

MYELOMA explained

An educational resource for patients with
multiple myeloma and their loved ones



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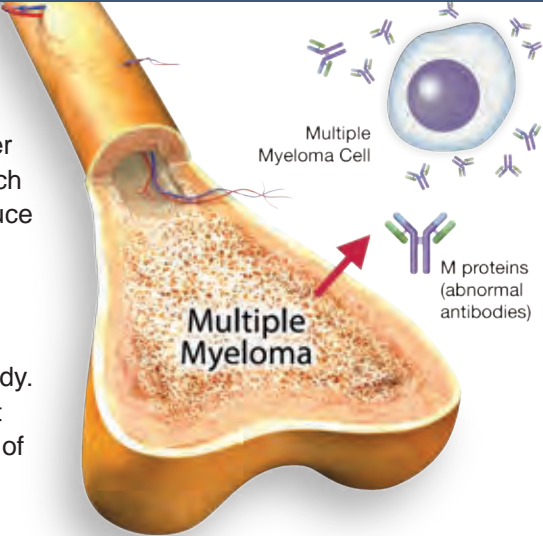
Oncology

Multiple myeloma is a rare disease that represents about two percent of all new cancer cases. Because it's rare, many patients haven't heard of it at diagnosis, which can make it even more overwhelming. Learning more about the disease can help you and your family know what to expect and feel more in control.

What is Multiple Myeloma?

Multiple myeloma is a rare, incurable blood cancer of the plasma cells, a type of white blood cell which originates in the bone marrow. Plasma cells produce antibodies that help fight infection.

Cancerous plasma cells are known as multiple myeloma cells. They create abnormal antibodies, called M proteins, which offer no benefit to the body. As multiple myeloma cells multiply they crowd out normal plasma cells, which can lead to a number of signs and symptoms.



How common is multiple myeloma?

Although rare, multiple myeloma is the 2nd most common blood cancer in the world. An estimated 32,110 new cases will be diagnosed in the U.S. in 2019. The National Cancer Institute estimates that in 2016, more than 130,000 people were living with the disease in the U.S.

What are the signs and symptoms of multiple myeloma?

Multiple myeloma symptoms can vary from person to person. Some patients experience no symptoms at all. Others may experience some of the following symptoms:



Bone Problems



Nausea and Vomiting



Constipation



Loss of Appetite and Weight Loss



Mental Fogginess or Confusion



Fatigue







Frequent Infections



Excessive Thirst

What factors might increase the chances of someone developing multiple myeloma?

While these risk factors are important, patients who have no risk factors are sometimes diagnosed with multiple myeloma as well. Some factors that may increase the chances of developing multiple myeloma include:

	Age Though it can be diagnosed in younger people, multiple myeloma is most common in people between the ages of 65-74.
	Gender Multiple myeloma is slightly more common in men than in women. Approximately 56 percent of new cases diagnosed in the U.S. in 2019 will be in men.
	Race African Americans are more than twice as likely to develop multiple myeloma as white Americans. The reason is unknown.
	Family History A person with a sibling or parent with multiple myeloma is more likely to develop the disease than someone who does not have family history. However, this only accounts for a small percentage of diagnoses.



What Can I Expect Following Diagnosis?

Following diagnosis, your physician will assess whether or not you need to begin treatment. If you are not exhibiting symptoms of multiple myeloma, you may not need to begin therapy. However, if you do require treatment, your physician will work with you to find the best treatment option to try to get your disease into remission, which is a decrease or disappearance of signs and symptoms of multiple myeloma.

Unfortunately, the disease returns in nearly all patients. This is known as a relapse and multiple myeloma is often characterized by recurring cycles of relapse and remission. For this reason, patients with multiple myeloma often need several different combinations of therapies during their journey with the disease.



Working With Your Oncologist

In order to get the right care, it's critical for you to have an open and honest dialogue with your oncologist.

A conversation with your oncologist can fly by and it may feel like you need to make decisions on your treatment quickly. Keep these tips in mind before your next visit.

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- **Be prepared** to discuss treatment options and goals with your oncologist.
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- **Be open and honest** about your health, including how you're handling side effects, emotional issues or if you're confused by what the doctor is saying.
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- **Understand** your next steps, whether it be treatment-related or otherwise.
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- **Request assistance** for any additional issues you're facing. An oncologist can help you build your support team.
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Following a Diagnosis

Patients with early stage disease who do not have symptoms may not need to be treated right away. Instead, they'll be monitored closely by their oncologist.

Other patients may receive the following:



Induction Therapy

This is the first phase of treatment, with the goal of reducing the number of multiple myeloma cells in the bone marrow. Induction therapy may include chemotherapy, targeted therapy and corticosteroids.



Stem Cell Transplant

Following induction therapy, eligible patients may receive a stem cell transplant, during which patients receive high-dose chemotherapy to kill the remaining cells in the bone marrow before receiving replacement bone marrow.



Maintenance Therapy

Patients who undergo an induction therapy and/or a stem cell transplant can continue therapy with the goal of keeping them in remission as long as possible.

