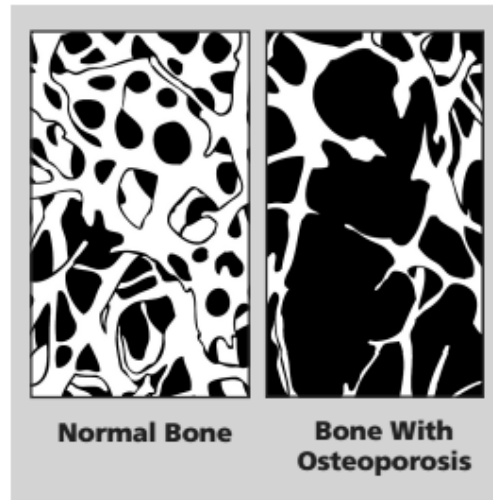


Osteoporosis

Adapted from NIA's "Osteoporosis: The Bone Thief"

Osteoporosis is a disease that weakens bones to the point where they break easily—most often bones in the hip, backbone (spine), and wrist. Osteoporosis is called the “silent disease”—because you may not notice any changes until a bone breaks. All the while, though, your bones have been losing strength for many years.

Bone is living tissue. To keep bones strong, your body breaks down old bone and replaces it with new bone tissue. As people enter their 40s and 50s, more bone may be broken down than is replaced. A close look at the inside of bone shows something like a honeycomb. When you have osteoporosis, the spaces in this honeycomb grow larger. And the bone that forms the honeycomb gets smaller. The outer shell of your bones also gets thinner. All of this makes your bones weaker.



Who Has Osteoporosis?

Ten million Americans have osteoporosis. They are mostly women, but men also have this disease. In general, the risk of osteoporosis grows as you get older. You may be at greater risk for osteoporosis if you:

- Have a family history of broken bones or osteoporosis
- Have broken a bone as an adult
- Do not get enough calcium or vitamin D
- Get too little exercise
- Had extended bed rest
- Used certain medicines for a long time
- Have a small body frame

Osteoporosis in Women

At the time of menopause, women may lose bone quickly for several

years. After that, the loss slows down but continues. Other women at great risk include those who are of European or Asian ancestry, had surgery to remove their ovaries before their periods stopped, or had early menopause.

Osteoporosis in Men

In men, the loss of bone mass is slower. But, by age 65 or 70, men and women are losing bone at the same rate. Experts don't know as much about this disease in men as they do in women. However, many of the things that put men at risk are the same as those for women. Men with low testosterone levels are also at higher risk.

Older men who break a bone easily or are at risk for osteoporosis should talk with their doctors about testing and treatment.

What is Osteopenia?

Around 34 million Americans have osteopenia. Whether your doctor calls it osteopenia or just says you have low bone mass, consider it a warning. Bone loss has started, but you can still take action to keep your bones strong and maybe prevent osteoporosis later in life. That way you will be less likely to break a wrist, hip, or vertebrae (bone in your spine) when you are older.

Can My Bones Be Tested?

For some people the first sign of osteoporosis is to realize they are getting shorter or to break a bone easily. If you are a woman age 65 or older and are not already known to have osteoporosis, a bone density test called a DXA test (dual-energy x-ray absorptiometry) is recommended to assess your risk of fractures. If you are a man, your doctor may recommend a DXA based on your specific health conditions. The DXA test gives you important information to help you understand your risk for a fracture or broken bone. It could show that you have normal bone density. Or, it could show that you have low bone mass or even osteoporosis.

How Can I Keep My Bones Strong?

There are things you should do at any age to prevent weakened bones. Eating foods that are rich in calcium and vitamin D is important. So is including regular weight-bearing exercise in your lifestyle. Those are the best ways to keep your bones strong and healthy.

Calcium. Getting enough calcium all through your life helps to build and keep strong bones. Women over age 50 need 1,200 milligrams (mg) of calcium every day. Men over age 70 need 1,200 mg. Foods that are high in calcium are the best source. For example, eat low-fat dairy foods, canned fish with soft bones such as

salmon, and some dark-green leafy vegetables. Check the labels on foods like orange juice, breads, and cereals to find those with calcium added. If you think you aren't getting enough calcium in your diet, check with your doctor first. He or she may tell you to try a calcium supplement. Calcium carbonate and calcium citrate are two common forms. Too much calcium can cause problems for some people so be careful. On most days, you should not get more than 2,000 mg of total calcium. That includes calcium from all sources—foods, drinks, and supplements.

Vitamin D. Your body uses vitamin D to absorb calcium. Most people's bodies are able to make enough vitamin D if they are out in the sun without sunscreen for 10 to 15 minutes at least twice a week. You can also get vitamin D from eggs, fatty fish, and cereal and milk fortified with vitamin D. If you think you are not getting enough vitamin D, check with your doctor. Each day you should have 800 International Units (IU) if you are over age 70. As with calcium, be careful. More than 4,000 IU of vitamin D each day may cause side effects.

