
More Than Sticks and Stones May Break Residents' Bones

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Osteoporosis is a major healthcare problem affecting 10 million Americans today; 44 million are at risk.¹ The incidence is so great that osteoporotic fractures in women occur more often than heart attacks, stroke, and breast cancer combined.² The reason for the importance of managing osteoporosis is beyond numbers, however. It involves the burden of the disease. The burden is such that two-thirds of patients who have fractures never regain their pre-fracture levels.³

Once awareness of the importance of osteoporosis is made, the next step involves diagnosis. Unfortunately, more than 75% of patients with fractures never receive a diagnosis or treatment for osteoporosis.⁴ In part, this is because many vertebral fractures are asymptomatic. Also, many seniors and clinicians view the signs and symptoms of osteoporosis as a natural part of aging rather than a preventable or treatable medical condition.

The signs of osteoporosis that are not consequences of aging include:

- Height loss
- Dowager's hump
- Back pain
- Fragility fractures

Even before these signs of osteoporosis appear, clinicians should identify seniors at risk (Table 1) so that steps can be taken to prevent

osteoporosis from ever developing. It's important to educate our patients about preventable risk factors including fall prevention, smoking cessation, maintenance of adequate nutrition, and moderate use of alcohol and caffeine.

All seniors who are considered at risk or who show any signs of osteoporosis should be referred to

FDA Warns about Risks of Osteoporosis Treatments

In January 2008, the Food and Drug Administration (FDA) issued 2 warnings about bisphosphonate therapy. According to the warnings, drugs such as Fosamax, Actonel, Boniva, and other bisphosphonates have been linked to atrial fibrillation and to severe bone, joint, and muscle pain. For more information, see http://www.fda.gov/Cder/Drug/early_comm/bisphosphonates.htm and <http://www.fda.gov/cder/drug/infopage/bisphosphonates/default.htm>.

Table 1. Risk Factors

- Old age
- Female gender
- Family history and personal history of fractures as an adult
- Caucasian and Asian race
- Small-boned and thin frame (less than 127 pounds)
- Normal or early menopause (brought about naturally or because of surgery)
- Current cigarette smoking
- Excessive alcohol use
- Inadequate calcium intake
- Little or no weight-bearing exercise
- Medications/chronic diseases

Ten Osteoporosis Performance Measures

According to The Joint Commission, in its new publication *Improving and Measuring Osteoporosis Management*, osteoporosis is often overlooked even when a patient has had previous wrist, vertebra, or hip fractures. On average, only 20% of patients with these low-impact fractures are ever tested or treated for osteoporosis.

With an unrestricted educational grant from the National Pharmaceutical Council (NPC), The Joint Commission has developed 10 osteoporosis performance measures suitable for use by a variety of healthcare providers, including hospitals, home care agencies, rehabilitation facilities, nursing homes, and physician offices. The measures, intended for voluntary use, were created by a technical advisory panel of physicians, dietitians, pharmacists, nurses, and others experienced in osteoporosis management and measure development. The Joint Commission hopes that practitioners will use the measures to increase diagnosis and treatment rates, and to decrease the rates of hip and other fragility fractures that rob patients of their quality of life.

The 10 measures (see “Performance Measures”) are grouped according to settings: hospital inpatient and emergency; ambulatory, long-term, and home care; and subacute care.

Detection

The Joint Commission’s panel gave careful consideration to defining the most appropriate (cost-effective and clinically sound) approach to bone mineral density (BMD) testing for detection of reduced bone mass. Although the gold standard is DXA, in rural and semi-rural locales and in settings such as long-term care where older patients cannot be positioned for DXA testing, other alternatives have been explored.

The authors of a report funded by the Agency for Healthcare Research and Quality (AHRQ) have suggested that a sequential approach may be more cost effective than DXA alone. The identified sequential approach was quantitative ultrasound (QUS) of the heel followed by DXA of the femoral neck for those

Performance Measures

1. Screening, Females at Risk
2. Secondary Causes
3. BMD Testing, Glucocorticoid Patients
4. Dietary Education, Osteoporosis
5. Activity Education, Osteoporosis
6. Pharmacotherapy
7. Risk Assessment/Treatment after Fracture, Acute Care
8. Risk Assessment/Treatment after Fracture, Nonacute Care
9. Smoking/Alcohol Education
10. Fall Risk and Personal Safety Education

whose QUS values were low. QUS is less expensive and more widely available than DXA.

