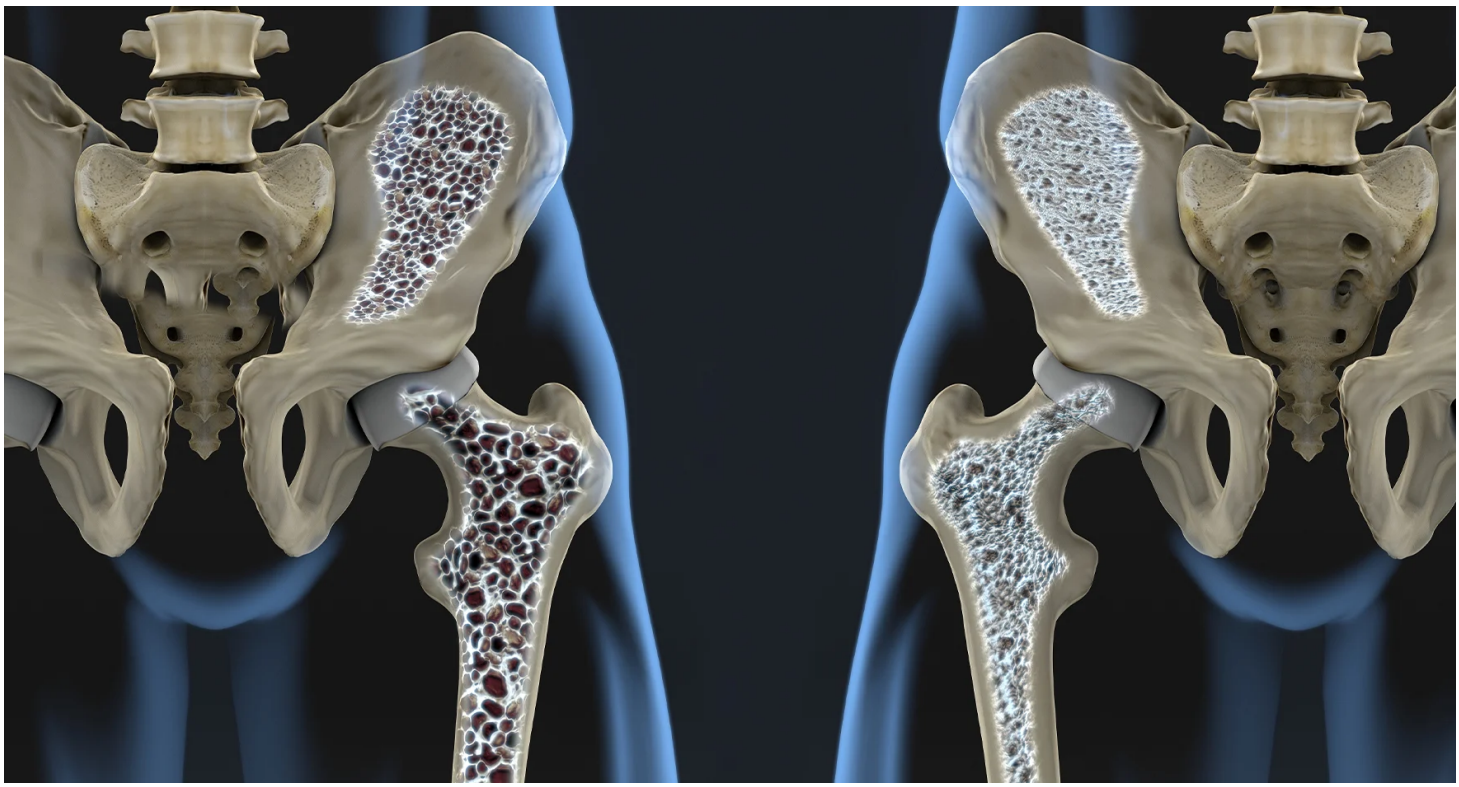


PATIENT RESOURCES

Osteoporosis

January 23, 2022

Osteoporosis refers to weak bones. Osteopenia is another term, sometimes used to describe a less severe condition of weaker bones. Both are “silent” diseases because bone loss often occurs without you knowing it. As a result, bones become weak, and are more likely to break (fracture). Certain medications can cause bone loss if used for a longer time. Use over a short time, such as a few weeks, is usually not a problem. Broken bones can lead to pain and disability. For example, so older people who break a hip may lose their ability to function independently. A

significant percentage of these individuals also tend to have a shorter lifespan after sustaining a hip fracture.

