foot sphere around the nail technician's head/face. Since every breath of air comes from the breathing zone, it is important to use ventilation to prevent vapors and dusts from entering this zone. These systems work great for capturing all types of vapors and the finest dusts in the salon and keeping them out of the breathing zone. Local source capture systems are very effective and will help prevent overexposure if the manufacturer's recommendations are followed and the system is properly maintained. Salon services should not be provided if proper and adequate ventilation is not available. A supply of fresh, clean breathing air

is important to good health. A salon room air purifier designed specifically to remove nail vapors and dusts is also recommended. Make sure to purchase a professional system designed for heavy-duty use, not one designed primarily for residential use. Air cleaners designed for use in the home or bedroom are not sufficient for salons and will not provide adequate protection.

## Masks

Inhalation of dusts can be greatly reduced by wearing a high-quality, properly fitted dust mask (**Figure 11-7**). The mask can filter out most of the dusts from your breathing air. Properly fitted dust masks rated N-95 are highly effective and a great choice for preventing inhalation overexposure to dusts. They are vastly superior to the flimsy surgical-type masks, which are ineffective for dusts and should not be worn in salons. Choose a mask designed specifically for dusts, mists, or molds to ensure the mask will be effective in the salon setting. It is important to note that these types of masks are not effective against vapors and should never be used in place of proper ventilation. Dust masks should be thought of as a supplement to a good ventilation system, since they can block dust particles from entering the mouth and nose. **LO5**



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▲ **Figure 11-7** Inhalation of dusts can be greatly reduced by wearing a high-quality, properly fitted N-95 dust mask.

## BUSINESS TIP

All the services that you perform provide the perfect opportunity to sell nail care products to your clients. For example, if the client comments that the lotion you are using during a hand massage feels good, selling it should be easy—just explain the lotion's important features and benefits and then ask if the client would like some for home use. Even if the client seems uninterested in the products that you are using, you can still sell other items.

Talk to your clients about the benefits of the products you are applying to their nails, hands, or feet. You may say something like: "This is our latest high-shine top coat" or "This penetrating nail oil would be very beneficial for your brittle nail plates." Feature the products you use while performing the service. At the end of the manicure, place the item in the client's hand and ask if you can add it to her or his ticket. This last step is crucial to close the sale. If you make a recommendation early in the appointment, but do not pursue it at the end, the client often forgets about it.

## Review Questions

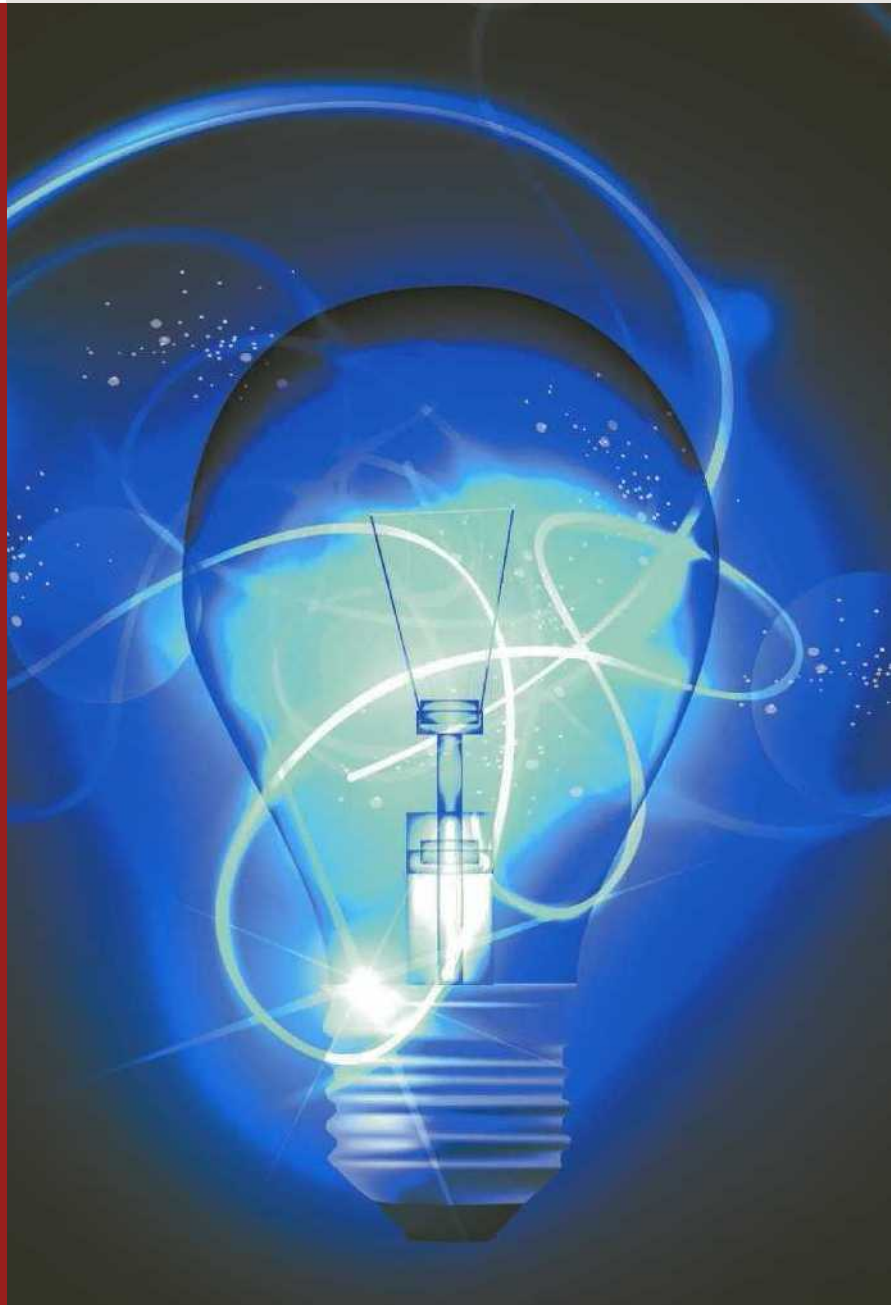
1. Can primers eat the nail plate? Explain your answer.
2. Define monomers.
3. What is one possible cause for an allergic reaction?
4. Give four reasons why MMA products should not be used in the nail salon.
5. \_\_\_ and/or \_\_\_ skin contact can cause a client to become allergic to products.
6. In your own words, explain what Paracelsus discovered about toxic substances. How can you use this knowledge to work safely?
7. To which family of ingredients do all UV gels, monomer liquid, and polymer powder systems, wraps, and adhesives belong?

# The Basics of Electricity

# 12

## Chapter Outline

- Why Study the Basics of Electricity?
- Electricity
- Electrical Equipment Safety



# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **L01** Explain the nature of electricity and list the differences between the two types of electric current.
- ✓ **L02** List and define the units of electrical measurements.
- ✓ **L03** Explain the relationship between a long and short wavelength, and between low and high frequency.
- ✓ **L04** Describe how to safely use electrical equipment in the salon.
- ✓ **L05** List and define the three different types of electrical safety devices.

## Key Terms

Page number indicates where in the chapter the term is used.

<b>alternating current (AC)</b> / 204	<b>electric current</b> / 203	<b>ground fault circuit interrupter (GFI)</b> / 208	<b>milliampere (mA)</b> / 205
<b>amp (A) (ampere)</b> / 204	<b>electrical safety devices</b> / 207	<b>heating element</b> / 207	<b>ohm (Ω)</b> / 205
<b>catalyst</b> / 206	<b>electrical ground</b> / 208	<b>infrared radiation (IR)</b> / 205	<b>rectifier</b> / 204
<b>circuit breaker</b> / 207	<b>electricity</b> / 203	<b>insulator (or nonconductor)</b> / 203	<b>ultraviolet (UV) radiation</b> / 206
<b>complete electrical circuit</b> / 203	<b>electromagnetic radiation</b> / 205	<b>inverter</b> / 204	<b>visible light</b> / 205
<b>conductor</b> / 203	<b>frequency</b> / 205	<b>kilowatt (K)</b> / 205	<b>volt (voltage) (V)</b> / 204
<b>direct current (DC)</b> / 204	<b>fuse</b> / 207		<b>watt (W)</b> / 205
			<b>wavelength</b> / 205



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Although studying electricity may not seem like an important part of your education as a professional nail technician, a basic knowledge of electricity is essential to safely performing professional nail services.

## WHY STUDY THE BASICS OF ELECTRICITY?

Nail technicians should have an understanding of the basics of electricity because it will:

- ▶ Help you safely use and maintain your electrical appliances.
- ▶ Improve your professional confidence and ability.
- ▶ Help protect you and your customer from electrical danger.

## ■ ELECTRICITY

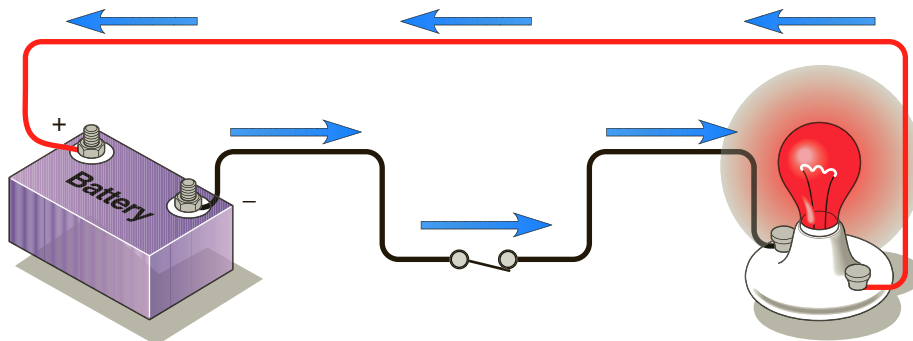
Lightning on a stormy night is a visual effect of electricity. If you plug an appliance into an electrical outlet and see sparks, you are seeing one of the physical effects of electricity. Electricity does not occupy space or have mass (weight), so it is not matter. **Electricity** (ee-lek-TRIS-ih-tee) is the movement of electrons from one atom to another along a conductor. Electricity is a form of energy that, when in motion, exhibits magnetic, chemical, or thermal effects.

All substances can be classified as conductors or insulators (nonconductors), depending on how easily an electric current can flow through them.

A **conductor** (kahn-DUK-tur) is any substance that easily allows the flow of electricity with little resistance. Most metals are good conductors. Copper is a particularly good conductor and is used in electric wiring and electric motors. Although pure water is a poor conductor, tap water and lake or ocean water is a good conductor because of the ions that are normally found in water. This explains why using electrical appliances around water is dangerous and why you should not swim in a lake or the ocean during a lightning storm.

An **insulator** (IN-suh-layt-ur) or **nonconductor** (nahn-kun-DUK-tur) is a substance that does not easily allow the flow of electricity. Rubber, silk, wood, glass, and cement are all good insulators. Electric wires are composed of twisted metal threads (a conductor) that are covered with plastic or rubber (an insulator).

An **electric current** is the flow of electricity in a complete electric circuit. A **complete electrical circuit** (kahm-PLEET ee-LEK-trih-kul SUR-kit) is a closed loop that conducts electricity and provides a return path for the current (**Figure 12-1**).



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▲ **Figure 12-1** A complete electrical circuit.



## Types of Electric Current

There are two kinds of electric current.

1. **Direct current (DC)** (dy-REKT KUR-unt) is a constant, even-flowing current that only travels in one direction. Direct current is produced by chemical means (batteries). Flashlights, cell phones, and cordless electric drills use the direct current produced by batteries. The battery in your car stores electrical energy—without it, your car would not start in the morning. An **inverter (in-VUR-tur)** changes direct current to alternating current. Some cars have inverters that allow you to use appliances that would normally need to be plugged into an electrical wall outlet.

2. **Alternating current (AC)** (AWL-tur-nayt-ing KUR-rent) is a rapid and interrupted current, flowing first in one direction and then in the opposite direction. In the United States, this change in direction happens 60 times per second. Alternating current is produced by mechanical means (generators). Electric files, table lamps, and paraffin heaters that plug into an electrical wall outlet use alternating current. A **rectifier** (REK-ti-fy-ur) changes alternating current to direct current. Cordless electric clippers and battery chargers use a rectifier to convert the alternating current from an electrical wall outlet to the direct current needed to recharge their batteries. **LO1**

## Electrical Measurements

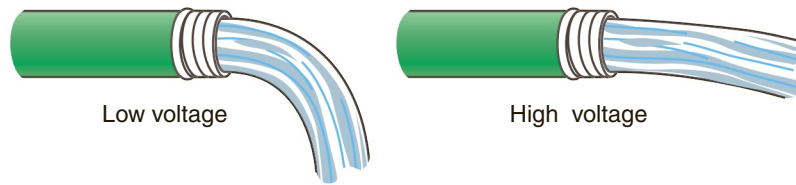
The flow of an electric current can be compared to water flowing through a garden hose.

A **volt (V)** (VOLT), or **voltage** (VOL-tij), is the unit that measures the pressure or force that pushes the flow of electrons forward through a complete electric circuit, much like the water pressure that pushes the flow of water molecules through a garden hose (**Figure 12-2**). Without pressure, neither water nor electricity would flow. Car batteries are 12 volts. Normal electric wall sockets that power an electric drill or paraffin heater are 110 volts. Most air conditioners and electric clothes dryers use 220 volts. A higher voltage indicates more pressure or force.

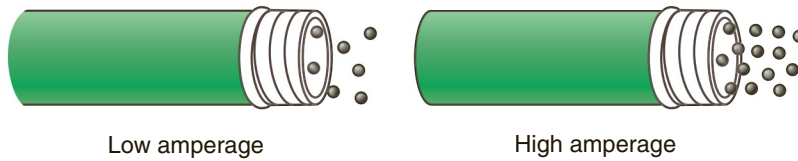
An **amp (A)** (AMP), or **ampere** (AM-peer), is the unit that measures the number of electrons that flow through a complete electric circuit. Just as a garden hose must be large enough to allow the amount of water to easily flow through it, an electric wire must be large enough to allow the number of electrons (amps) to easily flow through it. A hair dryer rated at 12 amps must have a cord that is twice as thick as one rated at 6 amps; otherwise, the cord might overheat and start a fire. A higher amp rating indicates a greater number of electrons (**Figure 12-3**).

The strength of an electric current indicates its power and ability to do work. The strength (power) of an electric current is the product of the amps and the voltage (power equals amps times voltage). Increasing the voltage increases the strength of an electric current. An air conditioner that operates at 220 volts has twice the strength of one that operates at 110 volts, even with the same amp rating. All appliances in Europe operate on 220 volts and are more efficient because they have twice the power with the same amperage.





▲ **Figure 12-2** Volts measure the pressure or force that pushes electrons forward.



▲ **Figure 12-3** Amps measure the number of electrons flowing through the wire.

A **milliampere** (mA) (mil-ee-AM-peer) is one-thousandth of an ampere. The current for facial and scalp treatments is measured in milliamperes; an ampere current would be too strong and would damage the skin or body.

An **ohm (O)** (OHM) is a unit that measures the resistance in an electric circuit. Current will not flow through an electric circuit unless the force (volts) is stronger than the resistance (ohms).

A **watt (W)** (WAHT) is a measurement of how much electricity is being used in one second. A 40-watt light bulb uses 40 watts of electricity per second.

A **kilowatt (K)** (KIL-uh-wat) is 1,000 watts. The electricity in your house is measured in kilowatts per hour (kwh). A 1,000-watt (1-kilowatt) appliance uses 1,000 watts of electricity per second. **LO2**

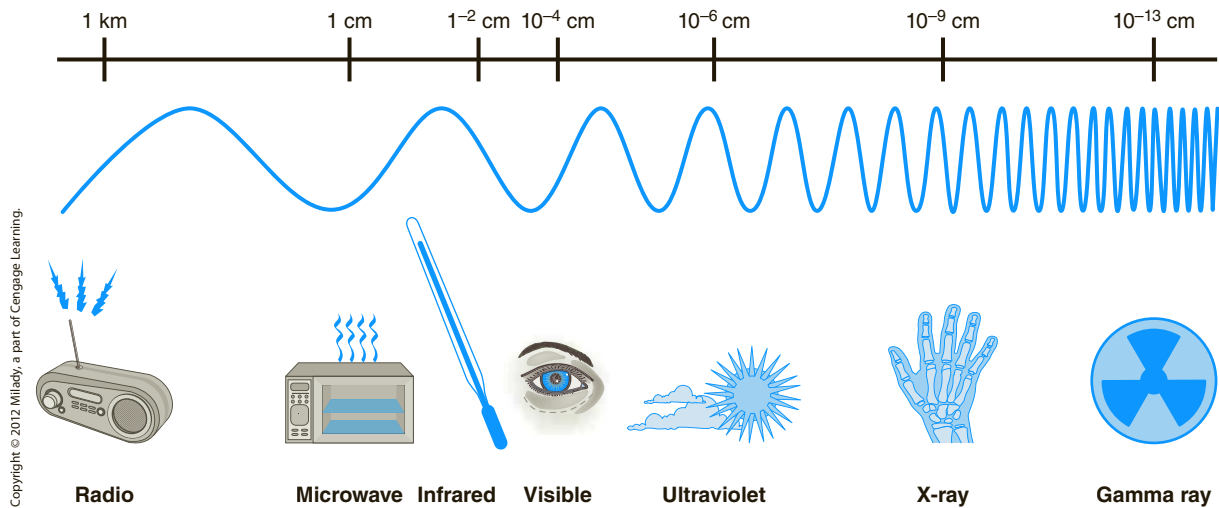
## Electromagnetic Radiation and Heat Energy

**Visible light** is **electromagnetic radiation** that can be seen (**Figure 12-4**). Electromagnetic radiation is also called *radiant energy* because it carries, or radiates, energy through space on waves. These waves are similar to the waves caused when a stone is dropped on the surface of the water. The distance between two successive peaks is called the **wavelength**. Long wavelengths have low **frequency**, meaning that the number of waves is less frequent (fewer waves) within a given length. Short wavelengths have higher frequency because the number of waves is more frequent (more waves) within a given length (**Figure 12-5**).

Within the visible spectrum of light, violet has the shortest wavelength and red has the longest. The wavelength of **infrared radiation** (IR) is just below red and below the visible spectrum of light. The wavelength of ultraviolet (UV) radiation is just above violet and above the visible spectrum of light. Infrared and ultraviolet rays are not really light at all. They are the

## Did You Know?

Wattage does not indicate how bright or powerful a light bulb is, but only how much electricity it consumes during use. Some 9-watt UV bulbs may produce less UV radiation than other 4-watt UV bulbs. You cannot judge the output of a UV nail lamp by the wattage of its bulbs. When replacing the bulb in your UV lamp, the replacement should be the same wattage as the original. Do not try to save money by buying a cheaper replacement bulb or the quality of your service may suffer.



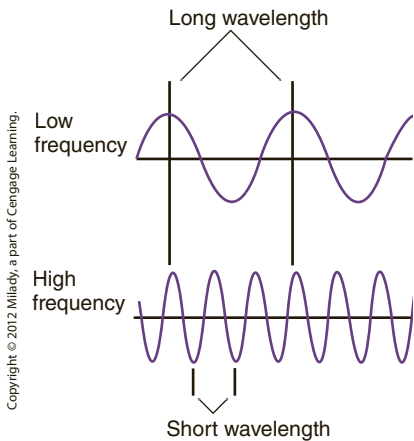
▲ **Figure 12-4** The electromagnetic spectrum.

wavelengths of electromagnetic radiation that are just beyond the visible spectrum. See **Table 12-1**.

A **catalyst** (CAT-a-list) speeds up a chemical reaction and is used to make chemical reactions happen more quickly. Some catalysts use heat while others use ultraviolet (UV) radiation. For example, UV-cured nail enhancements use **ultraviolet** (UV) (ul-truh-VY-uh-let LYT) **radiation**. Ultraviolet radiation is electromagnetic radiation with a wavelength shorter than that of visible light, but longer than X-rays. These frequencies are invisible to humans, but visible to a number of insects and birds.

UV radiation has a shorter wavelength, more energy, and does not penetrate as deeply as visible light.

It is important to protect UV curing products from light. Nail enhancement products that are exposed to sunlight or artificial room lighting can cure inside the container and become less effective. The same can happen when heat-curing monomers are kept in a hot car, store window, or other warm area. The heat may also cause the product to discolor or cure prematurely while still in the original container. **LO3**



▲ **Figure 12-5** Long and short wavelengths.

**Table 12-1 THE RELATIONSHIP OF WAVELENGTH AND FREQUENCY**

LONG WAVELENGTHS	SHORT WAVELENGTHS
Low frequency	High frequency
Penetrate deeper	Penetrate less
Have Less energy	Have more energy

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## ■ ELECTRICAL EQUIPMENT SAFETY

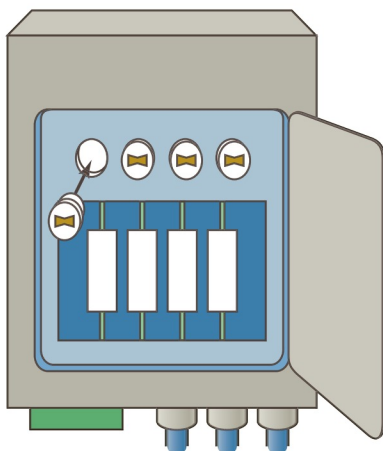
When working with electricity, you must always be concerned with your own safety, as well as the safety of your clients. All electrical equipment should be inspected regularly to determine whether it is in safe working order. Careless electrical connections and overloaded circuits can result in an electrical shock, a burn, or even a serious fire. **LO4**

### Electrical Safety Devices

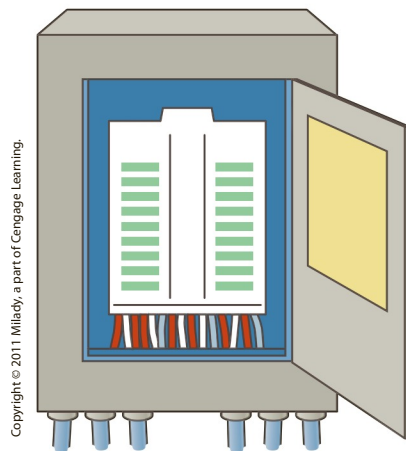
**Electrical safety devices** are designed to detect and protect you from an overload, a short circuit, or an improper ground caused by faulty wiring or water.

A conductor that is not large enough to carry the electrical current passing through it will overload the circuit and overheat. A **heating element** converts electricity into heat by providing resistance to an electric current. The heating element in your heating mitts or paraffin heater heats up because it is not large enough to carry the electric current that passes through it. Heating elements are designed to overheat and are safe when used properly, but when the electrical wires in a wall or an appliance cord overheat, they can cause a fire. Electrical safety devices like a fuse or circuit breaker are designed to detect an overload and disconnect the current to prevent overheating and starting a fire.

- A **fuse** (FYOOZ) is a single-use safety device designed to provide protection from an electrical overload or short circuit. A fuse is a deliberate weak link in an electric circuit designed to break and disconnect the current when it detects an overload or short circuit caused when faulty equipment or too many appliances are connected to an electric circuit. To reestablish the circuit, disconnect all appliances, check all the connections and insulation, and insert a new fuse (**Figure 12-6**).
- A **circuit breaker** (SUR-kit BRAYK-ar) is a resettable electrical safety device that automatically shuts off an electric current at the first indication of an overload or short circuit. A circuit breaker is similar to a fuse, but a circuit breaker can be reset instead of replaced. To reestablish the circuit, disconnect all appliances, check all the connections and insulation, and reset the circuit breaker (**Figure 12-7**).



▲ **Figure 12-6** Fuse box.



▲ **Figure 12-7** Circuit breakers.

## Did You Know?

If an electric plug or the cord of an appliance feels warm to the touch, it is a sign of an electrical overload and danger. Overheating is a sign of faulty wiring or too many appliances connected to a circuit. Always turn off the electricity and disconnect any appliance at the first sign of overheating.

### CAUTION:

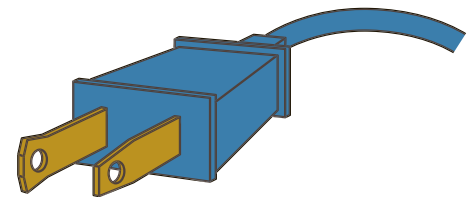
Underwriter's Laboratory (UL) certifies the safety of electrical appliances. UV nail lamps, pedicure chairs, heating mitts, and electric files should be UL approved. This certifies them to be safe when used according to the manufacturer's directions. Always look for the UL symbol on electrical appliances and take the time to read and follow the manufacturer's directions.

- A **ground fault circuit interrupter (GFCI)** is a resettable safety device that is designed to provide protection from an unsafe ground. GFCIs are attached to the plug of electrical appliances and installed in wall sockets in bathrooms, kitchens, and other areas where water may be present. GFCIs detect leakage in a circuit and disconnect the current to prevent electricity from passing through the body of a person who is grounded from an improper ground or from contact with water. GFCIs are located in the plug of an electrical appliance or installed in wall sockets in order to disconnect more quickly than a fuse or circuit breaker.

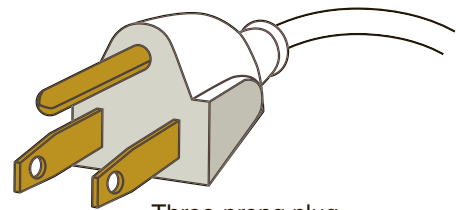
## Electrical Ground

An **electrical ground** (ee-lek-TRIK-ul GROWND) completes an electrical circuit and carries the current safely away. A ground is another important safety measure that promotes electrical safety. All electrical appliances must have at least two electrical connections. The *live* connection supplies current to the circuit. The ground connection completes the circuit and carries the current safely away to the ground. If you look closely at electrical plugs with two rectangular prongs, you will see that one is slightly larger than the other. This guarantees that the plug can only be inserted one way and protects you and your client from electrical shock in the event of a short circuit.

For added protection, the electric plugs on some appliances have a third circular prong that provides an additional ground. This extra ground is designed to guarantee a safe path of electricity if the first ground fails or is improperly connected. Appliances with a third circular ground offer the most protection for you and your client (**Figure 12-8**).



Two-prong plug



Three-prong plug

▲ **Figure 12-8** Two-prong and three-prong plugs.

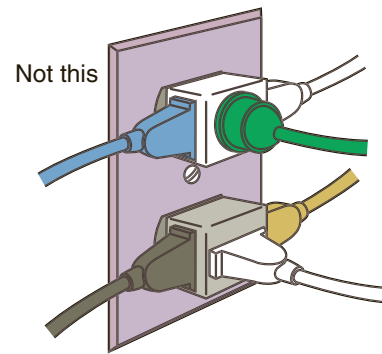
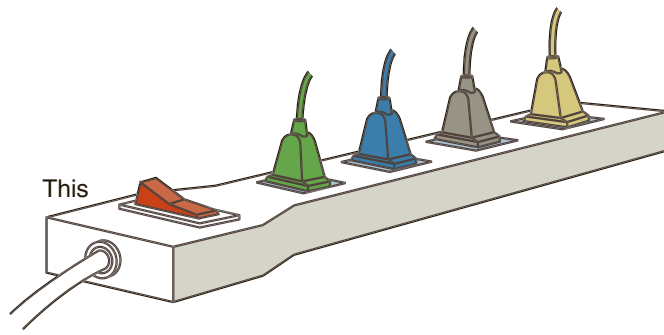


▲ **Figure 12-9** UL symbol as it appears on electrical devices.

## Guidelines for the Safe Use of Electrical Equipment

Salon fires do occur and are often due to electrical problems such as an overload; a short circuit; or the improper use of appliances, extension cords, or electric plugs. Pay close attention to the following to prevent a dangerous fire. Careful attention to electrical safety helps eliminate accidents and ensures greater client safety. The following reminders will help ensure the safe use of electricity.

- All the electrical appliances you use should be UL certified (**Figure 12-9**).
- Read all instructions carefully before using any piece of electrical equipment.



▲ **Figure 12-10** One plug per outlet.

- Disconnect all appliances when not in use for safety and to conserve electricity. Many appliances consume electricity even when they are turned off.
- Inspect all electrical equipment regularly.
- Keep all wires, plugs, and electrical equipment in good repair.
- Use only one plug for each outlet; overloading may cause a fire (**Figure 12-10**).
- Avoid contact with water and metal surfaces when using electrical appliances. Do not handle electrical equipment with wet hands.
- Do not leave your client unattended while he or she is connected to an electrical device.
- Keep electrical cords off the floor and away from people's feet; getting tangled in a cord could cause you or your client to trip.
- Do not attempt to clean around electric outlets while equipment is plugged in.
- Do not touch two metal objects at the same time if either is connected to an electric current.
- Do not step on or place objects on electrical cords.
- Do not allow electrical cords to become twisted; this can cause a short circuit.
- Disconnect appliances by pulling on the plug, not the cord.
- Do not attempt to repair electrical appliances unless you are qualified to do so. **LO5**

### CAUTION:

Never tamper with wiring or electrical plugs to get them to fit into an outlet for which they were not designed.



## ■ Review Questions

1. Define an electric current.
2. Explain the difference between a conductor and an insulator or nonconductor.
3. Describe the two types of electric current and give examples of each.
4. Explain the difference between a volt and an amp.
5. What determines the strength or power of an electric current?
6. Define the term *ohm*.
7. Define the terms *watt* and *kilowatt*.
8. Explain the function of electrical safety devices.
9. What is the difference between a fuse, a circuit breaker, and a ground fault interrupter (GFI)?
10. What is the purpose of an electrical ground, and how is it accomplished?
11. List at least five steps to take to ensure electrical safety.





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# 3

# Nail Care



**CHAPTER 13**  
Manicuring

**CHAPTER 14**  
Pedicuring

**CHAPTER 15**  
Electric Filing

**CHAPTER 16**  
Nail Tips and Wraps

**CHAPTER 17**  
Monomer Liquid and Polymer  
Powder Nail Enhancements

**CHAPTER 18**  
UV and LED Gels

**CHAPTER 19**  
The Creative Touch

# 13 Manicuring

## Chapter Outline

- Why Study Manicuring?
- State Regulations for Nail Professionals
- Nail Technology Tools
- Professional Nail Products
- The Basic Manicure
- A Man's Manicure Service
- Massage
- Spa Manicures
- Aromatherapy
- Paraffin Wax Treatment
- Nail Art
- Only the Beginning
- Procedures



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# Learning Objectives


After completing this chapter, you will be able to:

- ✓ **L01** Define *scope of practice* and describe the potential consequences if a nail technician works outside their scope of practice.
- ✓ **L02** Identify the four types of nail implements and/or tools required to perform a manicure.
- ✓ **L03** Explain the difference between reusable (multiuse) and disposable (single-use) implements.
- ✓ **L04** Name and describe the Three-Part Procedure used in the performance of the basic manicure.
- ✓ **L05** Explain why a consultation is important before a service in the salon.
- ✓ **L06** List and describe the five basic nail shapes for women.
- ✓ **L07** Describe the most popular nail shape for men.
- ✓ **L08** List the massage movements for a hand and arm massage.
- ✓ **L09** Explain the difference between a basic manicure and a spa manicure.
- ✓ **L010** Describe how aromatherapy is best used in manicuring services.
- ✓ **L011** Explain the benefits of paraffin wax in manicuring.
- ✓ **L012** Describe a proper setup for the manicuring table.
- ✓ **L013** List the steps in the basic manicure.
- ✓ **L014** Describe the proper technique for the application of nail polish.
- ✓ **L015** Describe the procedure for a paraffin wax hand treatment before a manicure.

## Key Terms

Page number indicates where in the chapter the term is used.

<b>acetone</b> / 224	<b>light emitting diode (LED) lamps</b> / 217	<b>nail clippers</b> / 220	<b>scope of practice (SOP)</b> / 214
<b>aromatherapy</b> / 236	<b>lower-grit abrasive</b> / 222	<b>nail creams</b> / 225	<b>service sets</b> / 216
<b>dimethyl urea hardeners</b> / 227	<b>manicure</b> / 228	<b>nail nipper</b> / 220	<b>single-use implements</b> / 219
<b>effleurage</b> / 233	<b>massage</b> / 232	<b>nail oils</b> / 225	<b>square nail</b> / 230
<b>essential oils</b> / 236	<b>medium-grit abrasives</b> / 223	<b>oval nail</b> / 230	<b>squoval nail</b> / 230
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Once you have learned the fundamental techniques in this chapter, you will be officially on your way to becoming a sought-after professional in the art of manicuring.

## WHY STUDY MANICURING?

Nail technicians should have a thorough understanding of manicuring because:

- ▶ The appearance of nails and hands has become a visual benchmark in our society in the assessment of a person both socially and professionally.
- ▶ Fashions are continuously changing, and a nail professional is exposed to and stays current with new trends in nail beauty.
- ▶ Some clients cannot, due to health issues, maintain their own nails; others prefer to have a knowledgeable professional perform this task for them.
- ▶ Clients love the relaxation and pampering manicures provide in this stressful world.

## STATE REGULATIONS FOR NAIL PROFESSIONALS

During your studies you will be learning about the regulations concerning performing nail services within your state. These regulations are very important to you, as a nail technician, and map out what is called your **scope of practice (SOP)**, the list of services that you are legally allowed to perform in your specialty in your state. The SOP may or may not state those services you cannot legally perform. Your instructor will provide important guidelines for your adhering closely to your SOP in your state. Know that if you perform services outside these regulations concerning allowable services, you may lose your license. Also, if damages to a client occur while performing an illegal service, you are fully liable, both professionally and personally. **LO1**

## ■ NAIL TECHNOLOGY TOOLS

As a professional nail technician, it is important that you learn to work with the tools required for nail services and know all safety, sanitation, and disinfection procedures as stated in your state's regulations.

The four types of nail technology tools that you will incorporate into your services include:

1. Equipment
2. Implements
3. Materials
4. Professional nail products **LO2**

### Equipment

Equipment includes all permanent tools used to perform nail services that are not implements.

#### Manicure Table

A standard manicuring table usually includes a drawer and a shelf (one or more, with or without doors) for storing properly cleaned and disinfected **implements** and professional products (**Figure 13-1**). The table can vary in length, but it is usually 36" (91.4 cm) to 48" (121.9 cm) long and the width is normally 16" (40.6 cm) to 21" (53.3 cm). The surface of the table must be cleaned and disinfected between clients, so it must be a hard and impenetrable surface, such as Formica or glass, and be kept clear of clutter.



Photo courtesy of Collins Manufacturing Company.

▲ **Figure 13-2** Manicure table with an adjustable lamp and arm cushion.

#### Adjustable Lamp

An adjustable lamp is attached to the table and should use a 40- to 60-watt incandescent bulb or a fluorescent bulb (**Figure 13-2**). Fluorescent bulbs are very popular because they emit a cooler light. Most people prefer true color fluorescent bulb lamps; "true" indicates that they show the skin and polishes in their actual color in natural light. Fluorescent lights also do not heat up objects underneath the lamp as do high-watt incandescent bulbs. Higher temperatures caused by an incandescent bulb can increase the curing speed of some nail enhancement products. Curing too quickly can cause undue cracking and lifting.

▼ **Figure 13-1** Manicure table.



Photo courtesy of European Touch.

#### CAUTION:

Do not touch or allow your client to get too close to your light source. Light bulbs, especially incandescent ones, can become very hot while in use, and the possibility of a burn is very real.

#### Nail Technician's and Client Chairs

The nail technician's chair should be selected for ergonomics, comfort, durability, resistance to staining, and ease of cleaning. The most appropriate chair



▲ **Figure 13-3** Technician chair with wheels for maneuverability and hydraulics for height.

has wheels to allow the technician maneuverability and hydraulics to allow up-and-down adjustment (**Figure 13-3**).

The client's chair must be durable and comfortable. For the comfort of clients, select a chair that has no or low arms on the sides, so the chair can be moved closer to the table. This will allow the client's arms to rest on the nail table and prevent the client and nail technician from needing to stretch forward. The chair should also have a supportive back so the client can sit comfortably and relax during the service. The client chair should not have wheels, as wheeled chairs are unstable and can cause falling accidents for elderly or weak clients.

### Fingerbowl

A fingerbowl is used for soaking the client's fingers in warm water to soften the skin and cuticle. It can be made from materials such as plastic, metal, glass, or even an attractive ceramic. Fingerbowls should be durable and easy to thoroughly clean and disinfect after use on each client (**Figure 13-4**).



▲ **Figure 13-4** Soak fingertips to soften the skin.

## Did You Know?

Implements must be properly prepared or prepped with a thorough cleaning before being placed in the disinfectant solution. Implements must be scrubbed with warm water, liquid soap, and a brush and then rinsed and patted dry before they're placed in the disinfectant liquid (**Figure 13-6**). Dirty or improperly prepared implements will not be disinfected in the solution and will contaminate the disinfectant.



▲ **Figure 13-6** Scrub implements to prepare for disinfection.

### Disinfection Container

A disinfection container must be large enough to hold sufficient liquid disinfectant solution to completely immerse several **service sets** of implements. Containers that do not allow the entire implement (including handles) to be submerged are not acceptable for use in professional salons.

These containers come in many shapes, sizes, and materials and must have a lid to keep the disinfectant solution from becoming contaminated when not in use. Most containers are equipped with a tray, and lifting the tray by its handle allows the technician to remove the implements from the solution without contaminating the solution or implements. After the implements are removed from the disinfectant container, they must be rinsed and air- or towel-dried in accordance with the manufacturer's instructions and state regulations.



▲ **Figure 13-5** Disinfection container with removable tray.

Disinfectants must never be allowed to come in contact with the skin. If your disinfectant container does not have a lift tray or basket to allow rinsing, remove the implements with tongs or tweezers or gloved hands (**Figure 13-5**). It is important to wear gloves when removing and rinsing implements because they prevent your fingers from coming into contact with disinfectant solution.

All disinfectant containers must be kept closed when not in use to prevent contamination and evaporation.

### Client's Arm Cushion

An 8" (20.3 cm) to 12" (30.5 cm) cushion that can be cleaned with soap and water made especially for the comfort of the client's arm is an option when performing nail services. It must be covered with a fresh, clean towel for each

client. A clean towel that is folded or rolled to cushion size may also be used instead of a commercially purchased cushion.

### Service Cushion (optional)

A foam cushion that is higher in the middle and lower on the ends can be placed between the client and the nail technician during a manicure; it is believed to provide more comfort during the service for both parties (**Figure 13-7**). The service cushion must be fully covered by a fresh, clean towel throughout each service.

### Gauze and Cotton Wipe Container

This container holds absorbent cotton, lint-free wipes, or gauze squares or pledgets for use during the services. It must have a lid to protect the contents from dust and contaminants.



▲ **Figure 13-8** Metal trash can with a self-closing lid.

### Trash Containers

A trash container with a self-closing lid should be located next to your workstation (**Figure 13-8**). Trash containers should be lined with a disposable trash bag and closed when not in use. It must be emptied at the end of each workday and cleaned and disinfected often. A trash container with a self-closing lid is one way to prevent excessive odors and vapors in the salon.

### Supply Tray (Optional)

This sturdy tray can be cleaned and holds nail products such as polishes, polish removers, and creams. It should be sturdy and easy to clean. Many technicians put every product they need for the service they will perform on a tray and then lift it from a shelf in their station onto their table in one, efficient movement. This keeps the tabletop clear, maintaining a clean, noncluttered appearance that is easy to disinfect after each service.

### Electric Nail Polish Dryer (Optional)

A nail polish dryer is designed to shorten the time it takes for the client's nail polish to dry. Electric dryers have heaters and fans that blow air onto the nail plates to speed evaporation of solvents from nail polishes, allowing them to harden more quickly. Light bulb-type nail polish dryers create warmth to speed drying and work in the same fashion as electric dryers; they may or may not have fans.

### UV or LED Light Units

Ultraviolet (**UV lamps**) and **light emitting diode (LED) lamps** are light units, although many clients may think of them as dryers. They are designed to cure, not dry, polishes that contain an ingredient sensitive to the UVA wavelength of the bulb in the dryer. This chemical ingredient is a photoinitiator that will trigger the cure. Exposure to the photoinitiator to a particular wavelength triggers curing of the polish.

### Electric Hand/Foot Mitts (Optional)

These heated mitts are designed to add special treatment to a manicure. Heated mitts make for a higher-cost service or can be an add-on to a service. After



▲ **Figure 13-7** Service cushion on nail table.

the massage, conditioning lotion or even a mask may be applied to the hands/feet, which are then placed in a plastic cover and inserted into the foot mitts. The warmth helps the conditioning ingredients to penetrate, adds to the comfort of the service, and provides ultimate relaxation for the client. Electric mitts are available for both hands and feet.

### Terry Cloth Mitts (Optional)

These washable mitts are placed over a client's hands or feet after a penetrating conditioning product has been applied, and a cover is placed over the product to prevent it from getting onto the mitts. These mitts are routinely used over paraffin to maintain the heat for a longer time or over masks to encourage the natural heat from the skin to enhance penetration of the product's ingredients.

### Paraffin Bath (Optional)

A paraffin tub has an automatic thermostat that maintains the paraffin at the ideal temperature for application to the hands and feet. Paraffin is applied to the skin to enhance moisturization. The application can be added to manicures and pedicures for an extra charge or included in an upscale service (**Figure 13-9**). Though there are many ways to apply paraffin, the traditional method is to dip the hands and feet into the paraffin in the bath. The paraffin coats the skin, holding the skin's natural moisture in the epidermal layers and thus promoting moisturization of the skin. This bath is often the first item salons and spas purchase after they have acquired the basic equipment. Check the regulations in your state concerning the use of paraffin in salons.



▲ **Figure 13-9** Paraffin bath.

Photo courtesy of European Touch.

## Did You Know?

Many nail technicians separate their clean, disinfected or sterilized implements into service sets (the tools that will be used in a service). The disinfected sets can be wrapped in a clean towel and stored in a clean, dry place. Service sets of implements are placed in a pouch before being autoclaved. The pouches are stored in a clean, dry place. At the start of each service, open the implement storage towel or autoclaved pouch in front of the client so that they can see that the set has been properly disinfected or sterilized prior to their arrival.

### Gloves

Gloves are personal protective equipment (PPE) worn to protect the nail technician from exposure to microbes during services. The Occupational Safety and Health Act (OSHA) defines PPEs as "specialized clothing or equipment worn by an employee for protection against a hazard." The hazards this particular standard refers to are bloodborne pathogens (BBPs), pathogenic microorganisms that are present in human blood and other body fluids that can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

Currently, there are differences of opinion in the nail industry about whether gloves must be worn by service providers. Many say gloves should be worn throughout every service, as occasionally nail technicians are exposed to blood. Others say it is only important when "there is exposure to blood," meaning an injury causing bleeding. The rulings from OSHA's Universal Precautions standard (which was an addition to the OSHA Act of 1970) provided the answer as per federal standards. Universal Precautions (UP) include guidelines in the use of gloves, masks, and eyewear when contact with blood or body secretions containing blood or blood elements is a possibility. The Universal Precautions standard within OSHA reads: "Universal Precautions shall be observed to prevent occupational exposure to blood or other potentially infectious materials. Occupational Exposure includes any reasonably anticipated skin, eye, mucous membrane, or potential contact with blood or other potentially infectious materials that may result from the performance of an employee's duties." It does not say "only wear gloves when there is exposure to a large amount of blood."



## Did You Know?

Gloves are available in latex, vinyl, and nitrile materials. Know that some clients are allergic to latex and that vinyl gloves allow penetration by many microbes. Furthermore, latex gloves often shred into pieces when used to apply some lotions. For these reasons, many believe nitrile gloves are the best choice for nail services. They do sometimes shred with extended use of polish remover and, if so, will need to be replaced. They come in boxes of 100 and are available at beauty and medical supply stores.

In 1996, the CDC expanded the concept of Universal Precautions (UP) and changed the term to *Standard Precautions*, though many people use the terms interchangeably. Standard Precautions expand the Universal Precautions Standards from masks, gloves, and eye protection and the recommendation of hepatitis B vaccinations to include the protocols used to maintain an aseptic field and to prevent cross-contamination and cross-infection in the environment, the use of disposables, and proper disposal of contaminated waste, such as contaminated gauze and more. Standard Precautions changed the concepts of UP from use only by medical personnel to include their use by, and protection of, workers in general. Nail technicians are now covered by OSHA and must follow Standard Precautions. These precautions mean gloves must be worn during services.

Gloves are single-use equipment; a new set is used for every client, and they may need to be changed during the service, according to the protocol. Gloves are removed by inverting the cuffs, pulling them off inside out, and then disposing of them into the trash. The glove taken off first is held in the hand with a glove still on it, and then that glove with the cuff inverted is pulled over the first glove inside out. The first glove is then inside the second one, which has the service side now on the inside against the other glove; they are disposed of together.

If a manicure and pedicure are being performed on the same client, a new set of gloves must be worn for each service. If the services require moving from one place of service to another several times, several sets of gloves will need to be used. The technician is to perform hand washing after removing each set of gloves and before putting on a new set when two services are being performed together or apply antimicrobial gel cleanser between sets of gloves during the same appointment.

## Implements

Implements are tools used to perform your services and are multiple use (reusable) or single use (disposable). **Multiuse implements** are generally stainless steel, as they must be properly cleaned and disinfected prior to use on another client. Less expensive, nickel-plated metal implements will corrode during disinfection and sterilization. **Single-use implements** cannot be reused and must be thrown away after a single use. It is recommended that nail technicians have several clean and disinfected service sets of implements available for use at all times. **LO3**

### Multiuse Implements

Multiuse implements are those that can be reused after infection control procedures have been performed on them. They are metal—stainless steel if they are to maintain their quality.

### Metal Pusher

The **metal pusher**, many times incorrectly called a cuticle pusher, is actually not to be used to push back the eponychium. It is designed to gently scrape cuticle tissue from the natural nail plate. Metal pushers must be stainless steel and used carefully so they will not cause damage to the nail and the nail matrix



▲ **Figure 13-10** Stainless pusher with pusher end.

or microscopic trauma or injury to the tissues. Improper use on the nail plate can cause grooving in the nail plate. Damage to the nail matrix can cause nail growth problems, and tiny microscopic openings in the skin can allow microbes entrance into the skin and can lead to infection.

If you have rough or sharp edges on your metal pusher, use an abrasive to smooth or remove them. This prevents digging into the nail plate or damaging the protective barriers created by the eponychium and cuticle. Take care not to thin the file's edges into a blade, which would allow it to cut the tissue.

Hold the metal pusher the way you hold a pencil, with the flat end held at a 20- to 30- degree angle from the nail plate. With the spoon end, carefully loosen and push back the dead cuticle tissue on the nail plate (**Figure 13-10**).

## Nail Nippers

A **nail nipper** is a stainless steel implement used to carefully trim away *dead* skin around the nails. It is never used to cut, rip, or tear live tissue, as the live nail fold tissue is important to ward off microbes and prevent infection around the nail plate. Nippers must be cleaned and disinfected before use on every client, taking special care to open the hinges for cleaning and disinfecting.

Always maintain a sharp edge on your nippers to prevent accidental ripping and tearing into the live tissue.

It is important that you learn the correct use of nail nippers while in school. To use nippers, hold your thumb around one handle and three fingers around the other, with the blades facing the nail plate. Your index finger is placed on the box joint to help control the blade and guide it properly (**Figure 13-11**).



▲ **Figure 13-11** Nail nippers.

## Tweezers

Tweezers are multitask implements that can be used for lifting small bits of debris from the nail plate, retrieving and placing nail art, removing implements from disinfectant solutions, and much more (**Figure 13-12**). They must be properly cleaned and disinfected before use on any client as they may come in contact with a client's skin or nails. They must be stainless steel in order to be disinfected after use.

## Nail Clippers

**Nail clippers** shorten the free edge quickly and efficiently. If your client's nails are too long, clipping them will save filing time during your service. Clip the nails from each side to prevent stress damage to the sides of the nail plates and then file to shape the nails. Nail clippers must be properly cleaned and disinfected before use on every client. These implements must be stainless steel to be properly disinfected.



▼ **Figure 13-12** Tweezers.

Many nail technicians prefer to shorten toenails with an implement that is similar to a heavy duty nail nipper but with a curved shape of the cutting head. These tools are used differently from nail clippers; you start from a side and nip the nail in small bites across the free edge, taking care to trim only the free edge and not to nip the tissues surrounding the nails. The nipper jaws are held at a 45-degree angle to the nail, with the tips pointed away from the hyponychium and the lower tip pointed into the free edge.

### Single-use Implements

All single-use implements are used once on a client. They are then discarded, preferably in the client's view.

### Brushes and Applicators

Any brush or applicator that comes into contact with a client's nails or skin during a manicure or pedicure must be properly cleaned and disinfected before use on another client. If they cannot be properly cleaned and disinfected according to your state's regulations, they must be disposed of after a single use. Check with the manufacturer if you are unsure whether a brush or applicator can be properly cleaned and then disinfected.

Nail polish brushes are the exception. They are stored in an oxygen-free, water-free liquid (polish) which does not allow the growth of microbes. With no water or air, they die within a short time. However, microbes just picked up by the brush can be carried to another nail if the brush is immediately used to polish.

### Wooden Pusher/Orangewood or Birchwood Stick

The **wooden pusher** is used to remove dead cuticle tissue from the nail plate, to clean under the free edge of the nail, or to apply products. Hold the stick as you would a pencil with the tip at a 20- to 30-degree angle from the nail plate while pushing the cuticle free. It is a single-use implement and not intended for reuse or disinfection. Apply nail products by completely wrapping the end of the stick with a small piece of cotton and placing or dipping the product onto the cotton. If the cotton tip is dipped into the product, enough must be retrieved for the entire application. If more product is needed, the cotton on your wooden pusher must be changed after each application to prevent contamination of the product. Using products that have spout lids can shorten the application time. The spout must not touch the cotton tip, nail plate, or the skin.

### Nail Brush

This plastic nail cleaning implement is used in many ways during nail services (**Figure 13-13**):

- A nail brush is used by the client when he or she arrives at the salon as part of the hand-washing procedure.
- A nail brush is used by the nail technician to remove surface debris during a service.

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Photography by Joseph Schuyler.



▼ **Figure 13-13** Nail brushes.

## Did You Know?

A nail technician needs at least three sets of quality, stainless steel implements in order to have a completely clean and disinfected set ready for each client. One set is in the disinfectant or autoclave, a second is being used, and a third set is ready for use. By always having a set of implements ready, your clients won't have to wait for the disinfection process if you run late. When the current client is finished, the implements in the disinfectant are removed, rinsed, and dried or placed to air-dry, the ones just used are prepared for disinfection, and the third set is ready for use on the next client. A well-organized nail professional will schedule his or her day to include time to clean and disinfect implements and work areas. Remember, it can take approximately 15 to 20 minutes to properly clean and then disinfect implements after each use, and 25 minutes for the autoclave process to be completed.

# fyi

One exception to the rule on using disposable application brushes is when you are using products that are not capable of harboring or supporting the growth of pathogenic microbes, such as alcohol, nail polish, monomers and polymers, UV gels, and nail primers. Since these products cannot harbor or support pathogen growth, the brushes do not need to be cleaned and disinfected between each use unless they touch a contaminated surface immediately before moving to another nail. Since nail technicians can only work on healthy nails, contaminated nails should not be an issue. However, a brush used to apply oil to the nail plate or cuticles could be considered contaminated since these products can become exposed to bacteria and do support bacterial growth. Disposable brushes or droppers should be used to apply oils to the nail plate or surrounding skin and disposed of after use.

- A nail brush is used by the nail technician during hand washing between clients.
- A nail brush is used to scrub the implements before disinfection—a very important task.

Nail brushes are used once and then disinfected or thrown away.

## Product Application Brushes

Application brushes can be used to apply nail oils or treatments to a client's nails. It is recommended that you purchase inexpensive, disposable brushes to apply products that can support bacterial growth. Dip enough product out of the container onto your brush for your entire application or pour a small amount of the product into the small end of a clean dappen dish. Dip the application brush into the dish throughout the application and then throw both the brush and the product away after the application is finished.

## Materials

Materials and supplies used during a manicure are designed to be single use and must be replaced for each client. These items are considered not “reusable.”

### Abrasive Nail Files and Buffers

Abrasive nail files (**Figure 13-14**) and buffers (**Figure 13-15**) are available in many different types and grits, such as those with firm, rigid supporting cores or others with foam, very flexible cores. They are single use only for infection-control purposes. Grits range from less than 180 to over 240 per centimeter. A rule of thumb is the lower the grit, the larger the abrasive particles on the file and the more aggressive its action. Therefore, **lower-grit abrasive** files and buffers (180 or less grit) quickly reduce any surface and produce deeper and more visible scratches than do those of a higher grit. As such, lower-grit files must be used with caution and are generally not used on natural nails. Higher-grit files remove scratches and smooth surfaces through polishing.

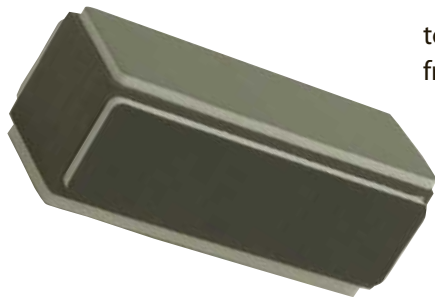
You must prep or edge your abrasive files before using them on a client to prevent harming the client with the sharp edges. These files are stamped from a large sheet of prepared materials, leaving very sharp edges that are not removed before the files are shipped. You are responsible for removing this damaging edge from every new file.

To prepare it for use, rub another (clean, unused) file across the edges to remove the sharp edge; this is called “file prepping.” Many nail technicians prepare all their new files and then store them in a clean container. If the edge is not removed on new files, clients will be at risk for cuts. Check the corners of buffers, too; they usually need to be prepped.



▲ **Figure 13-14** Typical abrasive nail file.

Copyright © 2015 Millady, a part of Cengage Learning. Photography by Joseph Schuyler.



▲ **Figure 13-15** Abrasive nail buffer.

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**Medium-grit abrasives** (180) are used to smooth and refine surfaces; the 180 is used to shorten and shape natural nails. **Fine-grit abrasives** feature grits of 240 and higher. They are designed for buffing, polishing, and removing very fine scratches.

Abrasive boards and buffers typically have one, two, or three different grit surfaces, depending on the type, use, and style. Some abrasive boards and buffers can be cleaned and disinfected. Check with the manufacturer to see if the abrasive of your choice can be disinfected. All abrasives must be cleaned and disinfected before reuse on another client. Check with your instructor as to whether your state allows the use of abrasive boards that are considered disinfected; some states do not. Abrasives that cannot survive the cleaning and disinfection process without being damaged are considered disposable and must be discarded after a single use.



Photo courtesy of purespadirect.com.

▲ **Figure 13-16**  
Three-way buffer.

### Two-Way or Three-Way Buffer

The two- or three-way buffer abrasive technology replaces the chamois that becomes contaminated with multiple uses and creates a beautiful shine on nails (**Figure 13-16**). The buffer is shaped like a two-sided nail file, long and narrow, with one or two additional grit abrasives and a final shine surface. Begin with the lowest-grit abrasive surface in the smoothing task, move to the larger grit, and then finally on to the shining surface (usually no grit). The result is a glossy shine on the nails.

This buffer is generally used on natural nails and in the final steps of the two-color application of monomer liquid and polymer powder nails, such as the French manicure look, to produce beautiful, smooth nails that will be worn with sheer or clear polish only. Most two- or three-way buffers are single-use only and must be thrown away after each use. The salon or technician must find an inexpensive source for purchasing them if regulations in the state allow their use.

### Single-Use or Terry Cloth Towels

Towels are an example of materials that do not require immersion disinfection if they are properly laundered by the salon or laundry. Cloth towels must be washed between clients, and paper towels must be thrown away after use. A client uses a fresh, clean terry cloth towel or a new disposable paper towel after washing his or her hands. The best terry cloth towel for use in a personal service is white, as it can be bleached during washing between uses. Other clean towels are used to cover any surfaces that cannot be disinfected during each manicure, including the work area. If spills occur on the table, other terry cloth or disposable towels must be used to wipe them from the surface.

### Gauze, Cotton Balls, Pledgets, or Plastic-Backed Pads

Lint-free, plastic-backed fiber or cotton pads are often used in the beauty industry to remove nail polish. Plastic backing protects nail professionals' fingertips from overexposure to drying solvents and other chemicals (**Figure 13-17**).

## Did You Know?

It is the salon's choice as to whether the nail brushes used during hand washing are reused or disposed of after a single use. To prevent cross-contamination when the choice is reuse, the brush must be clean and fresh for each client's use. Nail brushes must be cleaned and disinfected between services, thrown away after use, or sent home with the client. Many salons find a resource for inexpensive nail brushes so they can dispose of or send the used ones home with the client. This eliminates the cost of disinfectant.

### CAUTION:

Excessive pressure or buffing too long with abrasives that are too low in grit on the nail plate can generate excessive and painful heat into the nail bed and can lead to onycholysis and possible infection. If your client is feeling heat or burning, lighten the pressure, lower the speed of the buffing, and raise the buffer from the surface between buff passes.



▲ **Figure 13-17** Materials used to remove polish and clean nail bed before polishing.

Gauze squares or cotton balls are also popular for removing nail polish: they are inexpensive and perfectly designed for this and other application tasks. Gauze squares (2" x 2" or 4" x 4") (5.08 cm x 5.08 cm or 10.16 cm x 10.16 cm), (also called pledgets) have many uses in manicure services, from product removal to application. All these materials must be stored in a manner to prevent dust and debris from contaminating them.

### Plastic or Metal Spatulas

A single-use plastic or multiuse metal spatula must be used when removing products from their respective containers to prevent contamination of the products and the spread of disease. If a spatula comes into contact with your or the client's skin, it must be properly cleaned and disinfected before being used again or disposed of and replaced with a new, disposable spatula. In addition, never use the same spatula to remove unlike products from different containers, as the chemistry of the products may not be the same.

## Law

### State Regulatory ALERT!

Reusing implements without properly cleaning and disinfecting them is against the regulations in every state. This inappropriate and illegal use of implements puts clients at risk of the transfer of infection.

## PROFESSIONAL NAIL PRODUCTS

As a professional, you need to know how to properly use each nail product, what ingredients it contains and what they do, and what it does during and after use. You must also know how to properly store products and remove them from their containers in a sanitary manner. This section provides a basic understanding of several professional nail products.

### Soap

Soap is used to clean the nail technician's and client's hands before a service begins. It acts as an infection-control tool during this preservice hand-washing procedure by mechanically removing microbes and debris. It is known to remove over 90 percent of pathogenic microbes from the hands, if performed properly.

Liquid soaps (**Figure 13-18**) are recommended and preferred because bar soap harbors bacteria and can become a breeding ground for pathogenic (disease-producing) bacteria.

▼ **Figure 13-18** Use pump bottles of soap at the hand-washing station.

## Did You Know?

The Centers for Disease Control (CDC) states that it does not matter whether the soap/cleanser used in a salon is antibacterial or not; it still removes microbes and debris. Furthermore, repeated use of some antibacterial soaps/cleansers can be drying to the skin. However, many clients feel more secure if an antibacterial soap is used at the wash station.

### Polish Remover

Removers are used to dissolve and remove nail polish. There are two types of polish removers available: acetone-based and non-acetone-based products. Acetone-based polish removers work more quickly and are better solvents than non-acetone-based removers. **Acetone** is a colorless, inflammable liquid, miscible with water, alcohol,



and ether, and has a sweetish odor or burning taste; it is used as a solvent. Nonacetone removers will not dissolve polish and enhancement products as quickly as acetone-based removers, so many technicians prefer non-acetone removers when removing nail polish from nail enhancements such as wraps. However, many experienced nail technicians prefer acetone-based removers: due to their experience, they can work faster to remove the polish and feel that their speedy efforts and the rapid evaporation of the acetone prevents the dissolving of the enhancements. Both acetone-based and non-acetone-based polish removers can be used safely; both can cause drying of the skin and cuticles. As with all products, read and follow the manufacturer's instructions for use. Use them minimally and quickly.

Both acetone-based and non-acetone-based removers contain additional ingredients. An additional ingredient may be oil to prevent drying of the nail plates and surrounding tissues.

## Nail Creams, Lotions, and Oils

These products are designed to soften dry skin around the nail plate and to increase the flexibility of natural nails. They are especially effective on nails that appear to be brittle or dry and are the number one nail product that should be sold to manicure and pedicure clients. **Nail creams** are barrier products: they contain ingredients designed to seal the surface of the skin around the nails and hold in the subdermal moisture in the skin. **Nail oils** are designed to be absorbed into the nail plate to increase flexibility and into the surrounding skin to soften and moisturize. Typically, oils and lotions can penetrate the nail plate or skin and will have longer-lasting effects than creams, but all three can be highly effective and useful for clients, especially as daily-use home-care products.

## Cuticle Removers

Cuticle removers are designed to loosen and dissolve dead tissue on the nail plate so this tissue can be more easily and thoroughly removed from the nail plate. These products typically contain 2 to 5 percent sodium or potassium hydroxide plus glycerin or other moisturizing ingredients to counteract their skin-drying effects. They must be used in strict accordance with the manufacturer's directions, and live skin contact must be avoided where possible to counter the effects of the alkaline ingredients. Excessive exposure of the eponychium to cuticle removers can cause live skin and eponychium dryness, as well as hangnails.

## Colored Polish, Enamel, Lacquer, or Varnish

Colored coatings applied to the natural nail plate are variously known as polish, enamel, lacquer, or varnish. All of these terms are actually marketing terms used to describe the same types of products containing similar ingredients.

*Polish* is a generic term describing any type of solvent-based colored film applied to the nail plate for the purpose of adding color or special visual effects (e.g., sparkles). It is usually applied in two coats over a base coat and followed by a top coat (**Figure 13–19**).

## Did You Know?

Many experienced nail technicians prefer using straight acetone to remove polish for three reasons: 1) they feel the added ingredients in polish removers slow the removal process; 2) they believe the added ingredients unnecessarily increase the cost of the product; and 3) acetone without the added ingredients will not unnecessarily dissolve enhancements if used properly and quickly.

## fyi

No polish exists that does not have acrylic in it, despite the claims of some companies of "all-natural polish." Without acrylic, the polish would not harden to the shape of the nail. Also, the chemicals some claim to be toxic have long been removed from the formulations of all major polish companies.

## Did You Know?

Never shake your polish bottles. Shaking may cause air bubbles to form and cause the polish application to be rough and have an irregular appearance. Instead, gently roll the polish bottles between your palms to thoroughly mix.



## Gel Polish Products

A form of nail color that addresses the constant smudging clients experience after a service has recently been created. Developed specifically for natural nails, it is now also used on enhancements (after adjustments to application methods were made). See Chapter 18 for more information on gels and gel polishes.

▲ **Figure 13-19** Polish, top coat, and base coat for manicure.

fyi

Hybrid gels" are gel polishes that combine the best of the polish worlds. They have the durability and gloss of gels but can be removed like polishes with polish remover, though it takes longer. (Gel polishes originally had to be removed through abrasion.) The application is basically the same as traditional polishes, although there are nuances that should be learned through education by the manufacturer of the gel. Gels require a light-cured base coat and top coat that are optimally from the manufacturer that designed the gel polish.

## Base Coat

A base coat creates a colorless layer on the natural nail and nail enhancement that promotes the adhesion of polish. It also reduces the potential for polish to develop a yellowish staining or other discoloration on the natural nail plate; some nail plates are especially susceptible to stains from red or dark colors. Base coats are also important to use on nail enhancements under colored polish to prevent surface staining. Like nail polishes, base coats contain solvents designed to evaporate. These products usually contain a form of adhesive that aids in retaining the polish for a longer time. After evaporation ("drying"), a sticky, adhesion-promoting film is left behind on the surface of the nail plate to increase adhesion of the colored coating.

Light-cured gel polishes usually require a light-cured base coat.

## Nail Hardener

Nail hardeners are used to improve the surface hardness or durability of weak or thin nail plates. Some can also prevent splitting or peeling of the nail plate, if used properly. Hardeners can be applied before the base coat or after as top coat, according to the manufacturer's directions.

There are several basic types of nail hardeners:

A **protein hardener** is a combination of clear polish and protein, such as collagen. This provides a clear, hard coating on the surface of the nail, but does not change or affect the natural nail plate itself. Protein (collagen) has very large molecules that cannot be absorbed into the nail plate.

Other nail hardeners contain reinforcing fibers, such as nylon, that also cannot be absorbed into the nail plate. Therefore, the protection they provide comes from the coating itself. They are not therapeutic. These products can be used on any natural nail.

Nail plate hardeners do not contain formaldehyde, as was once believed in the industry. The ingredient is actually methylene glycol, an ingredient that creates bridges or cross-links between the keratin strands that make up the natural nail, making the plate stiffer and more resistant to bending and breaking. Methylene glycol is also not irritating to the skin.

These products are useful for thin and weak nail plates, but should never be applied to nails that are already very hard, rigid, and/or brittle. Methylene glycol hardeners can make brittle nails become so rigid that they may split and shatter. If signs of excessive brittleness or splitting, discoloration of the nail bed, development of ventral pterygium, or other signs of adverse nail and skin reactions occur, discontinue use. These products should be used as instructed by the manufacturer until the client's nails reach the desired goal, and then their



use should be discontinued until the product may be needed again. Clients are generally instructed to apply the product daily over nail polish as a top coat, or under nail polish as a base coat when the polish is removed and reapplied. Clients must be instructed to follow manufacturer instructions.

**Dimethyl urea hardeners** use dimethyl urea (DMU) to also add cross-links to the natural nail plate, DMU does not cause adverse skin reactions. This hardener does not work as quickly as a hardener containing methylene glycol but will not overharden nails, as the latter may with overuse.

## Top Coat

Top coats are applied over colored polish to prevent chipping and to add a shine to the finished nail. These products contain ingredients that create hard, shiny films after the solvent has evaporated. Typically the main ingredients are methacrylic or cellulose-type film formers.

## Nail Polish Dryer Products

Nail polish dryer products are designed to hasten the drying of nail polishes. They are typically applied with a dropper or a brush or are sprayed onto the surface of the polish. They promote rapid drying by pulling solvents from the nail polish, causing the colored film to form more quickly. These products can dramatically shorten drying time and will reduce the risk of the client smudging the recent polish application.

## Hand Creams and Lotions

Hand creams and lotions add a finishing touch to a manicure. Since they soften and smooth the hands, they make the skin and finished manicure look as beautiful as possible. Hand creams are generally designed to be barriers on the skin to help the skin retain its natural moisture or contain penetrating ingredients to soften the skin or repair damage. Their purpose is to make the skin on the hands less prone to becoming dry or cracked. Lotion is generally more penetrating than creams and may treat lower levels of the epidermis. Mitts or paraffin dips can be used over a lotion to enhance penetration of the ingredients into the skin.

## Nail Conditioners

Nail conditioners contain ingredients to reduce brittleness of the nail. They should be applied as directed by the manufacturer, but they are especially useful when applied at night before bedtime. They can be oils, lotions, or creams.

## Sunscreens

These lotions contain ingredients that protect the skin from damage by the ultraviolet rays (UVA and UVB) from the sun. UVA is known to cause age spots (hyperpigmentation) on the backs of the hands and damage to the DNA of the cells of the skin. UVB is known as the “burning rays,” meaning they are what cause sunburns. Overexposure to the sun is known as a major cause of aging and skin cancer.

## Did You Know?

Products sold to clients for their use at home are called retail products, and are packaged for that purpose. The reality is that in this industry they are *home-care products*, not retail products, because they are sold under professional recommendation and the client is given instruction on how to use them before taking them home. Home-care products, by law, must have usage directions and cautions listed on the bottles or boxes or have written instructions in the box, while professional products (usually bulk sizes) are not required to have them on their boxes or containers.

### CAUTION:

All base coats, top coats, nail polishes, and hardeners are highly flammable.



Encourage your clients to purchase and use broad-spectrum sunscreens on all their exposed skin. Some products only protect from UVA rays; broad-spectrum indicates the product will usually protect from both UVA and UVB. New requirements for the labeling of these products are being developed by the FDA.

## ■ THE BASIC MANICURE

The basic manicure is the foundation of all nail technology services; it is vital that you know and recognize all of the components necessary for making this service successful. A **manicure** is a cosmetic treatment of the hands involving cutting, shaping, and often painting of the nails, removal of the cuticles, and softening of the skin. The information you learn for the basic manicure will serve as a foundation for all of the other nail services you will perform in your career.

Work to get your basic manicure procedure, including polishing, down to 30 to 45 minutes at the most (preferably 30 minutes) before you leave your school environment, and you will be more hireable and more successful in your career. Practice until you can perform the skills automatically, without considering what is next in the protocol, and you will portray the confidence and professional aura that clients prefer in their nail technician.

### CAUTION:

During a manicure, always file the nails before they are soaked as water will absorb into the nail plate and make it softer and more easily damaged during filing.

### Application Tip:

If the nails are long and need to be shortened more than the usual amount of filing, they can be cut with nail clippers (or nail nippers if they are extremely long). Clip or nip from the sides in small bits toward the center of the nails to prevent stress to the sides and possible splitting. This clipping will save time during the filing process. File the free edge after using the nail clipper to perfect the shaping.

Go to [Procedure 13-3 Performing a Basic Manicure](#) page 244

## Three-Part Procedure

It is easier to keep track of what you are doing, to remain organized, and to give consistent service if you break your nail care procedures down into three individual parts. These three parts are: preservice, actual service, and postservice.

### A. Preservice Procedure

The preservice procedure is an organized step-by-step plan for cleaning and disinfecting your tools, implements, and materials; for setting up the basic manicuring table; and for meeting, greeting, and escorting your client to your service area.

Go to [Procedure 13-1 Preservice Procedure](#) page 239

### B. Service Procedure

The service procedure is an organized step-by-step plan for accomplishing the actual service the client has requested, such as a manicure, pedicure, or nail tips and wraps.

### C. Postservice Procedure

The postservice procedure is an organized step-by-step plan for caring for your client after the procedure has been completed. It details helping your client through the scheduling and payment process of the salon and provides information for you on how to prepare for the next client.

Go to [Procedure 13-2 Postservice Procedure](#) page 242

## ✓ LO4

## Hand Washing

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To prevent the spread of communicable disease, it is imperative to wash your hands before and after each client and to have your clients wash their hands before they sit down at your cleaned and disinfected manicure table. Your regular clients should be so well trained in the practice of hand washing before any procedure that they go directly to the washing station before coming to your nail table.

The nail brush, which is an integral part of the hand-washing procedure, should be stored in a known location so that clients can retrieve it easily and quickly. Mark the clean nail brush container well so the client will know where to find a fresh brush. The client can bring the brush to the table for your use during the manicure or leave it in a marked “dirty brush” container.

## The Manicure Consultation

The consultation with the client before the manicure, or any other service, is an opportunity for the nail technician to get to know the client and understand what his or her expectations are. Do not rush through the consultation—it is an important part of the service!

If the client is new to the salon, he or she should already have filled out the information on the consultation form in the waiting room. Use this information to perform the client consultation. Look at the forms closely for important responses from the client and then record your observations after the service.

Always check the client’s nails and skin to make sure that they are healthy and that the service you are providing is appropriate. Next, discuss the service, and then, after the client has an understanding of it, discuss the shape, color and length of nails that he or she prefers. You must be careful not to diagnose a disease or disorder in any way. All information should then be recorded on the client service form. If there are no health issues observed, continue with the service.

Keep the following considerations in mind: shape of the hands, length of fingers, shape of the eponychium area, hobbies, recreational activities, and type of work. Generally it is recommended that the shape of the nail plate enhance the overall shape of the fingertips, fingers, and hands of the client.

## Review the steps of the client consultation in chapter 4.

### LO5

## Basic Nail Shapes for Women

You should always discuss the final shape your client wants for her nails during the consultation and do your best to please her. There are five basic shapes that women most often prefer (see Table 13-1). **LO6**

## Did You Know?

Although the CDC states that hand sanitizers are appropriate for use, they also note that they are to be used only when water is not available for hand washing. It is very important to remember that these products cannot and do not replace proper hand washing. Proper hand washing is a vital part of the service and it cannot be skipped or ignored. Resort to using a hand sanitizer only when it’s absolutely necessary!



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Photography by Joseph Paradiso Photography.

**Table 13–1 BASIC NAIL SHAPES**

<b>SHAPE</b>	<b>DEFINITION</b>
<b>square</b>	The <b>square nail</b> is completely straight across the free edge with no rounding at the outside edges.
<b>squoval</b>	The <b>squoval nail</b> has a square free edge that is rounded off at the corner edges. If a nail in this shape extends only slightly past the fingertip, it will be sturdy because there is no square edge to break off and any pressure on the tip will be reflected directly back to the nail plate, its strongest area. Clients who work with their hands—nurses, computer technicians, landscapers, or office workers—will need shorter, squoval nails.
<b>round</b>	The <b>round nail</b> should be slightly tapered and usually extend just a bit past the fingertip.
<b>oval</b>	The <b>oval nail</b> is a conservative nail shape that is thought to be attractive on most women's hands. It is similar to a squoval nail with even more rounded corners. Professional clients who have their hands on display (e.g., businesspeople, teachers, or salespeople) may want longer oval nails.
<b>pointed</b>	The <b>pointed nail</b> is tapered and longer than usual to emphasize and enhance the slender appearance of the hand. Know, however, that this nail shape may be weaker, may break more easily, and is more difficult to maintain than other shapes. Rarely are natural nails successful with this nail shape, so they are usually enhancements. They are for fashion-conscious people who do not need the strongest, most durable shape of nail enhancements.

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## Did You Know?

Many nail salons present their polishes in a wall display or somewhere separate from the nail stations. The technician or receptionist helps the client to choose her polish the first time she comes in, then suggests she come early to each appointment to leisurely choose her color before being seated at the nail table; the choice may even be made before she washes her hands. This saves time during the service.

### Choosing a Nail Color

Polishing is a very important part of client satisfaction and in the overall success of the service and may help determine whether a client returns to you. It is the last step in a manicure and a constant visual reminder of your work for your clients between visits. When your clients look at their perfectly polished nails, they will admire your work and likely return. If the polish is not applied perfectly, they will have a constant reminder (for a week or more) of a less-than-perfect manicure and may not return.

Many clients will ask for your help when they are choosing a polish color. They may ask, "Do you like this color?" Suggest a shade that complements the client's skin tone: place hand on a white towel under your true-color light, then hold the potential polish colors over the skin on the top of the hand. It is best to allow the client to make the choice to ensure her satisfaction. If the manicure is for a special occasion, you might suggest she pick a color that matches or coordinates with the clothing she will wear; or perhaps the color can represent the holiday, the event, or the season. Some clients will request nail art or other popular nail fashion enhancements. Generally, darker shades are appropriate in

fall and winter and lighter shades are better in spring and summer, though this is no longer a hard-and-fast fashion rule. Always have a wide variety of nail polish colors available, including the appropriate colors for the French manicure polish techniques.

## Applying Polish

The most successful nail polish application is achieved by applying four coats. The first, the base coat, is followed by two coats of polish color and one application of top coat to give a protective seal. The application techniques are the same for all polishes, base coats, and top coats.

In addition to an improved appearance, the purpose of applying multiple layers of product is to improve the longevity and durability of the polish (**Figure 13-20**). By building layer upon layer, you will improve its adhesion and staying power.

Apply thin, even coats for maximum smoothness and minimum drying time. When you have completed the polish application, the nail should look smooth, evenly polished, and shiny.



▲ **Figure 13-20** Finished manicure.

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## Did You Know?

When applying an iridescent or frosted polish, you must make sure the strokes are parallel to the sidewalls of the nail to avoid shadow lines in the polish. Never brush backward.

**Go to** Procedure 13-5 Polishing the Nails page 251



▲ **Figure 13-21** Buffing a client's nails.

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## ■ A MAN'S MANICURE SERVICE

Since men are becoming more and more interested in their grooming regimens, many now seek the services offered by nail professionals. A man's manicure is performed using the same procedures as described in the basic manicure, though you omit the colored polish and/or buff the nails with a high-shine buffer (**Figure 13-21**).

Most men tend to go longer between services and will need a little more work than women on their nails and skin. A citrus- or spice-scented hand cream is recommended for the male client rather than a flowery scent.

## Men's Nail Shapes

Men usually prefer their nails shorter than women do. Round nails, which are closest to their natural appearance, are the most common choice for male clients. Some men, however, prefer their nails really short, with only a small amount of free edge that is shaped according to the base of the nail plate. (**Figure 13-22**). **LO7**



▲ **Figure 13-22** Round nails—the nails most men choose.

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## SERVICE TIP

Do not apply polish closely to the eponychium. The natural oils will cause the polish to lift within a few days after the application if the polish is against the skin.

## Did You Know?

Most times, unless the hands are in really poor shape, you can offer men a longer massage since polish time is not a factor.



▲ **Figure 13-23** Beginning a massage.



▲ **Figure 13-24** Most men prefer buffed nails, clear gloss, or a dull clear coating.

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## Men's Massage

Most men enjoy the massage portion of the manicure and want a longer one! Usually they will want a firmer effleurage than women, but that does not mean you provide a deep, sports-type massage—you are not trained to perform that massage. It just means firmer finger movements on the palm and longer, firmer slides in your effleurage movements (**Figure 13-23**).

## Men's Basic Color: Clear

Men usually prefer buffed nails, clear gloss, or a dull, clear satin coating. This satin coating nail polish finish is designed especially to help men protect their nails without having nails that appear too polished or feminine (**Figure 13-24**). A man may occasionally want a shiny top coat or colored nail polish on his nails; always discuss his preferences during the client consultation.

You must prepare the nails for polish (by removing oils and debris) carefully, because peeling or chipping gloss is very annoying to men. Use a base coat under clear polish to encourage staying power; clear without a base tends to peel. Apply a thin base coat, one thin coat of clear, and a quick-drying top coat or just one coat of base and a satin finish clear coat. (A satin finish is dull, not shiny.)

Always ask if he would like to make a future appointment and suggest that he gets a pedicure with the manicure. Men love pedicures!

## Marketing to Men

Since most men are new to professional nail care, include a brief written description of what is included in the service and a rundown of the benefits on your service menu and your website. You may also want to distribute flyers that target men at local gyms, stores, and other places where men gather. Gift certificates sold to your female clients for their boyfriends and husbands are a great marketing tool.

To make men feel more at home in your chair, have men's magazines on hand and be careful that your decor is unisex. Staying open later or opening earlier on chosen days makes it easier for your male clients to schedule appointments. Many salons and spas also have a weekly or biweekly men's night, with no women allowed, so male clients can come in without being among women.

## ■ MASSAGE

**Massage** is the manipulation of the soft tissues of the body. It is an ancient therapeutic treatment with many benefits: it promotes circulation of the blood and lymph, relaxes the muscles, and offers relief from pain. A hand and arm massage is a special service that can be offered with all manicures and can be performed on most clients.