What is the prognosis for someone diagnosed with multiple myeloma?

While there is no cure for multiple myeloma, survival expectations have improved significantly in recent years. For patients diagnosed from 1993-2000, the 5-year survival rate was about 32%, compared to patients diagnosed from 2009-2015, where the 5-year survival rate was about 52%.

The prognosis of multiple myeloma is usually based on the existence of different signs, symptoms, how aggressive the disease is, and the extent of disease spread. Other factors may also help determine when multiple myeloma treatment should begin, and which treatment is best according to a person's individual risk for relapse.

Finding the Right Treatment Regimen

While multiple myeloma is an incurable disease, several treatment options are available. Following a diagnosis, you will work closely with your oncologist or hematologist to develop a treatment plan tailored to your individual needs. Knowing your options can help you have an informed conversation with your doctor.



Defining Your Treatment Goals

For most cancer patients, the ultimate goal of treatment is to be cured. However, for an incurable disease like multiple myeloma, it's important to define your priorities and what you'd most like to achieve with treatment. These are called treatment goals.

Treatment goals may change through the course of your multiple myeloma journey, however they're an important factor in choosing the right treatment regimen.

Many factors may come into play when developing treatment goals and decisions. However, some example treatment goals may include attending your grandchild's wedding or continuing your favorite outdoor activity.

Factors that Drive Treatment Decisions

- **Age and general health**
- **Lab test results**
- **Symptoms and disease complications**
- **Prior myeloma treatment**
- **Lifestyle considerations**
- **Personal treatment goals**

Different Types of Therapies for Multiple Myeloma

Multiple myeloma is very rarely treated with a single therapy. Instead, physicians often use different combinations of the following classes of medications to attack the disease in different ways.

- **Proteasome Inhibitors**

Proteasomes are structures within cells that break down and recycle proteins that are no longer needed. Proteasome inhibitors interfere with this process, creating a build-up of waste and ultimately causing multiple myeloma cells to die.

- **Immunomodulatory Agents (IMiDs)**

IMiDs work in multiple ways to treat multiple myeloma. They are designed to boost the body's immune response by stimulating natural killer cells and activating T cells, reducing the growth of myeloma cells.

- **Monoclonal Antibodies**

Monoclonal antibodies are a broad class of drugs designed to bind to a specific target mostly found on a myeloma cell's surface and kill the cell.

- **Chemotherapy**

Chemotherapy drugs have been used to treat patients with multiple myeloma for many years. There are many types of chemotherapy drugs and the way doctors use these agents has evolved over the past several years.

- **Corticosteroids**

Corticosteroids have both anti-inflammatory and anti-myeloma effects, particularly when given in large doses.

How will my physician decide what treatment option is best for me?

Receiving the right treatment(s) for multiple myeloma is crucial. There are several factors that drive treatment decisions such as: age and general health, lab test results, symptoms and disease complications, prior myeloma treatment, and your personal treatment goals.

However, no two individuals with multiple myeloma are exactly the same. Following a diagnosis, patients will work closely with their oncologist to develop a treatment plan tailored to their individual needs.



Following a Relapse

Multiple myeloma is characterized by recurring cycles of relapse and remission. For this reason, treatment is often ongoing throughout the course of the disease.

When a relapse does occur, treatment options will depend on a variety of factors, including age and overall health, characteristics of the relapsed disease, previous treatments and treatment goals. Your oncologist will tailor a combination of treatment options with hopes of getting you back into remission.

Understanding Your Treatment

Receiving the right treatment(s) for multiple myeloma is crucial. Use the below suggested questions to help guide a conversation with your oncologist about your options and determine what might be best for you.

- **What treatments do you recommend for me, and why?**
- **How often and where will I receive this treatment?**
- **How will I know if this treatment is working? How will I know if it's not?**
- **How long will I be on this treatment?**
- **What are the possible side effects and can they be prevented or managed?**
- **How will this treatment impact my day-to-day life?**
- **Where can I learn more?**
- **What are my other options?**



Considering Other Complications

Over the course of the disease, you may be at an increased risk for some physical effects of multiple myeloma. Be sure to talk to your doctor about common problems you might want to consider as part of your treatment plan.



Serious Bone Problems

Multiple myeloma can weaken bones, which can lead to breaks (fractures), pressure on the spinal cord, the need for surgery to prevent or repair a fracture, and the need for radiation to the bone.



Anemia

When there is a decreased number of red blood cells in the body, it's called anemia. This can lead to fatigue, shortness of breath, headaches, chest pain, and pale skin.



Renal Impairment

Approximately 60 percent of multiple myeloma patients have or will develop renal impairment over the course of the disease.



Infections

Multiple myeloma can impede the body's immune system, leading to infections. In addition, patients who have an infection may take longer to recover. It's important to talk to your healthcare team upon the first signs of feeling sick.

Learn more at [MyelomaExplained.com](https://www.myelomaexplained.com)