

CLINICAL PRACTICE GUIDELINE NAME:	Osteopenia/Osteoporosis screening and treatment
<i>ORIGINAL DATE APPROVED BY QMC:</i>	11/9/10
<i>DATES RE-REVIEWED BY QMC:</i>	

GUIDELINE DESCRIPTION:

This guideline provides facts about Osteoporosis and guidelines for physicians and other health care providers on screening and management of patients with Osteoporosis.

FACTS ABOUT OSTEOPOROSIS:

1. Osteoporosis is the most common bone disease in humans.
2. An estimated 10 million Americans have osteoporosis and an additional 33.6 million have low bone density of the hip.
3. Approximately one out of every two Caucasian women and one of every five men will have an osteoporosis-related fracture in their lifetime.
4. Annually in the United States more than 432,000 hospital admissions, almost 2.5 million medical office visits, and about 180,000 nursing home admissions are caused by osteoporosis-related fractures.
5. Hip fractures result in 10 to 20 percent excess mortality within one year.
6. Hip fractures are associated with a 2.5 fold increased risk of future fractures.
7. Long-term nursing home care is required for approximately 20 percent of hip fracture patients.
8. Only 40 percent of hip fracture patients fully regain their pre-fracture level of independence.
9. In 2005, osteoporosis-related fractures in the United States cost approximately \$17 billion.

REFERENCES:

1. US Preventive Services Task Force. *Screening for Osteoporosis: Draft Recommendation Statement*. Agency for Healthcare Research and Quality, Rockville, MD
2. National Osteoporosis Foundation. *Clinician's Guide to Prevention and Treatment of Osteoporosis*. Washington, DC: National Osteoporosis Foundation; 2010.
http://www.nof.org/professionals/Clinicians_Guide.htm
3. American College of Preventive Medicine. 2009 Apr. (National Guideline Clearinghouse: www.guideline.gov)
4. World Health Organization Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, UK <http://www.sheffield.ac.uk/FRAX>
5. American College of Obstetricians and Gynecologists. Osteoporosis. Washington DC. 2004. Reaffirmed in 2008. (National Guideline Clearinghouse: www.guideline.gov)
6. Institute for Clinical Systems Improvement. *Diagnosis and treatment of Osteoporosis*. 2008 Sept (National Guideline Clearinghouse: www.guideline.gov)

"These recommendations are designed to be guidelines but do not guarantee coverage by each plan. For coverage/benefit information please contact our customer care department."

Osteopenia/Osteoporosis Screening and Treatment

<p>Clinical Assessment</p>	<p>1. Obtain a detailed patient history pertaining to clinical risk factors for osteoporosis-related fracture.</p>	<ul style="list-style-type: none"> • Age • Gender • Lifestyle factors (smoking, excessive alcohol intake, high sodium intake, immobilization, falling) • Genetic factors (Cystic Fibrosis, parental history of hip fracture, Ehlers-Danlos, Hemochromatosis) • Hypogonadal states (hyperprolactinemia, Turner’s and Klinefelter’s syndromes, panhypopituitarism, Anorexia nervosa and Bulimia) • Endocrine disorders (Diabetes mellitus, Hyperparathyroidism, Cushing’s syndrome) • Gastrointestinal disorders (Celiac disease, gastric bypass, pancreatic disease, Inflammatory bowel disease, malabsorption) • Hematologic disorders (Hemophilia, Multiple Myeloma, Leukemia and Lymphoma’s, Sickle cell disease, Thalassemia) • Rheumatic and autoimmune diseases (Rheumatoid arthritis, Lupus, Multiple Sclerosis) • Other conditions and diseases: (Emphysema, CHF, depression, Alcoholism, ESRD) • Prior osteoporotic fracture as an adult • Medications (Glucocorticoids, Lithium, Barbiturates, Anticonvulsants, Heparin)
	<p>2. Order bone density (BMD) testing if indicated.</p>	<p>Preferred Method for BMD testing</p> <ul style="list-style-type: none"> • DXA (dual-energy x-ray absorptiometry) <p>Indications for BMD testing</p> <ul style="list-style-type: none"> • All women 65 years and older and men 70 years and older. • Younger women whose fracture risk is equal to or greater than that of a 65-year-old woman who has no additional risk factors. • Adults who have a fracture after age 50 not caused by severe trauma. <p>Results of BMD testing</p> <ul style="list-style-type: none"> • Osteopenia (low bone mass) is defined by the World Health Organization (WHO) as a T-score between - 1.0 and – 2.5 by DXA measurement • Osteoporosis is defined by WHO as a T-score at or below – 2.5 by DXA measurement.
	<p>3. Evaluate for secondary causes of osteoporosis.</p>	<ul style="list-style-type: none"> • Blood and/or urine studies should be obtained to evaluate for secondary etiologies such as hyperparathyroidism and osteomalacia.

Osteopenia/Osteoporosis Screening and Treatment

Clinical Assessment (continued)	4. Estimate patient's 10-year probability of hip and any major osteoporosis-related fracture using the US-adapted WHO algorithm (FRAX) found at www.shef.ac.uk/FRAX	<ul style="list-style-type: none"> • Used for postmenopausal women and men age 50 and older. • FRAX is not validated in patients previously treated with or currently taking pharmacotherapy for osteoporosis.
Risk factor modifications and Patient Education	1. Calcium	<ul style="list-style-type: none"> • Encourage patients to get calcium from food sources when possible. • Supplements can be used when an adequate dietary intake cannot be achieved. • Recommended intake is 1200 mg per day.
	2. Vitamin D	<ul style="list-style-type: none"> • Patients at risk of deficiency should be tested • Low serum 25(OH) D levels should be supplemented to bring level to 30 ng/mL (75 nmol/L). • Minimum recommended intake is 800-1000 IU daily.
	3. Exercise	<ul style="list-style-type: none"> • Emphasize the importance of regular weight-bearing exercise.
	4. Tobacco	<ul style="list-style-type: none"> • Advise patients to avoid tobacco smoking. • Recommend smoking cessation programs.
	5. Alcohol	<ul style="list-style-type: none"> • Strongly discourage excessive alcohol consumption (no more than 2-3 drinks a day)
Decision to Treat	1. Made on a case-to-case basis.	Consider: <ul style="list-style-type: none"> • BMD measurements • Clinical risk factors • Patient preferences • Comorbidities • FRAX results • Clinical judgment
	2. Consider treatment for high risk patients	Postmenopausal women or men aged 50 and older with: <ul style="list-style-type: none"> • T-score of – 2.5 at the femoral neck or spine • Hip or spine fracture • Osteopenia and a 10-year probability of hip fracture \geq 3% based on FRAX. • Osteopenia and a 10-year probability of a major osteoporosis-related fracture \geq 20% based on FRAX.

Osteopenia/Osteoporosis Screening and Treatment

Treatment	Pharmacologic options	<ul style="list-style-type: none"> • Bisphosphonates • Calcitonin • Estrogen/Hormone Therapy • Estrogen Agonist/Antagonist • Parathyroid Hormone
Follow up	1. Patients treated with pharmacologic agents.	<ul style="list-style-type: none"> • Laboratory values re-evaluation every 2 years. • BMD testing performed every 2 years.
	2. Patients not requiring pharmacologic intervention at the time of initial evaluation.	<ul style="list-style-type: none"> • Clinical re-evaluation when medically appropriate. • BMD testing to be performed no more frequently than every 2 years.