A massage is one of the client's highest priorities during the manicure and is, often, the most memorable part of the manicure. Most clients



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## ■ Law

### State Regulatory ALERT!

In a few states, a *nail technology* license does not permit you to perform a hand or foot massage. Be guided by your instructor concerning your state's mandatory requirements and procedures for massage during nail services.

look forward to the soothing and relaxing effects. The massage manipulations should be executed with rhythmic, long, and smooth movements; the technician should always have one hand on the client's arm or hand during the movements and the transitions between them. Hand and arm massages are said to be optional during a basic manicure and in the shorter express or demonstration manicures. However, at least some massage needs to be designed into the protocol because the relaxation instilled by that portion of the service may be what brings the client back for a more upscale manicure.

## CAUTION:

Before performing a service that includes a hand and/or arm massage, consult the client's consultation or intake form. During the consultation, acknowledge and discuss any medical condition that your client listed that may be contraindicated for a massage. If your client has not discussed massage with their physician, encourage him or her to do so.

Many clients who have high blood pressure (hypertension), diabetes, or circulatory conditions may still have a hand and/or arm massage without concern, especially if their condition is stabilized and they are being treated by a physician. Hand and/or arm massage is, however, contraindicated for clients with severe, uncontrolled hypertension. Avoid performing vigorous or strong massage techniques on clients who have arthritis.

Do not talk to your client during the massage except to ask once whether your touch should be more or less firm. Talking eliminates the relaxation therapy of the massage.

When making decisions about whether to perform a massage on a person who has a medical condition, be conservative. When in doubt, don't include massage as part of your service.

## General Movements

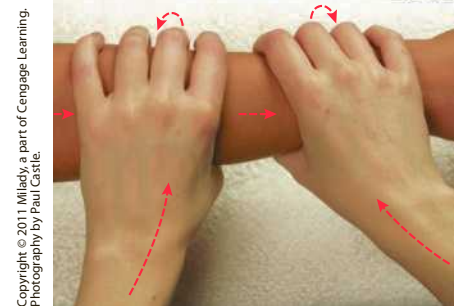
In general, massage is a series of movements performed on the human body that, in combination, produce relaxation or treatment.

The following massage movements are usually combined to complete a massage:

1. **Effleurage** (EF-loo-rahzh) is a succession of strokes in which the hands glide over an area of the body with varying degrees of pressure or contact.
2. **Pétrissage** or kneading is lifting, squeezing, and pressing the tissue.
3. **Tapotement** is a rapid tapping or striking motion of the hands against the skin.
4. **Vibration** is a continuous trembling or shaking movement applied by the hand without leaving contact with the skin.
5. **Friction** incorporates various strokes that manipulate or press one layer of tissue over another. The hands are placed around the arm, with the fingers pointing in opposite directions, and are then gently twisted in opposite directions on the arm, as one would wring out a washcloth. Perform the movement up and down the forearm, sliding to the new position three to five times (**Figure 13–25**).

## SERVICE TIP

Before performing a hand and arm massage routine, make sure that you are sitting in a comfortable position and not stretching or leaning forward toward your customer. Your posture should be correct and relaxed, and your feet parallel and flat on the floor. Sitting or working in an uncomfortable or strained position can cause back, neck, and shoulder injuries.



▲ **Figure 13–25** Friction.

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## Application Tip:

Firm, gentle, slow, and rhythmic movements in a predictable routine are the key to a relaxing massage. Moving quickly sends the message to the client that you are hurrying to get the massage over and do not care about providing a good service.

## CAUTION:

The pressure and manipulation of the tissues and muscles vary with each type of movement. Keep in mind that pétrissage and friction are movements that massage therapists combine for therapeutic purposes. These movements require in-depth training for their safe and comfortable application. Sometimes these movements can be painful, even dangerous, when performed by someone without the proper training. They may not be relaxing for the client. For example, a poorly performed friction movement can remind the client of the “burn” teenagers gave their friends’ or enemies’ arms during high school. Remember, the purpose of massage during a manicure is to induce relaxation. For that reason, effleurage is the movement that nail professionals should perfect, vary, and expertly use in services; the others should be used less and with gentle care. Effleurage is relaxing and calming and meets the overall purpose of massage in manicures and pedicures.

In the traditional manicure, the massage is performed after the basic manicure procedures, just before the polish application. After performing a massage, it is essential that the nail plate be thoroughly cleansed to ensure that it is free from any residue such as oil, cream, wax, or lotion. You can use alcohol, acetone, or nail polish remover to perform this task.

Go to **Procedure 13-4 Hand and Arm Massage** page 248

## BUSINESS TIP

A “dry manicure” eliminates the soak, using lotion and heated mitts instead to soften the skin and cuticles. Many clients prefer this manicure, believing that it is more relaxing and produces better results than the traditional fingertip soak manicure. Many technicians prefer it because it doesn’t require getting water when it is inconveniently available. All manicures (basic, spa, scrub, etc.) can be performed using the dry manicure techniques.

## LO8

## SPA MANICURES

Spa manicures, a step beyond basic manicures with added specialty techniques and skin treatments, are fast becoming much-requested and desired salon services; however, they do require more advanced techniques than basic manicures. Nail professionals who advance their education and knowledge of spa manicures and their specialized techniques will not only make their clients happy, but their manicures will be very lucrative as well.

True spa manicures encompass not only extensive knowledge of nail care but skin care as well. Many spa manicures are exceptionally pampering, while others target specific results through the use of advanced skincare-based methods. Most include a relaxing massage and all contain some form of exfoliation for not only polishing and smoothing the skin, but also for enhancing penetration of professional products.

Spa manicures designed for relaxation may have unique and distinctive names that describe the treatment. For example, the “Rose Garden Manicure” may incorporate the use of rose oils in the products and rose petals for ambiance.

The results-oriented spa manicures, sometimes called “treatment manicures,” may have names that closely represent their purpose, such as the “Antiaging Manicure,” which may incorporate the use of an alpha hydroxy acid-based product for exfoliation and skin rejuvenation; or a “Scrub Manicure” to exfoliate



callused skin or remove dry skin cells. Many may have more imaginative names, such as “Spot-Be-Gone,” for lightening age spots. Treatment manicures require further training to produce safe and obvious results.

Many clients now base their cosmetic and service decisions around lifestyle choices. These clients will seek out spas and nail salons that have manicures that meet their personal requirements and may ask about the products you are using before making an appointment.

For example, some clients may ask for products that are chemical-free; others will insist on “all-natural products” (Figure 13–26). To attract this clientele, you must be prepared to provide products that will meet their requirements and to describe the products and their benefits.

The reality is, despite what product marketing implies, few truly all-natural products are commercially available due to their short shelf life. Virtually none are chemical free—even air and water contain chemicals! When faced with clients who feel strongly about their beliefs—whether their information is based on truth or not—know about your product line and its claims, offer the information to your clients, and then allow them to make an informed decision concerning their service or home care.

Additional techniques that may be incorporated into a spa manicure include aromatic paraffin dips; hand masks; a warm stone massage, and warm, moist towel applications. When performing any advanced procedures that include oils or cosmetics, always check with your client regarding aroma preferences and allergies. **LO9**

## Theme Manicures

Many salons and spas have developed services based on themes. The entire service contains products that support the chosen theme: from lotions to oils to masks. Some salons even serve refreshments during the service that supports the theme (Figure 13–27).

Examples might include the “Chocolate Wonder Manicure and Pedicure” for a Christmas or Valentine’s Day theme, or the “Pumpkin Festival Manicure and Pedicure” in a region that has a pumpkin festival or is known for growing pumpkins. The names and themes of these services are limited only by your imagination. Let yours go wild and have fun developing these well-received manicures and pedicures. Clients love them!

▼ **Figure 13–27** A relaxed client during a spa manicure.



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▲ **Figure 13–26** “All-natural products” are products made from only natural resources.

# fyi

One alternative that pleases clients interested in all-natural products is when you create your own products from fresh ingredients. Make a small batch for each procedure or enough to last only one day, as these combinations spoil very quickly. You must have refrigeration in your salon.



▲ **Figure 13-28** Essential oils are used in manicure products.

## Did You Know?

Blended oils are available from aromatherapy product companies in products that aim for a particular response from the client, such as relaxation or an increase in energy. These products are safe and easy to use by people who haven't studied aromatherapy in depth. They are usually added into such products as soaks, massage oil or lotion, body lotion, and masks. These aroma products are designed to provide maximized results for clients and a greater enjoyment of services without the negative responses that some aromatherapy oils might incur if used by an untrained person. Spas and salons design services with targeted responses in mind using these blended products and have great results.

## ■ AROMATHERAPY

In the 1870s, a French scientist and professor named René Maurice Gattefossé discovered the therapeutic use of **essential oils**. Now inhaled or applied to the skin (**Figure 13-28**), these oils are used in manicures, pedicures, and massages to induce such reactions as relaxation or invigoration or simply to create a pleasant fragrance during the service. Many clients enjoy the various aromas, so when it is appropriate, incorporate aromatherapy into your nail services.

The practice of **aromatherapy** involves the use of highly concentrated, nonoily, and volatile essential oils that are extracted using various forms of distillation from seeds, bark, roots, leaves, wood, and/or resin. Each part of these resources produces a different aroma. For instance, the needles, resin, and wood of a Scotch pine tree yield their own aroma and, therefore, elicit a different response from the client. The use of essential oils is limited only by the knowledge of the person responsible for their application.

Performing aromatherapy requires training from expert aromatherapists and cautious use of the knowledge gained. The oils are very powerful and can produce actual changes in the client; each has its own benefits and cautions. In some countries, the oils are considered medicines and are only prescribed by physicians. Therefore, unless a nail technician is prepared to study these volatile oils in depth, he or she should use blended oils and lotions, those that are already mixed into safe formulations and tested, and apply them only as directed. **LO10**

## ■ PARAFFIN WAX TREATMENT

Paraffin wax treatments are designed to trap moisture in the skin while the heat encourages skin pores to accept its benefits. The heat from the warm paraffin increases blood circulation to the skin. This is considered a luxurious add-on service and can be safely performed on most clients (**Figure 13-29**). Be certain to examine the client's intake form during the client consultation to identify any contraindications to wax or the heat involved.

Read and follow all operating instructions that come with your paraffin heating unit and keep these cautions in mind:

- Avoid paraffin treatments on anyone who has impaired circulation or skin irritations such as cuts, burns, rashes, warts, or eczema.
- Senior citizens and chronically ill clients may be more sensitive to heat because of medications or thinning of the skin. Ask these clients to bring a written physician's permission prior to having a paraffin treatment.
- A test for heat tolerance is performed on all clients the first time they have the service. Drop a patch of wax about 1" (2.5 cm) in diameter on the client's skin to see if the temperatures can be tolerated.

▼ **Figure 13-29** Paraffin treatment is a luxury service as well as a treatment for dry skin.



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## Here's a Tip:

If a client is uncomfortable about dipping her hands into the wax bath, there are ways to apply paraffin wax:

- Plastic bag application. Place about a half cup of paraffin in a thin plastic bag and insert the client's hand. Move the wax around the hand through the bag, covering the surface.
- Cheesecloth or paper towels application. Dip each paper towel or cheesecloth into the paraffin by holding it by the corners and then raise it up out of the paraffin and let it drip. Do this three times. Now, move the client's hand over the tub and press each piece of cheesecloth or paper towel around his or her hand. (Optional: Now dip the covered hand into the paraffin.) Next, cover the client's hand with a plastic cover or plastic wrap and place in a terry cloth or electric heat mitt. Perform on the other hand.
- Spray paraffin. Paraffin is sprayed on the hands with special equipment, and then the client's hand is placed in plastic mitts or plastic wrap. Insert into terry cloth or electric mitts.
- Purchase one-time-use commercial gloves that have paraffin encased in them and heat up. Insert the client's hands, and the paraffin heats to become a paraffin mitt. Follow the manufacturer's directions.

**Paraffin** is a petroleum by-product that has excellent sealing properties (barrier qualities) to hold moisture in the skin. Special heating units melt solid wax into a gel-like liquid and maintain it at a temperature generally between 125 and 132°F. (Any temperature over 140°F may burn the skin.)

If proper procedures are followed, paraffin will not adversely affect nail polish, enhancements, or natural nails. A paraffin wax treatment may be offered before or during a manicure or as a stand-alone service. Be guided by your instructor and your state regulations: some states require the service to be performed before the manicure.

**Go to** Procedure 13-6 Paraffin Wax Treatment page 253

## LO11

### Before a Manicure

Performing a paraffin wax treatment before performing a manicure has advantages:

- It allows the client to have her nails polished immediately at the end of the manicure service.
- It is a way to soften rough or callused skin.

The biggest disadvantage to performing a paraffin treatment before a service is that it cannot be used to hold moisture in the skin through its application over lotions and masks during the treatment section of the manicure.

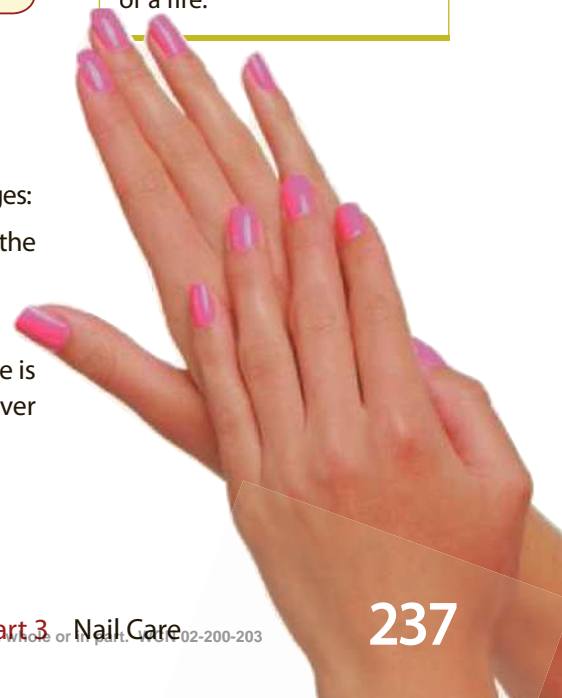
## Law

### State Regulatory ALERT!

Once paraffin wax is used on a client it becomes contaminated and must never be reused!

### CAUTION:

When performing a paraffin treatment, only use the equipment that is designed specifically for this use. Never heat the wax in anything other than the proper equipment. This can be very dangerous and may result in painful skin burns or a fire.



## During a Manicure

Many salons and spas have developed manicures that include specialized and additional treatments, such as paraffin wax over a mask or lotion, that are performed after the massage and before polishing.

## Stand-Alone Service

Many clients enjoy a paraffin treatment; they like the way it makes their skin feel. You can include this service on the menu with its own price. The benefits must be marketed for the service to be desired. For example, the heat provides pain relief for those with arthritis. And when the temperature is cold outside, many clients remember the warm feeling the paraffin provides. Encourage your clients to book an appointment or drop in for a dip.



▲ **Figure 13-30** Complex nail art (by Massimiliano Braga).

## ■ NAIL ART

Many clients love the application of artistic designs on their nails (nail art). The techniques are fun for the technician to apply and are limited only by your imagination. Techniques range from freehand designs to complex nail art (**Figure 13-30**) and airbrushing (**Figure 13-31**), and from 3D nail art (**Figure 13-32**) to portrait and modern designs. See Chapter 19, The Creative Touch.

Emilio's Airbrush Studio at <http://www.emilio-online.com>.



▲ **Figure 13-31** Airbrush nail art (by Emilio's Airbrush Studio).



Nail Art by Alisha Rimando Botero.

▲ **Figure 13-32** 3-D nail art (by Alisha Rimando Botero).

## BUSINESS TIP

It is important that you never stop learning about new innovations and continue to seek out information about your industry. Things change, and the wise nail technician studies and keeps apace with the world to remain on the cutting edge.

## ■ ONLY THE BEGINNING

During your time in school it is important that you learn and practice the basic procedures of nail technology, proper cleaning and disinfecting protocols, and other skills necessary for ensuring client safety and enjoyment during nail services. You must make the commitment to continue to learn and grow as a nail technician if you want to remain competitive in today's marketplace. The "real world" requires you to perform at a very high level; you will be expected to have a great deal of knowledge and skill upon graduating from school, far beyond the basics.

You may learn advanced techniques in manicuring from your instructor, through attending advanced nail care seminars, reading trade magazines, and attending beauty shows.

# Procedure 13-1

## Preservice Procedure

### A. Cleaning and Disinfecting



1

1 It is important to wear gloves while performing this preservice procedure to prevent possible contamination of the implements by your hands and to protect your hands from the powerful chemicals in the disinfectant solution.



2

2 Rinse all implements with warm running water, and then thoroughly wash them with soap, a nail brush, and warm water. Brush grooved items, if necessary, and open hinged implements to scrub the area.



3

3 Rinse away all traces of soap with warm running water. The presence of soap in most disinfectants can cause the disinfectant to become inactive. Soap is most easily rinsed off in warm, but not hot, water. Dry implements thoroughly with a clean cloth towel or a disposable towel. Your implements are now properly cleaned and ready to be disinfected.



4

4 It is extremely important that your implements be cleaned before placing them in the disinfectant solution. Otherwise, your disinfectant may become contaminated. Before immersing the cleaned implements, open any hinged implements to the open position. Immerse cleaned implements in a disinfection container holding an EPA-registered disinfectant for the required time (usually 10 minutes). Change the disinfectant solution daily or sooner if the disinfectant becomes visibly dirty during the course of the day. Avoid skin contact with all disinfectants by using tongs or by wearing disposable gloves.



5

5 Remove implements, avoiding skin contact, and rinse and dry tools thoroughly.



6

6 Store disinfected implements in a clean, dry container until needed.



7

7 Remove gloves and thoroughly wash your hands with liquid soap. Rinse and dry with a clean fabric or disposable towel.

# Procedure 13-1 Continued

## Preservice Procedure (continued)

### B. Basic Table Setup



**8** Following the directions on the product label, clean and then disinfect the manicure table and drawer with an EPA-approved disinfectant. Be sure to leave the disinfectant on the table for the amount of time specified on the product label.



**9** Position the cushion on the edge of the table in front of the client. Next, place a lint-free disposable cloth in front of you to work from. This cloth can be replaced as needed throughout the service.



**10** Place the abrasives and buffers of your choice on the table to your right (or to the left if you are left-handed). Many technicians wrap them neatly in a towel to ward off dust and potential contaminants.



**11** Before your client arrives, set out your tools and implements. Then, fill a fingerbowl with warm water and place it on the left or right of your table. Place the manicure brush next to the fingerbowl. You will need to bring the fingerbowl to the middle of the table, when needed.



**12** Tape or clip a plastic bag that can be closed securely to the side of the table if a metal trash receptacle with a self-closing lid is not available. This is used for depositing used materials during your manicure. These bags must be sealed and thrown away after each client to prevent product vapors from escaping into the salon air.



**13** Place the polish your client chose to the right if you are right-handed, to the left if you are left-handed.

**LO12**



14

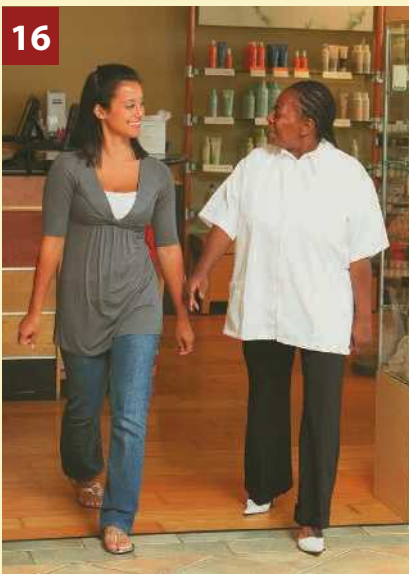
14 The drawer can be used to store the following items in clean, covered containers for immediate use: extra cotton or cotton balls, abrasives, buffers, nail polish dryer, and other supplies. Never place used materials in your drawer. Only completely cleaned and disinfected implements in a clean, covered container (to protect them from dust and recontamination) are stored in the drawer; extra materials or professional products are also placed in a clean, covered container in the drawer. Your drawer should always be organized and clean.

## C. Greet the Client



15

15 Greet your client with a smile, introduce yourself if you've never met, and shake hands. If the client is new, ask her for the consultation card/sheet she filled out in the reception area.



16

16 Escort your client to the hand-washing area and demonstrate the hand-washing procedure for her on your own hands. Once you have completed the demonstration, hand your client a fresh nail brush to use and ask her to wash her hands.



17

17 Hand your client a fresh towel for drying her hands. Be sure that your towels are clean and are not worn. A dirty towel can cause a client to not come back or to report the salon to the state board.



18

18 Show your client to your manicure table and make sure he or she is comfortable before beginning the service.



19

19 Discuss the information on the consultation card and determine a course of action for the service.

# Procedure 13-2

## Postservice Procedure

### A. Advise Clients and Promote Products

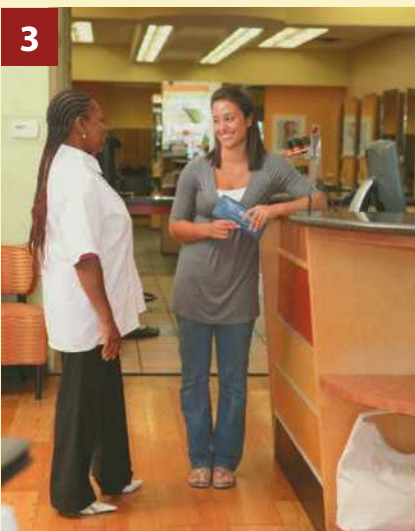


**1** Proper home maintenance will ensure that the client's nails look beautiful until he or she returns for another service (polish should last 7 to 10 days).



**2** Depending on the service provided and the condition of your client's hands, there may be a number of retail products that you should recommend for the client to take home. This is the time to do so. Explain why they are important and how to use them.

### B. Schedule the Next Appointment and Thank the Client



**3** Escort the client to the front desk to schedule the next appointment and pay for the service. Set up the date, time, and services. Write the information on your or the salon's appointment card and give it to the client.





**4** Before the client leaves the salon, thank her for her business and mention that you will be looking forward to her next visit.



**5** Record service information, products used, observations, and retail recommendations on the client service form or computer record.

## C. Prepare the Work Area and Implements for the Next Client



**6** Remove your products and tools, dispose of all used materials, and then clean and disinfect your work area.



**7** Follow the steps for disinfecting implements in the Preservice Procedure as discussed in Chapter 5, **Procedure 5-1**. Reset the work area with disinfected tools.

# Procedure 13-3

## Performing a Basic Manicure

### IMPLEMENTS AND MATERIALS

You will need these basic materials on your manicuring table:

- Gloves
- Fingerbowl
- Client's arm cushion
- Service cushion
- Gauze and cotton wipe container
- Trash containers
- Supply tray (optional)
- Ultraviolet or electric nail polish dryer (optional)
- Electric hand/foot mitts (optional)
- Terry cloth mitts (optional)
- Wooden pusher
- Abrasive nail files and buffers
- Disposable or cloth towels
- Polish remover
- Nail creams, lotions, and penetrating nail oils
- Cuticle removers
- Nail bleach
- Colored polish, enamel, lacquer, or varnish
- Base coat
- Nail hardener
- Top coat
- Nail polish dryers
- Hand creams and lotions

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure

### Procedure



1

1

Begin with the little finger of your client's left hand. Saturate a cotton ball, gauze pad, or plastic-backed cotton pad with polish remover. Hold the saturated cotton on each nail while you silently count to 10. The old polish will now come off easily from the nail plate with a stroking motion, moving toward the free edge. Use a confident, firm touch while removing the polish. If all polish is not removed, continue until all traces are gone. The complete removal of the old polish is important to client satisfaction. It may be necessary to wrap cotton around the tip of a wooden pusher and use it to clean polish away from the nail fold area. After removal, look closely at the nails to check for abnormalities that could have been hidden by the polish.



2

2

Using your file, shape the nails as you and the client have agreed. Start with the left hand, little finger, holding it between your thumb and index finger. Do not use less than a medium-grit (180) abrasive file to shape the natural nail. File from one side to the center of the free edge, then from the other side to the center of the free edge. Never use a sawing back and forth motion when filing the natural nail, as this can disrupt the nail plate layers and cause splitting and peeling. To lessen the chance of developing ingrown nails, do not file into the corners of the nails. File each hand from the little fingernail to the thumb.

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**3** After filing the nails on the left hand, and before moving on to the right hand, place the fingertips of the left hand in the fingerbowl to soak and soften the eponychium (the living skin on the posterior and sides of the nail) and cuticle (the dead tissue adhered to the nail plate) while you file the nails on the right hand. File the right hand nails the same as you did the left, from the little finger to the thumb.



**4** After you file the right hand, remove the left hand from the fingerbowl and brush the nails with a nail brush. Holding the left hand above the fingerbowl, brush the fingers with your wet nail brush to remove any debris from the fingertips. Use downward strokes, starting at the first knuckle and brushing toward the free edge.



**5** Dry the hand with a towel designated as this client's service towel. As you dry, gently push back the eponychium with the towel. Now place the right hand into the fingerbowl to soak while you continue with the next step on the left hand.



**6** Use a cotton-tipped wooden or metal pusher or cotton swab to apply cuticle remover to the cuticle on each nail plate of the left hand. Do not apply this type of product on living skin, as it can cause dryness or irritation. Spread evenly on the nail plate. Cuticle removers soften skin by dissolving skin cells, so they are inappropriate for contact with the living skin of the eponychium. Typically, these products have a high pH (they are caustic) and are irritating to the skin.

### Application Tip:

To ensure the stability of your hand holding the pusher, place a finger of that hand on a finger of the hand being worked on to perform as a fulcrum (stabilizer) (**Figure 13-34**).



▲ **Figure 13-34** Correct hold.

# Procedure 13-3 Continued

## Performing a Basic Manicure (continued)



**7** After allowing the cuticle remover to set on the nail for the manufacturer's recommended length of time, the cuticle will be easily removed from the nail plate. Use your wooden pusher or the inside curve of a metal pusher to gently push and lift cuticle tissue from each nail plate of the left hand.



**8** Use sharp nippers to remove any loosely hanging tags of dead skin (hangnails). Never rip or tear the cuticle tags or the living skin, since this may lead to infection.



**9** Carefully clean under the free edge using a cotton swab or cotton-tipped wooden pusher. Take care to be gentle, as cleaning too aggressively in this area can break the hyponychium seal under the free edge and cause onycholysis.

**10** Brush the left hand with the nail brush over the finger bowl one last time to remove bits of debris and traces of cuticle remover. (The client can be sent to the sink to wash the nail plate with a nail brush.) It is important that all traces of cuticle remover are washed from the skin, as remnants can lead to dryness and/or irritation. Then, instruct the client to rest the left hand on the table towel.

**11** Repeat Steps 5 to 10 on the right hand.



**12** If the client's nails are yellow, you can bleach them with a nail bleach product designed specifically for this purpose. Apply the bleaching agent to the yellowed nail with a cotton-tipped orangewood stick. Be careful not to apply bleach on your client's skin because it may cause irritation. Wear gloves while bleaching the nails. Repeat the application if the nails are extremely yellow. You may need to bleach certain clients' nails several times during several services as all of the yellow stain or discoloration may not fade after a single service. If this is true, inform the client so he or she will not be disappointed in your work; suggest a series of treatments to address the problem. Surface stains are removed more easily than those that travel deep into the nail plate. Know that yellow discoloration that penetrates deep into the nail plate will never be completely removed by nail bleaches. The yellowing can be improved, however. These products work best for surface stains (e.g., tobacco). Inform the client if this is true for his or her nails.



13

13 Use a three-way or four-way buffer to smooth out surface scratches and give the natural nail a brilliant shine.



14

14 Use a cotton-tipped wooden pusher, a cotton swab, or an eyedropper to apply nail oil to each nail plate. Start with the little finger on the left hand and massage oil into the nail plate and surrounding skin using a circular motion.



15

15 To remove any rough spots on the free edges, bevel (BEH-vel) the underside of the nail. Hold a medium-grit abrasive board at a 45-degree angle to the underside of the nail and file with a gentle side to side stroke. This removes any rough edges or cuticle particles. A fine-grit abrasive board or buffer may be preferred for weak nails.

16 Apply massage lotion or oil and follow the massage procedure 13-4.



17

17 After the massage, you must remove all traces of lotion or oil from the nail plate before polishing or the polish will not adhere well. Use a

small piece of cotton saturated with alcohol, acetone or polish remover as though you were removing a stubborn, red nail polish. Do not forget to clean under the free edge of the nail plate to remove any remaining massage lotion. The cleaner you get the nail plate and surrounding tissues, the better the polish will adhere.



18

18 Most clients should have chosen their polish already (before or during the consultation), but if they have not, ask them to choose a color.



19

19 Always apply a base coat to keep the polish from staining the nails and to help colored polish adhere to the nail plate. Nail strengthener/hardener is an option you may recommend for a treatment if the client's nail plates are thin and weak. Apply this before the base coat if the client requests this treatment. See Procedure 13-5, Polishing the Nails.



20

20 You've performed a beautiful, finished manicure. Now perform Procedure 13-2, Postservice Procedure. **✓ L013**

# Procedure 13-4

## Hand and Arm Massage

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the hand and arm massage:

- Massage lotion, oil or cream

### Preparation

Complete **Procedure 13-3**, Performing a Basic Manicure.

### Procedure for Hand Massage

**Preparation.** Apply the massage lotion, oil, or cream and distribute to the client's arm. Apply enough to allow movement across the skin without resistance (skin drag). Skin drag is not comfortable for the client.

Be sure to hold the client's hand and arm loosely without too much restraint during the massage.

#### Application Tip:

When more cream, oil, or lotion is needed during the massage, always leave one hand on the client's hand or arm and retrieve more product with the other. Having your product in a pump container facilitates this important massage technique.



**1 Relaxer movement of wrist.** At the beginning of the hand massage, place the client's elbow on a cushion covered with a clean towel or on a rolled towel. With one hand, brace the client's arm in the wrist area with your nondominant hand. With your other hand, hold the client's wrist and bend it slowly and gently—but with a firm touch—fully back until it stops, and then forward until it stops, 5 to 10 times, until you feel that the client has relaxed.



**2 Joint movement of fingers.** Lower the client's arm, brace the arm at the wrist with the left hand, and with your right hand (or dominant hand) start with the little finger, holding it at the base of the nail. Gently rotate fingers to form circles. Work toward the thumb, about three to five times on each finger.

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**3 Circular movement on palm.** This is effleurage, a light stroking motion that relaxes and soothes. Place the client's elbow on the cushion or towel near the center of the table and your elbows on the table at the sides of it. Put your thumbs in the client's palm and rotate them in a circular motion up the center, over to and down the sides, moving in opposite directions. The circular movements should start from the bottom center of the hand and move out, up, across the underside of the fingers, and back down to the bottom, center, in a smooth pattern of altering movements of each thumb over the palm. This pattern becomes rhythmic and relaxing. You can feel the client's hands relax as you perform these movements. Effleurage movements must be smooth and gentle, even predictable, to induce relaxation. After performing the relaxation movements, move to the following effleurage movements.



ing your thumbs on top of the client's hand and your fingers below. Move your thumbs in a circular movement in opposite directions from the client's wrist to the knuckle on back of the client's hand. Move up and down, three to five times.

**4 Circular movement on wrist.** This is a form of friction massage movement that is a deep rubbing action. It is very stimulating. Hold the client's hand with both of your hands, plac-



**5** The last time you rotate up, bring the client's wrist by bracing your hands around the wrist and gently twisting in the opposite directions. This concludes the hand massage usually performed in the Basic Manicure.

## Arm Massage Techniques

**Preparation:** Distribute lotion or cream. Apply lotion or cream to the client's arm.



**6 Effleurage of the arm.** Holding the wrist firmly but gently, glide your hand up the arm from wrist to elbow with your palm and fingers on the skin; make sure there is enough lotion on the skin to allow a smooth glide of the hand. Cup your movement fingers around the arm, moving up with slight pressure on the skin with your fingers, thumb, and palm to induce relaxation, and then move back to the wrist area with a lighter pressure on the skin. Perform this gliding several times. When finishing a movement each time at the top of the arm, rotate the hand to the underside of the arm while pulling the hand back toward you. Now move to the underarm and perform the same movement. Press forward, then at the end, release the pressure, gently rotate the hand to the top of the arm, and pull it lightly back toward the hand.



**7 Friction movement on the arms.** A friction massage involves rubbing the muscles against each other. Put the client's arm on the table, palm up with fingers toward you. Your fingers should be underneath the arm, stabilizing it. Rotate your thumbs in opposite directions, starting at the client's wrist and working toward the elbow. When you reach the elbow, slide your hand down the client's arm to the wrist and rotate back up to the elbow three to five times. Turn the client's arm over and repeat three to five times on the top side of the arm.

# Procedure 13-4 Continued



**8** **Wringing/friction movement.** Place the arm horizontally on the towel in front of you, with the back of the hand facing up. Place your hands around the arm with your fingers facing the same direction on the arm and gently twist in opposite directions, as you would wring out a washcloth, from wrist to elbow. Do this up and down the forearm three to five times.



**9** **Kneading movement.** Kneading (pétrissage) is a squeezing motion that moves flesh and muscles over the bones beneath in opposite directions, stimulating and increasing blood flow. Place your thumbs on the top side of the client's arm so that they are horizontal. Move them in opposite directions, from wrist to elbow and back down to the wrist. Do this three to five times.



**10** **Rotation of elbow.** This is a friction massage movement. Brace the client's arm with your left hand and apply lotion. Cup the elbow with your right hand and rotate your hand over the client's elbow. Do this three to five times. Take care to be very gentle and not to hit the nerve in the elbow that often is referred to as "the funny bone"—this can be very painful to the client. To finish the elbow massage, move your left arm to the top of the client's forearm. If the elbow condition shows that it needs exfoliation, it must be done after the massage. Apply a scrub and rotate it around the elbow, remove, and then apply lotion to remoisturize.



**11** **Finger pulls.** Gently slide both hands down the forearm from the elbow to the fingertips, as if climbing down a rope. Then, holding the hand with your nondominant hand, move to the finger tip, and with your thumb on top and your pointer finger arched below, gently grab and pull the finger down to the tips. Perform on each finger, little finger to thumb. Perform the movement down the forearm and do finger pulls three to five times on each arm and hand. Understand that this movement should not be performed on clients who have severe arthritis. If elbow exfoliation is needed, perform it now, then perform the final movement below after remoisturizing the elbow. Slide the moisturized hands toward the hands and perform the final movement.



**12** **Final movement.** After you've performed the finger pulls, lay both of the client's hands palm down on the table, cover them with your own hands (palm down), and gently press them three times. Gently lift your palms, leaving your finger tips on the base of the hand. Then, with a light-as-a-feather touch, pull your fingers from the back of the hands down the fingers and off the tips of the fingers. Perform two to three times. The client learns quickly that this final movement, called "feathering off," is the end of the massage.



# Procedure 13-5

## Polishing the Nails

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for polishing the nails:

- Base coat
- Top coat
- Drying product (optional)
- Colored nail polish

### Preparation

Complete **Procedure 13-3**, Performing a Basic Manicure.

### Procedure

Before applying polish, ask your client to put on any jewelry and outerwear she may have taken off before the service and to get her car keys ready for easy retrieval; this will avoid smudges to the freshly applied polish. If possible, have the client pay for services, also, at this time or have payment ready to hand to the receptionist.



- 1 Be certain the client's nail plates are clean of oil and other debris. Apply a thin coat of base coat on the entire plate of the nails of the dominant hand. Place the nails in a cool nail dryer while you polish the other hand. This will give the most-used, key-holding hand a head start in drying and reduce the likelihood of smudging.



- 2 Apply the first coat of polish on the first hand. When applying color nail polish, remove the brush from the bottle and wipe the side of the brush away from you on the inside of the lip of the bottle to remove excess polish. You should have a bead of polish on the brush large enough to apply one layer to the entire nail plate without having to re-dip the brush (unless the nail plate is unusually long or large). Hold the brush at approximately a 30- to 35-degree angle. Place the tip of the brush on the nail, 1/8" (0.31 cm) away from the cuticle area in the center of the nail. Lightly press the brush onto the nail plate, producing a slight "fanning" of the brush, and then push the brush toward the eponychium to produce a rounded posterior edge to the polish. Leave a tiny, rounded area of unpolished nail at the back of the nail. Pull the brush toward the free edge of the nail, down the center.

# Procedure 13-5 Continued

## Polishing the Nails (continued)



3

Move to each side of the nail and pull in even strokes toward the nail tip. This first color coat does not have to be perfect; it just has to establish the correct outline and cover the entire nail with some polish.



4

After finishing the first coat of each nail, move the brush back and forth on the very end of the free edge, barely touching, to apply color to it. This is called “tip sealing,” or “tipping,” and reduces chipping and layering on the free edges. Use the same technique for every nail while applying the first coat of color.

5 Move back to the first hand and apply the second coat of color. With the second coat, do not fan the brush or re-apply to the tip. Just start at the base of the polish curve and move toward the free edge. Apply a thin, even coating on the nail that has depth of color and perfect appearance.

6 Apply a top coat to prevent chipping and to give nails a glossy, finished appearance. Be sure to coat the free edge of the nail with the top coat as well. **LO14**



7

If you use a polish-drying product, apply it according to the manufacturer's instructions. After the application, ask the client to take a seat at a separate table with her hands under a nail dryer or seat her comfortably away from your table. The drying time should be 10 minutes, minimum. To apply gel polish, follow the instructions of the manufacturer.



8

To produce beautifully polished nails, you must know how to polish accurately and quickly before leaving school. Many clients judge the final manicure according to the quality of the application of polish. Remember, also, that they will continue to see your finished product before their eyes during their daily lives as a constant reminder of the good or poor quality of their service.

# Procedure 13-6

## Paraffin Wax Treatment

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the paraffin wax procedure:

- Moisturizing lotion or penetrating oil
- Paraffin bath and heating unit
- Plastic wrap
- Plastic or terry cloth mitt, or warming (electric) mitts

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

Perform **Procedure 5-3**, Hand-Washing Procedure.

### Performing a Paraffin Wax Treatment Before a Manicure



1

1

Check the hands and the arms carefully for open wounds, diseases, or disorders. It is not appropriate to apply heat to clients with abnormal skin conditions. If it is safe to perform the procedure, ensure the client's hands are clean and continue with the service. The client's hands must be clean before you begin.

2

Apply moisturizing lotion or penetrating oil to the client's hands and gently massage into the skin.

3

Test the temperature of the wax.



4

4

Prepare the client's hand for dipping into the paraffin by placing the palm facing down with the wrist slightly bent and the fingers straight and slightly apart.

5

5

Dip the first hand into the wax up to the wrist, for about 3 seconds. Remove. Allow the wax to solidify some before dipping again.

6

Repeat the dip process three to five times to coat the skin.

# Procedure 13-6 Continued

## Paraffin Wax Treatment (continued)



**7** Wrap the hands in plastic wrap or insert into one-time use plastic covers designed for this purpose and then put them into terry cloth mitts. Allow the paraffin to remain on the hands for approximately 5 to 10 minutes.

**8** Repeat steps 5 through 7 on the other hand.



**9** To remove the paraffin, turn the plastic cover under the paraffin at the wrist and peel away the wax from the wrist. The wax will easily come off as you gently pull the cover toward the fingertips. The paraffin removed from the hands will collect in the plastic cover of the hands.

**10** Properly dispose of the used paraffin as the client watches, remove the mask (if it is present), and massage in the remaining lotion or oil. (Removal of a sticky mask will make reapplication of lotion important.)

**11** Begin the manicuring procedure. For many clients who opt to have a paraffin wax treatment before the manicure, soaking is not necessary because the paraffin treatment has already softened the skin sufficiently. **LO15**

## Performing a Paraffin Wax Treatment During a Manicure

**1** Perform the basic manicure up to the completion of the massage.

**2** Apply a hydrating lotion on one hand and briefly rub it into the hand.

**3** Apply the paraffin with your method of choice.

**4** Cover the hand with a plastic bag or wrap, then a terry cloth or heated mitt.

**5** Repeat Steps 1 through 4 on the other hand. Allow the client to relax for 5 to 10 minutes.

**6** Remove the paraffin mitt and rub in the remaining lotion.

**7** Remove any remaining oils or lotions from the nail plate. Use alcohol or polish remover on a cotton-tipped wooden stick or a cotton ball. Do not allow the alcohol or polish remover to touch the skin or the benefits of the treatment will be lessened by the drying effects of these solvents.

**8** Polish or clear coat nails, according to client's request.

## Postservice

Refer to Procedure 13-2, Postservice Procedure

## ■ Review Questions

1. What are the consequences if a nail technician works outside their scope of practice?
2. What are the four types of nail implements and/or tools required to perform a manicure?
3. What is the difference between reusable and disposable implements?
4. What is the Three-Part Procedure and how is it used in the performance of the basic manicure?
5. Why is a consultation necessary each time a client has a service in the salon?
6. Describe the basic nail shapes for women.
7. What is the most popular nail shape for men?
8. Which massage movements are most appropriate for a hand and arm massage?
9. What is the difference between a basic manicure and a spa manicure?
10. What types of oils are best used in aromatherapy in manicures?
11. What are the benefits of paraffin wax treatments in manicuring?
12. What are the steps in a basic manicure procedure?
13. Describe how nail polish is properly applied.
14. Describe three procedures for a paraffin wax application.

# 14 Pedicuring

## Chapter Outline

- Why Study Pedicuring?
- Pedicure Tools
- Professional Pedicure Products
- About Pedicures
- Disinfection
- Procedures



# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **L01** Describe the equipment used when performing pedicures.
- ✓ **L02** Describe the proper tool to use to reduce the potential for developing an ingrown toenail.
- ✓ **L03** Discuss the three materials used when performing pedicures.
- ✓ **L04** Identify the function of a callus softener during a pedicure procedure.
- ✓ **L05** Explain the differences between a basic pedicure and a spa pedicure.
- ✓ **L06** Define reflexology and its use during a pedicure.
- ✓ **L07** Summarize the importance of cleaning and disinfecting a pedicure bath.
- ✓ **L08** Demonstrate the proper procedures for a basic pedicure.
- ✓ **L09** List the techniques and benefits of a foot and leg massage.

## Key Terms

Page number indicates where in the chapter the term is used.

**callus softener products** / 266

**curette** / 262

**exfoliating scrubs** / 265

**foot files** / 263

**foot soaks** / 265

**mask** / 261

**microtrauma** / 268

**nail nippers** / 264

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**pedicure** / 258

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**reflexology** / 271

**toe separators** / 264

**toenail clippers** / 262

**toenail nippers** / 262



**A** **pedicure** is a cosmetic service performed on the feet by a licensed nail technician or cosmetologist; it includes trimming, shaping, and polishing the toenails; exfoliating the skin; and possibly performing a foot and leg massage. Though the pedicure has been in the beauty industry for decades and in the world of foot care since ancient times, it was rarely performed until as recently as the late 1980s.

In the 1990s, with the resurgence of the spa industry and new pampering equipment, techniques, and products, pedicures exploded onto service menus and became the fastest growing service in the industry. For many clients, pedicures are now a regular ritual in their personal care regimen and considered a standard service performed in salons by nail professionals and cosmetologists.

The information in this chapter will provide you with the skills you need to perform beautification and routine care on your clients' feet, toes, and toenails. Pedicures are a basic part of good foot care and hygiene today and are particularly important for clients who are joggers, dancers, and cosmetologists—or for anyone who spends a lot of time standing on his or her feet.

Pedicures are not merely manicures on the feet. Although the basic services are similar, pedicures require specific skills; more knowledge of chronic illnesses, diseases, and disorders; and knowledge of the additional precautions for performing the service.

Pedicures present more potential for damage to clients than do manicures. For all of these reasons, experts recommend that you become proficient in performing manicures before learning how to perform pedicures. Pedicures create client loyalty, produce considerable income, and can be important preventive health services for many clients. In short, pedicure services offer something for everyone. Once your clients experience the comfort, relaxation, and value of a great pedicure, they will return for more. You would be wise to perfect your pedicure skills while you are still in school.

## WHY STUDY PEDICURING?

Nail technicians should have a thorough understanding of pedicuring because:

- ▶ It will enable you to add this very desirable service to your service offerings.
- ▶ It is important to differentiate between the various pedicure tools and to know how they are properly used.
- ▶ It will allow you to perform a pedicure safely and correctly.



## ■ PEDICURE TOOLS

In order to perform pedicuring safely, you must learn to work with the tools required for this service and to incorporate all safety, cleansing, and disinfection procedures as stated in your state's regulations. The tools include the standard manicure tools, plus several that are specific to the pedicure service. Again, the four types of nail technology tools that you will incorporate into your pedicure services include:

- Equipment
- Implements
- Materials
- Pedicure products

### Equipment

Equipment includes all the permanent tools used to perform nail services that are not implements. Some permanent equipment for performing pedicures is different from that used for manicures.



Photo courtesy of European Touch.

▲ **Figure 14-2** Sturdy pedicure center with removable foot bath and adjustable footrest.



Photo courtesy of European Touch.

▲ **Figure 14-4** Low pedicure chair with back support.

### Pedicure Station

A pedicure station includes a comfortable chair with an armrest and footrest for the client and an ergonomic chair for the nail professional. Design and location vary according to several factors, such as the size of the area, size of the pedicure station, the location of the water and low-noise areas in the salon, and the cost of equipment and installation (**Figure 14-1**, **Figure 14-2**, and **Figure 14-3**).

### Pedicure Stool and Footrest

Pedicures can present challenges to the service provider in maintaining a healthy posture while performing the service. For that reason, the nail technician's pedicuring stool is usually low to make it ergonomically easier for the pedicurist to work on the client's feet. Some stools come with a built-in footrest for the client, or a separate footrest can be used. Your chair must be comfortable and allow ergonomically correct positioning (**Figure 14-4** and **Figure 14-5**).

### Pedicure Foot Bath

The pedicure foot bath varies in design from the basic basin to an automatic whirlpool that warms and massages the client. The soak bath is filled with comfortably warm water and a product to soak the client's feet. The bath must be large enough to completely immerse both of the client's feet comfortably.



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▲ **Figure 14-1** Comfortable chair and pedicure chair.



Photo courtesy of European Touch.

▲ **Figure 14-3** Fully plumbed station comes with many options.



Photo courtesy of European Touch.

▲ **Figure 14-5** Pedicure chair with drawers and back support.



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▲ **Figure 14-6** Self-contained foot bath with hose.



Photo courtesy of European Touch.

▲ **Figure 14-7** Typical portable foot bath, usually with a whirlpool fan.

Basin soak baths can be large stainless steel bowls or beautiful ceramic ones. Transportable professional foot baths can be purchased from beauty supply stores or industry manufacturers. They must be manually filled and emptied after each client's service (**Figure 14-6**).

A step above the portable water baths is the more customized pedicure unit, which has a removable foot bath and the technician's stool built into one unit. These are more ergonomically designed for the nail technician and certainly more professional (she does not have to sit on the floor with the client's foot in her lap to perform the service). A portable pedicure unit includes a place for the foot bath and a storage area for supplies.

Portable water baths are now available that have inserts that fit inside the bath for containing the water for the feet to soak. A new insert is placed inside the foot bath for each client and then thrown away after the pedicure. Rolling platforms are available that may heat and/or vibrate the bath while they are soaking in the water. Postservice, the platform can be rolled to the sink, and then the water and insert are removed for disposal. The next step up in cost and ease of use is the portable foot basin with built-in whirlpool-action (**Figure 14-7**). These baths add an extra touch to the service with the gentle massaging action of the whirlpool. The bath is filled from the sink through attachable hoses. After the service, the bath is drained by pumping the water back into the sink through these hoses. It has a built-in foot rest; the surrounding cabinet has areas for storage of pedicure supplies.

The ultimate pedicure foot bath is the fully plumbed whirlpool bath with the attached pedicure chair; these pedicure-specific chairs are sometimes referred to as "throne-design" chairs. These units are not portable. Some are permanently plumbed to both hot and cold water sources as well as to a drain. Most units have a built-in massage feature in the chair and a warmer, which adds to the relaxation of the client. Recently, many throne-type chairs have become available with a self-cleaning and disinfection cycle built into the bath.

### Pedicure Carts

Pedicure carts are designed to keep supplies organized. Many different designs are available that include a hard, flat surface on top for placement of implements and in-service supplies as well as drawers and shelves for storage of implements, supplies, and pedicure products. Most are on rollers to allow them to be pushed aside when not in use. Some units include a space for storage of the footbath. Most take up very little space and greatly aid in organization of the area (**Figure 14-8**).

### Electric Foot Mitts (Optional)

These heated mitts, similar to electric manicure mitts but shaped for the feet, are designed to add a special touch to a more-than-basic pedicure. Pedicures that include these mitts are higher-cost services; the mitts may also be included in a lower-cost service for an added cost (an upgrade). After a foot massage, a conditioning lotion or mask is applied to the feet, which are then placed in a



Photo courtesy of European Touch.

▲ **Figure 14-8** Portable pedicure cart with drawers.

plastic wrap or cover. Finally, the feet are placed inside the warm foot mitts. A **mask**, also known as a masque, is a concentrated treatment product often composed of mineral clays, moisturizing agents, skin softeners, aromatherapy oils, botanical extracts, and other beneficial ingredients to cleanse, exfoliate, tighten, tone, hydrate, and nourish the skin.

The warmth provided by these electric mitts aids in penetration of the conditioning ingredients of the mask, adds to the comfort and warmth of the service, and provides the ultimate relaxation of the client.

### Terry Cloth Mitts (Optional)

These washable and reusable mitts, available for both hands and feet, are placed over a client's feet after a penetrating conditioning product and a plastic cover have been applied. They are routinely used over paraffin and a cover, as they hold in the heat provided by the paraffin to encourage conditioning of the feet or hands by the product. These mitts allow the paraffin to harden to perform its barrier function while electric mitts do not.

### Paraffin Bath (Optional)

As discussed in Chapter 13, paraffin is an especially wonderful treatment in a pedicure (**Figure 14-9**).

Though there are many ways to apply paraffin from the bath that many clients, salon and spa owners, and professionals prefer, the traditional method is to dip and re-dip the hands and feet three to four times into the larger paraffin bath. Aside from the benefits mentioned in Chapter 13, such as relaxation and the warmth to enable penetration of products, the deep, moist heat in the paraffin aids in the reduction of pain and inflammation, increases moisturization, and promotes circulation to joints affected by arthritis and other chronic problems.

Some unique health precautions for the application of paraffin must be considered for chronically ill clients. Do not provide the paraffin wax treatment to clients with lesions or abrasions, impaired foot or leg circulation, or the loss of feeling in their feet or legs or other diabetes-related problems. Further, the skin of elderly clients may be more sensitive to heat, or thinner, so a pre-service wax patch test must be performed to check for client comfort in having the treatment. **LO1**

### Hot Stones (Optional)

Hot stones are generally used in pedicures—not manicures—in the nail industry, though they can be incorporated into manicures also. Hot stone pedicures are usually an upscale service included in the massage of the feet and legs. The name, however, is a misnomer—the stones are not hot, they are merely comfortably warm. The stones are smooth and typically basalt. The movements are up, toward the heart, and are not aggressive. They provide a deep, penetrating, and comforting heat that enhances relaxation and increases circulation.

Test the warmth of the stones on your arm for comfort and then check with the client during your first movement for his or her comfort with the heat.

The stones are scrub-cleaned between clients to prevent transfer of infection, then disinfected. Disinfecting your stones ensures that you do not inadvertently transfer bacteria, a fungus, or a virus from one client to another. Check with the company you purchased the stones from for its recommendations and policies on disinfection of the product.

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Photography by Yanik Chauvin.



**▲ Figure 14-9** Paraffin bath.

### CAUTION:

In 2009, a Greek spa client with MRSA spread the infection to many other clients by way of hot stones that had been improperly cleaned and disinfected. It is important to note that MRSA and many other infections are contagious even before becoming visible lesions. Thus, disinfection of the stones is absolutely necessary.



Even minor, invisible lesions created by shaving, plucking, waxing, insect bites, and pimples can cause risk for the client if the stones are not perfectly clean. According to the CDC (Centers for Disease Control), even invisible lesions can allow the transfer of infection. Nearly all women shave their legs, and men can have an insect bite that is virtually invisible to the nail technician. Dried and cracked heels and knees, rashes, abraded cuticles, and peeling sunburns are all to be considered as open lesions.

Certain stones can be used to massage sore muscles and this can provide general pain relief.

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## Implements

The implements mentioned in **Chapter 13, Manicuring**, are also used in pedicures. Other implements that are specific for use in pedicures are listed in the following sections.

### Toenail Clippers

Pedicure **toenail clippers** are larger than fingernail clippers and are specifically designed for shortening toenails. Use only professional toenail clippers made especially for cutting toenails. They have a wider space between the jaws, allowing them to cut thicker nails. Always clean the clippers well and disinfect them after use. For your client's safety, use only high-quality stainless steel implements made specifically for performing professional pedicures. Professional stainless steel implements will also last longer and make your job easier.

### Toenail Nippers

Pedicure **toenail nippers** are similar to fingernail nippers but are larger and much stronger. They have a larger hinge box and longer and thicker jaws, allowing them to be used in shortening the nail. Fingernail nippers are generally for removing dead skin. Toenail nippers must be used carefully to prevent trapping the skin of the toe in the jaws. The tips of the jaws are the cutting area of the jaws. They are held at a 45-degree angle to the nail tip, and small nips of the nail are taken slowly across the free edge to trim the nail.

### Curettes

A **curette** is an implement with a small, scoop-shaped end that, if carefully used, allows for more efficient removal of debris from the nail folds, eponychium, and hyponychium areas. Curettes are ideal for use around the edges of the big toenail plate (**Figure 14-10**). A double-ended curette, which has a 0.06 inch (1.5 mm) diameter on one end and a 0.1 inch (2.5 mm) diameter on the other, is recommended. Some are made with a small hole, making the curette easier to clean and disinfect after it has been used.

Curettes require gentle and careful maneuvers to prevent damage to the skin in the nail folds, eponychium or hyponychium. Nail technicians must never use curettes with sharp edges, as they can seriously injure clients. Only those with dull edges are safe and appropriate for use by cosmetologists or nail technicians. Curettes must always be used with the bowl of the curette toward the skin.

### CAUTION:

Take care not to trim the nails too short. Do not break the seal of the hyponychium, an important protection of the subungual (beneath the toenail) toenail unit from infection.

▼ **Figure 14-10** Double-ended curette.



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## Nail Rasp

The **nail rasp** is a metal file used in a specific fashion. Ask your instructor to demonstrate its correct use for you. It is designed to file in one direction with a filing surface of about 1/8" x 3/4" (3.2 mm x 19 mm) attached to a straight or angled metal handle (**Figure 14–11**). The angled rasp is recommended because it is easier to control under the free edge of the nail.

The rasp is placed under the nail, angling the point of the rasp at the center of the nail and the remaining portion toward the side free edge. It is then gently pulled toward the lateral edge of the nail to reduce the sides of the free edge that might grow into the tissues and potentially cause an ingrown nail. This is a prevention tool in the hands of a nail technician. Never use it on nails that are already ingrown; refer clients with ingrown nails to a podiatrist. The rasping process may be repeated to make sure there are no rough edges remaining along the free edge; however, do not overfile.

As you become proficient in the use of a nail rasp, you will find it to be an invaluable and time-saving implement as well as an important prevention tool for ingrown toenails. Take special care with this tool: never use it on the top of the nail or past the hyponichium area of the side of the free edge, as it can roughen the top or damage the skin and can cause infections. **LO2**

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▲ **Figure 14–11** Nail rasp.

### CAUTION:

Caring for ingrown or infected nails is a medical treatment and must be performed by a physician or podiatrist. It is considered surgery, and is outside the scope of practice for nail technicians. Nail technicians can prevent ingrown nails but cannot treat them.

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▲ **Figure 14–12** Metal abrasive file.

## Pedicure Nail Files

For toenails, a medium-grit nail file will work best. Always finish with the fine-grit file to seal the edges. Some nail technicians use metal files on toenails (**Figure 14–12**). Check with your instructor to find out whether metal files are legal in your state. Metal files with surfaces imbedded with graduals or chips of

some other rough material must be cleaned well and disinfected or sterilized after each use and before reuse.

## Foot Files or Pedicure Paddles

These large **foot files** or **pedicure paddles** are designed to reduce and smooth thicker foot calluses (**Figure 14–13**). They come in many different grits and shapes. They must be properly cleaned and disinfected between each use or disposed of after a single use, if they cannot be disinfected properly.

In general, if an abrasive file cannot survive proper cleaning and disinfection procedures without being rendered unusable, it must be considered single use or be given to the client for home use.

Many reasonably priced foot paddles are now available for purchase in bulk for single-use in pedicures. Foot paddles with disposable and replaceable abrasive surfaces are also available.

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▲ **Figure 14–13** Foot files for reducing calluses.

## Law

### State Regulatory ALERT!

It is illegal for nail technicians to cut or dramatically reduce calluses on clients. Cutting falls under the category of medical treatment and is not a cosmetic service. It is considered outside the scope of practice of a nail technician in most states and will be determined so in the others in lawsuits. The technician may have to explain this truth to some clients who are accustomed to these illegal activities in other salons. Simply say, "I'm sorry, but cutting is a medical treatment, and it is illegal for nail technicians to use blades for that reason. We have good products available and effective procedures to reduce calluses without dangerously cutting your skin."

## CAUTION:

Cutting into the skin on the feet of immuno-suppressed clients is especially dangerous, as the healing of their wounds is a slow process and sometimes even impossible. Do not trim cuticles. Do not use blades to cut calluses. Do not use metal pushers or sharp implements on clients who have any chronic illness. Even a tiny break in the skin that cannot be seen can cause infection or even amputation and death.

The handles of these files must be cleaned and disinfected before reuse. Check with your instructor to find out whether their use is legal in your state.

## Nippers

**Nail nippers** are implements used in manicures and pedicures to trim tags of dead skin. Because of the many necessary precautions in performing pedicures, nail technicians must take great care to avoid cutting, tearing, or ripping living tissue with this implement. Do not use nippers on the feet of clients who have diabetes, since the risk of infection, amputation, and even death from accidental injury is great. Also, avoid using nippers on clients with psoriasis, since injury to the toenail unit can create new psoriasis lesions where the damage occurs.

## Materials

All materials mentioned in **Chapter 13, Manicuring**, are also used in performing pedicures. A few unique materials are used in this service as well and listed below.

## Toe Separators

**Toe separators** of many designs are available, from foam rubber one-piece units that fit between the toes to a rope type that is woven between the toes. Toe separators are used to keep the toes apart while the technician is polishing the client's nails. The one-piece foam rubber separators are used most frequently. Toe separators are important in order to perform a high-quality pedicure (**Figure 14-14**). Since toe separators cannot be cleaned and disinfected, a new set must be used on each client and then thrown away or given to the client.

## Pedicure Slippers

Single-use paper or foam slippers are provided for those clients who have not worn open-toe shoes in to the salon and want to avoid smudging their newly applied toenail polish or for those that are having other services in a spa. They are specially designed not to touch the nails while being worn (**Figure 14-15**).

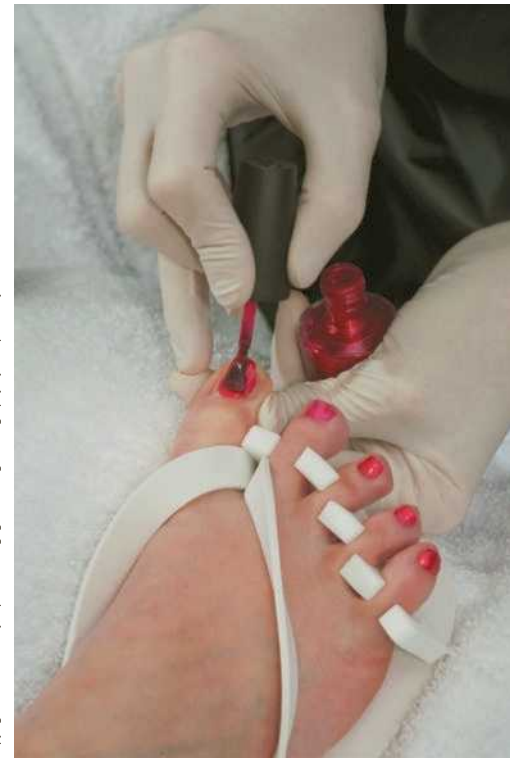
## Gloves

Per OSHA regulations, nail technicians must wear gloves while performing pedicures. Also, repeated exposure of the skin to pedicure water can cause extreme dryness and cracking of the hands. The OSHA regulations mandate that the technician wear the gloves to prevent exposure to pathogens that may be present on the feet or in the water. A new set of gloves is worn for each pedicure, then thrown away. If the client or nail technician is allergic to latex, nitrile gloves should be worn. (See Chapter 13, Manicuring, for more information.) **LO3**



▲ **Figure 14-15** Pedicure slippers.

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▲ **Figure 14-14** Toe separators.

## ■ PROFESSIONAL PEDICURE PRODUCTS

Products for pedicure services include the products discussed in **Chapter 13, Manicuring**, plus others that are unique to pedicuring. These additional product types are:

- Soaks
- Scrubs
- Masks
- Pedicure lotions and creams
- Callus softener products

### Foot Soaks

**Foot soaks** are products that are put into the water in the pedicure bath to soften the skin on the feet during their time in the bath. A good foot soak product is gentle but effective and thoroughly cleans and deodorizes the feet. Professionally formulated products are designed to properly cleanse without being overly harsh to the skin. Other ingredients may include moisturizers and oils that are designed for use in pedicure baths. This step sets the stage for the rest of the pedicure, so be sure to use a high-quality soak to start your pedicure service on a good note.

### Exfoliating Scrubs

These gritty lotions are massaged on the foot and leg to remove dry, flaky skin and reduce calluses. They leave the skin feeling smoother and moisturized.

**Exfoliating scrubs** are usually water-based lotions that contain an abrasive as the exfoliating agent. Sea sand, ground apricot kernels, pumice, quartz crystals, jojoba beads, and polypropylene beads are all exfoliating agents that may be found in pedicure scrubs. Scrubs also contain moisturizers that help to condition the skin. Nail technicians must wear gloves when using these products, as repeated use will irritate the skin on the hands.

### Masks

Masks are concentrated treatment products often composed of mineral clays, moisturizing agents, skin softeners, aromatherapy oils, and beneficial extracts and other ingredients to cleanse exfoliate, tighten, tone, hydrate, and nourish the skin. They are highly valued by clients. Masks are applied to the skin and remain there for 5 to 10 minutes to allow the penetration of beneficial ingredients. Menthol, mint, cucumber, and other ingredients are very popular in foot care masks.

### Foot Lotions or Creams

Lotions and creams are important to condition and moisturize the skin of the feet, soften calluses, and provide slip for massage during the service. They are also formulated as home-care products to sell to clients to maintain the service or improve the skin. Nail technicians who work in a podiatry or medical

#### CAUTION:

No additive that is added to the water during a pedicure soak kills pathogens and can replace your obligation to clean and disinfect the equipment and implements after the pedicure. Any chemical that is strong enough to adequately kill pathogens can be harmful to the skin.

### Did You Know?

Avoid excessively abrasive scrubs since they may leave tiny, invisible scratches on clients' skin that can be portals of entry for pathogenic microorganisms. Portals of entry are openings in the skin caused by damage in a professional service. Also avoid using products with ingredients that will expand and clog the pedicure drain, such as corn meal.

## CAUTION:

Callus softeners are alkaline and potentially hazardous. For that reason, safety glasses should be worn whenever this product is used or poured. Be sure to wear gloves during their use. Used improperly, these alkaline products may cause severe irritation to the nail technician's eyes, hands and skin and cause postservice dryness. Use them according to the manufacturer's instructions.

Used correctly, they are safe and effective.

## CAUTION:

Remember that calluses are there for a reason: they protect the underlying skin from irritation. For example, joggers, waitresses, cosmetologists, nurses, and teachers are on their feet for many hours each day. Calluses protect their feet in stress areas. Calluses should be softened and smoothed, not excessively thinned or removed. Never use a blade on a callus: it is illegal and can cause debilitating infections in clients.

Educate your client about callus formation and the protective function calluses provide. Discuss with the client the removal of the cause of the callus, such as no longer wearing a pair of shoes that is causing the callus. Also discuss products for home use to help soften and condition callused areas between salon appointments.

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office, however, will be introduced to treatment-level lotions and creams that are associated with the improvement of medical conditions of the feet such as extreme dryness (xerosis). Whether you work in a salon, spa, or medical office, get to know your product line well in order to recommend products to aid the client in maintaining the benefits of your pedicure.

## Callus Softeners

Professional-strength **callus softener products** are designed to soften and smooth thickened calluses. They are applied directly to the client's calluses and are left on for a short period of time, according to the manufacturer's directions. After the product softens the skin, it is more easily reduced and smoothed with files or paddles.

Improper use of callus softener products can be highly damaging and result in permanent injury to the client. To learn more, go to [www.prweb](http://www.prweb), search for Regal Nails, and read about a lawsuit as a result of improper use. **LO4**

## ABOUT PEDICURES

Pedicures have become a part of the American lifestyle: many women go to the salon for pedicures more often than they have their hair cut. These clients are as choosy about their pedicure as they are about their haircuts. As with most beauty procedures, a pedicure is a service that must be practiced and perfected, and you must continually search for education and new ideas to keep up with the changes.

## Choosing Pedicure Products

Many pedicure products are available, but the ones designed to work well together are developed in systems or lines by companies to meet the needs of the clients' feet. Product lines are the fastest and easiest way to develop an optimal pedicure service. They are available from many manufacturers of professional nail and foot products. Before choosing one, check out a variety of product lines. Compare them so you can decide for yourself which line is best for your clients.

Always check the quality of the company's educational support; this can indicate its commitment to the nail technicians who use its products. Find technicians who use the products and discuss the quality of the company's customer service and its shipping competence. Listen closely to their experiences. Then look at your research and make the decision based on which company best meets your and your clients' needs.

When using a manufacturer's product line, follow its recommendations and suggested procedures: its methods have been tested and found to enhance the effectiveness of its product line.





## Service Menu

Tailor your foot care menu of services to meet the lifestyle and requests of your clientele. For example, if your clientele is mostly younger, they will probably love nail art on their toes; however, older clients may not request art but may enjoy paraffin wax treatments.

Shorter services are great menu expanders. Not all clients will want or need a full pedicure. Some clients may only request a professional nail trimming; others a pampering massage appointment to relieve tension and stress; others a polish change. List these additional services on your menu with your full pedicures to provide options for your clients.

## Interaction During the Service

During the procedure, discuss with your clients their foot health, an upgrade they may enjoy, and the products that are needed to maintain the pedicure between salon visits. Those who want to drift off should be allowed the peace and tranquility they are seeking. If this is the case, discuss your product recommendations during polishing or when closing the service.

Remember, clients are in the salon to relax and be pampered. Offer them refreshment and suggest they sit back and relax, then smile and start the service. Keep your conversation professional; never discuss personal issues, politics, religion, or any other topics that might offend. There should be no distractions for you or the client during the pedicure. Clients purchase this service, aside from the foot care performed, because of the relaxation it provides. Distractions and too much talking prevent this from happening.

To grow your clientele and to promote the foot health of clients, you must encourage them to schedule regular monthly pedicures. The accepted time between pedicure appointments is generally 4 weeks because of the slow growth of the toenails. Mention that their feet are in constant use and need routine maintenance. Remind them that proper foot care, through pedicuring, improves both personal appearance and basic foot comfort.

## Scheduling

When scheduling a client for a pedicure over the telephone, warn female clients not to shave their legs within 48 hours prior to the appointment. Why? Shaving the legs within this time frame increases the potential presence of tiny microscopic abrasions that may allow portals of entry for pathogenic microbes and can increase the risk of stinging, irritation, or infection. This policy is an important infection control policy.

To help uphold the policy, post a tasteful sign with the same message in the pedicure area and place it on your service menu and web site where your pedicures are listed. Then, before you place your client's feet in the pedicure soak, ask her when she last shaved her legs—if it was within the last 48 hours, offer her a waterless, basic pedicure that services only her foot and reschedule the pedicure that involves a soak and her legs. It is the responsible thing to do.

Additionally, as a customer service, when clients are scheduling an appointment for a pedicure suggest they wear open-toed shoes or sandals so that polish will not be ruined immediately following the service. Single-use pedicure

## Did You Know?

What about chronically ill patients? Many podiatrists and physicians are concerned about such patients receiving pedicures; they are extremely susceptible to infection and have poor healing capabilities. For these reasons, many refer patients to specially trained manicurists to perform pedicures on their patients.

These licensed nail technicians or cosmetologists have taken advanced courses to learn to perform safe pedicures on these special clients. The Certified Advanced Nail Technician (ANT-C), a salon-based nail technician, has completed advanced training in how to work safely on clients with chronic illnesses. For that reason, podiatrists and physicians feel confident that their patients will be safe from harm and infection when having pedicures where these technicians work. The Certified Medical Nail Technician (MNT) has taken even more training to learn to perform cosmetic pedicures in a medical setting on patients who need special care and gentleness. These new specialties take nail technology to a whole new level and expand the professional possibilities for licensed nail technicians.

## BUSINESS TIP

The basic pedicure includes a foot massage and not a leg massage for two reasons. The first reason is the time constraints. Most salons schedule less time for the basic pedicure, so the massage must be shorter. Second, the higher-cost pedicures must be more special to be perceived as worth a higher price; the leg massage is one of the special additions.

## CAUTION:

All clients should be told when they schedule a pedicure not to shave their legs for 24-48 hours before the pedicure. Invisible shaving scrapes, also known as **microtrauma** can put the client at risk of infection. Microtrauma is the act of causing tiny unseen openings in the skin that may allow entry by pathogenic microbes.

slippers can be provided for those who forget their sandals, but a reminder at the time of scheduling is greatly appreciated since the appearance of their polish is a priority to these clients.

## Designing the Services

The services must be designed to fit properly in the salon or spa schedule. The basic pedicure in most salons is 30 to 45 minutes and does not include a leg massage, only a foot massage; a spa pedicure is usually 1 hour to 1 hour and a half and includes the leg massage and other additional pampering treatments. It is a longer, more upscale and more expensive service and therefore deserves that additional time on the schedule.

## Staying on Time

Clients dislike waiting for a nail technician who is running late. For that reason, it is important to schedule appointments for the proper length of time. Then, it's your responsibility to know where you should be in a service at a specific time and adjust your service to that timing. That keeps you on time for your next client. For example, you should have the consultation and soaking finished within 12 minutes or less after starting the pedicure, then proceed on through the steps at the allotted times until you are polishing 45 to 50 minutes after beginning a 1-hour pedicure in order to be on time for your next client. You may need more time with a client than was scheduled because of the condition of the feet. You will know if this is the case when you are performing the consultation and evaluating the client's feet. You must tell the client who will take longer that you will do the best you can in the time scheduled, but that he or she may need to schedule another pedicure to get the feet into good condition. Usually clients with problem feet know that this is the case and shouldn't be surprised at the suggestion of another appointment and further work. It is important that you do not work beyond your scheduled time.

By sticking to the appointment time allotted, you will not only be sticking to your schedule, but you will also be protecting the client. If his or her feet are in bad shape, and you work to get them in optimal condition in only one service, the client's feet may become irritated or painful. The best option is to sell the client home-care products to improve the condition of the feet and schedule him or her for another service in 1 to 2 weeks.

## Series Pedicures

Some improvements in the feet require more than one appointment in services, referred to as a *series*. A series example involves callus reduction. When a client comes in with heavy calluses, never use a blade. Not only is this dangerous and a potential cause of infection, but it is usually against the law. The use of a blade also stimulates heavier growth of calluses later, as the skin attempts to grow back quickly to protect the damaged skin.

To reduce calluses and then maintain their reduction, perform a safe amount of exfoliation during a pedicure with a scrub; apply the new, more effective callus reduction products; and use the foot paddle to remove a safe amount of callus. Explain the negative aspects of a speedy removal of the calluses to the client and explain that weekly callus reduction appointments for 4 to 6 weeks

will lower the calluses and allow them to then be maintained at the lower level with monthly pedicures.

The entire pedicure is not performed during the series appointments between the monthly pedicures; the appointment is a weekly treatment of a soak, application of the reduction product, a set time according to instructions to allow for it to work, reasonable callus reduction, application of a lotion, and dismissal. About a half hour is scheduled, and the price should be less than a full pedicure.

At the 4-week appointment, a full pedicure and postpedicure treatments are performed again. Some clients will require more time than 6 weeks; this should be explained when the series is suggested. The client can also be sold a glycolic or lactic acid hand and body lotion to use on the feet every other day, with the use of a lotion containing dimethyl urea (DMU) daily to soften and prevent the scaly condition from returning. A foot paddle can also be sold to the client for use after showers between treatment appointments. Gloves must be worn during these services.

Another condition that can require weekly treatment is scaly feet. First, however, the client must be sent to a podiatrist to define whether the feet are fungal; fungus can produce a scaly condition on the feet. If everything is okay, the client can return for three to six weekly foot exfoliation treatments with scrubs and callus reduction treatments, such as a mask, all over the feet for 1 to 3 minutes, according to product instructions. When properly performed, the client will have beautiful feet when the series is finished. Home-care products must be recommended to maintain the condition.

## Spa Pedicure

The pedicure described in Procedure 14–1, the Basic Pedicure, is the basis from which all other pedicure services are designed. For example, in the basic pedicure, the massage is performed on the foot only; in the spa pedicure, the massage is performed on the foot and the leg to the knee. An exfoliation is also usually a portion of the spa pedicure, to remove dead cells from the skin on the leg, but may not be in the basic pedicure. This is usually performed prior to the massage or just before a mask.

The mask is an important part of a spa pedicure but is not included in the basic pedicure. It is applied to the foot and leg, covered with a wrap or plastic cover, and then the client is allowed a relaxation time during which the mask becomes effective. A further upgrade would be the incorporation of special products, such as the use of aromatherapy lotions, oils, paraffin, and other specialty treatments, such as reflexology. **LO5**

## Elderly Clients

Older people need proper foot care on a regular basis and year-round to maintain foot health. However, many of the elderly cannot reach or see their feet or cannot squeeze the nail clippers to trim the nails. This means that they need regular help in their foot health maintenance, since it can become a health issue for many. The nail technician who offers pedicure services for this segment of the population will be doing these individuals a great service and will find plenty of willing clients in need of the services.

### BUSINESS TIP

Charge extra for add-ons to services such as paraffin wax treatments and nail art. Services have dollar value—especially when you consider the time, product expense, skill level, and equipment used. Always be up-front about additional service costs, and if a client decides to indulge in one always charge appropriately.



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▲ **Figure 14–16** Gel toe art.

## Pedicure Pricing

The salon or spa will probably already have a price list for services. If and when you find yourself in a position to price your services, a good rule of thumb is to determine the price of your basic pedicure first and then set your prices for more upscale and luxurious pedicures: do this by increasing the base price of the pedicure according to the value of the added treatments, products, and time it takes you to perform the additional services.

Many clients love the French polish technique on their toenails, and are charged an additional cost. Known as a French manicure, the technique involves polishing the tip with white polish and the rest of the nail with a natural color. Another great way to upgrade your pedicure price is through nail art. Many clients enjoy adding a little something special to their normal pedicure polish, especially if they are not permitted to wear polish or art on their fingernails where they work. It is easy to get your clients addicted to toenail art by offering them the first one for free. Once they have it, and their friends compliment it, they will want it every time, and you will quickly see an increase in revenue with your existing clientele (**Figure 14–16**). Toenail art is especially popular in sandal season and with formal open footwear.

## Selling Pedicures

Many salons and spas have found that selling manicure and pedicure packages works very nicely for them. Manicures and pedicures together are like salt and pepper—although they are different, they are easily paired together. Some salons sell manicures and pedicures as single-service packages or together in a package, such as “six for \$\$.” Some sell them in numbers as high as 12 to keep clients coming in for a pedicure every month for a year. Packages usually involve a small discount; for example, a client receives a free pedicure when she purchases 12 (the discount is the amount of one pedicure).

Another great way to sell pedicures is to market theme services for holidays and special events, such as Christmas, Valentine’s Day, Mother’s Day, prom, weddings, and birthday packages.

## fyi

Before performing a service that includes a foot and/or leg massage, consult the client’s consultation or intake form. During the consultation, acknowledge and discuss any medical condition your client listed that may be contraindicated for a foot and/or leg massage. Before you perform the service, ask chronically ill clients if they have discussed massage with their physician, and if they have not already done so, encourage them to ask their physician whether a foot and/or leg massage is advisable.

Many clients with high blood pressure (hypertension), diabetes, or circulatory conditions may still have foot and/or leg massage without concern, especially if their condition is being treated by a physician. Foot and/or leg massage is, however, contraindicated for clients with severe, uncontrolled hypertension, diabetes, or other chronic conditions. For clients who have circulatory problems such as varicose veins, massaging the foot and/or leg may be harmful because it increases circulation. Ask for written permission from the client’s physician before performing this massage.

If your client has sensitive or redness-prone skin, avoid vigorous or strong massage techniques. Gentleness is especially important for clients who have arthritis. Do not talk to your client during the massage except to ask once whether your touch should be more or less firm. Talking eliminates the relaxation therapy of the massage.

Be conservative when making decisions about whether to perform a foot and/or leg massage on a person who has a medical condition. When in doubt, don’t include massage as part of your service. Explain your precautions to the client.

## Pedicure Massage

According to client salon surveys, massage is the most enjoyed aspect of any nail service. This is especially true for pedicures. For that reason, spend time designing one you will enjoy performing and that your client will enjoy receiving.

The art of massage enjoys a rich history; massages may have existed since the beginning of time. General body massage can be for relaxation or therapeutic purposes; however, the focus of a massage performed during a manicure and pedicure is definitely relaxation.

Most of us enjoy being touched; the art of massage takes a pedicure to a higher level of enjoyment. It's special; many think it is more special than a massage on any other part of the body. Foot massage induces a high degree of relaxation and stimulates blood flow. Be aware of the areas of the feet and legs where the client most enjoys massage and put a greater emphasis in these areas.

The number of massage routines is as vast as the number of persons performing massages. No matter what technique you use, perfect it so that it becomes second nature to you. During this part of the pedicure, be keenly aware of your client's health, meet any precautionary requirements, and offer a massage that relaxes the client but is not harmful to him or her.



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### Application Tip:

The most enjoyable massage is a rhythmic, slow slide with the fingers and palm connecting to the client as much as possible. Maintain a touch connection with the client throughout the massage, sliding the hands from one location to the next in a smooth transition.

## fyi

Generally, when you are performing a foot massage, the foot should be grasped between the thumb and fingers at the mid-tarsal area. The thumb is on the bottom of the foot, while the fingers are wrapped around the top side of the foot. This accomplishes two things:

- It locks the foot into place, giving the nail technician control of its movements.
- A gentle though firm grip has a calming effect on the client and overcomes apprehension in those who dislike having their feet touched.

