

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"> <li>◆ Calculate FRAX (<a href="http://www.shef.ac.uk/FRAX/index.jsp">http://www.shef.ac.uk/FRAX/index.jsp</a>) to assess fracture risk and to determine need for BMD testing. Record result.</li> <li>◆ Assess fracture risk and other risk factors:               <ul style="list-style-type: none"> <li>• Age</li> <li>• Sex</li> <li>• Weight (kg)</li> <li>• Height (cm)</li> <li>• Previous fracture</li> <li>• Parent fractured hip</li> <li>• Current smoking</li> <li>• Secondary osteoporosis [type 1 diabetes, osteogenesis imperfecta in adults, untreated long-standing hyperthyroidism, hypogonadism or premature menopause (&lt;45 years), chronic malnutrition, or malabsorption, and chronic liver disease)</li> </ul> </li> <li>◆ Assess for loss of height (&gt;1.5 inches) and back pain.</li> <li>◆ Bone mineral density (BMD) testing using DXA for white women &gt;65 years or men/women with similar or higher fracture risk (&gt;9.3%/10 years by FRAX). The USPSTF recommends this service for women.</li> <li>◆ CT scan for screening is not recommended.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Adult height assessments at periodic well exam</li> </ul>
	Core Principles of Treatment and Prevention	<p><b>Regardless of risk factors:</b></p> <ul style="list-style-type: none"> <li>◆ Dietary calcium 1200 mg/d and 800 - 1000 IU vitamin D3. <b>[B]</b></li> <li>◆ Weight-bearing exercise. <b>[A]</b></li> <li>◆ Address modifiable risk factors above.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Repeating DXA within 8 years does not improve prediction of fractures.</li> </ul>
Patient Selection for Pharmacological Management based on Risk		<ul style="list-style-type: none"> <li>◆ Treat patients on corticosteroid therapy with a T-score <math>\leq</math> -1.0. <b>[A]</b></li> <li>◆ Treat patients with a history of an osteoporotic fracture or fracture of the hip or spine. <b>[A]</b></li> <li>◆ Patients without a history of fractures but with a T-score of -2.5 or lower. <b>[A]</b></li> <li>◆ Patients with a T-score between -1.0 and -2.5 if FRAX major osteoporotic fracture probability is <math>\geq</math> 20% or hip fracture probability is <math>\geq</math> 3%. <b>[A]</b></li> </ul>	
Pharmacological Management		<ul style="list-style-type: none"> <li>◆ Consider oral bisphosphonate, generic if available<sup>1</sup>.</li> <li>◆ If not tolerated or ineffective, consider other agents.</li> <li>◆ 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.</li> </ul>	
Patients with fracture	Diagnosis and Treatment	<ul style="list-style-type: none"> <li>◆ Calculate FRAX and record result:               <ul style="list-style-type: none"> <li>• If &gt;20% prediction, prescribe a drug to treat osteoporosis (e.g. bisphosphonate); PCP follow-up.</li> <li>• If &lt;20% prediction, obtain a BMD if not done in the past year. Re-calculate FRAX with BMD result, and treat as above. PCP follow-up.</li> </ul> </li> <li>◆ Consider initiation of in-hospital treatment (e.g. teriparatide, zoledronic acid) for patients with documented fragility fracture; PCP follow up.</li> <li>◆ Fall prevention.</li> </ul>	

<sup>1</sup> 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  
 Used with permission of Michigan Quality Improvement Consortium. 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](http://www.preventiveservices.ahrq.gov)); and the Diagnosis and Treatment of Osteoporosis Guideline, Institute for Clinical Systems Improvement, 2011 ([www.icsi.org](http://www.icsi.org)). Individual patient considerations and advances in medical science may supersede or modify these recommendations.