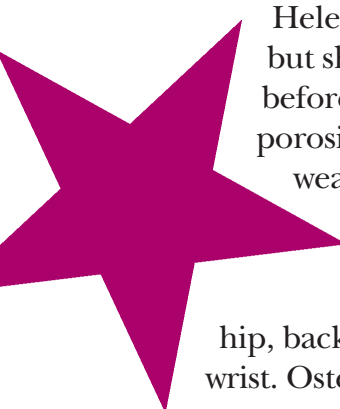


AgePage

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 kept her too busy to exercise. Helen went through menopause at age 47. At age 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 had 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”—you may not notice any changes until a bone breaks. But your bones have been losing strength for many years.

Bone is living tissue. To keep bones strong, your body is always breaking down old bone and replacing it with new bone tissue. As people enter their forties and fifties, more bone is 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 this loss makes your bones weaker.

Who Has Osteoporosis?

Millions of Americans have osteoporosis. They are mostly women, but more than 2 million 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 the disease,
- ◆ 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, or
- ◆ 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?

Millions 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. Don't wait until that happens to see if you have osteoporosis. You can have a *bone density* test to find out how solid your bones are. Your doctor may suggest a type of bone density test called a DEXA-scan

(dual-energy x-ray absorptiometry) if you are age 65 or older or if he or she thinks you are at risk for osteoporosis.

The DEXA-scan tells what your risk for a fracture or broken bone is. 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. These 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. People over age 50 need 1,200 mg of calcium every day. 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, dark green leafy vegetables, and calcium-fortified foods like orange juice, breads, and cereals.

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 2,500 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 for a total of 20 minutes every day. 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:

- ◆ 400 IU (international unit) if you are age 51 to 70
- ◆ 600 IU if you are over age 70.

As with calcium, be careful. More than 2,000 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. Smoking increases loss of bone mass. 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 slow 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 drugs 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 are available in once-daily, once-a-week, and once-a-month versions.
- ◆ **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. Estrogen also slows bone loss and increases bone mass in your spine and hip, so women can use it to prevent or treat 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 5 years past menopause.
- ◆ **Parathyroid hormone (PTH).** Also called teriparatide, this shot is given daily for up to two years to postmenopausal women and 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.

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 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 *Preventing Falls and Fractures* Age Page, available from the National Institute on Aging Information Center listed in the resource section.

Do Men Have Osteoporosis?

Osteoporosis is not just a woman's disease. Not as many men have

it as women do, but men need to worry about it as well. This may be because most men start with more bone density than women and lose it more slowly as they grow older.

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. Men can use bisphosphonates or parathyroid hormone to increase bone density. Testosterone supplements may help some men with low levels of testosterone.

Resources

National Osteoporosis Foundation

1232 22nd Street, NW
Washington, DC 20037-1292
202-223-2226
www.nof.org

National Institutes of Health Osteoporosis and Related Bone Diseases~National Resource Center

2 AMS Circle
Bethesda, MD 20892-3676
800-624-BONE (800-624-2663)
202-466-4315 (TTY)
www.niams.nih.gov/bone

National Library of Medicine MedlinePlus

In Health Topics, go to:
“Osteoporosis”
“Falls”
www.medlineplus.gov

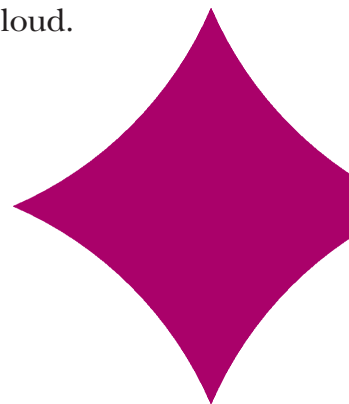
The National Institute on Aging has information on health and aging, including a booklet and video about exercise for older people and several helpful *Age Pages*. Contact:

National Institute on Aging Information Center

P.O. Box 8057
Gaithersburg, MD 20898-8057
800-222-2225 (toll-free)
800-222-4225 (TTY/toll-free)
www.nia.nih.gov

To order publications (in English or Spanish) or sign up for regular email alerts, go to www.nia.nih.gov/HealthInformation.

Visit NIHSeniorHealth.gov (www.nihseniorhealth.gov), a senior-friendly website from the National Institute on Aging and the National Library of Medicine. This simple-to-use website features popular health topics for older adults. It has large type and a talking function that “reads” the text out loud.



National Institute on Aging

U.S. Department of Health and
Human Services
Public Health Service
National Institutes of Health

December 2004
Updated 2006