Avoid holding the foot lightly or loosely as it can cause a ticklish sensation in many people. Most clients will accept and tolerate a firm, comfortable grip on the foot even if they are ticklish.

## Reflexology

**Reflexology** is a unique method of applying pressure with the thumb and index fingers to the hands and feet, and demonstrates health benefits. This specialty massage of the soles of the feet is offered by many professionals; it can employ many of the principles of acupressure and acupuncture. It is considered a science by many technicians.

Reflexology is based on the principle that areas (reflexes) in the feet and hands correspond to all the organs, glands, and parts of the body. It is said that stimulating these reflexes or points can reflect positive energy and increase blood flow to these areas when pressed.

### BUSINESS TIP

It is very easy to create a "specialty" pedicure by adding masks, paraffin treatments, or other special applications after the massage and before polishing.



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### Application Tip:

Always apply enough lotion or oil to the foot to allow sufficient slide and no skin drag. If there is a need to apply more lotion during a massage, one hand remains on the foot or leg while the other hand reaches for a pump of the lotion or oil bottle for more product. Place your thumb over the pump then press down to deposit more product onto the fingers below the pump. Distribute the lotion and return to the massage.

Professional, hands-on training is essential in reflexology for two reasons. First, there is a certain touch in reflexology that can be learned only through hands-on training. Clients who have experienced a reflexology treatment from a certified reflexologist know what that touch is and respond negatively to those who cannot deliver the same treatment because of minimal or no training. Poor or no training in reflexology can spread general distrust to all services. Second, an untrained professional may not be able to produce results for the client, who in turn, will see no reason to returning for another service.

If a salon truly wishes to offer reflexology services to its clients, it is best that the staff or professional receives authentic training and certification in the art of reflexology from a highly recommended reflexologist who is certified by the Reflexology Association of America. **LOG**

## Ergonomics

Performing pedicures can be a serious challenge to the health and well-being of a nail technician. Many develop serious and painful back conditions if they are careless about properly protecting themselves through ergonomics.

Pay attention to your body's positioning and make sure you are working ergonomically. Always sit in a comfortable position, relaxed and unstrained, to reduce the risk of injury to your back, shoulders, arms, wrists, and hands. For example, avoid leaning forward or stretching to reach your client's feet. Take a minute to stretch before and after a pedicure to keep your body limber, in line, and more resistant to injury.

Although it is important to give your client the best possible service, it is also important to keep yourself healthy during the process and avoid injuries caused by strain or repeated motion.

## ■ DISINFECTION

Disinfection of the pedicure bath has been both discussed and sensationalized in the media—and for good reason. There are specific criteria and steps that must be followed exactly to ensure proper disinfection and infection control. Improper, rushed, or careless cleaning of the pedicure bath may lead to health safety concerns for salon clients. It is the responsibility of the salon and the individual performing the procedure to ensure that proper disinfection occurs and that procedures are followed.

Review Procedure 5-2, Disinfecting Foot Spas or Basins, in Chapter 5. The disinfecting procedures have been developed by the Nail Manufacturer's Council (NMC), a group of representatives of companies that produce nail care products, and the International Nail Technicians Association (INTA), a group of professional nail technicians, for cleaning and disinfecting all types of pedicure equipment, including:

- Whirlpool units
- Air jet basins
- Pipe-less and all nonwhirlpool basins
- Sinks
- Bowls
- Tubs

In addition, salons must always use an EPA-registered hospital disinfectant that the label claims is a broad spectrum bactericide, virucidal, and fungicide. In addition, many states require that salons record the time and date of each disinfecting procedure that is performed in a salon pedicure log or disinfection log for accountability purposes.

Salon teams are encouraged to incorporate the disinfection procedures discussed in Chapter 5 into their regular cleaning schedules and to display the procedures in employee areas. Always check your state regulations concerning the required disinfection protocol. **LO7**

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**WEB RESOURCES** For more information concerning disinfection and other important topics in the nail industry, go to <http://www.probeauty.org/NMC>. This site contains many informational brochures relevant to manicuring and pedicuring. They are published in several languages, including Vietnamese and Spanish; written by the leading scientists and technical experts in the industry; and are reviewed by other industry leaders before publishing.

# Procedure 14–1

## Performing a Basic Pedicure

### IMPLEMENTS AND MATERIALS

You will need all of the basic materials discussed in Chapter 13 as well as the following to perform the basic pedicure:

- Gloves
- Pedicure basin or foot bath
- Electric foot mitts (optional)
- Terry cloth mitts (optional)
- Paraffin bath (optional)
- Toenail clippers
- Curettes
- Nail rasp
- Pedicure nail files
- Pedicure paddle
- Nippers
- Toe separators
- Pedicure slippers
- Foot soak
- Exfoliant
- Foot lotions or creams
- Callus softeners

### Preparation

Complete **Procedure 13-1**, Preservice Procedure.

### Procedure



- 1** Check the temperature of the pedicure bath for safety. Put on gloves and place the client's feet in the bath; allow the client's feet to soak for 5 to 10 minutes to soften and clean the feet before beginning the pedicure.



- 2** Lift the client's foot you will be working with first from the bath. Using the towels on the footrest, the floor, or your lap, wrap the first towel around the foot and dry it thoroughly. Make sure you dry between the toes. If you are using a basin or portable bath, place the foot on the footrest or on a towel you have placed on your lap.



- 3** First, remove polish from the little toe. Then move across the foot toward the big toe. Complete polish removal is important to a quality pedicure finish.

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4

4 Carefully trim the toenails of the first foot straight across and even with the end of the toes. The big toenail is usually the most challenging to trim. Do not leave any rough edges or “hooks” that might create an opportunity for infections.

5 Carefully use the toe nail rasp, only on the big toe, if needed. The rasp is narrow and will only file the big toe nail in one direction. It can be used to remove, smooth, and round off any sharp points or edges on the sides of the free edges that might eventually cause infection. Do not probe with the rasp nor point the tip toward the hyponychium. Gently draw it along the side edge of that portion of the free edge that you have just trimmed, pulling it toward the side of the big toe nail free edge. Small, short strokes with the file will accomplish the task.



6

6 Carefully file the nails of the first foot with an appropriate single-use and prepped abrasive file. File them straight across, rounding them slightly at the corners. Smooth rough edges with the fine side of an abrasive file.

7 After filing, buff the nails to remove any unevenness. Next apply callus softener and cuticle remover to the calluses and then wrap the foot in a towel and lay it aside. Remove the other foot from the water and perform Steps 2 through 7 on that foot.



8

8 Remove the first foot from the towel wrap; use a wooden pusher to gently remove any loose, dead tissue. Next, use a foot file to smooth and reduce the thicker areas of calluses. Next, exfoliate the foot with a scrub to remove the dry or scaly skin. Use extra pressure on the heels and other areas where more calluses and dry skin build up.

9 Place the first foot in the foot bath and rinse off the cuticle remover and callus softener completely. Then lift the foot above the water and brush the nails with a nail brush. Remove the foot and dry thoroughly. Wrap loosely in the towel.

9

10 Repeat Steps 8 and 9 on the other foot.



11

11 Use the single-use cotton-tipped wooden pusher or disposable product applicator to reapply cuticle remover to the first foot. Begin with the little toe and work toward the big toe.

### Application Tip:

Toe separators can be used to hold the toes apart while filing or applying cuticle remover. Always use new separators for every client.

# Procedure 14–1 Continued

## Performing a Basic Pedicure (continued)



12

12 Carefully remove the cuticle tissue from the nail plate using a wooden or metal pusher, staying away from the eponychium and taking care not to break the seal between the nail plate and eponychium. Use a nipper to carefully remove any loose tags of dead skin, but don't cut, rip, or tear living skin; cutting cuticles may lead to serious infections. Loosely rewrap this foot unless Step 13 is necessary.



13

13 Next, if necessary, use the curette on the first foot to gently push the soft tissue folds away from the walls of the lateral nail plate. This allows you to visually inspect the nail plate and the surrounding tissue. If there is extra buildup of debris between the nail plate and surrounding tissue, it should be gently removed with the curette. To use this implement, place the rounded side of the spoon toward the sidewall of living skin. A gentle scooping motion is then used along the nail plate to remove any loose debris. Take care not to overdo it. Do not use this implement to dig into the soft tissues along the nail fold as injury may occur. If the tissue is inflamed (e.g., ingrown toenail), the client must be referred to a qualified medical doctor or podiatrist.

14 Dip your client's first foot into the foot bath. With the foot over the foot bath, brush it again with the nail brush to remove bits of debris. Dry the foot thoroughly. Wrap it in a towel and perform Steps 11 to 13 on the other foot. When finished, wrap that foot in the foot towel and set it aside while performing the following steps on the first foot.



15

15 Apply lotion, cream, or oil to the first foot and massage. Use a firm touch to avoid tickling your client's feet.

16

16 Perform a foot massage on the first foot as outlined in **Procedure 14–2, Foot and Leg Massage**. Then rewrap the foot and place it on the towel on the floor or step, wherever appropriate in your salon.

**17** Massage the second foot.

**18** Remove traces of lotion, cream, or oil from the nails of both feet with polish remover.

**19** Ask the client to put on the sandals he or she will wear home or provide single-use pedicure slippers. Insert the toe separators, if possible. Apply nail dehydrator, then apply base coat to the nails on both feet, then two coats of color, and finally a topcoat. Apply polish drying product (optional) to prevent smudging of the polish. You may want to escort the client to a drying area and offer him or her refreshment.



**20**

**20** Your client has beautifully pedicured feet. ✓ **LO8**

## Postservice

Perform **Procedure 13–2**, Postservice Procedure.

# Procedure 14–2

## Foot and Leg Massage

These techniques and illustrations provide instruction for massage on the feet and legs. A massage for a basic pedicure will include only the foot, while a spa pedicure will also include the leg massage and may include the front of the knee.

### IMPLEMENTS AND MATERIALS

You will need the following material to perform massage:

- Massage oil or lotion
- Gloves



- 1** Rest the client's heel on a footrest or stool and suggest that your client relax. Grasp the leg gently just above the ankle and use your other hand to hold the foot just beneath the toes; rotate the entire foot in a circular motion.

- 2** Hold the foot and move the other hand to the dorsal surface of the foot. Foot massage requires a firm touch (although not one that causes pain): firmness can prevent sensation on ticklish feet. Place the base of your palm of that hand on top of the foot behind the toes. (The tips of your fingers do not touch the skin; lift them away.) Slide up to the ankle area with gentle pressure of the palm and heel of your hand. Repeat three to five times in the middle, then on the sides of the dorsal surface of the foot. Ever so slightly, lift the palm each time to return to the initial position of the slide after reaching the ankle.



- 3** Keep one hand in contact with the foot. Slide the other hand and place the thumb on the plantar surface of the foot with the fingers gently holding the dorsal side of the foot. Now transition to the next movement: slide the other hand to the same position on the foot, opposite side. Move one thumb in a firm circular movement, moving from one side of the foot, across, above the heel, up the medial side (center side) of the foot to below the toes, across the ball of and back down the other side of the foot (distal side) to the original position. Now move the thumb of the other hand across and up the outside of the foot, then down to its original position. The base of the thumbs through to the pad of the fingers should be in contact with the skin throughout the movement. Your nails must not touch the client's skin.

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4

Alternate the movements of the thumbs in a smooth, firm motion. Repeat several times. This is a very relaxing movement.

5

Perform the same thumb movement on the surface of the heels, rotating your thumbs in opposite directions. Repeat three to five times.

6



6

Place your one hand on top of the foot, cupping it, and make a fist with your other hand. The hand on top of the foot will press the foot toward you while your other hand twists into the instep of the foot. This helps stimulate blood flow and provides relaxation. Repeat three to five times. This is a friction movement. The bottom of the foot is the only place a friction movement is performed in manicure and pedicure services.

7



7

Transition your hands, then start with the little toe by placing the thumb on the top of the toe and arching the index finger underneath it. (Your palm is facing up.) Push the fingers and thumb in that position back to the base of the finger, then rotate the thumb and finger in a circular, effleurage movement until the index is arched over the top of the finger with the thumb underneath. Pull the finger and thumb toward the end of the toes.

8



8

Hold the tip of the toe, starting with the little toe, and make a figure eight with each toe. Repeat three to five times on each toe and then transition to the next one. After the last movement on each toe, gently squeeze the tip once, then transition to the next one. You must have sufficient lotion for this to be comfortable and relaxing.

9

Now, return your hands to the position described in #4, and repeat Steps 3 and 4.

**10** Repeat all the movements on each foot as many times as you wish, adding other movements that you like to perform, then move to the other leg/foot.



**11** Every massage, whether a pedicure or body massage, must end. To make the end special, to provide a signal for experienced clients that the massage is ending, and to provide a “release” from the client, feathering, which is a traditional release in massage, was developed in many forms. One designed for pedicures follows. At the end of the previous movement, in a smooth transition, place both of the client’s feet onto the footrest, or on another stable surface, and move your palms to the top of the feet with your fingers toward the leg. Press your entire hand three times slowly onto the feet. (This should not be a hard press, just a firm push.) Maintain each press for 1 to 2 seconds. After the last press, lift your palms slightly, but maintain contact with the feet with your fingertips. Now gently pull your hand toward the tips of the toes with a feather-light touch of your fingertips. (Do not allow your fingernails to touch the skin.) Pull completely off the end of the toes. Perform the final feather off movement only once, then allow the client to relax a minute or two before moving to the next step of the pedicure.

**12** Once the massage of both feet is completed, you may move forward in the pedicure procedure. If you are performing a luxury pedicure, do not perform the feather off movement; slide your hands to the leg and move on to the leg massage after Step 10.



**13** Place the foot on the footrest or stabilize it on your lap, then gently grasp the client’s leg from behind the ankle. Perform effleurage movements from the ankle to below the knee on the front of the leg with the other hand. Move up the leg and then lightly return to the original location. Perform five to seven repetitions, then move to the sides of the leg and perform an additional five to seven repetitions.



**14** Slide to the back of the leg and perform effleurage movements up the back of the leg. Stroke up the leg, then, with less pressure, return to the original location; perform five to seven times. Each pedicurist will design her own effleurage movements. They must be relaxing and in a routine used on every client. **LO9**

## ■ Review Questions

1. What are the five unique pieces of equipment used in pedicures?
2. Describe specialty materials used only when performing pedicures.
3. What is a callus softener product?
4. Explain the difference between a basic and a spa pedicure.
5. Define reflexology and explain its benefits during a pedicure procedure.
6. Why is cleaning and disinfection of pedicure baths important?
7. What is the tool used to reduce the instance of an ingrown toenail and how should it be used?
8. List the steps in a basic pedicure.
9. List the steps in a foot and leg massage.

# 15 Electric Filing

## Chapter Outline

- Why Study Electric Filing?
- Types of Electric Files
- Battery-Operated Micromotor Machines
- Hand-Held Micromotor Machines
- Choosing an Electric File
- All About Bits
- Electric Filing Techniques
- Electric Files for Pedicures
- Troubleshooting
- Safety Tips for Electric Filing
- Continuing Education
- Procedures



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# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **L01** Discuss the different types of electric files that are used most often by nail professionals.
- ✓ **L02** Define RPM.
- ✓ **L03** Define torque.
- ✓ **L04** Define tolerance.
- ✓ **L05** Define variable speed.
- ✓ **L06** Discuss why bits should be concentric for safe use.
- ✓ **L07** Determine industry standard shanks.
- ✓ **L08** Identify the types of bits that have grits.
- ✓ **L09** Explain how carbide bits differ from bits with grits.
- ✓ **L010** List the names and uses of one-use-only bits.
- ✓ **L011** Perform the practice technique for the cuticle area.
- ✓ **L012** Identify the causes of excessive heat when nails are being filed.
- ✓ **L013** Describe the procedure for cleaning and disinfecting metal file bits.

## Key Terms

Page number indicates where in the chapter the term is used.

**bits** / 288

**concentric bits** / 288

**flutes** / 289

**grit** / 288

**maintenance** / 295

**microshattering** / 300

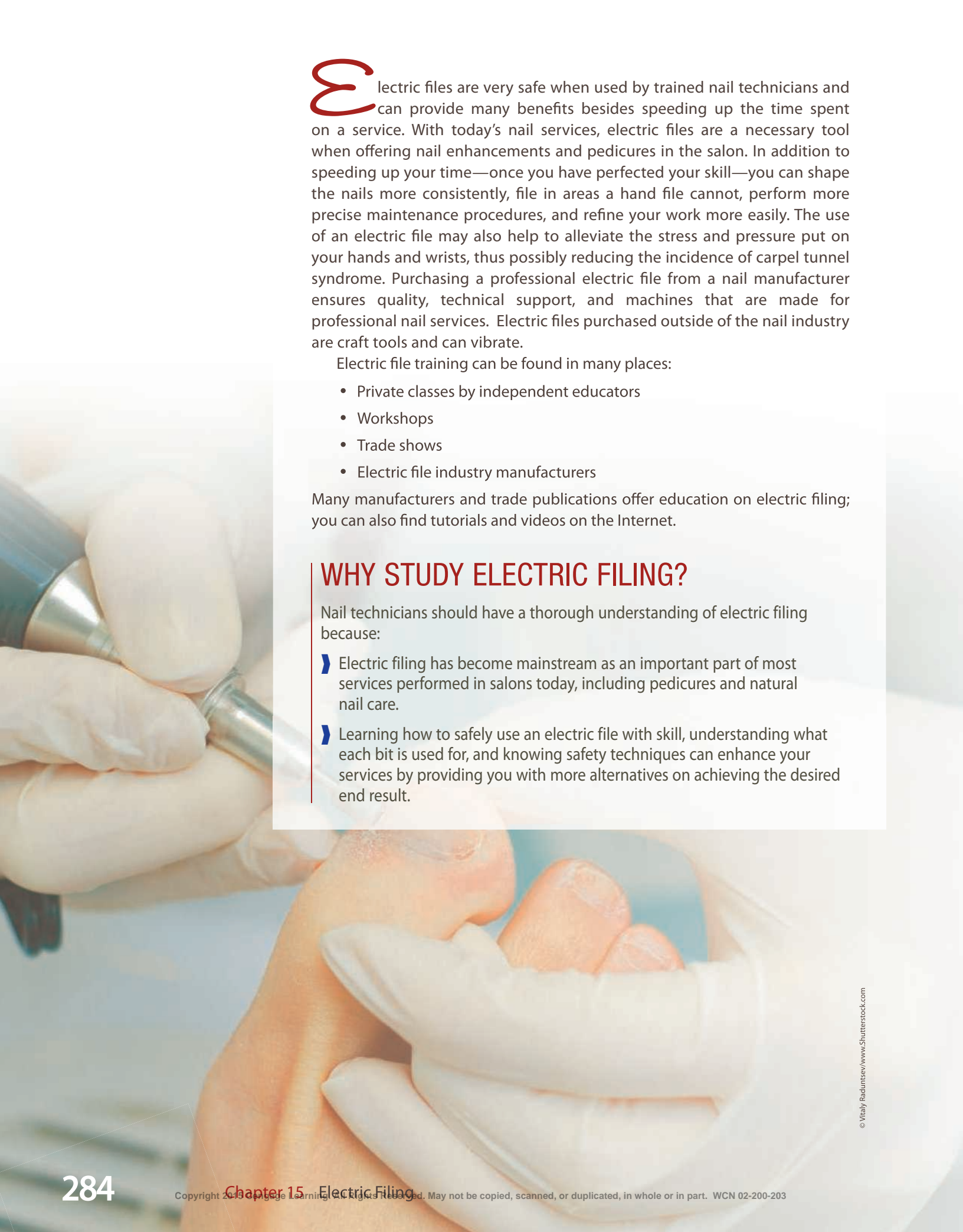
**revolutions per minute (RPM)** / 286

**rings of fire** / 289

**tolerance** / 286

**torque** / 286





**E**lectric files are very safe when used by trained nail technicians and can provide many benefits besides speeding up the time spent on a service. With today's nail services, electric files are a necessary tool when offering nail enhancements and pedicures in the salon. In addition to speeding up your time—once you have perfected your skill—you can shape the nails more consistently, file in areas a hand file cannot, perform more precise maintenance procedures, and refine your work more easily. The use of an electric file may also help to alleviate the stress and pressure put on your hands and wrists, thus possibly reducing the incidence of carpal tunnel syndrome. Purchasing a professional electric file from a nail manufacturer ensures quality, technical support, and machines that are made for professional nail services. Electric files purchased outside of the nail industry are craft tools and can vibrate.

Electric file training can be found in many places:

- Private classes by independent educators
- Workshops
- Trade shows
- Electric file industry manufacturers

Many manufacturers and trade publications offer education on electric filing; you can also find tutorials and videos on the Internet.

## WHY STUDY ELECTRIC FILING?

Nail technicians should have a thorough understanding of electric filing because:

- ▶ Electric filing has become mainstream as an important part of most services performed in salons today, including pedicures and natural nail care.
- ▶ Learning how to safely use an electric file with skill, understanding what each bit is used for, and knowing safety techniques can enhance your services by providing you with more alternatives on achieving the desired end result.

## ■ TYPES OF ELECTRIC FILES

There are several types of electric files that are made specifically for nails. These machines have warranties from electric file manufacturers that support the nail industry. A professional nail technician should never purchase an electric file outside the nail industry, as these files may not have the high quality required for nails: they vibrate and use different bits that should not be used on nails.

### Micromotor Machines

Most professional electric filing machines are called micromotor machines. The motor is actually located inside the handpiece. The base box that sits on the manicuring table houses the transformer and the on/off and speed control switches. Smaller versions can have the same handpiece, with the transformer attached to the cord instead of being inside. These smaller models are just as powerful as the bigger machines. You will want to try both types to determine which one you prefer.

### ■ BATTERY-OPERATED MICROMOTOR MACHINES

The smaller micromotors are battery operated. You will have approximately 2 to 6 or more hours of battery usage before you must plug in the machine to recharge it. These models are small, compact, and powerful, but some may have much less torque.

### ■ HAND-HELD MICROMOTOR MACHINES

Hand-held micromotors have their power source and handpiece combined. The result is a larger unit that may be more difficult to manage than a two-piece unit. Also, each micromotor manufacturer recommends its own method for changing bits. Be sure to read and follow the manufacturer's directions.



▲ **Figure 15-1** Nail damage caused by improper use of electric files.

### Craft and Hobby Tools

Electric files that are purchased at craft, hobby, and tool stores are not suitable for the professional salon industry because they are usually manufactured for use on glass, wood, and ceramics. The bits needed for these electric files have a different shank size (1/8" or 3.12 mm) compared to the industry standard shank size of 1/32" (.79 mm). Most of these machines have a tremendous amount of vibration that can damage the natural nail, microshat-

ter the monomer and polymer products, and cause wrist damage to the nail technician (**Figure 15-1**). **LO1**

fyi

Electric file manufacturers have recently been inundated with reports of fake machines that look almost the same as the authentic, brand-name models. The design of these machines and the packaging are nearly identical to authentically produced professional machines. In most cases, only the manufacturer can determine the authenticity of a machine. One big clue is its price. If the price is much lower than others you have looked at, this is a good indication that the machine may not be a well-made, professionally guaranteed machine.

Be careful: Many people think they are getting a bargain when they find an inexpensive brand-name machine. But then when the machine needs to be repaired, buyers are told by the manufacturer of the authentic files that the machine they have purchased is a fake. In those cases, manufacturers cannot honor a warranty because the parts used in the fakes are not the same as those used by the manufacturer. Unfortunately, replacing the machine is the only option. This may cost more than buying the brand-name item in the first place.



▲ **Figure 15-2** An example of an electric file with bits.

## ■ CHOOSING AN ELECTRIC FILE

When choosing an electric file, determine your needs and know how much you are willing to spend (**Figure 15-2**).

Understanding a few basic terms will be very helpful when you are deciding among the various features of the files.

### Power and RPM Speed

Speed is defined in **revolutions per minute (RPM)**. This is the number of times the bit turns in a complete circle in 1 minute. Machines vary in RPM capacity, between 0 and 35,000. Think of RPM as a speedometer in a car. The motor works in the middle of the range from zero to the highest number. (You do not drive your car at the highest number on the speedometer.) Working in the middle range of its capacity prolongs the working life of the motor. **LO2**

### Torque

**Torque** is the power in the machine or its ability to keep turning when applying pressure during filing. Machines vary in torque and RPM, so know your machine's capacity. More powerful machines have larger, better motors. This means higher torque, so you should work at lower speeds because these machines are stronger and can accomplish more at a lower speed. Less powerful machines have less powerful motors and plastic handpieces, so you will work at higher speeds and possibly use more pressure to shape the nails, which may cause heat. These lightweight, less powerful machines can handle all of the same procedures as more powerful machines, but need to work at higher speeds to compensate. Your handpiece should not "bog down" or stop rotating when you apply pressure; if it does it does, then there is not enough torque. Again, the more expensive handpieces have better torque. **LO3**

### Tolerance

**Tolerance** is the tightness of the inside of the shank where the bit fits into the handpiece. If you have a bit that does not fit into the handpiece, it could be because of the tolerance. If the bit slips out while in use, the tolerance is too loose. **LO4**

Consider these features when you are purchasing an electric file:

- *RPMs*. Most techs use a range of 5,000 to 20,000 RPMs.
- *Handpiece*. The handpiece should weigh approximately 4 to 6 ounces (113 to 170 grams), should be comfortable in your hand, and have virtually no vibration.
- *Size of machine*. Most electric files are table machines that are about 4" x 4" x 4" (10.16 cm x 10.16 cm x 10.16 cm). Some are smaller and have the power pack on the outside of the box.
- *Usage*. How much you plan on using the electric file will dictate how much money you should spend. The more you use the machine, the higher quality you will need. A higher-quality file will last longer but cost more.

### Here's a Tip:

Consider sending your electric file in for maintenance while you are on vacation. Most manufacturers can service and return your machine within a week to 10 days. On your last day of work, ship your handpiece to the company. Provide a phone number so you may receive a quote. Otherwise, your handpiece may not be serviced until the company can reach you for your approval. Following the repair, your handpiece will be shipped back to you. It is always a good idea to have a second handpiece as a backup. All manufacturers sell handpieces separately.

- **Warranty.** Most electric file manufacturers offer a limited warranty with the purchase.
- **Price.** The more money you spend, the better the machine. A higher quality file will last longer and have less vibration, but cost more. High-end machines can cost as much as \$500; less-expensive machines can be purchased for as little as \$150.
- **Forward and reverse.** You will only need to “shift” into reverse if you are left-handed. Keep in mind that some bits do not cut when turning in reverse.
- **Keyless chuck for ease in changing bits.** Most machines have twist-lock or push chucks for ease in changing bits.
- **Foot pedal option.** Some machines offer a foot pedal option. You can plug in a foot pedal on the back of the file and override the speed controls on the front of the machine. The foot pedal works like the accelerator of a car or like the pedal of a sewing machine. The harder you press, the faster the bit turns; when you reduce pressure, the bit slows down.
- **Closed-casing handpiece.** Some handpieces have slots or openings that allow dust and debris to get inside the file; this can damage the motor. Closed casings can prolong the life of your machine. Be sure to purchase a machine that does not have any open sections.
- **Variable speed dial.** This dial allows you to vary your speed. You will have a complete range of speed, from lowest to highest, instead of the traditional high, medium, and low speed options (**Figure 15–3**). **LO5**

▼ **Figure 15–3** The dial on a variable speed drill.

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### Here's a Tip:

An electric file should run smoothly, without excessive vibration. Because they are not concentric or have been dropped, wobbling or bent bits can harm the electric file or cause damage to the client's nails and may cause the nail professional to develop a cumulative trauma disorder (CTD). Handpieces or bits that vibrate excessively increase the risk of injury to your hand and/or wrist. If your handpiece creates excessive vibration, it should be serviced immediately. Remember, repetitive motions of any type, including motions used while electric filing, can cause repetitive trauma disorders such as CTDs. If you develop symptoms related to any type of repetitive trauma disorder, you should consult a physician for diagnosis and treatment.

## Life Expectancy

How long should an electric file last? That depends on two things:

- **Usage.** The more you use your electric file, the greater the wear and tear on the machine.
- **Maintenance.** If you maintain and care for your electric file on a regular basis, it will be in good working order for many years. Check with the manufacturer for recommended handpiece cleaning, service, and replacement of cords.

## Maintenance and Warranties

When you purchase your electric file, make sure to ask about the warranty. Do not purchase an electric file without a warranty. Terms and conditions of the warranty will vary, but most manufacturers will fix or replace a malfunctioning electric file within 1 year of purchase at no cost to you.

Machines vary in price from \$25 for battery-operated models to over \$500 for high-end machines. Keep in mind that all machines can perform the same procedures, but some do it more easily than others do. Purchase the best electric file that you can afford. It is the most valuable tool you will use in professional nail services.

## ■ ALL ABOUT BITS

Electric file **bits** come in all different shapes, sizes, and styles, such as diamond or carbide, synthetic or paper sanding, or arbor bands. You should choose your bits based on how they work for you and the types of services you are performing. Be sure to always read and follow the manufacturer's instructions for using electric file bits. If the bit is not porous you can disinfect it; if it is porous or paper it is a one-use-only bit.

Following are a few basic terms that will help you understand electric file bits and make it easier for you to choose your bits.

### Concentric Bits

**Concentric bits** are balanced bits that do not wobble or vibrate. Some people refer to concentric bits as being centered. If you drop your bit while it is still in the handpiece, it may become bent; this will throw off the concentricity and render the bit unusable. If the concentricity is not perfect, the bit may actually be hitting the nail as it spins, causing damage and microshattering. **LO6**

### Surface Smoothness

Check to see whether the particles on the bit are larger in some areas, missing, or unevenly distributed. Bits with these kinds of surfaces will scratch the nail enhancement as you file, instead of refining it.

### Edges

Bits are cut with finished edges so that they are not sharp on the top. Feel the edges of the bit before using it. If these are sharp, dull the edges with a hand file with the bit spinning at slow speed before you use it.

### Grits

**Grit** is measured by the number of abrasive particles per square inch. In higher-numbered grits, the particles are smaller and therefore finer: more of them are needed to cover the square inch. The coarser the grit, the lower the grit number will be and the larger each individual piece of grit will be to cover the square inch. This holds true for all abrasive boards, blocks, buffers, and electric file bits. Bits that come with grits are diamond or sanding bands, natural nail, or buffing bits.

### Shank

The industry standard shank size for electric files is 3/32" (2.38 mm). Electric files used for crafts are usually 1/8" (3.2 mm) and will not fit a professional electric file. **LO7**

### Types of Bits

There are many different styles of bits available in carbide, diamond, gold, silver, natural nail bits, and sanding bands. These bit styles are available in a variety of grits and shapes.

## Diamond Bits

Diamond bits are made from either natural or synthetic diamond particles attached to the surfaces of metal bits. Diamond bits come in various grits, file the surface of the product, and can be used in a back-and-forth motion when the machine is in either the forward or reverse position.

Diamond bits vary significantly in quality and price, but all are capable of accomplishing the same procedures. Lower-quality bits cost less but leave scratches on the surface of the product. If you use these because of budgetary constraints, simply follow with another, higher grit to smooth out the surface of the product.

Higher-quality diamond bits have more consistency in construction because each particle on every bit is cut the same size and shape and then adhered to a stainless steel blank bit (**Figure 15-4**). **LO8**

## Carbide Bits

Carbide bits are made of carbide metal with flute-like cuts that shave the enhancement product instead of scratching it the way file, sanding bands, and diamond bits do. **Flutes** are long, slender cuts or grooves found on a carbide bit. Carbide bits are measured by the number of flutes in each bit. They are categorized in the same way the grit scale measures the file: the larger and deeper the grooves, the coarser the bit. Shallower and more closely spaced grooves create a finer bit.

There are four types of carbide bits: traditional, one-way, cross-cut, and pointed flutes that cut in both directions. Traditional carbides must be used from right to left with the machine in forward rotation. If used in a back-and-forth motion, traditional carbides will work better in one direction than the other. One-way carbides can be used only in one direction and are usually made for right-handed nail technicians. With cross-cut carbides, the grooves are cut at the same angle and shave evenly when filing back and forth. Cross-cut carbides and pointed flutes can be used to file in both directions and in a back-and-forth filing motion (**Figure 15-5**). **LO9**

## Small and Large Barrel Bits

The circumference of the small barrel bit is less than that of the large barrel bit, but both are the standard length (**Figure 15-6**). These bits are usually used to shorten the length and shape the surface of the nail. The flat top of the bit can be used to cut a new smile line, as well. These bits should not be used at the cuticle area as they can easily produce rings of fire damage to the nails. **Rings of fire** are grooves carved into the nail by filing with bits at the incorrect angle.

## Tapered Barrel Bits

This shorter, cone-shaped bit is designed with a flat top and can be used to shape the top surface of the nail and to cut maintenance on small nails at a flat angle and at the cuticle and sidewalls (the areas on the sides of the nail plate that grow free of an attachment to the skin) as well as to prep the cuticle area product for a fill (**Figure 15-7**).

▼ **Figure 15-4** Diamond bits.

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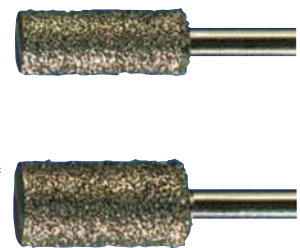


▲ **Figure 15-5** A carbide bit.

### CAUTION:

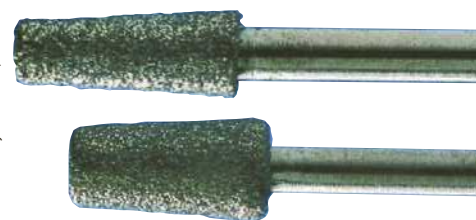
Never use carbide bits on the natural nail!

Photo Courtesy of Bruce Atwood, Atwood Industries, CA (Atwood Industries.net), 800-451-7633



▲ **Figure 15-6** Small and large barrel bits.

Photo Courtesy of Medicool, Inc.



▲ **Figure 15-7** Tapered barrel bits.



▲ **Figure 15-8** A cuticle safety bit.

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### Cuticle Safety Bits

This bit was designed for safe cuticle work (**Figure 15-8**). It can be used for underneath the nail and for shaping. The shorter, tapered shape and round top of this bit allow the nail tech to get into the cuticle area and sidewalls to bevel the nail enhancement flush with the natural nail without causing damage or discomfort to the client. This bit is perfect for beveling the enhancement at the cuticle during the fill process.



▲ **Figure 15-9** A cone-shaped bit.

Photo Courtesy of Medicoool, Inc.

### Cone-Shaped Bits

This slim, long, tapered, and pointed bit can be used at the cuticle, underneath the nail, on top of the nail, and to prep the cuticle area for a fill. It comes in various sizes, depending upon the manufacturer (**Figure 15-9**).



▲ **Figure 15-10** A football-shaped bit.

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### Football-Shaped Bits

The football-shaped bit also can be used for underneath the nails and the cuticle area. It does have a point on the top that can damage the hyponychium, so use it with care. This bit is perfect for finishing the underside surface of long curved nails (**Figure 15-10**).



▲ **Figure 15-11** A UNC bit.

Photo Courtesy of Bruce Atwood, Atwood Industries, a part of Cengage Learning. Photography by Dino Petrocelli. 800-497-1633

### UNC Bits

The under-the-nail cleaner bit (UNC) is a small, pointed bit that can be used for tight spaces such as under the nail, sidewalls, and for making designer holes in nails. The point size varies from manufacturer to manufacturer (**Figure 15-11**).



▲ **Figure 15-12** A bullet bit.

Photo Courtesy of Medicoool, Inc.

### Bullet Bits

The bullet bit is a small, slender bit that is available in a flat-topped or round-tipped version and is similar to the UNC bit. Many nail techs use this bit in a fine diamond style to prep the natural nail at the cuticle area for nail enhancement work (**Figure 15-12**).



▲ **Figure 15-13** A needle bit.

### Needle Bits

This pointed bit is usually as slim as the actual shank of a bit. It can be used at the cuticle; underneath the nails; in small, tight spaces; and for specialty design work (**Figure 15-13**).



▲ **Figure 15-14** Maintenance bits.

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### Maintenance Bits

Bits used to perform the maintenance procedure are commonly marketed and referred to as backfill bits. The backfill bit was originally designed to trench (carve) out the growth at the smile line and to replace white tip powder. Backfill bits come in two sizes: small (1/4 the size of a barrel bit) and medium (1/2 the size of a barrel bit). They are available in inverted shapes for more ergonomic and precise cutting. Backfill bits are used to cut a new smile so you can replace the white tip product. This bit is generally used by angling its top edge and cutting into the nail across the smile line area. Larger backfill bits can be used flat to the tip to remove the white tip product (**Figure 15-14**).



▲ **Figure 15-15** A French fill bit.

### French Fill Bits

A French fill bit was designed to use sideways to carve out a “V” into the smile line area during a maintenance procedure. Made in diamond style only, these bits come in several sizes (**Figure 15-15**).



Photo Courtesy of Medicool, Inc.



▲ **Figure 15-16** A natural nail disc.

### Natural Nail Discs

The natural nail disc has a diamond surface that is used flat on the tip of the natural nail to shorten and shape. The outer edge is made of metal or plastic and acts as a safety edge when you file (**Figure 15-16**).

### Rubber Synthetic Natural Nail Bits

Rubber synthetic natural nail bits come in three different color grits (yellow, black, and green) and three different shapes (long barrel shape with a flat top and two different sizes with rounded tips). Use these bits to buff the surface of a natural nail smooth or to smooth the cuticle areas. You can push the cuticle back gently on a slow speed as you press down to remove any dead cuticle on the nail. These bits are perfect for difficult cuticle cleanup. Rubber bits wear down quickly and can be reshaped in between use with a clean hand file at a low speed (**Figure 15-17**).

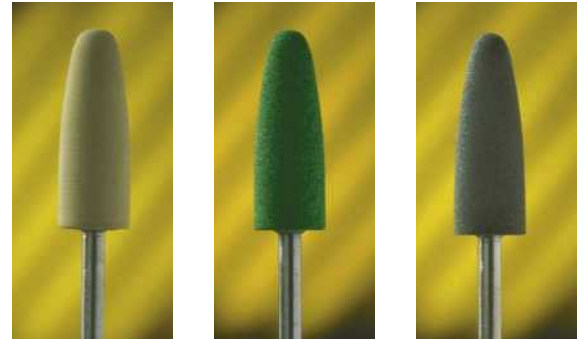


Photo Courtesy of Medicool, Inc.

▲ **Figure 15-17** Rubber synthetic natural nail bits.

Photo Courtesy of Medicool, Inc.



▲ **Figure 15-18** A high shine bit.

### High-Shine Bits

High-shine bits, sometimes called buffer bits, are usually made of natural chamois, cotton, or soft leather material. They are used on the nail with buffing cream to create a high shine. High-shine bits are one-use-only bits, as they cannot be effectively disinfected (**Figure 15-18**).

### Pedicure Bits

Pedicure bits are usually cone-shaped and made of diamond or sapphire material. They work best for smoothing and contouring dry, callused skin. Most come with longer shanks. Some have hollow centers to ensure that they do not heat up too quickly. You also may find some pedicure bits with rounded edges on the top. These can be used along the sides of toenails on callused skin. Pedicure bits are used on a slow or medium speed. They should be used carefully in one direction only so as not to cause any discomfort to the client. This bit is also perfect for use on a man's hand calluses and for getting into difficult spots on the feet that a large foot file cannot (**Figure 15-19**).

▼ **Figure 15-19**  
A pedicure bit.



Photo courtesy of NAILS Magazine.

▼ **Figure 15-20**  
A prepper bit.



Photo Courtesy of Bruce Atwood, Atwood Industries, CA (atwoodindustries.net, 800-451-7633)

### Prepper Bits

Diamond prepper bits are similar to a tapered barrel shape but slightly smaller. They come in various grits. It is recommended that you use a fine grit on a natural nail to prep it at the cuticle area for nail enhancement work (**Figure 15-20**).

## Mandrels

Mandrels are the metal or rubber bits that are inserted into the handpiece. The sanding and arbor bands (below) are slipped over the mandrels (**Figure 15-21**).



Photo Courtesy of Bruce Atwood, Atwood Industries, CA (atwoodindustries.net), 800-451-7633

▲ **Figure 15-21** Mandrels.

## Sanding and Arbor Bands

These are one-use-only paper bits that slip onto a mandrel. These bits are made of file paper just like hand files and cannot be disinfected. Sanding bands generally are used for shortening and shaping the top surface of the nails, removing a gel sealant, and filing calluses on feet. Fine sanding bands are good for smoothing the surface of toenails in preparation for nail enhancements. These bits should not be used at the cuticle area as they can easily cause rings of fire damage to the nails (**Figure 15-22**). **LO10**



Photo Courtesy of Bruce Atwood, Atwood Industries, CA (atwoodindustries.net), 800-451-7633

▲ **Figure 15-22** A sanding and arbor band.

## Did You Know?

Leaving a file bit in disinfection solution for more than 10 minutes at a time can cause it to rust.

▲ **Figure 15-23** A jewelry and specialty bit.

Photo Courtesy of Bruce Atwood, Atwood Industries, CA (atwoodindustries.net), 800-451-7633

## Jewelry and Specialty Bits

A jewelry bit is a long, slender carbide bit configured to drill a hole into the free edge of a nail enhancement to attach nail jewelry. Only use jewelry bits on the extended free edge of the nail and never over the nail bed. Other bits have a small carbide or diamond ball on the end that can be used to carve designs into the nail enhancement (**Figure 15-23**).

## Disinfectable Metal Bits

Disinfectable metal bits are cleaned and disinfected in the same way that you would clean and disinfect other multiuse tools and implements such as nippers and manicure tools. Never use a dirty bit!

Be sure to:

- Wash and disinfect each bit used on clients between every service.
- Remove a dirty bit from the handpiece of your electric file when the file is not being used.
- Replace the dirty bit with a blank as part of your cleanup in between every client.

The disinfection procedure for metal bits follows the same steps and cautions as the procedure for cleaning and disinfecting all multiuse (reusable) tools and implements.

### CAUTION:

Disinfectants must never be allowed to come in contact with the skin. If your disinfectant container does not have a lift tray or basket, always remove the implements with tongs or tweezers. Always wear gloves to prevent your fingers from coming into contact with disinfectant solution.

Go to Procedure 15-1 Disinfecting Metal File Bits page 302

## ■ ELECTRIC FILING TECHNIQUES

Before you use an electric file on a client, it is extremely important to get the proper education; then practice, practice, practice!

Glue a nail tip on a dowel or round clothespin and hold the dowel as you would a client's finger. Practice on a bare tip (with no enhancement) until you have gained confidence in your abilities. You need to feel the gentle pressure you should use when filing on a bare tip before applying enhancement products.

Once you have gained some experience with the machine, apply an enhancement product and practice on a classmate or salon mate who can give you honest feedback about your technique. It is important that you are comfortable holding the handpiece; use the bits at the correct angle and speed so you do not injure the client. The more you work with your electric file, the more comfortable and skilled you will become.

### Practice Techniques

#### Hand Balancing/Fulcrum Finger

1. Sit up straight at your table with your feet flat on the floor.
2. Hold your handpiece like a pencil for comfort and control.
3. Place your forearms on the table to make sure your hands are stable.
4. Use a firm steady grip. Do not use too tight a grip as your hands may begin to cramp.
5. Balance your hands by using the pinky finger as the fulcrum finger (or balance point). This occurs when you balance the tip of one pinky finger to the tip of the pinky finger on the other hand as you work. By doing this, you will take the negative pressure off the bit and displace it with the fulcrum finger. This will give you more control of the handpiece and bit as you work (**Figure 15-24**).

#### Examine and Mark the Dial

Most electric files do not have an RPM chart on the variable speed dial, so it is up to you to dissect your dial and know where the best speeds are. You may want to mark the dial. For a 0 to 35,000 RPM machine, dissect your dial for slow, medium, and fast speeds (**Table 15-1**).



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▲ **Figure 15-24** Use fulcrum finger for proper balance and control.

**Table 15-1 TYPES OF FILING AND SUGGESTED SPEEDS**

TYPE OF FILING	SUGGESTED SPEED
Surface work	Fast
Maintenance	Medium
Cuticle work	Slow

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▲ **Figure 15-25** Middle of the bit on middle of the nail.



▲ **Figure 15-26** Top of the bit on the bottom of the nail.



▲ **Figure 15-27** Top of the bit on the top of the nail.



▲ **Figure 15-28** Safety bit at cuticle area.

## Insert Bit

1. Insert a barrel bit or a sanding band into the handpiece, leaving a slight neck on the shank of the bit.
2. If it is a twist-lock chuck, lock the bit into place. If it is a push chuck, check the security of the bit.

## Practice Bit Angles

1. With the machine off, practice:
  - Holding the bit in the center of the nail and moving the file from right to left (**Figure 15-25**).
  - Picking up the bit and returning it to the right side of the nail, then repeating this step.
  - Holding the bit flat to the nail, making contact with the center of the bit.
2. Repeat the placements in #1 above, using the top of the bit on the bottom of the nail (**Figure 15-26**).
3. Repeat the placements in #1 above, using the top of the bit on the top (not the cuticle) of the nail (**Figure 15-27**).

## Turn On the Machine

1. Choose a low RPM after turning on the machine.
2. Make sure the file is in the forward position.

## Practice Surface Work

1. Hold the bit flat to the nail so the center of the bit makes contact with the nail.
2. Start on the right side of the nail and work across to the left side.
3. Pick up the bit off the nail and return to the right side of the nail to begin again.
4. When you have mastered this, try going back and forth. Remember to pick up the bit off the nail occasionally so that you do not create heat.
5. Practice using the correct angles for the bottom, center, and cuticle areas.

## Practice Cuticle Work

1. Practice cuticle work with a safety bit or a rounded-top cone (**Figure 15-28**).
2. Place the bit at the cuticle area, holding the bit at a slight angle so that the top and at least 50 percent of the bit is making contact with the nail.
3. With the machine turned off, start on the right side and work toward the left side. Use your wrists and turn the nail to meet the bit.
4. On a very low speed, practice this technique. Watch where dust appears on the bit so that you know when you are making contact.
5. Watch from the side view as you work to make sure you are beveling the product at the correct angle to be almost flush with the natural nail.

✔ **LO11**



▲ **Figure 15-29** Rings of fire.

## Important Things to Remember

1. Use the correct bit angle. When using an electric file, it is important to always keep the bit flat and parallel with the nail you are working on to avoid causing damage to the nail. Use a downward angle for the bottom of the nail, flat to the nail in the center and slightly angled up at the top of the nail, not the cuticle area. Use a safety bit at the cuticle.
2. Avoid rings of fire (**Figure 15-29**). Rings of fire are caused by holding flat-tipped bits at the wrong angle, especially at the cuticle areas, which allows the edge of the bit to dig into the surface of the nail. This can cause damage to the natural nail.
3. Choose the correct speed. Be sure to use a safe working speed. Higher speeds allow you to use less pressure. If the bit grabs and wraps around the finger, this is an indication that your filing pressure is incorrect. If the speed of the electric file bogs down, the speed is too low.

### Here's a Tip:

Watch the dust! The dust will tell you where you are making contact with the nail. Every so often, stop the electric file and use a nail brush to remove the dust before continuing.

## Nail Enhancement Maintenance

**Maintenance** is the term used for when a nail enhancement needs to be serviced after 2 or more weeks from the initial application of the nail enhancement product. The maintenance service actually accomplishes two goals: it allows the tech to apply the enhancement product onto the new growth of nail, commonly referred to as a *fill* or a *backfill*, and to structurally correct the nail to ensure its strength, shape, and durability: this is commonly referred to as a rebalance.

To prepare nail enhancements for a maintenance service, use a medium-grit bit to smooth old product in the growth area of the nail. Keep the bit parallel to the nail and reduce the product down to the natural nail without touching the nail itself. Use a bit with a round-tipped safety edge for this procedure.

## Removing Lifted Product

Never trim or remove loose nail enhancement products with a pair of nippers. It causes the remaining product, which may not be loose, to pull away from the healthy nail, causing damage to the nail plate. There are several bits that can be used to remove the lifted areas and loosen product safely when used at a safe angle.



## CAUTION:

Never use a sander on the natural nail or to remove cuticle tissue from the nail plate!



▲ **Figure 15-30** Shortening the nail at a 90-degree angle.



▲ **Figure 15-31** Cone bit at cuticle area.



▲ **Figure 15-32** Backfill bit.

## Cracks

Use a flat-tipped barrel, backfill bit, or bullet bit and place it sideways into the crack. Slowly bevel a trench with the body of the bit, exposing the crack so that new product can fill in the groove and reinforce that area.

## Shaping the Top Surface

You may use a variety of bits—barrel bit, sanders, or a tapered barrel—to shape the top surface of the nail. Place the bit flat on the nail and go from one side to the other, picking up the bit to return to where you started. Repeat this step as you continue to work. Angle the bit so you use the bottom of the bit on the bottom of the nail and the center of the bit in the center of the nail. Angle it toward the cuticle (without touching the cuticle area) to bevel the cuticle area product. By angling the bit slightly as you work, you will contour the shape of the nail.

## Shortening the Nails

Using a medium or coarse barrel bit, hold the bit to the tip of the nail at a 90-degree angle, making sure you have a firm grip (**Figure 15-30**). Use a faster RPM and quickly move back and forth on the outer surface to shorten the nail.

## Cuticle Work

Use a round-tipped bit at the cuticle area, holding the bit flat to the nail. This will safely allow the angle of the bit to do the contouring of the cuticle product. Change the angle (east, north, or west) of how you hold the bit (keeping it flat to the nail) to get into the sidewalls of the cuticle area (**Figure 15-31**).

## Maintenance Services for a Two-Color French Manicure

A backfill, the first aspect of the maintenance service, can be performed in a variety of ways (**Figure 15-32**). Some nail techs prefer to reduce the entire nail and apply a new layer of white product at the tip, while others prefer to simply thin the product at the growth area. Either can be done with any shaped, round-tipped bit. The purpose is to reshape the apex of the nail that offsets the balance when it has grown out, so it remains thin at the tip and cuticle areas. This provides strength in the center of the nail. Be careful not to touch the natural nail when filing; focus on the enhancement product as you reduce it at the cuticle area.

After you have prepped the nails for maintenance, remove the dust with a clean, dry, and disinfected nail brush. Use a medium or coarse barrel or cone or a safety bit on the tips to thin down the thickness from the stress area to the tip. Remove 75 percent of the product at an angle: do not do this by cutting a new smile line. Use your bit back and forth, from side to side, so the tips of all nails are all thinned evenly. When you replace the product, the color and density should be consistent.

Backfill bits come in different sizes: 1-week, 2-week, half barrel, and inverted backfill bit. They all can perform the same task—you should decide which

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one you prefer to use. Backfill also can be done with full-barrel bits, which are big enough to cut and remove the remainder of the tip product without your having to change bits. The choice is yours.

## Shaping C-Curves

Barrel-shaped or tapered bits, in any size, are best to use under the free edge to refine C-curves. Choose the size of the bit depending on the size of the underside of the C-curve you are refining (**Figure 15–33**).

## Finishing

Graduating grits is the key to finishing nails without leaving scratches. Graduate bits from coarser to finer, as with hand-held abrasives, and remove the dust each time, in between changing bits as you graduate. These will keep you from scratching the surface and give a smoother finish.

## Buffing Oils

Buffing oils can enhance your finish work by reducing heat and holding dust on the surface of the bit. Use buffing oils sparingly, as they can seep up the neck of the bit into the handpiece and cause damage. Rub the oil into the nails. After the buffing is complete, it is important to remove all the oil before polishing or using UV gel sealants for better adhesion.

## High-Shine Buffing

After filing to a smooth finish, nail enhancements can be shined with a buffing bit and buffing cream. Lift the bit frequently and do not apply too much pressure; these bits can heat up quickly and burn your client. If your buffing does not produce a high gloss, then you did not file the nails smooth enough before buffing.

## Buffing Creams

Buffing creams enhance the shine when used with buffing bits. Most creams come with pumice and can be used with any style buffing bit. Apply the buffing cream to the nail and rub it in before you use the buffing bit. If you do not rub it in, it will fly off the nail when the bit spins! You also can apply the buffing cream to the bit first.

## Natural Nail Work

You should never use a metal bit or sanding band on the natural nail plate unless you have experience carrying out this procedure safely. You can use a natural nail rubber synthetic bit to prep the nail plate by pushing gently toward the cuticle. This procedure removes any dead cuticle on the nail plate safely.

You also can use a natural nail bit to smooth the surface of the natural nail plate. Use a slow speed and hold the bit flat to the nail.

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▲ **Figure 15–33** Shaping C-curves.

### Application Tip:

A good way to practice using the electric file when performing a two-color French application is to glue a tip to a wooden dowel, cut the length, and cover with pink- and white-colored monomer liquid and polymer powder. Practice cutting new smile lines until you have no more room, then break the used tip off and glue on another.

## ■ ELECTRIC FILES FOR PEDICURES

Electric filing on foot calluses needs to be done when the foot is dry. You can perform the pedicure first or last. Just be sure the feet are soft and dry before you start work on the callus.

Apply a callus treatment, wait the recommended length of time, and use a terry towel to slough off the product and the skin it removes. Rinse and dry the foot well. Use your pedicure bit in one direction to remove any remaining callus. Using the bit slowly and going only in one direction will keep the bit from getting hot and causing discomfort to the client. Pedicure bits can be used anywhere on the foot where there is callus, including the skin on the sides of the toenails and under the toes.

## ■ TROUBLESHOOTING

### Reducing Dust

Because of the way that bits cut, different types of bits cause different sizes of dust particles. The smallest particles are caused by sanders or sleeves. The dust is finer and flies higher into the air and can enter your breathing zone. To protect your health as well as that of your coworkers and your clients, you should always wear an appropriate N-95 rated dust mask when filing. Diamond bits create slightly heavier particles that do not fly as high into the air and are not as likely to enter the breathing zone. Carbide bits shave the surface of the product and create heavier particles that are directed down toward the table and onto your hands. There is very little airborne dust when using carbide bits.

### Heat

Pressure causes friction, friction causes heat. Improper filing techniques, not the bits, cause heat when using an electric file. Heat is caused by pressing down too hard and leaving the bit on the nail too long when filing. Lift the bit off the nail frequently while working and adjust the speed slightly higher so you can use less pressure as you continue to file.

Heat can cause the client discomfort and can damage the natural nail. Electric filing should not hurt the client. If it does cause discomfort, adjust your procedures.

Keep in mind that although diamond and sanding bits are appropriate to use, they require greater pressure when filing and do heat up slightly faster (because of the pressure) than a carbide bit. The carbide bit requires less pressure to shave the product because it is sharper. Natural material bits, such as a chamois, heat up faster also.

### Causes of Heat


- Applying too much pressure during filing.
- Incorrect speed (RPM).
- Leaving the bit in the same place for too long while filing.
- Using sanders or sleeves. These generate more heat than metal bits.



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## Solutions to Reduce Heat

- Adjust the speed of the machine (RPM).
- Apply less pressure during filing.
- Lift the bit frequently during filing.  **LO12**

## Grabbing

Grabbing occurs when the bit grabs the skin around the nail during filing. Grabbing can be avoided by using the bit at the proper angle when working around sidewalls and the cuticle area and the correct speed when working on the surface of the nail. It is important to remember that bits have two sides; we tend to look at the side toward the center of the nail while filing. It is the other side that is on or near the skin that can grab and cut the skin. Bits turn clockwise, so it is a given that the bit will dig into the skin if it gets too close to the sides of the nail.

### Causes of Grabbing

- Improper speed (RPMs).
- Improper pressure.

### Solutions to Grabbing

- Keep the bit parallel to the nail.
- Angle the finger, not the bit, to file the sides of the nail and the cuticle area.
- Use bits with rounded ends such as safety style bits.

## Rings of Fire

Rings of fire are caused by holding flat-tipped bits at the wrong angle and allowing the edge of the bit to dig into the surface of the nail. This can cause damage to the natural nail and be very uncomfortable for a client.

### Causes of Rings of Fire

- Wrong angle of the bit.
- Using a flat-tipped bit at an angle at the cuticle area.

### Solutions to Rings of Fire

- Keep the bit parallel to the nail as you work.
- Decrease the speed of your machine.
- Reduce the amount of pressure applied during filing.

## Product Breakdown

Nail enhancement products are like a densely packed jungle of vines. Trauma, heat, age, and vibration can cause the vines to snap. Products can also become brittle. Free-edge separation can be caused by product breakdown, age of the product, and how hard the client is on his or her nails. A client who is not careful

or gentle with their nail enhancements can cause their enhancements to loosen and lessen the adhesion of the product to the nail. To repair tip separation, you must remove the old product, prep the exposed natural nail again, and reapply primer and product.

As nail enhancements age with wear, they can become brittle and develop tiny cracks. This is called **microshattering** and may be caused by aggressive filing with or without an electric file. It is easier to cause microshattering with an electric file.

### Potential Causes of Microshattering

- Improper speed of the machine during filing.
- Poor quality or bent bits.
- Using bits that are too coarse.
- Using low-quality and brittle nail enhancement products.
- Holding the handpiece at the wrong angle.
- Working too aggressively with the electric file.

### Solutions to Microshattering

- Use a slower speed.
- Use proper filing techniques.
- Keep the bit parallel to the table during filing.
- Use correct application techniques.
- Make sure the bit is not bent.
- Use a finer grit bit.
- Use quality electric files according to manufacturer's instructions.

## Vibration

High vibration is something to avoid when using an electric file. Vibration can create microshattering with enhancement products and can be harmful to the nail professional's hand, wrist, and arm. It also may lead to cumulative trauma disorders, such as carpal tunnel syndrome. Choose a machine with the least vibration.

The best way to test the vibration of a machine is to hold the handpiece, turn on the power, and feel the vibration. If the vibration is high, and it is uncomfortable just holding the handpiece for a minute or so, it will be a problem when you use the machine in the salon. The quality of the machine will play a part in the amount of vibration. The less expensive the machine, the more vibration you will experience.

## Bent Bits

Bits should be concentric and run true by spinning perfectly without wobbling in the shank of the handpiece. Manufacturers join the shanks and the heads of the bits so they become one part. If this is not done precisely, they may not be concentric. Other causes of wobbling can include inexpensive manufacturing

or dropping the bit while it is in the handpiece—which nail techs tend to do frequently. When a bit is dropped it should be replaced, even if appears normal. When a bent bit is used on the nail, it can cause damage to the nail or microshattering.

## ■ SAFETY TIPS FOR ELECTRIC FILING

It is important that you understand and remember the following basic safety tips for electric filing. By doing so, you will ensure that your client has a good experience and that you produce beautiful results!

- Keep the bit parallel to the nail.
- Angle the client's hand and the handpiece.
- Compensate for pressure with speed. If you feel that you need to press harder, increase the speed of the machine and reduce the pressure you apply to the nail.
- Lift the bit frequently when filing to avoid causing heat buildup. Do not use bits in a heavy-handed or aggressive way.
- Keep the bit straight up (90-degree angle) and down when shortening the free edge to avoid skipping, which can cause the product to weaken and breakdown. Skipping occurs when the bit loses contact with the nail and skips or jumps across the nail because of a lack of control of the file.
- Keep a good grip and adjust your speed if this happens. Turn the client's hand, along with the bit, to file around the sidewalls and cuticle area.
- Keep your long hair tied back or put it up so that that it is not caught in the handpiece.
- Wear a dust mask during filing to avoid inhaling dust particles.
- Receive the proper education before using any machine or product.
- Wear eye protection when filing to avoid dust particles from getting into the eyes.
- Avoid repetitive motions that cause pain, swelling, or injury to the wrist, elbow, shoulder, arms, or back.



### CAUTION:

Remember that electric filing should never hurt or injure the client; the tool should not cause nail plate damage. If it does, reevaluate the way you are using the electric file and seek additional instruction. Never use an electric file on the natural nail until you have received advanced education.

## ■ CONTINUING EDUCATION

A true nail professional will recognize the value of seeking advanced training on correctly and safely operating an electric file before using one on a client. An electric file is a safe tool in the hands of a skilled and knowledgeable professional.

Continuing education is valuable to every nail profession at all skill levels. Electric file training and certification is available in many locations, as well as through private, hands-on training from seasoned professionals. Remember to practice proper cleaning and disinfection at all times, keep a blank in the handpiece when it is not in use, and always use electric files safely. You will find that electric filing will enhance your work as well as save you time and money.

# Procedure 15-1

## Disinfecting Metal File Bits

### A. Cleaning and Disinfecting

Remember that all bits are not disinfectable. Paper sanding bands and ceramic and porous bits are single-use-only.

**1** It is important to wear gloves while performing this procedure to prevent possible contamination of the bits by your hands and to protect your hands from the powerful chemicals in the disinfectant solution.



**2** Remove any nail enhancement debris from the bit with a clean, disinfected nail brush by brushing aggressively. If needed, soak the bit in acetone to soften any hardened monomer and polymer or soakable UV gel enhancement product or use a stiff or wire brush to remove residue. Keep in mind that the continued use of a wire brush can dull the finish of your bits. Brush clean and rinse all bits with warm running water and then thoroughly wash them with soap, the nail brush, and warm water. Brush grooved bits, if necessary.



**3** Rinse away all traces of soap with warm water. The presence of soap in most disinfectants can cause them to become less effective. Soap is most easily rinsed off in warm, but not hot, water. Hotter water will not work any better. Dry bits thoroughly with a clean or disposable towel or allow to air dry on a clean towel. Your bits are now properly cleaned and ready to be disinfected.



**4** It is extremely important that your bits be completely clean before placing them in the disinfectant solution. If they are not, your disinfectant may become contaminated and rendered ineffective. Immerse cleansed bits in an appropriate disinfection container holding an EPA-registered disinfectant for the required time (usually 10 minutes). Be sure to totally submerge the entire bit, including the shanks. If it is cloudy, the solution has been contaminated and must be replaced. Make sure to avoid skin contact with all disinfectants by using tongs or by wearing rubber gloves.



**5** Remove bits, avoiding skin contact, and rinse and dry tools thoroughly.



**6** Store disinfected bits in a clean, dry container until needed.

**7** Remove gloves and thoroughly wash your hands with liquid soap, rinse, and store bits dry with a clean fabric or disposable towel.

## Did You Know?

Acetone is not an EPA-recognized disinfectant. It can be used to remove any remaining soakable enhancement product and debris from a bit before washing and disinfecting but should not be used as a disinfectant.

### ✓ LO13

## ■ Review Questions

1. What types of electric files are most often used by nail professionals?
2. Can a craft or hobby tool be used on the nails?
3. Define RPM.
4. Define torque.
5. Define tolerance.
6. Define variable speed.
7. Why should bits be concentric?
8. What size shank cannot be used in professional electric files?
9. Which types of bits have grits?
10. How are carbide bits different from bits with grits?
11. What bits are one use only?
12. Describe the practice technique for the cuticle area.
13. What causes clients to feel excessive heat when nails are being filed?
14. How do you clean and disinfect metal file bits?

# Nail Tips and Wraps

# 16

## Chapter Outline

- Why Study Nail Tips and Wraps?
- Nail Tips
- Nail Wraps
- Nail Wrap Maintenance, Repair, and Removal
- Procedures



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# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **L01** Identify the supplies needed for nail tip application and explain why they are needed.
- ✓ **L02** Name and describe the three types of nail tips available and describe the importance of correctly fitting nail tips.
- ✓ **L03** List the types of fabrics used in nail wraps and how they are used.
- ✓ **L04** Explain the benefits of using each type of fabric nail wrap.
- ✓ **L05** Demonstrate the stop, rock, and hold method of applying nail tips.
- ✓ **L06** Demonstrate the proper procedure and precautions to use in applying nail tips.
- ✓ **L07** Demonstrate the proper removal of tips.
- ✓ **L08** Demonstrate the proper procedures and precautions used in a fabric wrap application.
- ✓ **L09** Describe the 2-Week and 4-Week Fabric Wrap Maintenance procedures.
- ✓ **L010** Demonstrate the proper procedure and precautions for fabric wrap removal.

## Key Terms

Page number indicates where in the chapter the term is used.

<b>acrylonitrile butadiene styrene (ABS)</b> / 307	<b>fiberglass</b> / 309	<b>nail wrap</b> / 309	<b>repair patch</b> / 310
<b>adhesive nail enhancements</b> / 310	<b>linen</b> / 309	<b>nail wrap resin</b> / 309	<b>silk</b> / 309
<b>cianoacrylate</b> / 309	<b>nail dehydrator</b> / 308	<b>overlay</b> / 307	<b>stress strip</b> / 310
<b>fabric wrap</b> / 309	<b>nail tip adhesive</b> / 308	<b>paper wrap</b> / 309	<b>tip cutter</b> / 308
	<b>nail tips</b> / 307	<b>position stop</b> / 308	<b>wrap resin accelerator</b> / 310



One of the most popular services that a nail professional can offer clients is the opportunity to wear beautiful nails in an almost endless variety of lengths and strengths. Regardless of whether a client is interested in wearing long, medium, or short nails, she may opt to have nail tips applied over her natural nails for strength and durability. Once a tip is applied, she will have an opportunity to choose from a variety of products that can be layered over the natural nail and the tip to further secure the strength of the nail and its beauty.

## WHY STUDY NAIL TIPS AND WRAPS?

Nail technicians should have a thorough understanding of nail tips and wraps because:

- ▶ Offering nail extension and wrap services expands your service offerings.
- ▶ Learning the proper technique for applying and removing nail tips will help your client keep her natural nails in the best possible health and condition.
- ▶ Understanding the types and uses of nail wraps will enable you to determine the appropriate wrap for your client's specific needs.
- ▶ Learning how to safely and correctly apply, maintain, and remove nail tips and wraps will ensure your clients' happiness and loyalty.

## ■ NAIL TIPS

**Nail tips** are plastic, premolded nails shaped from a tough polymer made from **acrylonitrile butadiene styrene (ABS)** plastic. They are adhered to the natural nail to add extra length and to serve as a support for nail enhancement products. Tips are combined with an **overlay**, a layer of any kind of nail enhancement product that is applied over the tip for added strength. Nail tips that do not have an overlay are not long wearing and can break easily without the reinforcement of the overlay.



▲ **Figure 16-1** Supplies needed for nail tip application.

## fyi

Do not use fingernail or toenail clippers to cut tips. Cutting the tip with these types of clippers will weaken it and cause it to crack. Use professional tip clippers for a quick, precise cut.

In addition to the basic materials on your manicuring table, you will need an abrasive board; a buffer block; a tip adhesive; a **tip cutter**, an implement similar to a nail clipper, designed especially for use on nail tips; a **nail dehydrator**, a substance used to remove surface moisture and tiny amounts of oil left on the natural nail plate; and a variety of nail tips for the nail tip application (**Figure 16-1**). **LO1**

Many nail tips have a shallow depression called a well that serves as the point of contact with the nail plate. The **position stop**, the point where the free edge of the natural nail meets the tip, is where the tip is adhered to the nail. There are various types of nail tips, including the partial well, the full well, and the well-less (no well at all) (**Figure 16-2**).

When applying a tip that has a well, be sure that the well butts up against the natural nail when adhering it to the nail.

Nail tips are available in many sizes, colors, and shapes so that it is easier to fit each client with precisely the right tip. Tips can be purchased in large containers of 100 to 500 pieces as well as in various individual refill sizes. With such a wide assortment, it is easy to fit each client correctly. Make sure that the tips you choose for clients cover the nail plate from sidewall to sidewall exactly. Do not make the mistake of using a tip that is narrower than the nail plate: as the nail plate grows, the natural nail will be wider and get caught in hair, clothes, etc. The tip may also crack at the sides or split down the middle.

Rather than attempting to force a too-small tip onto the nail, it is better to use a slightly larger tip, and work with an abrasive board to tailor the tip before you apply it. You can also trim and bevel the well area before applying the tip to the nail, which can save you blending time. Nail tips that are prebeveled require much less filing on the natural nail after application. This also lessens the potential for damage to the natural nail. **LO2**

The bonding agent used to secure the nail tip to the natural nail is called a **nail tip adhesive**. Adhesives can be purchased in either tubes or brush-on containers and are available in several different forms, depending on the thicknesses of the adhesive. For instance, “gel” adhesives, sometimes referred to as resin, are the thickest and require more time to dry than fast-setting thinner adhesives, which dry in about 5 seconds.

Nail adhesives usually come in either a tube with a pointed applicator tip, a one-drop applicator, or as a brush-on. Use care when opening adhesive containers—always point the opening away from your face, and not in the direction of your client. Nail professionals and their clients should always wear eye protection when using and handling nail tip adhesives. Even the smallest amount of adhesive in the eyes can be very dangerous and may cause serious injury.

Once the nail tips are applied, the contact area will need to be reduced with an abrasive so that the tip blends in with the natural nail. With a perfect tip application, there should be no visible line where the natural nail stops and the tip begins.



▲ **Figure 16-2** Tips with a full well, a partial well, and well-less (no well at all).

During the nail tip application procedure, discuss products such as polish, top coat, and hand lotion or cream that will help your client maintain the beauty and durability of her nails between salon and spa visits.

**Go to** Procedure 16-1 **Nail Tip Application** page 312

**Go to** Procedure 16-2 **Nail Tip Removal** page 315

## ■ NAIL WRAPS

Any method of securing a layer of fabric or paper on and around the nail tip to ensure its strength and durability is called a **nail wrap**. Nail wraps are one type of overlay that can be used over nail tips. Nail wraps are also used to repair or strengthen natural nails or to create nail extensions.

Nail wrap is a term used to describe any overlay that includes a **nail wrap resin** to coat and secure fabric wraps to the natural nail and nail tip. Wrap resins are made from **cyanoacrylate** (adhesive) and are closely related to those used in other types of nail enhancements.

A **fabric wrap** made of silk, linen, or fiberglass is the most popular type of nail wrap because of its durability. A fabric wrap is cut to cover the surface of the natural nail and the nail tip and is laid onto a layer of wrap resin to build and strengthen the enhancement. Fabric wraps may be purchased in swatches, rolls, or in packages of precut pieces, either with or without adhesive backing.

The wrap material is the heart of a nail wrap system and gives this system its unique properties. Nail wraps can be used as an overlay to strengthen natural nails or to strengthen a nail tip application. **LO3**

A **silk** wrap is made from a thin natural material with a tight weave that becomes transparent when wrap resin is applied. A silk wrap is lightweight and has a smooth appearance when applied to the nail.

A **linen** wrap is made from a closely woven, heavy material. It is much thicker and bulkier than other types of wrap fabrics. Wrap adhesives do not penetrate linen as easily as silk or fiberglass. Because a linen wrap is opaque, a colored polish must be used to cover it completely even after wrap resin is applied. Linen is used because it is considered to be the strongest wrap fabric.

A **fiberglass** wrap is made from a very thin synthetic mesh with a loose weave. The loose weave makes it easy to use and allows the wrap resin to penetrate, which improves adhesion and clarity. Even though fiberglass is not as strong as linen or silk, it can create a durable nail enhancement.

Some clients and nail techs prefer to use a **paper wrap**. Paper was one of the very first materials used to create a wrap. A paper wrap is temporary and made of very thin paper. It is quite simple to use but lacks the strength and durability of a fabric wrap. For this reason, a paper wrap is considered a temporary





▲ **Figure 16-3** Supplies needed for nail wrap application.

service and needs to be completely replaced each time your client comes in for maintenance. Paper wraps were very popular before the 90s but are rarely used now, having been replaced with silk and fiberglass products. **LO4**

A **wrap resin accelerator** or activator, acts as the dryer that speeds up the hardening process of the wrap resin or adhesive overlay. Activators come in several different forms: brush-on bottle, pump spray-on, and aerosol. An activator will dissipate in about 2 minutes after being applied, so be sure not to reapply additional wrap resin immediately or you may find that the activator causes the wrap resin to harden on the brush, tip of the bottle, or extender when it touches the nail. Activator also does not need to be applied after every layer of adhesive. This is an optional step; activator can be used as needed.

In addition to your chosen wrap material, you will need a wrap resin and resin accelerator, nail buffer and file, small scissors, plastic, and tweezers to perform a nail wrap overlay (**Figure 16-3**).

Using a 6"× 4" (15 cm x 10 cm) piece of flexible plastic sheet—a sandwich baggie works great—to press fabric onto the nail plate will prevent the transfer of oil and debris from your fingers. Wrap resin will not easily penetrate fibers that are contaminated with oil, and those strands become visible in the clear coating. Thus, it is best not to touch them more than you must. Changing to an unused portion of the plastic for each finger is necessary.

**Go to** Procedure 16-3 **Nail Wrap Application** page 316

## ■ NAIL WRAP MAINTENANCE, REPAIR, AND REMOVAL

Fabric wraps need regular maintenance to keep them looking fresh. In this section, you will learn how to maintain fabric wraps after 2 and 4 weeks. You also learn how to repair cracks and to remove nail wraps when necessary.

fyi

To further strengthen a fabric wrap, some clients will enjoy a method professionals like to use called “dip powder and adhesive enhancements.” For this technique, a fine polymer powder is sprinkled or spooned onto the nail in wet resin over a completed fabric wrap. Several layers of the dip powder can be applied in resin and activated. Any style of adhesive or resin can be used for this procedure. Usually, an activator is used to ensure drying.

Many clients who normally cannot wear monomer liquid and polymer powder nail enhancements on their nails because of skin sensitivity or allergy enjoy this service for the additional strength and wearability it provides them.

You may have heard about, or even tried using, a method of nail enhancement called No Light Gels. These were once used by professionals but now are popular as do-it-yourself kits for nail clients and available for purchase in grocery and drug stores.

If you should encounter a client who may have used No Light Gels, you should know that the product’s chemistry makes it more like **adhesive nail enhancements** than the traditional UV gel products available. No Light Gels employ a thick adhesive that many companies and marketers mistakenly call a gel.

No Light Gels actually have the same chemical composition as a wrap system with wrap resin and can be used with a spray-on activator to harden or cure the adhesive.

## Nail Wrap Maintenance

Nail wraps must have consistent maintenance, after the initial application. Maintenance is the term used when a nail enhancement needs to be serviced after 2 or more weeks from the initial application of the nail enhancement product. The maintenance service actually accomplishes two goals: it allows the tech to 1) apply the enhancement product onto the new growth of nail, commonly referred to as a fill or a backfill; and 2) structurally correct the nail to ensure its strength, shape, and durability—this is commonly referred to as a rebalance.

Wrap maintenance can be done with either additional wrap resin, as in the 2-Week Fabric Maintenance or with fabric and resin, as in the 4-Week Fabric Maintenance. The maintenance is necessary for the nail's beauty and durability.

**Go to** Procedure 16-4 **Fabric Wrap Maintenance** page 319

## Fabric Wrap Repair

There will be circumstances when nail wraps will need to be repaired. In those cases, small pieces of fabric can be used to strengthen a weak point in the nail or to repair a break in the nail.

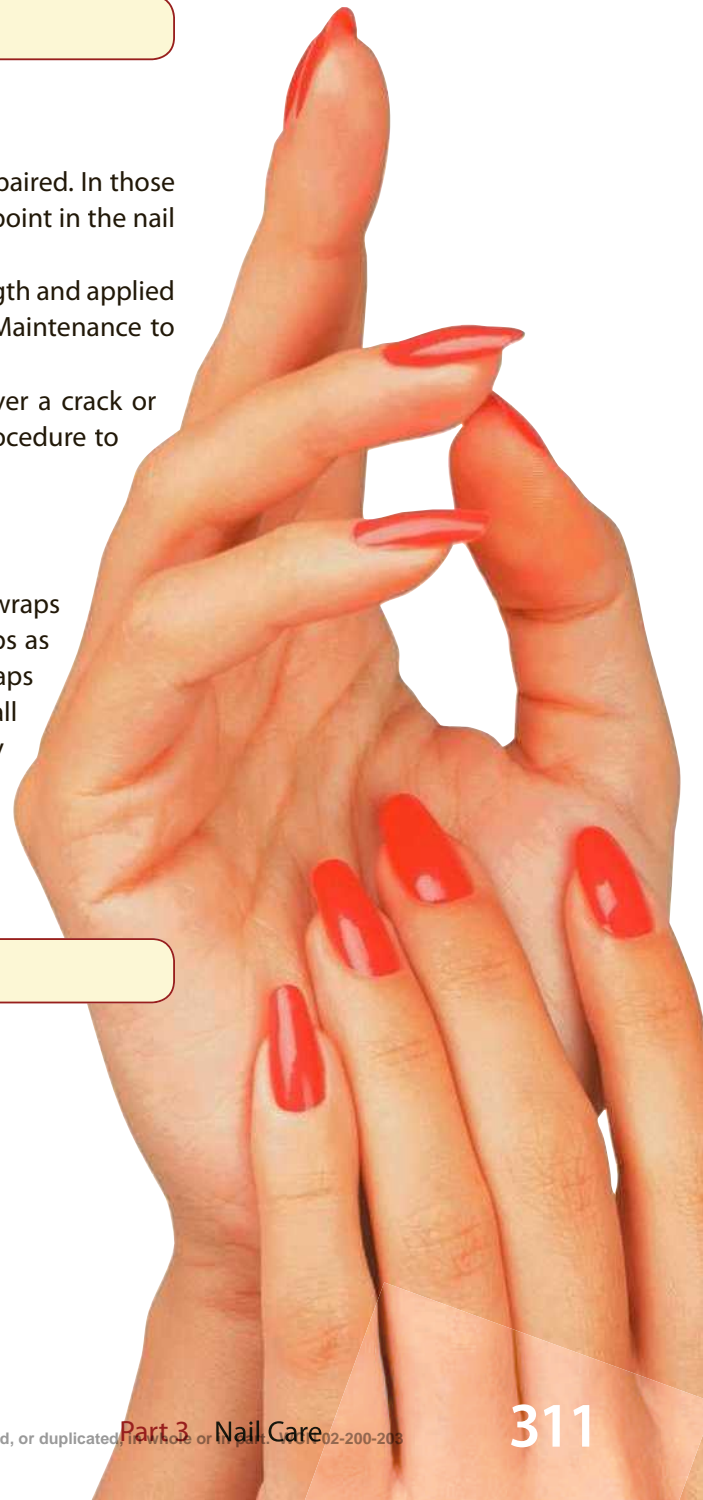
A **stress strip** is a strip of fabric cut to 1/8" (3.12 mm) in length and applied to the weak point of the nail during the 4-Week Fabric Wrap Maintenance to repair or strengthen a weak point in a nail enhancement.

A **repair patch** is a piece of fabric cut to completely cover a crack or break in the nail. Use the 4-Week Fabric Wrap Maintenance Procedure to apply the repair patch.

