



Osteoporosis

Guide I-105

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Osteoporosis is a disease in which the bones become porous through a loss of minerals, especially calcium, which results in loss of bone mass. This makes the bones weak, fragile and more susceptible and prone to breaking.

Fractures, which can lead to significant disability, are the biggest consequence of osteoporosis. Areas of the body most prone to osteoporosis-related fractures are the hips, spine, wrists and ribs. “Silent fractures” may also occur. These are fractures a person has without knowing it. Osteoporosis has been termed a “silent” disease because there aren’t any symptoms. The disease may come to a person’s attention only after a bone breaks easily, often without trauma or an accident.

It’s estimated that 10 million American adults have osteoporosis. Thus, this disease is a major health problem. Furthermore, it’s estimated that 34 million more adults have low bone mass, placing them at high risk for the disease.

Although osteoporosis can strike at any age, it mostly affects older adults (age 50 and older)—especially women. While both men and women can develop osteoporosis, women are four times more likely than men to have the disease. Women, versus men, have less bone mass to begin with and lose it at a faster rate, especially in the years just before menopause and for the first five years following the cessation of menstrual periods. Caucasian (non-Hispanic white) and Asian females have the highest risk; African American men and women have the lowest. Latinos and Native Americans have a moderate risk. However, it is important to remember that everyone loses bone as they age, regardless of gender or ethnicity.

Risk Factors for Osteoporosis

The following risk factors have been associated with osteoporosis:

- Being female
- Advanced age
- Small bone structure
- Ethnicity
- Family history of osteoporosis
- Personal history of fracture after age 50
- History of anorexia nervosa
- Current low bone mass

- Estrogen deficiency as a result of menopause or resulting from surgical removal of the ovaries
- History of abnormal absence of menstrual periods
- Low lifetime calcium intake
- Vitamin D deficiency
- Use of certain medications, such as corticosteroids and anticonvulsants
- Low testosterone levels in men
- An inactive lifestyle and immobility (e.g., bed or wheelchair confined)
- Current cigarette smoking
- Excessive use of alcohol

Prevention

The National Osteoporosis Foundation (NOF) recommends the following for bone health and osteoporosis prevention:

- Getting your daily recommended amounts of calcium and vitamin D:
 - ♦ Calcium (Ca): 1,000 mg (19-50 years of age); 1,200 mg (50+ years of age). Good to excellent sources* of dietary calcium are:
 - Milk (8 oz = 250-300 mg Ca), cheese (-1/4 c = 125 mg Ca), yogurt (1 c = 200-500 mg Ca) and other lowfat dairy products. Soy milk, calcium fortified (8 oz = 368 mg Ca); unfortified (8 oz = 100 mg Ca)
 - Legumes such as pinto (1 c cooked = 50 mg Ca) and navy beans (1 c cooked = 125 mg Ca)
 - Corn tortillas (1 tortilla [6"] = 50 mg Ca)
 - ♦ Vitamin D: 5 mg or 200 IUs (19-50 years of age); 10 mg or 400 IUs (51-70 years of age); 15 mg or 600 IUs (71+ years of age). The best dietary source of vitamin D is vitamin D-fortified lowfat dairy products.
- Engaging in regular weight-bearing exercise
 - ♦ Examples of weight-bearing exercises for the lower body (including hips) and spine are walking, jogging, stair climbing, hiking, tennis, racquetball (exercises where you are lifting your feet off the ground and then back down)

* The sources of calcium are not necessarily specific recommendations of the NOF.

To find more resources for your business, home or family, visit the College of Agriculture and Home Economics on the World Wide Web at www.cahe.nmsu.edu

- ◆ It's important to speak with your healthcare provider about exercising before beginning an exercise program
- Avoiding smoking and excessive alcohol use
- Having a bone density test (see *Bone Testing* section below)
- Taking prevention or treatment medication when appropriate; talk with your doctor to see if medication is right for you
- Talking to your healthcare provider about bone health

Bone Testing

You can get a test for measuring your bone mass called a Bone Mineral Density (BMD) test. The test is most often done for the spine, wrist and/or hip, since these sites are the most common for fractures due to porous bones. The test is painless and non-invasive. It is done using dual X-ray absorptiometry (DXA). Unlike regular X-rays, this test results in less radiation exposure than you would get taking an airplane ride from coast to coast. Information can also be obtained from regular X-rays, ultrasound or a CT scan.

The National Osteoporosis Foundation has guidelines for who should get tested:

- All women age 65 and older
- Younger postmenopausal women who have one or more risk factors (other than being white, postmenopausal, and female). See the above section, *Risk Factors for Osteoporosis*.
- Postmenopausal women who have had a recent fracture

Speak with your healthcare provider about your possible need for getting a test and where you can get one.

Treating Osteoporosis

Osteoporosis is incurable, but steps can be taken to slow and/or minimize progression. Nutrition, exercise, medication and safety to prevent falls are all part of a comprehensive treatment program.

- **Nutrition:** Healthy eating will always contribute to one's overall health. Getting an appropriate daily intake of calcium and vitamin D is especially important in regard to bone health. (See *Prevention* section for dietary suggestions.)
- **Exercise:** While exercise plays an important role in the prevention of osteoporosis, it also has an important role in its management. Exercise improves bone strength and enhances muscle coordination and balance (which is important in preventing falls). It can also enhance flexibility.
- **Medication:** Your doctor can prescribe medication that will help treat osteoporosis.
- **Preventing falls:** Since bones break more easily with osteoporosis, preventing fractures by preventing falls is vitally important. Some tips for enhancing safety in this area include:

- ◆ Using a cane or walker as needed
- ◆ Being careful on, or altogether avoiding, slippery walkways
- ◆ Wearing shoes that are optimal for traction such as those with rubber soles. Make sure that shoelaces are securely tied and tucked away.
- ◆ Optimizing your vision: for example, wearing glasses and ensuring proper lighting where you walk
- ◆ Utilizing handrails for stairways and grab bars in bathrooms
- ◆ Using strong, wide-based step stools with handles
- ◆ Making sure throw rugs are secure or not using them at all
- ◆ Keeping obstacles such as cords and clutter out of walkways in the home
- ◆ Using a rubber mat in the shower/bathtub
- ◆ Taking into consideration side effects of medications that may affect balance, mobility or mental awareness. Talk with your healthcare provider about the possibility of such side effects, and let your doctor know if they occur.

Sources

- American College of Rheumatology
- Mayo Clinic
- National Academy of Sciences
- National Institutes of Health
- National Institute on Aging
- National Osteoporosis Foundation

Information Disclaimer

The information provided in this publication is only intended to be general summary information to the public. The primary purpose of this publication is educational. Nothing contained in this publication is, or should be considered or used, as a substitute for medical advice, diagnosis or treatment.

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