

Patient name: _____

Myeloma diagnosis:

Ig (G, A, M, E, or D); light chain _____ (kappa or lambda).

Date of diagnosis: _____

Renal involvement ____ Yes ____ No

If yes, serum creatinine is _____ and creatinine clearance or glomerular filtration rate is _____ ml per minute.

Bone Involvement ____ Yes ____ No

Bone strengthening (bisphosphonate) medication(s) used:

Pamidronate (First dose: _____ Last dose: _____ Frequency: _____)

Zoledronate (First dose: _____ Last dose: _____ Frequency: _____)

Other: _____ (First dose: _____ Last dose: _____ Frequency: _____)

Situations that require immediate medical attention include: Sudden onset of pain (may indicate a new fracture); back pain with sudden change in sensation in lower or upper extremities or loss of bowel or bladder control (may indicate spinal nerve damage); noticeable changes in mental status such as increased somnolence, confusion, or irritability; or severe constipation, nausea or vomiting, and excessive thirst and urination.

Guides for monitoring and maintaining bone health: Include blood tests and radiologic imaging; bone health is maintained with medications, supplements, and physical activity; and pain management is important for maintaining physical activity and improving quality of life.

Medical Follow-Up

Blood and laboratory tests (assessment of myeloma activity) Monthly while on therapy to assess response, then at discretion of clinician. Follow-up every three months, even for stable disease. The National Comprehensive Cancer Network (NCCN) provides guidelines for testing, including calcium and creatinine.

Bone health—monitoring laboratory tests Vitamin D and fractionated alkaline phosphate. Hormone levels such as parathyroid and thyroid hormone; testosterone for men; and estradiol, follicle-stimulating, and luteinizing hormone for women.

Radiology and imaging Bone survey should be performed annually or with new onset of pain or fracture to monitor for new bone lesions. Bone density tests should be performed if other risk factors are present for osteoporosis. Magnetic resonance image, positron-emission tomography, and computed tomography should be conducted at healthcare provider's discretion.

Medications and Supplements

Bisphosphonates Very good partial response (VGPR) or better, take monthly for one year; for less than VGPR, take monthly for two years. Stop during remission; restart at relapse.

Calcium supplements Younger than age 50, use about 1,000 mg per day; for those 50 and older or postmenopausal, use 1,200 mg per day. Calcium supplements should not be used if blood calcium is elevated or kidney function decreased. Consult with an endocrinologist.

Systemic treatment For treatment of active disease, maintenance, and disease progression. Treatment options vary and schedule is dependent on regimen prescribed.

Vitamin D supplements Younger than age 50, use 400–800 IU per day; for those 50 and older, use 800–1,000 IU per day. Need for additional supplementation is based on blood levels. Consult with an endocrinologist.

Pain Management

Balloon kyphoplasty or vertebroplasty Painful spinal fractures as a result of osteoporosis or multiple myeloma. May be conducted at the time of a fracture or to prevent further compromise with worsening fractures. Evaluations by orthopedists or spine specialist may be needed.

Medications Pain medications are variable. The World Health Organization provides guidelines for management. Consider evaluations by orthopedists, physical therapists, or pain management clinic professionals.

Radiation Should be prescribed for curative intent (palliative to control pain and decrease tumor size). Radiation should be used with caution because it may lead to bone marrow fibrosis and scarring. Coordinate with the radiation oncologist.

Surgical fixation Treat impending or actual fracture. Consult with orthopedists.

Self-Care and Health Maintenance

Exercise and activity At diagnosis, conduct a baseline safety evaluation. Weight-bearing activity promotes bone strength. Consultation with a physical medicine or spine specialist may be recommended to determine activity allowance.

Nutrition and hydration Counsel patients on importance of maintaining a balanced diet and adequate fluid intake. Excess weight can worsen bone pain and muscle fatigue, poor diet can worsen fatigue, and dehydration can worsen fatigue and cause renal dysfunction. Consult with a nutritionist.

Oral hygiene and dental care Counsel good oral hygiene and have dental checkups every six months. Avoid invasive dental work if possible. If needed, antibiotics may be prescribed prior to invasive dental procedure. Remind patients to inform their dentist about the use of a bone-strengthening medication.