## Fabric Wrap Removal

There may be times when a client would like to have her nail wraps removed. When this occurs, it is important to remove the wraps as carefully as possible so as not to damage the nail plate. Nail wraps are removed by immersing the entire enhancement into a small glass bowl filled with acetone. Wait for the nail wrap to melt away and then gently and carefully slide the softened wrap material away from the nail with a wooden pusher. Always suggest a manicure after removal of an enhancement to rehydrate the natural nail and cuticle.

**Go to** Procedure 16-5 **Fabric Wrap Removal** page 322



# Procedure 16-1

## Nail Tip Application

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Nail Tip Application Procedure:

- Nail tips
- Nail tip adhesive
- Abrasive boards
- Tip cutter
- Buffer block
- Nail dehydrator

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure



- 1** Begin with your client's little finger on the left hand. Remove the existing nail polish, working toward the thumb. Repeat on the right hand.

- 2** Gently push back the eponychium, using a wooden stick, pusher, or other suitable implement.



- 3** Carefully and gently remove the cuticle tissue from the nail plate, using a wooden stick, pusher, or other suitable implement.



- 4** File the free edge of the nails, if needed. Buff very lightly over the nail plate with a medium/fine abrasive (240 grit or higher) to remove the shine caused by natural oil and contaminants on the surface of the nail plate. Do not use a coarse abrasive and be careful to avoid applying excessive pressure. The goal is to remove only the shine and as little nail plate thickness as possible. Remove the dust with a clean, dry nail brush by stroking from the cuticle area toward the free edge.



5

5 Apply nail dehydrator to remove surface moisture and tiny amounts of oil left on the natural nail plate. Be careful not to touch the natural nail with your fingers, as any deposit of oils could cause lifting of the overlay after it is applied.



6

6 Take time to ensure that you are choosing properly sized tips for your client's nail plate before beginning to adhere them to the natural nail. Make sure that the tips you choose cover the nail plate from sidewall to sidewall exactly. Put all of the pretailored and presized tips on a towel, in the order of finger position.

## CAUTION:

If you accidentally touch or contaminate the freshly prepped natural nail, you must clean it again and reapply nail dehydrator.



7

7 Place enough adhesive on the nail plate to cover the area where the tip will be placed or apply the adhesive to the well of the tip. Do not apply too much—less is more when it comes to nail tip adhesives! Do not let adhesive run onto the skin. You also can use a thin brush-on adhesive: cover the entire nail and then press the tip into it.



8

8 Slide the tips onto the client's natural nail. Remember to stop (placing the free edge inside the stop gap of the well), rock it on pressing out excess glue and air bubbles, and hold when applying tips. Find the stop against the free edge at a 45-degree angle. Rock the tip on slowly. Hold the tip in place for 5 to 10 seconds until the adhesive has dried. You may also apply the adhesive to the well area of the tip. This will ensure that there are fewer air bubbles trapped in the adhesive. This technique also works on well-less tips, followed by positioning on the nail plate and holding it in place for 5 to 10 seconds until the adhesive hardens. **LO5**



9

9 Trim the nail tip to the desired length using a tip cutter. Measure all the nails so they match in length.

### Application Tip:

Consider using a well-less tip that requires no blending with the natural nail. For better overlay adhesion, buff the surface of the nail tip gently, removing the shine, once it is applied.

# Procedure 16-1 Continued

## Nail Tip Application (continued)



10

10

If you applied tips with a well, you will still need additional blending to make them match with the surface of the natural nail plate. Take great care,

because this step can cause damage to the natural nail plate, if done improperly. Using a medium- to fine-grit file (180 grit or higher), carefully smooth the contact area down until it is flush with the natural nail. Make sure to keep your buffer (or board) flat to the nail as you blend the tip. Never hold the file at an angle because the edge of abrasive may gouge the nail plate and damage it. After you finish blending, remove the shine from the rest of the tip.



11

11

Use an abrasive to shape the new, longer nail.

12

Your nail tip application process is now complete. Although your clients' tips blend with natural nails, tips should not be worn without an additional nail overlay, such as wraps, because tips will not be strong enough to wear alone.



13

13

Complete set of applied nail tips.

✓ LOG

## Postservice

Complete **Procedure 13-2**, Postservice Procedure.



# Procedure 16-2

## Nail Tip Removal

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Nail Tip Removal Procedure:

- Small glass bowl
- Tip remover solution or acetone
- Buffer block

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure



- 1** Place enough acetone in a small glass bowl to cover nails. Soak for a few minutes.



- 2** Use a pusher to slide off the softened nail tip. Be careful not to pry the nail tip off because you can damage the nail unit. If the nail tip is still too adhered to the nail, have the client soak that nail again for a few more minutes until the entire nail tip is easily removed.



- 3** Gently buff the natural nail with a fine buffer to remove any adhesive residue. Remove any dust with a clean, dry nail brush.

### CAUTION:

Never nip off the nail tip! This may lead to damage of the nail plate by pulling off layers of the natural nail and can break the seal of the remainder of the enhancement.

- 4** Reapply the nail tip if the client desires, as directed in **Procedure 16-1** or if not, proceed with the desired service.



- 5** Finished look.

### Postservice

Complete **Procedure 13-2**, Postservice Procedure. **LO7**

# Procedure 16-3

## Nail Wrap Application

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Nail Wrap Application Procedure:

- Adhesive-backed fabric
- Small scissors
- Small piece of plastic
- Wrap resin
- Nail buffer
- Tweezers (optional)
- Wrap resin accelerator

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure

- 1** Remove existing polish. As needed, file the free edge of the nails.
- 2** Push back the eponychium and remove the cuticle.
- 3** Lightly buff the nail plate with a medium/fine abrasive (240 grit) to remove the shine caused by the oil found on the natural nail plate. Do not use a coarse file and be careful not to apply very much pressure. Remove only the oily shine and avoid removing layers from the natural nail plate. Nail wraps can be performed over natural nails or over a set of nail tips. If you are using nail tips, you should use your abrasive to shape the free edges of the natural nails to match the shape of the nail tip to the stop point. Remove the dust with a clean dry disinfected nail brush.
- 4** Spray or wipe a nail dehydrator onto the nail plate. The dehydrator will remove moisture from the surface and will help improve adhesion. Wiping the dehydrator with a plastic-backed cotton pad on the nail plate has the added benefit of removing any remaining natural oil and helps ensure superior adhesion, even on clients with oily skin.
- 5** Apply nail tips, if desired. Refer to **Procedure 16-1, Nail Tip Application**.



**6** Before removing the backing on the fabric, cut it to the approximate width and shape of the nail plate or nail tip.



**7** Apply a layer of wrap resin over the entire surface of the nail and tip. Remember to keep the resin off the skin. Besides potentially damaging your client's skin, this could cause the wrap to lift or separate from the nail plate. Begin with the pinky finger of the left hand and apply the wrap resin to all 10 fingers. Once you have finished, return to the fist finger and apply fabric wrap.



**8** Remove the backing from the fabric. Be careful to keep the dust and oils on your fingers from contaminating the adhesive side of the fabric, as this could prevent the fabric from adhering to the nail. Gently fit fabric over the nail plate covering the entire nail (you may also use a pair of tweezers to apply the fabric), if desired, and keeping it 1/16" (1.59 mm) away from the sidewalls and eponychium. Use a small piece of thick plastic to press the fabric on to the nail and to smooth it.



**9** Once the fabric is secure on the nail, use small scissors to trim the fabric 1/16" (1.59 mm) away from the sidewalls and the free edge. Trimming fabric slightly smaller than the nail plate prevents fabric from lifting and separating from the nail plate.



**10** Draw a thin coat of wrap resin down the center of the nail, using the extender tip or brush. Do not touch the skin. The wrap resin will penetrate the fabric and adhere to the nail surface. Use the plastic again to make sure that the wrap resin is evenly distributed and that there are no bubbles or areas of bare fabric. Once saturated with wrap resin, the wrap fabric or paper will appear almost invisible, with the exception of the linen fabric because is quite thick.



**11** Wrap resin accelerator is a product specially designed to help any cyanoacrylate glue or wrap resin dry more quickly. Spray, brush, or drop on a wrap resin accelerator that is specifically designed to work with the product you are using. Use according to manufacturer's instructions. Keep the wrap resin accelerator off skin to prevent overexposure to the product.

**12** Apply and spread a second coat of wrap resin; seal the free edge to prevent lifting and tip separation.

**13** Apply a second coat of wrap resin accelerator.

**14** Use medium-fine abrasive (240 grit) to shape and refine the wrap nail.

# Procedure 16-3 Continued

## Nail Wrap Application (continued)



15

15

Apply nail oil and buff to a high shine with a fine (350 grit or higher) buffer. Use the buffer to smooth out rough areas in the fabric. Do not buff excessively or for too long. Overbuffing can wear through the wrap and weaken it.

16

Apply hand lotion and massage the hand and arm.

17

Remove all traces of oil. Use a small piece of cotton ball or plastic-backed pad and nail cleanser or nonacetone polish remover to eliminate traces of oil from the nail so that the polish will adhere.

18

Polish the nails.

19



19

Finished look. ✓ **LO8**

### Postservice

Complete **Procedure 13-2**, Postservice Procedure.

# Procedure 16-4

## Fabric Wrap Maintenance

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Fabric Wrap Maintenance Procedure:

- Wrap resin
- Wrap resin accelerator
- Abrasive buffer or file
- Adhesive-backed fabric
- Small scissors
- Small piece of plastic
- Tweezers (optional)

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure

- 1** Use a nonacetone polish remover to remove existing nail polish and to avoid damaging nail wraps. Acetone will break down the wrap resin too quickly.
- 2** Clean the natural nails.
- 3** Push back the eponychium. As needed, file the free edge of the nails.



- 4** Lightly buff the nails with a medium-fine (240 grit) abrasive to remove the shine created by natural oils and to remove any small pieces of fabric that may have lifted since the last service. Buff the end of the wrap until smooth, without scratching or damaging the natural nail plate. Carefully refine the nail until there is no obvious line of demarcation between new growth and fabric wrap. Avoid damaging the natural nail with the abrasive. Do not file the natural nail surface.



- 5** Remove the dust with a clean, dry nylon nail brush and apply nail dehydrator to the new, natural nail growth area with a cotton-tipped wooden pusher, cotton pad with a plastic backing, brush, or spray. Begin with the little finger on the left hand and work toward the thumb. Repeat on the right hand.

# Procedure 16-4 Continued

## Fabric Wrap Maintenance (continued)



6

Apply a small amount of nail wrap resin to the area of new nail growth. Spread the wrap resin, taking care to avoid touching the skin.



7

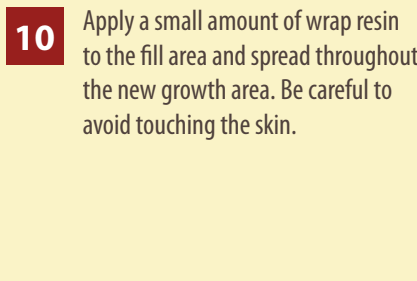
Spray, brush, or drop on a wrap resin accelerator that is specifically designed to work with the product you are using. Follow the manufacturer's instructions. Keep the wrap resin accelerator off skin to prevent overexposure to the product.

8 Repeat these steps for a 2-week wrap maintenance, making sure you have applied enough product to replace what you have buffed off in the preparation steps to provide ample support. It is not always necessary to replace the wrap fabric; this is especially true in a 2-week maintenance because it has not grown out enough to be replaced.



9

Cut a piece of fabric large enough to cover the new growth area and to slightly overlap the old wrap fabric if needed (4-week growth or more). This will depend on how much growth has occurred and how much support is needed.



10

Apply a small amount of wrap resin to the fill area and spread throughout the new growth area. Be careful to avoid touching the skin.



11

Apply a second coat of wrap resin to the entire nail plate to strengthen and reseal the nail wrap.

**12** Apply additional layers of wrap resin and accelerator, if needed. Throughout steps 10 through 12 check to make sure the resin is evenly distributed and there are no air bubbles or bare fabric.



**13** Use a medium-fine abrasive over the surface of the nail wrap to remove any high spots and/or other imperfections.



**14** Apply nail oil and buff to a high shine with the fine buffer (350 grit or higher).

**15** Apply hand lotion and massage the hand and arm.

**16** Remove traces of oil. Use a small piece of cotton ball or plastic-backed pad and nail cleanser or nonacetone polish remover to eliminate traces of oil from the nail so that the polish will adhere.

**17** Polish the nails.



**18** Finished look.

## Postservice

Complete **Procedure 13–2**, Postservice Procedure. **LO9**

# Procedure 16-5

## Fabric Wrap Removal

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Fabric Wrap Removal Procedure:

- Small glass bowl
- Acetone

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure



1

1

Put enough acetone in a small glass bowl to cover the nail wrap. Immerse the client's fingertips in the bowl, making sure that the wraps are covered. Soak for a few minutes. The acetone should be approximately 1/2" (1.28 cm) above the nail wraps.



2

2

Use a pusher to slide softened wraps away from the nail plate.





**3** Gently buff natural nails with a fine buffer (240 grit) to remove the wrap resin.



**4** Condition the skin surrounding the nail plate with nail oils or lotions designed for this purpose.

**5** Proceed to the desired service.



**6** Finished look.

## Postservice

Complete **Procedure 13–2**, Postservice Procedure. **LO10**

## ■ Review Questions

1. In addition to your basic manicuring table, what supplies do you need for nail tip application?
2. What are the types of nail tips available, and why is it important to properly fit them for your client?
3. What types of fabrics are used in nail wraps?
4. What are the benefits of using each of these types of fabric wraps?
5. Describe the stop, rock, and hold method of applying nail tips.
6. Describe the Nail Tip Application Procedure.
7. Describe the Nail Tip Removal Procedure.
8. Describe the Fabric Wrap Application Procedure.
9. Describe how to remove fabric wraps and what to avoid.

# Monomer Liquid and Polymer Powder Nail Enhancements

# 17

## Chapter Outline

- Why Study Monomer Liquid and Polymer Powder Nail Enhancements?
- Monomer Liquid and Polymer Powder Nail Enhancement Chemistry
- Monomer Liquid and Polymer Powder Nail Enhancement Supplies
- Monomer Liquid and Polymer Powder Nail Enhancement Maintenance and Crack Repair
- Odorless Monomer Liquid and Polymer Powder Products
- Colored Polymer Powder Products
- Procedures



Copyright © Photo courtesy of Artistic Nail Design Photography by Ted Emmons Photography.  
Model: Lisa Boone. Nail Artist: Alisha Rimanado Botero.

# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **LO1** Explain monomer liquid and polymer powder nail enhancement chemistry and how it works.
- ✓ **LO2** Describe the apex, stress area, sidewall, and where they are located on the nail enhancement.
- ✓ **LO3** Demonstrate the proper procedures for applying one-color monomer liquid and polymer powder nail enhancements over tips and on natural nails.
- ✓ **LO4** Demonstrate the proper procedures for applying two-color monomer liquid and polymer powder nail enhancements using forms over nail tips and on natural nails.
- ✓ **LO5** Describe how to perform a one-color maintenance service on nail enhancements using monomer liquid and polymer powder.
- ✓ **LO6** Demonstrate how to perform crack repair procedures.
- ✓ **LO7** Implement the proper procedure for removing monomer liquid and polymer powder nail enhancements.

## Key Terms

Page number indicates where in the chapter the term is used.

<b>abrasives</b> / 332	<b>mix ratio</b> / 330	<b>nail forms</b> / 332	<b>polymer powder</b> / 328
<b>apex (arch)</b> / 335	<b>monomer</b> / 328	<b>nail primer</b> / 331	<b>polymerization</b> / 329
<b>catalysts</b> / 329	<b>monomer liquid</b> / 328	<b>nail tips</b> / 333	<b>shiner</b> / 332
<b>chain reaction</b> / 330	<b>monomer liquid and polymer powder nail enhancements</b> / 328	<b>odorless monomer liquid and polymer powder products</b> / 336	<b>sidewall</b> / 335
<b>dappen dish</b> / 333			<b>stress area</b> / 335
<b>grit</b> / 332	<b>nail extension under-side</b> / 335	<b>polymer</b> / 328	
<b>initiators</b> / 330			

**N**ail enhancements based on mixing together liquids and powders are commonly referred to as “acrylic” (a-KRYL-yk) nails. It might surprise you to discover the real definition of “acrylic,” since for many years this word has actually been used incorrectly by the nail enhancement industry. The term “acrylic” actually refers to an entire family of thousands of different substances, all of which share important, closely related features. Acrylics are used to make a wide range of things, including contact lenses, cements for mending broken bones, Plexiglas® windows, and even makeup and other cosmetics. Surprisingly, all nail enhancement products are based almost entirely on ingredients that come from the acrylic family. For example, the ingredients in two-part monomer liquid and polymer powder enhancement systems belong to a branch of the acrylic family called “methacrylates” (METH-ah-cry-latz). In other words, “acrylic” is a very general term for a large group of ingredients. To be as accurate and specific as possible, you will find that the two-part monomer liquid and polymer powder enhancement system in this book is referred to as monomer liquid and polymer powder; however, please also keep in mind that other industry literature, product marketing, and the like may continue to use the word *acrylic*.

Today’s monomer liquids and polymer powders come in many colors, including variations of basic pink, white, clear, and natural. These colors can be used alone or blended to create everything from customized shades of pink to match or enhance the color of your client’s nail beds to bold primaries or pastels that can be used to create a wide range of designs and patterns. With these powders, you can create unique colors or designs that can be locked permanently in the nail enhancement. They offer a wonderful way to customize your services or to express your artistry and creativity. Monomer liquid and polymer powder nail enhancements can be created with a single color powder, if the client wears nail polish all the time. Or they can be created by using a pink or natural-colored powder over the nail bed and a natural or soft white powder to replicate a natural nail free edge. A stark white powder can be used to create the French manicure look. The finished nail enhancement can be polished with nail polish or buffed to a high-glossy shine for a more natural look. These types of services are extremely versatile and highly durable, which partially explains their great popularity.



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## WHY STUDY MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENTS?

Nail technicians should have a thorough understanding of monomer liquid and polymer nail enhancements because:

- ▶ Monomer liquid and polymer powder nail enhancements are popular services that will be frequently requested, and clients will expect expert service.
- ▶ Monomer liquid and polymer powder nail enhancements are lucrative services. Clients who desire them are committed to their upkeep, so if you earn clients' trust and respect, you will build a loyal clientele.
- ▶ Knowing how to properly work with the enhancement materials and understanding their chemical makeup will allow you to perform the service safely for you and for your client as well as give you the creative edge over your competition.

## ■ MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENT CHEMISTRY

**Monomer liquid and polymer powder nail enhancements**, also known as sculptured nails, are created by combining a **monomer (MON-oh-mehr) liquid** mixed with **polymer (POL-i-mehr) powder**—a powder in white, clear, pink, and many other colors—to form the nail enhancement.

*Mono* means *one* and *mer* stands for *units*, so a **monomer** is one unit, or one *molecule*. *Poly* means *many*, so **polymer** means *many units* or many molecules linked together in a chain. This is important to remember, since you will hear these terms many times throughout your career.

Monomer liquid and polymer powder products can be applied in three basic ways:

1. On the natural nail as a protective overlay.
2. Over a nail tip.
3. On a form to create a nail extension.
4. To create small works of art on top or inside a nail enhancement.

A natural hair brush is best for applying these enhancement products. The brush is immersed in the monomer liquid. The natural hair bristles absorb and hold the monomer liquid like a reservoir. The tip of the brush is then touched to the surface of the dry polymer powder, and as the monomer liquid absorbs the polymer powder, a small bead of product forms. This small bead is then carefully placed on the nail surface and molded into shape with the brush.

The monomer liquid portion is usually one of three versions of monomer liquid used in the nail industry: ethyl methacrylate, methyl methacrylate, or odorless monomer liquid. All three often contain other monomers that are used as customizing additives. The industry standard is the ethyl methacrylate monomer liquid (EMA) and odorless monomer liquid. Methyl methacrylate (MMA) is not recommended for use on nails and is not legal according

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to the state board rules in some states. Here are four main reasons why MMA should *not* be used:

1. MMA nail products do not adhere well to the nail plate. To make these products adhere, nail technicians often shred (etch) the surface of the nail. This thins the nail plate and makes it weaker.
2. MMA creates the hardest and most rigid nail enhancements, which makes them very difficult to break. When jammed or caught, the overly filed and thinned natural nail plate will often break before the MMA enhancement, leading to serious nail damage.
3. MMA is extremely difficult to remove. Since it will not dissolve well in product removers, it is usually pried from the nail plate, creating still more damage.
4. *The FDA says not to use it!* This is clearly the most important reason. The FDA bases its prohibition on the large number of consumer complaints resulting from the use of MMA nail enhancements in the late 70s and continues to maintain this position today.

For these reasons, the Nail Manufacturers Council and the American Beauty Association have also taken a stance against the use of MMA liquid monomer as an ingredient in artificial nail liquids—not because MMA is toxic, but because it is an unsuitable ingredient. MMA is a widely used monomer with a long history of safe use in medical and dental products. It is fine for making bulletproof windows and shatterproof eyeglasses. However, artificial nails should be beautiful, and they should not damage the natural nail.

It may seem strange that polymer powder is also made mostly from ethyl methacrylate monomer liquid. The polymer powder is made using a special chemical reaction called **polymerization** (POL-i-mehr-eh-za-shun), also known as curing or hardening, a chemical reaction that creates polymers. In this process, trillions of monomers are linked together to create long chains. These long chains create tiny round beads of polymer powder of slightly varying sizes. These are poured through a series of special screens that sort the beads by size. The ones that are the right size are separated and then mixed with other special additives and colorants. The final mixture is packaged and sold as polymer powder. It is a surprisingly high-tech process that requires very specific manufacturing equipment, lots of quality control, and scientific know-how to do it right.

Special additives are blended into both the liquid and powder. These additives ensure complete set or cure, maximum durability, color stability, and shelf life, among other attributes. It is these “custom” additives that make products work and behave differently. The polymer powders are usually blended with pigments and colorants to create a wide range of shades, including pinks, whites, and milky translucent shades, as well as reds, blues, greens, purples, yellows, oranges, browns, and even jet black.

When liquid is picked up by a brush and mixed with the powder, the bead that forms on the end of the brush quickly begins to harden. It is then put into place with other beads and shaped into place as they harden. In order for this process to begin, the monomers and polymers require special additives called **catalysts**



(KAT-a-lists), additives designed to speed up chemical reactions. Catalysts are added to the monomer liquid and used to control the set or curing time. In other words, when the monomer liquid and polymer powder are combined, the catalyst (in the liquid) helps control the set-up or hardening time. How? The catalyst energizes and activates the initiators.

The **initiators** found in polymer powder, when activated by a catalyst, will spring into action and cause monomer molecules to permanently link together into long polymer chains. This action is referred to as the polymerization process. Polymerization begins at the time the liquid in the brush picks up powder from the container and forms a bead. Creating polymers can be thought of as a **chain reaction**, also known as a polymerization reaction, a process that joins together monomers to create very long polymer chains. Think of this as many dominos set on their edges and lined up—when you tap the first domino, it hits the next, and so on. This is how polymers form. Once the monomers join together to create a polymer, they do not detach from each other easily.

The initiator that is added to the polymer powder is called benzoyl peroxide (BPO). It is the same ingredient used in over-the-counter acne medicine, except that it has a different purpose in nail enhancement products. BPO is used to start the chain reaction that leads to curing (hardening) of the nail enhancement. There is much less BPO in nail powders than in acne treatments. Diverse nail enhancement products often use different amounts of BPO, since the polymer powders are designed to work specifically with a certain monomer liquid. Some monomer liquids require more BPO to properly cure than others. This is why it is very important to use the polymer powder that was designed for the monomer liquid that you are using. Using the wrong powder can create nail enhancements that are not properly cured and may lead to service breakdown or could increase the risk of your clients developing a skin irritation or sensitivity. **LO1**

## ■ MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENT SUPPLIES

Just as every type of nail enhancement service requires specific tools, implements, equipment, and supplies, so do monomer liquid and polymer powder nail enhancements. Here is a list of those requirements (**Figure 17-1**). In addition to the supplies in your basic manicuring setup, you will need:



**▲ Figure 17-1** Supplies needed for monomer liquid and polymer powder nail enhancement applications.

### Monomer Liquid

The monomer liquid will be combined with polymer powder to form the nail enhancement. The amount of monomer liquid and polymer powder used to create a bead is called the **mix ratio**. A bead mix ratio can be best described as *dry*, *medium*, or *wet*. If equal amounts of liquid and powder are used to create the bead, it is called a *dry bead*. If twice as much liquid as powder is used to create the bead, it is called a *wet bead*. Halfway between these two is a *medium bead*, which contains one-and-a-half more liquid than powder. In general, medium beads are the ideal mix ratio for working with monomer liquids and polymer powders.



The mix ratio typically ensures proper set and maximum durability of the nail enhancement. For example, if too much flour is added when making cookies, the cookies will be dry and crumbly; too little flour will make the cookies soft and gooey. The same holds true for monomer liquids and polymer powders. If too much powder is picked up in the bead, the enhancement will cure incorrectly and may lead to brittleness and/or discoloration. If too little powder is used, the nail enhancement can become weak, and the risk of clients developing skin irritation and sensitivity may increase.

## Polymer Powder

Polymer powder is available in white, clear, natural, pink, and many other colors. The color(s) you choose will depend on the nail enhancement method you are using.

## Nail Dehydrator

Nail dehydrators remove surface moisture and tiny amounts of oil left on the natural nail plate, both of which can block adhesion. Nail dehydrator should be applied liberally to the natural nail plate only; skin contact should be avoided. After the dehydrator has dried, do not touch the nail plate before applying primer.

## Nail Primer

**Nail primer** is used on the natural nail prior to product application to assist in adhesion. The primer is used to chemically bond the enhancement product to the natural nail. One end of the primer molecule chemically bonds to the nail protein in the natural nail; the other end of the molecule is a methacrylate, so it bonds to the monomer liquid as it cures.

There are basically two kinds of nail primers for preparing the natural nail for a monomer liquid and polymer powder nail enhancement, acid-based and nonacid (acid-free) primers. Acid-based nail primer (methacrylic acid) was once widely used to help adhere enhancements to the natural nail. Since this type of nail primer is corrosive to the skin and potentially dangerous to the eyes, *acid-free* and *nonacid primers* were developed. These acid-free and nonacid alternatives work as well as or better than acid-based nail primers and have the added advantage of not being corrosive to the skin or eyes. Even so, all nail primer products must be used with caution, and strictly in accordance with the manufacturer's instructions. Skin contact must be avoided during application, and the SDS sheet should be referenced for safe handling recommendations and specific instructions when using these products.

To apply acid-based and acid-free nail primers: insert the applicator brush into the nail primer. Wipe off excess from the brush. Using a slightly damp brush, completely cover the nail plate with the primer. Do not use too much product—it will run onto the skin and cause skin irritation or sensitivity. The brush should hold enough product to prepare two or three nails. Before dipping the brush back into the container, gently wipe the brush on a clean disposable table towel so you do not contaminate the bottle with any debris the brush may have picked up.



fyi

The manufacturer's instructions for using monomer liquid and polymer powder nail enhancement products may differ slightly from the general guidelines presented in this chapter. You should always follow the manufacturer's instructions for the products you are using. If you are in doubt about how to use the products, contact the manufacturer.

### CAUTION:

Acid-based nail primers are very effective but can cause serious—and sometimes irreversible—damage to the skin and eyes. Never use acid-based nail primer or any other corrosive material without wearing protective gloves and safety eyewear.

### CAUTION:

Check your nail primer daily for clarity to ensure that it does not become contaminated with nail dust and other floating debris, which can dramatically reduce primer effectiveness. Dispose of nail primers that are visibly contaminated with floating debris.

Never apply nail enhancement product over wet nail primer. This can cause product discoloration and service breakdown. Only apply primer to the natural nail. Avoid putting nail primer on plastic nail tips.

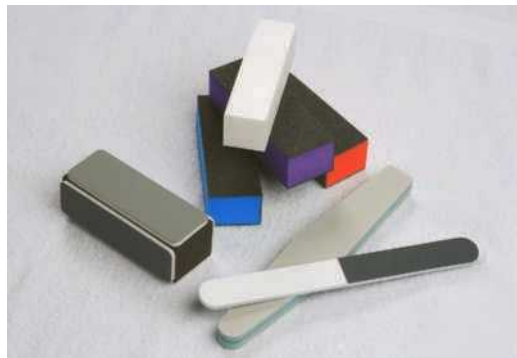
Be sure to read the label for the manufacturer's suggested application procedures and precautions.

## Abrasives

The term **abrasives** is used to describe nail files and buffers. Although some abrasives have fancy names, they all have a **grit** number. Grit refers to how many grains of sand are on the file per square inch. For example, if there were 100 grits of sand per square inch, then the particles would be spread apart, creating a rough surface. If there were 240, the sand particles would be closer together, creating a smoother surface. So you now understand that the lower the number, the rougher the abrasive will be. The higher the number, the softer it will be. Be aware that the different abrasive core materials will also change how an abrasive works. Plastic and wood cores are used for files and plastic, and sponge cores are used in buffers. The wood will make the abrasive more aggressive, whereas the sponge core will form around the nail and therefore be gentle.

Here is a list of the most common abrasives used for filing, shaping, and buffing nail enhancements (**Figure 17-2**):

- A course-grit file (100 grit or lower) is strong enough to thin enhancement product to prepare the enhancement for a refill or rebalance. Avoid using coarser, lower-grit abrasives or aggressive techniques on freshly applied enhancement products, as they can damage the soft, freshly created nail enhancement.
- A medium-grit file (150 to 180 grit) is used for initial shaping of the perimeter of the nail, refining the overall surface shape of a nail enhancement, or for smoothing the surface before buffing. If you avoid putting the product on too thick, a 180 grit is usually strong enough to shape the entire nail enhancement.
- A fine-grit file or buffer (240 grit or higher) is used for finish filing, refining, and buffing. This grit of file is also used to shape the free edge of a natural nail.
- A **shiner** is a buffer (usually 400/1000/4000) used to create a high shine on a natural nail or a nail enhancement when no polish will be worn. This buffer usually has three sides; you must buff the entire nail with the lowest grit side first and then repeat with the other sides to create a glossy shine to the nail. Shiner buffers can also have two sides. In this case, you may want to buff the entire surface of the nail with a 240- or 350-grit buffer prior to buffing with the shiner.



▲ **Figure 17-2** Assortment of various buffers and abrasives.



## Nail Forms

**Nail forms** are placed under the free edge of the natural nail and used as a guide to extend the nail enhancements beyond the fingertip for additional length. Disposable nail forms often are made of paper or Mylar and coated with

adhesive backs. Reusable nail forms are made of preshaped plastic or aluminum and can be cleaned and disinfected between clients.

## Nail Tips

**Nail tips** are preformed nail extensions made from acrylonitrile butadiene styrene (ABS), or tenite acetate plastic. They are available in a wide variety of shapes, styles, and colors, such as natural, white, and clear. Nail tips are adhered to the tip of the natural nail with a fast set resin to extend the length. They are not strong enough to wear on their own, so they must be overlaid with an enhancement product.

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**Go to** Procedure 16-1 Nail Tip Application page 312

## Dappen Dish

The monomer liquid and polymer powder are each poured into a special container called a **dappen dish**. These dishes must have narrow openings to minimize the evaporation of the monomer liquid into the air. Do not use open-mouth jars or other containers with large openings. Those types of containers will dramatically increase evaporation of the liquid and can allow the product to be contaminated with dust and other debris. A dappen dish must be covered with a tightly fitting lid when not in use.

Each time the brush is dipped into the dappen dish, the remaining monomer liquid is contaminated with small amounts of polymer powder. So never pour the unused portion of monomer liquid back into the original container. Empty the monomer liquid from your dappen dish after the service and wipe it clean with a disposable towel. To avoid skin irritation or sensitivity, do not contact skin with the monomer liquid during this process. Wipe the dish clean with acetone, if necessary, before storing in a dust-free location.

## Nail Brush

The best nail brush to use with monomer liquid and polymer powder enhancement products is composed of natural kolinsky, sable, or a blend of both. The brushes are either oval, round, or square and come in a variety of sizes. The most commonly used brush for monomer liquid or polymer powder is a #8 oval brush. **(Figure 17-3).**

Synthetic and less expensive brushes do not pick up enough monomer liquid or do not release the liquid properly. Choose the brush shape and size with which you feel the most comfortable. Avoid overly large brushes (size 12 to 16), since they can hold excessive amounts of liquid and alter the mix ratio of the powder and liquid. Their large size also allows the brush to touch the skin during application, which can overexpose your client to the monomer.

Having too much monomer liquid on your brush can increase the risk of accidentally touching the client's skin and may increase the risk of developing skin irritation or sensitivities. An odorless monomer liquid requires less liquid, so using a flat brush that holds less liquid is recommended.



### Here's a Tip:

Avoid wiping your brush too rapidly or hard against a table towel. This can press hairs against the sharp edge of the metal ferrule that holds the hairs in place and cut them off.



**▲ Figure 17-3** Various sizes of kolinsky, sable, and blended brushes used for applying monomer liquid and polymer powder nail enhancements.

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## Storing and Disposing of Monomer Liquid and Polymer Powder Products

Store monomer liquid and polymer powder products in a covered container. Store all primers and liquids separate from each other in a cool, dark area. Do not store products near heat.

After a service, you must discard used materials. Never save used monomer liquid that has been removed from the original container. Use on one client only. To dispose of small amounts of leftover monomer liquid, carefully pour it into a very absorbent paper towel and then place it in a plastic bag. Avoid skin contact with the monomer liquid and never pour it directly into the plastic bag! Should skin contact occur, wash hands with liquid soap and water. After all used materials have been collected, seal them in a plastic bag and discard the bag in a closed waste receptacle. It is important to remove items soiled with enhancement products from your manicuring station after each client. This will help maintain the quality of the air in your salon or spa. Dispose of these items according to local rules and regulations.

### ■ MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENT MAINTENANCE AND CRACK REPAIR

Regular maintenance helps prevent nail enhancements from lifting or cracking. If the nail enhancements are not regularly maintained, they have a greater tendency to lift, crack, or break, which increases the risk of the client developing an infection or having other problems.

When a nail technician has a client with a piece or section of the monomer liquid and polymer powder enhancement that has broken, lifted, or cracked, it is repaired by filing the area and adding monomer liquid and polymer powder to it. This is called a crack repair.

Proper maintenance must be performed every 2 to 3 weeks, depending on how fast the client's nails grow. Properly maintaining nails is a critical skill for you to learn, if you choose to offer nail enhancement services to your clients. Do not let clients go too long without having a proper maintenance service, or you will have many more repairs to perform when they return. Proper maintenance is both safe and gentle to the nail unit and will not result in injury or damage. In the maintenance service, the nail enhancement is thinned down to blend with the new growth area of the natural nail. The apex of the nail is filed away, and the entire nail enhancement is reduced in thickness to prepare for an overlay of new product.



**Go to** Procedure 17-1 **One-Color Monomer Liquid and Polymer Powder Nail Enhancements Over Nail Tips or Natural Nails** page 338

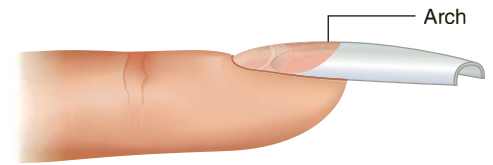
**Go to** Procedure 17-2 **Two-Color Monomer Liquid and Polymer Powder Nail Enhancements Using Forms** page 341

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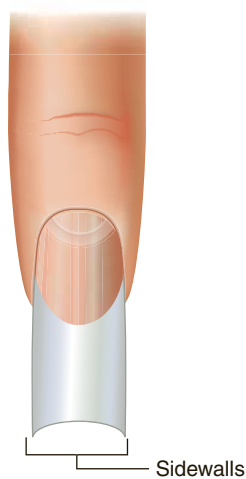
## Properly Structured Nail Enhancements

Nail enhancements should not only look good, but they should also remain strong and healthy while your client is wearing them. Several areas of the nail must be considered when the nail enhancement is being made to accomplish this. Paying particular attention to the following areas of the nail enhancement will help you to create the look your clients desire and also provide them with the best and longest-lasting nail enhancements.

The **apex**, also known as the **arch**, is the area of the nail with the most strength. Having strength in the apex allows the base of the nail, sidewalls, and tip to be thin, yet leaves the nail strong enough to resist breaking. The apex is usually oval shaped and is located in the center of the nail. The high point is visible no matter where you view the nail (**Figure 17-4**).



▲ **Figure 17-4** The arch is the highest point in the nail and should be located in the same place on every finger.

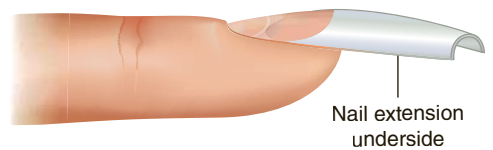


▲ **Figure 17-5** The sidewall runs straight from the cuticle down the side or wall of the nail to the end of the extension.

The **stress area** is where the natural nail grows beyond the finger and becomes the free edge. This area needs strength to support the extension.

The **sidewall** is the area on the side of the nail plate that grows free of its natural attachment to the nail fold and where the extension leaves the natural nail. (**Figure 17-5**).

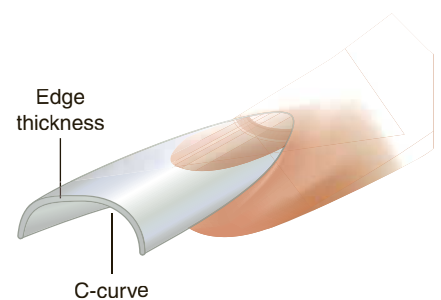
The **nail extension underside** is the actual underside of the nail extension (**Figure 17-6**). The nail extension underside can jut straight out or may dip depending on the nail style. Undersides should be even and match in length from nail to nail on all fingers. The tip should fit the nail and finger properly, and the underside of the nail extension should be smooth without any glitches.



▲ **Figure 17-6** The nail extension underside will come straight out or drop down a bit depending on the client's natural nail and the look she prefers.

The thickness of the nail enhancement should be rather thin if a client is to wear it comfortably while going about her day (**Figure 17-7**). The enhancement should graduate seamlessly from the cuticle area to end of the nail extension so you do not feel an edge. The sidewalls and tip's edge should be credit-card thin.

The C-curve of the nail enhancement depends on the C-curve of the natural nail. In the salon or spa, a 35 percent C-curve is the average. The top surface and bottom side should match perfectly. The C-curve will provide structure to the nail so that it appears slender on the hand. More importantly, the C-curve provides strength, like the curve in a bridge or an egg.



▲ **Figure 17-7** The thickness of the edge should be credit-card thin, and there should be a consistent C-curve in the nail for strength.

To make sure the lengths of the nail extension and enhancements are appropriate and even, be sure to measure the length of the index, middle, and ring fingers; these should be the same length. The thumb and pinkie fingers should also be in proportion and match. **LO2**

## Monomer Liquid and Polymer Powder Nail Enhancement Removal

There will be circumstances when your client wants to have her monomer liquid and polymer powder nail enhancements removed. Do not worry. The procedure is simple: soak the enhancements off of the nail using acetone or the manufacturer's suggested removal solution, remove the enhancement, and complete the service.

**Go to** Procedure 17-5 **Monomer Liquid and Polymer Powder Nail Enhancement Removal** page 351

### ■ ODORLESS MONOMER LIQUID AND POLYMER POWDER PRODUCTS

**Odorless monomer liquid and polymer powder products** do not necessarily have the same chemistry as all other monomer liquid and polymer powder products. Rather than use ethyl acrylic, these products rely on monomers that have little odor. Even though these products are called *odorless*, they do have a slight odor. Generally, if a monomer liquid does not produce a strong enough odor that others in the salon or spa, can detect its presence, it is considered to be an *odorless product*. Those that create a slight odor in the salon or spa are called *low odor*.



In general, odorless products must be used with a dry mix ratio (equal parts liquid and powder in bead). If they are too wet when applied, the client risks developing a skin irritation or sensitivity. This mix ratio creates a bead that looks frosted on your brush. After it is placed on the nail, it will slowly form into a firm glossy bead that will hold its shape until pressed and smoothed with the nail brush. Wipe your brush frequently to avoid the product sticking to the hairs. Never re-wet the brush with monomer liquid. This will change the mix ratio, which can lead to product discoloration, service breakdown, and increased risk of skin irritation and sensitivity. Without re-wetting your brush, use it to shape and smooth the surface to perfection.

Odorless products harden more slowly and create a tacky layer called the inhibition layer. This layer can be rolled off or filed away with a 150-grit abrasive used from cuticle to free edge; however, avoid skin contact with these freshly filed particles. Some manufacturers also make a resin that brushes on to cure the tacky layer that must be applied immediately after creating the enhancement. This will create a hard surface on the odorless product that makes filing and shaping easier.

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### ■ COLORED POLYMER POWDER PRODUCTS

Polymer powders are now available in a wide range of colors that mimic almost every shade available in nail polish. Nail artistry with colored polymer powder is limited only by your imagination. Some nail professionals use colors to go

beyond the traditional pink and white French manicure combinations and offer custom-blended colors to their clients. They maintain recipe cards so that they can reproduce customized nail enhancements that clients cannot get from anyone else. As with all customized techniques, clients are willing to pay a few dollars more for the special service. See more on using colored powders in **Chapter 19: The Creative Touch**.



## Activity

To determine whether you have done the best possible job to ensure a smooth, balanced, and symmetrical nail, and that all nails are consistent, try viewing them from these perspectives:

*Top view.* Make sure all the perimeter shapes are consistent.

*Left side and right side views.* Look at the profile of each nail and make sure your apex is consistently located in the correct place and that the apexes match from nail to nail. Also look at the left side and right side of the nail and make sure the extension's underside matches.

*Down the center.* Look at the degrees of C-curves. Do they match? Is the thinness/thickness of the product consistent and thick enough to withstand wear, or are the nails too thin?

*From the client's perspective.* Turn the client's hand around and fold the fingers toward the palm of the hand so you can view the top surface from the client's perspective. Sometimes you can see lumps and bumps from this view that you couldn't see when looking at them during the application.

*Line of light.* After the nail is smooth and polished, or a UV gel sealant has been applied, you can follow the line of light that reflects off the surface of the nail to see whether the nail is really smooth. If the nail surface is not smooth, the line of light will not follow perfectly.

# Procedure 17-1

## One-Color Monomer Liquid and Polymer Powder Nail Enhancements Over Nail Tips or Natural Nails

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the One-Color Monomer Liquid and Polymer Powder Nail Enhancements over Nail Tips or Natural Nails Procedure:

- Nail dehydrator
- Nail primer
- Monomer liquid
- Polymer powder
- Application brushes
- Dappen dishes
- Abrasives

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure

**1** Use a pusher to gently push back the eponychium and carefully remove cuticle tissue from the nail plate. If you are applying nail tips, use a 180-grit abrasive or higher to shape the free edges of the natural nails so they match the shape of the nail tip to the stop point.



**2** File (gently) the nail plate with a medium/fine abrasive (240 grit) to remove the shine caused by natural oil on the surface of the nail plate. Avoid overfiling the nail plate. Remove the nail dust with a clean dry nail brush and do not touch the surface of the nails with your fingers as you may deposit oils from your fingertips, degrading the cleanliness of the nail.

**3** Apply nail dehydrator to nails. Begin with the little finger on the left hand and work toward the thumb.

**4** Apply nail primer and follow the manufacturer's directions. Allow nail primer to dry thoroughly. Acid-free primer will dry sticky and shiny.

**5** Apply tips, if your client wants them, as described in **Procedure 16-1**, Nail Tip Application in Chapter 16. Cut tips to desired length.





**6** Pour monomer liquid and polymer powder into separate dappen dishes.



**7** Dip brush into the monomer liquid and wipe on the edge of the container to remove the excess.



**8** Dip the tip of the same brush into the polymer powder to pick up a bead of product—with a medium-to-dry consistency, not runny or wet—that is large enough for shaping the entire free edge extension. If it is too large to shape properly, two smaller beads may be easier.



**9** Place the product bead in the center of the free edge of the tip or natural nail. Immediately wipe your brush on the table towel gently to remove any product left in the bristles and bring the brush back to a perfect point.



**10** Use the middle portion or “belly” of your sable brush to press and smooth the product to shape the enhancement’s free edge. Do not “paint” the product onto the nail. Pressing and smoothing produces a more natural-looking nail. Keep sidewall lines parallel and avoid widening the tip beyond the natural width of the nail plate.



**11** Using a medium consistency, place the second bead on the nail plate below the first bead and next to the free edge line in the center of the nail. Immediately wipe your brush on the table towel gently to remove any product left in the bristles and bring the brush back to a perfect point.



**12** Press and smooth the product to the sidewalls, making sure that the product is very thin around all edges. Leave a tiny free margin between the product placement and the skin. Avoid placing the product too close to the skin: this may cause the product to lift away from the nail plate or increase the chance of the client developing a skin irritation or sensitivity. Be sure to use a medium consistency mix that is not too wet.



**13** Pick up smaller beads of polymer powder with your brush and place them at the base of the nail plate, leaving a tiny free margin between the product and the skin. Immediately wipe your brush on the table towel gently to remove any product left in the bristles and bring the brush back to a perfect point.

**14** Use the brush to press and smooth beads over the entire nail plate. Glide the brush over the nail to smooth out imperfections.

# Procedure 17-1 Continued

## One-Color Monomer Liquid and Polymer Powder Nail Enhancements Over Nail Tips or Natural Nails (continued)



15

Apply more product near the eponychium, sidewall, and free edge if needed to complete the application. Be sure that the product in these areas remains thin for a natural-looking nail.



16

Use a medium abrasive (180 to 150 grit) to shape the free edge and to remove imperfections. Then refine with a medium/fine abrasive (240 grit).

17

Buff the nail enhancement with fine-grit buffer (350 grit or higher) until the entire surface is smooth. Use a high-shine buffer if nail polish will *not* be worn. Remove any dust with a clean, dry nail brush before applying oil.

18

Apply and rub nail oil into the surrounding skin and nail enhancement. Massage briefly to speed penetration.

19

Apply hand cream and massage the hand and arm.

20

Ask the client to either wash her hands with soap and water at the hand-washing station or use the nail brush to clean her nails over the fingerbowl. Rinse with clean water to remove soap residue that may cause lifting. Dry thoroughly with a clean disposable towel.

21

Polish nail enhancements or apply a gel sealant.

22



22

Present the finished look to your client.

### Postservice

Complete **Procedure 13-2**, Postservice Procedure. **LO3**

# Procedure 17-2

## Two-Color Monomer Liquid and Polymer Powder Nail Enhancements Using Forms

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Two-Color Monomer Liquid and Polymer Powder Nail Enhancements Using Forms Procedure:

- Nail dehydrator
- Nail forms
- Nail primer
- Monomer liquid
- Polymer powder (pink, white and soft white)
- Application brushes
- Dappen dishes
- Abrasives

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure

- 1** Clean the nails and remove any existing polish.



- 2** Push back the eponychium and remove the dried cuticle from the nail plate.

- 3** Remove oily shine from the natural nail surface with a medium/fine abrasive.



- 4** Remove dust, then apply nail dehydrator to all 10 nails.

# Procedure 17-2 Continued

## Two-Color Monomer Liquid and Polymer Powder Nail Enhancements Using Forms (continued)



5

5

Position the nail forms. If you are using disposable forms, peel a nail form from its paper backing and, using the thumb and index finger of each of your hands, bend the form into an arch to fit the client's natural nail shape. Slide the form into place and press the adhesive backing to the sides of the finger. Check to see that the form is snug under the free edge and level with the natural nail.

If you are using multiuse forms, slide the form into place, making sure the free edge is over the form and that it fits snugly. Be careful not to cut into the hyponychium under the free edge. Tighten the form around the finger by squeezing lightly.

6

Apply nail primer by touching the brush tip to the edge of the bottle's neck to release the excess primer back into the bottle. Using a light dotting action, dab the brush tip to the prepared natural nail only. Allow the nail primer to dry thoroughly. Acid based nail primer will dry to a chalky white. Acid-free primer will dry to a shiny, sticky surface. Avoid the overuse of nail primers.

### Application Tip:

Do not begin to apply enhancement product to the nail until the primer is completely dry. The nail enhancement could discolor where wet nail primer touches the fresh product. This can also lead to lifting.

7



7

Pour monomer liquid and polymer powder into separate dappen dishes. With the two-color method, you will need three dappen dishes—one for the white tip powder; one for the clear, natural, or pink powder; and one for the monomer liquid. You can also work out of the monomer liquid and polymer powder containers.

8



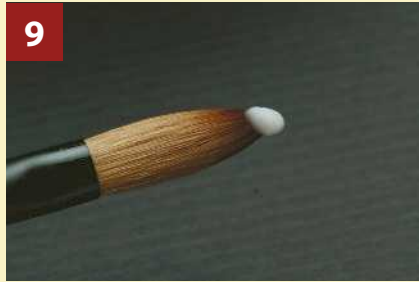
8

Saturate your application brush with monomer liquid and wipe out the liquid completely. Dip the brush in the monomer liquid and wipe on the edge of the dappen dish to remove the excess so you can get the liquid you need to pick up the powder.

### Application Tip:

Pay close attention to how you dip the brush into the monomer liquid and wipe it on the edge of the dappen dish to remove the excess liquid. If you dip your brush the same way every time, wipe the same way every time, and pick up your polymer powder the same way every time, your beads will be more uniform. This will help your application to improve, and your nails will become more consistent.

Model: Lisa Boone; Nail Artist: Alisha Rimando Botero; Photography by Ted Emmons.



**9** To create the lanula (optional), gently wipe your brush to create a flat edge with the hair. Dip the tip slightly into the soft white powder to pick up a small bead on one side of the brush.



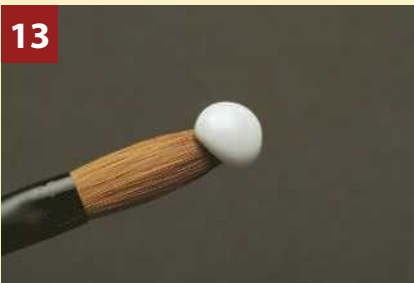
**10** Place the bead toward the cuticle area. Press the product at the cuticle line to thin and angle the brush so that the moon gradually thickens to create an edge.



**11** Spread the bead from side to side to create the lunula. The edges of the lunula should stop just before the sidewall.



**12** Once the product is in place, use the tip of your brush to clean the round edge.



**13** Dip the tip of the same brush into the white polymer powder and pick up a bead of product—it should have a dry-to-medium consistency, not runny or wet—that is large enough to cover the entire free-edge extension. If this is too large a bead to shape properly, using two smaller beads may be easier.



**14** Place the white bead in the center of the nail form at the point where it is joined by the free edge. Wipe your brush gently on a clean disposable towel—do not use the table terry towel—to remove any remaining product. Allow your bead to rest for a second and begin setting up. Working with a freshly applied bead of monomer liquid and polymer powder will be sticky; allowing it to set up a bit will give you a less sticky surface to work with.



**15** Use the front of the brush flat to slide the bead to the corners of the natural nail. Then apply pressure to the center of the brush and pull it toward you. This will stretch the thickness of the bead out onto the form to create the extension edge.



**16** Use the body of the brush around the perimeter of the nail to shape your extension.



**17** Use the tip of the brush to push your smile line into place and wipe the edge until a crisp rounded smile line is achieved.

# Procedure 17-2 Continued

## Two-Color Monomer Liquid and Polymer Powder Nail Enhancements Using Forms (continued)



18

**18** Pick up a tiny second bead of white powder, with a drier consistency, and place it on the left corner of the natural nail and brush it toward the smile line and center of the nail. Wipe your brush gently on a clean or disposable towel, and then use the tip of the brush to define the smile line to the corner.

19

Repeat step 18 on the right corner of your smile line.

20



20

**20** Pick up a small bead of pink polymer powder with your brush and place it near the cuticle area of the nail plate. Use the brush to slowly guide the pink bead toward the cuticle area, leaving a tiny free margin between the product and the skin. Then brush over the product, smoothing out imperfections. Remember, the enhancement product application near the eponychium, sidewall, and free edge must be thin for a natural-looking nail.



21

21

When the nail enhancement begins to harden, loosen the form and slide it off. The nail enhancements will harden enough to file and shape after several minutes; they should make a clicking sound when lightly tapped with a brush handle. Remove the form and gently press in the sides to narrow the nail as it dries.

22

Repeat steps 8 through 21 on the remaining nails.



23

23

Use a medium-abrasive 150 grit to shape and remove imperfections. Begin by shaping the tip's edge on all nails. Be sure to measure the length so they are consistent.

24



24

File the left side and right side of all nails.

Model: Lisa Boone; Nail Artist: Alisha Rimando Botero. Photography by Ted Emmons.



25

25 File the underside of the nail extensions on both sides of each nail.



26

26 Glide the abrasive over the nail with long sweeping strokes to further shape and perfect the enhancement surface. Remember that the product should be thin near the cuticle, free edge, and sidewalls.

27 Buff the nail enhancements with a 180- to 240-grit buffer. Remove any dust with a clean, dry nail brush before applying oil.



28

28 Apply and massage cuticle oil into the nail and surrounding skin.

29 Have your client wash her hands thoroughly with soap and water and use a manicure brush to remove dust and chemicals that may be present on the skin.

30 Apply hand cream and massage the hand and arm.

31 Clean the nail enhancements.



32

32 Polish the nail with a clear gloss polish or apply a gel sealant.



33

33 Present the finished look to your client.

## Postservice

Complete **Procedure 13-2**, Postservice Procedure. **LO4**

Model: Lisa Boone; Nail Artist: Alisha Rimando Betero. Photography by Ted Emmons.

# Procedure 17-3

## One-Color Monomer Liquid and Polymer Powder Maintenance

This procedure may be completed using hand files/abrasives (as in steps 1 through 13) or using an electric file (as in steps A through F).

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Two-Color Monomer Liquid and Polymer Powder Nail Enhancements Using Forms Procedure:

- Nail dehydrator
- Nail primer
- Monomer liquid
- Polymer powder
- Application brushes
- Dappen dishes
- Abrasives

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure



- 1** Remove the existing polish. Using a medium/coarse abrasive (150 to 180 grit), flat against the existing product, carefully smooth down the ledge until it is flush with the new growth of nail plate. Smooth out any areas of product that may be lifting or forming pockets. Be careful not to dig into or damage the natural nail plate with your abrasive.



- 2** Hold the medium abrasive (150 to 180 grit) flat and glide it over the entire nail enhancement to refine and thin the product at the free edge until the white tip appears translucent. Take care not to damage the client's skin with the abrasive.

### CAUTION:

Do not use nippers to clip away loose nail enhancement product. Nipping may perpetuate the lifting problem and can damage the nail plate. If lifting is excessive, soak off the enhancement and start fresh with a new nail application.

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**3** Use a medium-fine abrasive (180 grit or higher) to smooth the product and blend it into new growth area without damaging the natural nail plate. Remove the oily shine from the natural nail surface.

**4** Use a clean nylon manicure brush to remove dust. Apply nail dehydrator to all nails.

**5** Apply nail primer to all nails following the manufacturer's directions. Allow the primer to dry thoroughly. Avoid applying the nail enhancement product over wet primer, since this can cause product discoloration and service breakdown. Avoid overusing the nail primer.

### Application Tip:

After you have applied the dehydrator and the nail is dry, do not touch the nail plates again with your fingers or allow the client to rest her hands against her face. Touching the prepped nail plate—or getting makeup or moisturizer on it—can deposit oils and cause possible lifting.



**6** Prepare the monomer liquid and polymer powder. Pick up one or more small beads of enhancement product and place them at the natural nail area, the regrowth.



**7** Use the brush to smooth these beads over the new growth area. Glide the brush over the nail to smooth out imperfections. The application of the enhancement product near the eponychium, sidewall areas, and free edge must be extremely thin for a natural-looking nail. Be sure to leave a tiny free margin between the nail enhancement product and the skin.

**8** Pick up one or more small beads of enhancement product and place them at the center of the nail to create the apex. Pat beads into place and then smooth entire nail surface.

**9** Allow the nails to harden. Nails are hard when they make a clicking sound when lightly tapped with a brush handle. Once hardened, shape the nail enhancements with an abrasive board, or an electric file (see electric files steps A-F).

### Application Tip:

Take caution when reducing existing product on the nail while preparing for nail enhancement maintenance. Using a coarse-grit abrasive or sanding band can scratch and damage the natural nail plate and may cause rings of fire.

# Procedure 17-3 Continued

## One-Color Monomer Liquid and Polymer Powder Maintenance (continued)

### Alternative Steps For Performing A One-Color Monomer Liquid And Polymer Powder Maintenance Using An Electric File

If you are performing the maintenance service using an electric file, follow the steps below.

- A** Follow step 1 above in this procedure.
- B** With a fine- or medium-barrel bit, shorten the lengths and contour the tops of all the nails. Remove any UV gel sealants you may have applied previously and any discoloration and reshape and rebalance the entire top surface of all 10 nails.
- C** With a rounded-top safety bit, bevel the cuticle area product flush with the natural nail. Be careful not to touch the natural nail with the bit. Use the safety bit flat to the nail to bevel and remove more product than normal. Beveling and removing more product will remove any lifting and ensure no fill lines. Remove the dust with a clean, dry sanitary nail brush.
- D** Proceed to steps 4-9 for product application.
- E** File and shape the nails with a fine- or medium-barrel bit. Refine your cuticle work with a safety bit or cone and finish the nails.
- F** Go to Step 10 and follow through to the end of the service.
- 10** Buff the nail enhancement, remove the dust, and apply nail oil to the enhancement and the surrounding skin.
- 11** Apply hand cream and massage the hand and arm. Wash the client's hand and nails with soap and water.
- 12** Clean nails before application of nail polish or gel sealant.



- 13** Present the finished look to your client.

### Postservice

Complete **Procedure 17-2**, Postservice Procedure. **LO5**

# Procedure 17-4

## Crack Repair for Monomer Liquid and Polymer Powder Nail Enhancements

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Crack Repair for Monomer Liquid and Polymer Powder Nail Enhancements Procedure:

- Nail dehydrator
- Nail primer
- Nail forms
- Monomer liquid
- Polymer powder
- Application brushes
- Dappen dishes
- Abrasives

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure



- 1** Remove the existing polish or gel sealant. File a V shape into the crack or file flush to remove crack. File more than just the crack for extra protection.

- 2** Buff and remove any dust with a clean, dry nail brush. Apply nail dehydrator to any exposed natural nail in the crack.



- 3** Apply nail primer to any exposed natural nail in the crack.



- 4** If the crack needs support, apply a nail form.



- 5** Prepare the monomer liquid and polymer powder. Pick up one or more small beads of the product and apply them to the cracked area. If you are using the two-color system, be sure to use the correct color of polymer powder.



**6** Press and smooth the enhancement product to fill the crack. Be careful not to let the product seep under the form.



**7** Apply additional beads, if needed, to fill in the crack or reinforce the rest of the nail. Shape the enhancement and allow it to harden.



**8** Remove the form, if used.

**9** Reshape the nail enhancement using a medium abrasive (180 to 240 grit).

**10** Buff the nail enhancement until it is smooth. Remove the dust and apply oil to the enhancement and surrounding skin. Wash the client's hand and nails with soap and water. Apply hand cream and massage the hand and arm.

**11** Clean nails before application of nail polish or gel sealant.



**12** Present the finished repaired nail to your client.

## Postservice

Complete **Procedure 13–2**, Postservice Procedure. **LO6**

# Procedure 17-5

## Monomer Liquid and Polymer Powder Nail Enhancement Removal

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Monomer Liquid and Polymer Powder Nail Enhancement Removal Procedure:

- Metal or glass bowl
- Acetone

fyi

Although you may see gallons of industrial acetone at your local hardware store for a few dollars less than at your beauty supply, do not be tempted to purchase this for use on your clients. These products have not been tested or approved for use on human skin. Most nail enhancement removal products in the nail industry are enriched with aloe and other skin softening agents that help prevent drying of the skin. Using these products is safe and more effective for your clients.

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure

1



1

Fill the glass bowl with enough acetone or product remover to cover 1/2" (1.27 cm) higher than the client's enhancements. Place the bowl inside another bowl of hot water to heat the acetone safely and speed up the removal procedure.

2



2

Soak the client's nail enhancements for 20 to 30 minutes, or as long as needed to remove the enhancement product. Refer to the manufacturer's directions and precautions for nail enhancement product removal.



3

3

Once or twice during the procedure, use a wooden or metal pusher to gently push off the softened enhancement. Repeat until all enhancements have been removed. Do not pry them off with nippers, as this will damage the natural nail plate. Avoid removing enhancements from the acetone or product remover, or they will quickly reharden, making them more difficult to remove. The key is to leave the nails in the acetone until they fall off and the natural nail is free of product. Use a plastic-backed cotton pad to remove the remaining product.

4

Condition the skin and nails. Lightly buff the nails to smooth any remaining ridges or residue. Recommend that the client receive a basic manicure.



5

5

Present the finished look to your client.

## Postservice

Complete **Procedure 13-2**, Postservice Procedure. **LO7**

fyi

Nail plates may appear to be thinner after enhancements have been removed. This is generally because there is more moisture in the natural nail plate, which makes them more flexible. It is not an indication that the nail plates have been weakened by the nail enhancement. This excess flexibility will be lost as the natural nails lose moisture over the next 24 hours, and the nail plates will seem to be more rigid and thick.

## ■ Review Questions

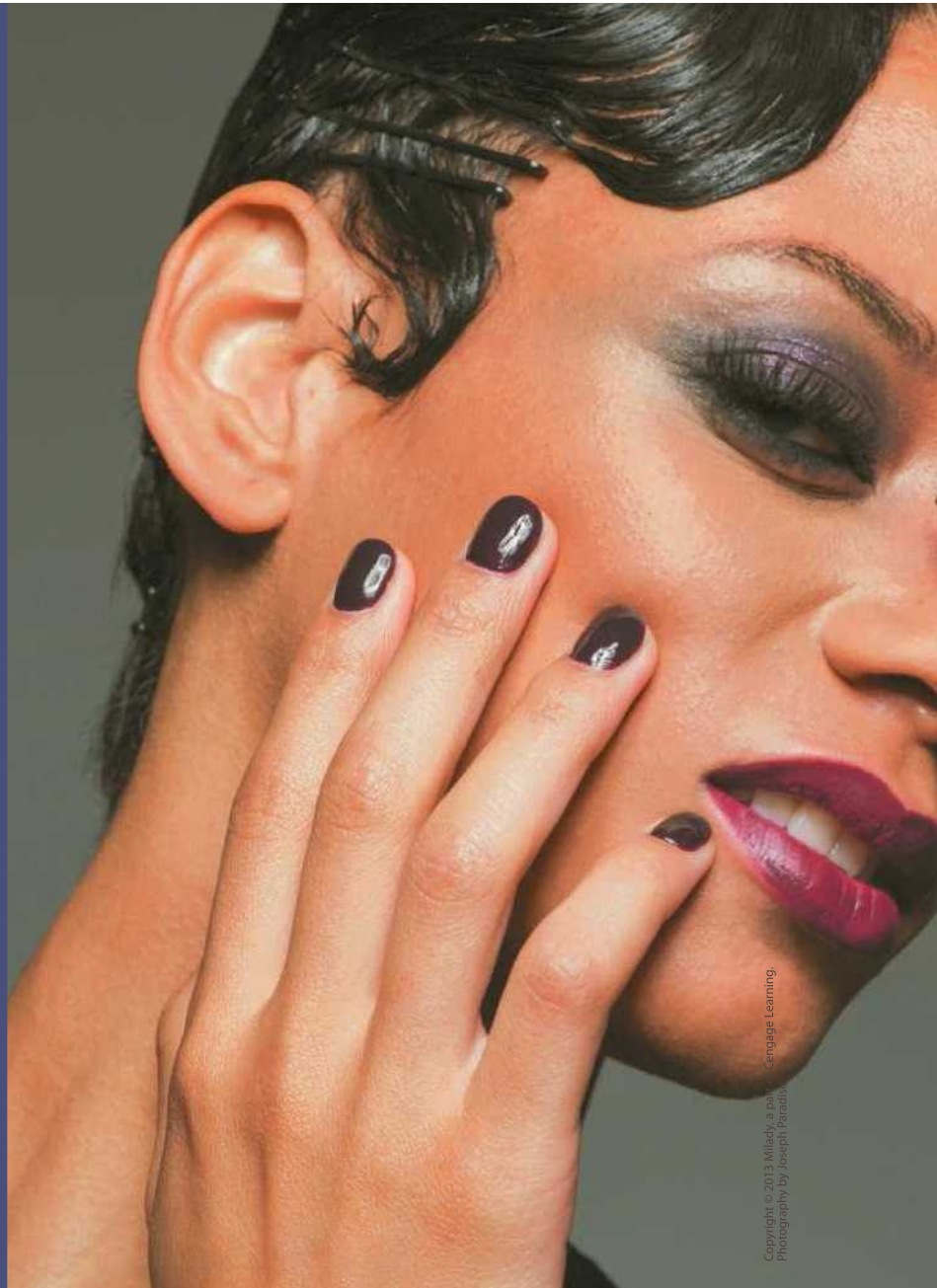
1. What is the chemistry behind monomer liquid and polymer powder nail enhancements, and how does it work?
2. What are the definitions of apex, stress area, and sidewall, and where is their location on the nail enhancement?
3. What is the proper procedure for applying one-color monomer liquid and polymer powder nail enhancements over tips and on natural nails?
4. What is the proper procedure for applying two-color monomer and polymer nail enhancements without lunula, using nail forms?
5. What is the proper procedure for performing a one-color maintenance service on nail enhancements, using monomer liquid and polymer powder?
6. How is a crack repair performed?
7. How are monomer liquid and polymer powder removed from the nail?

# 18

# UV and LED Gels

## Chapter Outline

- Why Study UV and LED Gels?
- UV and LED Gels
- UV and LED Gel Supplies
- When to Use UV or LED Gels
- Choosing the Proper UV or LED Gel
- UV and LED Lamps and Bulbs
- Gel Polishes
- UV and LED Gel Maintenance and Removal
- Procedures



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# Learning Objectives

After completing this chapter, you will be able to:

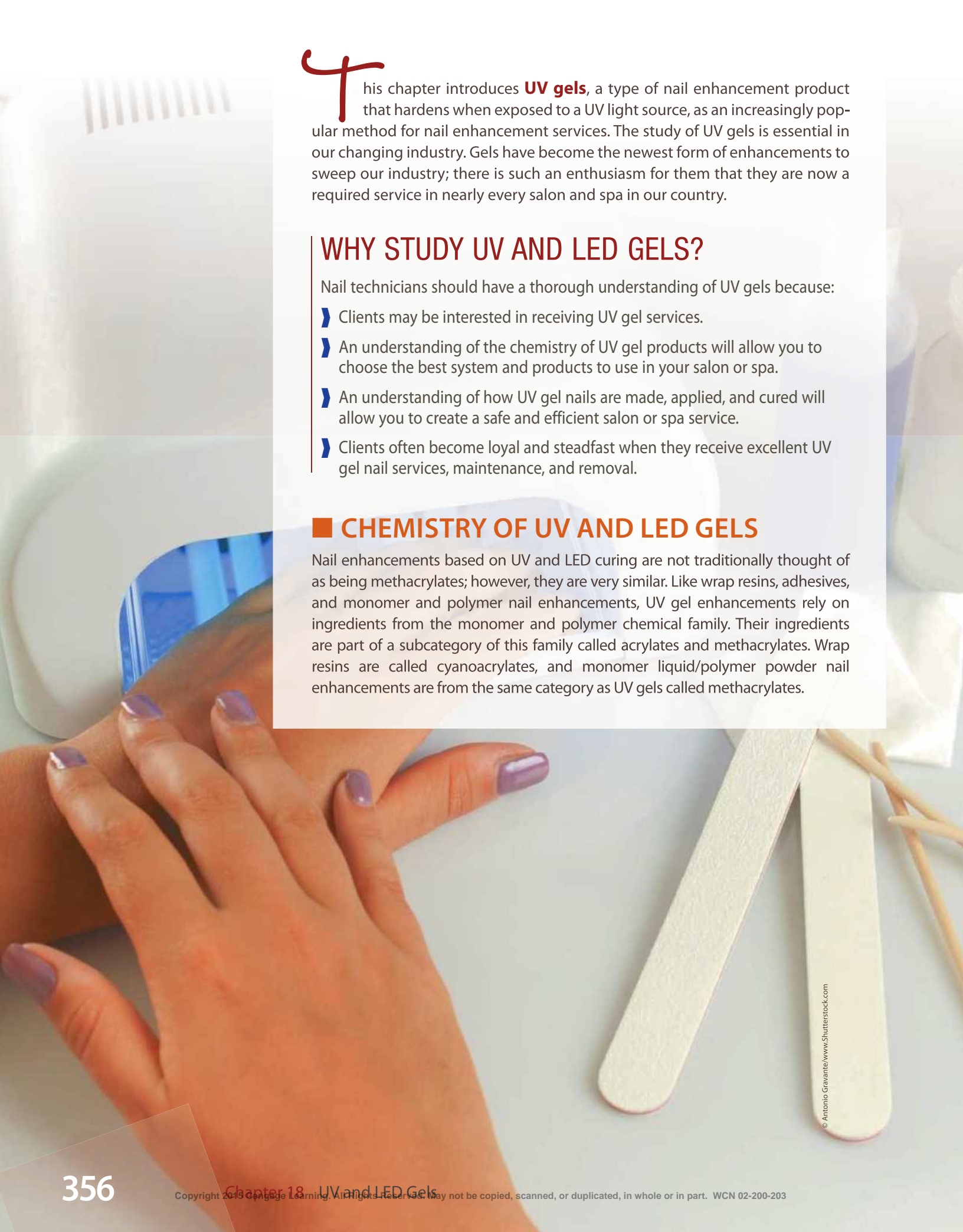
- ✓ **L01** Describe the chemistry and main ingredients of UV gels.
- ✓ **L02** Describe when to use the one-color and two-color methods for applying UV gels.
- ✓ **L03** Name and describe the types of UV gels used in current systems.
- ✓ **L04** Identify the supplies needed for UV gel application.
- ✓ **L05** Discuss when to use UV gels.
- ✓ **L06** Identify which type of UV gel is best suited for a service.
- ✓ **L07** Discuss the differences between UV lamps and UV bulbs.
- ✓ **L08** Describe how to apply one-color UV gel on tips and natural nails.
- ✓ **L09** Describe how to apply UV gels over forms.
- ✓ **L010** Describe how to maintain UV gel nail enhancements.
- ✓ **L011** Explain how to correctly remove hard UV gels.
- ✓ **L012** Explain how to correctly remove soft UV gels.

## Key Terms

Page number indicates where in the chapter the term is used.

- |                               |  |                                    |  |
|-------------------------------|--|------------------------------------|--|
| <b>cure</b> / 357             | <b>opacity (plural: opacities)</b> / 360 | <b>urethane methacrylate</b> / 357 | <b>UV or LED bulb</b> / 362                    |
| <b>gel polishes</b> / 359     | <b>pigmented gels</b> / 359              | <b>UV bonding gels</b> / 358       | <b>UV or LED lamp (or UV light unit)</b> / 362 |
| <b>hard UV gels</b> / 365     | <b>soft UV gels</b> / 365                | <b>UV building gels</b> / 358      | <b>UV self-leveling gels</b> / 359             |
| <b>inhibition layer</b> / 360 | <b>two-color method</b> / 358            | <b>UV gels</b> / 356               | <b>viscosity (plural: viscosities)</b> / 357   |
| <b>oligomer</b> / 357         | <b>urethane acrylate</b> / 357           | <b>UV gloss gels</b> / 360         |  |
| <b>one-color method</b> / 358 |  |                                    |  |





This chapter introduces **UV gels**, a type of nail enhancement product that hardens when exposed to a UV light source, as an increasingly popular method for nail enhancement services. The study of UV gels is essential in our changing industry. Gels have become the newest form of enhancements to sweep our industry; there is such an enthusiasm for them that they are now a required service in nearly every salon and spa in our country.

## WHY STUDY UV AND LED GELS?

Nail technicians should have a thorough understanding of UV gels because:

- ▶ Clients may be interested in receiving UV gel services.
- ▶ An understanding of the chemistry of UV gel products will allow you to choose the best system and products to use in your salon or spa.
- ▶ An understanding of how UV gel nails are made, applied, and cured will allow you to create a safe and efficient salon or spa service.
- ▶ Clients often become loyal and steadfast when they receive excellent UV gel nail services, maintenance, and removal.

## ■ CHEMISTRY OF UV AND LED GELS

Nail enhancements based on UV and LED curing are not traditionally thought of as being methacrylates; however, they are very similar. Like wrap resins, adhesives, and monomer and polymer nail enhancements, UV gel enhancements rely on ingredients from the monomer and polymer chemical family. Their ingredients are part of a subcategory of this family called acrylates and methacrylates. Wrap resins are called cyanoacrylates, and monomer liquid/polymer powder nail enhancements are from the same category as UV gels called methacrylates.

Although most UV and LED gels are made from acrylates, new UV gel technologies have been developed recently that use methacrylates. Like wraps and monomer liquid and polymer powder nail enhancements, UV and LED gels can also contain monomers, but they rely mostly on a related form called an **oligomer**. The term *mono* means one, and *poly* means many. *Oligo* means few. An oligomer is a short chain of monomers that is not long enough to be considered a polymer and is often referred to as a prepolymer. Nail enhancement monomers are liquids, while polymers are solids. Oligomers are in between. Oligomers are often thick, gel-like, and sticky.

Traditionally, UV gels rely on a special type of acrylate called a urethane acrylate, while newer UV gel systems may use urethane methacrylates by themselves or in combination with urethane acrylates. **Urethane acrylate** and **urethane methacrylate** are the main ingredients used to create UV gel nail enhancements. The term *urethane* refers to the type of starting material that is used to create the most common UV gel resins. The chemical family of urethanes is known for high abrasion resistance and durability.

UV gel resins react when exposed to the UV light that is recommended for the gel. A chemical called a photoinitiator causes the polymerization reaction to begin. The key thing to remember here is that it takes the combination of the resin, photoinitiator, and the proper curing lamp to cause the gel to cure. UV gel systems employ a single component resin compound that is cured to a solid material when exposed to a UV light source. UV and LED gels typically do not use a powder that is incorporated into the gel resin. There are a few UV gels on the market that do incorporate a powder that is sprinkled into the gel, but the rest of the chapter will refer to gels as being the more common single component type.

UV and LED gels can be easy to apply, file and maintain. They also have the advantage of having very little or no odor. Although they typically are not as hard as monomer and polymer nail enhancements, UV gels can create beautiful, long-lasting nail enhancements.

The UV or LED gel application process differs from other types of nail enhancements. After the nail plate is properly prepared, each layer of product applied to the natural nail, nail tip, or form requires exposure to UV or LED light to **cure** or harden. The light required for curing comes from a special lamp designed to emit the proper type and intensity of light. **LO1**

## ■ UV AND LED GELS

There are many types of UV and LED gels. Choosing the UV gel that is your favorite is as important as choosing the monomer and polymer system that you prefer. Some professionals favor a UV gel that is thick and will not level by itself. Other professionals like to use UV gels that self-level quickly. It is up to you to find the UV gel that you prefer to use and to learn how to use it well.

The different UV gels can be described as thin-viscosity gels, medium-viscosity gels, thick-viscosity gels, and building or sculpting gels. Remember that **viscosity** is the measurement of the thickness or thinness of a liquid and





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affects how the fluid flows. Manufacturers have a market name for the UV gels that they make, but most UV gels fall under these general categories:

1. A clear resin used for the **one-color method** for clients who wish to wear colored polish or gel polish over the enhancement.
2. Pink resin and white-pigmented resin used for the **two-color method** for clients who want the French or American manicure finish without using any nail lacquer. There are many processes for performing a two-color method over tips or natural nails. The process varies from one UV gel manufacturer to another, and even within the manufacturer's product lines. Consult with the UV or LED gel manufacturer about the product before you perform a two-color method.

The procedure recommended for applying and curing UV and LED gel varies from one manufacturer to another. Some systems recommend applying UV gel to four nails on one hand and curing, then repeating this procedure on the other hand before applying and curing the gel on the thumbnails. Be sure to follow the instructions recommended by the manufacturer of the system that you are using.

During the procedure, keep the brush and gel away from sunlight, UV and LED gel lamps, and full-spectrum table lamps to prevent the gel from hardening. When the service is completed, store your application brush away from all sources of UV light. Do not leave your container of gel open and near a window or lamp. If the gel is exposed to these sources of light, it will cure and become polymerized in the container. **LO2**

**Go to** Procedure 18-1 **One-Color Method UV or LED Gel on Tips or Natural Nails with UV or LED Gel Polish** page 366

**Go to** Procedure 18-2 **Two-Color Method UV or LED Gel on Tips or Natural Nails** page 371

## Types of UV Gels

**UV bonding gels** are used to increase adhesion to the natural nail plate, similar to monomer and polymer primers. UV and LED bonding gels will vary in consistency and chemical components. This increased adhesion decreases the tendency for enhancements to separate from the natural nail. Some UV bonding gels contain certain chemicals that smell like monomer and polymer primers, while other UV bonding gels may not have a strong odor. UV and LED gel manufacturers are constantly including new technology in the formulation of bonding gels. These technologies could make the use of odiferous chemicals obsolete. Some gel manufacturers use air-dry bonding systems. Just because the bonding product may not be cured in a UV lamp does not make it any less effective than a bonding system that is cured in a UV lamp.

**UV building gels** include any thick viscosity resin that allows the nail technician to build an arch and curve to the fingernail. UV building gels can be used with self-leveling UV gels and, if done correctly, this combination can reduce the amount of filing and shaping to contour the enhancement later in the service.

There are UV building gels that have fiberglass strands compounded into the gel during the manufacturing process. These UV gels typically have hardness and durability properties that closely resemble monomer and polymer systems. They are very helpful when repairing a break or crack in a client's enhancement.

**UV self-leveling gels** are used to enhance the thickness of other gels while providing a smoother surface than some UV building gels. Professionals who are experienced in UV gel application often will choose to apply a UV building gel first during a service, then use a self-leveling UV gel during the second part of the service to reduce filing and contouring later.

**Pigmented gels** can be building gels or self-leveling gels that include color pigment. It is more common for the building style of pigmented gels to be used earlier during the service because they are used to create a two-color process similar to a two-color monomer and polymer process. Self-leveling pigmented UV and LED gels are used near the final contouring procedure—either before or after the contouring—because they are applied much more thinly than the pigmented building gels and normally require little if any filing. It is best to consult the manufacturer's instructions for their use.

