



Michigan Quality Improvement Consortium Guideline

Management and Prevention of Osteoporosis

January 2018

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	Assessment	<p>Assess risk factors to perform FRAX [C]:</p> <ul style="list-style-type: none"> 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) <p>Calculate FRAX to assess future fracture risk and to identify patients for BMD testing. Record result.</p> <p>Perform bone mineral density (BMD) testing using DXA for:</p> <ul style="list-style-type: none"> White women ≥ 65 years regardless of risk factors Men/women with fracture risk (10-year probability of fracture using FRAX ≥ 9.3%) On corticosteroids Transplant <p>CT scan for screening is not recommended.</p>	<ul style="list-style-type: none"> Vitamin D deficiency or low dietary calcium intake Inadequate physical activity Loss of height (1.5 inches) Family history of osteoporosis Depo-Provera use Aromatase inhibitor therapy Androgen inhibitor therapy Lupron therapy 	Adult height assessments at periodic well exams
	Core Principles of Treatment and Prevention	<p>Dietary calcium 1200 mg/d and 800 - 1000 IU/d vitamin D₃ [B]</p> <p>Weight-bearing exercise [A]</p> <p>Address modifiable risk factors above</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	Patient Selection for Pharmacological Management Based on Risk	<p>Treat patients on corticosteroid therapy with a T-score ≤ -1.0. [A]</p> <p>Treat patients with a history of an osteoporotic fracture or fracture of the hip or spine. [A]</p> <p>Treat patients without a history of fractures but with a T-score of -2.5 or lower. [A]</p> <p>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]</p>		
	Pharmacological Management	<p>Consider oral bisphosphonate therapy¹. A drug holiday may be considered after 3-5 years² in low-risk (6-10 years in high-risk). If not tolerated or ineffective, consider other agents.</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>		
Patients with fracture	Diagnosis and Treatment	<p>Calculate FRAX to predict probability of a major osteoporotic fracture:</p> <ul style="list-style-type: none"> If >20% probability, prescribe a drug to treat osteoporosis (e.g. bisphosphonate) If <20% probability, obtain a BMD if not done in the past year. Re-calculate FRAX with BMD result, and treat as above. <p>Fall prevention</p> <p>Optimize calcium (1600 mg/d) and vitamin D₃ [cholecalciferol (1000 IU/d)] intake</p>		

¹Use 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).

²[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; The Guide to Clinical Preventive Services 2014, Recommendations of the U.S. Preventive Services Task Force (www.preventiveservices.ahrq.gov). Individual patient considerations and advances in medical science may supersede or modify these recommendations.