



NIH OSTEOPOROSIS AND RELATED BONE DISEASES NATIONAL RESOURCE CENTER

A Service Provided by the National Institutes of Health

Bone Health for Life Easy-to-Read Information for Patients and Families

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Why Does Bone Health Matter?

Our bones support us and allow us to move. They protect our brain, heart, and other organs from injury. Our bones also store minerals such as calcium and phosphorous, which help keep our bones strong, and release them into the body when we need them for other uses.

There are many things we can do to keep our bones healthy and strong. Eating foods rich in calcium and vitamin D, getting plenty of exercise, and having good health habits help keep our bones healthy.

But if we don't eat right and don't get enough of the right kinds of exercise, our bones can become weak and even break. Broken bones and fractures can be painful and sometimes need surgery to heal. They can also cause long-lasting health problems.

But the good news is that it is never too late to take care of your bones.

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What Is Osteoporosis?

There are many kinds of bone diseases. The most common one is osteoporosis (AH-stee-oh-por-OH-sis). With osteoporosis, our bones become weak and are more likely to break. People with osteoporosis most often break bones in the wrist, spine, and hip.

Our bones are alive. Every day, our body breaks down old bone and puts new bone in its place. As we get older, our bones break down more bone than they put back. It is normal to lose some bone as we age. But, if we do not take steps to keep our bones healthy, we can lose too much bone and get osteoporosis.

Many people have weak bones and don't even know it. That's because bone loss often happens over a long period of time and doesn't hurt. For many people, a broken bone is the first sign that they have osteoporosis.

People with osteoporosis most often break bones in the wrist, spine, and hip.

Who Gets Osteoporosis?

There are many things that can increase your chances of getting osteoporosis. These things are called "risk factors." Some risk factors are things you can control, and some things are outside of your control.

Risk factors you can control

- **Diet.** Getting too little calcium can increase your chances of getting osteoporosis. Not getting enough vitamin D can also increase your risk for the disease. Vitamin D is important because it helps the body use the calcium in your diet.
- **Physical activity.** Not exercising and not being active for long periods of time can increase your chances of getting osteoporosis. Like muscles, bones become stronger – and stay stronger – with regular exercise.
- **Body weight.** Being too thin makes you more likely to get osteoporosis.
- **Smoking.** Smoking cigarettes can keep your body from using the calcium in your diet. Also, women who smoke go through menopause earlier than those who don't smoke. These things can increase your risk for osteoporosis.
- **Alcohol.** People who drink a lot are more likely to get osteoporosis.
- **Medicines.** Certain medicines can cause bone loss. These include a type of medicine called glucocorticoids (gloo-ko-KOR-ti-koids). Glucocorticoids are given to people who have arthritis, asthma, and many other diseases. Some other medicines that prevent seizures and that treat endometriosis (en-do-me-tree-O-sis), a disease of the uterus, and cancer can cause bone loss, too.

Risk factors you cannot control

- **Age.** Your chances of getting osteoporosis increase as you get older.
- **Gender.** You have a greater chance of getting osteoporosis if you are a woman. Women have smaller bones than men and lose bone faster than men do because of hormone changes that happen after menopause.
- **Ethnicity.** White women and Asian women are most likely to get osteoporosis. Hispanic women and African American women are also at risk, but less so.
- **Family history.** Having a close family member who has osteoporosis or has broken a bone may also increase your risk.

Am I Really at Risk?

Because more women get osteoporosis than men, many men think they are not at risk for the disease. Many Hispanic and African American women are not concerned about their bones either. They believe that osteoporosis is only a problem for white women. However, it is a real risk for older men and women from all backgrounds.

Also, people from certain ethnic backgrounds may be more likely to have other health problems that increase their risk for bone loss. If you have one of the following health problems, talk to your doctor about your bone health:

- Alcoholism
- Anorexia nervosa
- Asthma/allergies
- Cancer
- Cushing's disease
- Diabetes
- Hyperparathyroidism
- Hyperthyroidism
- Inflammatory bowel disease
- Lactose intolerance
- Lupus
- Liver or kidney disease
- Lung disease
- Multiple sclerosis
- Rheumatoid arthritis

How Do I Know if I Have Osteoporosis?

Since osteoporosis does not have any symptoms until a bone breaks, it is important to talk to your doctor about your bone health. If your doctor feels that you are at risk for osteoporosis, he or she may order a bone density test. A bone density test measures how strong – or dense – your bones are and whether you have osteoporosis. It can also tell you what your chances are of breaking a bone. Bone density tests are quick, safe, and painless.

What Can I Do to Make My Bones Healthier?

It is never too early or too late to take care of your bones. The following steps can help you improve your bone health:

- Eat a well-balanced diet rich in calcium and vitamin D. Good sources of calcium include low-fat dairy products, and foods and drinks with added calcium. Good sources of vitamin D include egg yolks, saltwater fish, liver, and milk with vitamin D. Vitamin D is also made by the skin when people are in the sun, but not all people can get enough vitamin D this way. Some people may need to take nutritional supplements in order to get enough calcium and vitamin D. The chart below shows how much calcium and vitamin D you need each day. Fruits and vegetables also contribute other nutrients that are important for bone health.