**Gel polishes** are an alternative to traditional nail lacquers. Gel polishes do not dry as nail lacquers do: they cure in the lamp. When the gel polish is finished curing, a gloss gel can be applied over it to create a high lustrous shine. The end result is an enhancement that looks like it has been lacquered but does not have any solvent odor and will not become smudged the way a traditional nail lacquer might. Gel polishes also may be used on natural nails, if your client prefers.

Gel polishes are available in a wide array of colors. They are available in cream and frosted colors, and some even include glitter! These gels can be mixed together to create a few hundred more colors. Gel polishes provide a nail technician and client with a wide variety of colors and options for expressing personality and creativity.

It is also very common for gel manufacturers to have many colored gels for the two-color method. These pigmented gels can vary in opacity and viscosity. You should follow the manufacturer's recommendations for applying the pigmented gel in a two-color method. Usually, the more opaque gels have thinner viscosities and are applied after the second coat of building gel. The less opaque pigmented gels are often thicker in viscosity and are applied before the first coat of building gel.



## Activity

Acquire samples of gels that are on the market by calling a few popular companies. When you receive the gels, place a small amount on a plastic tip that you have adhered to a wooden stick. Study the gel as it moves over the tip. Try applying the gel in a different way (such as brushing a thin layer, then applying a ball of gel in the stress area) and observe the gel again. Repeat this procedure with all of the samples. The more you know about how the gels work, the easier it will be for you to apply the gel on your client.



**UV gloss gels** also may be called sealing gels, finishing gels, or shine gels. These gels are used to create a high shine. UV gloss gels do not require buffing and can also be used over a monomer and polymer enhancement. There are two types of UV and LED gloss gels: traditional gloss gels that cure with a sticky inhibition layer that requires cleaning, and tack-free gloss gels that cure to a high shine without the inhibition layer. An **inhibition layer** is a tacky surface left on the nail after a UV gel has cured. Choose the gloss gel that is best for you. Traditional UV gloss gels do not discolor after prolonged exposure to UV light, while tack-free gloss gels may discolor. Many UV gel manufacturers are developing tack-free gloss gels that do not discolor upon exposure to UV light. These advancements may make traditional UV gloss gels obsolete; however, for now, traditional UV gloss gels still hold the market on nonyellowing performance. **LO3**

After you have determined how each gel behaves on the fingernail, learn how to use the pink gels and white gels in the same fashion. Similar to clear gels, pink gels and white gels can be formulated in a variety of viscosities (the measurement of the extent of a liquid to flow), colors, and **opacities** (the amount of pigment concentration in a gel, making it difficult to see through). There are many different gels on the market; each can be combined to give any appearance that you and your client desire.

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## Activity

We have discussed how gels require a UV or LED light source to cure properly. Gels will not cure if the light cannot penetrate through the gel. If the gel is pigmented, then the pigment can block the transmission of the UV or LED light into the gel and decrease its curing potential.

Place some gel on a disposable form and spread it using a gel brush. Apply the gel so that you are able to see through it onto the surface of the form. Cure the gel in your UV or LED lamp for the recommended period of time. Clean the surface of the gel to remove the sticky residue—the inhibition layer. Peel the gel from the form and examine the side of the gel that was against the form. If there is a layer of uncured gel, then the gel was applied too thickly. Reapply the gel thinner and repeat the curing and examination process.

### UV AND LED GEL SUPPLIES

Just as every type of nail enhancement service requires specific tools, implements, equipment, and supplies, so do UV and LED gel enhancements. Here is a list of those requirements (**Figure 18-1**). In addition to the supplies in your basic manicuring setup, you will need:

- *UV or LED gel lamp.* Choose a UV or LED gel lamp designed to produce the correct amount of light needed to properly cure UV or LED gel nail enhancement products you use.
- *Brush.* Brushes with small, flat (or oval) nylon bristles are used to hold and spread the gel.

- *UV or LED gel primer or bonding gel.* Primers and bonding gels are designed specifically to improve adhesion of UV gels to the natural nail plate. Use UV gel primers as instructed by the manufacturer of the product that you are using.
- *UV or LED gel.* This should include pigmented gel(s) for a one-color or two-color service. This also will include a gel that creates a gloss, depending upon the gel system that you choose.
- *Nail tips.* Use nail tips recommended for the UV gel nail enhancement systems.

It is important when using tips with UV Gels to size the tip so that the curve of the tip matches the curve of the nail. If the curves do not match and the tip is spread too flat, then the tips could crack lengthwise down the center. So, if you find a tip has cracked lengthwise down the center, you know that the curve of your tip was not matched to the curve of the fingernail.

- *Nail adhesive.* There are many types of nail adhesives for securing pre-formed nail tips to natural nails. Select a type and size best suited for your work.
- *Nail cleanser.* Nail cleansers remove surface moisture and tiny amounts of oil left on the natural nail plate, both of which can block adhesion and help prevent lifting of the nail enhancements.
- *Abrasive files and buffers.* Select a medium abrasive (180 grit) for natural nail preparation. Choose a fine abrasive (240 grit) for smoothing, and a fine buffer (350 grit or higher) for finishing. UV gel manufacturers may have other recommendations for abrasives, so consult the manufacturer's guidelines for more information on their system.
- *Lint-free cleansing wipes.* **LO4**

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Photography by Dino Petrecci.



▲ **Figure 18-1** Supplies needed for a UV gel service.

## ■ WHEN TO USE UV OR LED GELS

When to use UV gels may seem like a personal preference question, but it really is a question of logic. The general answer could be, "Anytime!" New UV and LED resin technology allows gel manufacturers to create tough, durable, and hard products that will perform as well as many of the monomer and polymer systems on the market. The answer could easily be, "Never," because there are customers who prefer to wear monomer liquid and polymer powder. It is what they know—they have been wearing them for years and refuse to change. Most clients will do what you recommend. If you wear and recommend monomer and polymer enhancements, that is what most of your clients will wear. If you wear and recommend UV gels, that will be their preference. You are the professional and, as such, you should recommend a system that you have used and feel will perform best for the client. There may be a situation when you use a system on your client and that system is not performing as the two of you would like. It may be best to try something else. Maybe a different gel resin or a change to monomer and polymer might be best. The answer to this question remains in your capable hands. It is also possible to use a monomer and polymer system



for the fill or full-set, but combine that with a UV or LED gloss gel to create the shine over the enhancement. Pigmented gels, such as gel polishes, may also be used over the monomer and polymer system, if that is what you prefer.

There are other factors that will assist you in your choice of gels or acrylics. The salon or spa that you choose to work in or the environment you create in your work area could impact your decision. Gels commonly have fewer odors than acrylics, and if you are trying to create an environment with fewer odors, a gel may be the right choice for you and your clients.

There is one more choice to consider for gels: consider the new, common gel polishes that are now on the market. Gel polishes are applied in a similar manner to a traditional nail polish but contain less or no solvent, cure under LED or UV light, and wear longer than traditional nail polish. The choice of when to use a gel polish versus a traditional polish is yours to make with your client. Questions to consider include:

- How easily would your client like the polish to be removed from the fingernail? If the polish is to be removed outside of the salon, perhaps a traditional polish should be used.
- How long does the client want the polish to last? If the polish is meant to remain on the fingernail for 2 weeks, the best choice would be a gel polish. **LO5**

## ■ CHOOSING THE PROPER UV OR LED GEL

There are many gels to choose from to perform your service. Here are a few guidelines that will assist you in refining your choices:

- If the client has flat fingernails, more building will need to be done to create an arch and curve. This building will be easiest when done with a thicker UV building gel.
- If the client has fingernails that have an arch and curve, then a self-leveling gel may be the best option. Choose the self-leveling gel that you prefer—either a medium- or thick-viscosity gel.
- If your client returns to the salon or spa often with broken enhancements, then a gel that uses fiberglass may be best for the next service. **LO6**

## ■ UV AND LED LAMPS AND BULBS

What is the difference between a UV lamp and a UV bulb?

A **UV or LED bulb** is a special bulb that emits light to cure gel nail enhancements. There are a number of bulbs that are used to cure UV gels: 4-, 6-, 7-, 8-, and 9-watt bulbs. These bulbs vary in curing power and will affect the performance of the UV gel once it has been cured.

A **UV or LED lamp**, also referred to in the industry as a light unit, is a specialized electronic device that powers and controls UV and LED bulbs to cure gel nail enhancements. Lamps that are currently being sold may look similar at first but there are differences, including the number of bulbs in the unit, the distance the bulbs are from the bottom of the unit, and the size of the unit. They will affect the curing power of the unit.

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Lamps are typically referred to by the number of bulbs inside the lamp multiplied by the wattage. Remember that unit wattage is a measure of how much electricity the lamp consumes, much like miles per gallon tell you how much gasoline it will take to drive your car a certain distance. Miles per gallon will not tell you how fast the car can go, just like wattage does not indicate how much UV light a lamp will produce. For example, if a lamp has four bulbs in it and each bulb is 9 watts, then the light unit is called a 36-watt lamp. Likewise, if the lamp only has three bulbs and each bulb is also 9 watts, then it is called a 27-watt lamp. It is important to remember that wattage does not indicate how much UV light a UV lamp will emit (**Figure 18-2**).

UV gel lamps are designed to produce the correct amount of UV light needed to properly cure UV gel nail enhancement products. UV gels are usually packaged in small opaque pots or squeeze tubes to protect them from UV light. Even though UV light is invisible to the eye, it is found in sunlight and tanning lamps. Both true-color and full-spectrum lamps emit a significant amount of UV light. If the UV gel product is exposed to these types of ceiling or table lamps, the product's shelf life may be shortened, causing the product to harden in its container.

Depending on their circuitry, different lamps produce greatly varying amounts of UV light. This is referred to as the UV light intensity or concentration. The intensity will vary from one lamp to the next and is more important than the rating of a UV lamp based on the wattage of the bulb or the number of bulbs in the unit. For these reasons, it is important to use the UV lamp that was designed for the selected UV gel product. This will give you a much greater chance of success and fewer problems.

UV bulbs will stay violet for years; however, after a few months of use, they may produce too little UV light to properly cure the enhancement. Typically, UV bulbs must be changed two or three times per year, depending on the use of the UV lamp. If the bulbs are not changed regularly, service breakdown, skin irritation, and product sensitivity are more likely to occur as a result of inadequately cured gels.

The most common UV bulb on the market is a 9-watt bulb. While many of the UV gel systems use the 9-watt bulb, most of the gels can be cured in any manufacturer's 36-watt lamp. A gel that has been specifically designed to cure in a 36-watt lamp may not be able to be cured properly in any other lamp. If a gel is cured in a lamp that it is not intended to be cured in, it may become hard, but it may not cure completely. If this is the case, the gel will crack, lift, and separate from the nail. It may not have a high shine, and the client will not be pleased with the service. The result will be similar to a monomer and polymer system that has been applied with an incorrect mix-ratio between the liquid and the powder.

LED lamps are becoming more common in the salon and spa—most are used to cure the new gel polishes that are applied similarly to a traditional nail polish. These LED lamps are not UV and therefore will not cure most of the traditional UV gels to their completed cure strength. There is a wide selection of LED lamps on the market and as such, it is strongly recommended that you use only lamps that the gel polish manufacturer endorses. Using the wrong LED light source could drastically effect the curing of the polish.



Courtesy of Light Elegance Nail Products

▲ **Figure 18-2** UV lamp.

## Here's a Tip:


UV gels can generate an uncomfortable amount of heat when used on some clients. The heat can be controlled by slowly inserting the hand into the UV lamp. This will help to slow the gel reaction and generate less heat. The heat is a result of the exothermic reaction of the gel that occurs as each bond of the polymer is created; the more bonds that are formed when the gel cures, the more heat that is generated. Likewise, the more bonds that are created when the gel polymerizes, the stronger the gel will be.

## Here's a Tip:

When providing enhancement services, ask whether the client would like enhancements that are removed easily. If the client does, use a soak-off UV or LED gel as the base coat (following the manufacturer's recommendations on the gel's application) and then perform the remainder of the service. Before the client leaves the salon or spa, arrange a date for her to return to have the gels removed.

While this chapter was being written in 2012 and 2013, a media release was published that claimed that UV nail curing lamps could cause skin cancer. There have been no studies to date that support this claim. Three UV gel manufacturers conducted a series of independent studies that found little to no evidence to support the claim that UV nail lamps could cause cancer. Rather, these studies determined that the UV nail lamps are remarkably safe for skin exposure. A study led by Dr. Robert Sayer, in which four different nail curing lamps were evaluated to assess the risk for skin cancer, determined that it is highly unlikely that skin cancer could result from exposure to nail curing lamps. The four lamps that were evaluated were Light Elegance Easy Cure lamp, CND Shellac lamp, OPI Axxium lamp, and OPI LED GelColor lamp. It is important to note that Dr. Sayer's findings were based on studies that the three manufacturers paid for, regardless of the outcome of his research findings.

The lamp has as much to do with the proper curing of the UV gel as the bulb! Not all lamps are the same. The differences between the structures of the lamps will alter the curing potential of the unit. For example, if two lamps are similar in every respect, but lamp A has been constructed with the UV bulbs closer to the fingernails than lamp B, lamp A will have more curing potential than B. Both lamps will not have the same results. Both lamps are 9 watts and both have the same number of bulbs in them, but lamp A is more powerful than lamp B.

Consult with the gel manufacturers to receive more detailed information on which lamp and bulb will properly cure their UV gels.  **LO7**

## ■ GEL POLISHES

Gel polishes have become a popular service to complement gels and all other enhancement services, including natural nails. Gel polishes are a relatively new system that evolved with the emergence of new chemistries that became available to the beauty industry. The more popular gel polishes are highly pigmented, which gives these systems the appearance of a traditional solvent-based nail lacquer. Gel polishes are available in hundreds of shades—much the same as traditional nail polish—to suit every client.

Wearing gel polishes instead of traditional nail lacquers does bring some great advantages; however, they are removed differently than traditional nail polish. One advantage of gel polishes is that they do not dry—they cure. Cured gel polish systems will not imprint or smudge if the client hits her hands while the nail lacquer is still drying. A second advantage is that the gel polish usually does not thicken over time, because in some gel polishes, the solvent does not evaporate. Solvent evaporation is what makes nail lacquers thicken and dry more slowly after the bottle of nail polish has been open for a few months.

To remove a gel polish, professionals typically file the polish off by hand, using an abrasive or an electric file. There are some gel polishes now, however, that are removed by soaking the nails in a solution of acetone for 5 to 10 minutes to soften them and allow the nail tech to easily scrape them off with a wooden stick. If you choose to remove the gel polish by soaking the fingernails in acetone, use caution to not damage the natural nail plate. The nail plate will soften upon exposure to the acetone and the scraping action; if done incorrectly, this could cause damage and alter the color of the fingernail. The damaged nail could lead to other problems, such as infection or cracking due to the decreased strength of the fingernail.

## ■ UV AND LED GEL MAINTENANCE AND REMOVAL

UV and LED gel enhancements must be maintained regularly, depending on how fast the client's nails grow.

### UV and LED Gel Maintenance

Begin the maintenance using a medium-abrasive file (180 grit) to thin and shape the enhancement. Be careful not to damage the natural nail plate. When you are performing the UV gel fill portion of the maintenance, follow the instructions in **Procedure 18-4, UV Gel Maintenance**.

Before filing the nail, be sure to clean the nail with the gel manufacturer's recommended cleanser or isopropanol (99 percent or better). This removes oils from the fingernail and results in better adhesion of the gel to the nail plate. It is important to remember that you must file with a lighter touch because it is usually easier to file UV and LED gel enhancements than monomer and polymer enhancements.

**Go to** Procedure 18-4 **UV and LED Gel Maintenance** page 377

### UV and LED Gel Removal

There are two generally accepted methods of removing gels. One method involves **hard UV gels**, which are typically defined as the traditional UV gels; they cannot be removed with acetone. The other method involves **soft UV gels**, which are removed fairly easily with acetone. It is important that you read and follow the manufacturer's directions before proceeding to remove UV gel nails.

When removing the inhibition layer from the UV gel, avoid cleaning the nail in a manner that would put the gel onto the surface of the skin. Using your nail wipe, start at the top of the fingernail nearest the cuticle and wipe away from the cuticle to the free edge of the fingernail.

**Go to** Procedure 18-6 **UV and LED Gel Removal—Hard Gel** page 382

**Go to** Procedure 18-7 **UV and LED Gel Removal—Soft Gel or Gel Polishes** page 383

# Procedure 18-1

## One-Color Method UV or LED Gel on Tips or Natural Nails with UV or LED Gel Polish

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies:

- Nail tips
- UV or LED gel for the application
- UV or LED gel primer or bonding gel
- Brush
- UV or LED gel lamp
- A cleansing solution
- Lint-free cleansing wipes
- Nail cleanser or primer
- UV or LED gel polish

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure

**1** Clean the nails and remove the existing polish. Begin with your client's little finger on the right hand and work toward the thumb. Repeat on the left hand. Ask the client to place her nails into a fingerbowl with liquid soap. Use a nail brush to clean the nails over the fingerbowl. Thoroughly rinse with clean water to remove soap residues that can cause lifting.

**2** Apply cuticle remover to the nail plate, then use a cotton-tipped wooden or metal pusher to gently push back the eponychium. Use as directed by the manufacturer and carefully remove cuticle tissue from the nail plate.



**3** Lightly buff the nail plate with a medium (180 grit) abrasive, or the abrasive recommended by the gel manufacturer, to remove the shine on the surface of the nail plate.

**4** Remove the dust from the nail surface per the manufacturer's recommendations.

**5** Use a solvent-based cleanser per the manufacturer's recommendation. Remove any oils from the fingernail before abrading with a file. This increases the adhesive properties of the gel. Start with the little finger and work toward the thumb.

**6** If your client requires nail tips, apply them according to **Procedure 16-1, Nail Tip Application**, in Chapter 16. Be sure to shorten and shape the tip before the application of the UV or LED gel. During the procedure, the UV or LED gel overlaps the tip's edge to prevent lifting. During the filing process, the seal can be broken, allowing the UV or LED gel to peel or lift. Be careful not to break this seal.

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**7** Follow the manufacturer's instructions for applying the bonding or priming material. Your success depends on your ability to properly prepare the nail plate for services and apply this bonding material. Using the applicator brush, insert the brush into the nail primer or bonding gel. Wipe off any excess from the brush, and, using a slightly damp brush, ensure that the nail plate is completely covered per the manufacturer's recommendations. Avoid using too much product to prevent running into the skin, which can increase the risks of developing skin irritation or sensitivity to the enhancement system.



**8** Cure the bonding gel according to the manufacturer's directions.



**9** Gently brush UV or LED gel onto the fingernail surface, including the free edge. Leave a 3/16" (4.76 mm) gap around the cuticle and sidewall area of the fingernail. Keep the gel from touching the cuticle, eponychium, or sidewalls. When applying this gel, do not pat the gel as you would monomer and polymer material; instead, gently brush or float the gel material onto the fingernail. When brushing the gel near the cuticle, use a light pressure on the brush while pushing the gel toward the cuticle, and then increase the pressure on the brush to reduce the thickness of the gel near the cuticle. As you pull the brush away from the cuticle region, decrease the pressure on the brush to allow for an increased amount of gel to be applied over the stress area. As the application of the gel approaches the free edge of the fingernail, bring the brush to a parallel angle to the fingernail and keep the pressure on the brush light. Applying too much pressure to the brush as it approaches the free edge of the fingernail will deposit too much UV or LED gel on the tip of the fingernail and create a bulbous lump on the distal edge of the fingernail. If additional gel is needed to create thickness in the stress area of the fingernail, a light touch and a swirling or circular motion to deposit more gel in the stress area is a good technique. Avoid introducing air into the gel, as this will reduce the strength of the cured gel and may lead to bubbles and cracking. Apply to the client's right hand, from pinky to pointer.



**10** Properly position the hand in the UV or LED lamp for the required cure time as defined by the manufacturer. Always cure each layer of the UV or LED gel for the time required by the manufacturer's instructions. Curing for too little time can result in service breakdown, skin irritation, and/or sensitivity. Improper positioning of the hands inside the lamp also can cause improper curing.

# Procedure 18-1 Continued

## One-Color Method UV or LED Gel on Tips or Natural Nails with UV or LED Gel Polish (continued)

**11** Repeat steps 9 and 10 on the left hand and then repeat the same steps for both thumbs.



**12** Apply a small amount of gel (a self-leveling gel works best at this stage of the application) over the properly cured first layer. Carefully pull the UV gel across the first layer and smooth it into place using a technique that mimics the application of polish. Avoid patting the brush or pressing too hard, as this will introduce air into the gel and decrease its strength. Brush the gel over and around the free edge to create a seal. Avoid touching the skin under the free edge to prevent skin irritation and sensitivity. Repeat this application process for the other four nails on the client's left hand.

**13** Cure second UV or LED gel (building or self-leveling gel) and properly position the hand in the UV or LED lamp for the manufacturer's required cure time.

**14** Repeat steps 12 and 13 on the left hand, and then repeat the same steps for both thumbs.

**15** Apply another layer of the second gel, if needed. Another layer of the second gel (building or self-leveling gel) will add thickness to the enhancement if additional thickness is desired and cure for the time required by the manufacturer.



**16** Remove the inhibition layer by cleaning with the manufacturer's cleanser on a recommended wipe or plastic-backed cotton pad to avoid skin contact. If the cleanser is not available, then alcohol, acetone, or another suitable remover could suffice; confirm with the gel manufacturer. Prolonged or repeated skin contact with the inhibition layer may cause skin irritation or sensitivity.



**17** Using a medium abrasive (180 grit), refine the surface contour. File carefully near the sidewalls and eponychium to avoid injuring the client's skin. Using your thumb or finger, pull the skin around the sidewall of the fingernail away from the area to be filed. Use careful, gentle but deliberate strokes away from the fingernail in a pulling motion toward you with a 180-grit file. These strokes should be at a parallel angle to the fingernail or tapered slightly inward at a

3- to 5-degree angle. Repeat this pattern on the opposite side of the fingernail. It is important to keep in mind that you will be adding more UV gel later, so take a few more strokes of the file to reduce the width to account for the additional gel being added later. Once the edges of the enhancement have been filed, reduce the length of the enhancement by filing with a 100- or 180-grit file perpendicular to the fingernail until the desired length has been achieved. After reducing the length, reduce the overall thickness of the fingernail. Start the filing of the top surface of the fingernail with a 180-grit file, starting at the sidewall. While being careful not to cut the client with the file, reduce the thickness of the gel around the cuticle region of the fingernail. You are only trying to eliminate a buildup of gel from around the eponychium so that there is not a ledge of gel on the fingernail in this area. Continue the filing down the sidewall of the fingernail on the opposite side from where you began. Once you have filed near the cuticle, it is time to reduce the thickness of the free edge of the enhancement. Hold the fingernail so you can view down the front or barrel of the nail. Reduce the thickness

of the free edge so that the enhancement is thin—perhaps the thickness of a penny or nickel. The convex curve of the top of the enhancement should be smooth and even with the concave portion of the underside of the fingernail (this is best done with a glue-on tip for beginners, because the glue-on tips have a nice convex profile). Continue to file away from the free edge of the fingernail toward the stress area of the enhancement. The objective here is to structure the enhancement so that a smooth arch is achieved from the free edge to the cuticle. The last region of the fingernail to be filed should be the stress area, so that it remains the thickest portion of the enhancement. Once the overall fingernail has been shaped, smooth the fingernail using a 220 or finer grit file. During the smoothing process of shaping the nail, slightly round the sidewalls of the free edge of the fingernail to remove sharp edges. Check the free-edge thickness and even out imperfections with gentle strokes. Make certain that you avoid excessive filing of the gel on the sidewalls of the enhancements. Excessive filing may lead to the enhancement being too thin, which can result in cracking that can begin at the sidewalls.



**18** Remove the dust and filings with a clean and disinfected nylon brush. Remove any oils that may have been deposited on the fingernail during filing. This will decrease potential problems that may cause defects in the final coat of gel.



**19** Apply a first, thin coat of gel polish over the entire surface of the enhancement in a brushing technique. Use ample pressure to ensure a smooth finished look to the application. Apply a small amount of the gel polish to the free edge of the fingernail to cap the end and create an even and consistent appearance.

# Procedure 18-1 Continued

## One-Color Method UV or LED Gel on Tips or Natural Nails with UV or LED Gel Polish (continued)

- 20** Place the hand inside the UV or LED lamp in the proper location and cure the first coat of gel polish for the recommended period of time.



**21**

- 21** Apply a second thin coat of gel polish over the entire surface of the enhancement in a brushing technique and apply a small amount of the gel polish to the free edge of the fingernail to cap the end and create an even and consistent appearance.



**22**

- 22** Cure a second coat of gel polish. Next, apply gloss gel (sealer, gloss, or finisher gel).



**23**

- 23** Cure the gloss gel. Then remove the inhibition layer, if required.

- 24** Apply nail oil and hand lotion and massage the hand and arm.

- 25** Clean the nail enhancements. Evaluate the work you just completed and make any necessary adjustments.



**26**

- 26** Present the finished look to your client.

### Postservice

Complete **Procedure 13-2**, Postservice Procedure. **LO8**



# Procedure 18-2

## Two-Color Method UV or LED Gel on Tips or Natural Nails

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies:

- Nail tips
- Pink UV or LED gel and white UV or LED gel
- UV or LED gel primer or bonding gel
- Brush
- UV or LED gel lamp
- A cleansing solution
- Lint-free cleansing wipes
- Nail cleanser or primer

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure

- 1** Clean the nails and remove the existing polish. Next, push back the eponychium and remove the cuticle from the nail plate.
- 2** Gently buff the nails with a medium grit buffer.
- 3** Prepare the nails by removing the dust from the nail surface. Clean and then dehydrate the fingernail.
- 4** Apply nail tips, if desired. Then apply primer or bonding gel.
- 5** Cure bonding resin, if required, following the manufacturer's directions.
- 6** Select the desired white gel to create the two-color process. Working from right to left on the hand, apply a coat of the white gel over the tip and along the sidewalls of the fingernail to create the smile line. Be sure to apply this layer of gel thin enough to have the gel cure completely through to the surface of the tip. If the gel does not cure completely through, it will lift from the surface of the tip and fingernail. If there is white gel where you do not want it to be, wipe the unwanted gel from the fingernail tip.



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# Procedure 18-2 Continued

## Two-Color Method UV or LED Gel on Tips or Natural Nails (continued)



**7** Using a lint-free nail wipe, pinch the bristles of the brush in the nail wipe so that the bristles form a squeegee-like surface. Do not use solvents to clean the bristles.



**8** Using the tip of your clean application brush, wipe away any unwanted gel from the tip to create a crisp smile line. Repeat this process until you have the desired smile line. Make certain that all smile lines are uniform in appearance before curing the gel.

**9** Flash cure the white gel one or two fingers at a time in the lamp unit for the product manufacturers recommended time.

**10** If the white gel does not have the same brightness on all fingers, repeat steps 5, 6, and 7.



**11** Gently brush a pink-tinted gel onto the fingernail surface, including the free edge. Leave a 3/16" (4.76 mm) gap

around the cuticle and the sidewall area of the fingernail. Keep the gel from touching the cuticle, eponychium, or sidewalls. When applying this gel, do not pat it as you would a monomer and polymer material. Gently brush or float the gel material onto the fingernail. Avoid introducing air into the gel, as this will reduce the strength of the cured gel and may lead to cracking. Apply to the client's right hand, from pinky to pointer.



**12** Cure the first coat of the UV or LED gel (building gel).

**13** Repeat steps 11 and 12 on the left hand and then repeat the same steps for both thumbs.



14

14 Apply a small amount of pink gel (a self-leveling gel works best at this stage of the application) over the

properly cured first layer. Carefully pull the gel across the first layer and smooth it into place. Avoid patting the brush or pressing too hard, as this will introduce air into the gel and decrease its strength. Brush the gel over and around the free edge to create a seal. Avoid touching the skin under the free edge to prevent skin irritation and sensitivity. Repeat this application process for the other four nails on the client's right hand, from pinky to pointer.

15

Cure the second UV or LED gel (building or self-leveling gel).

16 Repeat steps 14 and 15 on the left hand and then repeat the same steps for both thumbs.



17

17 Another layer of the second gel will add thickness to the enhancement if additional thickness is desired. Cure the nails.

18

Remove the inhibition layer. Then check the fingernail contours. Follow up by removing the dust.

19 Clean the fingernail and apply the gloss gel (sealer, gloss, or finisher gel). Remove the inhibition layer, if required.

20

Apply nail oil and hand lotion. Then massage the hand and arm.

21

Clean the nail enhancements. Evaluate the work you just completed and make any necessary adjustments.



22

22

Present the finished look to your client.

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## Postservice

Complete **Procedure 13–2**, Postservice Procedure.

# Procedure 18-3

## UV or LED Gel over Forms

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies:

- Nail forms
- UV or LED gel
- UV or LED gel primer or bonding gel
- Brush
- UV or LED gel lamp
- A cleansing solution
- Lint-free cleansing wipes
- Nail cleanser or primer

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

**1** Clean the nails and remove the existing polish. Push back the eponychium and remove the cuticle from the nail plate. As needed file the free edge of the nails. Then clean and dehydrate the fingernail.

**2** Remove the shine and the dust from the natural nail surface using a clean dry nail brush. Then clean and dehydrate the nails.



**3** Fit forms onto all fingers (as described in Chapter 17). Remember to clean and disinfect multiuse forms if disposable forms are not used. Clear plastic forms are sometimes used to allow UV or LED light to penetrate from the underside for more complete curing of the free edge.



**4** Apply the primer or bonding gel.



**5** Cure the bonding gel, if required.

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**6** Repeat steps 5 and 6 on the left hand and then repeat the same steps for both thumbs.



**7** Apply the first coat of gel (building or self-leveling gel).



**8** Properly position the hand and cure the UV or LED gel for the required time.

**9** Apply a second layer of the gel (building or self-leveling gel). Properly position the hand and cure the gel for the required time.



**10** Remove the nail forms by pinching the form just before the hyponychium of the finger and then gently pulling the form down and away from the finger.

**11** Cure the UV or LED gel (building or self-leveling gel). Then remove the inhibition layer.



**12** Use a medium or fine abrasive (180 or 240 grit) to shape the free edge of the enhancement.



**13** Apply another layer of gel (building or self-leveling gel), if needed, over the entire enhancement.



**14** Using a medium abrasive (180 or 240 grit), refine the surface contour. Be certain to file the enhancement to create an arch and curve in order to optimize the strength of the overlay and create an elegant beauty to the enhancement.

# Procedure 18-3 Continued

## UV or LED Gel over Forms (continued)

- 15 Remove the dust and apply the gloss gel (sealer, gloss, or finisher).
- 16 Cure the nail. Be sure to remove the inhibition layer, if required.
- 17 Apply nail oil and hand lotion. Then massage the hand and arm.
- 18 Clean the nail enhancements. Evaluate the work you just completed and make any necessary adjustments. Apply nail polish, if desired.



- 19 Present the finished look to your client.

### Postservice

Complete **Procedure 13-2**, Postservice Procedure. **LO9**

# Procedure 18-4

## UV and LED Gel Maintenance

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies:

- UV or LED gel
- UV or LED gel primer or bonding gel
- UV or LED gel lamp
- A cleansing solution
- Brush
- Lint-free cleansing wipes
- Nail cleanser or primer

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure

- 1** Clean the nails and remove the existing polish. Next, push back the eponychium and remove the cuticle from the nail plate.



- 2** Lightly buff the natural nail regrowth with a medium (180 grit) abrasive, or the abrasive recommended by the gel manufacturer, to remove the shine on the surface of the natural nail plate.



- 3** Remove the dust from the nail surface. Then clean and dehydrate the nail. Apply primer or bonding gel to the natural nail. Cure the bonding resin.



- 4** Lightly brush the gel onto the nail from the natural nail regrowth to the free edge. Keep the gel from touching the cuticle, eponychium,

or sidewalls. When applying this gel, do not pat it as you would a monomer and polymer material. Gently brush or float the gel material onto the fingernail. Avoid introducing air into the gel, as this will reduce the strength of the cured gel and may lead to cracking. Apply the gel material to the client's right hand, from pinky to pointer.

- 5** Cure the first UV gel.

# Procedure 18-4 Continued

## UV and LED Gel Maintenance (continued)

**6** Repeat steps 4 and 5 on the other hand. Then repeat the same steps for both thumbs.



**7** Cure the UV or LED gel and remove the inhibition layer.



**8** UV and LED gel nails can be softer than monomer and polymers, so they can be filed very easily. Using a medium abrasive (180 grit), refine the surface contour. File carefully near the sidewalls and eponychium to avoid injuring the client's skin. Using your thumb or finger, pull the skin around the sidewall of the fingernail away from the area to be filed. Use careful, gentle but deliberate strokes away from the fingernail in a pulling motion toward you with a 180-grit file. These strokes should be at a parallel angle to the fingernail, or tapered slightly inward at a 3- to 5-degree angle. Repeat this pattern on the opposite side of the fingernail. It is important to keep in mind that you will be adding more gel later, so take a few more strokes of the file to reduce the width to account for the additional gel being added later. Once the edges of the enhancement have been filed, reduce the length of the enhancement by filing with a 100- or 180-grit file, perpendicular to the fingernail, until the desired length has been achieved. After reducing the length, reduce the overall thickness of the fingernail. Start the filing of the top surface of the fingernail with a 180-grit file, starting at the sidewall. While being careful not to cut the client with the file, reduce the thickness of the gel around the cuticle region of the fingernail. You are only trying to eliminate a buildup of gel from around the eponychium so there is not a ledge of gel on the fingernail in this area. Continue the filing down the sidewall of the fingernail on the opposite side from where you began. Once you have filed near the cuticle, it is time to reduce the thickness of the free edge of the enhancement. Hold the fingernail so you can view down the front or barrel of the nail. Reduce the thickness of the free edge so that the enhancement is thin—perhaps the thickness of a penny or nickel. The convex curve of the top of the enhancement should be smooth and even with the concave portion of the underside of the fingernail (this is best done with a glue-on tip for beginners because the glue-on tips have a nice convex profile). Continue to file away from the free edge of the fingernail toward the stress area of the enhancement. The objective here is to structure the enhancement so that a smooth arch is achieved from the free edge to the cuticle. The last region of the fingernail to be filed should be the stress area, so that it remains the thickest portion of the enhancement. Once the overall fingernail has been shaped, smooth the fingernail using a 220 or finer grit file. During the smoothing process of shaping the nail, slightly round the sidewalls of the free edge of the fingernail to remove sharp edges. Check the free-edge thickness and even out imperfections with gentle strokes. Make certain that you avoid excessive filing of the gel on the sidewalls of the enhancements. Excessive filing may lead to the enhancement being too thin, which can result in cracking that can begin at the sidewalls.

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**9** Remove the dust. Clean the fingernail and apply the gloss gel (sealer, gloss, or finisher gel).

---

**10** Cure the gloss gel and remove the inhibition layer, if required.

---

**11** Apply the nail oil and hand lotion. Then massage the hand and arm.

---

**12** Clean the nail enhancements. Evaluate the work you just completed and make any necessary adjustments. Apply nail polish, if desired.

---



**13** Present the finished look to your client.

## Postservice

Complete **Procedure 13–2**, Postservice Procedure. ✓ **LO10**

# Procedure 18-5

## UV or LED Gel over Monomer Liquid and Polymer Powder Nail Enhancements with UV or LED Gel Polish

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies:

- UV or LED gel
- UV or LED gel primer or bonding gel
- Brush
- UV or LED gel lamp
- Lint-free cleansing wipes
- Nail cleanser or primer
- UV or LED gel polish

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

- 1 Perform the Monomer Liquid and Polymer Powder Application Procedure described in Chapter 17.



- 2 After the liquid and polymer enhancement has hardened sufficiently to allow it to be filed, contour, smooth, and shape the enhancement. Do not use any oils during this process. Using a buffing or cuticle oil will cause the gel to have deformities on its surface and look undesirable.



- 3 Remove the dust and filings with a cleaned and disinfected nylon brush.



- 4 Remove any oils that may have been deposited on the fingernail during filing.

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5

5

Apply a thin coat of UV or LED gel polish over the entire surface of the enhancement in a brushing technique. Use ample pressure to ensure a smooth finished look to the application. Apply a small amount of the gel polish to the free edge of the fingernail to cap the end and create an even and consistent appearance.

6

Place the hand inside the UV or LED lamp in the proper location and cure for the recommended period of time.

7

Apply a second thin coat of gel polish over the entire surface of the enhancement in a brushing technique. Use ample pressure to ensure a smooth finished look to the application. Apply a small amount of the gel polish to the free edge of the fingernail to cap the end and create an even and consistent appearance.

8

Place the hand inside the UV or LED lamp in the proper location and cure for the recommended period of time.



9

9

Apply a small amount of the third layer of gel (sealer or finisher UV gel). Starting from the base of the nail plate, stroke toward the free edge, using polish-style strokes and covering the entire nail surface. Be sure not to contact the skin with the gel and to wrap this final layer under the natural nail's free edge to seal the coating and provide additional protection. Avoid touching the client's skin, as this will cause lifting.

10 Cure the gloss gel and remove the inhibition layer, if required.

11

Apply nail oil and hand lotion. Then massage the hand and arm.

12

Clean the nail enhancements. Evaluate the work you just completed and make any necessary adjustments.



13

13

Present the finished look to your client.

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## Postservice

Complete **Procedure 18–2**, Postservice Procedure.

# Procedure 18-6

## UV and LED Gel Removal—Hard Gel

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies:

- Polish remover
- Nail buffer

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure

- 1** Remove the polish.



- 2** Use a medium grit file (180 grit) to reduce the thickness of the enhancement on the fingernail. Take care not to file into the natural nail.



- 3** Use a nail buffer (284 grit) to smooth the enhancement for a more natural shine. Talk with the client about how to allow the rest of the enhancements to grow out and off of the fingernails.

- 4** Suggest that your client have natural nail manicures to ensure that the enhancements grow off correctly. Evaluate the work you just completed and make any necessary adjustments.



- 5** Present the finished look to your client.

### Postservice

Complete **Procedure 13-2**, Postservice Procedure. **LO11**

# Procedure 18-7

## UV and LED Gel Removal—Soft Gel or Gel Polishes

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies:

- Abrasives
- Buffer
- UV or LED gel remover  
(as recommended by the gel manufacturer)

### Preparation

Refer to **Procedure 13-1**, Preservice Procedure.

### Procedure

**1** Remove the polish and file the nail.



**2** Deposit the soak-off solution in a fingerbowl or other container so that the level of the remover is sufficient to completely immerse the fingernail enhancements in the solution. It should be noted here that a cotton ball, foil, and gel remover can be used in place of the fingerbowl. This reduces the odor and evaporation of the remover as well as the amount of remover required.

**3** Soak the client's fingernails in the solution for the manufacturer's recommended period of time.



**4** Use a wooden stick or stainless steel pusher to ease the gel off the fingernail.



5

5

Lightly buff the fingernail with a fine grit buffer (240 or 400 grit) to remove any remaining gel material from the fingernail area.

6

Clean the nail enhancements. Evaluate the work you just completed and make any necessary adjustments.


7



7

Present the finished look to your client.

## Postservice

Complete **Procedure 13–2**, Postservice Procedure.  **LO12**

## ■ Review Questions

1. Describe the chemistry and main ingredients of UV gels.
2. When would you use a one-color method of applying UV gels? When would you use a two-color method for applying UV gels?
3. What types of UV gels are used in current systems?
4. What supplies are needed for UV gel application?
5. When should you use UV gels?
6. When should you use a building gel, a self-leveling gel, or a UV gel that uses fiberglass?
7. What are the differences between UV lamps and UV bulbs?
8. List the steps to take when applying one-color UV gel on tips or natural nails.
9. Describe how UV gels are applied over forms.
10. Describe how to maintain UV gel nail enhancements.
11. Explain how to correctly remove hard UV gels.
12. Explain how to correctly remove soft UV gels.

# 19

# The Creative Touch

## Chapter Outline

- Why Study Nail Art?
- Introducing Clients to Nail Art
- Color Theory
- Getting the Look: Art Mediums
- Polish
- Paint
- Monomer Liquid and Polymer Powder Nail Art
- UV Gel Nail Art
- Embellishments
- Airbrushing
- Nail Art Competitions
- Just the Beginning
- Procedures



Ted Emmons Photography & Artistic Nail Design



# Learning Objectives

After completing this chapter, you will be able to:


- ✓ **LO1** Describe the most effective ways to introduce clients to nail art.
- ✓ **LO2** List and describe the way color is classified on the color wheel.
- ✓ **LO3** Explain how nail polish can be used in the creation of nail art.
- ✓ **LO4** Describe nail art brushes and their uses.
- ✓ **LO5** Discuss the basic techniques used in hand-painted nail art.
- ✓ **LO6** Describe how to use monomer liquid and polymer powder to create 3-D nail art.
- ✓ **LO7** Describe the use of UV gel in the creation of an inlaid nail art design.
- ✓ **LO8** Explain what an embellishment is and when to use one.
- ✓ **LO9** Describe how an airbrush machine is used to create nail art.
- ✓ **LO10** Explain the benefits of nail art competition.

## Key Terms

Page number indicates where in the chapter the term is used.

- |                                   |                               |                                    |  |
|-----------------------------------|-------------------------------|------------------------------------|--|
| <b>3-D art</b> / 403              | <b>design sculpture</b> / 404 | <b>liner brush</b> / 392           | <b>secondary colors</b> / 390            |
| <b>airbrush stencil</b> / 399     | <b>fan brush</b> / 392        | <b>marbleizing</b> / 391           | <b>sink</b> / 395                        |
| <b>analogous colors</b> / 390     | <b>fantasy art</b> / 404      | <b>mixed media</b> / 404           | <b>smile line</b> / 391                  |
| <b>belly</b> / 392                | <b>ferrule</b> / 392          | <b>nail art competitions</b> / 400 | <b>soak-off gel polish</b> / 391         |
| <b>briefing</b> / 403             | <b>flash cure</b> / 395       | <b>position</b> / 393              | <b>spotter brush (or detailer)</b> / 392 |
| <b>color</b> / 389                | <b>flat art</b> / 403         | <b>pressure</b> / 392              | <b>striper brush</b> / 392               |
| <b>color blocking</b> / 391       | <b>flat brush</b> / 392       | <b>primary colors</b> / 390        | <b>stylus</b> / 391                      |
| <b>color fading</b> / 391         | <b>French manicure</b> / 390  | <b>pull</b> / 393                  | <b>tertiary colors</b> / 390             |
| <b>color wheel</b> / 389          | <b>French twist</b> / 404     | <b>round brush</b> / 392           | <b>tip (or chisel edge)</b> / 392        |
| <b>competition kit</b> / 402      | <b>gravity fed</b> / 397      | <b>rules and guidelines</b> / 400  |  |
| <b>complementary colors</b> / 390 | <b>heel</b> / 392             |                                    |  |
|                                   | <b>inlaid designs</b> / 394   |                                    |  |





**N**ail art has become the most popular add-on service in the nail salon today. It has become the main focus for increasing revenue and expanding the service menu in salons and spas across the globe. Many nail technicians even enter their work in nail art competitions for recognition, prestige, cash prizes, and the learning and networking opportunities associated with competing. With all the new techniques and art mediums introduced in the last 20 years, it's no wonder that nail art has lifted and expanded the nail industry and the imaginations of many!

Today, there are many nail art mediums with which you can choose to work, so no matter what your skill level or artistic preference, you can create an array of art on fingers and toes that clients will love.

Remember that most of the techniques shown in this chapter can be used with many different mediums or types of product. For example, you can create a French manicure look using monomer liquid and polymer powder, UV gel, polish, paint, crystals, or airbrushing. With just a little imagination and a lot of practice, you can create thousands of miniature works of art in minutes and create many opportunities for increasing your income.

## WHY STUDY NAIL ART?

Nail technicians should have a thorough understanding of nail art because:

- ▶ It can significantly increase your income in the salon.
- ▶ It can set you apart from the competition.
- ▶ It can assist in building a loyal clientele.
- ▶ It can help inspire creativity and keep your daily work fresh and exciting.

## ■ INTRODUCING CLIENTS TO NAIL ART

Introducing clients to nail art has never been easier. There are many beautiful ways to display the art samples: on tips in a glass case or frame, in a photo gallery or portfolio, and of course on your own nails. Once the client sees the artwork, it becomes a topic of conversation that will open the door to your nail art services and art techniques.

If you have displayed an array of the nail art, and the client becomes interested, ask her to show you which examples she likes best so you can get an idea of the type or medium of art she is comfortable with. For example, she may only like flat or inlaid art, as she doesn't care for things raised or hanging off her nails. A conservative client might only be comfortable with French manicures or a soft color graduation, while others may expect a new design at each visit.

One thing remains true about nearly all clients: they will try something a little bolder on their toes than on their hands. So don't forget to offer art during pedicure services!

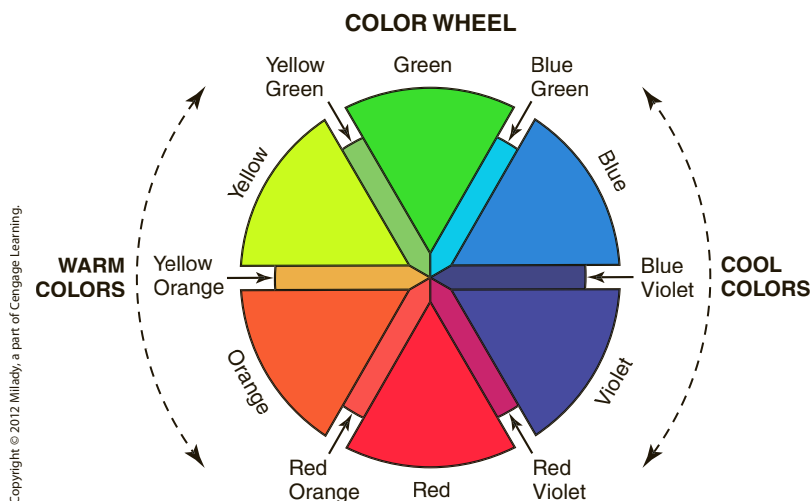
There are a few things to remember when introducing clients to nail art:

- Schedule ample time for these services and be sure to explain the time requirements. Some art services are relatively quick, while others can be time-consuming. This will keep you on schedule and give the client a realistic idea of the time and work required.
- Be sure that you have priced the nail art appropriately for the area and clientele. Always base the prices on the cost of materials, time investment, and the level of expertise. Be sure that the nail art services are priced competitively and be prepared to render artwork deserving of the fee.
- Have tools, implements, and supplies ready and easily accessible. Remember that nail art is usually an add-on service and can sometimes be a last-minute decision for a client. So be prepared: you may have to create the masterpiece in minutes! **LO1**

## COLOR THEORY

Before you can expect to successfully produce appealing nail art, it is imperative that you have a working knowledge of colors and how they relate, blend, clash, and complement one another. In many art supply stores, you can easily obtain a laminated color guide called a **color wheel (Figure 19-1)**. The color wheel illustrates and identifies the primary, secondary, tertiary, and complementary colors.

The light we see reflected from a surface is called **color**. Red nail polish appears that way because red light is reflecting off of its surface. We see black



◀ **Figure 19-1** Learning the color wheel will help you choose color combinations.



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## BUSINESS TIP

In the salon or spa, time is money! It's important to make beautiful art, in a reasonable amount of time. So practice, practice, practice! Practicing the art will not only help you create more consistent and beautiful designs, but it also will help you increase your speed.

when no color is reflecting from a surface. Black nail polish absorbs light that hits its surface and none is reflected back to our eyes. Nail polish looks white when all colors are reflected. The color that we actually see depends on which colors are reflected and which are absorbed. Knowing the classifications of color will aid you in selecting shades for the artwork that are pleasing to the eye.

**Primary colors** are pure pigment colors that cannot be obtained from mixing any other colors together. They are the pure colors from which all other colors are made and are often modified by adding varying amounts of black and white. Primary colors are red, yellow, and blue.

**Secondary colors** are the colors resulting from mixing equal parts of two primary colors together. They sit opposite the primary colors on the color wheel and are the complementary colors of the primary colors. Secondary colors are orange (1:1 red and yellow), green (1:1 yellow and blue), and violet (1:1 blue and red).

**Tertiary colors** are the colors directly resulting from mixing equal parts of one primary color and one of its nearest secondary colors. Tertiary colors are red-orange, red-violet, blue-violet, blue-green, yellow-green, and yellow-orange. Some also refer to tertiary colors as intermediate colors.

**Complementary colors** are those colors located directly opposite each other on the color wheel. When complementary colors are mixed together in equal parts, they produce a neutral, muddy brown; when mixed in unequal parts, they produce a neutral color dominated by the color of the greatest amount. When these colors are applied side by side, they enhance each other, making each other stand out or "pop" (for example, a yellow flower painted on a purple nail or a green leaf against a pink polish). Great color combinations are found by exploring, so go ahead and try many different variations of your designs with different colors. You will be surprised that the same design will appeal to many of your clients if you offer it in different color variations.

**Analogous colors** are colors that are located beside each other on the color wheel. These colors blend well together and are beautiful when one fades into another. **LO2**

## GETTING THE LOOK: ART MEDIUMS

Nail art has never been easier to create. With so many art supplies and mediums available, getting the perfect look is easy and fun. In this section, you will learn each medium available and how they can be used to create endless variations of designs.

### ■ POLISH

Polish is one of the most common mediums of nail art used in the salon or spa. When considering nail art, conservative clients will be more accepting of this medium, as they are used to wearing polish. Polish is most often used to create nail art looks such as French manicures, color fades, color blocking, or marbling.

For a traditional **French manicure** look, as seen in **Procedure 19-1**, the nail bed is one color, such as pink, peach, or beige (depending upon the client's skin tone), and the free edge of the nail is another color, such as white. The curved line where the pink and the white meet each other on the nail is called

the **smile line**. You can achieve limitless variations to this traditional look just by changing or fading the color.

With **color fading**, or color graduation, one color fades into the other, and the meeting point is a combination of the two. You can achieve this by applying the product more thickly and opaquely and then using the product more thinly and translucently when meeting the other color (**Figure 19-2**). For example, if the top third of the nail is dark pink and the bottom third is light pink, then the middle third should be a combination of the two colors. There are multiple ways to achieve this look. Use a sponge or brush to blend colors at the meeting point.

**Color blocking** is just as it sounds: blocks or sections of color on the nail. Achieve this look by polishing the entire nail with a base color, such as black, and then creating stripes or blocks with another color such as silver (**Figure 19-3**).

**Marbleizing** is a swirled effect created when you combine two or more colors while wet and then mix them on the nail with a marbleizing tool known as a stylus (**Figure 19-4**). A **stylus** is a tool with a solid handle with a rounded ball tip on each end that can range in size. The rounded ball tips are excellent for swirling colors; dotting small circles of color; creating polka dots, eyes, bubbles; and much more. This marbleized effect can be applied over the entire nail or just on a part of the nail for a unique nail art creation.



▲ **Figure 19-5**  
Variations to the classic French manicure provide endless possibilities.

## The French Manicure

The French manicure is one of the most popular nail art procedures in the salon and spa today. You must master the technique and variations of it to stay competitive in the marketplace. Try various color combinations, fading techniques, and embellishments to create looks clients will want to try (**Figures 19-5, 19-6, 19-7, and 19-8**). A French manicure is always an upcharge in any salon or spa and an easy way to create additional income. **LO3**

**Go to** Procedure 19-1 The French Manicure Using Polish page 406

## Soak-Off Gel Polish

Recent technology has introduced **soak-off gel polish** to the nail industry. Soak-off gel polish is a pigmented, light-cured soak-off gel that has a thin enough consistency to be packaged in a nail polish bottle. You will notice that the bottles are not clear glass (like regular polish) because gel polish will cure or harden when exposed to light. With gel polish, you will need a UV or LED lamp, whichever the manufacturer recommends, to cure or harden each layer. Although the soak-off gel polish formulations vary from one manufacturer to

▶ **Figure 19-2** A color fade can be very subtle or bold.



▶ **Figure 19-3** Even simple nail art can give dramatic results.



◀ **Figure 19-4** Art tools can create elaborate designs.

### Application Tip:

To soften the traditional French manicure, apply the white polish onto the tip first and then apply the sheer pink over the entire nail. This will soften the dramatic white line and create a more subtle look.

▶ **Figure 19-6** Clean and classic with a little edge.



▶ **Figure 19-7** Bridal white with a hint of glamour.



▶ **Figure 19-8**  
Create more drama by adding embellishments.



another, they can all be used to create beautiful nail art with the same application techniques as regular nail polish. Learn more about soak-off gel polish in Chapter 18.

## ■ PAINT

Hand painting is a very beautiful and often subtle art medium. You can create elaborate scenic views or just a tiny flower with paint and a brush. Hand painting is very versatile and can be beautiful alone or combined with another art medium.

### Brushes

A brush is the most commonly used tool when painting nail art. Brushes come in many sizes, shapes, and qualities. There are a variety of brush types, from very soft to very firm. Synthetic bristles are best used for water-based paints. Smaller-size brushes are usually the best choice for painting art on nails.

The very end of the bristles on a brush, farthest away from the handle, is referred to as the **tip or chisel edge**, depending on the style of the brush. Round brushes, for example, have pointed tips, while flat brushes have a chiseled edge. The mid-section of the bristles is called the **belly** of the brush. This is the area of the brush that retains the most paint. The **ferrule** is the metal band around the brush that helps to hold the bristles in place. The area in which the bristles meet the ferrule is called the **heel** of the brush.

Here is a list of the most common brushes used for flat nail art (**Figure 19–9**):

- A **round brush** is the most common and versatile style of brush and has a very good capacity for holding paint.
- A **liner brush** is a very good detail brush and is preferred for line work, outlining, and even lettering.
- A **flat brush** has a square tip with long bristles, which gives it added flexibility. This brush is useful for blending and shading.
- A **fan brush** is a flat brush with bristles or hairs spread out like a fan. This brush is most commonly used for blending and special effects.
- A **spotter brush** or **detailer** is a short, round brush with little belly and a very fine point at the tip. This brush offers maximum control for intricate, detailed work.
- A **striper brush** comes in various lengths. This brush is an extremely long, flat brush, having only a few fibers. It is incredibly efficient when creating long lines, striping effects, and animal prints. **LO4**



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▲ **Figure 19–9** Some brushes used for nail art.

### Hand-Painted Art

Practicing brush strokes will help you master the art of free-hand painting. Brush strokes are accomplished in a variety of ways, but there are three basic techniques to master: pressure, pull, and position.

The **pressure** refers to the amount of force that an artist applies to the brush while stroking. The more pressure applied, the larger the coverage area and the wider the stroke. As the amount of pressure is decreased, the width of the stroke decreases. Alleviating the pressure gradually while pulling the brush

across the paint surface will taper the stripe and create a point where the brush tip lifts from the surface.

The second basic technique is the **pull**. The nail professional must learn to pull the brush, not push it. Pulling the brush across the paint surface creates a more fluid line or stroke. Pushing it will give a rough and spattered stroke that is more difficult to control.

The third basic technique is **position**. Position refers to how you hold the brush on the nail. For instance, the brush could be held in a straight up-and-down manner, with only the tip touching the paint surface (used for lettering, intricate details, and outlining) or be held flat and pulled across the surface (used when striping).


When you combine the pressure, pull, and position, you will be amazed at how many different design strokes you can create with only a few brushes. Some of the most versatile strokes include the “comma,” “C,” leaf, “S,” ribbon, and teardrop (**Figure 19-10**). Practice these strokes until you master each one. Having control of the paint, product, and brush will serve you when you try to duplicate a design. **LO5**

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▲ **Figure 19-10** Brush strokes to learn for hand painting nail art.

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The more paint you put on the very tip of the brush, the wider the beginning of the stroke will be.

**Go to** Procedure 19-2 Animal Print Design Using Paint page 408

## The Next Step

Once you master the zebra stripes in **Procedure 19-2**, try to create a tiger stripe by painting or polishing the nail with gold, bronze, or copper and then adding stripes with black paint. Other color variations are popular and fun during the spring and summer. Try any monochromatic paint scheme to create a fun and subtle look, such as a light pink on the entire nail and a darker shade of pink for the stripes. Or, try just striping the nail with different colors (**Figure 19-11**) or nail edge for a “different” French manicure look!

You may want to take a hand painting class to get more tips and techniques for creating flowers and other more advanced designs (**Figure 19-12**).

Photo courtesy of Nails Magazine. Nail art by Alisha Rimando Botero.



▲ **Figure 19-11** Stripes look great on toenails.

Copyright © 2011 Millady, a part of Cengage Learning. Photography by Michael Dzaman.



▲ **Figure 19-12** Master control of your brush and paint.

## ■ MONOMER LIQUID AND POLYMER POWDER NAIL ART

Monomer liquid and polymer powder can be used in a variety of ways to create unique nail art. This medium can be challenging to master, but it also has the most versatile results. Designs can be as simple as placing five small beads on a nail to create a three dimensional flower or fading six or seven colors as thin as paper to create a sunset backdrop for an inlaid design nail. **Inlaid designs**, designs inside a nail enhancement, are created when nail art is sandwiched between two layers of product while the nail enhancement is being formed.

Monomer liquid and polymer powder have come a long way from the traditional natural and clear polymer powders. There are a variety of colored and glittered powders to choose from on the market as well as colored liquid drops to change the color of the monomer liquid.

When using monomer liquid and polymer powder for art, there are many brushes and tools available to mold the product into the desired shape. When you are first beginning to work in this medium, use the same brush you currently use to apply the monomer liquid and polymer powder to nail tips and overlays.

### Practicing for Monomer Liquid and Polymer Powder Nail Art

Practice picking up beads of product; this will help you learn to control the product and determine drying time. When creating 3-D designs, where you want the design to stand up and have crisp, clear lines, you will use a very dry bead of monomer liquid and polymer powder. When you wish to fade colors together, you will use a very wet bead of monomer liquid and polymer powder.

To practice, pick up a tiny bead of monomer liquid and polymer powder and dab off excess liquid on to a lint-free towel. You do not want the liquid to continue to saturate the bead. The perfect bead should be smooth, round, and shiny (**Figure 19-13**). **LOG**

Practice picking up beads and placing them on nail forms, thin monomer liquid and polymer powder sheets, and polished nail tips to learn product control on different surfaces. Practice on a very thin sheet of clear monomer liquid and polymer powder by applying a large bead of product to a nail form, piece of foil, or a sheet of wax paper. Press the bead out so it is very thin and allow a few minutes to dry. This platform provides a place for you to practice the art. It will give you some experience with how the product reacts when you place wet monomer liquid and polymer powder on top of dried monomer liquid and polymer powder nail enhancements. To learn product control and consistency, try picking up the exact same size bead 10 times and placing the beads beside each other (**Figure 19-14**).

Now try this same practice technique with different sizes of beads. Press them down with the brush until they are semi-flat. How large do they get? This exercise will help you to keep control over the size of the design and give you some experience with how the product behaves. Mastering this important step will help you to create very clean and crisp designs with monomer liquid and polymer powder.

Monomer liquid and polymer powder nail art can be used over polish or any other hardened nail enhancement surface. Monomer liquid and polymer



▲ **Figure 19-13** The perfect bead should be smooth, round, and shiny.



▲ **Figure 19-14** Practice picking up the same size beads.

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powder art does not hold well on a clean natural nail unless you prep and prime the nail to receive this overlay.

When applying 3-D art over nail polish, you will want the polish to be dried for at least 3 minutes before applying the art. You can add a top coat to the polished nail before you add the art if you would like the art to look matte when complete. Or, you may also add the monomer liquid and polymer powder straight to the polish color and then seal the nail and art with a shiny top coat, leaving the entire nail and art with a glossy finish.

If you are working on a surface that can be easily ruined with acetone, be careful not to touch the surface of the nail with the monomer liquid and polymer powder brush too often or you may damage it. When working on top of a polished nail, you can ruin the polish if you stroke the surface too many times with a brush wet with monomer liquid.

**Go to** Procedure 19-3 **3-D Flower Using Monomer Liquid and Polymer Powder** page 410

## The Next Step

Keep practicing this simple flower design until you are able to complete it perfectly. The next step in working with monomer liquid and polymer powder is to add creative variations to your 3-D designs by adding several flowers on the same nail, adding embellishments, and even trying an inlaid design (Figure 19-15 and Figure 19-16). Once you master the basic techniques, you are only limited by the imagination!

## UV GEL NAIL ART

UV gel can be used to create beautiful nail enhancements and can also be a very lucrative nail art medium. There are many colored UV gels on the market today, and by using some simple techniques, you can create an array of inlaid art that your clients will love. Inlaid art is art sandwiched between two layers of enhancement products. The finished art is inside the nail. The surface of the nail is smooth and the nail structure is not compromised by the art inside. It's also fun to add embellishments, such as glitter or confetti to clear UV gel. This technique can be used to overlay any nail enhancement. **LO7**

## Practicing for UV Gel Nail Art

At first, you might find working with UV gel to create nail art a bit difficult because it has a honey-like consistency and takes some practice to get used to. Practice by laying a long string of colored UV gel across a nail tip. Try to place it so that it is the same width and consistency from one edge to another. **Flash cure** the gel by putting it under the UV light for 5 to 10 seconds. The gel will begin to **sink** if the product remains uncured; this happens when the product settles and flattens out. If you try to get any thickness with UV gels, you must flash cure the product quickly after application. Try doing the same with small dots of product. Practice keeping the dots the same size and consistency and flash curing the product before it sinks.

**Figure 19-15** Monomer liquid, colored polymer powders, and an electric file were used to create this look.



Photo courtesy of Cindy Davis, Studio 1632.



Nails by Massimiliano Braga.

**Figure 19-16** An intricate design sculpture with 3-D flowers.

fyi

When inlaying flowers in the nail, use the same technique as in the 3-D flower design except pick up smaller beads and flatten them out so that the size of the flower remains the same, but the flower design will be much thinner. This allows for a layer of clear monomer liquid and polymer powder to cover the design without the nail being too thick.



Photo courtesy of LCN/Wilde Cosmetics GmbH.

▲ **Figure 19-17** Gel toes are a great way to create more income.

**Go to** Procedure 19-4 Confetti Inlaid Design Using UV Gel page 412

## The Next Step

When you feel comfortable working with UV gel art on hands, you can start practicing on toes! UV gel overlays on toes (**Figure 19-17**) are becoming a very popular service in the salon or spa. Use the same UV gel application techniques for toes as you would on the hands as demonstrated in Chapter 18, and charge the same, too! This technique is great, as the toenail surface and shape appear perfect after application, and the UV gel color and/or art last longer than traditional polish. It's also a great way to build loyalty—you now have a client coming every two to three weeks for her toe enhancement maintenance.

## ■ EMBELLISHMENTS

Embellishments are the easiest and fastest nail art medium. Embellishments consist of any element that can be applied to the nail as art. Crystals, rhinestones, stripping tape, foils, feathers, crushed shells, gems, confetti, stickers, decals, appliqués, beads, etc., are considered some common forms of embellishments used in the salon and spa today.

Embellishments can be used either inside a nail when creating an inlaid design or on top of the nail for a 3-D effect. When using most embellishments, there is no special preparation needed for the nail or for the surface they will be applied to. If applying on the surface of the nail, it's best to ensure that any other product, such as polish, is dry before applying the embellishment. You may use a resin, tip adhesive, or a top coat to secure the embellishment in place if it does not have its own adhesive backing. Use a wooden stick with a small dab of top coat on the end or a pair of tweezers to pick up the embellishment. Seal the nail with sealer or top coat if it is required, or if you prefer a shiny finish on the embellishment.

When using foil, leafing, or other metallic films for nail art, a special adhesive is sometimes needed. The adhesive is usually white and will need to turn clear before applying the foil or leafing. The foil is then applied to the tacky adhesive and gently pressed to the nail to secure it. There is no need to cut the foil or leafing, since it will only stick to the special adhesive and the rest will remain on the foil sheet. After the design is complete, seal the art with nail art or special foil sealer.

When using embellishments inside the nail, make sure the embellishments are very thin. These work best when they do not have adhesive. Apply the embellishment to the nail plate, tip extension, or sculpted extension with a small bead of the product you are using, such as monomer liquid and polymer powder or UV gel. Then overlay the embellishment with the same product, thus embedding the embellishment inside the nail. **LO8**

## The Next Step

Embellishments are too easy and fun not to experiment and play with! Try mixing them to create works of art on the nail and inside the nail. Adding embellishments to other art mediums creates a very elaborate design, while the time it takes to accomplish this type of nail art is kept to a minimum (**Figure 19-18**).

**Go to** Procedure 19-5 Crystal Art on Polish Using Embellishments page 414



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# Activity

Try using beads or shells to accent a 3-D or inlaid design. This will save time when you are trying to make a simple design look amazing!

## ■ AIRBRUSHING

Airbrushing gives a look all its own that is hard to duplicate with any other art medium. This unique form of painting allows for color combinations, color fading, and designs that create endless options for clients wanting flat art. However, the supplies needed for airbrushing are some of the most expensive investments in all the nail art categories.

All airbrushes work on the same principle: they combine air and paint to form an atomized spray, which releases extremely tiny droplets that are spray painted onto the nails. The ideal airbrush systems for nail art are designed for **gravity-fed** paint, which uses gravity to pull the paint into the airbrush. All airbrush machines consist of three basic parts: the handle, air hose, and compressor. It is common for these pieces to be sold separately.

The handle is where the paint is fed and released and what you will hold in your hand when working. The handle consists of the fluid nozzle, needle, cap, trigger, and paint well or cup. At the tip or end of the airbrush handle, there is a small, cone-shaped fluid nozzle that a tapered needle fits into. When the trigger is pressed and the needle is drawn back, the airbrush begins to release paint. The farther the needle is drawn back, the more paint is allowed to come through the opening. When you are not using the airbrush, you may want to use the cap to protect the needle.

This type of airbrush usually has a well or small color cup for holding the paint. The well, also called the reservoir, is a hole in the top of the airbrush where drops of paint are placed. If the airbrush has a color cup, it may be located on top of the airbrush or attached to the side of the airbrush to hold paint.

The air hose attaches to the handle and connects to the compressor. There may be a pressure gauge located on the compressor, or you may have to purchase this separately. Most nail professionals work at a pressure between 25 and 35 pounds per square inch (psi). When the compressed air reaches the air hose, moisture can accumulate. This moisture will form water droplets that can eventually be spit out from the airbrush. You may want to purchase a moisture trap to prevent this from happening.

## Did You Know?

Rhinestones are plastic with a foil backing; crystals are glass with a foil backing. When using crystals, it is best not to cover them with top coat, as it dulls the brilliance of their shine. However, rhinestones look the same when sealed with top coat or art sealers.

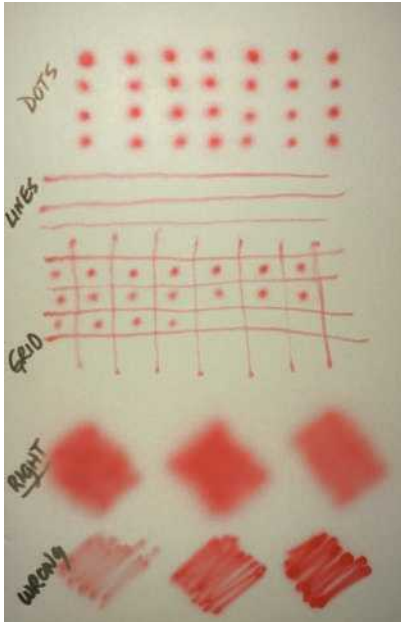
▼ **Figure 19-18** Designs get dramatic when embellishments are added.



Nail Art by Alisha Rimando Boreto.

## Practicing with Airbrushing

▼ **Figure 19-19** Practice techniques on paper before moving on to nail tips.



Before you begin airbrushing, set up the products and create a cleaning area for the airbrush off to the side of the work area. This may consist of a bowl or jar lined with absorbent material like paper towels. You will use this container to spray out leftover paint and clean the handle after each color is used. You will need many hours of practice before working on clients to get comfortable with the airbrush and how it works, but don't be discouraged. Airbrushing is fun and a very artistic form of nail art.

Begin practicing with the airbrush on absorbent paper or paper towels. Start spraying onto the paper at approximately 2 to 3" (5.08 to 7.62 cm) from the surface. Move your whole arm up and down, diagonally, and side to side in order to move the airbrush spray around on the surface. Develop even color with no lines by moving back and forth over the same area a few times. If you see streaks or lines on the paper instead of a smooth, even box of color, the airbrush is either too close to the paper or you are releasing too much paint at one time. Practice this technique until you can achieve an even coating of color on the paper with no streaks.

Next, try spraying a consistent row of dots. When the dot appears where you expect it to, you have learned how to properly aim the airbrush. Now try to draw lines. To draw crisp lines, you must have the airbrush nozzle very close to the paper. The farther you pull the airbrush away from the paper, the wider and softer the line will become.

After experimenting with dots and lines, draw a grid on the paper by drawing horizontal and vertical lines overlapping each other. This will create rows of boxes. Place a dot in each of the boxes (**Figure 19-19**). When you can master these techniques on a paper towel, you are ready to practice on nail tips.

✓ **LO9**

## Activity

Now that you are ready to try airbrushing on tips, you can really have some fun!

Follow these steps for practice:

- Use double-sided tape to attach five nail tips to a paper towel, keeping them about 2 to 3" (5.08 to 7.62 cm) apart.
- Apply base coat to the nail tips and let them dry.
- Load the airbrush with paint. Drop the paint color into the well or color cup and start spraying onto the surface next to the nails. When the airbrush paint is spraying correctly, direct the spray at the nail.
- Apply one dry, powdery layer of color to all five nail tips. Usually, three passes of the airbrush across each nail tip will build up a light color coating.
- Starting with the first nail tip, repeat the procedure on each nail tip until you have reached the desired airbrushed nail color.
- Apply an ample amount of top coat or sealer when the paint has dried. Float the brush across the surface; do not touch the nail with the bristles of the brush or it may scratch or smear the paint.

To clean the airbrush of paint, remove the color cup (if applicable) and finish spraying all the paint from the handle into the cleaning container. Once all the color is gone and only air is coming out of the tip, add a couple of drops of water or airbrush cleaner to the well and continue to spray until all of the water has come out and only air is coming out of the tip. You can now put the handle away or add another color.

When you have successfully applied the airbrushed nail color to 10 nail tips, you are ready to move on to practicing color fading or color graduations.

## Tips for Preparing the Nail for Art

Airbrushing can be done over most art mediums to accentuate or enhance other art. Airbrushing is commonly used alone or as the base for other nail art mediums such as embellishments or 3-D art. If airbrushing on top of another art medium, ensure that the other product is dry before starting. If you are using airbrush artwork directly on clean nails, make sure that they are free of any oils or other contaminants that may be left from the nail service. Always cover the working area with paper towels or other lint-free absorbent towels to catch the overspray.

**Go to** Procedure 19-6 **Two-Color Fade or Color Graduation Using an Airbrush** page 416

## FOCUS ON...

### Application

When they are first learning how to use an airbrush, most people are impatient and want to see the color right away. If you are too close to the nail tip or release paint too quickly on the nail surface, the paint will puddle and begin to run off the nail. When correctly applied, airbrush paint appears dull and has a powdery look. If the airbrush paint is shiny or appears as droplets, wipe the nail tip off with a water-dampened paper towel or cotton pad and try again. Focus on keeping the passes light and the color thin! Move on to the next nail. After 5 or 10 nails, go back to the first to darken the color instead of trying to get the achieved color or look all at once.

## The Next Step

After mastering the color fade, you may want to try fading three or more colors or creating distinct designs. To create designs or specific shapes when airbrushing, you can use a commercially prepared **airbrush stencil**, a pre-cut sheet of clear, thin plastic with a sticky backing that is cut by a machine into various shapes or designs. You can also use any variety of paper, lace, mesh, fabric, or other materials as a stencil to create a unique look when airbrushing designs.

## Application Tip:

You can assist in drying the airbrush paint when needed by spraying clean air over the nail after the handle is free of paint.

## Did You Know?

The color fade or graduation is a popular nail art service and is easily achieved with an airbrush. With this technique, the colors you choose are the key to success. A conservative client might prefer subtle, soft hues of similar colors, while an outgoing client might choose bold colors that strongly contrast. This technique may be used as the background for another design or stand on its own as a unique, customized service.





Photo courtesy of Noble Nails by Louise Callaway.

▲ **Figure 19–20** Beautiful, faded airbrush design.

To achieve an airbrushed design with a precut stencil, remove the stencil from the sheet and the plastic shape from the inside. Place the sticky stencil on the nail and use the same spray techniques you have learned until the stencil shape is filled in. Remove the stencil once the image has dried to see the completed design (**Figure 19–20**).

There are hundreds of precut stencils available, or you can create a custom shape or design by cutting a sheet of uncut mask paper with a mask knife. For customizing stencils, place the mask paper on a glass plate or mat and carefully cut the design out with the mask knife. Use the full edge of the knife, not just the point of the blade, or you will have an uneven and jagged cut.

Airbrushing can be very fun and creative. There are so many amazing techniques and looks you can achieve using an airbrush for nail art. While the instructions given here are for the basics of using the airbrush machine, there are plenty of continuing education classes or videos available. If you are serious about mastering the art of airbrushing, you can contact a manufacturer that produces airbrush paints specifically for nails and ask about hands-on classes.



**WEB RESOURCES** Nail art competitions are held all over the world, mostly at beauty shows. Look at trade magazines and their Web sites to find listings of upcoming beauty shows and/or nail competitions. Look for information at:

**Nails Magazine:**  
<http://www.nailsmag.com>

**NailPro Magazine:**  
<http://www.nailpro.com>

**Scratch Magazine:**  
<http://www.scratchmagazine.co.uk>

**Beautytech.com (click on “Calendar”):**  
<http://www.beautytech.com>

## ■ NAIL ART COMPETITIONS

Nail competitions are very popular and prestigious events in the nail industry. In these competitions, nail technicians from around the globe compete to prove their skills to the industry and themselves. Creating beautiful nail enhancements is an art form unto itself, but nail art competitions are an open forum where there are no limits on the imagination. **Nail art competitions** create opportunities for licensed professionals or nail students to compete in a specific category, where the art and theme of the nails are part of the judging criteria.

### About Competitions

The many competition **rules and guidelines** include specifics for time frames, models, presentation requirements, themes, products allowed, etc. You will need to know this information before deciding to enter. The rules and guidelines set forth what the competition allows and does not allow. You can request a copy of the rules and guidelines from the competition director or look for this information on the competition or show Web site.

Many competitions today include experience categories. There are novice and veteran competitions as well as student and professional categories; levels

of competition experience are sometimes a factor when a nail professional is entering a category. There are masters' competitions that are by invitation only or require a national championship or title in order to enter. In any instance, you will need to know what the levels of experience are and which you qualify for when entering.

After finding out the rules, guidelines, and location of the competition you want to enter, you will need to register and pay an entry fee. The registration form will be available on the Web site or included in the rules and guidelines package. Take into consideration all the costs associated with the competition—flights, hotels, meals, entry fees, model expenses, and supplies used and needed—before deciding to enter.

There are also online and photo competitions, which are a reasonably stress-free way to try your hand at competing. These types of competitions also have rules and guidelines that you will need to research. When researching these types of competitions, it is wise to find the winners and/or submissions from previous years to see what the judges are looking for.

## Why Compete?

Nail art competitions can provide an amazing opportunity for learning, traveling, attending trade shows, and networking. For example, competing in a nail art competition at a trade show gets you to a trade show! Trade shows are a vital part of the industry and an important platform through which nail professionals gain knowledge and continuing education. Nail manufacturers showcase the latest and greatest in product advancements at these events. Attending these shows is a commitment to your profession and clients.

While you will want to watch all the demonstrations and touch all the new products available, being involved in a competition will put you in a greater learning situation. Putting your nail art on display for your peers will give you invaluable feedback on where you need to improve and where you stand in comparison to the highest standards of the industry.

Talking to other competitors and seeing their work will inspire and motivate you to improve and try new techniques you have never even considered. Networking with peers will keep you on the cutting edge of trends and give you the tools and knowledge you need to keep excelling in the art and your business. New art and new techniques lead to developing new services on your menu. New services create new dollars. New dollars result in a long-lasting career!

While entering a competition is exciting and the experience invaluable, you are treated to even more rewards when you win. Winning not only gives you press coverage in the trade magazines, a trophy to display in the salon or spa, and usually a nice cash prize, it gives you credibility. Clients love to brag about their award-winning nail technician. Manufacturers and magazines also recruit competitors. Winning competitions can lead to other lucrative opportunities.

In the end, inspiration leads to motivation. Attending a show or competing in an event surrounded by other top talent will inspire you to try something new and become better. Being motivated in your career will ensure the drive toward success. **LO10**



## Becoming a Competitor

As mentioned previously, there are rules and guidelines you must abide by when you have entered a competition. In some art competitions, the final look may be completed before the competition even begins. The rules and guidelines will explain whether it is to be presented in a box or other display case or on a model.

If the artwork is presented in a box, you have unlimited hours of creativity ahead! There will be rules and regulations about the size and dimensions of the nails and products allowed, but the amount of time spent to create the vision will be up to you.

If a model is required, you will usually have a scheduled amount of time to complete the art on the competition floor. In this case, the masterpiece is limited by the allotted time, so you must practice to increase your speed.

To prepare for this kind of competition, regardless of how the art is to be presented, begin by making a list of all the products you will need. Your **competition kit** will include every product you will or might use. You will need to think of everything, including lamps, bulbs, extension cords, etc. This kit might be a small backpack or a large wheeled suitcase, depending on the competition.

Regardless of which competition you enter or how the final look is presented, there will be endless hours of practice and creativity ahead. Practicing art is not only trying to create something spectacular and intricate, it is about the fastest way to create it! Use these steps to assist you in preparing for the competition.

1. *Theme.* Sometimes there is a theme for the competition that must be reflected in the artwork. Be sure you know what the theme is and are comfortable with it.
2. *Give yourself time to prepare.* You will need to save for expenses, book time off from work, and find a model who can be available for practice time and for the day of the competition. Give yourself weeks or even months to prepare!
3. *Draw it out.* Always sketch out the idea for the finished nail art on paper and list the supplies and tools you will need.
4. *Time yourself.* While you create the look or the main pieces of the look, keep track of the time it takes to complete the work. This is good practice and will give you an idea of the time it really takes!
5. *Keep improving.* After the first rendering, create a new sketch and a new list of products you will need that will help you to create the art better and faster. Sometimes you will have to decrease the design because of time restraints or increase the design to create a more intricate look.
6. *Be methodical.* If you are duplicating a piece of art on every nail, create those pieces all at once. For example, if you are making roses on all the nails, create them all at once before making the leaves. Produce the art like a factory worker. This will increase speed and, more importantly, consistency in the final look.
7. *Practice with the model.* If the competition is timed on a model, practice on the model two or more times before the competition.
8. *Keep practicing!* In any instance, you will need to perfect your artwork over and over again before you are ready to enter it in a competition. Plastic nail tips are always available for practicing.



