



Michigan Quality Improvement Consortium Guideline

Management and Prevention of Osteoporosis

The following guideline recommends assessment and management of patients to reduce fracture risk due to osteoporosis.

Eligible Population	Key Components	Recommendation and Level of Evidence	Frequency	
Patients at potential risk for osteoporosis	Identify risk factors	<p>Assess risk factors. [C] Calculate FRAX[®] to assess future fracture risk. Include bone mineral density (BMD) when available. Record result.</p> <p>Age Sex Weight (kg) Height (cm) Previous fracture Parent fractured hip Current smoking Glucocorticoids Rheumatoid arthritis Secondary osteoporosis [type 1 diabetes, osteogenesis imperfecta in adults, untreated long-standing hyperthyroidism, hypogonadism or premature menopause (<45 years), chronic malnutrition, or malabsorption, and chronic liver disease) Alcohol 3 or more units per day (see FRAX[®]) Femoral neck BMD (g/cm²) Perform BMD testing using dual-energy x-ray absorptiometry (DXA) for: Women ≥ 65 years regardless of risk factors [D] Men/women with fracture risk (10-year probability of fracture using FRAX[®] ≥ 9.3%) On corticosteroids Transplant CT scan for screening is not recommended.</p>	<p>Other risk factors Vitamin D deficiency or low dietary calcium intake Inadequate physical activity Loss of height (1.5 inches) Family history of osteoporosis Medroxyprogesterone use (e.g., Depo-Provera) Aromatase inhibitor therapy Androgen inhibitor therapy and gonadotropin-releasing hormone agonists and antagonists (e.g., Lupron) Anticonvulsants (e.g., phenytoin, phenobarbital, carbamazepine)</p>	Adult height assessments at periodic well exams
	Core Principles of Primary Prevention	<p>Ensure all patients are receiving adequate dietary calcium and vitamin D. Supplemental calcium and vitamin D are recommended for those who have inadequate dietary intake, unless contraindicated. The benefits of supplemental calcium and vitamin D for those with adequate dietary intake are unclear.</p> <p>Weight-bearing exercise [A] Address modifiable risk factors above, including not smoking or drinking too much alcohol</p>		There is insufficient evidence on the optimal screening interval in a woman with previous normal BMD
Patients requiring therapy to reduce high risk of non-traumatic fractures	Non-pharmacologic Management	Fall prevention. For a list of techniques see AHRQ fall prevention toolkit .		
	Patient Selection for Pharmacological Management Based on Risk	<p>Treat patients with a history of an osteoporotic fracture of the hip or spine. [A] Treat patients without a history of fractures but with a T-score of -2.5 or lower. [A] Treat patients with a T-score between -1.0 and -2.5 if FRAX[®] major osteoporotic fracture probability is ≥ 20% or hip fracture probability is ≥ 3%. [D] Consider treating patients on corticosteroid therapy with a T-score ≤ -1.0. [D]</p>		
	Pharmacological Management	<p>Optimize dietary calcium (1000-1200 mg/d) and vitamin D (≥ 800 IU/d). Only use supplements if diet is insufficient. Supplementation is suggested in postmenopausal women with osteoporosis to reduce risk of fractures.¹</p> <p>Consider oral bisphosphonate therapy². A drug holiday may be considered after 3-5 years³ in low-risk (6-10 years in high-risk). If not tolerated or ineffective, consider other agents. Parenteral bisphosphonate therapy may be preferred for patients unable to tolerate oral bisphosphonate.</p> <p>Consider referral to endocrine or bone and mineral metabolism specialist if patient does not tolerate treatment or shows progression or recurrent fracture after 2 years on treatment.</p>		

¹ <https://jamanetwork.com/journals/jama/fullarticle/2779831>

² Use caution in patients with active upper GI disorders. Take medication on an empty stomach with water, remain upright, no food or beverage for 30 minutes, (60 minutes for Ibandronate).

³ [J of Bone Metabolism Nov 2015 Drug Holidays and Principles of Monitoring](#)

Levels of Evidence for the most significant recommendations: A = randomized controlled trials; B = controlled trials, no randomization; C = observational studies; D = opinion of expert panel
This guideline represents core management steps. It is based on Qaseem A, Forciea MA, McLean RM, Denberg TD, for the Clinical Guidelines Committee of the American College of Physicians. Treatment of Low Bone Density or Osteoporosis to Prevent Fractures in Men and Women: A Clinical Practice Guideline Update From the American College of Physicians. Ann Intern Med. 2017;166:818–839. doi: 10.7326/M15-1361; Final Recommendation Statement: Osteoporosis to Prevent Fractures: Screening. U.S. Preventive Services Task Force. July 2019. Individual patient considerations and advances in medical science may supersede or modify these recommendations.