Management

Calcium intake and medications to treat osteoporosis are thoroughly covered in the report, which also includes an in-depth discussion of vitamin D therapy for osteoporosis (see “Fast Facts about Vitamin D and Osteoporosis”). According to the National Osteoporosis Risk Assessment (NORA) 2006 Physician Resurvey of 808 primary care physicians, 25(OH)D measurement is not a prevalent practice. Seventy-five percent of respondents stated they “never” or “infrequently” order a serum 25(OH)D level for new female osteoporosis patients, and about 60% reported that they did not know the optimal level of 25(OH)D needed to optimize calcium absorption. However, two-thirds of physicians recommended vitamin D to all of their postmenopausal patients. While current thought varies as to optimal serum levels of vitamin D to prevent fractures, many clinicians consider levels below 30 ng/mL as deficient.

More information is available in the online version of the report. See www.jointcommission.org/PerformanceMeasurement/MeasureReserveLibrary/Improving+and+Measuring+Osteoporosis+Management.htm.

a physician for diagnosis and treatment. This clinical evaluation includes a comprehensive medical history of signs and symptoms of bone mineral loss, an assessment of risk factors of osteoporosis, and a physical examination. The diagnostic studies for osteoporosis in-

clude a bone mineral density (BMD) test assessed by dual x-ray absorptiometry (DXA), a quantitative ultrasound of the heel, or a quantitative computed tomography or radiography looking for osteopenia and vertebral deformity.

A BMD scan is recommended

for women who are:

- Postmenopausal, younger than age 65, and who have 1 or more additional risk factors for osteoporosis (in addition to being postmenopausal)
- Age 65 and older regardless of additional risk factors

Eight Steps to Better Bone Health

The January 2008 issue of *Harvard Women's Health Watch* offers 8 points for seniors to follow to decrease the risk of osteoporosis. Use them to guide your patients toward better living.

1. Be sure to consume a healthy diet that provides potassium, magnesium, phosphorus, calcium, and vitamin D.
2. Exercise for at least 30 minutes on most days of the week. Include weight-bearing exercise, such as running or walking, and resistance exercises.
3. Quit smoking. Smokers lose bone faster and have more fractures than nonsmokers.
4. Get tested for bone mineral density (BMD).
5. Consider taking bone-preserving drugs, especially if your BMD score is -2.5 or worse (see "FDA Warns About Risks of Osteoporosis Treatments" on page 41).
6. Know that women who have a history of major depression have lower bone density and higher levels of cortisol, a hormone that is related to bone loss. If you are depressed, ask your physician to schedule you for BMD testing.
7. Maintain a healthy weight—weight less than 127 pounds or body mass index less than 21 is a risk factor for osteoporosis. Don't follow diets that are very low in calories or restrict whole food groups.
8. Remove clutter from the floor to avoid tripping, be sure your hallways and stairs have sufficient light, and install grab bars in your bathtub or shower.

Source: *Harvard Women's Health Watch*.

Fast Facts about Vitamin D and Osteoporosis

- According to several studies, 40% to 100% of US and European community-dwelling seniors are vitamin D deficient.
- More than 50% of postmenopausal women taking osteoporosis medication have suboptimal levels of vitamin D (below 30 ng/mL).
- In 1 study, maximum bone density was achieved in Caucasian, African, and Hispanic men and women when serum 25(OH)D levels reached 40 ng or more.
- Sensible sun exposure can provide adequate amounts of vitamin D₃, which is stored in body fat and released during the winter. This can be achieved by sun exposure of arms and legs for 5 to 30 minutes (depending on time of day, season, latitude, and skin pigmentation) between 10 am and 3 pm twice weekly.
- Five to 10 minutes of direct sun exposure to the arms and legs (depending on time of day, season, latitude, and skin pigmentation) affords about 3000 IU of vitamin D₃.
- Having patients take 100,000 IU of vitamin D₃ once every 3 months has been shown to be effective in maintaining 25(OH)D levels at 20 ng/mL or higher and is effective in reducing the risk of fracture.
- Unless a person frequently consumes oily fish, it is very difficult to obtain sufficient vitamin D₃ from dietary sources.

Two-thirds of

people who
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regain
pre-fracture
function.

- Postmenopausal and present with fractures (to confirm diagnosis and determine disease severity)
- Considering therapy for osteoporosis

Encourage seniors who are already being treated for osteoporosis to continue their therapy because the treatment of osteoporosis is life-long. Treatment includes 1200 mg of calcium and 600 IU of vitamin D daily, plus a bisphosphonate as directed. By identifying seniors at risk and helping them to seek and continue treatment, you can help seniors avoid the burden of osteoporosis and maintain their quality of life. **MPM**

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