9. *Pack everything you need.* When packing your competition kit, refer to the sketch and the supplies list to ensure that you have everything you will need.
10. *Get a good night's sleep before the competition.* Get a good, full night of sleep the evening before the competition so that you will be well rested and alert.
11. *Eat before the competition begins.* You may think you are too nervous for breakfast the morning of the competition, but you should have a nutritious meal before you enter the competition arena. Nutritious food will provide the fuel and the energy needed to carry you through the competition.
12. *Arrive early.* Give yourself ample time to find the venue, set up, relax, and focus before the competition **briefing**. The briefing usually occurs 15 to 30 minutes before the start of the competition. The competition director or head judge will review the rules and guidelines to ensure that everyone understands them and is able to comply. This is also the time when you may be told the criteria on which the nails will be judged. Listen and ask any questions you have.

## Categories of Nail Art Competition

**Flat art** is a nail art category that includes all free-hand painting techniques that are flat rather than raised (**Figure 19–21**). Embellishments and stencils are usually not allowed in this category. The art may be completed ahead of time and presented in a box, or created in a timed competition and displayed on a model wearing a full set of nail enhancements. Nails are usually judged on degree of difficulty, color, and precision of details.

**3-D art** describes any art that protrudes from the nail (**Figure 19–22**). These competitions allow most embellishments.



Photo courtesy of Nails Magazine.

▲ **Figure 19–21** Maps theme created for a nail art competition.



Photo courtesy of Viv Simmonds from Vivid Nail and Beauté.

◀ **Figure 19–22** Native American themed 3-D art.



Nails by Massimiliano Braga.

▲ **Figure 19-23** Design sculpture using monomer liquid and polymer powder.



Nails by Massimiliano Braga.

▲ **Figure 19-24** French twist created with white, glitter, pink, and clear monomer liquid and polymer powder.

Most other artwork is created from forming monomer liquid and polymer powder, as this medium is easiest to work with in making 3-D art. Rules usually state the limitations on the dimensions of the art protruding from the nail. This art may be completed ahead of time and displayed in a box, or created in a timed competition and presented on a model wearing a full set of nail enhancements. Nails are usually judged on degree of difficulty, color, and precision of details.

**Design sculpture** nails are sculptured nail enhancements that have inlaid designs. These nails are produced using either monomer liquid and polymer powder or UV gel products (**Figure 19-23**). This work is usually produced on the competition floor on a model with both hands free of product. The final look will have free-hand artwork inlaid in all 10 nails. All nails must be smooth and structurally correct. Nails are usually judged on theme, color, structure, and degree of artistic difficulty.

**French twist** is becoming a common art category (**Figure 19-24**). In this competition, you produce 10 nails on a model with both hands free of product in a timed competition. You can create the look with nail tips or by sculpting the product on nail forms. You may use pink, white, clear, and glittered products to produce a unique twist on the French look. Nails are usually judged on creativity, structure, and precision of detail.

Airbrushed art may be completed ahead of time and displayed in a box or created in a timed competition and presented on a model with a full set of nail enhancements (**Figure 19-25**). Nails are usually judged on degree of difficulty, color, and precision of details.

Mixed media is a category that allows many artistic freedoms (**Figure 19-26**). The term **mixed media** describes nail art in which more than one nail art medium is used to create a design. In most competitions, the final look is submitted in a box or display case. You can usually use any art medium to create

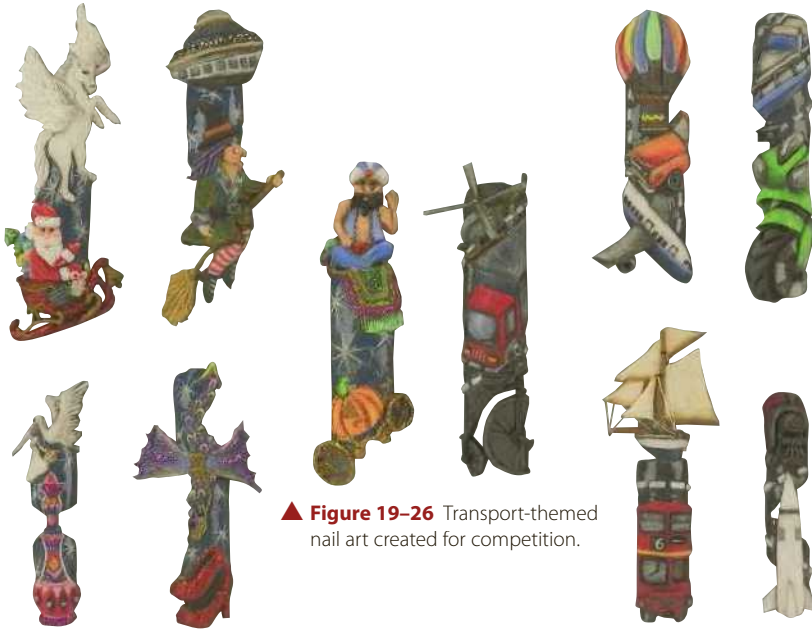
the look. Sometimes the rules state that you must use at least three different art mediums or art techniques to enter. There are usually guidelines on the size of the artwork or the distance of art pieces from the nail. The nails are usually judged on degree of difficulty, theme, color, and precision of details. This tiny masterpiece can usually be submitted to more than one competition as long as it has not won first place in a previous show.

**Fantasy art** competitions allow the most artistic freedoms (**Figures 19-27 through 19-31**). All art mediums are allowed; the only limitation is one's imagination. Anything from running waterfalls in a forest of monomer liquid and polymer powder trees to tiny electric lanterns in a small monomer liquid and polymer powder village can be seen on the competition floor. The art is usually displayed on a model who is dressed from head to toe in the theme of the art. Most competitors spend between 50 and



Photo courtesy of Emilio's Airbrush Studio at <http://www.emilio-online.com>.

▲ **Figure 19-25** Airbrushed art masterpiece with precision details.



▲ **Figure 19-26** Transport-themed nail art created for competition.

Photo courtesy of Viv Simmonds from Vivid Nail and Beauté.

Photo courtesy of Catherine Wong, Escalence Nail Academy Singapore



▲ **Figure 19-27**  
Fantasy art #1.

Photo courtesy of Catherine Wong, Escalence Nail Academy Singapore



▲ **Figure 19-28**  
Fantasy art #2.

Photo courtesy of Catherine Wong, Escalence Nail Academy Singapore



▲ **Figure 19-29**  
Fantasy art #3.

Photo courtesy of Catherine Wong, Escalence Nail Academy Singapore



▲ **Figure 19-30**  
Fantasy art #4.

300 hours to produce these detailed works of art. Some competitors work 6 months to a year to produce a fantasy nail art display. This masterpiece can usually be submitted to more than one competition as long as it has not won first place in a previous show.

## ■ JUST THE BEGINNING

Becoming interested in and entering the first nail art competition is only the beginning of a career that could be full of unimaginable artistic and creative freedom, traveling, learning, and meeting people who may become lifelong friends and mentors. Give yourself the opportunity to explore and research nail competitions. If you're serious about trying one, take the step and do it. A world of fun, creativity, and opportunity awaits you!



Photo courtesy of Catherine Wong, Escalence Nail Academy Singapore

▲ **Figure 19-31**  
Fantasy art #5.

# Procedure 19-1

## The French Manicure Using Polish

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies:

- White polish
- Sheer pink, peach, or beige polish
- Base coat
- Glossy top coat

### Preparation

Prepare the nail in the same way you would for polish. You may be starting with a manicured natural nail or a nail enhancement, but either way, the nail should be clean and free of oil and dust.

**1** Apply base coat to all nails. Then apply one coat of sheer pink polish to all nails.



**2** Start with the little finger. Hold the lateral edges of the finger, pulling the skin down on both sides to expose the entire free edge.



**3** Take the white polish brush with polish on one side and start at the left edge of the nail, slightly higher than where you want the smile line to be. Gently pull the brush down, creating the arc of the smile line. When creating the French manicure look, try to get all of the white tip areas to be the same width and degree of smile line on every nail.



**4** Without removing the brush from the nail, lay the brush across the edge of the nail at a 45-degree angle and drag it along the edge of the nail while you rotate the finger with the holding hand.



**5** When you get toward the right edge, tilt the brush up to create the arc of the smile line. Finishing the line in one movement will keep the smile line smooth and crisp.



**6** Seal the tip. With a tiny bit of white polish, polish the edge of the nail to seal it. Then repeat steps 3 through 6 on all nails.



**7** Apply top coat.



**8** Present the finished look to your client.

# Procedure 19-2

## Animal Print Design Using Paint

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on the manicuring table, you will need the following supplies:

- Paint (white, black)
- Brushes (polish, striper)
- Top coat
- White polish (optional)

### Preparation

- You will most likely paint your design over the top of polish or another art medium. Wait until the polish or other product is completely dry before you begin the hand-painted art.
- Prepare the nail just as you would for polish; be sure the nail is clean and free of oil and dust.

### Procedure



1

1

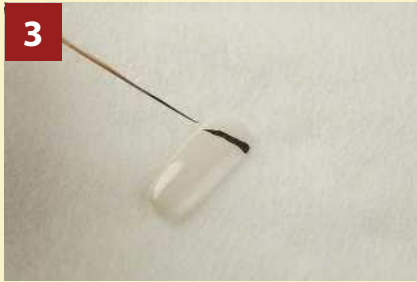
Paint or polish the entire nail white. Allow it to dry.



2

2

Using the striper brush, load the lower three-quarters of the brush with black paint. Touch the tip of the brush to the left-side lower edge of the nail and lay the belly of the brush on the nail.



**3** Pull the brush across the nail toward the center in a slightly wavy motion, lifting it away from the nail near the center.



**4** Leaving space between strokes, do the same technique on the opposite side and slightly pass the center.



**5** Repeat steps 2 through 4 until you reach the top of the nail. Try not to make the stripes perfect or meet in the middle; this creates a more realistic look. It also looks great to leave a large gap and create a short stripe in the center of the nail instead of always starting at one side or the other.



**6** Apply top coat.

# Procedure 19-3

## 3-D Flower Using Monomer Liquid and Polymer Powder

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on the manicuring table, you will need the following supplies:

- Colored, white, or glitter polymer powders
- Monomer liquid
- Dappen dish
- Lint-free absorbent wipes for your brush
- Monomer liquid and polymer powder brushes such as a #8 or #4 flat oval



**1** Envision a circle on the nail where the flower will be and divide the circle in half.



**2** Place a dry bead down on the nail so that it is inside the edge of the circle.



**3** Place the tip of the brush toward the center of the bead and gently press down to enlarge it; this will begin the design with the opening of the first petal. Lean the brush back and gently pull the brush so that it floats across the top of the monomer liquid and polymer powder bead to stretch the petal to the edge of the circle.



4



4

Repeat steps 2 and 3 to make two more petals, making sure all three petals only consume half of the circle. This will ensure that you leave enough space for the other two petals.

5



5

After adding petals four and five, create a very dry, tiny bead for the middle of the flower. Or, place a crystal or other embellishment in the center.

6



6

Leave the flower matte or apply a top coat for a finished look.

### Application Tip:

For balance when adding connecting flowers or leaves, always place the center of the new piece between two petals of the main flower.

# Procedure 19-4

## Confetti Inlaid Design Using UV Gel

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on the manicuring table, you will need the following supplies:

- Clear UV gel
- Silver glitter
- UV gel light unit
- Brush for gel
- Gel cleanser
- UV gel top coat
- Flat or thin embellishments
- Medium-grit abrasive boards and buffers

### Preparation

Prepare the nails for UV gel and apply a set of clear tips, as described in Chapter 18. You can also create art or UV gel overlays on top of other nail enhancement surfaces, but you should not put UV gel over polish.

### Procedure



- 1** Apply a thin layer of clear UV gel over the entire nail and tip and cure for two minutes or longer according to manufacturer directions. Be sure not to get the UV gel on the eponychium or surrounding skin.



- 2** Pick up a very small bead of clear UV gel and dip it into the silver glitter. Place the bead at the end of the nail tip. Smear the bead from side to side until the very edge is covered.



- 3** Brush the UV gel back to blend the glitter toward the nail bed. This will give the glitter a faded look. Cure for 2 minutes or longer according to the manufacturer's directions for the product.



- 4** Pick up a tiny bead of clear UV gel and a piece of confetti and place them on the nail in the desired position.

Copyright © 2011 Millady, a part of Cengage Learning. Photography by Dino Petrocelli. Nail art by Alisha Rimando Botero.



5

5

Repeat step 4 with all the embellishments until the entire nail is decorated. Cure for 2 minutes or longer according to the manufacturer's directions for the product.

6

Pick up a large bead of UV gel and overlay the entire nail. Be sure to seal the tip. Cure for 2 minutes or longer, according to the manufacturer's directions for the product.

### Application Tip:

To speed up the process when creating inlaid design nails, perform each step on all 10 nails before you go to the next step. For example, do the glitter bead on all 10 nails. Then apply all the pink hearts, then purple stars, etc. Then overlay four nails and cure those while you are overlaying the other hand. This process will also create consistency in the design.



7

7

Pick up a medium-size bead of UV gel and place it on the apex area. Remember to look at the nail from all angles to ensure that it has the correct structure and shape. Cure for 2 minutes or longer according to the manufacturer's directions for the product.

8

Remove the inhibition layer with a gel cleanser and file the shape and surface. Remember to be careful when filing inlaid design nails, as you want to be sure not to file through the product and into the design. Do not file or buff the surface with anything finer than a 180-grit abrasive.



9

9

Apply UV gel top coat according to the manufacturer's directions.



10

10

Present the finished look to your client.

# Procedure 19-5

## Crystal Art on Polish Using Embellishments

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on the manicuring table, you will need the following supplies:

- Wood stick
- Brush-on adhesive
- Embellishments (crystals of varying sizes, beads)
- Top coat
- Tweezers

### Preparation

Ensure that the polish and top coat are dry before proceeding.

### Procedure



1

1

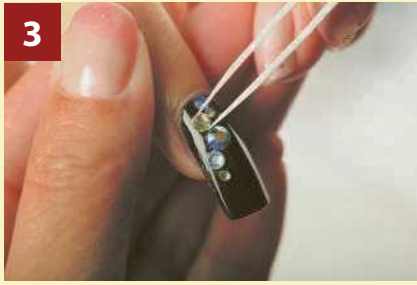
Choose the embellishments and place them on the table with the foil side down.



2

2

Apply a small amount of nail adhesive to the area where the crystals and beads will be laid. Apply the adhesive in small areas at a time so it does not dry before the embellishment is applied.



**3** Place the larger crystals, first using tweezers. Then add more adhesive where needed.

**4** Pick up the smaller crystals with tweezers or a wood stick dipped in top coat and place them near the larger crystals.



**5** Pick up the beads with a wood stick dipped in top coat and place them next to the smaller crystals, around larger crystals, or in any gaps or spaces to fill in the design.



**6** Allow the adhesive to dry completely. Then apply top coat to the nail around the crystal artwork so that it is slightly covering the beads.



**7** Present the finished look to your client.

# Procedure 19-6

## Two-Color Fade or Color Graduation Using an Airbrush

### IMPLEMENTS AND MATERIALS

In addition to the basic materials on the manicuring table, you will need the following supplies:

- Airbrush machine
- Airbrush cleaner in a squirt bottle
- Cotton and paper towels
- Airbrush paint
- Top coat or sealer and base coat
- Water, alcohol, polish remover, and cuticle oil
- Extra color cups, if applicable
- Wood stick

### Preparation

Apply base coat to all 10 nails and let them dry.

### Procedure



1

1

Load the airbrush. Put the paint into the unit and place your thumb on the client's finger just above the cuticle area. Most of the over-spray will land on your thumb, reducing cleanup on the client.

2

Start the spray on the paper towel and when the spray is correct, direct the spray toward the nail.

3



3

You may want to coat the nail with white paint first if you are using light colors; this will give your colors a brighter appearance in the finished look.

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**4** Apply the first coat of color, spraying back and forth over the free edge of the nail. Add a few passes toward the center of the nail to create a soft edge for the second color to overlap.

**5** Repeat on all nails. Return to the first nail and continue to apply light, thin coats of paint until you have reached the desired color or opacity. Then clean the airbrush to remove the first color paint.



**6** Airbrush the second color, starting at the cuticle area of the nail and moving down. When the colors overlap, they should fade together and begin to form a beautiful transition shade.

**7** Repeat on all nails. Return to the first nail and continue to spray the second color at the cuticle area of each nail until the desired color or opacity is achieved.



**8** When the paint is dry, apply an ample amount of sealer or top coat. Be sure to seal all the edges. Then allow the client's nails to dry for 3 to 5 minutes.



**9** Remove overspray from the client's skin by using a wood stick wrapped in cotton or a paper towel and saturated with water or alcohol.

**10** Repeat step 9, using polish remover if any paint remains, and repeat with cuticle oil if the skin is dry. Then apply a second layer of top coat or sealer for maximum durability, if desired.



**11** Present the finished look to your client.

## ■ Review Questions

1. What are the most effective ways to introduce nail art to clients?
2. What are the classifications of color on the color wheel, and what do they mean?
3. What techniques, using nail polish, can be used to create interesting nail art?
4. Name three types of brushes used to paint flat nail art and describe their use.
5. List and describe the basic techniques used in hand-painted nail art.
6. Explain the use of dry and wet monomer liquid and polymer powder beads in the creation of nail art.
7. How is UV gel used and applied when creating an inlaid nail art design?
8. List four types of embellishments and describe how they are used.
9. What is the best airbrush system to use for nail art?
10. Name at least five benefits of participating in nail art competitions.





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# Business Skills



**CHAPTER 20**  
Seeking  
Employment

**CHAPTER 21**  
On the Job

**CHAPTER 22**  
The Salon Business

# 20

# Seeking Employment

## Chapter Outline

- Why Study How to Prepare for and Seek Employment?
- Preparing for Licensure
- Preparing for Employment
- Résumé and Cover Letter Development
- Employment Portfolio
- Preparing for a Job Interview
- Doing It Right



Job Search

Categories

Job Title

Full time

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# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **L01** Explain the process of passing your state licensing examination and securing the required credentials for nail technology.
- ✓ **L02** Network and prepare to find a position by using the Inventory of Personal Characteristics and Inventory of Technical Skills forms.
- ✓ **L03** Describe the different types of salon business categories.
- ✓ **L04** Write a cover letter, develop a résumé, and prepare an employment portfolio.
- ✓ **L05** Discuss how to explore the job market, research potential employers and the legal aspects of employment, and complete an employment application.

## Key Terms

Page number indicates where in the chapter the term is used.

**cover letter** / 431

**deductive reasoning** / 424

**employment portfolio** / 436

**networking** / 438

**résumé** / 431

**test-wise** / 423

**transferable skills** / 436

**work ethic** / 429



▲ **Figure 20-1** There are often more positions available for nail technology professionals than there are people to fill them.

There are plenty of great positions out there for energetic, hardworking, talented people. If you look at the top professionals in the field, you will find they were not born successful; they achieved success through self-motivation, energy, persistence, mentoring, and a supportive network of people. Like you, these practitioners began their careers by enrolling in nail technology school. They were the ones who used their time wisely, planned for the future, went the extra mile, and drew on a reservoir of self-confidence to meet any challenge. They owe their success to no one but themselves because they created it. If you want to enjoy this same success, you must prepare for the opportunities that await you.

No matter what changes occur in the economy, there often are more positions available for nail technology professionals than there are people to fill them. This is a tremendous advantage for you. Even so, you must still thoroughly research the job market in your geographical area before committing to your first offer of employment (**Figure 20-1**).

If you make the right choice, your career will put you on the road to success. If you make the wrong choice, it will not be a tragedy, but it may cause unnecessary delay.

## WHY STUDY HOW TO PREPARE FOR AND SEEK EMPLOYMENT?

Nail technicians should have a thorough understanding of how to prepare for and seek employment because:

- ▶ You must pass your state board exam to be licensed and must be licensed to be hired; therefore, preparing for licensure and passing your exam is your first step in the employment process.
- ▶ A successful employment search is a job unto itself. There are many tools that can give you the edge—but some mistakes can cost you an interview or a position.
- ▶ The ability to pinpoint the right salon or spa for you and target it as a potential employer is vital for your career success.
- ▶ Proactively preparing the right materials, such as a résumé, and practicing interviewing will give you the confidence you need to secure a position in a salon or spa you love.

## PREPARING FOR LICENSURE

Before you can obtain the position you are hoping for, you must first pass your state licensing examinations (usually a written and a practical exam) and secure the required credentials from your state's licensing board by filling out an application and paying a fee. For details on fees, testing dates, specific state licensure requirements, and more, visit the Web site of your state board of cosmetology or your state's Department of Licensing.

Many factors will affect how well you perform during the licensing examination and on tests in general. They include your physical and psychological state; your memory; time management; and your academic skills, such as reading, writing, note taking, test taking, and general learning.

Of all the factors that will affect your test performance, the most important is your mastery of course content. Even if you feel that you have truly learned the material, though, it is still very beneficial to have strong test-taking skills. Being **test-wise** means understanding the strategies for successfully taking tests. Milady has a variety of apps to help you prepare for your State Licensing exam and advance your career. Simply search for Milady in the App Store today.

## Preparing for the Exam

A test-wise student begins to prepare for taking a test by practicing good study habits and time management. These habits include the following:

- Have a planned, realistic study schedule.
- Read content carefully and becoming an active studier.
- Keep a well-organized notebook.
- Develop a detailed vocabulary list.
- Take effective notes during class.
- Organize and review handouts.
- Review past quizzes and tests.
- Listen carefully in class for cues and clues about what could be expected on the test.

In addition, keep these more holistic or “whole you” hints in mind:

- Make yourself mentally ready and develop a positive attitude toward taking the test.
- Maintain good physical, emotional, and spiritual health, including sound diet and eating habits.
- Get plenty of rest the night before the test.
- Dress comfortably.
- Anticipate some anxiety (feeling concerned about test results may actually help you do better).
- Avoid cramming the night before an examination.
- Find out if your state uses computers for the written portion of the test. If so, make certain you are comfortable with computerized test taking.

## On Test Day

After you have taken all the necessary steps to prepare for your test, there are a number of strategies you can adopt on the day of the actual exam that may be helpful (**Figure 20–2**).

1. Relax and try to slow down physically.
2. If possible, review the material lightly the day of the exam.
3. Arrive early with a self-confident attitude; be alert, calm, and ready for the challenge. Note: Some exams may be administered at your school and some may be given in alternate locations.

## Did You Know?

If you have a physician-documented disability (such as a learning disability), your state may allow you extra time to take the written exam, or even provide a special examiner. Ask your instructor and check with your state licensing board. Be certain to make any special arrangements well in advance of the test date.

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▲ **Figure 20–2** Candidates taking the licensing examination.



Always know exactly where you are going and how to get there before the day of the exam.

4. Read all written directions and listen carefully to all verbal directions before beginning. For the practical portion of the exam, bring extra supplies and alternate tools, implements, and equipment.
5. If there are things you do not understand, do not hesitate to ask the examiner questions.
6. If possible, skim the entire test before beginning.
7. Budget your time to ensure that you will complete the test; do not spend too much time on any one question.
8. Wear a watch so that you can monitor the time and be aware of how much time is allocated for the examination before beginning.
9. Begin working as soon as possible and mark the answers in the space provided carefully but quickly.
10. Answer the easiest questions first in order to save time for the more difficult ones. Quickly scanning all the questions first may clue you in on which ones are more difficult.
11. Mark the questions you skip so that you can find them again later or indicate the item numbers on scratch paper.
12. Read and review each question carefully to make sure that you know exactly what the question is asking and that you understand all parts of the question.
13. Answer as many questions as possible. If you are unsure about some questions, guess or estimate. Use scrap paper for personal note taking, if allowed.
14. Look over the test when you are done to be sure that you have read all of the questions correctly and have answered as many as possible.
15. Make changes to answers only if there is a good reason to do so.
16. For paper tests, check the test booklet carefully before turning it in (for instance, you might have forgotten to put your name on it!).

## Deductive Reasoning

**Deductive reasoning** is the process of reaching logical conclusions by employing logical reasoning. Deductive reasoning is a technique that students should learn to use for better test results.

Some strategies associated with deductive reasoning include the following:

- Eliminate options known to be incorrect. The more answers you can eliminate as incorrect, the better your chances of identifying the correct answer.
- Watch for key words or terms. Look for any qualifying conditions or statements. Keep an eye out for such words and phrases as *usually*, *commonly*, *in most instances*, *never*, and *always*.
- Study the stem, which is the basic question or problem. It will often provide a clue to the correct answer. Look for a match between the stem and one of the choices.
- Watch for grammatical clues. For instance, if the last word in a stem is “an,” the answer must begin with a vowel rather than a consonant.

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- Look for similar or related questions. They also may provide clues.
- When answering essay questions, watch for words such as *compare*, *contrast*, *discuss*, *evaluate*, *analyze*, *define*, or *describe* and develop your answer accordingly.
- When you are presented with paragraphs to read and questions to answer, read the questions first. This will help identify the important information as you read the paragraph.

## Understanding Test Formats

There are a few additional tips that all test-wise learners should know, especially with respect to the state licensing examination. Keep in mind, of course, that the most important strategy of test taking is to know your material. Beyond that, consider the following tips on the various types of question formats.



### True/False

- Watch for qualifying words (*all*, *most*, *some*, *none*, *always*, *usually*, *sometimes*, *never*, *little*, *no*, *equal*, *less*, *good*, *bad*). Absolutes (*all*, *none*, *always*, *never*) are generally not true.
- For a statement to be true, the *entire* statement must be true.
- Long statements are more likely to be true than short statements. It takes more detail to provide truthful, factual information.

### Multiple Choice

- Read the entire question carefully, including all the choices.
- Look for the best answer; more than one choice may be true.
- Eliminate incorrect answers by crossing them out (if taking the test on the test form).
- When two choices are close or similar, one of them is probably right.
- When two choices are identical, both must be wrong.
- When two choices are opposites, one is probably wrong and one is probably correct, depending on the number of other choices.
- "All of the above" and similar responses are often the correct choice.
- Pay special attention to words such as *not*, *except*, and *but*.
- If you do not know the answer, guess (provided there is no penalty).
- The answer to one question may be in the stem of another.

### Matching

- Read all items in each list before beginning.
- Check off items from the brief response list to eliminate choices.

### Essays

- Organize your answer according to the cue words in the question.
- Think carefully and outline your answer before you begin writing.
- Make sure that what you write is complete, accurate, relevant to the question, well organized, and clear.

Remember that even though you may understand test formats and effective test-taking strategies, this does not take the place of having a complete understanding of the material on which you are being tested. In order to be successful at taking tests, you must follow the rules of effective studying and be thoroughly knowledgeable of the exam content for both the written and the practical examination.



## The Practical Exam

In order to be better prepared for the practical portion of the examination, which is hands-on, the new graduate should follow these tips:

- Practice the correct skills required in the test as often as you can.
- Participate in mock licensing examinations, including the timing of applicable examination criteria.
- Familiarize yourself with the content contained in the examination bulletins sent by the licensing agency.
- Make a list of equipment and implements you are expected to bring to the examination.
  - Ensure that all equipment and implements are in good working order prior to the examination.
  - Make certain that all equipment and implements are cleaned, disinfected, and properly stored before the exam.
- If allowed by the regulatory or licensing agency, observe other practical examinations before taking your exam.
- If possible, locate the examination site the day before the exam to ensure that you do not get lost on test day. You can also time your drive the day before, just to make sure you are on time for the actual exam.
- As with any exam, listen carefully to the examiner's instructions and follow them explicitly.
- Focus on your own knowledge; do not allow yourself to be concerned with what other test candidates are doing.
- Follow all infection control and safety procedures throughout the entire examination.
- Look the part. Every little bit helps; make certain your appearance is neat, clean and professional. **LO1**

### Here's a Tip:

Practice makes perfect. You should find a trustworthy and serious person to act as your hand model. Your hand model must be willing to schedule some practice time for you so you can prepare for the exam. Check your state's regulations about the various procedures you will be required to perform for the practical exam and be sure to practice the steps on your model.

## ■ PREPARING FOR EMPLOYMENT

When you chose to enter the field of nail technology, your primary goal was to find a good position after being licensed. Now you need to reaffirm that goal by reviewing a number of important questions.

- What do you really want out of a career in nail technology?
- What areas within the nail industry are the most interesting to you?
- What are your strongest practical skills? In what ways do you wish to use these skills?
- What personal qualities will help you have a successful career?



One way that you can answer these questions is to make a photocopy of, and then complete, the Inventory of Personal Characteristics and Inventory of Technical Skills form (**Figure 20-3**). After you have completed the

▼ **Figure 20-3** Inventory of Personal Characteristics and Inventory of Technical Skills form.

#### INVENTORY OF PERSONAL CHARACTERISTICS

PERSONAL CHARACTERISTICS	EXC.	GOOD	AVG.	POOR	PLAN FOR IMPROVEMENT
Posture, Deportment, Poise					
Image, Grooming, Personal Hygiene					
Etiquette, Manners, Courtesy					
Communications Skills					
Personality, Attitude					
Goals, Self-Motivation					
Personal Habits, Procrastination					
Responsibility					
Self-esteem, Self Confidence					
Integrity, Honesty					
Dependability, Loyalty					

#### INVENTORY OF TECHNICAL SKILLS

TECHNICAL SKILLS	EXC.	GOOD	AVG.	POOR	PLAN FOR IMPROVEMENT
Manicures, Hand/Arm Massage					
Pedicures, Foot Massage					
Polish Applications					
Hand Filing, Electric Filing					
Nail Tip and Nail Form Applications					
Fabric Wrap Application					
UV and LED Gel Application					
Monomer Liquid and Polymer Powder Nail Enhancements Application					
Nail Art					
Paraffin Wax Treatments					

After analyzing the above responses, would you hire yourself as an employee in your nail salon? Why or why not?

State short-term goals that you hope to accomplish in 6 to 12 months:

State long-term goals that you hope to accomplish in 1 to 5 years:

*Ask yourself: Do you want to work in a big city or small town? Are you compatible with a sophisticated, exclusive salon or a trendy salon? Which clientele are you able to communicate with more effectively? Do you want to start out slowly and carefully or do you want to jump in and throw everything into your career from the starting gate? Will you be in this industry throughout your working career or is this just a stopover? Will you only work a 30 or 40 hour week or will you go the extra mile when opportunities are available? How ambitious are you and how many risks are you willing to take? Will you split your time up between freelancing in the entertainment industry while working in a salon?*



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▲ **Figure 20-4** Your school counselor can help you find employment.

inventory form and identified the areas that need further attention, you can determine where to focus the remainder of your training. In addition, you should also have a better idea of the type of establishment that would best suit you for eventual employment. **LO2**

During your training, you may have the opportunity to network with various industry professionals who are invited to the school as guest speakers. Be prepared to ask them questions about what they like most and least about their current positions. Ask them for any tips they might have that will assist you in your search for the right establishment. In addition, be sure to take advantage of your institution's in-house placement assistance program and postings on the school bulletin boards when you begin your employment search (**Figure 20-4**).

### Here's a Tip:

A license in nail technology opens the doors to many career opportunities in the beauty industry. The road you choose depends upon your lifestyle, your creativity, and the way you wish to interact with your clients. For some students, their passion may be to work in a traditional salon or spa setting, keeping scheduled hours and building relationships with their clients by performing services on a regular basis. For others, a freelance career traveling to clients at different locations with a varied schedule may be more suitable. When you determine the path you would like to follow, find someone in the field who is successful in that area and learn from that individual. Locate the person through professional organizations or through your personal network. Facebook and LinkedIn are valuable resources for making these connections. More often than not, these seasoned professionals will be flattered you have approached them to ask for tips and guidance as you embark on your new career.

Your willingness to work hard is a key ingredient to your success. The commitment you make now in terms of time and effort will pay off later in the workplace, where your energy will be appreciated and rewarded. Having enthusiasm for getting the job done can be contagious; when everyone works hard, everyone benefits. You can begin to develop this enthusiasm by establishing good work habits as a student.



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# Activity

For one week, keep a daily record of your performance in the following areas. Ask a few of your fellow students to provide feedback, too.

- Positive attitude
- Professional appearance
- Punctuality
- Regular class and clinic attendance
- Diligent practice of newly learned techniques
- Interpersonal skills
- Teamwork
- Helping others

## How to Get the Position You Want

There are several key personal characteristics that will not only help you get the position you want but will also help you keep it. These characteristics include:

- **Motivation.** This means having the drive to take the necessary action to achieve a goal. Although motivation can come from external sources—parental or peer pressure, for instance—the best kind of motivation is internal.
- **Integrity.** When you have integrity, you are committed to a strong code of moral and artistic values. Integrity is the compass that keeps you on course over the long haul of your career.
- **Good technical and communication skills.** While you may be better in either technical or communication skills, you must develop both to reach the level of success you desire.
- **Strong work ethic.** In the beauty business, having a strong **work ethic** means taking pride in your work and committing yourself to consistently doing a good job for your clients, employer, and salon or spa team.
- **Enthusiasm.** Try never to lose your eagerness to learn, grow, and expand your skills and knowledge.



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## A Salon Survey

According to the most recently compiled data as of this printing, there are nearly 370,210 professional salon or spa establishments in the United States alone. These salons and spas employ more than 1,682,641 active beauty industry professionals. (To check for updates, go to <http://www.naccas.org>.) This year, like every year, thousands of nail technology school graduates will find their first position in one of the types of salons and spas described below.

As you research salons and spas, focus on the type of salon that you believe will be the best fit for you.



## Small Independent Salons

Owned by an individual or two or more partners, this kind of operation makes up the majority of professional nail salons and spas. The average independent salon or spa has three manicure tables and pedicure stations; however, many have as many as 10 nail techs working there regularly. Usually, the owners are nail technicians who maintain their own clientele while managing the business. There are nearly as many different kinds of independent salons and spas as there are owners. Their image, decor, services, prices, and clientele all reflect the owner's experience and taste. Depending on the owner's willingness to help a newcomer learn and grow, a beginning nail technician can learn a great deal in an independent salon or spa while also earning a good living.

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## Independent Salon Chains

These are usually chains of five or more salons or spas that are owned by one individual or two or more partners. Independent salon or spa chains range from basic nail salons to full-service salons and day spas and offer everything from low-priced to very high-priced services.

In large high-end salons or spas, nail technicians can advance to specialized positions, such as department manager or education director. Some larger salons or spas also employ education directors, trainers, and in-house educators. Nail technicians are often hired to manage particular or multiple locations.

## Large National Salon Chains

These companies operate salons and spas throughout the country, and even internationally. They can be budget or value priced, nails-only or full-service, mid-price or high-end. Some salon and spa chains operate within department store chains. Management and marketing professionals at the corporate headquarters make all the decisions for each salon or spa, such as size, decor, hours, services, prices, advertising, and profit targets. Many newly licensed professionals seek their first positions in national chain salons or spas because of the secure pay and benefits, additional paid training, management opportunities, and corporate advertising. And because the chains are large and widespread, employees have the added advantage of being able to transfer from one location to another.

## Franchise Salons

The franchise salon or spa is another form of chain salon and spa organization. These establishments have a national name with a consistent image and business formula that is used at every location. Franchises are owned by individuals who pay a fee to use the name; these individuals then receive a business plan and can take advantage of national marketing campaigns. Such decisions as size, location, decor, and prices are determined in advance by the parent company. Franchises can be owned by nail technicians and investors who seek a return on their investment. Franchise salons or spas commonly offer employees the same benefits as corporate-owned chain salons or spas, including on-the-job training, health-care benefits and advancement opportunities.

## Did You Know?

Nail chain salons make it a regular practice to hire newly graduated nail technicians.

## Basic Value-Priced Operations

Often located in busy shopping center strips that are anchored by a supermarket or other large business, value-priced nail salons or spas depend on a high volume of walk-in traffic. They hire recent nail technology graduates and generally pay them by the hour, sometimes adding commission-style bonuses if an individual's sales surpass a certain level. Manicures are usually reasonably priced, and nail technicians need to perform basic nail services quickly and effectively. This type of nail salon or spa provides novice nail techs with a wide range of experience and an opportunity to build their client base.

## Mid-Priced Full-Service Salons

These salons offer a complete menu of hair, nail, skin, and waxing services along with retail products. Successful mid-priced salons promote their most profitable services and typically offer service and retail packages to entice clients. They also run strong marketing programs to encourage client returns and referrals. These salons train their professional salon team to be as productive and profitable as possible. If you are inclined to give more time to each client during the consultation, you may like working in a full-service salon. Here you will have the opportunity to build a relationship with clients that may last over time.

## High-End Salons or Day Spas

The high-end salon or day spa employs well-trained beauty professionals and salon or spa assistants who offer higher-priced services that are filled with luxurious extras—such as a paraffin wax treatment—as part of the spa manicures and pedicures. Most high-end salons or spas are located in trendy, upscale sections of large cities; others may be located in elegant mansions, high-rent office and retail towers, or luxury hotels and resorts. Clients expect a high level of personal service, and such salons and spas hire practitioners whose technical expertise, personal appearance, and communication skills meet their high standards (**Figure 20-5**).

## Booth Rental Establishments

Booth renting (also called station or chair rental) is possibly the least expensive way of owning one's own business. Nail technicians now have the opportunity to rent a one-station salon suite housed independently or within a beauty salon/spa or shopping center or plaza. Check with your city and state for the laws governing your responsibilities as a booth renter. For a detailed discussion of booth rental, see **Chapter 22, The Salon Business**. **LO3**

## ■ RÉSUMÉ AND COVER LETTER DEVELOPMENT

A **résumé** is a written summary of a person's education and work experience. It tells potential employers at a glance what your achievements and accomplishments are. A **cover letter** (**Figure 20-6**) is a letter of introduction that highlights your goals, skills, and accomplishments. It can provide a more detailed overview of the key points in your résumé. If you are a new graduate, you may have little or no work experience—in which case, your résumé should focus on skills and accomplishments. If you have past experience in the industry, you may

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▲ **Figure 20-5** High-end salon or spa.

**Marie Luster**

333 Full Circle | Any town, USA 11111 | (813) 555-1234

marieluster@gmail.com

DATE

Dear Ms. (or Mr.) \_\_\_\_\_,

I was recently a client of your salon and thoroughly enjoyed my experience. As a newly licensed nail technologist, I am looking to join a salon with the same high service standards and excellent reputation.

I am dedicated to growing my skills as a nail technologist and as a businessperson. As you can see from my attached résumé, my previous experience as an apprentice has groomed me for a position within a professional salon such as yours. Due to my passion for this industry, skills, and dedication to service, I have retained a high percentage of my clients.

I look forward to sharing my qualifications in person and to discussing either current or future career opportunities at your salon. I was extremely impressed with your staff and business, and I would like to share with you how my skills might add to your salon's success.

I will call you next week to discuss a time that is convenient for us to meet. I look forward to our conversation.

Sincerely,

(Your Name)

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▲ **Figure 20-6** A sample cover letter for a salon or spa position.

wish to construct a chronological résumé, covering a span of 7 to 10 years of job-related employment.

A résumé and cover letter provide a first impression: You must develop both with attention to detail, ensuring they are neat and free from typographical and syntax errors. For models and templates, search the Internet for the term “résumé styles.”

Here are some basic guidelines to follow when you are preparing your professional résumé.

- Keep it simple. Limit it to one page.
- Always include a cover letter. Figure 20–6 is an example of a cover letter appropriate for a salon or spa.
- Print your résumé, cover letter, and all documents on good-quality paper in a neutral tone.
- Include your name, address, phone number, and e-mail address on both the résumé and your cover letter.
- Make sure that your e-mail address and phone greeting are appropriate for business. These are an important part of your professional image.
- List recent and relevant work experience.
- List relevant education, the name of the institution from which you graduated, and any relevant courses that you took.
- List your professional skills and accomplishments.
- List your weekly retail sales if your school provided products to sell. If not, provide the number of services you preformed weekly and the number of regular client requests.
- Focus on information that is relevant to the position you are seeking.

The average time that a potential employer will spend scanning your résumé before deciding whether to grant you an interview is about 20 seconds. That means you must market yourself in such a manner that the reader will want to meet you. If your work experience has been in an unrelated field, show how the position helped you develop transferable skills. Restaurant work, for example, helps employees develop customer-service skills and learn to deal with a wide variety of patrons.

As you list former and current positions on your résumé, focus on your achievements and accomplishments instead of detailing duties and responsibilities. Accomplishment statements such as “Consistently in the top 2 percent of service sales in the academy” highlight your basic duties and responsibilities. The best way to show concrete accomplishments is to include numbers or percentages whenever possible. As you describe former positions on your résumé, ask yourself the following questions:

- How many regular clients did I serve?
- How many clients did I serve weekly?
- What was my service ticket average?
- What was my client retention rate?
- What percentage of my client revenue came from retailing?
- What percentage of client revenue came from nail enhancement services or UV and LED gels?



If you cannot express your accomplishments numerically, can you highlight problems that you solved or results that you achieved? For instance, did your office position help you to develop excellent organizational skills?

This type of questioning can help you develop accomplishment statements that will interest a potential employer. There is no better time for you to achieve significant accomplishments than while you are in school. Even though your experience may be minimal, you must still present evidence of your skills and accomplishments. This may seem a difficult task at this early stage in your working career, but by closely examining your training performance, extracurricular activities, and the full-or part-time jobs you have held, you should be able to create a solid, attention-getting résumé.

For example, consider the following questions when preparing your résumé and cover letter:

- Did you receive any honors during your course of training?
- Were you ever selected “student of the month”?
- Did you receive special recognition for your attendance or academic progress?
- Did you win any nail technology-related competitions while in school?
- What was your attendance average while in school?
- Did you work with the student body to organize any fundraisers? What were the results?

Answers to these types of questions may highlight your people skills, personal work habits, and personal commitment to success (**Figure 20–7**).

Since you have not yet completed your training, you still have the opportunity to make some of the examples listed above become a reality before you graduate. Positive developments of this nature while you are still in school can do much to improve your résumé.



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## The Do's and Dont's of Résumés

You will save yourself many problems and a lot of disappointment right from the beginning of your career search if you have a clear idea of what to do and not to do when it comes to creating a résumé.

Here are some of the do's:

- Always put your complete contact information on your résumé. If your cell phone is your primary phone, list that number first along with a back-up number.
- Make it easy to read. Use concise, clear sentences and avoid overwriting or flowery language.
- Know your audience. Use vocabulary and language that will be understood by your potential employer.
- Keep it short. A one-page résumé is preferable.
- Stress accomplishments. Emphasize past accomplishments and the skills you used to achieve them.
- Focus on career goals. Highlight information that is relevant to your career goals and the position you are seeking.



**OBJECTIVE**

To be a full service Nail Specialist and Nail Artist

**ACCOMPLISHMENTS/ABILITIES**

- ACADEMICS**      Achieved honor roll in theoretical requirements and excellent ratings in practical requirements; exceeded the number of practical skills required for graduation.
- SALES**            Named "Student of the Month" for best attendance, best attitude, highest retail sales, and most clients served; Increased nail services to 30 percent of my clinic volume by graduation. Achieved a client ticket average comparable to \$30.00 in the local salon market.  
  
Increased retail sales by 18 percent during part-time employment at local beauty supply and salon.
- CLIENT RETENTION**      Developed and retained a personal client base of over 25 individuals of all ages, both male and female.
- IMAGE CONSULTING**      Certified as an Image Consultant.
- ADMINISTRATION**      Supervised a student nail team which developed a business plan for opening a three station, full service nail salon; project earned an "A" and was recognized for thoroughness, accuracy, and creativity. As President of the student council, organized fund raising activities including makeovers, bake sales, and yard sales which generated enough funds to send 10 students to a national trade show.
- APPRENTICESHIP**      Trained one day weekly at a busy, full-service salon for 12 weeks in a student/recent graduate apprentice program.
- SPECIAL PROJECTS**      Reorganized school nail room for more efficiency and client comfort. Organized the school dispensary which increased inventory control and streamlined operations within the clinic.  
  
Catalogued the school's library of texts, reference books, videos and other periodicals by category and updated the library inventory list.

**EXPERIENCE**

NAILS BEAUTY CENTER	Fall 2013	Training as an apprentice in all phases of nail care and nail art
NAIL COSMETICS INC.	Summer 2013	Marketing & retail sales of beauty products, nail products and cosmetics
J.M.O SALON	2012-2013	Salon public relations, marketing & special events coordinator

**EDUCATION**

Diploma of Nail Technology, Nail Technology College, 2013  
 B.A. in Mass Communications, Central State University (OH), 2011

▲ **Figure 20-7** Achievement-oriented résumé.

- Emphasize **transferable skills**. These are skills you have mastered at other jobs that can be put to use in a new position.
- Use action verbs. Begin accomplishment statements with action verbs such as *achieved, coordinated, developed, increased, maintained, and strengthened*.
- Make it neat. A poorly structured, badly typed résumé does not reflect well on you.
- Include only professional references. Make sure you give potential employers the title, place of employment, and telephone number for your reference.
- Be realistic about what employers may offer to beginners. Remember that you are just starting out in a field that you hope will be a wonderful and fulfilling experience.
- Always include a cover letter.
- Note your skills in new nail technologies. Include your experience and training in the use of hybrid gel nail polishes, nail appliqués, or other enhancements.
- Mention your experience with computer applications, including software programs, Web development tools, and computerized salon and spa management systems.

Here are some of the don'ts in résumé writing:

- Avoid salary references, including history or expectations.
- Avoid information about why you left your former positions.
- Don't stretch the truth. Misinformation or untruthful statements usually catch up with you.

If you do not feel comfortable writing your own résumé, consider seeking a professional résumé writer or a career coach. There may be employment agencies that can help you as well; many online job-search Web sites offer easy-to-use résumé templates. Figure 20–7 represents an achievement-oriented résumé for a recent graduate of a nail technology course.

Use all available resources during your résumé development and job search process. For example, there is an abundance of best practice information available on the Internet, or you can communicate with an individual you may already know who has gone through the hiring process and can provide recommendations. Milady also has fantastic resources that can provide you with résumé development and overall career success when you begin your job search, including the online publication *Milady's Beauty and Wellness Career Transitions*.

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▲ **Figure 20–8** An employment portfolio.

## ■ EMPLOYMENT PORTFOLIO

As you prepare to work in the field of nail technology, an employment portfolio can be extremely useful. An **employment portfolio** is a collection, usually bound, of photos and documents that reflect your skills, accomplishments, and abilities in a chosen career field. Art stores and office supply stores offer many options for presenting your portfolio (**Figure 20–8**).

While the actual contents will vary from graduate to graduate, there are certain items that have a place in any portfolio. A powerful portfolio includes the following elements:

- Diplomas, including high school, college, and nail technology school
- Awards and achievements received while a nail technology student
- Current résumé, focusing on accomplishments
- Letters of reference from former employers and mentors
- Summary of continuing education and/or copies of training certificates
- Statement of membership in industry and other professional organizations
- Statement of relevant civic affiliations and/or community activities
- Before-and-after photographs of services that you have performed on clients or models
- Brief statement about why you have chosen a career in the nail profession
- Any other information that you regard as relevant

Once you have assembled your portfolio, ask yourself whether it accurately portrays you and your career skills. If it does not, identify what needs to be changed. If you are not sure, ask a neutral party for feedback about how to make it more interesting and accurate. This kind of feedback is also useful when creating a résumé. The portfolio, like the résumé, should be prepared in a way that projects professionalism.

- For ease of use, you may want to separate sections such as *Salon Work* and *Competition Nails* with tabs.
- If you are technologically savvy, you might want to create a digital portfolio or an online showcase of your work. However, don't expect potential employers to take extra time to visit a Web site or view a DVD. Bring a print copy of everything you want the employer to see.

When writing about why you chose a career in nail technology, you may wish to include:

- A statement that explains what you love about your new career.
- A description of your philosophy about the importance of teamwork and how you see yourself as a contributing team member.
- A description of methods you would use to increase service and retail revenue. **LO4**

## ■ PREPARING FOR A JOB INTERVIEW

You have gone to nail school, graduated, passed your written and practical exam, received your license, prepared your résumé and portfolio, and, finally, you are ready to go on some interviews! Congratulations, you are almost there—getting your first position in the nail profession. To help prepare for interviews, you will want to do some additional research so you can present a knowledgeable, confident persona to potential employers.

### Here's a Tip:

Make it a habit to take photos of your work for your portfolio. Bring in models and practice the latest nail art or manicuring techniques. Take compelling before-and-after photos to show your ability to transform your clients. For ideas, search the Internet for images of *manicuring portfolios* or *nail art*. Showcase your versatility by providing photos of various nail applications so your potential employer will gain a sense of your abilities.



## Targeting the Establishment

One of the most important steps in the process of job hunting is determining what you want in a salon or spa environment and narrowing your search so you can target potential employers. Listed below are some points to keep in mind when seeking out potential employers:

- Accept that your first position will probably not be your dream position. Few people are so fortunate. Be gracious about any opportunity and learn everything you can about serving clients and polishing your technical skills.
- Do not wait until graduation to begin your search. If you do, you may be tempted to take the first offer you receive instead of carefully investigating all possibilities before making a decision. When you prepare in advance, you will have time to evaluate the pros and cons of each opportunity,
- Locate a salon or spa that serves the type of clients you wish to serve. Finding a good fit with the clients and staff is critical from the outset of your career. The section on field research discusses ways to conduct a search for the salon or spa that will be the best fit for you.
- Make a list of area salons, spas, or establishments. The Internet might be your best source for this. If you are considering relocating to another area, go to [www.anywho.com](http://www.anywho.com) for a complete listing of businesses by category in every state. You can find top salons or spas in any region or city at [www.CitySearch.com](http://www.CitySearch.com). You may also want to go to [www.google.com](http://www.google.com) to search for your area of interest using key terms such as *nail salons, nail spas, Denver, Colorado*.
- Watch for salons or spas that advertise locally to get a feel for what market each salon is targeting. Then check the salon's or spa's Web site.
- Check out social networking sites such as Facebook or LinkedIn for various types of salons and spas. If you choose to contact a salon or spa, be brief and to the point by stating that you are a student. Ask specific questions about the salon or spa.
- Ensure that the salon's or spa's service offerings are in line with your goals. Find out about the salon or spa menu by looking at the Web site or by asking for specific services while on the phone. For example, if you have a passion for working with nail extensions, and the salon or spa caters to clients with natural nails only, it may not be the best fit for you.

## Field Research

A great way to find out about open positions is to network—to actually get out there, visit salons or spas and talk to owners, managers, educators and stylists. **Networking** is connecting with people, communities, and local businesses to build mutually beneficial relationships. Whether your first contact is online, in person, or on the phone, sooner or later

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you'll want to arrange a face-to-face meeting or an exploratory visit to the salon or spa. If possible, make contact with salons or spas while you are still a student. You might even make contact as a salon or spa customer yourself. To set up a salon or spa visit, consider the following:

1. When you call, use your best telephone manner; speak with confidence and self-assurance. If you communicate via e-mail, be brief. Be sure to check your spelling and punctuation.
2. Do not text message salon and spa owners or managers unless they request you do so.
3. Ask to speak to the owner, manager, or personnel director. State your name and explain that you are preparing to graduate from school in nail technology, that you are researching the market for potential positions, and that you have just a few questions.
4. If the person is receptive, ask whether the salon or spa is in need of any new nail technicians and how many the salon or spa currently employs.
5. Ask if you can make an appointment to visit the salon or spa to observe sometime during the next few weeks. If the salon or spa representative is agreeable, make an appointment and confirm it with an e-mail, formal business letter, or handwritten note on high-quality paper (**Figure 20-9**).
6. Learn all you can about the salon or spa. From the company Web site and the Internet, you can gain valuable information regarding the salon and spa philosophy and the background of the hiring manager. For example, if the hiring manager is known for ensuring that all staff is focused on continued education, you can highlight any additional classes you have taken or your strong desire to grow your skills. Be respectful and make sure you arrive on time, perhaps even a few minutes early, for your appointment.

Remember that rejection is not a negative reflection on you. Many professionals are too busy to make time for this kind of networking. The good news is that you are bound to discover many genuinely kind people who remember what it was like when they started out and who are willing to devote a bit of their time to help others who are beginning their careers.

## The Salon Visit

When you visit the salon or spa, take along a checklist to ensure that you observe all the key areas that might ultimately affect your decision making. The checklist will be similar to the one used for field trips you probably have taken to area salons or spas while in school. Keep the checklist on file for future reference so that you can make informed comparisons between establishments (**Figure 20-10**).

After your visit, always remember to write a brief note thanking the salon or spa representative for his or her time (**Figure 20-11**). Even if you did not care for the salon or spa or would never consider working there, it is important to send a thank-you note (**Figure 20-12**).

Never burn your bridges. Rather, build a network of contacts that have a favorable opinion of you.



### Here's a Tip:

When you contact a salon or spa to make an appointment for an interview, you may be told that they are not currently hiring but would be happy to conduct an interview for future reference. Never think that this would be a waste of time. Take advantage of the opportunity. Not only will it give you valuable interview experience, but it may also provide opportunities that you would otherwise miss.

**Marie Luster**

333 Full Circle | Any town, USA 11111 | (813) 555-1234

marieluster@gmail.com

DATE

Dear Ms. (or Mr.) \_\_\_\_\_,

I appreciate the time you spent with me on the telephone earlier today and I am looking forward to meeting with you and visiting your salon next Tuesday at 11:00 p.m. I am eager to observe your salon and staff at work.

If you should need to reach me before that time for any reason, my cellular phone number(s) is \_\_\_\_\_.

Thank you again for our scheduled appointment on Tuesday.

Sincerely,

(Your Name)

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▲ **Figure 20-9** Sample appointment confirmation note.

**When you visit a nail salon, full service salon or spa observe the following areas and rate them from 1 to 5, with 5 considered being the best.**

\_\_\_\_\_ **SALON IMAGE:** Is the salon's image consistent and appropriate for your interests?  
Is the image pleasing and inviting? What is the decor and arrangement?  
(If you are not comfortable or if you find it unattractive, it is likely that clients will also.)

\_\_\_\_\_ **PROFESSIONALISM:** Do the employees present the appropriate professional appearance and behavior? Do they give their clients the appropriate levels of attention and personal service or do they act as if work is their time to socialize?

\_\_\_\_\_ **MANAGEMENT:** Does the salon show signs of being well managed?  
Is the phone answered promptly with professional telephone skills?  
Is the mood of the salon positive? Does everyone appear to work as a team?

\_\_\_\_\_ **CLIENT SERVICE:** Are clients greeted promptly and warmly when they enter the salon? Are they kept informed of the status of their appointment?  
Are they offered a magazine or beverage while they wait? Is there a comfortable reception area?

\_\_\_\_\_ **PRICES:** Compare price for value. Are clients getting their money's worth?  
Do they pay the same price in one salon but get better service and attention in another? If possible, take home salon brochures and price lists.

\_\_\_\_\_ **RETAIL:** Is there a well-stocked retail display offering clients a variety of product lines and a range of prices? Do the nail technicians and receptionist (if applicable) promote retail sales?

\_\_\_\_\_ **IN-SALON MARKETING:** Are there posters or promotions throughout the salon?  
If so, are they tasteful and of good quality?

\_\_\_\_\_ **SERVICES:** Make a list of all services offered by each salon and the product lines they carry. This will help you decide what earning potential nail techs have in each salon.

**SALON NAME:** \_\_\_\_\_

**SALON MANAGER:** \_\_\_\_\_

▲ **Figure 20-10** Salon Visit Checklist Form.

**Marie Luster**

333 Full Circle | Any town, USA 11111 | (813) 555-1234

marieluster@gmail.com

DATE

Dear Ms. (or Mr.) \_\_\_\_\_,

I appreciate having had the opportunity to observe your salon/spa in operation last Tuesday. Thank you for the time you and your staff gave me. I was impressed by the efficient and courteous manner in which your nail technicians served their clients. The atmosphere was pleasant and the mood was positive.

Should you ever have an opening for a professional with my skills and training in nail care and nail art, I would welcome the opportunity to apply. You can contact me at the address and phone number listed above.

I hope we will meet again soon.

Sincerely,

(Your Name)

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▲ **Figure 20–11** Sample thank-you note.



DATE

Dear Ms. (or Mr.) \_\_\_\_\_,

I appreciate having had the opportunity to observe your salon in operation last Tuesday. I know how busy you and all your staff are and want to thank you for the time that you gave me. I realize that it can be somewhat disruptive to have visitors observing your activities. I hope my presence didn't interfere with the flow of your operations too much.

I certainly appreciate the courtesies that were extended to me by you and your staff. I wish you and your salon continued success.

Sincerely,

(Your Name)

▲ **Figure 20-12** Thank-you note to a salon or spa at which you do not expect to seek employment.

## The Job Interview



After you have graduated and completed the first two steps in the process of securing employment—targeting and observing salons or spas—you are ready to pursue employment in earnest. The next step is to contact the establishments that you are most interested in by sending them a résumé with a cover letter requesting an interview. Choosing a salon or spa that is the best match to your skills will increase your chances of success.

Locating open positions in the beauty industry can be done through an online search. Many salons and spas have Web sites with special employment areas; others post openings on job boards specializing in the beauty industry or general career-related Web sites. The “Web Resources” sidebar shows examples of popular job boards in both of these categories. When completing an online application that requires you to fill out forms and send your résumé electronically, follow the instructions exactly as they are provided. For example, some employers may require you to cut and paste your résumé from a word processor. Others may request that you save the résumé in a particular file format, such as Word or PDF, and then upload it. Some salons and spas may wish to receive a cover letter and a digital portfolio, others may not. Whichever the case, always comply with the salon and spa guidelines.

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**WEB RESOURCES** To start looking for a nail technology job, begin at these Web sites:

### Industry Specific

<http://www.americansalonmag.com>  
<http://www.behindthechair.com>  
<http://www.modernsalon.com>  
<http://www.salonemployment.com>  
<http://www.salongigs.com>  
<http://www.spaandsalonjobs.com>

<http://www.craigslist.org>  
<http://www.jobbank.com>  
<http://www.jobs.net>  
<http://www.monster.com>  
<http://www.simplyhired.com>  
<http://www.snagajob.com>

### General

<http://www.careerbuilder.com>

Mark your calendar for a suitable time to make a follow-up call to this letter. A week is generally sufficient. When you call, try to schedule an interview appointment. In the event that the salon or spa may not have openings, ask them to keep your résumé on file should an opening arise in the future. Be sure to thank your contacts for their time and consideration.

## Interview Preparation

When preparing for an interview, make sure that you have all the necessary information and materials in place. Use the Preparing for the Interview Checklist as a guide (**Figure 20–13**). Also be sure to have the following information at the ready:

1. *Identification.*
  - Social Security number
  - Driver’s license number

## PREPARING FOR THE INTERVIEW CHECKLIST

### RÉSUMÉ COMPOSITION

- Does it present your abilities and what you have accomplished in your jobs and training?
- Does it make the reader want to ask, "How did you accomplish that?"
- Does it highlight accomplishments rather than detailing duties and responsibilities?
- Is it easy to read, short, and does it stress past accomplishments and skills?
- Does it focus on information that's relevant to your own career goals?
- Is it complete and professionally prepared?

### PORTFOLIO CHECKLIST

- Diploma, secondary, and post-secondary
- Awards and achievements while in school
- Current resume focusing on accomplishments
- Letters of reference from former employers
- List of, or certificates from, trade shows attended while in training.
- Statement of professional affiliations (memberships in nail technology organizations, etc.)
- Statement of civic affiliations and/or activities.
- Before and after photographs of technical skills services you have performed.
- Any other relevant information

*Ask yourself: Does my portfolio portray me and my career skills in the manner that I wish to be perceived? If not, what needs to be changed?*

### GENERAL INFORMATION

- Describe specific methods or procedures you will employ in the salon to build your clientele.
- Describe how you feel about retail sales in the salon and give specific methods you would use in the salon to generate sales.
- State why you feel consumer protection and safety is so important in the field of nail technology.
- After careful thought, explain what you love about your new career. Describe your passion for nail technology.

▲ **Figure 20-13** Preparing for the Interview Checklist form.



▲ **Figure 20-14** Dressed for an interview.

- Names, addresses, and phone numbers of former employers
  - Name and phone number of the nearest relative not living with you
2. *Interview wardrobe.*

- Your appearance is crucial, especially since you are applying for a position in the image and beauty industry (**Figure 20-14**). It is recommended that you obtain one or two interview outfits. You may be asked to return for a second interview; hence the need for a second outfit. Consider the following points:
  - Is the outfit appropriate for the position?
  - Is it both fashionable and flattering, and similar to what the salon's or spa's current stylists wear? (If you haven't visited the salon or spa, walk by or check out its Web site to gauge its style culture so you can dress accordingly.) Are your accessories both fashionable and functional (e.g., not noisy or so large that they interfere with performing services)? Are your nails groomed, and do they say something positive about your abilities as a nail technician? Always keep your nails in pristine shape. Beautiful nails advertise your excellent skills and help an interviewer imagine the potential in you. Is your hairstyle current? Does it flatter your face and your overall style?
  - Is your makeup current? Does it flatter your face and your overall style?
  - For men, are you clean shaven or is your beard properly trimmed?
  - If you are wearing a fragrance, is it subtle?
  - Do you have an appropriate handbag or briefcase? Never carry both.
3. *Supporting materials.*
- Résumé and cover letter. Even if you have already sent one, take a copy of each with you.
  - Facts and figures. Have at the ready a list of names and dates of former employment, education, and references.
  - Employment portfolio. Even if you just have two photos in your portfolio and they are examples of work you have done for friends, bring them along.
4. *Review and prepare for anticipated interview questions.*
- Certain questions are typically asked during an interview. Being familiar with these questions will allow you to reflect on your answers ahead of time. You might even consider role-playing an interview situation with friends, family, or fellow students. Typical questions include the following:
- Why do you want to work here?
  - What did you like best about your training?
  - Are you punctual and regular in attendance?

- Will your school director or instructor confirm this?
- What skills do you feel are your strongest?
- In which areas do you consider yourself to be less strong?
- Are you a team player? Please explain.
- Do you consider yourself flexible? Please explain.
- What are your career goals?
- What days and hours are you available for work?
- Are there any obstacles that would prevent you from keeping your commitment to full-time employment? Please explain.
- What assets do you believe you would bring to this salon or spa, and this position?
- What computer skills do you have?
- How would you handle a client who was unhappy with your manicure?
- How do you feel about retailing?
- Would you be willing to attend our company training program?
- Would you please describe ways that you provide excellent customer service to your clients?
- What consultation questions might you ask a client?
- What steps do you take to build your business and ensure that clients return to see you?

**5. Be prepared to perform a service.**

Some salons and spas require applicants to perform a mini or full nail service as part of the interview, in which case, you may need to provide your own model. Be sure to confirm whether this is a requirement. If it is, make sure that your hand model is appropriately dressed and properly prepared for the experience. In some cases, the salon or spa may provide hand models for interviewing purposes. Whichever the case, be prepared and bring the necessary supplies, products, and tools to demonstrate your skills.

## The Interview

On the day of the interview, try to make sure that nothing occurs that will keep you from completing the interview successfully. You should practice the following behaviors in connection with the interview itself.

- Always be on time or—better yet—early. If you are unsure of the location, find it the day before so there will be no reason for delays.
- Turn off your cell phone! Do not arrive with ear buds or a hands-free cell phone device in your ear.
- Project a warm, friendly smile. Smiling is the universal language.
- Walk, sit, and stand with good posture.
- Be polite and courteous.





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▲ **Figure 20–15** Interview in progress.

- Do not sit until asked to do so, or until it is obvious that you are expected to do so.
- Never smoke or chew gum, even if either is offered to you.
- Do not come to an interview with a cup of coffee, a soft drink, snacks, or anything else to eat or drink.
- Never lean on or touch the interviewer's desk. Some people do not like their personal space broached without an invitation.
- Try to project a positive first impression by appearing as confident and relaxed as you can (**Figure 20–15**).
- Speak clearly. The interviewer must be able to hear and understand you.
- Answer questions honestly. Think the question and answer through carefully. Do not speak before you are ready, and not for more than 2 minutes at a time.

- Never criticize former employers.
- Always remember to thank the interviewer at the end of the interview.

Another critical part of the interview comes when you are invited to ask the interviewer questions of your own. You should think about those questions ahead of time and bring a list if necessary. Doing so will show that you are organized and prepared. Some questions that you might consider are:

- What are you looking for in a nail technician?
- Is there a position description? May I review it?
- Is there a salon or spa manual? May I review it?
- How is the salon or spa promoted?
- What is the average tenure of the nail stylists?
- What are the salon's or spa's top three nail services?
- What products are used?
- Are employees encouraged to grow in skills and responsibility? How so?
- Does the salon or spa offer continuing education opportunities?
- Is there room for advancement? If so, what are the requirements for promotion?
- What key benefits does the salon or spa offer, such as paid vacations, personal days, and medical insurance?
- What outside and community activities is the salon or spa involved in?
- What is the form of compensation?
- When will the position be filled?
- May I contact you regarding your decision?
- May I have a tour of the salon or spa and the nail department?



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## Activity

Find a partner among your fellow students and role-play the employment interview. Each of you can take turns as the applicant and the employer. After each session, have a brief discussion regarding how it went, that is, what worked and what didn't work. Discuss how the process could be further improved. Bear in mind that a role-play activity will never predict exactly what will occur in a real interview. However, the process will help you to be better prepared for that important event in your employment search.

Do not feel that you have to ask all of your questions. The point is to create as much of a dialogue as possible. Be aware of the interviewer's reactions and be sensitive to when you may have asked enough questions. By obtaining the answers to at least some of your questions, you can compare the information you have gathered about other salons or spas and then choose the one that offers the best package of income and career development.

Remember to follow up the interview with a thank-you note or e-mail. It should simply thank the interviewer for the time she or he spent with you. Close with a positive statement that you want the position (if you do). If the interviewer's decision comes down to two or three possibilities, the candidate expressing the most desire may be offered the position. Also, if the interviewer suggests that you call to learn about the employment decision, then definitely do so.

### Legal Aspects of the Employment Interview

Over the years, a number of legal issues have arisen about questions that may or may not be included in an employment application or interview, including ones that involve race/ethnicity, religion, and national origin. Generally, there should be no questions in any of these categories. Additional categories of appropriate and inappropriate questions are listed below:

- Age or date of birth. It is permissible to ask the age of an applicant appears younger than 18. Otherwise, age should not be relevant in most hiring decisions; date-of-birth questions prior to employment are improper.
- Disabilities or physical traits. The Americans with Disabilities Act prohibits general inquiries about health problems, disabilities, and medical conditions.
- Drug use or smoking: Questions regarding drug or tobacco use are permitted. In fact, the employer may obtain the applicant's agreement to be bound by the employer's drug and smoking policies and to submit drug testing.
- Citizenship. Employers are not allowed to discriminate because an applicant is not a U.S. citizen. However, employers can request to see a green card or work permit.

### fyi

It can be difficult for new graduates to afford the two or three outfits necessary to project a confident and professional image when going out into the workplace. Fortunately, several nonprofit organizations address this need. These organizations receive donations of clean, beautiful clothes in good condition from individuals and manufacturers. The clothes are then passed along to women and men who need them. For more information, visit Wardrobe for Opportunity at <http://www.wardrobe.org> and Dress for Success at <http://www.dressforsuccess.org>.

# Did You Know?

The following are examples of illegal and legal interview questions:

## Illegal Questions

How old are you?

Please describe your medical history.

Are you a U.S. citizen?

What is your native language?

## Legal Questions

Are you over the age of 18?

Are you physically able to perform this job?

Are you authorized to work in the United States?

In which languages are you fluent?

**Social Media Activity:** Potential employers may use the Internet and social media sites to research the character of applicants. It has not been proven illegal for potential employers to ask for the passwords of such accounts. Therefore, it is wise to be aware of what you post publicly on social media websites and how your page may impact the impression you make on potential employers. If your privacy settings are not restricted, content such as personal photos and wall postings will become public knowledge and potentially influence the opinion of a hiring manager. It is important to recognize that not all potential employers will understand that they may be asking improper or illegal questions. If you are asked such questions, you might politely respond that you believe the question is irrelevant to the position you are seeking, and that you would like to focus on your qualities and skills that are suited to the position and the mission of the establishment.

## Employee Contracts

Employers can legally require you to sign contracts as a condition of employment. In the salon and spa business, common contracts are non-compete and confidentiality agreements.

Confidentiality agreements may be put into place to ensure that salon and spa employees do not disclose proprietary information regarding the salon or spa. This may include data regarding financial figures, trade secrets or even the identity of guests that patronize the salon or spa. Noncompete agreements protect the salon or spa business in a different way. Salon and spa owners often invest a great deal of time in training, and they do not want you taking that education to a competing salon or spa in the area once your apprenticeship or initial training is complete. Non-compete agreements address this issue by prohibiting employment within a given time period and geographical area after you leave employment with the salon or spa.

Often, non-compete agreements also forbid employees from gathering and keeping client records, including client phone numbers. A contract cannot interfere with your rights to work, and as result, these contracts must be very specific and are sometimes controversial. If you are presented with any contract, take it home, read it, and make certain you completely understand it. If you do not completely understand any part of it, consult with a labor law attorney before signing it.

## The Employment Application

Any time that you are applying for any position, you will be required to complete an application, even if your résumé already contains much of the requested information. Your résumé and the list of questions you will ask the interviewer will assist you in completing the application quickly and accurately. **LO5**



## ■ DOING IT RIGHT

You are ready to set out on your exciting new career as a professional nail technician. The right way to proceed is by learning important study and test-taking skills early and applying them consistently.

Think ahead to your employment opportunities and use your time in school to develop a record of interesting, noteworthy activities that will make your résumé exciting. When you compile a history that shows how you have achieved your goals, your confidence will grow.

Always take one step at a time. Be sure to take the helpful preliminary steps that are discussed when preparing for employment.

Develop a dynamic portfolio. Keep your materials, information, and questions organized to ensure a high-impact interview.

Once you are employed, take the necessary steps to learn all that you can about the industry. Attend trade shows and take advantage of as much continuing education as you can manage. Become an active participant in efforts to make the cosmetology and nail technology industry even better. See **Chapter 21, On the Job**, to learn some great strategies for ensuring your career success. As you transition into your new career as a beauty professional, let Milady continue the journey with you. Be sure to visit the Milady Education Network website at [www.miladyednet.com](http://www.miladyednet.com). In addition to helping you prepare for your State Board exam, the Milady Education Network offers access to materials designed to help you hit the ground running and grow your skill set, assuring long-term success no matter where you may take your career.



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## ■ Review Questions

1. What habits and characteristics does a test-wise student have?
2. What is deductive reasoning?
3. What are the four most common testing formats?
4. List and describe the different types of salon or spa businesses available to nail technicians.
5. What is a résumé?
6. What is an employment portfolio?
7. List the items that should be included in your employment portfolio.
8. What are some questions that you should never be asked when interviewing for a position?

# On the Job

# 21

## Chapter Outline

- Why Study What It Is Like on the Job?
- Moving from School to Work
- Out in the Real World
- Managing Your Money
- Discover the Selling You
- Keeping Current Clients and Expanding Your Client Base
- On Your Way



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# Learning Objectives

After completing this chapter, you will be able to:

- ✔ **LO1** Describe the characteristics necessary to thrive in a service profession.
- ✔ **LO2** Discuss the importance and meaning of a job description.
- ✔ **LO3** Explain the most common ways that nail technicians are compensated.
- ✔ **LO4** Manage a personal budget.
- ✔ **LO5** Explain the principles of selling products and services in the salon.
- ✔ **LO6** Discuss the importance of maintaining and growing your client base.

## Key Terms

Page number indicates where in the chapter the term is used.

**client base** / 468

**commission** / 462

**job description** / 459

**retailing** / 469

**ticket upgrading (upselling services)** / 469

Congratulations! You have worked hard and conducted yourself professionally while in nail technology school, passed your state's licensing exam, and may have been offered your first position in the field. Now, more than ever, you need to prioritize your goals and commit to personal rules of conduct and behavior. These goals and rules should guide you throughout your career. If you let them, you can always expect to have work and enjoy all the freedom that your chosen profession can offer (**Figure 21-1**).

## WHY STUDY WHAT IT IS LIKE ON THE JOB?

Nail technicians should have a thorough understanding of what it is like on the job because:

- ▶ Each salon or spa staff member must work as part of a team. Learning to do so is an important aspect of being successful in this environment.
- ▶ There are a variety of ways that a salon or spa may compensate employees. Being familiar with each method and knowing how it works will help you to determine if the compensation system at a particular salon or spa can work for you and what to expect from it.
- ▶ Once you are working as a salon or spa professional, you will have financial obligations and responsibilities. Learning the basics of financial management while you are building your clientele and business is invaluable.
- ▶ As you build your clientele and settle into your professional life, there will be opportunities for you to increase your income, such as retailing and upselling services. Knowing about and using these techniques will help you to promote yourself, build a loyal client base, and create a sound financial future.

## MOVING FROM SCHOOL TO WORK

Making the transition from school to work can be difficult. While you may be thrilled to have a position, working for a paycheck or independently operating your own nail business brings with it a number of duties and responsibilities that you may not have considered.

Nail school is a forgiving environment. You are given the chance to do a certain procedure over and over again until you get it right. Making and fixing mistakes is an accepted part of the process, and your instructors and mentors are there to help you. Schedules can be adjusted, if necessary, and you are given some leeway in juggling your personal life with the demands of your schooling. When you become the employee of a salon, spa, or an independent operation, however, you will be expected to put the needs of the business and its clients ahead of your own. This means that you must be on time for your scheduled shift and be prepared to perform whatever services or functions are required of you, regardless of what is happening in your personal life. For example, if someone comes to you with tickets for a concert on a day when you are scheduled to work, you cannot just take the day off. This would definitely inconvenience your clients, who might even decide not to return to the salon or spa. It could also burden your coworkers, who might feel resentful if they are asked to take on your appointments.



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▶ **Figure 21-1** Nail technician successfully transitioning from school to work.



## Budgeting for Your Student Loans

Your school expenses may include rent, utilities, and other related expenses. As you progress in your career, your expenses will change and your income will grow. Through it all, you will continue to budget your income and expenses. Remember, a budget simply helps you identify where your money is going. A very important expense that will be added to your budget when you leave school is the repayment of your student loan. Many of you may have paid for your education through student loans. Understand that this is not free money, it is a loan that must be repaid with interest.

Good credit is also necessary if you want to borrow more money to open a business or buy a house. Good credit is built by paying your bills on time—paying off balances in full. You lose your good credit standing when you are late with payments or default on a loan, including your student loan. Here are some tips to help you when it comes to borrowing and repaying student loans:

- Borrow only what you need for school and school-related expenses.
- Know what you are borrowing: read all the information and fine print.
- Pay attention to your entrance and exit loan counseling.
- Pay your loan on time.
- Keep in touch with your loan servicer: he or she is there to help!
- Keep your paperwork organized.
- Know you must repay your loan whether you drop out of school or graduate, or find a job or not.
- Understand the consequences of defaulting:
  - The entire loan will become due and payable immediately.
  - Your federal income tax refunds will be garnished.
  - Your wages will be garnished.
  - You will be ineligible to receive any additional federal student aid (including grants).



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**WEB RESOURCE** The National Student Loan Data System (NSLDS) is the U.S. Department of Education's central database for student aid. It provides a centralized, integrated view of Title IV loans and grants that are tracked through the entire cycle beginning with aid approval through to closure. The Web site is available 24 hours a day, 7 days a week. You can use the Web site to make inquiries about your Title IV loans and/or grants. The site displays information on loan and/or grant amounts, outstanding balances, and the status of loans. Visit <http://www.nsls.ed.gov>.

## ■ OUT IN THE REAL WORLD

Many students believe they should be rewarded with a high-paying position and perform only the kinds of services they wish to do as soon as they graduate from school. It does not work out that way for most people. When working, you may be asked to perform tasks or services that are not your first choice. The good news is that when you are really working in the trenches, you are learning every moment. There is no substitute for that kind of experience.

What is important is to determine which type of position is right for you by being honest with yourself as you evaluate your skills. If you need help and direction in sorting out the issues about the workplaces you are considering, ask your instructor and mentors for advice. If you choose a salon or spa carefully, based on its culture and type of salon or spa and the benefits that you prefer (as discussed in Chapter 20, Seeking Employment), you'll be off to a great start.

### Thriving in a Service Profession

The first thing to remember when you are in a service business is that your career revolves around serving your clients. There will always be some people who do not treat others with respect; however, the majority of the people you encounter will truly appreciate the work you do for them. They will look forward to seeing you and will show their appreciation for your hard work with their loyalty.

Here are some points that will help guide you as you serve your clients.

- *Put others first.* You will have to quickly get used to putting your own feelings or desires aside and the needs of the salon or spa and the client first. This means doing what is expected of you (unless you are physically unable to do so).
- *Be true to your word.* Choose your words carefully and honestly. Be someone who can be counted on to tell the truth and to do what you say you will do.
- *Be punctual.* Scheduling is central to the nail business. Getting to work on time shows respect not only for your clients, but also for your coworkers—who will have to handle your clients if you are late.
- *Be a problem solver.* No position or situation comes without its share of problems. Be someone who recognizes problems promptly and finds ways to resolve them constructively.
- *Be courteous.* The space you work in is shared with others. Always make sure that voice levels do not disturb others in the surrounding area. In addition, avoid discussing subject matter that may be considered offensive at all times in the event that it is overheard.
- *Practice good manners.* Successful people always practice good conduct and manners inside and outside of the work environment. Always say “please” and “thank you,” and show respect for others. You never know who is observing you.

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Network with mentors, nail professionals, educators, and classmates. Ask questions, take advice, listen, and consider all your options! You will open yourself up to knowledge, resources, and terrific nail industry information.



- *Be a lifelong learner.* Valued employees continue to learn throughout their careers. Thinking that you have finished learning once you are out of school is immature and limiting. Your career might go in all kinds of interesting directions, depending on what new things you learn. This applies to everything in your life. Besides learning new technical skills, you should continue to gain more insight into your own behavior and how to better deal with people, problems, and issues.
- *Look and act professional.* Not only must your technical skills be well developed and your work area clean, your appearance and behavior are all part of the client experience. Take care in your clothing and personal hygiene by greeting clients with a look that leaves them with a great first impression about you and your work. Maintain a positive attitude: Demonstrate that you are ready to provide excellent service for them and have their best interest in mind.

