National Institute on Aging

AgePage

Osteoporosis: The Bone Thief

Helen grew up on a farm in the Midwest. She drank lots of milk as a child. She also walked a lot. After graduating from high school, she got married and found a job. Family and work, she said, kept her too busy to exercise. Helen went through menopause at age 47. At 76, she was enjoying retirement — traveling and working in her garden. But then she slipped on a small rug in her kitchen and broke her hip. After Helen recovered, she needed a cane to walk, and gardening was a lot harder to enjoy.

Helen has osteoporosis, but she didn't know it before she fell. 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 had 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.

Normal Bone **Bone With Osteoporosis**

Who Has Osteoporosis?

Ten million Americans have osteoporosis. They are mostly women, but men also have this disease. White and Asian women are most likely to have osteoporosis. Other women at great risk include those who:

- Have a family history of broken bones or osteoporosis
- Have broken a bone while an adult
- Had surgery to remove their ovaries before their periods stopped
- Had early menopause
- Have not gotten enough calcium throughout their lives
- Had extended bed rest
- Used certain medicines for a long time
- Have a small body frame

The risk of osteoporosis grows as you get older. At the time of menopause, women may lose bone quickly for several years. After that, the loss slows down but continues. 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.

What Is Osteopenia?

Around 34 million more 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, like Helen did. Don't wait until that happens to see if you have osteoporosis. You can have a bone density test to find out how strong your bones are. Your doctor may suggest a type of bone density test called a DXA test (dual-energy x-ray absorptiometry) if you are a woman age 65 or older or if he or she thinks you are at risk for osteoporosis.

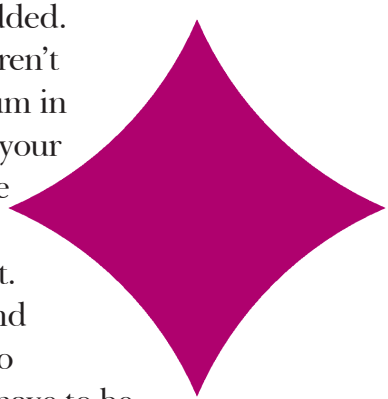
The DXA test gives you important information to help you understand your risk for a fracture or broken bone. It could show that you have normal bone density. Or, it could show that you have low bone mass or even osteoporosis.

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 50 need 1,200 mg (milligrams) of calcium every day. Men need 1,000 mg between ages 51 and 70 and 1,200 mg after age 70. 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. You have to be careful though. Too much calcium can cause problems for some people. 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:

- 600 IU (International Units) if you are age 51 to 70
- 800 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, treatments for endometriosis, 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.

Raloxifene. This drug is used to prevent and treat osteoporosis. 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 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.

Calcitonin. This hormone increases bone mass in your spine and can lessen the pain of fractures already there. It comes in two forms—a shot or nasal spray. The shot may cause an allergic reaction and has some side effects like nausea, diarrhea, or redness in your face, ears, hands, or feet. The only side effect of the nasal spray is a runny nose in some people. Calcitonin is most useful for women who are at least 5 years past menopause.

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 for postmenopausal women with osteoporosis 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.

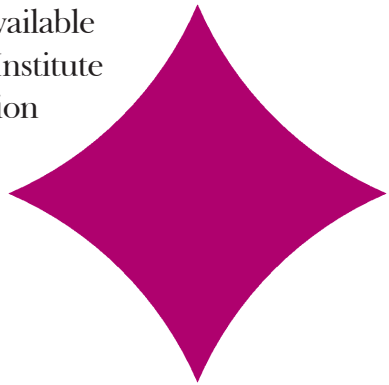
Can I Avoid Falling?

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 are:

- 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 have 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*.



Do Men Have Osteoporosis?

Osteoporosis is not just a woman's disease. Not as many men have it as women do—maybe because most men start with more bone density. As they age, men lose bone density more slowly than women. But, men need to be aware of osteoporosis.

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:

- Family history
- Not enough calcium or vitamin D
- Too little exercise
- Low levels of testosterone
- Too much alcohol
- Taking certain drugs
- Smoking

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

For More Information

Here are some helpful resources:

Food and Drug Administration
10903 New Hampshire Avenue
Silver Spring, MD 20993-0002
1-888-463-6332 (toll-free)
www.fda.gov

National Institutes of Health
Osteoporosis and Related Bone Diseases—National Resource Center
2 AMS Circle
Bethesda, MD 20892-3676
1-800-624-2663 (toll-free)
1-202-466-4315 (TTY)
www.bones.nih.gov

National Library of Medicine
MedlinePlus
www.medlineplus.gov

National Osteoporosis Foundation
1150 17th Street, NW, Suite 850
Washington, DC 20036
1-800-231-4222 (toll-free)
1-202-223-2226
www.nof.org

For more information on health and aging, contact:

National Institute on Aging Information Center
P.O. Box 8057
Gaithersburg, MD 20898-8057
1-800-222-2225 (toll-free)
1-800-222-4225 (TTY/toll-free)
www.nia.nih.gov
www.nia.nih.gov/espanol

To sign up for regular email alerts about new publications and other information from the NIA, go to *www.nia.nih.gov/health*.

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

National Institute on Aging

National Institutes of Health
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