

What You Can Do to Prevent and Treat Osteoporosis

Developed by the American Pharmacists Association. Improving medication use. Advancing patient care.

What Is Osteoporosis?

You may be surprised to learn that your bones are alive and changing. The living tissue in your bones is being *remodeled* constantly. During remodeling, old bone is removed and new bone takes its place. Even as you read these words, bone-removing cells are at work carving out cavities in the surface of your bones, and bone-forming cells are creating new bone tissue to fill in the cavities. Remodeling replaces about one fifth of your skeleton each year.

Until you are about age 30, your body forms more bone than it removes. In your early 30s, you reach your highest bone density. From then on, your body loses more bone than it replaces. By age 70 or 80, women have lost 30% to 50% of the bone mass they had during their early 30s. In men, bone loss is slower and the amount lost is less.

Bone loss is a natural part of aging in all people. But some people develop a disease called *osteoporosis*, and for them, bone loss is severe. Bones become fragile and break easily. Fractures can happen almost anywhere in the body, including the spine, hip, leg, pelvis, and wrist. No wonder osteoporosis is sometimes called *fragile bone disease*.

More women than men develop osteoporosis, but bone health should be a priority for both men and women.

Are You a Candidate for Osteoporosis?

This checklist can help you decide if you are at risk for osteoporosis and if you should talk to your doctor or pharmacist about what you can do.

Examine your heritage:

- *Are you Caucasian or Asian?* These two ethnic groups are more likely to develop osteoporosis than are other ethnic groups.

- *Are you thin and petite?* Because small people, women in particular, have less bone mass to begin with, they are at greater risk for the disease.
- *Do you have older relatives who have curvature of the spine (sometimes called “dowager’s hump”), loss of height, fractures, or chronic back pain?* If so, you may have inherited a tendency toward osteoporosis.

Examine your personal health history:

- *Have you passed menopause?* In women, estrogen aids in the production of bone mass. At menopause, the amount of estrogen their bodies produce declines sharply.
- *Have your menstrual periods stopped?* Women who have had a hysterectomy, women who are high-performance athletes, and women who diet excessively or who have an eating disorder may stop having periods. These women have had a hormonal change that can cause bone loss.
- *Are you taking medicines that increase the risk of osteoporosis?* The most common culprits are steroid medications (for example, cortisone, prednisone, and dexamethasone) and high doses of thyroid hormone. Long-term use of these medicines can cause bone loss.

Examine your lifestyle:

- *Do you smoke?* Smoking is linked strongly to bone loss. In some people, smoking causes as much as 5% to 10% of their total bone loss.
- *Is your diet low in calcium and vitamin D?* Calcium helps build and maintain healthy bone mass, and your body needs vitamin D to be able to use the calcium in your diet.
- *Are you a moderate or heavy drinker?* Alcohol intake can reduce the amounts of calcium and vitamin D in your body.

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- *Are you immobile or inactive?* People who are confined to bed or who must wear a cast for a long time lose bone mass from lack of use. The same is true for people who do not get enough exercise in their daily lives.
- Talk to your doctor or pharmacist about your risk for osteoporosis. One way to determine your risk for fracture is a bone-density test to see if you have hidden bone loss. This test is painless, takes little time, and is much like an x-ray or ultrasound. Without this test, a fracture may be your first sign that you have osteoporosis.

Osteoporosis Is Preventable

Whether your risk of osteoporosis is high or low, lifestyle changes to prevent the disease are good for everyone.

- *Eat foods that are high in calcium.* Milk and other dairy products (such as cheese, yogurt, and cottage cheese), calcium-fortified fruit juice, dark green leafy vegetables (such as broccoli and collard greens), almonds, and salmon are all good sources of calcium.
- *Eat foods that help your body absorb the calcium in your diet.* Fortified milk and fatty fish (such as salmon) are good sources of vitamin D, which your body needs to be able to absorb calcium.
- *Talk to your doctor or pharmacist about taking a calcium supplement.* Although the average dietary calcium intake for American adults is only 600–800 milligrams per day, the National Institutes of Health recommend these levels of calcium intake:
 - 1,000 milligrams per day for 25- to 49-year-old premenopausal women and for 50- to 64-year-old postmenopausal women who take estrogen.
 - 1,500 milligrams per day for 50- to 64-year-old postmenopausal women not taking estrogen and for all men and women over age 65.
- *Make sure you get 30 to 60 minutes of weight-bearing exercise each week.* Weight-bearing exercises are those that force your body to work against gravity—walking, jogging, aerobics, dancing, and team sports. Talk to your doctor before you begin any exercise program, and if you've been inactive for a while, start slowly and increase your activity gradually.
- *Get some sunshine.* The sun is a major source of vitamin D. Just 10 to 15 minutes of sunshine two to three times a week is all you need.

Medications to Prevent and Treat Osteoporosis

Getting exercise and taking calcium and vitamin D are the first steps in osteoporosis prevention. For some people, a medication also may be necessary to help prevent fractures. Your doctor will prescribe the medication that is best for your type of osteoporosis.

For postmenopausal osteoporosis

- Estrogen replacement therapy (ERT), hormone replacement therapy (HRT), or raloxifene are used commonly to help prevent bone loss.
- Bisphosphonates (risedronate and alendronate) are now available in both daily and weekly forms.
- Calcitonin has been approved for treatment, but not prevention, of postmenopausal osteoporosis.

For glucocorticoid-induced osteoporosis (in both men and women)

- Risedronate is used to prevent osteoporosis caused by steroids and to treat its effects.
- Alendronate is used to treat osteoporosis caused by steroids.

Many osteoporosis treatments require adequate daily calcium intake. Please talk to your doctor or pharmacist to make sure you are taking the right amount of calcium at the appropriate time.

For More Information

- The National Osteoporosis Foundation, www.nof.org or 202-223-2226.
- The National Institutes of Health, Osteoporosis and Related Bone Diseases—National Resource Center, www.osteoporosis.gov or 800-624-BONE (2663).