## Furthering Your Education

In a professional environment, it is important to always perform quality work, meet the expectations of your clients, and be well versed in the latest nail trends. It is also wise to expand your skill set in order to offer a wide range of services in case one service area slows down due to a change in season or the economy. To do so, it is important to remain knowledgeable about changes in your industry. You can accomplish this through a combination of the approaches below:



- Read industry magazines. A powerful source of information comes from periodicals such as *Nails Magazine*. Visit [www.nailsmag.com](http://www.nailsmag.com) for more information.
- Attend trade shows and networking events. Both national and international beauty shows offer the opportunity to take classes and gain exposure to the latest in nail technology. Many vendors hold classes, offer demonstrations, and are available to answer technical questions. Networking and exchanging knowledge with other professionals can be very helpful in overcoming technical challenges and learning best practices.
- Attend classes. Improving your current skills and learning new techniques will be critical to your success. Visit the professional section of your product vendor Web site for further information and course offerings.
- Read trade journals, such as *Nailpro* and *Nails* magazine to learn current trends and the latest technical information. The [nailpro.com](http://nailpro.com) Web site also has discussion forums so you can network virtually with other nail technicians. **LO1**

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## Salon Teamwork

Working requires that you practice and perfect your people skills. A salon or spa is very much a business environment. To become a good team player, you should do your best to practice the following workplace principles:

- *Strive to help.* Be concerned not only with your own success, but also with the success of others. Be willing to help a teammate by staying a little later or coming in a little earlier.



- *Pitch in.* Be willing to help with whatever needs to be done in the salon or spa—from folding towels to making appointments—when you are not busy servicing clients (**Figure 21–2**).
- *Share your knowledge.* Be willing to share what you know. This will make you a respected member of any team. At the same time, be willing to learn from your coworkers by listening to their perspectives and techniques.
- *Remain positive.* Resist the temptation to give in to maliciousness and gossip.
- *Become a relationship builder.* Just as there are different kinds of people in the world, there are different types of relationships within the salon or spa world. You do not have to be someone’s best friend in order to build a good working relationship with that person.
- *Be willing to resolve conflicts.* The most difficult part of being in a relationship is when conflict arises. A real teammate is someone who knows that conflict and tension are bad for the people who are in it, those who are around it, and the salon or spa as a whole. Nevertheless, conflict is also a natural part of life. If you can work constructively toward resolving conflict, you will always be a valued member of the team. If you do have a conflict, discuss it with the individual, not with others in the salon or spa.
- *Be willing to be subordinate.* No one starts at the top. Keep in mind that beginners almost always start out lower in the pecking order.
- *Be sincerely loyal.* Loyalty is vital to the workings of a salon or spa. Nail technicians should be loyal to the salon and its management. Management needs to be loyal to the staff and clients. Ideally, clients will be loyal to the nail technician and the salon and spa. Staff meetings are a good way to help build team loyalty. As you work on all the team-building characteristics, you will start to feel a strong sense of loyalty to your salon or spa. (**Figure 21–3**).



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▲ **Figure 21–2** Pitch in and be a team player by helping a colleague.



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▲ **Figure 21–3** Staff meetings are a good way to build team loyalty.

## The Job Description

When you take a position, you will be expected to behave appropriately, perform the services asked of you, and conduct your business professionally. In order to do this to the best of your abilities, you should be given a **job description**, a document that outlines all the duties and responsibilities of a particular position in a salon or spa. Many nail salons and spas have preprinted job descriptions available. If you find yourself at a salon or spa that does not use them, you may want to write one for yourself. You can then present this to your

## Here's a Tip:

Because we are all individuals and come with our own experiences and ideas, we may look at situations differently. Because of our differences, conflict can arise with coworkers. When this happens, follow these tips:

1. Ask to meet privately with the individual.
2. Focus on the behavior or situation and not the person. Speak in terms of how you feel.
3. Avoid blaming the other person for the disagreement.
4. Ask questions to try to understand the other person's point of view; you will learn more and clear up any miscommunication.
5. Become accountable for your part in the situation. Make it a goal to learn how you can adjust your behavior.
6. After you understand what is behind the behavior, and know more, come to an agreement on what can be done differently in the future.

For example, Tina, a coworker, is short with you because you asked to borrow her nail glue. You might ask to meet privately and say:

You: "Tina, I felt embarrassed when you rolled your eyes after I asked to borrow your glue to fix Mrs. Smith's nail. What about that upset you? I want to understand."

Tina: "I was in the middle of working with a client and had no time to search for the glue. Besides, it was the third time you asked me for supplies this week."

You: "I see why that would bother you. I didn't have time to get to the supply house over the weekend, so I'll go during lunch. While I'm there, can I pick up anything for you?"

Tina: "No, I'm all set."

You: "I'll make sure to keep my supplies stocked from now on."



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## FOCUS ON...

### Being a Good Teammate

While each individual may be concerned with getting ahead and being successful, a good teammate knows that no one can be successful alone. You will be truly successful if your entire salon or spa is successful!

salon manager for review to ensure that both of you have a good understanding of what is expected of you.

Once you have your job description, be sure you understand it. While reading it over, make notes and jot down any questions you want to ask your manager. When you assume your new position, you are agreeing to do everything that is listed in the job description. If you are unclear about something, or need more information, it is your responsibility to ask. How well you fulfill these duties will influence your future at the salon or spa, as well as your financial rewards.

In crafting a job description, the best salons and spas cover all the bases. They make sure to outline not only the employees' duties and responsibilities, but also the attitudes that they expect their employees to have and the opportunities that are available to them. **Figure 21-4** shows some highlights from a well-written nail specialist apprentice job description. This is just one example. Like the salons and spas that generate them, job descriptions come in all sizes and shapes and feature a variety of requirements, benefits, and incentives. **LO2**

## Job Description: Nail Specialist Apprentice

Every apprentice must have a nail technology license as well as the determination to continue learning and expand their skill set. As an assistant you must be willing to cooperate with coworkers in a team environment, which is most conducive to learning and to good morale among all employees. You must display a friendly yet professional attitude toward coworkers and clients alike.

Excellent time management is essential to the operation of a successful salon. An apprentice should be aware of clients who are early and late or nail technicians who are running ahead or behind in their schedule. You should be prepared to assist in those situations and to change your routine if necessary. Keep the receptionist and nail technicians informed about clients who have entered the salon. Be prepared to stay up to an hour late when necessary. Keep in mind always that everyone needs to work together to get the job done.

### The responsibilities of an apprentice include:

1. Greeting clients by offering them a beverage, hanging up coats, and informing the receptionist and nail technicians that they have arrived.
2. Consultations for nail services and nail retail.
3. Assisting nail technicians in services that require extra help.
4. Cleaning and disinfecting stations and work areas.
5. Keeping the nail stations and inventory well stocked with appropriate products.
6. Notifying the nail salon manager about items and supplies that need to be reordered.
7. Making sure the pedicure stations are drained, cleaned, disinfected and free of debris.
8. Keeping the nail display is neat and clean.
9. Keeping the retail area neat and well stocked.
10. Keeping the bathroom and dressing room neat, clean, and stocked.
11. Performing housekeeping duties such as: emptying trash receptacles, cleaning up dust on floors, keeping the lunch room and dispensary neat and clean, helping with laundry, and dusting shelves.
12. Making fresh coffee when necessary.
13. Training new assistants.

### Continuing Education

Your position as apprentice is the first step toward becoming a successful nail technician. In the beginning, your training will focus on the duties of an apprentice. Once you have mastered those, your training will focus on the skills you will need as a nail technician.

#### As part of your continuing education in this nail salon you will be required to:

- attend all salon classes
- attend our special Sunday Seminars

### Advancement

You will need to acquire all professional tools necessary for training at twelve weeks (implements, nail brushes, hand files/electric file, nail art, etc.). Upon successful completion of all required classes and seminars and your demonstration of the necessary skills and attitudes, you will have the opportunity to advance to the position of nail technician. This advancement will always depend upon your performance as an apprentice as well as the approval of management.

**Remember:** how quickly you achieve your goals in this nail salon is up to you!

▲ **Figure 21-4** Example of a nail specialist apprentice job description.

## Compensation Plans

When you assess an offer of employment, your first concern will probably be the compensation, or what you will be paid for your work.

Compensation varies from one salon to another. There are, however, three common methods of compensation that you are likely to encounter: salary, commission, and salary plus commission.

### Salary

Since new nail professionals rarely have an established clientele, being paid an hourly rate is one way to start out. This hourly rate is usually based on the minimum wage. Some salons offer an hourly rate that is slightly higher than the minimum wage to encourage new nail technicians to take the position and stick with it. In this situation, if you earn \$10 per hour and you work 40 hours, you are paid \$400 that week. If you work more hours, you get more pay. If you work fewer hours, you get less pay. Regular taxes are taken out of your earnings.

Remember, if you are offered a set salary each week, in lieu of an hourly rate, that salary must be equal to the minimum wage for the number of hours you work. You are entitled to overtime pay if you work more than 40 hours per week. The only exception would be if you were in an official management position.

### Commission

A **commission** is a percentage of the revenue that the salon or spa takes in from services performed by a particular nail technician. Commission is usually offered once a nail technician has built up a loyal clientele. A commission payment structure is very different from an hourly wage because the money you are paid is a direct result of the total amount of service dollars you generate for the salon or spa. Commissions are paid based on percentages of your total service dollars and can range anywhere from 25 to 60 percent, depending on your length of time at the salon, your performance level, and the benefits that are part of your employment package.

Suppose for example, that at the end of the week, when you add up all the services that you have performed, your total is \$1,000. If you were at the 50 percent commission level, then you would be paid \$500 (before taxes). With a commission payment structure, the salon or spa usually provides all of the products you need to perform the nail services. You may be responsible for providing your personal tools, such as nail brushes, files, electric drills, and sometimes nail art supplies. Keep in mind that until you have at least 2 years of servicing clients under your belt, you may not be able to make a living on straight commission payments unless they average out to be at least minimum wage.

### Salary Plus Commission

A salary-plus-commission structure is another way to be compensated in the salon or spa business. It basically means that you receive both a salary and a commission. This kind of structure is often used to motivate nail technicians to perform more services, thereby increasing their productivity. For example, imagine that you earn an hourly wage of \$300 per week and perform about \$600 worth of services every week. Your salon manager may offer you an additional 25 percent commission on any services you perform over

### Here's a Tip:

Accepting a commission-paying position in a salon can have its pluses and minuses for new nail technicians. If you think you have enough clients to work on commission and can earn enough to pay your expenses, then go ahead and give it a try. It could be a great way to work into better commission scales or even booth renting. (Only Pennsylvania forbids booth renting by law, but other states may regulate licensing differently. Always check.)

If you don't think you can make enough money solely on a commission basis, then take a position in a salon or spa that is willing to pay you an hourly wage until you build your client base. After you have honed your technical skills and built a solid client base, you can consider working on commission.

your usual \$600 per week. Or perhaps you will receive a straight hourly wage but can receive as much as a 15 percent commission on all the retail products you sell. Sometimes, salons or spas call this structure “salary plus bonus.” Here, your salary is based on an average of what you would have made if you were paid commission, but you also get a bonus on anything over and above. You can see how this kind of structure quickly leads to significantly increased compensation (**Figure 21–5**).

## Tips

When you receive satisfactory service at a hotel or restaurant, you are likely to leave your server a tip. It has become customary for salon clients to acknowledge beauty professionals in this way, too. Some salons and spas have a tipping policy; others have a no-tipping policy. This is determined by what the salon or spa feel is appropriate for its clientele.

The usual amount to tip is 15 percent of the total service ticket. For example, if a customer spends \$50, then the tip might be 15 percent of that, or \$7.50. Tips are income in addition to regular compensation and must be tracked and reported on an income tax return. Reporting tips will be beneficial to you if you wish to take out a mortgage or another type of loan and want your income to appear as strong as it really is.

## Deciding on Appropriate Compensation

As you can see, there are a number of ways to structure compensation for a nail professional. You will probably have the opportunity to try each of these methods at different points in your career. When deciding whether a certain compensation method is right for you, it is important to be aware of what your monthly expenses are and to have a personal financial budget in place. Budget issues are addressed later in this chapter. **LO3**

## Employee Evaluation

The best way to keep tabs on your progress is to ask for feedback from your clients, salon or spa manager, and key coworkers. Most likely, your salon or spa will have a structure in place for evaluations. Commonly, evaluations are scheduled 90 days after hiring and then once per year after that. But you should feel free to ask for help and feedback any time you need it. This feedback can help you improve your technical abilities as well as your customer service skills.

Ask a senior nail technician to sit in on one of your client consultations and to make note of areas where you can improve. Ask your manager to observe your technical skills and to point out ways you can perform your work more quickly and more efficiently. Have a trusted coworker watch and evaluate your skills when it comes to selling retail products. All of these evaluations will benefit your learning process enormously.

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Photography by Joseph Schuyler.



▲ **Figure 21–5** Retail sales boost your income.

## Did You Know?

Nail technicians can increase their chances of building a solid and loyal clientele more quickly if they:

- Live in a large city or choose areas within their cities that have lots of potential clients.
- Select a location where the competition for nail clients is less saturated.
- Have advanced training, skills, and certifications.
- Have and use their artistic abilities.
- Employ marketing and publicity strategies.
- Concentrate on an unusual niche within the nail business (teens, for example).

## Find a Role Model

One of the best ways to improve your performance is to model your behavior after someone who is having the kind of success that you wish to have. Watch other nail technicians in your salon. You will easily be able to identify who is really good and who is just coasting along. Focus on the skills of those who are really good. What do they do? How do they treat their clients? How do they treat the salon or spa staff and manager? How do they book their appointments? How do they handle their continuing education? How do they select which products to use? What is their attitude toward their work? How do they handle a crisis or conflicts?

Go to these professionals for advice. Ask for a few minutes of their time; however, bear in mind that it may not be easy to find time to talk during a busy salon or spa workday. If you are having a problem, explain your situation, and ask if they can help you see things differently. Be prepared to listen and not to argue your points. There may be times when others provide feedback that you may not want to hear. Keep in mind that you asked for help. Always thank the person for their help and reflect on the advice you have been given. A little help and direction from a skilled, experienced coworker will go a long way toward helping you achieve your goals.

## ■ MANAGING YOUR MONEY

Although a career in the beauty industry is very artistic and creative, it is also a career that requires financial understanding and planning. Too many nail professionals live for the moment and do not plan for their future. As a result, they may end up feeling cheated out of benefits that their family and friends in other careers are enjoying in traditional corporate careers.

In a corporate structure, the human resources department of the corporation handles a great deal of the employee's financial planning for them. For example, health and dental insurance, retirement accounts, savings accounts, and many other items may be automatically deducted and paid out of the employee's salary. Most nail technicians, however, must research and plan for all of those expenses on their own. This may seem difficult, but it is a small price to pay for the kind of freedom, financial reward, and satisfaction that a career in nail technology can offer. And the good news is that managing money is something everyone can learn to do.

### Meeting Financial Responsibilities

Budgeting and understanding how much money you will need to meet your monthly financial obligations—such as housing, food, and your car—is a very important part of the employment planning process. For example, if you know that you will need to make \$3,000 per month to support your needs, you will want to calculate how this translates into the number of clients and services you perform per month. To do this, you will need your pricing per service, the interval that you expect to service your clients, and the number of days you plan to work per month. This figure will tell you how much you need to earn per day to meet your goals.



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Below is an example of a nail technician living in a metropolitan city requiring \$3,000.00 per month for her financial obligations. See how that translates into her basic client services:

- Manicure: \$20.00
- Pedicure: \$35.00
- Manicure and pedicure: \$50.00
- Average working days per month: 20

$\$3,000 \div 20 = \$150.00$  per day

Option 1:  $\$150.00 \div \$20.00 = 7.5$  manicures per day

Option 2:  $\$150.00 \div \$35.00 = 4.30$  pedicures per day

Option 3:  $\$150.00 \div \$50.00 = 3$  manicure/pedicures per day

In addition to making money, responsible adults are also concerned with paying back their debts. Throughout your life and your career, you will undoubtedly incur debt in the form of car loans, home mortgages, or student loans. While it is easy for some people to merely ignore their responsibility in repaying these loans, it is extremely irresponsible and immature to accept the loan and shrug off the debt. Not paying back your loans is known as “defaulting,” and it can have serious consequences regarding your personal and professional credit. The best way to meet all of your financial responsibilities is to know precisely what you owe and what you earn, so that you can make informed decisions about where your money goes.



## FOCUS ON...

### Salon Technology

Various surveys show that the salon and spa industry is slow to adapt to computerization and new technologies. Nearly one in three (33 percent) of salons are computerized and have Internet access. However, larger and more upscale salons are far more likely to be computerized and have Internet and e-mail access. About 22 percent of owners and managers have ordered products online.

The increasing number of computerized salons could be advantageous for technology-savvy students. You may be able to master salon software programs more easily than other stylists. These programs now handle cash flow management, inventory tracking, payroll automation, online booking, performance evaluation tracking, and more. Just remember, these client records are usually considered the salon's property.

If you are accustomed to working with technology, you may be able to help a salon or spa set up e-mail access, a Web site, and social networking pages. With many clients enjoying the freedom of online booking and text-message appointment reminders, and with salons and spas benefiting from e-mail or even electronic marketing programs, the more you understand technology, the better. Today, nail care manufacturers even have special educational programs you can access on your mobile phone and social networking pages, where you can share information and ask for instant help.

## Setting Your Career (and the Industry) Up to Win!

Are you proud of the industry you are entering? Do you like to tell everyone you meet about your decision to become a professional in the beauty and wellness industry? When you tell someone that you are attending school to become a nail technician, what responses have you received? Chances are that at least a few people have questioned why you would want to work in such an industry. You see, there is a common misconception in our world today that a career in the beauty and wellness industry is not a viable career—that it is not profitable work. The general public doesn't know what you have gone through to get your education. They are not aware of the hours spent studying the sciences that are involved or the infection control standards that you must learn and apply. They don't realize the physical demands you must endure as well as the people skills you must possess. There is a misperception in our world that says beauty and wellness professionals are undereducated and make far less money than people in other industries. In fact, if you were to look at the U.S. Bureau of Labor Statistics, the reported median salary for a beauty and wellness professional is between \$25,000 and \$30,000. That seems low, doesn't it? Your school may have told you that you would have the opportunity to make much more than this. So why is this official figure so low?

The reality is that many professionals in our industry may not accurately report their income. It's not that they are intentionally trying to beat the system; it's that they never learned what was required or how important it is. Many professionals don't know that accurately reporting *all* income, including tips, is required by federal law. These professionals do not understand the impact that their lack of reporting has on the beauty and wellness industry.

It is critical that you realize that in addition to your own success, you have a responsibility to raise the image and standards of this great industry. As you begin your career and work with other professionals in the industry, some may tell you that you do not have to report your tips as income. Realize that this is bad advice and is *100 percent absolutely false*. Every salon/spa professional, including both technicians and owners, is required by federal law to report all income, including tips as taxable wages. Tips are taxable wages: you are not only required to report them as income but must also pay the required FICA taxes on those tips. This is a *required* law, and compliance is not optional. Under-reporting income devalues you as a professional and the industry as a whole. Failure to accurately report all income has consequences.

1. It is a federal law. If you do not accurately report your income, you are vulnerable to IRS audits. Tax fraud and tax evasion are a criminal offense and can lead to legal action, including fines and penalties and potentially jail time.
2. It decreases your borrowing power. Down the road, you may decide to buy a home or open your own salon/spa. Your ability to borrow money is based on your reported income. If you report less than what you actually earn, you may be ineligible for a loan. You may make enough money to make it happen, but if it isn't on paper, it will not come to pass. Income needed to borrow money must be documented.
3. You are paying less into Social Security. It may be hard to think about retirement since you are just beginning your career; however, that is the



best time to start planning. One part of your retirement plan will be your Social Security. If you underreport your income, you are reducing the amount of Social Security benefits you will receive at retirement.

4. It lowers the Bureau of Labor's endorsement as a sustainable industry. Why is it important what the Bureau reports? Simply, their data is used to determine if this is a viable career. If the Bureau of Labor considers this a nonviable career, it could lead to lower federal loans and grants available to future beauty and wellness students.
5. It devalues the legitimacy of the beauty and wellness industry as a whole and consequently results in a lack of respect for you as a beauty professional.

Not reporting all income is not only against the law, it is detrimental to your financial prosperity. It may seem that it is more fun to have a few extra dollars in your pocket each week and not to report your tips, but the truth is the joy of a few extra dollars each week does not outweigh the benefits of accurately reporting your income.

The reality is you are the only person who can create your future. You have the ability to control how much money you make. You can establish a financial standing that will afford you everything you want! Don't jeopardize your dreams and your goals by breaking the law. Set yourself up to win—and at the same time, raise the bar in the industry and help set future students up to win as well!

## Personal Budget

It is amazing how many people work hard and earn very good salaries, but never take the time to create a personal budget. Many people are afraid of the word *budget* because they think that it will be too restrictive on their spending, or they have to be mathematical geniuses in order to work with a budget. Thankfully, neither of these fears is rooted in reality.

Personal budgets range from being extremely simple to extremely complex. The right one for you depends on your needs. At the beginning of your career, a simple budget should be sufficient. To get started, take a look at the Personal Budget Worksheet in **Figure 21–6**. It lists the standard monthly expenses that most people have to budget. It also includes school loan repayment, savings, and payments into an individual retirement account (IRA).

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Personal Budget Worksheet	
<b>A. Expenses</b>	
1. My monthly rent (or share of the rent) is	\$ _____
2. My monthly car payment is	_____
3. My monthly car insurance payment is	_____
4. My monthly auto fuel/upkeep expenses are	_____
5. My monthly electric bill is	_____
6. My monthly gas bill is	_____
7. My monthly health insurance payment is	_____
8. My monthly entertainment expense is	_____
9. My monthly bank fees are	_____
10. My monthly grocery expense is	_____
11. My monthly dry cleaning expense is	_____
12. My monthly personal grooming expense is	_____
13. My monthly prescription/medical expense is	_____
14. My monthly telephone is	_____
15. My monthly student loan payment is	_____
16. My IRA payment is	_____
17. My savings account deposit is	_____
18. Other expenses:	_____
TOTAL EXPENSES	\$ _____
<b>B. Income</b>	
1. My monthly take-home pay is	_____
2. My monthly income from tips is	_____
3. Other income:	_____
TOTAL INCOME	\$ _____
<b>C. Balance</b>	
Total Income (B)	_____
Minus Total Expenses (A)	_____
BALANCE	\$ _____

▲ **Figure 21–6** Personal budget worksheet.

Keeping track of where your money goes is one step toward making sure that you always have enough. It also helps you to plan ahead and save for bigger expenses such as a vacation, your own home, or even your own business. All in all, sticking to a budget is a good practice to follow faithfully for the rest of your life.

## Giving Yourself a Raise

Once you have taken time to create, use, and work with your personal budget, you may want to look at ways in which you can have more money left over after paying bills. You might automatically jump to the most obvious sources, such as asking your employer for a raise or asking for a higher percentage of commission. While these tactics are certainly valid, you will also want to think about other ways to increase your income. Here are a few tips:



- Spend less money. Although it may be difficult to reduce your spending, it is certainly one way to increase the amount of money that you have left at the end of the month. These dollars can be used to invest, save, or pay down debt.
- Work more hours. If possible, choose times when the salon or spa is busiest, which are the most convenient for clients. Come early and stay late to accommodate clients' booking needs. Saturday is a peak workday in most salons and spas.
- Increase service prices. It will probably take some time before you are in a position to increase your service prices. To do so, you need a loyal **client base**, which is customers who are loyal to a particular nail technician: you. Also, you must have fully mastered all the services that you are performing. If you have a loyal client base and service mastery, there is nothing wrong with increasing your prices every year or two, as long as you do so by a reasonable amount. Do a little research to determine what your competitors are charging for similar services and increase your fees accordingly.
- Retail more. Most salons and spas pay a commission on every product you recommend and sell to your clients. If you sell more products, you make more money!

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## Seek Professional Advice

Just as you want your clients to seek your advice and services for their nail care needs, sometimes it is important for you to seek the advice of experts, especially when it comes to your finances. Research and interview financial planners who will be able to give you advice on reducing your credit card debt, investing your money, and planning for your retirement. Ask the officers at your local bank if they can suggest bank accounts that offer you greater returns or flexibility with your money, depending on what you need.

When seeking out advice from other professionals, be sure not to take anyone's advice without carefully considering whether it makes sense for your particular situation and needs. Before you buy into anything, be an informed consumer about other people's goods and services. **LO4**



# Activity

Go through the budget worksheet on page 467 and fill in the amounts that apply to your current living and financial situation. If you are unsure of an expense, put in the figure you have averaged over the past 3 months (or give it your best guess). You may need to have 3 or 4 months of employment history to complete the income item, but fill in what you can. If the balance is a minus number, start listing ways you can decrease expenses or increase income.

- How do your expenses compare to your income?
- What is your balance after all your expenses are paid?
- Were there any surprises for you in this exercise?
- Do you think that keeping a budget is a good way to manage money?
- Do you know of any other methods people use to manage money?

## DISCOVER THE SELLING YOU

Another area that touches on the issue of you and money is selling. As a nail professional, you will have enormous opportunities to sell retail products and upgrade service tickets. **Ticket upgrading**, or **upselling** services, is the practice of recommending and selling additional services to clients. These services may be performed by you or other professionals licensed in a different field. **Retailing** is the act of recommending and selling quality products to clients for at-home use (**Figure 21-7**). These two activities can make all the difference in your economic picture. The following dialogue is an example of ticket upgrading. In this scene, Marie, the nail technician, suggests additional services to her client, Ms. Brand, who has just had her nails done for a wedding she will be attending that evening.

Read the script yourself and change the words to make them fit your personality. Then try it the next time you feel that an additional service could help one of your clients.

**Marie:** I'm really glad you like your new nail color. It will be perfect with the dress you described. Don't you just love formal weddings?

**Ms. Brand:** Yes! To tell you the truth, I don't get dressed up very often, and putting the look together was harder than I thought it would be.

**Marie:** Yes, I know what you mean. You'll look great! Are you all set with your nail products and makeup for tonight, Ms. Brand? It would be a shame to have a beautiful new dress and gorgeous nails, and then have to worry about your makeup.

**Ms. Brand:** Well, actually, I was sort of wondering about that. I'm wearing this long black dress and I'm not really sure what the best look is for the occasion. Got any ideas?

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Photography by Dino Petrocilli.



▲ **Figure 21-7** Sell quality nail products to clients.

### Here's a Tip:

Increasing your service prices in \$3.00 increments is a great way to increase your income each week, without it costing clients so much that they consider not using your services any longer.



**Marie:** Well, as you know, my specialty is nail care, but we have an excellent makeup artist right here. Shall I get her for you?

**Ms. Brand:** Definitely. That sounds terrific!

**Marie:** You know, since this is such an important occasion, you may want to consider having Stephanie, one of our hairstylists, do your hair. That will ensure that your total look is the best it can be.

**Ms. Brand:** I think that's a great idea. Thanks for the suggestion!

## Principles of Selling

Some nail technicians shy away from sales. They think that it is scary, that they are being pushy, or that it's beneath them. A close look at how selling works can set your mind at ease. Not only can you become very good at selling after you understand the principles behind it, but you can also feel good about providing your clients with a valuable service.

To be successful in sales, you need ambition, determination, and a good personality. The first step in selling is to sell yourself. Clients must like and trust you before they will purchase nail services or nail care items or other products and services.

Remember, every client who enters the salon is a potential purchaser of additional services or merchandise. Recognizing the client's needs and preferences lays the foundation for successful selling.

To become a proficient salesperson, you must be able to apply the following principles of selling:

- Be familiar with the features and benefits of the various services and products that you are trying to sell and recommend only those that the client really needs. You should try and test all the products in the salon or spa yourself.
- Adapt your approach and technique to meet the needs and personality of each client. Some clients may prefer a soft sell that involves informing them about the product, without stressing that they purchase it. Others are comfortable with a hard-sell approach that focuses emphatically on why they should buy the product.
- Be self-confident when recommending products for sale. You become confident by knowing about the products you are selling and by believing that they are as good as you say.
- Generate interest and desire in the customer by asking questions that determine a need.
- Never misrepresent your services or products. Making unrealistic claims will only lead to your client's disappointment and make it unlikely that you will ever again make a sale to that client.
- Do not underestimate the client's intelligence or knowledge of her own nail care regimen or particular needs.
- To sell a product or service, deliver your sales talk in a relaxed, friendly manner and, if possible, demonstrate the use of the product. **(Figure 21–8).**



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▲ **Figure 21–8** Demonstrate a product's benefits.

- Recognize the right psychological moment to close any sale. After the client has offered to buy, quit selling. Do not oversell, except to praise the client for the purchase and to assure her that she will be happy with it.

## FOCUS ON...

### Overcoming Objections

Making a sale isn't easy. Sometimes, a client is stuck on a nail color that isn't flattering. Other times, she may not feel convinced that a product is any better than a drugstore brand or she may have a genuine price objection. To overcome an objection, reword the objection in a way that addresses the client's need. For instance, let's say you recommend a cuticle cream based on the fact that your client has complained of dry cuticles. In response, she says she already has hand cream, and that should be enough.

First, acknowledge what she said. Then reword her objection that she already has hand cream in a different way, which gets her thinking. For example:

*"Yes, that's good that you have hand cream, your hands feel soft and smooth. The cuticle cream, however, is specifically designed to deliver rich nutrition to your cuticles and nails, which will help grow your nails and eliminate the cracked skin. I will apply some during your manicure and leave some at the reception desk so you can think about it."*

If the objection is a price objection, base your reaction on the client's. For strong objections, acknowledge the price and offer a free sample, if you can. If the objection is moderate, acknowledge it and restate the product's benefits.

*"It's a little more expensive, but if you really want your nails to grow and become stronger, delivering nutrition through your cuticles and keeping the skin healthy is key. This is the best product I have found. After I apply it during your manicure, you can experience the results and let me know."*

Always state things in terms of the client's benefit, based on the information you gathered during the consultation.



## Here's a Tip:

Wondering how to successfully sell retail products to nail clients? In a nutshell, it takes:

- Reasonable expectations for selling products in a month's time.
- An incentive program that rewards everyone—the salon, the nail tech, and the client!
- A positive attitude. No one wants to buy products from a person who is not genuinely happy to be at the salon.
- Smart promotional pricing and/or some kind of added value for the client who is making the purchase.
- Eye-catching displays.

fyi

The standard retail sales commission for nail technicians is 10 percent of their total retail sales per week.

## The Psychology of Selling

Most people have reasons for doing what they do, and when you are selling something, it is your job to figure out the reasons that might motivate a person to buy. When dealing with salon clients, you will find that their motives for buying salon or spa products vary widely. Some may be concerned with issues of vanity. (They want to look better.) Some are seeking personal satisfaction. (They want to feel better about themselves.) Others need to solve a problem that is bothersome. (They want to spend less time maintaining their nails.)

Sometimes, a client may inquire about a product or service but still be undecided or doubtful. In this type of situation, you can help the client by offering honest and sincere advice. When you discuss a nail service with a client, address the results and benefits of that service. Always keep in mind that your first consideration should be the best interests of the client. You will need to know exactly what your client's needs are and a clear idea as to how those needs can be fulfilled. Refer to the sample dialogues in this section. One involves ticket upgrading and the other involves retailing; both demonstrate effective selling techniques.

Here are a few tips on how to get a conversation about sales started:

- Ask clients what products they are using for home maintenance of their nails, hands, and feet.
- Discuss the products you are using as you use them. For instance, tell the client why you are using the particular base coat, top coat, or cream and what it will do for her. Also explain how she should use the product at home.
- Place products in the clients' hands whenever possible, or have them in view (**Figure 21-9**).
- Advise the client about how recommended services will provide personal benefit (stronger nails and longer-lasting nail polish, for instance).
- Keep retail areas clean, well lit, and appealing.
- Inform clients about any promotions and sales going on in the salon or spa.
- Be informed about the merits of using a professional product as opposed to generic store brands.

While you realize that retailing products is a service to your clients, you may not be sure how to go about it. In the following scenes, pay attention to how Cassandra, the nail technician, highlights the benefits and features of a product to her client, Ms. Jewell. Note that price is not necessarily the most important factor.

**Ms. Jewell:** I just love the way you always make my cuticles and hands look like they're in such good shape.

**Cassandra:** I always use a penetrating cuticle oil on your cuticles, Ms. Jewell. It's a wonderful product and one you should be using on your cuticles every day. I suggest you use the cuticle stick and hand cream regularly to keep your skin soft and cuticles healthy.

**Ms. Jewell:** Is that the lotion you use with the great lavender scent?



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▲ **Figure 21-9** Place the retail product in the client's hands whenever possible.

### FOCUS ON...

#### Retailing

For quick reference, keep these five points in mind when selling:

1. Establish a rapport with the client.
2. Determine the client's needs.
3. Recommend products/services based on the client's needs.
4. Emphasize benefits.
5. Close the sale.

**Cassandra:** I love that light lavender scent, too. It's a really great moisturizing lotion that we swear by—it's fabulous for treating dry and even chapped skin. It soothes that dry, rough skin that can accumulate on hands and feet, especially in dry winter weather. When you use this lotion at home, any dry flaky skin will be taken care of!

**Ms. Jewell:** Great!  **LO5**



## Activity

Pick a partner from class and role-play the dynamics of a sales situation. Take turns being the customer and the nail technician. Evaluate each other on his or her performance, with suggestions about where you can improve. Then try this exercise with someone else, as no two customers are the same.

### FOCUS ON...

#### Social Media to Create Buzz

Originally created as a tool for family and friends to interact, social media has become a popular marketing tool to drive your business. To make social media the best tool for your professional use, you will want to consider the purpose of the page. Is it for generating discussion so members can interact with one another and post messages, or will it be an information source where the owner of the page will post information and special promotions? Determining the purpose of your social media page will guide you in setting up the access privileges. Regardless of the level of interaction you grant members of the page, social media can become a marketing tool to share news, promotions, education, photos and upcoming events, complete with invitations.

Before launching your social media page, visit the Web sites of other salons or spas and look for the link to their social media page. After viewing several examples, you will learn what type of page will work best for you so you can begin marketing your business through social media.

The following are some simple tips for a successful social media business page:

- Create a separate page on social media for business. Ensure the page is used for business only and that all activity is for that purpose.
- Think before you post. Ask yourself if this information will enhance the image of the salon or spa and yourself.
- Think before you "tag" someone in a photo. People may not want their photo made public, so ask for permission before posting.
- Keep your page fresh. Post useful information regularly, so people have a reason to visit your page to see the latest promotions or news.
- You can ask members to write reviews for you to promote your business. If you do not allow postings from members, simply post their review and add their name to the bottom. Always ask for permission before posting.

## ■ KEEPING CURRENT CLIENTS AND EXPANDING YOUR CLIENT BASE

Once you have mastered the basics of good service, take a look at some marketing techniques that will expand your client base and keep your clients coming back to you for services. The following are only a few suggestions; there are many others that may work for you. The best way to decide which techniques are most effective is to try several!



- Birthday cards. Ask clients for their birthday information (just the month and day, not the year) on the client consultation card and then use it as a tool to get them into the salon or spa again. About one month before the client's birthday, send a card with a special offer. Make it valid only for the month of their birthday.
- Provide consistently good service. It seems basic enough, but it is amazing how many professionals work hard to get clients and then lose them because they rush through a service and leave clients feeling dissatisfied. Providing good-quality service must always be your first concern.
- Be reliable. Always be courteous, thoughtful, and professional. Be at the salon or spa when you say you will be there, and do not keep clients waiting. (Refer to Chapter 4 for tips on how to handle the unavoidable times when you are running late.) Give your clients the nail length and shape they ask for, not something else. Recommend a retail product only when you have tried it yourself, and you know what it can and cannot do.
- Be respectful. When you treat others with respect, you become worthy of respect yourself. Being respectful means that you do not gossip or make fun of anyone or anything. Negative energy brings everyone down, especially you.
- Be positive. Become one of those people who always sees the glass as half full. Look for the positive in every situation. No one enjoys being around a person who is always unhappy.
- Be professional. Sometimes, a client may try to make your relationship more personal than it ought to be. It is in your best interest—and your client's best interest—not to cross that line. Remember that your responsibility is to be the client's nail technician, not a psychiatrist, a marriage counselor, or a buddy. Because the nature of the beauty and wellness industry is built on relationships, it may be tempting to take conversations into personal areas. This includes disclosing private information about yourself. However, once you become too relaxed and casual with your clients, you run the risk of undermining your professional image and the quality of your service can become impaired.
- Use business card referrals. Make up a special business card with your information on it, but leave room for a client to put her name on it as well. If your client is clearly pleased with your work, give her several cards. Ask her to put her name on them and to refer her friends and associates to you. For every card you receive from a new customer with her name on it, give her 10 percent off her next salon or spa service or a complementary service added to her next appointment. This gives the client lots of motivation to recommend you to others, which, in turn, helps build up your clientele (**Figure 21–10**).



▲ **Figure 21–10** Referral cards help build a client base.



- Follow up for success. Showing that you care about your clients and their satisfaction level goes a long way in building your business. Sending thank-you cards to first-time clients and making “check-in” calls a few days after a service demonstrates your gratitude for their business and a desire to meet their expectations.
- Foster local business referrals. Another terrific way to build business is to work with local businesses to get referrals. Look for clothing stores, florists, gift shops, and other small businesses near your salon or spa. Offer to have a card swap and commit to referring your clients to them when they are in the market for goods or services that your neighbors can provide, if they will do the same for you. This is a great way to build a feeling of community among local vendors and to reach new clients you may not be able to otherwise.
- Public speaking. Make yourself available to speak to local women’s groups, the PTA, organizations for young men and women, and anywhere else that will put you in front of people in your community who are all potential clients. Put together a short program (20 to 30 minutes) in which, for example, you might discuss professional appearance with emphasis in your chosen field and other grooming tips for people looking for positions or who are already employed.

## FOCUS ON...

### The Goal

Always remember that success does not just come to you; you make it happen. How? By being a team player, having a positive attitude, and keeping a real sense of commitment to our work foremost in your mind.

## Rebooking Clients

The best time to think about getting your client back into the salon or spa is while she is still in your salon or spa. It may seem a little difficult to assure your client that you are concerned with her satisfaction on this visit while you are talking about her next visit, but, in fact, the two go together. The best way to encourage your client to book another appointment before she leaves is to simply talk with her, ask questions, and listen carefully to her answers.

During the time that you are working on a client’s nails, for instance, talk about the condition of her nails, nail grooming habits at home, and the benefits of regular or special salon or spa maintenance services. You might raise these issues in a number of ways.

- **Scenario 1: Enhanced Nails**
  - “Mrs. Evelyn, when I did your fill today, I noticed that your nail enhancements need to be completely replaced. Shall I book a full set for your next visit?”
- **Scenario 2: Special Event**
  - “Your son is getting married next month? How wonderful. Have you thought about having a deluxe pedicure service so your feet will look as beautiful as the rest of you in that new dress you told me about? I can set up an appointment for the day before the wedding.”

Again, you will want to listen carefully to what your clients say during their visit, because they will often give the careful listener many good clues as to what is happening in their lives. That will open the door to discussing their next appointment. Rebooking clients before they leave the salon or spa will ensure that they receive the care they need when they need it, and that your appointment book remains filled. **LOG**



## FOCUS ON...

### Building Your Efficiency

Some professionals believe that the more time they spend with their clients performing services, the better the service will be. Not so! Your client should be in the salon or spa only as long as is necessary for you to adequately complete a service.

Be aware of how much time it takes you to perform your various services and then schedule accordingly. As you become more and more experienced, you should see a reduction in the amount of time it takes you to perform these services. That means clients wait less, you can increase your number of services, and the increase in services naturally increases your income.



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▲ **Figure 21-11** Discuss customer service and technical skills with the salon or spa team.

## ■ ON YOUR WAY

Your first position as a nail technician will most likely be the most difficult. Getting started in this business means being on a steep learning curve. Be patient with yourself as you transition from the “school you” to the “professional you.” Always remember that in your work life, as in everything else you do, practice makes perfect. You will not know everything you need to know at the start, but be confident in the fact that you are graduating from nail school with a solid knowledge base. Make use of the many generous and experienced professionals you will encounter and let them teach you the tricks of the trade. Make the commitment to perfecting your technical and customer service skills.

Above all, always be willing to learn. If you let the concepts that you have learned in this book be your guide, you will enjoy your life and reap the amazing benefits of a career in nail technology (**Figure 21-11**).

## Here's a Tip:

There are plenty of books and Web articles that offer great strategies for building a client base and keeping those clients coming back to you. Look into these and make a list of the suggestions that seem like a good fit for you, your client base, and your salon or spa. Then, choose one strategy to try every two to three months, and see how well it works for you. If it helps you to accomplish your goal of getting and keeping new clients, then put a star next to it and save the idea to use again, when the time is right!

## ■ Review Questions

1. List the characteristics necessary to thrive in a service profession.
2. What is a job description, and why is it important?
3. List three common ways that nail technicians are compensated.
4. Why is it important to manage your money, and what method can you use to do so?
5. List the ways that nail technicians can increase their income.
6. What is ticket upgrading or upselling services?
7. How is retailing good for clients, nail technicians, and salons or spas?
8. List five strategies that will help to expand your client base.
9. Why is it so important to rebook clients before they leave the salon or spa?

# 22

## The Salon Business

### Chapter Outline

- Why Study the Salon Business?
- Going into Business for Yourself
- Operating a Successful Salon
- Building Your Business
- Selling in the Salon



# Learning Objectives

After completing this chapter, you will be able to:

- ✓ **L01** Identify two options for going into business for yourself.
- ✓ **L02** Describe the responsibilities of a booth renter.
- ✓ **L03** List the basic factors to be considered when opening a salon.
- ✓ **L04** Distinguish the types of salon ownership.
- ✓ **L05** Identify the information that should be included in a business plan.
- ✓ **L06** Discuss the importance of record keeping.
- ✓ **L07** List the elements of successful salon operations.
- ✓ **L08** Explain why selling services and products is a vital aspect of a salon's success.

# Key Terms

Page number indicates where in the chapter the term is used.

**booth rental** / 481

**business plan** / 484

**business regulations and laws** / 484

**capital** / 486

**consumption supplies** / 492

**corporation** / 486

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**salon operation** / 485

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**written agreements** / 484

The better prepared you are to be both a great artist and a successful businessperson, the greater your chances of success.

Entire books have been written on each of the topics touched on in this chapter, so be prepared to read and research your business idea extensively before making any final decisions. The following information is only meant to be a general overview.

## WHY STUDY THE SALON BUSINESS?

Nail technicians should have a thorough understanding of the salon business because:

- ▶ As you become more proficient in your craft and your ability to manage yourself and others, you may decide to become an independent booth renter or even a salon owner. In fact, most salon owners are former stylists.
- ▶ Even if you spend your entire career as someone's employee, you should be familiar with the rules of business that affect the salon.
- ▶ To become a successful entrepreneur, you will need to attract employees and clients to your business and maintain their loyalty over long periods of time.
- ▶ Even if you think you will only ever focus on the artistic aspect of salon and spa work, business knowledge will serve you well in managing your career, professional finances, and business practices.



## ■ GOING INTO BUSINESS FOR YOURSELF

If you reach a point in your life when you feel that you are ready to become your own boss, you will have two main options to consider: (1) renting a booth in an existing salon or (2) owning your own salon or spa. Both options have their pros and cons; both are extremely serious undertakings that require significant financial investment and a strong line of credit. Salon and spa owners have a very different job than nail technicians. Typically, owners continue to provide services for clients while they manage the business. This is extremely time-consuming and there is no guarantee of profits, which is why salon or spa ownership is definitely not for everyone.

As a person in business, you will need to ensure that you have your future secured by paying your Social Security and filing your income tax returns. If you sell retail, you may need to obtain a reseller's permit or other license. Check with your state to determine the licensure you will need (**Figure 22-1**). **LO1**



Colleen Brescia Photography and MARIPOSA Studio.

▲ **Figure 22-1** Nail salon owner preparing for a grand opening.

### Booth Rental

**Booth rental**, also known as chair rental, is when a nail technician rents a booth or station in a salon. This practice is popular in salons all over the United States. Many people see booth rental or renting a station in a salon as a more desirable alternative to owning a salon.

In a booth rental arrangement, a nail technician generally:

- Rents a station or workspace in a salon from the salon owner.
- Is solely responsible for her own clientele, furniture, telephone, advertising, towels, insurance, laundry, supplies, record keeping, and accounting.
- Pays the salon owner a weekly fee for the use of the booth.
- Becomes her own boss for a relatively small amount of money.

Booth rental is a desirable situation for many professionals who have a large, steady clientele and do not have to rely on the salon or spa's general clientele to keep busy. Unless you are at least 70 percent booked all the time, however, it may not be advantageous to rent a booth.

Although it may sound like a good option, booth renting has its share of obligations, such as:

- Keeping records for income tax purposes and other legal reasons
- Paying all taxes, including higher Social Security (double that of an employee)
- Carrying adequate malpractice insurance and health insurance
- Complying with all IRS obligations for independent contractors. (Go to <http://www.irs.gov> and search for "independent contractors.")
- Using a separate telephone and booking system
- Collecting all service fees, whether they are paid in cash or by check or credit card
- Creating all professional materials, including business cards and a service menu



- Purchasing of all supplies, including back-bar and retail supplies and products
- Tracking and maintaining inventory
- Managing the purchase of products and supplies
- Budgeting for advertising or offering incentives to ensure a steady flow of new clients
- Paying for continuing education
- Working in an independent atmosphere where teamwork usually does not exist, and salon and spa standards are interpreted on an individual basis
- Adhering to state laws and regulations. To date, one state (Pennsylvania) does not allow booth rental at all; others may require that each renter hold his or her own establishment license and carry individual liability insurance. Always check with your state regulatory agency.

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As a booth renter, you will not enjoy the same benefits as an employee of a salon or spa would, such as paid days off or vacation time. Remember, when you do not work, you do not get paid. Perhaps most importantly, you must continually attract new clients and maintain the ones you have; this means working when your clients want you to be available. **LO2**

## Opening Your Own Salon

Opening your own salon or spa is a huge undertaking, financially, physically, and mentally, because you will face challenges that are complex and unfamiliar to you.

Many students and seasoned professionals hope to one day open their own salon. Before embarking on this wonderful journey, it is crucial that you have had enough experience working in your profession to understand what is required to operate a successful business. Perhaps you may want to first gain experience in booth rental so you can practice marketing your services and managing the record keeping and accounting this will entail. Once you have established that you are ready to grow and open your own salon or spa, gain more real world information by learning from those who are in business for themselves. Make an effort to seek out and meet owners of successful salons and spas that are of the style and size that you wish to own. Talk to these seasoned business professionals and get some insight into the responsibilities and requirements that will be placed on you as an owner. Ask questions such as: What do you love about owning your business? What is most challenging? What would you do differently? What was your business background? Their answers will start your thinking process and give you an indication of what you will need to do to be successful.

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Before you can open your doors, you'll need to decide what products to use and carry, what types of marketing and promotions to carry out, the best method and philosophy for running the business, and whom to hire if you need additional staff.

Regardless of the type of salon or spa you hope to open, you should carefully consider some basic issues and complete some basic tasks. Both are outlined in the following section.



## Setting Goals: Create a Vision and Mission Statement for Your Business

A **vision statement** is a long-term picture of what a business is to become. A mission statement is a description of the key strategic influences of the business, such as the market it will serve, the kinds of services it will offer, and the quality of those services.

**Goals** are a set of benchmarks that, once achieved, help you to realize your mission and your vision. You can set both short- and long-term goals for your business.

## Create a Business Timeline

Initially, you will be concerned with the first two aspects of the timeline; however, once your business is successful, you will need to think about the others as well.

- Year 1: It could take a year or more to determine and complete all of the aspects of starting the business.
- Years 2 to 5: This is the time to tend to the business, its clientele, and its employees and to grow and expand the business so that it is profitable.
- Years 5 to 10: This period can be dedicated to establishing additional locations, expanding the scope of the business (e.g., adding spa services), and/or constructing a larger space or anything else you or your clients need and want.
- Years 11 to 20: At this stage, you may want to transition from being a working technician into the role of full-time manager of the overall business and begin planning for your eventual retirement.
- Year 20 onward: This may be the perfect time to consider selling or restructuring your successful business; you may take on a junior partner and train him or her to take over the day-to-day operations of the business so you can explore interests or hobbies.

## Determine Business Feasibility

Determining whether the business you envision is feasible means addressing certain practical issues. For example, do you have a special skill or talent that will set your business apart from other nail businesses in your area? Does the town or space in which you are planning to locate the business offer you the appropriate type of clientele for the products and services you want to offer? Based on what you envision for the business, how much money will you need to open the business? Is the funding available to you?

Credit standing is a strong indicator of the feasibility of securing a business loan. Your credit worthiness is gauged primarily on your credit score. A credit score is an indicator, assigned by a credit agency, of your ability to pay your outstanding debt. Scores range from 300 to 850 (the higher your score, the stronger your credit).

Experian, TransUnion, and Equifax are the three major credit agencies. Each score is based on information about you that the credit bureau keeps on file.



Your credit score affects both how much and what loan terms (interest rate, etc.) lenders will offer you. It is a good idea to know your credit score before you consider applying for a business loan. Obtain your free report at [www.myfico.com](http://www.myfico.com) to learn where you stand.

If you have not yet established credit, start off by obtaining a small line of credit through a credit card or store. If you have a low credit score, the most powerful way to repair it is to pay your bills on time and lower your outstanding debt.



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▲ **Figure 22–2** The location of the nail salon should have good visibility and high traffic.

## Choose a Business Name

The name you select for your business explains what it is and can identify characteristics that set your business apart from competitors in the marketplace. The name will also influence how clients and potential clients perceive your business. It will create a picture of your business in clients' minds, and, once that picture exists, it can be very difficult to change if you are not satisfied.

## Choose a Location

You will want to base your business location on your primary clientele and their needs. Select a location that has good visibility, high traffic, easy access, sufficient parking, and handicap access (**Figure 22–2**).

## Written Agreements

The opening of a salon is governed by many **written agreements** and documents, including leases, vendor contracts, employee contracts, and more. These written agreements detail (usually for legal purposes) who does what and what is given in return. You must be able to read and understand them. Additionally, before you open a salon or spa, you must develop a **business plan**, a written description of your business as you see it today and as you foresee it in the next 5 years (detailed by year).

A business plan is more of an agreement with yourself. It is not legally binding. However, if you wish to obtain financing, it is essential that you have a business plan in place first. The plan should include a general description of the business and the services that it will provide; area **demographics**, which consist of information about a specific population, including data on race, age, income, and educational attainment; expected salaries and cost of related benefits; an operations plan that includes pricing structure and expenses, such as equipment, supplies, repairs, advertising, taxes and insurance; and projected income and overhead expenses for up to 5 years. A certified public accountant (CPA) can be invaluable in helping you gather financial information. The chamber of commerce in your proposed area typically has information on area demographics. **LO3**

## Business Regulations and Laws

**Business regulations and laws** are any and all local, state, and federal regulations and laws that you must comply with when you open your salon or rent a booth. Since the laws vary from state to state and from city to city, it

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There are countless books written about business operations and starting your own business. Check <http://milady.cengage.com> for recommended resources.

is important that you contact your local authorities about business licenses, permits, and other regulations, such as zoning and business inspections. Additionally, you must know and comply with all federal Occupational Safety and Health Administration (OSHA) guidelines, including those requiring that information about the ingredients of cosmetic preparations be available to employees. OSHA requires SDSs, Safety Data Sheets (formerly known as MSDSs) for this purpose. You must also be aware of the many federal laws that apply entitlements (e.g., Social Security and unemployment), and workplace behavior.

## Insurance

When you open your business, you will need to purchase **insurance** that guarantees protection against financial loss from malpractice, property liability, fire, burglary and theft, and business interruption. You will need to have disability policies as well. Make sure that your policies cover you for all the monetary demands you will have to meet on your lease.

## Salon Operation

Business or **salon operation** refers to the ongoing, reoccurring processes or activities involved in the running of a business for the purpose of producing income and value.

## Record Keeping

**Record keeping** is the act of maintaining accurate and complete records of all financial activities in your business. An automated point-of-service program (POS) will automate most of your record keeping for you and even maintain your client product purchase list. For more information on salon or spa POS systems, visit the Web sites listed under Web Resources on page 498.

## Salon Policies

**Salon policies** are the rules and regulations adopted by a salon to ensure that all clients and associates are being treated fairly and consistently. Even small salons and booth renters should have salon policies in place.

## Salon Sanitation

It is the responsibility of every beauty professional to follow sanitation guidelines to prevent the spread of germs and disease. As a salon or spa owner, these guidelines should be posted in the back room, with daily logs recording the sanitization schedule of the salon and spa equipment. Check with your state board of barbering and cosmetology to determine your state's requirements. Officials from the governing agency have the authority to investigate complaints made by clients and to conduct random evaluations of salons and spas.

## Types of Salon Ownership

A salon business can be owned and operated by an individual, a partnership, or a corporation. Before deciding which type of ownership is most desirable for your situation, research each option thoroughly.

## Individual Ownership

If you like to make your own rules and are responsible enough to meet all the duties and obligations of running a business, individual ownership may be the best arrangement for you. The **sole proprietor** is the individual owner and, most often, the manager of the business who:

- Determines the policies and has the last say in decision making
- Assumes expenses, receives profits, and bears all losses

## Partnership

Partnerships may provide you with opportunity for increased investment and growth. They can be magical with the right chemistry—or disastrous if you find yourself linked with someone you wish you had known better in the first place.

In a **partnership** business structure, two or more people share ownership, although not necessarily equally.

- One reason for going into a partnership arrangement is to have more **capital** or money to invest in a business; another is to have help running your operation.
- Partners also pool their skills and talents, making it easier to share work, responsibilities, and decision making (**Figure 22–3**).
- Keep in mind that partners must assume one another's liability for debts.

## Corporation

A **corporation** is an ownership structure controlled by one or more stockholders. Incorporating is one of the best ways that a business owner can protect his or her personal assets. Most people choose to incorporate solely for this reason, but there are other advantages as well. For example, the corporate business structure saves you money on taxes, provides greater flexibility, and makes raising capital easier. It also limits your personal financial liability if your business accrues unmanageable debts or otherwise runs into financial trouble.

Characteristics of corporations are generally as follows:

- Capital is money needed to invest in a business. Corporations raise capital by issuing stock certificates or shares.
- Stockholders (people or companies that purchase shares) have an ownership interest in the company. The more stock they own, the bigger that interest becomes.
- You can be the sole stockholder or shareholder, or the business may have many stockholders.
- Corporate formalities, such as director and stockholder meetings, are required to maintain a corporate status.
- Income tax is limited to the salary that you draw, not on the total profits of the business.



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▲ **Figure 22–3** Two independent owners meet to discuss a partnership.

## fyi

When you open your own business, you should consult with an attorney and an accountant before filing any documents to legalize your business. Your attorney will advise you of the legal documents and obligations that you will take on as a business owner while your accountant can inform you of the ways in which your business may be registered for tax purposes.

- Corporations cost more to set up and run than a sole proprietorship or partnership. For example, there are the initial formation fees, filing fees, and annual state fees.
- A stockholder of a corporation is required to pay unemployment insurance taxes on his or her salary, whereas a sole proprietor or partner is not.

## Franchise Ownership

A franchise is a form of business organization in which a firm that is already successful (the franchisor) enters into a continuing contractual relationship with other businesses (franchisees) operating under the franchisor's trade name in exchange for a fee. When you operate a franchise nail salon or spa, you usually operate under the franchisor's guidance and must adhere to a contract with many stipulations. These stipulations ensure that all locations in the franchise are run in a similar manner, look the same way, use the same logos, and, sometimes, even train the same way or carry the same retail products.

Franchises offer the advantage of a known name and brand recognition, and the franchisor does most of the marketing for you. Also, many have protected territories, meaning other franchise salons and spas with the same name cannot open up within your fixed geographical area. However, franchise agreements vary widely in what you can and cannot do on your own. Owning a franchise is no guarantee of making a profit, and you should always research the franchise, talk to other owners of the franchise salons or spas, and have an attorney read the contract and explain anything you do not understand, including your precise obligations and arrangements for paying the franchise fee. In most cases, whether or not you are profitable, you must pay the fee. **LO4**

## Business Plan

Regardless of the type of salon or spa you plan to own, it is imperative to have a thorough and well-researched business plan. Remember, the business plan is a document that maps out a business as it is seen in the present and envisioned in the future. A business plan follows your business throughout the entire process, from startup through many years ahead. Many, books, classes, DVDs, and Web sites offer much more detailed information than can be provided here; however, the following is a list of the information and material that a business plan should include:

1. *Executive summary.* Summarizes your plan and states your objectives.
2. *Vision statement.* A long-term picture of what the business is to become and what it will look like when it gets there.
3. *Mission statement.* A description of the key strategic influences of the business, such as the market it will serve, the kinds of services it will offer, and the quality of those services.
4. *Organizational plan.* Outlines employee and management levels and also describes how the business will run administratively.
5. *Marketing plan.* Outlines all of the research obtained regarding the clients your business will target and their needs, wants, and habits.

## Did You Know?

There are many useful online resources for new business owners. Try these sites for information:

- <http://www.entrepreneur.com>
- <http://www.sbaonline.sba.gov>
- <http://www.score.org>

## Did You Know?

Your accountant may suggest that your business become an S corporation (small business corporation), which is a business elected for S corporation status through the IRS. This status allows the taxation of the company to be similar to a partnership or sole proprietorship as opposed to paying taxes based on a corporate tax structure. Or your accountant may suggest that your business become registered as an LLC (limited liability company), which is a type of business ownership combining several features of corporation and partnership structures; owners of an LLC have the liability protection of a corporation. An LLC exists as a separate entity much like a corporation. Members cannot be held personally liable for debts unless they have signed a personal guarantee.

6. *Financial documents.* Includes the projected financial statements, actual (historical) statements, and financial statement analysis.
7. *Supporting documents.* Includes the owner's résumé, personal financial information, legal contracts, and any other agreements.
8. *Salon policies.* Even small nail salons and booth renters should have policies that they adhere to. These ensure that all clients and employees are treated fairly and consistently. **LO5**

## Purchasing an Established Salon



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▲ **Figure 22-4** A potential nail salon owner should meet with an attorney before purchasing a nail business.

Purchasing an established salon or spa could be an excellent opportunity; however, as with anything else, you have to look at all sides of the picture. If you choose to buy an established salon or spa, seek professional assistance from an accountant or business lawyer. You can purchase all the assets of a salon and spa or some or all of its stock. In general, any agreement to buy an established salon or spa should include the following items (**Figure 22-4**):

- A financial audit. This will determine the actual value of the business once current owners bookings are taken out of the equation. Often, the salon or spa owner contributes the bulk of the business income; it is unlikely that you will retain all the former owners' clients without a lot of support and encouragement from the former owner. Any existing financial statements should also be audited.

## Activity

Divide into teams of students to plan the practical side of your own nail salon or spa. Decide whether specific team members will carry out certain tasks or if everyone will work on every task as a group. Each group should perform the following tasks:

- Decide on a name for the salon or spa.
- Determine what services will be offered.
- Create fun, inviting signage.
- Write a mission statement.
- Create an organizational plan and a marketing plan.

Most students will not be able to develop complex budgets; however, if you feel up to it, decide on a specific budget and allocate it to key areas, such as decorating, equipment, supplies, and personnel. Ask your instructors to provide feedback about whether your budget is realistic.

- A written purchase and sale agreement. This will avoid any misunderstandings between contracting parties.
- A complete and signed statement of inventory (goods, fixtures, and the like) indicating the value of each article.
- If there is a transfer of a note, mortgage, lease, or bill of sale, the buyer should initiate an investigation to determine whether there are defaults in payment of debts.
- The confirmed identity of the owner.
- The use of the salon or spa's name and reputation for a definite period of time.
- A disclosure of the condition of the facility. If buying the actual building, a full inspection is in order, and many other legalities apply. Be guided by your realtor and attorney.
- A non-compete agreement stating that the seller will not work or establish a new salon within a specified distance from the present location.
- An employee agreement, either formal or informal, that lets you know if the employees will stay with the business under its new ownership. Existing employee contracts should be transferrable.

## Drawing Up a Lease

In most cases, owning your own business does not mean that you own the building that houses your business. When renting or leasing space, you must have an agreement with the building's owner that has been well thought out and well written. The lease should clearly specify who owns what and who is responsible for which repairs and expenses. You should also secure the following:

- An exemption of fixtures or appliances that might be attached to the salon so that they can be removed without violating the lease.
- An agreement about necessary renovations and repairs, such as painting, plumbing, fixtures, and electrical installation.
- An option from the landlord that allows you to assign the lease to another person. In this way, obligations for the payment of rent are kept separate from the responsibilities of operating the business, should you decide to bring in another person or owner.

## Protecting against Fire, Theft, and Lawsuits

There are several practical steps you can take to ensure you safeguard your business. It is critical to protect your assets and to be mindful of laws governing your business practices.



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▲ **Figure 22-5** Experienced nail educator provides helpful tips to a novice technician.

- Ensure that your business has adequate locks, a fire alarm system, and a burglar alarm system.
- Purchase liability, fire, malpractice, and burglary insurance and do not allow these policies to lapse while you intend to remain in business.
- Become thoroughly familiar with all laws governing cosmetology and nail technology and with the health and safety codes of your city and state.
- Keep accurate records of the number of employees as well as their salaries, length of employment, and Social Security numbers (as required by various state and federal laws that monitor the social welfare of workers).
- Check with your regulatory agency if you have any questions about a law or regulation. Ignorance of the law is no excuse for violating it.

## Business Operations

Whether you are an owner or a manager, there are certain skills that you must develop in order to run a salon or spa successfully. To run a people-oriented business, you need:

- An excellent business sense: aptitude, good judgment, and diplomacy.
- Knowledge of sound business principles.

Because it takes time to develop these skills, you would be wise to establish a circle of contacts—business owners, including some salon or spa owners—who can give you advice along the way. Consider joining a local entrepreneurs group, or your city's chamber of commerce, to extend the reach of your networking.

Smooth business management depends on the following factors:

- Sufficient investment capital
- Efficiency of management
- Good business procedures
- Cooperation between management and employees
- Trained and experienced salon and spa personnel (**Figure 22-5**)
- Excellent customer service
- Proper pricing of services (**Figure 22-6**)

**NAILS** by bernadette

**NATURAL NAILS**

\$20 Manicure	\$30 Spa Manicure
\$35 Pedicure	\$55 Spa Pedicure
\$50 Manicure & Pedicure Combo	\$75 Spa Manicure & Pedicure Combo

**FULL SETS & MAINTENANCE: MONOMER & POLYMER, UV GELS & WRAPS**

\$45-65 Full Sets	starting at \$65 Pink & White Full Sets
\$25-40 Maintenance	\$45-55 Pink & White Maintenance

price varies per color

Specialty full sets with colored Monomer & Polymer

Specialty maintenance with colored Monomer & Polymer

**NAIL ART**

price varies upon consultation

Free-Hand designs include acrylic paints in assorted colors, glitters, assorted rhinestones, floral nail designs etc.

Also available: Airbrush designs with stencils

2-D and 3-D nail art

Inlaid designs

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▲ **Figure 22-6** Example of a nail salon service menu and price list.



## Allocation of Money

As a business operator, you must always know how your money is being spent. A good accountant and an accounting system are indispensable. The figures in **Table 22–1** serve as a guideline, but may vary depending on locality.

**Table 22–1 FINANCIAL BENCHMARKS FOR SALONS IN THE UNITED STATES**

<b>EXPENSES</b>	<b>PERCENT OF TOTAL GROSS INCOME</b>
Salaries and Commissions (Including Payroll Taxes)	53.5
Rent	13.0
Supplies	5.0
Advertising	3.0
Depreciation	3.0
Laundry	1.0
Cleaning	1.0
Light and Power	1.0
Repairs	1.5
Insurance	0.75
Telephone	0.75
Miscellaneous	1.5
<b>Total Expenses</b>	<b>85.0</b>
<b>Net Profit</b>	<b>15.0</b>
<b>Total</b>	<b>100.0</b>

Courtesy of Kopsa Otte CPAs & Advisors in York, NE, nationally known as the only accounting firm that specializes in salons and spas.

## The Importance of Record Keeping

Good business operations require a simple and efficient record-keeping system. Proper business records are necessary to meet the requirements of local, state, and federal laws regarding taxes and employees. Records are of value only if they are correct, concise, and complete. Proper bookkeeping methods include keeping an accurate record of all income and expenses. Income is usually classified as receipts from services and retail sales. Expenses include rent, utilities, insurance, salaries, advertising, equipment, and repairs. Retain check stubs, canceled checks, receipts, and invoices. A professional accountant or a full-charge bookkeeper is recommended to help keep records accurate. A full-charge bookkeeper is someone who is trained to do everything from recording sales and payroll to generating a profit-and-loss statement.



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Photography by Joseph Schuyler.

▲ **Figure 22–7** Consumption supplies for a nail station.

### Purchase and Inventory Records

The purchase of inventory and supplies should be closely monitored. Purchase records help you maintain a perpetual inventory, which prevents overstocking or shortage of needed supplies, and they alert you to any incidents of theft. Purchase records also help establish the net worth of the business at the end of the year.

Keep a running inventory of all supplies and classify them according to their use and retail value. Those to be used in the daily business operation are **consumption supplies** (**Figure 22–7**). Those to be sold to clients are **retail supplies**.

### Service Records

Always keep service records or client cards that describe treatments given and merchandise sold to each client. Using a salon-specific software program for this purpose is highly recommended. All service records should include the name and address of the client, the date of each purchase or service, the amount charged, products used, and results obtained. Clients' preferences and tastes should also be noted. For more information on filling out these cards and for an example of a client consultation card, see Chapter 4. **LO6**

## OPERATING A SUCCESSFUL SALON

The only way to guarantee that you will stay in business and have a prosperous salon or spa is to take excellent care of your clients. Clients visiting your salon or spa should feel well taken care of and should always have reason to look forward to their next visit. To accomplish this, your salon must be physically attractive, well organized, smoothly run, and, above all, sparkling clean.

## Planning the Salon's Layout

One of the most exciting opportunities ahead of you is planning and constructing the best physical layout for the type of nail salon or spa you envision. Maximum efficiency should be the primary concern. For example, if you are operating a low-budget salon offering quick service, you will need several stations and

a small- to medium-sized reception area because clients will be moving in and out of the salon fairly quickly. Your retail area may be on the small side because your clients may not have a lot of disposable income to spend on retail products.

However, if you are opening a high-end, full-service salon or luxurious day spa where clients expect the quality of the service to match the environment, you will want to plan for more room in the waiting area (**Figure 22–8**). You may, in fact, choose to have several areas in which clients can lounge between services and enjoy beverages or light snacks. If your nail salon will be part of a spa environment, the spa area and quiet rooms should be separated from busy, noisy areas where hair services are performed. Some upscale salons feature small coffee bars that lend an air of sophistication to the environment. Others offer quiet, private areas where clients can pursue business activities such as phone work or laptop work between services. The retail area should be spacious, inviting, and well lit. Your retail area may be any size that is appropriate for the number of products that the salon carries.

Layout is crucial to the smooth operation of a salon or spa. After you have decided on the type of salon that you wish to run, seek the advice of an architect with plenty of experience in designing salons and spas. For renovations, a professional equipment and furniture supplier will be able to help you (**Figure 22–9**).

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▲ **Figure 22–8** Beautifully remodeled reception area.



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◀ **Figure 22–9** Typical layout of a nail salon.

## Activity

What would your dream salon or spa look like? Try your hand at designing a salon or spa that would attract the kinds of clients you want, offer the services you would like to specialize in, and provide an efficient, comfortable working environment for nail technician professionals.

Draw pictures, use magazine clippings, or try a combination of both. Pay attention to practical requirements, but feel free to dream a little too. Skylights? Fountains? An employee exercise room? You name it. It's your dream (**Figure 22–10**)!



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▲ **Figure 22-10** Could this be your dream salon?

## Personnel

Your **personnel** consists of your staff or employees. The size of your nail salon will determine the size of your staff. Large nail salons and nail spas require nail technicians, receptionists, and management specialists and can include a variety of other specialty consultants. Smaller salons have some combination of these personnel who perform more than one type of service. The success of a salon and spa depends on the quality of the work done by the staff.

When interviewing potential employees, consider the following:

- Level of skill. What is their educational background? When was the last time they attended an educational event?
- Personal grooming. Do they look like you would want their advice about personal grooming?
- Image as it relates to the salon or spa. Are they too progressive or too conservative for your environment?
- Overall attitude. Are they mostly positive or mostly negative in their response to your questions?
- Communication skills. Are they able to understand your questions? Can you understand their responses?

Making good hiring decisions is crucial. Undoing bad hiring decisions is painful for all involved and can be more complicated than one might expect.

## Payroll and Employee Benefits

In order to have a successful business, one in which everyone feels appreciated and is happy to work hard and service clients well, you must be willing to share your success with your staff whenever it is financially feasible to do so. You can do this in a number of ways:

- Make it your top priority to meet your payroll obligations. In the allotment of funds, this comes first. It will also be your largest expense.
- Whenever possible, offer hardworking and loyal employees as many benefits as possible. Either cover the cost of the benefits, or simply make them available to employees, who can decide if they can cover the cost themselves.
- Provide staff members with a schedule of employee evaluations. Make it clear what is expected of them if they are to receive pay increases.
- Create and stay with a tipping policy. It is a good idea both for your employees and your clients to know exactly what is expected.
- Put your entire pay plan in writing and discuss it with employees.
- Create incentives by offering your staff opportunities to earn more money, prizes, or tickets to educational events and trade shows.
- Create salon and spa policies and stick to them. Everyone in the salon and spa should be governed by the same rules, including you!



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## Managing Personnel

As a new salon or spa owner, one of your most difficult tasks will be to manage your staff. But this can also be very rewarding. If you are good at managing others, you can make a positive impact on their lives and on their ability to earn a living. If managing people does not come naturally, do not despair. People can learn how to manage other people, just as they learn how to drive a car or do nail services. Keep in mind that managing others is a serious job. Whether it comes naturally to you or not, it takes time to become comfortable with the role.

Human Resources (HR) is an entire specialty in its own right. It not only covers how to manage employees, but also covers what you can and cannot say when hiring, managing, or firing. All employers must be familiar with various civil rights laws, including Equal Employment Opportunity Commission (EEOC) regulations and the Americans with Disabilities Act (ADA), which pertains to hiring and firing, as well as businesses design for accessibility. Every business should have a written personnel policies and procedures manual, and every employee must read and sign it. The more documented systems you have for managing human resources, the better.

There are many excellent books—both within and outside of the professional salon and spa industry—that you can use as resources for learning about managing employees and staff. Spend an afternoon online or at your local bookstore researching the topic and purchasing materials that will educate and inform you. Once you have a broad base of information, you will be able to select a technique or style that best suits your personality and that of your salon or spa.

## The Front Desk

Most salon and spa owners believe that the quality and pricing of the services are the most important elements of running a successful salon. Certainly these are crucial, but too often the front desk—the operations center—is overlooked. The best salons and spas employ professional receptionists to handle the job of scheduling appointments and greeting clients.

## The Reception Area

First impressions count, and since the reception area is the first thing clients see, it needs to be attractive, appealing, and comfortable. This is your salon's nerve center, where your receptionist will sit, where retail merchandise will be on display, and the phone system is located. Make sure that the reception area is stocked with business cards and a prominently displayed price list that shows at a glance what your clients should expect to pay for various services.

## The Receptionist

When it comes to staffing, your receptionist is second only in importance to your nail technicians. A well-trained receptionist is the first person the client sees on arrival. The receptionist should be pleasant, greet each client with a





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▲ **Figure 22–11** A good receptionist is key to a salon's success.

smile, and address each client by name. Efficient, friendly service fosters goodwill, confidence, and satisfaction.

In addition to filling the crucial role of greeter, the receptionist handles other important functions, including answering the phone, booking appointments, informing nail technicians that a client has arrived, preparing the daily appointment information for the staff, and recommending additional services to clients. The receptionist should have a thorough knowledge of all retail products carried by the salon or spa so that she can also serve as a salesperson and information source for clients (**Figure 22–11**).

During slow periods, it is customary for the receptionist to perform certain other duties and activities, such as straightening up the reception area and maintaining inventory and daily reports. The receptionist should also reserve these slow times for making any necessary personal calls or for being away from the front desk.

## Booking Appointments

One of the most important duties the receptionist has is booking appointments. Services are sold in terms of time on the appointment page, so the appointments must be scheduled carefully to make the most efficient use of everyone's time. Under ideal circumstances, a client should not have to wait for a service, and a nail tech should not have to wait for the next client.

Booking appointments is primarily the receptionist's job, but when she is not available, the salon owner or manager, or any of the nail technicians, can help. Therefore, it is important for each person in the salon or spa to understand how to book an appointment and how much time is needed for each service. Regardless of who actually makes the appointment, anyone who answers the phone or deals with clients must have a pleasant voice and personality.

In addition, the receptionist must have the following qualities:

- An appearance that conveys your salon's or spa's image
- Knowledge of the various services offered
- Unlimited patience with both clients and salon personnel

## Appointment Book

The appointment book helps nail technicians arrange time to suit their clients' needs. It should accurately reflect what is taking place in the salon or spa at any given time. In most salons and spas, the receptionist prepares the appointment schedule for staff members; in smaller salons, each person may prepare her own schedule. Increasingly, the appointment book is computerized and easily accessed through the salon's or spa's computer system (**Figure 22–12**).

## Use of the Telephone in the Salon

An important part of salon or spa business is handled over the telephone. Good telephone habits and techniques make it possible for the salon owner and nail technicians to increase business and improve relationships with clients and suppliers. With each call, a gracious, appropriate response will help build the salon or spa's reputation.



## Good Planning

Because it can be noisy, business calls to clients and suppliers should be made at a quiet time of the day or from a telephone placed in a quieter area of the salon or spa.

When speaking on the telephone, you should:

- Have a pleasant telephone voice, speak clearly, and use correct grammar. A smile in your voice counts for a lot.
- Show interest and concern when talking with a client or a supplier.
- Be polite, respectful, and courteous to all, even though some people may test the limits of your patience.
- Be tactful. Do not say anything to irritate the person on the other end of the line.

## Incoming Telephone Calls

Incoming phone calls are the lifeline of a salon or spa. Clients usually call ahead for appointments with a preferred technician or might call to cancel or reschedule an appointment. The person answering the phone should have the necessary telephone skills to handle these calls. The following section offers additional guidelines for answering the telephone.

When you answer the phone, say, “Good morning [afternoon or evening], Milady Salon. May I help you?” or “Thank you for calling Milady Salon. This is Jane speaking. May I help you?” Some salons and spas require that you give your name to the caller. The first words you say tell the caller something about your personality. Let callers know that you are glad to hear from them.

Answer the phone promptly. On a system with more than one line, if a call comes in while you are talking on another line, ask to put the person on hold, answer the second call, and ask that person to hold while you complete the first call. Take calls in the order in which they are received. If you do not have the information requested by a caller, either put the caller on hold while you get the information, or offer to call the person back with the information as soon as you have it.

Do not talk with a client standing nearby while you are speaking with someone on the phone. You are doing a disservice to both clients.

## Booking Appointments by Phone

When booking appointments, take down the client’s first and last name, phone number, and service booked. Many salons and spas call the client to confirm the appointment one or two days before it is scheduled. Automated systems can send e-mail or even a text message confirmation.

You should be familiar with all the services and products available in the salon and their costs as well as which nail professionals perform specific services. Be fair when making assignments. Try not to schedule six appointments for one tech and only two for another, unless it is necessary because you are working with specialists.

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Photography by Dino Petrecci.



▲ **Figure 22–12** Computerized appointment system.



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However, if someone calls to ask for an appointment with a particular nail technician on a particular day and time, every effort should be made to accommodate the client's request. If the nail technician is not available at the time the client requests, there are several ways to handle the situation:

- Suggest other times that the nail technician is available.
- If the client cannot come in at any of those times, suggest that another nail technician provide the service for this visit.
- If the client is unwilling to try another nail technician, offer to call the client if there is a cancellation at the desired time.



**WEB RESOURCES** This chapter provides a general overview of the complex issues involved in salon and spa ownership. There are many resources on the Internet for further study. The Web sites listed here are a good start.

#### **Design**

<http://www.beautydesign.com>

Click on Design Center to view see various salon layouts and to see salon photos from all over the world.

#### **Human Resources**

<http://www.dol.gov/compliance/guide>  
Look through this Employment Law Guide from U.S. Department of Labor's Web site. Search for: employment law guide

<http://www.eeoc.gov>

Research relevant equal employment opportunity regulations; check out the compliance manual.

<http://hr.blr.com>

Human Resources – Business and legal reports related to human resources. Find a forum, dozens of topics, and regulations by state.

#### **Small Business Ownership and Operation**

<http://www.business.com>

Advice on business topics from A to Z as well as, business resources for accounting, sales, marketing, technology, and more.

<http://www.isquare.com>

The Small Business Advisor — Provides information on starting and operating a small business.

<http://www.salonbuilder.com>  
Information on starting a salon.

<http://www.smallbusinessnotes.com>  
Various business-related articles.

<http://www.strategies.com>  
The source for salon business growth seminars, training, and coaching.

#### **Salon Software**

<http://www.shortcuts.net>

<http://www.salonbiz.com>

<http://www.http://www.saloniris.comsalon2K.com>

<http://www.salon-software.com>

<http://www.guestvision.net>

## **Handling Complaints by Telephone**

Handling complaints, particularly over the phone, is a difficult task. The caller is probably upset and short-tempered. Respond with self-control, tact, and courtesy, no matter how trying the circumstances. Only then will the caller be made to feel that she has been treated fairly.



The tone of your voice must be sympathetic and reassuring. Your manner of speaking should convince the caller that you are really concerned about the complaint. Do not interrupt the caller. After hearing the complaint in full, try to resolve the situation quickly and effectively.

## ■ BUILDING YOUR BUSINESS

A new salon or spa owner will want to get the business up and running as soon as possible to start earning some revenue and begin paying off debts. One of the items the new salon owner should consider is how to advertise the salon or spa. It is important to understand the many aspects of advertising.

Advertising includes all activities that promote the salon or spa favorably, from a newspaper ad to radio spots to a charity event, such as a fashion show that the salon or spa participates in. In order to create a desire for a service or product, advertising must attract and hold the attention of readers, listeners, or viewers.

A satisfied client is the very best form of advertising, because she will refer your salon and spa to friends and family. So make your clients happy (**Figure 22-13**)!

If you have some experience in advertising, you may decide to create your own ads. If you need help, you can hire a small local agency or ask a local newspaper or radio station to help you produce the ad. As a general rule, an advertising budget should not exceed 3 percent of your gross income. Plan well in advance for holidays and special yearly events, such as proms, New Year's Eve, or the wedding season.