Endocrine Connection

Until about age 30, our body forms enough new bone to replace the bone that is naturally broken down by the body (a process called bone turnover). Our highest bone mass (size and thickness) is reached between the ages of 20 and 25, and it declines after that. After menopause, women begin to lose bone at an even faster rate.

Diagnosis and Prevention

A bone mineral density test called a DXA scan uses very low dose X-ray to check measures of bone quality and strength. The results help predict future risk of fracture and help guide decisions as to whether prescription medications are likely to be beneficial. This test can detect early bone loss, even before the more serious condition of osteoporosis occurs.

Preventing Bone Loss:

- Get enough calcium and vitamin D, either through diet and/or supplements. Aim for at least 1,000–1,200 mg of calcium daily. Vitamin D requirements can vary from 400 IU to 10,000 Iu per day and are best guided by blood test results.
- Stay Active and do weight-bearing exercises
- Avoid smoking
- Avoid alcohol

Recommendations:

- **Adjusting medicines**: If your medicines are known to cause bone loss, discuss with your doctor if you could take the lowest possible dose for the shortest possible time.
- **Osteoporosis medicines**: Some medicines can prevent or treat osteoporosis. The most common type, called a bisphosphonate, is taken as a pill by mouth or as a liquid through a vein. This type of medicine keeps bones strong by helping the bones retain calcium, a key building-block.
- **Calcium**: Good sources of calcium include milk, yogurt, cheese, collard greens, and foods with added calcium, such as cereal and soy drinks.
- **Vitamin D**: Vitamin D, which helps the body absorb calcium, is made in the skin when people spend time in the sun, but amounts obtained this way can vary widely depending on many complex factors. Vitamin D is also found in salmon, shrimp, and milk with added vitamin D. You may also need dietary supplements to get enough calcium and vitamin D.
- **Exercise regularly**: Two kinds of exercise help keep bones strong: weight-bearing exercise, such as walking, running, dancing, and climbing stairs; and exercise that strengthens muscles, such as lifting weights.
- **Choose a healthy lifestyle**: Avoiding smoking can help keep bones strong. Smoking may lower the amount of calcium that the body can absorb. Some studies also show that drinking a lot of alcohol might weaken bones.

Osteoporosis prevention and treatment include exercise, and the right amount of calcium and Vitamin D in your diet. Most adults over age 50 need a total of around 1,200 mg of Calcium daily. The best way to get calcium is through the foods you eat. You may need calcium supplements it

your diet is not providing enough calcium to keep your bones strong. Taking too much calcium, however, can increase the risk of kidney stones and possibly heart disease. Vitamin D helps your body absorb calcium and build it into the bones. Many adults don't have enough vitamin D in their bodies.

Older men and women probably should take vitamin D supplements. The National Osteoporosis Foundation recommends 800 to 1,000 IU (International Units) of vitamin D3 per day, but many individuals need much higher amounts on a daily basis to maintain normal blood levels of Vitamin D. Younger men and women may need to take vitamin D supplements, too. Very high doses of vitamin D, although very rare, can cause serious health problems, so talk with your doctor about how much is right for you.

A well-balanced diet with calcium-rich foods, plus calcium and vitamin D supplements, may not be enough to protect bones and prevent osteoporosis in all people. Everyone's health and family history are different, so the risk of breaking bones differs for each person. Some people may still require prescription medications to treat osteoporosis even though they get enough Calcium and Vitamin D.

