

## What is osteoporosis?

Osteoporosis is a disease of the bones. It causes you to lose bone mass. Osteoporosis occurs most often in older adults. Women are more likely to have it than men. This is due to several factors. Women have less bone mass than men to begin with. Women also tend to live longer and absorb less calcium. In women, the rate of bone loss speeds up after [menopause](#), when estrogen levels fall. Since the ovaries make estrogen, faster bone loss may occur if both ovaries are removed by surgery.

## Symptoms of osteoporosis

You may not know you have osteoporosis until your symptoms are severe. Signs include frequent broken bones or fractures, [low back pain](#), or a hunched back. You may get shorter over time due to osteoporosis. The condition can cause your vertebrae (the bones in your spine) to collapse. These problems tend to occur after a lot of bone calcium has already been lost.

## What causes osteoporosis?

There are two ways osteoporosis can occur. You can lose too much bone or your body cannot produce enough bone. Some people have both issues. When you're young, your bones are dense and strong. Osteoporosis makes your bones brittle and breakable.

It is natural to lose some bone mass as you age. For most adults, this begins in their mid 20s. Other factors can increase your risk of osteoporosis. Some of these risk factors are out of your control. For others, you can take steps to reduce your risk. Talk to your family doctor about your risk factors.

### Uncontrollable risk factors:

- **Sex:** Osteoporosis is more common in women than men.
- **Age:** The older you are, the greater your chance of having osteoporosis.
- **Race:** Caucasians and Asians are more likely to have osteoporosis.
- **Genetics:** Your risk of osteoporosis is higher if it runs in your family.
- **Menopause:** This period in a woman's life causes physical and hormonal effects. For example, it lowers your estrogen. These changes can increase your risk of osteoporosis. Your risk is even higher if you have early [menopause](#) (before age 45).
- **Body frame:** People who have small, thin frames are more likely to develop osteoporosis.
- **Health:** Certain conditions, such as [cancer](#) or stroke, can lead to osteoporosis.

### Controllable risk factors:

- Lack of calcium and/or vitamin
- Inactive lifestyle or lack of exercise.
- Smoking or tobacco use.
- Alcohol abuse.

- Eating disorders, such as anorexia nervosa.
- Hormonal imbalances. Examples include low estrogen or testosterone, and high thyroid levels.
- Long-term use of certain medicines. Examples include corticosteroids and proton pump inhibitors (PPIs). Corticosteroids treat inflammation, pain, and chronic conditions, such as [asthma](#) and [rheumatoid arthritis](#). PPIs help reduce stomach acid. These medicines can make it hard for your body to absorb calcium and cause osteoporosis.

## How is osteoporosis diagnosed?

Contact your doctor if you have signs of osteoporosis or if it runs in your family. The American Academy of Family Physicians (AAFP) recommends that certain women be screened for osteoporosis. This includes women who are 65 years and older, or have an equal or greater fracture risk. Your doctor can help you assess your fracture risk. Currently, the AAFP does not recommend that men be screened for osteoporosis.

To diagnose the condition, your doctor will do a bone density scan. This is a common test that measures your bone density. It is called a dual energy X-ray absorptiometry (DEXA). The scan often checks your hips, spine, and wrist. These are the most common places to have osteoporosis.

## Can osteoporosis be prevented or avoided?

You cannot always avoid osteoporosis. However, there are some changes you can make to prevent or reduce your risk. These include regular exercise and getting enough calcium and vitamin D. They help keep your bones healthy as you age.

**Calcium.** Women 50 years of age and younger and men 70 years of age and younger should get 1,000 mg of calcium per day. Women older than 50 years of age and men older than 70 years of age should get 1,200 mg of calcium per day. Women who are post-menopausal may need 1,500 mg of calcium per day. It is best to get your calcium from food. Nonfat and low-fat dairy products are good sources of calcium. Other options include dried beans, salmon, spinach, and broccoli. If you don't get enough calcium from the food you eat, your doctor may suggest taking a calcium supplement.

**Vitamin D.** Most people need about 2000 international units (IU) of vitamin D each day. It helps your body absorb calcium. You can get vitamin D from sunlight, food, and supplements. Your skin makes vitamin D when it is exposed to sunlight. However, you should be careful of sun exposure. Too much can cause [skin cancer](#). Your doctor can test your blood to measure your vitamin D level. If your vitamin D level is low, your doctor may suggest taking a supplement.

**Exercise.** Regular exercise helps you build and keep strong bones. This is why it's important to begin an active lifestyle at a young age. However, it's never too late to start exercising. Ask your doctor for tips on how to exercise safely. Try to do a mix of strength training and weight-bearing exercises.

## Osteoporosis treatment

Treatment for osteoporosis starts with changes to your diet and lifestyle. You need to get enough calcium and vitamin D. Your doctor will want you to increase your physical activity. This helps to strengthen your bones and increase your bone mass. Examples of weight-bearing exercises include walking, jogging, and climbing steps. You also should stop smoking and limit alcohol.

If you're at risk for falls, reduce your risk by getting rid of tripping hazards in your home. For example, remove rugs, avoid slick surfaces, and move electrical cords. You can install grab bars in certain places, such as your bathroom and shower. The bars can help you move around more easily and safely.

Your doctor may prescribe medicine(s) to help treat osteoporosis. There are several types and forms.

**Biophosphonates.** This type helps reduce your risk of breaks and fractures. It also increases bone density. It comes in oral (pill) form or intravenous (IV or injection) form. Side effects can include nausea or stomach pain. You may have irritation of the esophagus (the tube that connects your mouth and stomach). Some people cannot take biophosphonates. This includes people who have kidney disease or low levels of calcium in their blood, and women who are pregnant or nursing. Examples of biophosphonates include:

- **Alendronate and risedronate.** These medicines are used to help prevent and treat osteoporosis. They help reduce your risk of fractures by decreasing the rate of bone loss. They are available in pill form. Their most common side effect is an upset stomach.
- This medicine helps to slow bone loss and increase bone density. It is available as a pill or injection. You have 2 options for the pill. You can take it daily or monthly. For the injection, your doctor or nurse will give you a shot every 3 months. Side effects may include lower back or side pain, shortness of breath, tightness in your chest, and bloody or cloudy urine.
- **Zoledronic acid (Reclast).** This medicine is given through IV once a year.

**Denosumab (Prolia).** This is an osteoclast inhibitor. It is a biologic medication used to prevent fragile bone and bone fractures. As a biologic drug, it is man-made and closely resembles proteins, called antibodies, which naturally occur in the body. In this case, it stops a molecule, called RANKL, which normally causes bone turnover. By blocking RANKL, it helps to strengthen bones. Denosumab is generally not viewed as a first line therapy and is usually given to patients when they are unable to take [bisphosphonates](#) or have unsuccessful results.

## Living with osteoporosis

There is no complete cure for osteoporosis. You should work with your doctor to treat the condition. You also can make diet and lifestyle changes to reduce the effects and prevent falls.

## Resources

[American Academy of Family Physicians, Clinical Recommendation for Osteoporosis](#)

[Fracture Risk Assessment \(FRAX\) Tool](#)

[National Institutes of Health, Osteoporosis Basics](#)

[National Osteoporosis Foundation](#)