Here are some tools you may choose to use to attract customers to the salon:

- Newspaper ads and coupons
- In-salon signage/advertising (**Figure 22-14**)
- Direct mail to mailing lists and your current salon or spa client list
- Classified advertising
- E-mail newsletters and discount offers to all clients who have agreed to receive such mailings (always include an unsubscribe link)



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▲ **Figure 22-13** Customer satisfaction is the best form of advertising.

**fall specials**

THE CONNECTION: \$215	Massage, facial, manicure, pedicure, makeup application, gift bag and lunch
THE DAY OFF \$125	Deep cleansing facial, spa pedicure, toe art and a beverage
THE SPICE OF LIFE \$95	Aromatherapy massage, manicure and nail art
THE TOUCH \$75	Hot stone spa manicure and pedicure

September 15 through December 15 only  
Consultations with every service.

Call now to reserve an hour, two hours, or a whole day of relaxation and pampering at The Nail Suite Spa.

Open Wednesday – Saturday 10-7

**nailsuite spa** 123 Sunset Boulevard • Hollywood, CA 12345  
310 • 555 • 1234

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▲ **Figure 22-14** In-salon signage advertising nail services.

- Web site offerings, including those on your own Web site, social networking, Web sites, and blogs
- Giveaway promotional items such as nail files, key chains, refrigerator magnets, or calendars
- Window displays that attract attention and feature the salon or spa and your retail products
- Radio advertising
- Television advertising
- Community outreach by volunteering at women’s and men’s clubs, church functions, political gatherings, charitable affairs, and on TV and radio talk shows
- Client referrals
- Contacting clients who have not been in the salon or spa for a while
- In-salon videos that promote your services and products **LO7**

## ■ SELLING IN THE SALON

An important aspect of the salon or spa’s financial success revolves around the sale of additional salon or spa services and take-home or maintenance products. Whether you own or manage a large salon or spa with several employees, or you are a booth renter with only yourself to worry about, adding services or retail sales to your service ticket means additional revenue.

In general, beauty professionals seem to feel uncomfortable about having to make sales of products or additional services. It is important to work at overcoming this feeling. When nail technicians are reluctant to sell, it is often because they do not want to seem pushy or aggressive. Helpful and knowledgeable sales professionals make customer care their top priority. These people play a major role in the lives of their customers and are very valuable to clients because they offer good advice. In fact, the successful salon or spa owner, like the successful nail technician, makes his or her living by dispensing complete beauty advice every day.

Selling in the beauty industry is based upon relationships. The client sees the nail technician as the expert and trusted advisor. The nail technician asks questions, uncovers problems, and then recommends solutions in the form of products or services. The focus is on understanding what the client needs and on what motivates the client to buy. It is the strength of the relationship

that allows the client to trust the recommendations of the nail technician (**Figure 22–15**).

In order to successfully sell a product or service to your prospective client, you will need to understand what is motivating the individual to visit your salon or spa. In considering the general reasons people buy, we can assume that people are motivated to satisfy a need. That need can stem from something practical to solve a problem or to satisfy their emotional well-being. **LO8**



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▲ **Figure 22–15** Selling nail products benefits everyone.

## ■ Review Questions

1. Name and describe the two most common options for going into business for yourself.
2. What responsibilities does a booth renter assume? What are the disadvantages of booth renting?
3. List at least three of the basic factors that potential salon owners should consider before opening their business.
4. How many types of salon ownership are there? Describe each.
5. List and describe the categories of information that should be included in a business plan.
6. Why is it important to keep good records? What type of records should be kept?
7. List and describe the five elements of a successful salon.
8. Why is selling services and products such a vital aspect of a salon's success?



# Glossary

**3-D art** Any art that protrudes from the nail.

**abductor (ab-DUK-tur)** Muscles that separate the fingers and toes.

**abductor digiti minimi** A muscle of the foot that separates the toes.

**abductor hallucis (ab-DUK-tohr ha-LU-sis)** A muscle of the foot that moves the great toe and helps maintain balance while walking and standing.

**abrasives** A term used to describe nail files and buffers.

**ABS** See **acrylonitrile butadiene styrene**.

**acetone** A colorless, inflammable liquid; miscible with water, alcohol, and ether; and having a sweetish odor or burning taste; used as a solvent.

**acid** A solution that has a pH below 7.0 and turns litmus paper from blue to red.

**acidic** See **acid**.

**acne** A skin disorder characterized by chronic inflammation of the sebaceous glands from retained secretions and *Propionibacterium acnes* (*p. acnes*) bacteria.

**acne papule** A pimple; a small circumscribed elevation on the skin that contains no fluid but may develop pus.

**acquired immunity** Immunity that the body develops after overcoming a disease through an inoculation (such as a flu vaccination) or through exposure to natural allergens, such as pollen, cat dander, and ragweed.

**acquired immunodeficiency syndrome (uh-KWY-erd ih-MYOO-no-di-FISH-en-see sin-droh)** (**AIDS**) A disease caused by the HIV virus, which breaks down the body's immune system.

**acrylates** Specialized acrylic monomers (cross-linking) that have good adhesion to the natural nail plate and polymerize in minutes. Used to make UV gels.

**acrylic (a-KRYL-yk)** The name for an entire family of chemicals used to make all types of nail enhancements and adhesives, including wraps, glues, UV gels, and liquid/powder systems.

**acrylonitrile butadiene styrene (ABS)** A common thermoplastic used to make light, rigid, molded nail tips.

**adductor (ah-DUK-tur)** The muscle at the base of each finger that draws the fingers together.

**adhesion** A chemical reaction resulting in two surfaces sticking together.

**adhesive** An agent that causes two surfaces to stick together.

**adhesive nail enhancement** A nail enhancement that is strengthened using nail adhesive.

**adipose tissue (ADD-ih-pohz TISH-oo)** See **subcutaneous tissue**.

**adrenal glands (uh-DREEN-ul GLANDZ)** Glands that control metabolic processes of the body, including the fight-or-flight response.

**adverse skin reaction** An abnormal skin condition caused by a chemical or physical irritant or a corrosive or allergy-producing substance.

**AIDS** See **acquired immunodeficiency syndrome**.

**airbrush stencil** A precut sheet of clear, thin plastic with a sticky backing that is cut by a machine into various shapes or designs. Any variety of paper, lace, mesh, fabric or other material can be used as a stencil.

**albinism (AL-bi-niz-em)** Congenital leukoderma, or the absence of melanin pigment of the body, including the hair, skin, and eyes.

**alkali (AL-kuh-ly)** A solution that has a pH above 7.0 and turns litmus paper from red to blue.

**alkaline** See **alkali**.

**allergic contact dermatitis** Skin that becomes allergic to an ingredient in a product; often caused by prolonged or repeated contact.

**allergy** A reaction due to an extreme sensitivity to certain foods, chemicals, or other normally harmless substances.

**alternating current (AWL-tur-nayt-ing KUR-rent) (AC)** Rapid and interrupted current, flowing first in one direction and then in the opposite direction, changing directions 60 times per second.

**amp** Also known as *ampere*; a unit that measures the strength of an electric current (the number of electrons flowing through a wire).

**ampere (AM-peer)** See **amp**.

**anabolism (uh-NAB-uh-liz-um)** Constructive metabolism; the process of combining smaller molecules to build larger and more complex molecules.

**analogous colors** Colors that are located beside each other on the color wheel.

**anatomy** The study of the human body structure that can be seen with the naked eye as well as what the body is made up of; the science of the structure of organisms or of their parts.

**anhidrosis (an-hih-DROH-sis)** A deficiency in perspiration, often a result of fever or certain skin diseases.

**anion** An ion with a negative electrical charge.

**anterior tibial (TIB-ee-al) artery** See **popliteal artery**.

**anterior tibial nerve** See *deep peroneal nerve*.

**antiseptics (ant-ih-SEP-tiks)** Chemical germicides formulated for use on the skin that are registered and regulated by the FDA.

**aorta (ay-ORT-uh)** The largest artery in the body. The arterial trunk that carries oxygenated blood from the heart to be distributed by branch arteries through the body.

**apex** Also known as *arch*; the area of the nail that has all of the strength; usually oval-shaped; located in the center of the nail.

**aromatherapy** Involves the use of highly concentrated, nonoily, and volatile essential oils to induce such reactions as relaxation or invigoration or simply to create a pleasant fragrance during the service.

**arrector pili muscle** A tiny, involuntary muscle at the base of the hair follicle that causes “goose bumps.”

**arteries (AR-tuh-rees)** Thick-walled muscular and flexible tubes that carry oxygenated blood from the heart to the capillaries.

**asymptomatic** Showing no symptoms or signs of infection.

**atom** The smallest particle of an element that still retains the properties of that element.

**atrium (AY-tree-um)** One of the two upper chambers of the heart, through which blood is pumped to the ventricles.

**autonomic (aw-toh-NAHM-ik) nervous system (ANS)** The part of the nervous system that controls the involuntary muscles and regulates the action of the smooth muscles, glands, blood vessels, and heart.

**axon (AK-sahn) and axon terminal** The extension of a neuron by which impulses are sent away from the body to other neurons, glands, or muscles.

**bacilli (bah-SIL-ee) (singular: bacillus)** Short, rod-shaped bacteria.

**bacteria (bak-TEER-ee-ah) (singular: bacterium)** One-celled microorganisms having both plant and animal characteristics. Some are harmful, some are harmless.

**bactericidal (back-teer-uh-SYD-ul)** Capable of destroying bacteria.

**basal cell carcinoma (BAY-zul SEL kar-sin-OH-muh)** The most common and least severe type of skin cancer; often characterized by light or pearly nodules.

**basal cell layer** Also known as the *stratum germinativum*; the bottom, live layer of the epidermis, where cells divide and begin the keratinization process.

**Beau's lines** Visible depressions running across the width of the natural nail plate.

**bed epithelium (ep-ih-THÉE-lee-um)** A thin layer of tissue between the nail plate and the nail bed.

**belly (brush)** The midsection of the brush bristles; the area of the brush that retains the most paint.

**belly (muscle)** The middle part of a muscle.

**bicep (BY-sep)** The muscle producing the contour of the front and inner side of the upper arm; it lifts the forearm and flexes the elbow.

**binary fission** The division of bacteria cells into two new cells called daughter cells.

**bioburden** The number of viable organisms in or on an object or surface or the organic material on the surface of an object before decontamination.

**biofilms** Thin, glue-like layers of a potentially infectious microorganism that adheres tightly to the insides of water pipes or containers and that is very difficult to remove without vigorous scrubbing.

**bit** A filing tool that inserts into a handpiece that actually does the filing.

**blood** Nutritive fluid circulating through the circulatory system (heart, veins, arteries, and capillaries) to supply oxygen and nutrients to cells and tissues and to remove carbon dioxide and waste from them.

**blood spill** See *exposure incident*.

**blood vascular system** Group of structures (heart, arteries, veins, and capillaries) that distributes blood throughout the body.

**bloodborne pathogens** Disease-causing microorganisms carried in the body by blood or body fluids.

**body systems** Groups of bodily organs acting together to perform one or more functions. The human body is composed of 11 major systems.

**booth rental** Also known as *chair rental*; renting a booth or station in a salon.

**brain** Part of the central nervous system contained in the cranium; the largest and most complex nerve tissue; controls sensation, muscles, gland activity and the power to think and feel emotions.

**briefing** Usually 15 to 30 minutes before the start of the competition and during which the competition director or head judge reviews the rules and guidelines to ensure everyone understands and is able to comply.

**bromhidrosis (broh-mih-DROH-sis)** Foul-smelling perspiration, usually noticeable in the armpits or on the feet.

**bruised nail bed** A condition in which a blood clot forms under the nail plate, forming a dark purplish spot; usually due to physical injury.

**bullae (BULL-uh) (plural: bullae)** A large blister containing a watery fluid; similar to a vesicle but larger.

**business plan** The written plan of a business as it is seen in the present and envisioned in the future.

**business regulations and laws** Any and all local, state, and federal regulations and laws that must be complied with when one decides to open a salon or rent a booth.

**callus (SIK-uh-triks)** See *keratoma*.

**callus softener products** Help to soften and smooth calluses, especially on heels and over pressure points.

**capillary** A tiny, thin-walled blood vessel that connects the smaller arteries to the veins.

**capital** Money needed to invest in a business.

**cardiac muscle** The involuntary muscle that is the heart. This type of muscle is not found in any other part of the body.

**cardiovascular system (KAHRD-ee-oh-VAS-kyoo-lur SIS-tum)** See *circulatory system*.

**carpus (KAR-pus)** The wrist; a flexible joint composed of a group of eight small, irregular bones held together by ligaments.

**catabolism (kuh-TAB-uh-liz-um)** The phase of metabolism in which larger, more complex molecules are broken down within the cells to create smaller, simpler molecules.

**catalysts (CAT-a-lists)** Substances that speed up chemical reactions.

**cation (KAT-eye-un)** An ion with a positive electrical charge.

**cell membrane (SELL MEM-brayn)** The cell part that encloses and holds the protoplasm while still allowing soluble substances (e.g., nutrients or waste by-products), to enter and leave the cell.

**cells** The basic unit of all living things from bacterial to plants and animals and including human beings; a minute mass of protoplasm capable of performing all the fundamental functions of life.

**central nervous system** Consists of the brain, spinal cord, spinal nerves, and cranial nerves.

**chain reaction** Also known as a *polymerization reaction*; a process that joins together monomers to create very long polymer chains.

**chelating detergents** Detergents that contain chelating agents to prevent hard tap water from reducing the effectiveness of the cleanser.

**chelating soaps** Soaps that contain chelating agents to prevent hard tap water from reducing the effectiveness of the cleanser.

**chemical** A substance obtained by a chemical process or producing a chemical effect.

**chemical change** A change in the chemical and physical properties of a substance by a chemical reaction that creates a new substance or substances.

**chemical properties** Those characteristics that can only be determined by a chemical reaction and a chemical change in the substance.

**chemistry** The science that deals with the composition, structures, and properties of matter and how matter changes under different conditions.

**chloasma (kloh-AZ-mah)** A condition characterized by increased pigmentation on the skin from dark spots that are not elevated.

**cicatrix (SIK-uh-triks)** See *scar*.

**circuit breaker (SUR-kit BRAYK-ar)** A switch that automatically interrupts or shuts off an electric circuit at the first indication of overload.

**circulatory system** Also known as the *cardiovascular or vascular system*; the system that controls the steady circulation of the blood through the body by means of the heart and blood vessels.

**clean** A mechanical process (scrubbing) using soap and water or detergent and water to remove all visible dirt, debris, and many disease-causing germs from tools, implements and equipment. Proper cleaning also removes invisible debris that interferes with disinfection.

**client base** Customers who are loyal to a particular nail technician.

**client consultation** Also known as needs assessment, the verbal communication with a client that determines what the client's needs are and how to achieve them.

**client consultation form** A questionnaire used to gather information about a client's needs, history, and preferences; filled out before the client's first service is performed at the salon.

**coatings** Products, including nail polish, top coats, artificial nail enhancements, and adhesives, that cover the nail plate with a hard film.

**cocci (KOK-sy)** Round-shaped bacteria that appear singly (alone) or in groups (staphylococci; streptococci; diplococci).

**collagen** A fibrous protein that gives the skin form and strength.

**color** The light seen reflected from a surface.

**color blocking** Creating blocks or sections of color on the nail.

**color fading** Also known as *color graduation*; when one color fades into the other, and the meeting point is a combination of the two.

**color wheel** A color guide that illustrates and identifies the primary, secondary, tertiary, and complementary colors.

**comedo (plural: comedones)** A hair follicle filled with keratin and sebum. When the sebum of the comedo is exposed to the environment, it oxidizes and turns black (blackhead); when the follicle is closed and not exposed to the environment, the comedone is a white or cream color (whitehead).

**commission** A percentage of the revenue that the salon takes in from services performed by a particular nail technician.

**common peroneal nerve (KAHM-un per-oh-NEE-al NURV)** A division of the sciatic nerve that extends from behind the knee to wind around the head of the fibula to the front of the leg, where it divides into two branches.

**competition kit** A kit you must take with you containing all the products you will use or might use in a competition.

**complementary colors** Colors located directly opposite each other on the color wheel.

**complete electrical circuit (kahm-PLEET ee-LEK-trih-kul SUR-kit)** The path of an electric current, from the generating source, through conductors, and back to its original source.

**compound molecules** Combinations of two or more atoms of different elements united together chemically.

**concentric bits** Balanced bits that do not wobble or vibrate.

**conductor (kahn-DUK-tor)** Any substance that conducts electricity.

**connective tissue** Fibrous tissue that binds together, protects, and supports the various parts of the body. Examples of connective tissue are bone, cartilage, ligaments, tendons, fascia, and fat or adipose tissue.

**consumption supplies** Supplies used in daily business operations.

**contact dermatitis** An eruptive skin infection caused by touching certain substances to the skin; may be short or long term.

**contagious disease (kon-TAY-jus dih-ZEEZ)** Also known as a communicable disease; disease that is spread from one person to another. Some of the more contagious diseases are the common cold, ringworm, conjunctivitis (pinkeye), viral infections, and natural nail or toe and foot infections.

**contamination** The presence, or the reasonably anticipated presence, of blood or other potentially infectious materials on an item's surface, or visible debris/residues, such as dust, hair and skin.

**corium (KOH-ree-um)** See *dermis*.

**corporation** A business whose ownership is shared by three or more people called stockholders.

**corrosive** A substance capable of seriously damaging skin, eyes, or other soft tissues on contact. Some corrosives have delayed action (minutes); others affect the skin almost instantly.

**cosmetology** The art and science of beautifying and improving the skin, nails, and hair; the study of cosmetics and their application.

**cover letter** A letter of introduction that highlights a job seeker's goals, skills, and accomplishments. It can provide a more detailed overview of the key points in a résumé.

**cross-linker** A monomer that joins together different polymer chains.

**crust** Dead cells that form over a wound or blemish while it is healing; an accumulation of sebum and pus, sometimes mixed with epidermal material.

**cure** Harden through exposure to UV light.

**curette** A small, spoon-shaped instrument used for cleaning debris from the edges of the nail plate.

**cuticle (KYOO-tih-kul)** The dead, colorless tissue attached to the nail plate.

**cutis (KYOO-tis)** See *dermis*.

**cianoacrylate** A specialized acrylic monomer (non-cross-linking) that has excellent adhesion to the natural nail plate and polymerizes in seconds; used to make wraps and nail adhesives.

**cyst (SIST)** A closed, abnormally developed sac, containing fluid, semifluid, or morbid matter above or below the skin.

**cytoplasm (sy-toh-PLAZ-um)** The part of the protoplasm that exists outside of the nucleus and inside the cell wall. The protoplasm surrounds the nucleus and is needed for growth, reproduction, and self-repair.

**Dappen dish** A special container for monomer liquid and polymer powder.

**decontamination** The removal of blood or potentially infectious materials on an item's surface and the removal of visible debris or residue such as dust, hair, and skin.

**deductive reasoning** The process of reaching logical conclusions by employing logical reasoning.

**deep peroneal nerve** Also known as the *anterior tibial nerve*; extends down the front of the leg, behind the muscles. It supplies impulses to these muscles and also to the muscles and skin on the top of the foot and adjacent sides of the first and second toes.

**deltoid (DEL-toyd)** A large, triangular muscle covering the shoulder joint that allows the arm to extend outward and to the side of the body.

**demographics** Information about the specific population including data on race, age, income, and educational attainment.

**dendrites (DEN-dryts)** Tree-like branches of nerve fibers extending from a nerve cell; short nerve fibers that carry impulses toward the cell and receive impulses from other neurons.

**derma** See *dermis*.

**dermatitis (dur-muh-TY-tis)** An abnormal inflammatory condition of the skin.

**dermatologist** Physician engaged in the practice of treating the skin, its structures, functions, and diseases.

**dermatology** The medical branch of science that deals with the study of skin and its nature, structure, functions, diseases, and treatments.

**dermis (DUR-mis)** Also known as the *derma*, *corium*, or *cutis*; the underlying or inner layer of the skin.



**design sculpture** Nail enhancements that have inlaid designs and are produced using either monomer liquid and polymer powder or UV gel products.

**diagnose** See *diagnosis*.

**diagnosis** A determination of the nature of a disease from its symptoms and/or diagnostic tests. Federal regulations prohibit nail professionals from performing a diagnosis.

**diaphragm (DY-uh-fram)** The muscular wall that separates the thorax from the abdominal region and helps control breathing.

**digestive enzymes (dy-JES-tiv EN-zymz) (gastrointestinal system)** Chemicals that change certain types of food into a form that can be used by the body.

**digestive system (dy-JES-tiv SIS-tum)** The mouth, stomach, intestines, and salivary and gastric glands that change food into nutrients and wastes.

**digit** See *phalanges*.

**digital (DIJ-ut-tul) nerve** A nerve that, with its branches, supplies the fingers and toes.

**dimethyl urea (DMU) hardener** A hardener that adds cross-links to the natural nail plate; however, unlike hardeners containing formaldehyde, DMU does not cause adverse skin reactions.

**diplococci (dip-lo-KOK-sy)** Spherical bacteria that grow in pairs and cause diseases such as pneumonia.

**direct current (dy-REKT KUR-unt) (DC)** Constant, even-flowing current that travels in one direction.

**direct transmission** The transmission of blood or body fluids through touching (including shaking hands), kissing, coughing, sneezing, and talking.

**disease** An abnormal condition of all or part of the body, or its systems or organs, that makes the body incapable of carrying on normal function.

**disinfectants (dis-in-FEK-tents)** EPA-registered products used on nonporous surfaces that destroy organisms such as bacteria, viruses, and fungi, when used according to the disinfectant label instructions.

**disinfection (disinfecting)** A chemical process that uses specific products to destroy organisms on nonporous surfaces. This process requires the use of an EPA-registered disinfectant prepared and used following the manufacturer's instructions. All surfaces must be cleaned/sanitized prior to disinfection.

**disposable** See *single-use*.

**disposable implements** Implements that cannot be reused and must be thrown away after a single use.

**dorsal** A nerve that extends up from the toes and foot, just under the skin, supplying impulses to the toes and foot as well as the muscles and skin of the leg, where it is called the superficial peroneal nerve or the musculocutaneous nerve.

**dorsal nerve (DOOR-sal NURV)** Also known as *dorsal cutaneous nerve*; See *dorsal*.

**dorsalis pedis artery** See *popliteal artery*.

**eczema (EG-zuh-muh)** An inflammatory, painful itching disease of the skin, acute or chronic in nature, presenting many forms of dry or moist lesions.

**effective communication** The act of sharing information between two people (or groups of people) so that the information is successfully understood.

**efferent nerves (EF-uh-rent NURVS)** See *motor nerves*.

**efficacy** The effectiveness with which a disinfecting solution kills specific organisms when used according to the label instructions.

**effleurage (EF-loo-rahzh)** A succession of strokes performed by gliding the hands over an area of the body with varying degrees of pressure or contact.

**eggshell nail** A noticeably thin, white nail plate that is more flexible than normal.

**elastin** A protein similar to collagen that forms elastic tissue.

**electric current** The flow of electricity along a conductor.

**electrical ground (ee-lek-TRIK-ul GROWND)** Completes an electrical circuit and carries the current safely away.

**electrical safety devices** Devices designed to detect and protect you from an overload, a short circuit, or an improper ground caused by faulty wiring or water.

**electricity ee-lek-TRIS-ih-tee** The movement of electrons from one atom to another along a conductor. Electricity is a form of energy that, when in motion, exhibits magnetic, chemical, or thermal effects.

**electromagnetic radiation** Also called "radiant energy," it carries, or radiates, energy through space on waves.

**element** The simplest form of matter, which cannot be broken down into a simpler substance without a loss of identity.

**elemental molecules** Chemical combinations of atoms of the same element.

**employee evaluations** A periodic assessment of an employee's skills, attitudes, and behaviors and how they are used and perceived in the work setting.

**employment portfolio** A collection of photos and documents that reflect a person's skills, accomplishments, and abilities in a chosen career field.

**emulsion** An unstable mixture of two or more immiscible substances united with the aid of a binder or emulsifier.

**emulsifier** Brings two normally incompatible materials together and binds them into a uniform and fairly stable blend; the materials eventually separate, but usually very slowly over time.

**endocrine (EN-duh-krin) (ductless) glands** Organs (such as the thyroid or pituitary glands) that release hormonal secretions directly into the bloodstream.

**endocrine system** A group of specialized glands that affect the growth, development, sexual activities, and health of the entire body.

**epidermis (ep-uh-DUR-mis)** The outermost layer of the skin.

**epithelial tissue (ep-ih-THEE-lee-ul TISH-oo)** A protective covering on body surfaces, such as the skin, mucous membranes, the tissue inside the mouth, the lining of the heart, digestive and respiratory organs, and glands.

**eponychium (ep-oh-NIK-eeum)** Living skin at the base of the nail plate and covering the matrix area.

**ergonomics** The science of designing the workplace as well as its equipment and tools to make specific body movements more comfortable, efficient, and safe.

**essential oils** Oils extracted from seeds, bark, roots, leaves, wood, and/or resin using various forms of distillation.

**esthetician** A specialist in the cleansing, preservation of health, and beautification of the skin and body; one who gives therapeutic facial treatments.

**ethics** The moral principles by which we live and work.

**evaporate** A change from liquid to vapor form.

**excoriation (ek-skor-ee-AY-shun)** A skin sore or abrasion produced by scratching or scraping.

**excretory system (EK-skre-tor-ee SIS-tum)** A group of organs including the kidneys, liver, skin, large intestine, and lungs that purify the body by the elimination of waste matter.

**exfoliating scrubs** Water-based lotions that contain a mild, gritty-like abrasive and moisturizers to help in removing dry, flaky skin and reducing calluses.

**exhalation (eks-huh-LAY-shun)** The act of breathing outward, expelling carbon dioxide from the lungs.

**exocrine glands (EK-suh-krin GLANDZ)** Also known as *duct glands*; organs that produce a substance that travels through small tube-like ducts, such as the sudoriferous (sweat) glands and the sebaceous (oil) glands.

**exothermic (ek-soh-THUR-mik) reactions** Chemical reactions that produce heat.

**exposure incident** Contact with nonintact (broken) skin, blood, body fluid, or other potentially infectious materials that results from an employee performing his or her professional duties.

**extensor (ik-STEN-sur)** A muscle that straightens the wrist, hand, and fingers to form a straight line.

**extensor digitorum longus (eck-STEN-sur dij-it-TOHR-um LONG-us)** A muscle that bends the foot up and extends the toes.

**eyes** Body organs that control the body's vision.

**fabric wrap** A nail wrap made of silk, linen, or fiberglass.

**fan brush** A flat brush where the bristles or hairs are spread out like a fan. This brush is most commonly used for blending and special effects.

**fantasy art** A nail art category or competition where all art mediums are allowed and the only limitation is the imagination.

**femur (FEE-mur)** A heavy, long bone that forms the leg above the knee.

**ferrule** The metal band around the brush that helps to hold the bristles in place.

**fiberglass** A very thin synthetic mesh with a loose weave.

**fibula (FIB-ya-lah)** The smaller of the two bones that form the leg below the knee. The fibula may be visualized as a bump on the little-toe side of the ankle.

**fine-grit abrasive** Abrasive that is 240 grit and higher designed for buffing, polishing, and removing very fine scratches.

**fissure (FISH-ur)** A crack in the skin that penetrates the dermis, such as chapped hands or lips.

**flagella (flu-JEL-uh) (singular: flagellum)** Slender, hair-like extensions used by bacilli and spirilla for locomotion.

**flash cure** Placing a wet UV gel product under the UV light for 5 to 10 seconds.

**flat art** A nail art category that includes all freehand painting techniques that are flat, not raised.

**flat brush** A brush with a square tip with long bristles, which gives the brush added flexibility. This brush is useful for blending and shading.

**flexor (FLEK-sur)** An extensor muscle of the wrist involved in flexing the wrist.

**flexor digiti minimi (FLEK-sur-dij-it-ty MIN-eh-mee)** A muscle of the foot that moves the little toe.

**flexor digitorum brevis (FLEKS-or dij-it-TOHR-um BREV-us)** A muscle of the foot that moves the lesser toes and helps maintain balance while walking and standing.

**flute** A long, slender cut or groove found on carbide bits.

**foot file** Also known as *pedicure paddle*; a large abrasive file used to smooth and reduce thicker areas of calluses.

**foot soaks** Products containing gentle soaps and moisturizers that are used in a pedicure bath to cleanse and soften the skin.

**free edge** The part of the nail plate that extends over the tip of the finger or toe.

**French manicure** A nail art technique where the nail bed is one color, usually pink, peach, or beige (depending upon the client's skin tone), and the free edge of the nail is another color, usually white.

**French twist** A competition where you may use pink, white, clear, and glittered products to produce a unique twist on the French manicure look.

**frequency** The number of waves within a given length. Long wavelengths have low frequency, meaning that the number of waves is less frequent (fewer waves) within a given length. Short wavelengths have higher frequency because the number of waves is more frequent (more waves) within a given length.

**friction** In massage, various strokes that manipulate or press one layer of tissue over another.

**fulcrum finger** Also known as *balance point*; balancing the tip of one pinky finger with the tip of the pinky finger on the other hand as you work.

**fungi (FUN-jl) (singular: fungus)** single-cell organisms that grow in irregular masses that include molds, mildews, and yeasts, can produce contagious diseases, such as ringworm.

**fungicidal (fun-jih-SYD-ul)** Capable of destroying fungi.

**fuse** Special device that prevents excessive current from passing through a circuit.

**game plan** The conscious act of planning your life, instead of just letting things happen.

**gas** A state of matter different from liquid or solid. Gases are not formed by evaporation of liquids, as are vapors. Gases must not be confused with vapors or fumes.

**gastrocnemius (gas-truc-NEEM-e-us)** The muscle that is attached to the lower rear surface of the heel and pulls the foot down.

**gel polishes** An alternative to traditional nail lacquers. Gel polishes do not dry as nail lacquers do: they cure in the lamp unit.

**germs** See *bacteria*.

**gland** A specialized organ that removes certain constituents from the blood to convert them into new substances.

**glycerin (GLIS-ur-in)** A sweet, colorless, oily substance used as a moisturizing ingredient in cosmetic products.

**goals** A set of benchmarks that, once achieved, help you to realize your mission and your vision.

**goal setting** The identification of long-term and short-term goals that helps you decide what you want out of life.

**gravity-fed** An airbrush system designed to pull the paint into the airbrush using gravity.

**grit** Number of abrasive particles per square inch.

**ground fault circuit interrupter (GFCI)** A resettable safety device that is designed to provide protection from an unsafe ground.

**grounding** To complete an electrical circuit and carry the current safely away.

**hangnail** A condition in which the eponychium or other living tissue surrounding the nail plate becomes split or torn.

**hard UV gels** Hard UV gels that are typically defined as the traditional UV gels; they cannot be removed with acetone.

**heating element** Converts electricity into heat by providing resistance to an electric current.

**heart** A muscular, cone-shaped organ that keeps the blood moving within the circulatory system.

**heel** The point at which the bristles of the brush meet the ferrule.

**hematoma (HEE-mah-toh-mah)** A collection of blood that is trapped underneath the nail. This blood usually results in pain and pressure on the nail bed. This excess blood may need to be drained by a physician.

**hemoglobin (HEE-muh-gloh-bun)** The coloring matter of the blood; an iron-containing protein that temporarily binds with oxygen.

**hepatitis (hep-uh-TY-tus)** A bloodborne virus that causes disease affecting the liver.

**histamine** Chemicals released in the blood that enlarge the vessels around an injury so that blood can speed removal of any allergy-causing substance.

**histology (his-TAHL-uh-jee)** Also known as *microscopic anatomy*; the study of tiny structures found in tissues.

**HIV** See *human immunodeficiency virus*.

**hormone (HOR-mohn)** A secretion, such as insulin, adrenalin, and estrogen, produced by one of the endocrine glands and carried by the bloodstream or body fluid to another part of the body to stimulate a specific activity.

**hospital disinfectants** Effective for cleaning blood and body fluids in hospitals and on nonporous surfaces in the salon, thus controlling the spread of disease.

**human immunodeficiency virus (HYOO-mun ih-MYOO-noh-di-FISH-en-see VY-rus) (HIV)** The virus that can cause AIDS.

**humerus (HYOO-muh-rus)** The uppermost and largest bone in the arm, extending from the elbow to the shoulder.

**hydrophilic (hy-drah-FIL-ik)** Water-loving.

**hyperhidrosis (hy-per-hy-DROH-sis)** Excessive sweating, caused by heat or general body weakness.

**hypertrophy** Abnormal growth of the skin.

**hyponychium** Slightly thickened layer of skin that lies between the fingertip and free edge of the nail plate. It forms a protective barrier that prevents microorganisms from invading and infecting the nail bed.

**Immiscible** Not capable of being mixed.

**immunity** The ability of the body to destroy and resist infection. Immunity against disease can be either natural or acquired and is a sign of good health.

**implements** Tools used to perform nail services that are multiple use (reusable) or disposable.

**indirect transmission** The transmission of blood or body fluids through contact with an intermediate contaminated object, such as a tweezer, metal pusher, nipper, or an environmental surface.

**infection (in-FEK-shun)** The invasion of body tissues by disease-causing pathogens.

**infection control** The methods used to eliminate or reduce the transmission of infectious organisms.

**infectious (in-FEK-shun)** An infection that can be spread from one person to another or from one infected body part to another.

**infectious disease** A disease caused by pathogenic (harmful) microorganisms that enter the body. An infectious disease may or may not spread from one person to another person.

**inflammation (in-fluh-MAY-shun)** A condition in which a part of the body reacts to injury, irritation, or infection. An inflammation is characterized by redness, heat, pain, and swelling.

**infrared radiation (IR)** The wavelength of infrared radiation (IR) is just below red and below the visible spectrum of light.

**inhalation (in-huh-LAY-shun)** The breathing in of air.

**inhibition layer** The tacky surface left on the nail once a UV gel has cured.

**initiator** A substance that starts the chain reaction that leads to the creation of very long polymer chains.

**inlaid designs** Designs inside a nail enhancement that are created when nail art is sandwiched between two layers of product while the nail enhancement is being formed.

**inorganic chemistry** The study of substances that do not contain carbon but may contain hydrogen.

**insertion** Part of the muscle at the more movable attachment to the skeleton.

**insulator (IN-suh-layt-ur)** Also known as *nonconductor*; a material that does not transmit electricity easily.

**insurance** Guarantees protection against financial loss from malpractice, property liability, fire, burglary and theft, and business interruption.

**integumentary system (in-TEG-yuh-ment-uh-ree SIS-tum)** The skin and its accessory organs, such as the oil and sweat glands, sensory receptors, hair, and nails.

**interstitial fluid (in-tur-STISH-al FLOO-id)** Blood plasma found in the spaces between tissues.

**intestines** A body organ that, along with the stomach, digests food.

**inverter** An apparatus that changes direct current to alternating current.

**ion** An atom or molecule that carries an electrical charge.

**ionization (eye-ahn-iy-ZAY-shun)** The separation of an atom or molecule into positive and negative ions.

**irritant contact dermatitis** A skin infection caused when the skin becomes irritated by a substance.

**job description** A document that outlines the duties and responsibilities of a particular position.

**joint** A connection between two or more bones of the skeleton.

**keloid (KEE-loyd)** A thick scar resulting from excessive growth of fibrous tissue.

**keratin** A fiber protein found in nails, skin and hair. The keratin in natural nails is harder than the keratin in hair or skin.

**keratoma (kair-uh-TOH-muh)** Also known as *callus*; an acquired, superficial, thickened patch of epidermis caused by pressure or friction on the hands and feet.

**kidneys** Body organs that excrete water and waste products.

**kilowatt (KIL-uh-wat)** 1,000 watts.

**lateral nail fold** Folds of normal skin that line the sides of the nail plate.

**latissimus dorsi (lah-TIS-ih-mus DOR-see)** The large, flat, triangular muscle covering the lower back.

**light emitting diode (LED)** A type of ultraviolet-energy (UV) releasing lamp used to polymerize UV curable gel nail enhancements.

**lentigenes (len-TIJ-e-neeZ)** The technical term for freckles.

**lesion (LEE-zhun)** A mark on the skin; certain lesions could indicate an injury or damage that changes the structure of tissues or organs. There are three types of skin lesions: primary, secondary, and tertiary.

**leukocytes (LOO-koh-syts)** See *white blood cells*.

**leukoderma (loo-koh-DUR-muh)** A skin disorder characterized by light abnormal patches; caused by a burn or congenital disease that destroys the pigment-producing cells.

**leukonychia (loo-koh-NIK-ee-ah) spot** Whitish discoloration found inside the nail plate, usually caused by injury to the nail matrix.

**ligament (LIG-uh-munt)** A tough band of fibrous tissue that connects bones or holds an organ in place.

**linen** A closely woven, heavy material used for nail wraps.

**liner brush** A detail brush preferred for line work, outlining, and lettering.

**lipophilic (ly-puh-FIL-ik)** Oil-loving.

**liver** An organ that removes waste created by digestion.

**local infection** An infection such as a pimple or abscess, that is confined to a particular part of the body and is indicated by a lesion containing pus.

**lower-grit abrasives** Boards and buffers less than 180 grit that quickly reduce the thickness of any surface.

**lungs** Organs of respiration; spongy tissues composed of microscopic cells in which inhaled air is exchanged for carbon dioxide during one breathing cycle.

**lunula (LOO-nuh-luh)** Whitish, half-moon shape underneath the base of the nail plate, caused by the reflection of light off the surface of the matrix.

**lymph** Clear fluid that circulates in the lymph spaces (lymphatics) of the body; carries waste and impurities away from the cells.

**lymphatic/immune system** Body system made up of lymph, lymph nodes, the thymus gland, the spleen, and lymph vessels. Protects the body from disease by developing immunities and destroying disease-causing microorganisms, as well as draining the tissue spaces of excess interstitial fluids to the blood. It carries waste and impurities away from the cells.

**lymph capillaries** Blind end tubes that are the origin of lymphatic vessels.

**lymph nodes (LIMF NOHDS)** Special structures found inside the lymphatic vessels that filter lymph.

**lymph vascular system (LIMF VAS-kyoo-lur SIS-tum)** Acts as an aid to the blood system and consists of the lymph spaces, lymphatics (lymph vessels), lymph nodes and other structures.

**macule (MAK-yool) (plural: maculae)** A spot or discoloration on the skin, such as a freckle. Macules are neither raised or sunken.

**maintenance** The term used for a nail enhancement that needs to be serviced after 2 or more 3 weeks from the initial application of the nail enhancement product. The maintenance service allows the professional to apply the enhancement product onto the new growth of nail, commonly referred to as a *fill* or a *backfill*, and to structurally correct the nail to ensure its strength, shape, and durability; this is commonly referred to as a *rebalance*.

**malignant melanoma (muh-LIG-nent mel-uh-NOH-muh)** Most serious form of skin cancer, often characterized by black or dark brown patches on the skin that may appear uneven in texture, jagged, or raised.

**manicure** A cosmetic treatment of the hands involving cutting, shaping, and often painting of the nails, removal of the cuticles, and softening of the skin.

**marbleizer** Also known as *stylus*; a tool with wooden handles and a rounded ball tip that can range in size and is excellent for dotting small circles of color on a nail.

**marbleizing** A swirled effect when you combine two or more colors together when wet and mix them on the nail with a marbleizing tool known as a stylus.

**mask** Also known as a *masque*; a concentrated treatment product often composed of mineral clays, moisturizing agents, skin softeners, aromatherapy oils, botanical extracts and other beneficial ingredients to cleanse, exfoliate, tighten, tone, hydrate, and nourish the skin.

**massage** The manipulation of the soft tissues of the body.

**Material Safety Data Sheet** Abbreviated as *MSDS*; contains safety information about products compiled by a manufacturer, including the names of hazardous ingredients, safe handling and use procedures, precautions to reduce the risk of accidental harm or overexposure, and flammability warnings.

**matrix** An area where the nail plate cells are formed; this area is composed of matrix cells that make up the nail plate.

**matter** Any substance that occupies space and has mass (weight).

**median (MEE-dee-un) nerve** The nerve, with its branches, that supplies the arm and hand.

**medium-grit abrasives** 180- to 240-grit abrasives that are used to smooth and refine surfaces and shorten natural nails.

**melanin** Tiny grains of pigment (coloring matter) deposited into cells in the layer of the epidermis and papillary layers of the dermis. There are two types of melanin: pheomelanin, which is red to yellow in color; and eumelanin, which is dark brown to black.

**melanocytes (muh-LAN-uh-syts)** Melanin-forming cells.

**melanonychia (mel-uh-nuh-NIK-ee-uh)** Significant darkening of the fingernails or toenails; may be seen as a black band under or within the nail plate, extending from the base to the free edge.

**metabolism (muh-TAB-uh-liz-um)** A chemical process that takes place in living organisms through which the cells are nourished and carry out their activities.

**metacarpus (met-uh-KAR-pus)** Bones of the palm of the hand; parts of the hand containing five bones between the carpus and phalanges.

**metal pusher** A stainless steel reusable implement used to push back the eponychium; that can also be used to gently scrape cuticle tissue from the natural nail plate.

**metatarsal (met-ah-TAHR-sul)** One of three subdivisions of the foot comprising five bones—which are long and slender, like the metacarpal bones of the hand—that help make up the foot. The other two subdivisions are the tarsal and phalanges. All three subdivisions comprise 26 bones.

**methacrylate (METH-ah-cry-latz)** A type of acrylic monomer (cross-linking) that has very good adhesion to the natural nail plate and polymerizes in minutes; used to make all liquid/powder systems and at least one type of UV gel.

**Methicillin-resistant *staphylococcus aureus* (MRSA)** A staph infection occurring most frequently among persons with weakened immune systems or in people having undergone medical procedures; highly resistant to certain antibiotics.

**methyl methacrylate monomer (MMA)** A substance in wide use around the world for many applications, such as bone repair cement for implantation into the body.

**germs** Nonscientific synonyms for disease-producing organisms.

**microorganism (my-kroh-OR-gah-niz-um)** Any organism of microscopic or submicroscopic size.

**microshattering** Tiny cracks in nail enhancements as they age with wear and become brittle; can also be caused by aggressive filing with or without an electric file.

**microtrauma** The act of causing tiny unseen openings in the skin that may allow entry by pathogenic microbes. A common cause of microtrauma is from shaving.

**mildew (MIL-doo)** A type of fungus that affects plants or grows on inanimate objects but that does not cause human infections in the salon.

**miliaria rubra (mil-ee-AIR-ee-ah ROOB-rah)** Prickly heat; an acute inflammatory disorder of the sweat glands, characterized by the eruption of small red vesicles and accompanied by burning, itching skin.

**milliampere (mil-ee-AM-peer) (mA)** One-thousandth of an ampere.

**miscible (MIS-uh-bul) liquids** Mutually soluble liquids, meaning that they can be mixed together to form stable solutions, which cannot be easily separated.

**mitosis** Cells dividing into two new cells (daughter cells); the usual process of cell reproduction of human tissue.

**mitral valve (MY-trul VALV)** Also referred to as the bicuspid valve (by-KUS-pid VALV); the valve that separates the two chambers on the left side of the heart. The valve permits blood to fall from the left atrium into the ventricle when the atrium contracts. When the atrium relaxes, the valve closes to prevent the blood from backing up into the atrium and from there, into the lungs.

**mix ratio** The amount of monomer liquid and polymer powder used to create a bead. The mix ratio can be best described as *dry*, *medium*, or *wet*.

**mixed media** A description used for nail art when more than one nail art medium is used to create the design.

**mole** A small, brownish spot or blemish on the skin ranging in color from pale tan to brown or bluish black.

**molecule** Two or more atoms joined chemically.

**monomer (MON-oh-mehr)** A molecule that can polymerize to form long polymer chains.

**monomer liquid** A chemical liquid mixed with polymer powder to form the sculptured nail enhancement.

**monomer liquid and polymer powder nail enhancements** Enhancements created by combining monomer liquid and polymer powder.

**motility (moh-TIL-ee-tee)** Self-movement.

**motor nerve fibers** Fibers of the motor nerves that are distributed to the arrector pili muscles attached to hair follicles. Motor nerves carry impulses from the brain to the muscles.

**motor nerves** Also known as *efferent nerves*; nerves that carry impulses from the brain to the muscles.

**MRSA** See *methicillin-resistant staphylococcus aureus*

**MSDS** See *Material Safety Data Sheet*.

**multiuse implements** Reusable items that can be cleaned, disinfected, and used on more than one person, even if the item is accidentally exposed to blood or body fluid.

**muscular system** A body system that covers, shapes, and supports the skeleton tissue; contracts and moves various parts of the body.

**muscular tissue** Tissue that contracts and moves various parts of the body.

***Mycobacterium fortuitum* (MY-koh-bak-TIR-ee-um for-TOO-i-tum)** A microscopic germ that normally exists in tap water in small numbers.

**myology (my-AHL-uh-jee)** The study of the nature, structure, function, and diseases of the muscles.

**nail art competitions** Opportunities for licensed professionals or nail students to compete in a specified category where the art and theme of the nails are part of the judging criteria.

**nail bed** Portion of the living skin that supports the nail plate as it grows toward the free edge.

**nail clippers** A reusable implement used to shorten the nail plate quickly and efficiently.

**nail creams** Barrier products that contain ingredients designed to seal the surface and hold in the subdermal moisture in the skin.

**nail dehydrator** A substance used to remove surface moisture and tiny amounts of oil left on the natural nail plate.

**nail disorder** A condition caused by an injury or disease of the nail unit.

**nail extension underside** The actual underside of the nail extension; is usually smooth.

**nail folds** The folds of normal skin that surround the nail plate.

**nail forms** Placed under the free edge of the natural nail and used as a guide to extend the nail enhancements beyond the fingertip for additional length.

**nail groove** A slit or furrow on the sides of the nail.

**nail oils** Oils designed to absorb into the nail plate to increase flexibility and into the surrounding skin to soften.

**nail plate** A hardened keratin plate that sits on and slowly slides across the nail bed while it grows; the most visible and functional part of the nail unit.

**nail primer** A substance that improves adhesion; used on the natural nail prior to product application to assist in adhesion.

**nail psoriasis** A noninfectious condition that affects the surface of the natural nail plate, causing it to appear rough and pitted as well as causing reddish color spots on the nail bed and onycholysis.

**nail pterygium (teh-RU-ee-um)** An abnormal condition that occurs when the skin is stretched by the nail plate; usually caused by serious injury or allergic reaction.

**nail rasp** A metal file with an edge that can file the nail plate in only one direction.

**nail technology** The art and science of beautifying and improving the nails and skin of the hands and feet.

**nail tips** Preformed nail extensions made from ABS or tenite acetate plastic; available in a wide variety of shapes, styles, and colors, such as natural, white, and clear.

**nail tip adhesive** The bonding agent used to secure the nail tip to the natural nail.

**nail unit** All the anatomical parts of the fingernail necessary to produce the natural nail plate.

**nail wrap** A method of securing a layer of fabric or paper on and around the nail tip to ensure its strength and durability.

**nail wrap resin** Resins are used to coat and secure fabric wraps; made from cyanoacrylate and closely related to those used to create other types of nail enhancements.

**natural immunity** Immunity that is partly inherited and partly developed through healthy living.

**natural nail** The hard protective plate located at the end of the finger or toe.

**needs assessment** See *client consultation*.

**nerve** A whitish cord made up of bundles of nerve fibers held together by connective tissue through which impulses are transmitted.

**nerve tissue** Tissue that carries messages to and from the brain and controls and coordinates all body functions.

**nervous system** The body system composed of the brain, spinal cord, and nerves; controls and coordinates all other systems inside and outside of the body and makes them work harmoniously and efficiently.

**networking** Connecting with people, communities, and local businesses to build mutually beneficial relationships.

**neurology (nuh-RAHL-uh-jee)** The science of the structure, function, and pathology of the nervous system.

**neuron (NOO-rah-n)** A nerve cell; the primary structural unit of the nervous system, consisting of the cell body, nucleus, dendrites, and axon.

**nevus (NEE-vus)** A small or large malformation of the skin due to abnormal pigmentation or dilated capillaries; commonly known as a birthmark.

**nipper** A stainless steel implement used to carefully trim away dead skin around the nails.

**nonpathogenic (non-path-uh-JEN-ik)** Harmless organisms that may perform useful functions and are safe to come in contact with since they do not cause disease or harm.

**nonstriated muscle** See *smooth muscle*.

**nucleus (NOO-klee-us)** The dense, active protoplasm found in the center of the cell; plays an important part in cell reproduction and metabolism.

**occupational disease** Illness resulting from conditions associated with employment, such as prolonged and repeated overexposure to certain products or ingredients.

**odorless monomer liquid and polymer powder products** Nail enhancement products that have a very low odor.

**ohm (OHM)** A unit that measures the resistance of an electric current.

**oil-in-water (O/W) emulsion** Oil droplets emulsified in water.

**oligomer** Short chain of monomers that is not long enough to be considered a polymer.

**-ology** Suffix meaning study of (e.g., technology).

**one-color method** When only one color of nail enhancement product is applied over the entire surface of the nail.

**onychchia** Inflammation of the matrix of the nail with shedding of the nail.

**onychocryptosis (ahn-ih-koh-krip-TOH-sis)** Ingrown nail; nail grows into the living tissue around the nail.

**onycholysis** A medical condition caused by physical separation of the nail plate from the nail bed.

**onychomadesis (ahn-il-koh-muh-DEE-sis)** The separation and falling off of a nail from the nail bed; can occur on fingernails and toenails.

**onychomycosis (ahn-ihkoh-my-KOH-sis)** A fungal infection of the natural nail plate.

**onychophagy (ahn-ih-koh-FAY-jee)** Bitten nails.

**onychorrhhexis (ahn-ih-koh-REK-sis)** Split or brittle nails that also have a series of lengthwise ridges that give a rough appearance to the surface of the nail plate.

**onychosis (ahn-ih-KOH-sis)** Any deformity or disease of the natural nails.

**onyx (AHN-iks)** The technical term for nail of the fingers or toes.

**opacities** The amount of pigment concentration in a gel making it difficult to see through.

**organs** In plants and animals, structures composed of specialized tissues that allow them to perform specific functions.

**organic chemistry** The study of substances that contain carbon.

**origin** The part of the muscle that does not move; attached to the skeleton and usually part of a skeletal muscle.

**os** Bone.

**osteology (ahs-tee-AHL-oh-jee)** The study of anatomy, structure, and function of the bones.

**oval nail** A conservative nail shape that is thought to be attractive on most women's hands. It is similar to a squoval nail with even more rounded corners.

**ovaries** The female glands that function in sexual reproduction as well as determining female sexual characteristics.

**overexposure** Prolonged, repeated, or long-term exposure that can cause sensitivity.

**overfiling** Excessively roughing up the nail plate.

**overlay** A layer of any kind of nail enhancement product that is applied over the natural nail or nail and tip application for added strength.

**pancreas (PANG-kree-us)** Organ that secretes enzyme-producing cells responsible for digesting carbohydrates, proteins, and fats.

**paper wrap** Temporary nail wrap made of very thin paper. Not nearly as strong as a fabric wrap.

**papillary (PAP-uh-lair-ee) layer** The outer layer of the dermis, directly beneath the epidermis.

**papule (PAP-yool)** A pimple; a small circumscribed elevation on the skin that contains no fluid but may develop pus.

**paraffin** A petroleum by-product that has excellent sealing properties (barrier qualities) to hold moisture in the skin.

**parasites** Organisms that grow, feed, and shelter on or in other organisms (referred to as the hosts), while contributing nothing to the survival of those organisms. Parasites must have a host to survive.

**parasitic disease** A disease caused by parasites, such as lice and mites.

**parathyroid glands (payr-uh-THY-royd GLANDZ)** Glands that regulate blood calcium and phosphorus levels so that the nervous and muscular systems can function properly.

**paronychia (payr-uh-NIK-ee-uh)** A bacterial inflammation of the tissues surrounding the nail; pus, redness, and swelling are usually present.

**partnership** A business structure in which two or more people share ownership, although not necessarily equally; management and responsibilities of the business and its operations may be given to one or more people.

**patella (pah-TEL-lah)** Also known as the *accessory bone*; forms the knee cap joint.

**pathogenic (path-uh-JEN-ik)** Causing disease; may cause harmful conditions or infections in humans.

**pathogenic disease** A disease produced by organisms, including bacteria, virus, fungi, and parasites.

**pectoralis major (pek-tor-AL-is MAY-jor) and pectoralis minor** Muscles of the chest that assist the swinging movements of the arm.

**pedicure** A cosmetic service performed on the feet by a licensed nail technician or cosmetologist and that includes trimming, shaping, exfoliating skin, and polishing toenails as well as foot massage.

**pedicure paddle** Also known as a *foot file*; a large abrasive file used to smooth and reduce thicker areas of calluses.

**perfectionism** An unhealthy compulsion to do things perfectly.

**pericardium (payr-ih-KAR-deeum)** A double-layered membranous sac enclosing the heart.

**peripheral (puh-RIF-uh-rul) nervous system** The system of nerves that connects the peripheral (outer) parts of the body to the central nervous system; it has both sensory and motor nerves.

**peroneus brevis (per-oh-NEE-us BREV-us)** A muscle that originates on the lower surface of the fibula. It bends the foot down and out.

**peroneus longus (per-oh-NEE-us LONG-us)** A muscle that covers the outer side of the calf and inverts the foot and turns it outward.

**personal hygiene** The daily maintenance of cleanliness by practicing healthful habits.

**personnel** Employees; staff.

**pH** See *potential hydrogen*.

**pH scale** Measures the acidity and alkalinity of a substance; ranges from 0 to 14.

**phalanges (fuh-LAN-jeez) (singular: phalanx)** Also known as *digits*; bones of the fingers or toes.

**phenolic (fi-NOH-lik) disinfectant** A form of formaldehyde, a tuberculocidal disinfectant.

**photoinitiator** A chemical that in combination with resins and the proper curing lamp causes UV gels to cure.



**physical change** A change in the form or physical properties of a substance without the formation of a new substance.

**physical mixture** A physical combination of matter in any proportions.

**physical presentation** Posture; the way an individual walks and moves.

**physical properties** Those characteristics that can be determined without a chemical reaction and that do not cause a chemical change in the substance.

**physiology (fiz-ih-OL-oh-jee)** The study of the functions and activities performed by the body's structures.

**Pigmented gels** Building gels, used early in the service, or self-leveling gels, used near the final contouring procedure.

**pincer nails** Increased crosswise curvature throughout the nail plate caused by an increased curvature of the matrix.

**pineal gland (PY-nee-ul GLAND)** A gland of the endocrine system; plays a major role in sexual development, sleep, and metabolism.

**pituitary gland (puh-TOO-uh-tair-ee GLAND)** A gland of the endocrine system; affects almost every physiologic process of the body: growth, blood pressure, contractions during childbirth, breast milk production, sex organ functions in both women and men, thyroid gland function, the conversion of food into energy (metabolism).

**plasma (PLAZ-muh)** (blood) The fluid part of the blood that carries food and other useful substances to the cells.

**plasma** (chemistry) A special form of matter that behaves like a gas, but unlike gases, plasmas conduct electricity.

**plasticizers** Ingredients used to keep nail enhancement products flexible.

**platelet (PLAYT-let)** A blood cell that aids in the forming of clots.

**plicated (plik-a-CHOORD) nail** Also known as *folded nail*; a type of highly curved nail plate often caused by injury to the matrix, but that may be inherited.

**pointed nail** A tapered and longer-than-usual nail to emphasize and enhance the slender appearance of the hand. Pointed nails are usually worn as a style statement by fashion-conscious people who do not need the strongest, most durable nails.

**polymer (POL-i-mehr)** A substance formed by combining many small molecules (monomers) or oligomers, usually in extremely long, chainlike structures.

**polymer powder** A powder in white, clear, pink, or many other colors that is combined with monomer liquid to form the nail enhancement.

**polymerization (POL-i-mehr-eh-za-shun)** Also known as curing or hardening; a chemical reaction that creates polymers.

**popliteal (pop-lih-TEE-ul) artery** Divides into two separate arteries known as the anterior tibial and the posterior tibial. The anterior tibial artery goes to the foot and becomes the dorsalis pedis, which supplies the foot with blood. The posterior tibial artery supplies blood to the ankles and the back of the lower leg.

**porous** Means that an item is made or constructed of a material that has pores or openings. Some porous items, such as towels and linens, can be safely cleaned, disinfected, and used on more than one client.

**position** The way that a brush is held to create nail art; the brush can be positioned straight up-and-down or laid flat and pulled across the nail surface.

**position stop** The point where the free edge of the natural nail meets the tip.

**posterior tibial artery** See *popliteal artery*.

**potential hydrogen (pH)** A measure of the acidity or alkalinity of a substance.

**pressure** The amount of force that an artist applies to a brush while in the stroke motion when applying nail art.

**primary colors** Pure pigment colors that cannot be obtained from mixing together other colors.

**prioritize** To make a list of tasks that needs to be done in order of most-to-least important.

**procrastination** Putting off until tomorrow what you can do today.

**professional image** The impression you project through both your outward appearance and your conduct in the workplace.

**pronator (proh-NAY-tohr)** The muscle that turns the hand inward so that the palm faces downward.

**protein hardener** A combination of clear polish and protein, such as collagen.

**protoplasm (PROH-toh-plaz-um)** A colorless jelly-like substance found inside cells, in which food elements such as protein, fats, carbohydrates, mineral salts, and water are present.

**pseudomonas aeruginosa** One of several common bacteria that can cause nail infection.

**psoriasis (suh-RY-uh-sis)** A skin disease characterized by red patches covered with silver-white scales, usually found on the scalp, elbows, knees, chest, and lower back, and rarely on the face.

**pull** The technique of pulling a liner or other brush across the surface of the nail to create a fluid line.

**pulmonary circulation (PUL-muh-nayr-ee sur-kyoo-LAY-shun)** Blood circulation moves from the heart to the lungs to be purified, then returns to the heart again.

**pure substance** A chemical combination of a single type of matter.

**pus** A fluid created by tissue inflammation; a sign of a bacterial infection.

**pustule (PUS-chool)** An inflamed pimple containing pus.

**pyrogenic granuloma (py-roh-JEN-ik gran-yoo-LOH-muh)** Severe inflammation of the nail in which a lump of red tissue grows up from the nail bed to the nail plate.

**quaternary ammonium (KWAT-ur-nayr-ree uh-MOH-neeum) compounds** Also known as *quats*, these disinfectants are very effective when used properly in the salon.

**radial artery** The artery that supplies blood to the thumb side of the arm and the back of the hand; supplies the muscles of the skin, hands, fingers, wrists, elbows, and forearms.

**radial (RAY-dee-ul) nerve** With its branches, supplies the thumb side of the arm and back of the hand.

**radius (RAY-dee-us)** The smaller bone in the forearm (lower arm) on the same side as the thumb.

**rebalance** A term often used to refer to the maintenance of a nail enhancement.

**record keeping** Maintaining accurate and complete records of all financial activities in your business.

**rectifier (REK-ti-fy-ur)** An apparatus that changes alternating current to direct current.

**red blood cells** Blood cells that carry oxygen from the lungs to the body cells and transport carbon dioxide from the cells back to the lungs.

**reflective listening** Listening to the client and then repeating, in your own words, what you think the client is telling you.

**reflex (REE-fleks)** An automatic reaction to a stimulus that involves the movement of an impulse from a sensory receptor along the sensory nerve to the spinal cord. A responsive impulse is sent along a motor neuron to a muscle, causing a reaction (e.g., the quick removal of the hand from a hot object). Reflexes do not have to be learned; they are automatic.

**reflexology** A unique method of applying pressure with thumb and fingers to the hands and feet; has demonstrated health benefits.

**repair patch** A piece of fabric cut to completely cover a crack or break in the nail.

**reproductive system (ree-proh-DUK-tiv SIS-tum)** The body system responsible for processes by which plants and animals produce offspring.

**respiration** The act of breathing; the exchange of carbon dioxide and oxygen in the lungs and within each cell.

**respiratory system (RES-puh-ra-tor-ee SIS-tum)** The body system consisting of the lungs and air passages; enables breathing, supplying the body with oxygen, and eliminating carbon dioxide as a waste product.

**résumé** A written summary of a person's education and work experience.

**retail supplies** Supplies sold to clients.

**retailing** The act of recommending and selling quality products to clients for at-home nail care.

**reticular (ruh-TIK-yuh-lur) layer** A deeper layer of the dermis that supplies the skin with oxygen and nutrients; contains fat cells, blood vessels, sweat glands, hair follicles, lymph vessels, arrector pili muscles, oil glands, nerve endings, and hair follicles.

**reusable** See *multiuse*.

**reusable implements** Implements that are generally stainless steel; they must be properly cleaned and disinfected prior to use on another client.

**revolutions per minute (RPM)** The number of times a bit turns in a complete circle in one minute.

**ridges** Vertical lines running the length of the natural nail plate, usually related to normal aging.

**rings of fire** Grooves carved into the nail caused by filing with bits at the incorrect angle.

**round brush** The most common and versatile style of brush, with a very good capacity for holding paint.

**round nail** A slightly tapered nail, usually extending just a bit past the fingertip.

**rules and guidelines** Information provided for each competition so that one understands what the competition does and does not allow.

**Safety Data Sheet (SDS)** (formerly known as Material Safety Data Sheet, MSDS) Information compiled by the manufacturer about product safety, including the names of hazardous ingredients, safe handling and use procedures, precautions to reduce the risk of accidental harm or overexposure, and flammability warnings.

**salon operation** The ongoing, recurring processes or activities involved in the running of a business for the purpose of producing income and value.

**salon policies** The rules or regulations adopted by a salon to ensure that all clients and associates are being treated fairly and consistently.

**saphenous nerve (sa-FEEN-us NURV)** Supplies impulses to the skin of the inner side of the leg and foot.

**sanitizing** A chemical process for reducing the number of disease-causing germs on cleaned surfaces to a safe level.

**scabies (SKAY-beez)** A contagious skin disease that is caused by the itch mite, which burrows under the skin.

**scale** Any thin plate of epidermal flakes, dry or oily, such as abnormal or excessive dandruff.

**scar** Also known as *cicatrix*; a light-colored, slightly raised mark on the skin formed after an injury or lesion of the skin has healed.

**scope of practice** The list of services that you are legally allowed to perform in your specialty in your state.

**sebaceous (sih-BAY-shus) gland** An oil gland of the skin connected to hair follicles. Sebum is the fatty or oily secretion of the sebaceous gland.

**secondary colors** Colors resulting from mixing equal parts of two primary colors; the positions opposite to the primary colors on a color wheel.

**secretory coil** A tube-like duct that is part of the sudoriferous gland that ends at the surface of the skin to form the sweat pore.

**secretory nerve fibers** Fibers that are distributed to the sweat and oil glands. Secretory nerves, which are part of the autonomic nervous system, regulate the excretion of perspiration from the sweat glands and control the flow of sebum to the surface of the skin.

**sensitization** A greatly increased or exaggerated allergic sensitivity to products.

**sensory nerve** Also known as an *afferent nerve* (AAF-er-ent NURV); a nerve that carries impulses or messages from the sense organs to the brain, where sensations of touch, cold, heat, sight, hearing, taste, smell, pain, and pressure are experienced.

**sensory nerve fibers** Sensory receptors that send messages to the brain. These react to heat, cold, touch, pressure, and pain.

**serratus anterior (ser-RAT-us an-TEER-ee-or)** A muscle of the chest that assists in breathing and in raising the arm.

**service sets** Sets of all the tools that will be used in a service.

**shiner** A buffer used to create a high shine on a natural nail or a nail enhancement when no polish will be worn.

**sidewall** The fold of skin overlapping the side of the nail; also called the *lateral nail fold*.

**silicone** A special type of ingredient used in nail polish dryers and skin protectants.

**silk** A strong, glossy, tightly woven natural fiber used for nail wrapping that becomes transparent when wrap resin is applied.

**simple polymer chain** The result of a long chain of monomers that are attached from head to tail.

**single-use implements** Disposable; an item that cannot be used more than once, either because it cannot be properly cleaned and all visible residue removed or because cleaning and disinfecting damages or contaminates it.

**sink** Also known as *sinking*; the settling and flattening out of a UV gel or other product while working.

**skeletal system** Physical foundation of the body, comprising 206 bones that vary in size and shape and that are connected by movable and immovable joints.

**skin** A major organ that is the external protective coating that covers the body.

**skin tag** A small brown or flesh-colored outgrowth of the skin.

**smile line** The curved line where the pink and the white meet on the nail.

**smooth muscle** Also known as *involuntary* or *nonstriated muscle*; a muscle that functions automatically, without conscious will.

**soak-off gel polish** A pigmented, light-cured soak-off gel that has a thin enough consistency to be packaged in a nail polish bottle.

**sodium hypochlorite (SOH-dee-um hy-puh-KLOR-ite)** A common household bleach; a disinfectant for salon use.

**soft UV gels** UV gels that are removed fairly easily with acetone.

**sole proprietor** The owner and manager of a business.

**sole proprietorship** A business owned and operated by one person, although the owner may have employees.

**soleus (SO-lee-us)** A muscle that originates at the upper portion of the fibula and bends the foot down.

**solute** The substance that is dissolved in a solution.

**solution** A stable uniform blend of two or more mixable substances.

**solvent** The substance that dissolves the solute in a solution.

**spinal cord** The portion of the central nervous system that originates in the brain, extends down to the lower extremity of the trunk, and is protected by the spinal column.

**spirilla (spy-RIL-ah)** Spiral or corkscrew-shaped bacteria.

**splinter hemorrhage** Caused by physical trauma or injury to the nail bed, which damages the capillaries and allows small amounts of blood flow.

**spore** The inactive reproductive stage of certain fungi and bacteria during which these microorganisms coat themselves with waxy outer shells so they can withstand long periods of famine, dryness, and unsuitable temperatures.

**spotter brush** Also known as a *detailer*; a short, round brush, having little belly and a very fine point at the tip. This brush offers maximum control for intricate detailed work.

**squamous cell carcinoma SKWAY-mus SEL kar-sin-OH-muh** A type of skin cancer that is more serious than basal cell carcinoma; often characterized by scaly red papules or nodules.

**square nail** A nail completely straight across the free edge with no rounding at the outside edges.

**squoval nail** A nail with a square free edge that is rounded off at the corner edges.

**Standard Precautions** Guidelines published by OSHA that require the employer and the employee to assume that all human blood and body fluids are infectious for bloodborne pathogens.

**stain** An abnormal brown or wine-colored skin discoloration with a circular and irregular shape.

**staphylococci (staf-uh-loh-KOK-sy)** Pus-forming bacteria that grow in clusters like bunches of grapes.

**sterilization** The process that completely destroys all microbial life, including spores.

**stomach** A major body organ that, along with the intestines, digests food.

**stratum corneum (STRAT-um KOR-nee-um)** The outer layer of the epidermis; also known as the *horny layer*.

**stratum germinativum (jer-mih-nah-TIV-um)** Also known as the *basal layer*; the deepest, live layer of the epidermis, which produces new epidermal skin cells and is responsible for growth.

**stratum granulosum (gran-yoo-LOH-sum)** The granular layer of the epidermis.

**stratum lucidum (LOO-sih-dum)** A clear, transparent layer of the epidermis under the stratum corneum.

**stratum spinosum** The spiny layer just above the basal cell layer.

**streptococci (strep-toh-KOK-eye)** Pus-forming bacteria arranged in curved lines resembling a string of beads.

**stress** A force or system of forces exerted on the body that result in strain and/or injury.

**stress area** The part of the nail enhancement where the natural nail grows beyond the finger and becomes the free edge. This area needs strength to support the nail extension.

**stress strip** A strip of fabric cut to 1/8" (3.18 mm) in length and applied to the weak point of the nail during Procedure 16-7, Four-Week Fabric Wrap Maintenance, to repair or strengthen a weak point in a nail enhancement.

**striated (STRY-ayt-ed) muscle** Also known as a *skeletal muscle*; this is muscle that is voluntarily or consciously controlled.

**striper brush** An extremely long, flat brush having only a few fibers. It is incredibly efficient when creating long lines, striping effects, and animal prints.

**stylus** Tool with a solid handle and a rounded ball tip on each end that can range in size. An excellent tool for marbleizing or dotting small circles of color on a nail.

**subcutaneous (sub-kyoo-TAY-nee-us) tissue** Also known as *adipose* or *subcutis tissue*; fatty layer found below the dermis that gives smoothness and contour to the body; contains fats for use as energy; and also acts as a protective cushion for the outer skin.

**subcutis (sub-KYOO-tis) tissue** See *subcutaneous tissue*.

**sudoriferous sood-uh-RIF-uhrus glands** Sweat glands of the skin.

**superficial peroneal nerve** Also known as the *musculo-cutaneous nerve* (MUS-kyoo-lo-kyoo-TAY-nee-us NURV); extends down the leg, just under the skin, supplying impulses to the muscles and the skin of the leg as well as to the toes and skin on the top of the foot.

**supinator (SOO-puh-nayt-ur)** The muscle of the forearm that rotates the radius outward and the palm upward.

**sural nerve (SUR-ul NURV)** Supplies impulses to the skin on the outer side and back of the foot and leg.

**surfactants (sur-FAK-tants)** A substance that is often used as an emulsifier; it can act as a bridge to allow oils and water to mix and form an emulsion.

**suspension** An unstable mixture of undissolved particles in a liquid.

**sweat glands** See *sudoriferous glands*.

**system** Comprising a group of bodily organs acting together to perform one or more functions.

**systemic circulation** Also known as *general circulation*; the circulation of blood from the heart throughout the body and back again to the heart.

**systemic disease** A disease that affects the body as a whole, often due to under- or overfunctioning of internal glands or organs. The disease is carried through the blood stream or lymphatic system.

**tactile corpuscles (TAK-tile KOR-pusuls)** Small epidermal structures with nerve endings that are sensitive to touch and pressure.

**talus (TA-lus)** Also known as the *ankle bone* of the foot; one of three bones that comprise the ankle joint. The other two bones are the tibia and fibula.

**tan** A change in pigmentation of skin caused by exposure to the sun or ultraviolet light.

**tarsal (TAHR-sul)** One of three subdivisions of the foot comprised of seven bones (talus, calcaneous, navicular, three cuneiform bones, and the cuboid). The other two subdivisions are the metatarsal and the phalanges. All three subdivisions comprise 26 bones.

**telangiectasia (te-lanj-ec-tay-ja)** The dilation of surface blood vessels.

**tertiary colors** Colors resulting from mixing equal parts of one primary color and one of its nearest secondary colors.

**test-wise** Understanding the strategies for successfully taking tests.

**testes** The male glands that function in sexual reproduction as well as determining male sexual characteristics.

**thermal initiators** Ingredients that use heat as an energy source for starting chemical reactions, such as polymerizing monomers into polymer.

**thorax (THOR-aks)** The chest; the elastic, bony cage that serves as a protective framework for the heart, lungs, and other internal organs.

**thyroid gland (THY-royd GLAND)** Controls how quickly the body burns energy (metabolism), makes proteins, and controls how sensitive the body should be to other hormones.

**tibia (TIB-ee-ah)** The larger of the two bones that form the leg below the knee. The tibia may be visualized as a bump on the big-toe side of the ankle.

**tibial nerve (TIB-ee-al NURV)** A division of the sciatic nerve that passes behind the knee. It subdivides and supplies impulses to the knee; the muscles of the calf; the skin of the leg; and the sole, heel, and underside of the toes.

**tibialis anterior (tib-ee-AHL-is an-TEHR-ee-ohr)** A muscle that covers the front of the shin. It bends the foot upward and inward.

**ticket upgrading or upselling services** The practice of recommending and selling additional services to clients that may be performed by you or other practitioners licensed in a different field.

**tinea pedis** The medical term for fungal infections of the feet.

**tip** Also known as *chisel edge*; the very end of the bristles, farthest away from the handle.

**tip cutter** An implement similar to a nail clipper, designed especially for use on nail tips.

**tissue (TISH-oo)** A collection of similar cells that perform a specialized function.

**toe separators** Foam rubber or cotton disposable implements used to keep toes apart while polishing the nails. A new set must be used on each client and then thrown away.

**toenail clippers** Professional instruments with curved or straight jaws used for cutting toenails.

**toenail nipper** A metal device designed specifically for cutting the toenails; larger than a fingernail clipper, with thicker blades.

**tolerance** The tightness of the inside of the shank where the bit fits into the handpiece.

**torque** The power of a machine or its ability to keep turning when pressure is applied during filing.

**toxins (TAHK-sins)** Various poisonous substances naturally produced by some microorganisms (bacteria and viruses). All toxins are natural substances.

**transferable skills** Skills mastered at other jobs that can be put to use in a new position.

**trapezius (trah-PEE-zee-us)** The muscle that covers the back of the neck and the upper and middle region of the back; rotates and controls swinging movements of the arm.

**triceps (TRY-sep)** The large muscle that covers the entire back of the upper arm and extends the forearm.

**tricuspid valve** The heart valve that prevents backflow between the right atrium and right ventricle.

**trumpet nail** A disorder in which the edges of the nail plate curl around to form the shape of a trumpet or sharp cone at the free edge.

**tubercle (TOO-bur-kul)** An abnormal, rounded, solid lump above, within, or under the skin; larger than a papule.

**tuberculocidal disinfectants (tuh-bur-kyoo-LOH-sydahl dis-in-FEK-tents)** Proven to kill the bacteria that can cause tuberculosis.

**tuberculosis** A disease caused by a bacterium that is only transmitted through coughing or sneezing.

**tumor (TOO-mur)** A swelling; an abnormal cell mass resulting from excessive multiplication of cells, varying in size, shape, and color.

**two-color method** Two different colors of gel are applied to the surface of the nail, in different places, as in a French manicure.

**ulcer (UL-sur)** An open lesion on the skin or mucous membrane of the body accompanied by pus and loss of skin depth.

**ulna (UL-nuh)** The inner and larger bone of the forearm (lower arm), attached to the wrist and located on the side of the little finger.

**ulnar artery** The artery that supplies blood to the muscle of the little finger side of the arm and palm of the hand.

**ulnar (UL-nur) nerve** With its branches, the nerve that affects the little finger side of the arm and palm of the hand.

**ultraviolet (ul-truh-VY-uh-let) (UV) energy** Energy that is invisible to the human eye; found in sunlight and used to polymerize UV curing nail coatings.

**ultraviolet (UV) light** Invisible and with short wavelengths (therefore contains more energy), UV light is less penetrating than visible light, kills germs, and causes chemical reactions to happen more quickly.

**ultraviolet (UV) radiation** The wavelength of ultraviolet (UV) radiation is just above violet and above the visible spectrum of light.

**unit wattage** A measure of how much electricity a light bulb consumes.

**urethane acrylate** or **urethane methacrylate** The main ingredients in UV gel nail enhancements.

**UVA light** Light that emits rays of 100nm to 400nm. These light waves are specifically designed with photoinitiators that, on exposure to UV light, activate molecules and turn them into a hard plastic.

**UV bonding gels** Gels that increase adhesion to the natural nail plate.

**UV building gels** Thick-viscosity adhesive gels that are used to build an arch and curve to the fingernail.

**UV gel** A type of nail enhancement product that hardens when it is exposed to an ultraviolet (UV) light source.

**UV gel polishes** An alternative to traditional nail lacquers. UV gel polishes do not dry as a nail lacquer does; they cure in the UV light unit.

**UV gloss gels** Sealing gels, finishing gels, or shine gels. These gels are used to finish the nails and to create a glossy shine.

**UV lamp** Also known as the *UV light bulb*; a special bulb that emits UV light to cure UV gel nail enhancements.

**UV light unit** Also known as the *UV light*; a specialized electronic device that powers and controls UV lamps to cure UV gel nail enhancements.

**UV self-leveling gels** A group of gels that is used to enhance the thickness of other gels while providing a smoother surface than some UV building gels.

**UV stabilizers** Ingredients that control color stability and prevent sunlight from causing fading or discoloration.

**valve** A structure that temporarily closes a passage or permits blood flow in one direction only.

**vapor** A liquid that has evaporated into a “gas-like” state but is not a gas.

**vascular system** See *circulatory system*.

**vein** A thin-walled blood vessel that is less elastic than an artery; veins contain cup-like valves to prevent backflow; they carry blood containing waste products from the capillaries back to the heart and lungs for cleaning and to pick up oxygen.

**ventricle (VEN-truh-kul)** One of the two lower chambers of the heart.

**verruca (vuh-ROO-kuh)** The technical term for a wart; hypertrophy of the papillae and epidermis.

**vesicle (VES-ih-keel)** A small blister or sac containing clear fluid lying within or just beneath the epidermis.

**virucidal (vy-rus-SYD-ul)** Capable of destroying viruses.

**virus (VY-rus) (plural: viruses)** A parasitic submicroscopic particle that infects and resides in the cells of biological organisms. A virus is capable of replication only through taking over the host cell's reproduction function.

**viscosity** The measurement of the extent of a liquid to flow.

**visible light** Electromagnetic radiation that we can see.

**vision statement** A long-term picture of what the business is to become and what it will look like when it gets there.

**vitamin A** Aids in the health, function, and repair of skin cells; improves the skin's elasticity and thickness.

**vitamin C** Needed for proper repair of the skin and various tissues; promotes the production of collagen in the skin's dermal tissues, keeping the skin healthy and firm.

**vitamin D** Promotes healthy and rapid healing of the skin; enables the body to properly absorb and use calcium, the element needed for proper bone development and maintenance.

**vitamin E** Helps fight against and protect the skin from the harmful effects of the sunlight.

**vitiligo (vih-til-EYE-goh)** Milky-white spots (leukoderma) of the skin. Vitiligo is hereditary and may be related to thyroid conditions.

**volatile (VAHL-uh-tul)** Easily evaporating.

**volatile organic compounds** Abbreviated as *VOCs*; compounds containing carbon (organic) and that evaporate very quickly (volatile) and easily.

**volt (VOLT)** A unit that measures the flow of electrons forward through a conductor.

**water-in-oil (W/O) emulsion** Water droplets emulsified in oil.

**watt (WAHT) (W)** A unit that measures how much electric energy is being used in one second.

**wavelength** The distance between successive peaks of electromagnetic waves.

**wheal (WHEEL)** An itchy, swollen lesion that lasts only a few hours, caused by a blow, the bite of an insect, urticaria, or the sting of a nettle.

**white blood cells** Also known as or *leukocytes*; blood cells that perform the function of destroying disease-causing microorganisms.

**wooden pusher** A wooden stick used to remove cuticle tissue from the nail plate (by gently pushing), to clean under the free edge of the nail, or to apply products.

**work ethic** Taking pride in your work and committing yourself to consistently doing a good job for your clients, employer, and salon team.

**wrap resin accelerator** A product specially designed to help adhesives dry more quickly.

**written agreements** Documents that govern the opening of a salon, including leases, vendor contracts, employee contracts, and more; all of which detail, usually for legal purposes, who does what and what is given in return.

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