▸ Symptoms and Risk Factors

In the United States, 44 million Americans are at risk for osteoporosis. Ten million already have the disease. Women make up 80 percent of cases. Some common risk factors that make it more likely that you will develop osteoporosis include:

- Family history of fractures
- Women, after Menopause

- Women, before Menopause, who have irregular or no menstrual periods (amenorrhea)
- Thin or small body frame
- Caucasian or Asian ethnicity
- Diet low in calcium and/or vitamin D
- Little or no exercise
- Cigarette smoking
- Drinking too much alcohol
- Therapy with a steroid (such as prednisone) for any significant length of time
- Having a condition called "rheumatoid arthritis"

Too much bone loss (osteoporosis) can lead to fractures, which can cause serious health risks, including disability and premature death. Other factors that can lead to osteoporosis include:

- Hormonal conditions (such as overactive thyroid and parathyroid problems, diabetes, abnormally elevated blood Cortisol and Prolactin levels)
- Anorexia nervosa (a condition associated with very poor nutrition and abnormal function of ovaries leading to deficient menstrual cycles)
- Too much exercise or stress that leads to loss of menstrual periods

Several medicines can cause bone loss if used over the long term (several years). Some common ones include:

- Glucocorticoids, also called steroids, such as cortisone and prednisone. They are used to treat arthritis, asthma, lupus, multiple sclerosis, and other conditions.

- Some medicines such as phenytoin and phenobarbital, which are used to treat epilepsy.
- Gonadotropin-releasing hormone agonists (GnRH agonists), such as goserelin acetate and leuprolide acetate. They are used to treat endometriosis, prostate cancer, or female infertility.
- Aromatase inhibitors, such as anastrozole, exemestane, and letrozole. They are used to treat breast cancer.

Some people who take thyroid hormone worry about bone loss. The doses of thyroid hormone used to treat hypothyroidism (underactive thyroid) don't harm bone and shouldn't be cause for concern. Only high doses, used for thyroid cancer treatment, can cause bone loss.

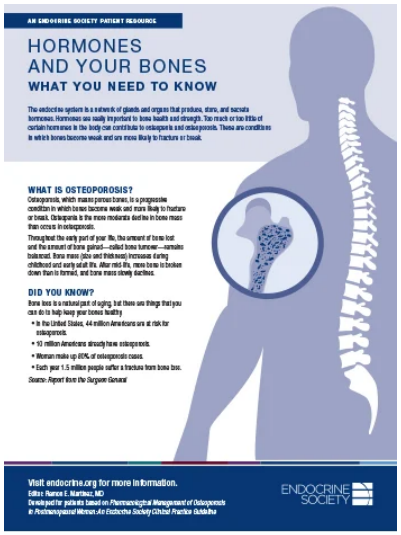
High doses or long-term use of medicines called proton pump inhibitors (PPIs) can raise the risk of bone loss. PPIs, such as esomeprazole, lansoprazole, and omeprazole, are used for GERD (acid reflux), peptic ulcer, or heartburn. However, getting enough calcium and vitamin D may be enough to lower the risk.

Experts don't know yet whether selective serotonin reuptake inhibitors (SSRIs), such as fluoxetine and escitalopram, increase fracture risk. Some studies show a small negative effect on bone, but others do not. SSRIs are used for depression and obsessive-compulsive disorder. Talk to your doctor if you take an SSRI and are concerned about bone loss.

Questions For Your Healthcare Provider

- Am I at risk for osteoporosis?

- Do I need a bone density test?
- How often should I have a bone density test?
- Should I take calcium and vitamin D supplements? How much do I need?
- What should I do to protect my bones?
- What else can I do to keep my bones strong?
- Do any of my medicines cause bone loss?
- Are there different medicines I can take?
- Should I be taking medicine to protect my bones?
- Should I see an endocrinologist?



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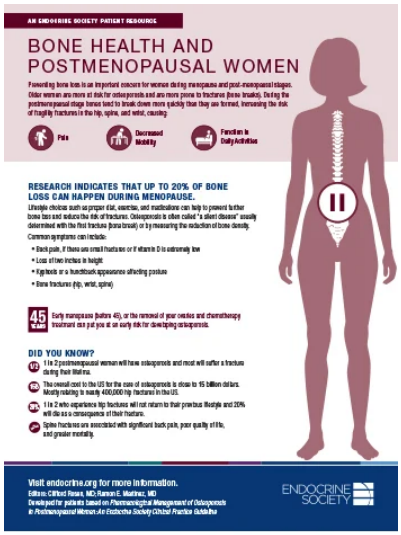

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