

THIS INFORMATION IS FOR OUR PATIENTS ONLY

The Center for Reproduction & Women's Health Care

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Osteoporosis in Women

What is osteoporosis?

Osteoporosis is the weakening of bone that can occur as you get older. As bones get thinner with age, they become weaker. There is a much greater risk they will break if you fall or have a minor injury. Medical complications of these injuries can result in longer stays at the hospital, disability, and even death.

Osteoporosis is most common in white and Asian women, especially slender women, but it can occur in women of any race.

How does it occur?

Osteoporosis occurs as women get older. After menopause, women produce much less of the sex hormone estrogen. Estrogen helps women's bones stay strong. For example, it helps deposit calcium in the bones. Low levels of estrogen cause a weakening of the bones.

Women who smoke or are physically inactive are at a greater risk of developing osteoporosis as they grow older. Too little calcium in the diet or a family history of osteoporosis are other risk factors.

In addition to aging, other causes of osteoporosis are:

- surgical removal of the ovaries, which reduces estrogen levels
- intense exercise (such as marathon running), which reduces estrogen levels
- long periods of bed rest during serious illness
- too much aluminum hydroxide, a common antacid used to treat heartburn and ulcers.

What are the symptoms?

You may have no symptoms until a bone breaks. Broken bones are the most common problem for people with osteoporosis. Often it's the hip, arm, or wrist that breaks.

The bones of the spine are also a common area of thinning. Often, over time, the bones of the spine (vertebrae) collapse on themselves, one at a time, causing loss of height, back pain, and a stooping posture.

How is it diagnosed?

Your health care provider may discover you have osteoporosis from an x-ray taken for some other problem. Otherwise, the diagnosis might be made from a review of your medical history and symptoms, a physical exam, x-rays, and blood tests. If you are in a high-risk category, your provider may order tests that measure the density of the bones in your forearm and spine.

How is it treated?

Treatment cannot eliminate osteoporosis, but medications can slow down the loss of bone and rebuild some bone.

The single most effective treatment for osteoporosis is estrogen (hormone replacement therapy). Women begin to produce less estrogen before menopause. Without this hormone to help bones stay strong, women are more likely to have osteoporosis. Starting to take estrogen pills around the time of menopause is the best way to slow calcium loss from the bones and keep the bones strong. The greatest loss of bone density occurs in the first years of menopause. For this reason many health care providers prescribe estrogen for women who are close to menopause.

There are pros and cons for taking estrogen. Estrogen helps slow the loss of bone and may decrease your risk of heart and blood vessel disease. However, estrogen taken alone, without the hormone progesterone, may increase the risk of uterine cancer. Also, your health care provider may not recommend that you take estrogen if you have a history of breast cancer, blood clots, or stroke. You and your health care provider need to discuss your particular situation.

Treatment also includes increasing the calcium your body gets, usually through diet and supplements. Calcium is helpful in the treatment of osteoporosis, especially if you are not taking estrogen, but it is not nearly as helpful as estrogen. Most adult women should have 1000 mg of calcium a day. Women who are pregnant or who are breast-feeding need 1200 to 1500 mg per day. Postmenopausal women who are not taking estrogen supplements need 1500 mg a day.

In addition to calcium, vitamin D supplementation of 600 to 800 IU per day is recommended to improve calcium balance and reduce the risk of fracture. Vitamin D is required for optimal calcium absorption. Other sources of vitamin D include sunlight, vitamin-D fortified liquid dairy products, and cod-liver oil.

New treatments for osteoporosis are being studied. Examples of new medicines are:

- Calcitonin, which helps prevent bone weakening but is not as effective as estrogen. It has been approved by the FDA for treatment of osteoporosis, not prevention. Has no effects on relieving low estrogen symptoms. Is relatively safe with no serious side effects. The most convenient form of calcitonin is a nasal spray, which you use once a day.
- Alendronate (Fosamax) and risedronate (Actonel) are drugs known as bisphosphonates which also helps prevent bone weakening and helps build some bone. No beneficial effect other than on bone. Is recommended for the prevention and treatment of osteoporosis in women when estrogen is not appropriate. Can cause irritation to the esophagus and is not recommended for women with swallowing problems. Must be taken on an empty stomach with water, no dairy products, and the patient must remain upright for at least 30 minutes after taking a dose. It is taken in the form of pills once a day.
- Raloxifene (Evista), which is a new estrogenlike drug known as a SERM (selective estrogen receptor modulator) that keeps bone dense without increasing the risk of uterine cancer. FDA approved for prevention of osteoporosis. It is less effective than estrogen replacement therapy, alendronate, or risedronate. It does however, provide the "health packages" benefits of estrogen on lipid-lowering potential benefits in addition to reducing the risk of certain neoplasms such as breast and colon cancer. It may also provide protection against other degenerative diseases of aging such as coronary artery disease, Alzheimer's Disease, and osteoarthritis. One of the risk associated with its use includes an increased risk in blood clots in leg veins. It is believed that taking an aspirin each day and remaining active may lessen this risk. It is taken as a pill once a day.

These medicines are most often prescribed for women who cannot take estrogen or who have already had a fracture due to osteoporosis.

Weight-bearing exercise, such as walking or stair climbing, also helps keep your bones strong. Doing this kind of physical activity every day may help stop further weakening of your bones. Swimming, although very healthy, is not a weight-bearing exercise. It can be part of your overall fitness program, but for women at risk for osteoporosis, exercise should include walking.

How long will the effects last?

The risk of a broken bone resulting from osteoporosis increases with age. Once menopause begins, most women, especially Caucasian and Asian women, need to take precautions for the rest of their lives to prevent osteoporosis.

How can I take care of myself?

- Follow the treatment prescribed by your health care provider. In addition, you can:
- Eat healthy foods, especially low-fat milk and dairy products, green leafy vegetables, citrus fruits, sardines, and shellfish.
- Take a daily calcium supplement if your provider recommends it.
- Do weight-bearing physical activity, such as walking, regularly. Be sure to exercise your upper body also.
- Consider taking soy protein which has been shown to reduce the risk of osteoporosis.

What can I do to help prevent osteoporosis?

You can help prevent osteoporosis with:

- hormone replacement therapy, or other medications recommended by your health care provider, at menopause
- adequate calcium in your diet, both before and after age 35 (the age when a woman's bone density is at its peak)
- regular exercise
- avoid cigarette smoking
- avoid excessive amounts of alcohol
- avoid excessive caffeine consumption

What can I do to reduce my risk of injury?

You can reduce the risk of injury and broken bones if you:

- Avoid lifting heavy objects.
- Avoid unusually vigorous physical activity; build your activity level gradually.
- Wear proper footwear: low-heeled shoes with nonslippery soles for walking and suitable shoes for sports and recreation. Make sure the soles of your shoes don't catch on carpeted surfaces.
- Use support for walking, such as a cane, if you need it.
- Maintain a safe, well-lit, and uncluttered home to help prevent falls.
- Avoid throw rugs on your floors at home.
- Avoid icy, wet, or slippery surfaces, especially in the bathroom. Use nonskid mats in the shower and bathtub.

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