

The following guideline recommends assessment and management of patients with osteopenia and osteoporosis.

Eligible Population	Key Components	Recommendation and Level of Evidence	Frequency	
Patients at potential risk for osteoporosis	Assessment	<ul style="list-style-type: none"> ■ Calculate FRAX (http://www.shef.ac.uk/FRAX/index.jsp) to assess fracture risk and to determine need for BMD testing. Record result. ■ Assess fracture risk and other risk factors: <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 ◆ Femoral neck BMD (g/cm²) ■ Assess for loss of height (>1.5 inches) and back pain. ■ Bone mineral density (BMD) testing using DXA for white women >65 years or men/women with similar or higher fracture risk (>9.3%/10 years by FRAX). The USPSTF recommends this service for women. ■ CT scan for screening is not recommended. 	<ul style="list-style-type: none"> ◆ Calcium or Vitamin D deficiency ◆ Depo-Provera use ◆ Family history of osteoporosis ◆ Transplant or pending organ transplant ◆ Drugs to treat malignancy ◆ Inadequate physical activity 	<ul style="list-style-type: none"> ◆ Adult height assessments at periodic well exams
	Core Principles of Treatment and Prevention	<p>Regardless of risk factors:</p> <ul style="list-style-type: none"> ◆ Dietary calcium 1200 mg/d and 800 - 1000 IU vitamin D₃ [B] ◆ Weight-bearing exercise [A] ◆ Address modifiable risk factors above 		<ul style="list-style-type: none"> ◆ Repeating DXA within 8 years does not improve prediction of fractures
Patients requiring therapy to reduce high risk of fracture	Patient Selection for Pharmacological Management Based on Risk	<ul style="list-style-type: none"> ◆ Treat patients on corticosteroid therapy with a T-score ≤ -1.0. [A] ◆ Treat patients with a history of an osteoporotic fracture or fracture of the hip or spine. [A] ◆ Patients without a history of fractures but with a T-score of -2.5 or lower. [A] ◆ 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%. [A] 		
	Pharmacological Management	<ul style="list-style-type: none"> ◆ Consider oral bisphosphonate, generic if available¹. ◆ If not tolerated or ineffective, consider other agents. ◆ 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. 		
Patients with fracture	Diagnosis and Treatment	<ul style="list-style-type: none"> ■ Calculate FRAX and record result: <ul style="list-style-type: none"> ◆ If >20% prediction, prescribe a drug to treat osteoporosis (e.g. bisphosphonate) ◆ If <20% prediction, obtain a BMD if not done in the past year. Re-calculate FRAX with BMD result, and treat as above. ■ Fall prevention 		

¹ 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).

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 The Guide to Clinical Preventive Services 2010-2011, Recommendations of the U.S. Preventive Services Task Force (www.preventiveservices.ahrq.gov); and the Diagnosis and Treatment of Osteoporosis Guideline, Institute for Clinical Systems Improvement, 2011 (www.icsi.org). Individual patient considerations and advances in medical science may supersede or modify these recommendations.