Exercise. Your bones and muscles will be stronger if you are physically active. Weight-bearing exercises, done three to four times a week, are best for preventing osteoporosis. Walking, jogging, playing tennis, and dancing are examples of weight-

bearing exercises. Try some strengthening and balance exercises too. They may help you avoid falls, which could cause a broken bone.

Medicines. Some common medicines can make bones weaker. These include a type of steroid drug called glucocorticoids used for arthritis and asthma, some antiseizure drugs, certain sleeping pills, and some cancer drugs. An overactive thyroid gland or using too much thyroid hormone for an underactive thyroid can also be a problem. If you are taking these medicines, talk to your doctor about what you can do to help protect your bones.

Lifestyle. People who smoke have an increased chance of breaking a bone. For this and many other health reasons, stop smoking. Limit how much alcohol you drink. Too much alcohol can put you at risk for falling and breaking a bone.

What Can I Do For My Osteoporosis?

Treating osteoporosis means stopping the bone loss and rebuilding bone to prevent breaks. Diet and exercise can help make your bones stronger. But, they may not be enough if you have lost a lot of bone density. There are also several medicines to think about. Some will slow your bone loss, and others can help rebuild bone. Talk with your

doctor to see if one of these might work for you:

Bisphosphonates. These medicines stop the breakdown of bone and increase bone density. They can make it less likely that you will break a bone, most of all in your spine, hip, or wrist. Side effects may include nausea, heartburn, and stomach pain. A few people have muscle, bone, or joint pain while using these medicines. These pills must be taken in a certain way—when you first get up, before you have eaten, and with a full glass of water. You should not lie down, eat, or drink for at least one-half hour after taking the drug. Even if you follow the directions closely, these drugs can cause serious digestive problems, so be aware of any side effects. These pills are available in once-daily, once-a-week, and once-a-month versions. Some bisphosphonates are given by injection once every 3 months or once a year.

Parathyroid Hormone (PTH). Also called teriparatide, this shot is given daily for up to 2 years to postmenopausal women and to men who are at high risk for broken bones. It improves bone density in the spine and hip. Common side effects include nausea, dizziness, and leg cramps.

Denosumab. A shot given twice a year, this treatment is for postmenopausal women and men who are at high risk for broken bones.

It lessens the risk of fractures in the spine, wrist, and hip. Common side effects include pain in the back, arms, legs, and muscles; high cholesterol; and bladder infections.

Raloxifene. This drug is used to prevent and treat osteoporosis in women. It is a SERM (selective estrogen receptor modulator). It prevents bone loss and spine fractures but may cause hot flashes or increase the risk of blood clots in some women.

Estrogen. Doctors sometimes prescribe this female hormone to women around the time of menopause to treat symptoms like hot flashes or vaginal dryness. Because estrogen also slows bone loss and increases bone mass in your spine and hip, it can be used to prevent osteoporosis. But, estrogen use is thought to be risky for some women. Talk to your doctor. Ask about the benefits, risks, and side effects, as well as other possible treatments for you.

Can I Avoid Falling?

When your bones are weak, a simple fall can cause a broken bone. This can mean a trip to the hospital and maybe surgery. It might also mean being laid up for a long time, especially in the case of a hip fracture. So, it is important to prevent falls. Some things you can do:

- Make sure you can see and hear well. Use your glasses or a hearing aid if needed.
- Ask your doctor if any of the drugs you are taking can make you dizzy or unsteady on your feet.
- Use a cane or walker if your walking is unsteady.
- Wear rubber-soled and low-heeled shoes.
- Make sure all the rugs and carpeting in your house are firmly attached to the floor, or don't use them.
- Keep your rooms well lit and the floor free of clutter.
- Use nightlights.

You can find more suggestions in the National Institute on Aging's Falls and Fractures AgePage, available from the National Institute on Aging Information Center listed in For More Information.



Here are some helpful resources:

Food and Drug Administration
1-888-463-6332 (toll-free)
www.fda.gov

National Osteoporosis Foundation
1-800-231-4222 (toll-free)

www.nof.org

National Institutes of Health
Osteoporosis and Related Bone
Diseases—National Resource Center
1-800-624-2663 (toll-free) 1-202-
466-4315 (TTY) www.bones.nih.gov

National Library of Medicine
MedlinePlus
www.medlineplus.gov
*For more information on health and
aging, contact:*

National Institute on Aging
Information Center
1-800-222-2225 (toll-free)
1-800-222-4225 (TTY/toll-free)
www.nia.nih.gov
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To sign up for regular email alerts
about new publications and other
information from the NIA, go to
www.nia.nih.gov/health.

Visit www.nihseniorhealth.gov, a
senior friendly website from the
National Institute on Aging and the
National Library of Medicine. This
website has health and wellness
information for older adults. Special
features make it simple to use. For
example, you can click on a button to
make the type larger.

For tips on exercise and physical activity, visit Go4Life® at www.nia.nih.gov/Go4Life.