Diagnosis and Management of Osteoporosis

Osteoporosis-related fractures affect approximately one in two white women and one in five white men in their lifetime. The impact of fractures includes loss of function, significant costs, and increased mortality. The U.S. Preventive Services Task Force recommends using dual energy x-ray absorptiometry to screen all women 65 years and older, and younger women who have an increased fracture risk as determined by the World Health Organization's FRAX Fracture Risk Assessment Tool. Although guidelines are lacking for rescreening women who have normal bone mineral density on initial screening, intervals of at least four years appear safe. The U.S. Preventive Services Task Force found insufficient evidence to recommend screening for osteoporosis in men; other organizations recommend screening all men 70 years and older. In patients with newly diagnosed osteoporosis, suggested laboratory tests to identify secondary causes include serum 25-hydroxyvitamin D, calcium, creatinine, and thyroid-stimulating hormone. First-line treatment to prevent fractures consists of fall prevention, smoking cessation, moderation of alcohol intake, and bisphosphonate therapy. Clinicians should consider discontinuing bisphosphonate therapy after five years in women without a personal history of vertebral fractures. Raloxifene, teriparatide, and denosumab are alternative effective treatments for certain subsets of patients and for those who are unable to take or whose condition does not respond to bisphosphonates. The need for follow-up bone mineral density testing in patients receiving treatment for osteoporosis is uncertain.

More than 10 million Americans have osteoporosis, which is defined by the National Osteoporosis Foundation as a chronic, progressive disease characterized by low bone mass, microarchitecture deterioration of bone tissue, bone fragility, and a consequent increase in fracture risk. Roughly 50% of white women and 20% of white men have a fracture related to osteoporosis in their lifetime; although black men and women are at lower risk of osteoporosis, those with osteoporosis have similar fracture risk.[1] Osteoporotic fractures are associated with increased risk of disability, nursing home placement, total health care costs, and mortality. Osteoporosis risk increases with age, and its impact will increase as the U.S. population ages and lists risk factors for osteoporosis.

KEY RECOMMENDATIONS FOR PRACTICE

Clinical recommendation	*Evidence rating*
All women 65 years and older should be screened for osteoporosis with dual energy x-ray absorptiometry of the hip and lumbar spine.	**B**
Women younger than 65 years should be screened for osteoporosis if the estimated 10-year fracture risk equals or exceeds that of a 65-year-old white woman with no risk factors.	**B**

Clinical recommendation	*Evidence rating*
The U.S. Preventive Services Task Force concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for osteoporosis in men.	**C**
A fall risk assessment should be performed and a multicomponent exercise program and smoking cessation should be recommended to decrease fracture risk in individuals 65 years and older with osteoporosis or a history of vertebral fracture.	**C**
Bisphosphonates should be used as first-line pharmacologic treatment for osteoporosis.	**A**
In patients who cannot tolerate or whose symptoms do not improve with bisphosphonate therapy, teriparatide (Forteo) and denosumab (Prolia) are effective alternative medications to prevent osteoporotic fractures.	**A**

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to http://www.aafp.org/afpsort.

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All women 65 years and older should be screened for osteoporosis with dual energy x-ray absorptiometry of the hip and lumbar spine.	**B**
Women younger than 65 years should be screened for osteoporosis if the estimated 10-year fracture risk equals or exceeds that of a 65-year-old white woman with no risk factors.	**B**
The U.S. Preventive Services Task Force concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for osteoporosis in men.	**C**
A fall risk assessment should be performed and a multicomponent exercise program and smoking cessation should be recommended to decrease fracture risk in individuals 65 years and older with osteoporosis or a history of vertebral fracture.	**C**
Bisphosphonates should be used as first-line pharmacologic treatment for osteoporosis.	**A**
In patients who cannot tolerate or whose symptoms do not improve with bisphosphonate therapy, teriparatide (Forteo) and denosumab (Prolia) are effective alternative medications to prevent osteoporotic fractures.	**A**

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