Sources of Calcium:

- Tofu (calcium fortified)
- Soy milk (calcium fortified)
- Green leafy vegetables (e.g., broccoli, brussels sprouts, mustard greens, kale)
- Chinese cabbage or bok choy
- Beans/legumes
- Tortillas
- Sardines/salmon with edible bones
- Shrimp
- Orange juice (calcium fortified)
- Pizza
- Bread
- Nuts/almonds
- Dairy products (e.g., milk, cheese, yogurt)

Calcium Chart

Your Age	How Much Calcium You Need Each Day
0 to 6 months	210 mg
7 to 12 months	270 mg
1 to 3 years	500 mg
4 to 8 years	800 mg
9 to 18 years	1,300 mg
19 to 50 years	1,000 mg
Over 50 years	1,200 mg

Vitamin D Chart

Your Age	How Much Vitamin D You Need Each Day
0 to 50 years	200 IU
51 to 70 years	400 IU
Over 70 years	600 IU

- Get plenty of physical activity. Like muscles, bones become stronger with exercise. The best exercises for healthy bones are strength-building and weight-bearing, like walking, climbing stairs, lifting weights, and dancing. Try to get 30 minutes of

exercise each day.

- Live a healthy lifestyle. Don't smoke, and, if you choose to drink alcohol, don't drink too much.
- Talk to your doctor about your bone health. Go over your risk factors with your doctor and ask if you should get a bone density test. If you need it, your doctor can order medicine to help prevent bone loss and reduce your chances of breaking a bone.
- Prevent falls. Falling down can cause a bone to break, especially in someone with osteoporosis. But most falls can be prevented. Check your home for dangers like loose rugs and poor lighting. Have your vision checked. Increase your balance and strength by walking every day and taking classes like Tai Chi, yoga, or dancing.

Will I Need to Take Medicine for My Bones?

There are medicines to help prevent and treat osteoporosis. Your doctor may want you to take medicine if your bone density test shows that your bones are weak and that you have a good chance of breaking a bone in the future. Your doctor is more likely to order medicine if you have other health concerns that increase your risk for breaking a bone, such as a tendency to fall or a low body weight.

How Can I Join a Research Study?

The National Institutes of Health (NIH) conducts research studies all over the country in which people take part as volunteers. These studies help uncover new risk factors and treatments for osteoporosis and other diseases.

There are many benefits to being part of a research study, such as getting related medical care at no charge and, in some cases, help with travel and other costs. Also, study volunteers are seen by a team of experts and are often among the first to receive new treatments ahead of the general public. Many volunteers take part in the research simply because they want to help others with the same disease, both today and in the future.

You can learn more about joining an osteoporosis research study by going to the Web site www.ClinicalTrials.gov.

Where Else Can I Go for Help?

For more information on osteoporosis and bone health, contact any of the following organizations:

■ NIH Osteoporosis and Related Bone Diseases ~ National Resource Center

2 AMS Circle
Bethesda, MD 20892-3676
Phone: 202-223-0344
Toll Free: 800-624-BONE
TTY: 202-466-4315
Fax: 202-293-2356
Email: NIAMSBoneInfo@mail.nih.gov
Website: http://www.niams.nih.gov/Health_Info/bone/default.asp

The NIH Osteoporosis and Related Bone Diseases – National Resource Center provides patients, health professionals, and the public with an important link to resources and information on osteoporosis and other metabolic bone diseases.

■ National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) Information Clearinghouse National Institutes of Health

1 AMS Circle
Bethesda, MD 20892-3675
Phone: 301-495-4484
Toll Free: 877-22-NIAMS (226-4267)
TTY: 301-565-2966
Fax: 301-718-6366
Email: NIAMSinfo@mail.nih.gov
Website: <http://www.niams.nih.gov>

NIAMS, a part of the Department of Health and Human Services' National Institutes of Health (NIH), leads the Federal Government research effort to support research into and disseminate information about the causes, treatment, and prevention of diseases of bones, muscles, joints, and skin. The National Institute of Arthritis and Musculoskeletal and Skin Diseases

Information Clearinghouse is a public service sponsored by NIAMS.

■ **National Osteoporosis Foundation (NOF)**

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Washington, DC 20037-1202
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Toll Free: 800-231-4222
Email: patientinfo@nof.org
Website: <http://www.nof.org>

The National Osteoporosis Foundation (NOF) is a nonprofit, voluntary health organization dedicated to promoting lifelong bone health in order to reduce the widespread prevalence of osteoporosis and associated fractures, while working to find a cure for the disease through programs of research, education, and advocacy. NOF provides information and resources on osteoporosis for patients and the public. It also provides resources and professional relations and education programs on the disease for health professionals.

For Your Information

This publication contains information about medications used to treat the health condition discussed here. When this booklet was printed, we included the most up-to-date (accurate) information available. Occasionally, new information on medication is released.

For updates and for any questions about any medications you are taking, please contact the U.S. Food and Drug Administration at 1-888-INFO-FDA (1-888-463-6332, a toll-free call) or visit their Web site at www.fda.gov.

■ **U.S. Food and Drug Administration**

Toll Free: 888-INFO-FDA (888-463-6332)
Website: <http://www.fda.gov/>

The mission of the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), a part of the Department of Health and Human Services' National Institutes of Health (NIH), is to support research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases; the training of basic and clinical scientists to carry out this research; and the dissemination of information on research progress in these diseases. The National Institute of Arthritis and Musculoskeletal and Skin Diseases Information Clearinghouse is a public service sponsored by NIAMS that provides health information and information sources. Additional information can be found on the NIAMS Web site at www.niams.nih.gov.

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Additional copies of this booklet are available from the National Institute of Arthritis and Musculoskeletal and Skin Diseases, NIAMS/National Institutes of Health, 1 AMS Circle, Bethesda, MD 20892-3675, and on the NIAMS Web site at www.niams.nih.gov.

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Website: http://www.niams.nih.gov/Health_Info/bone/default.asp

The NIH Osteoporosis and Related Bone Diseases ~ National Resource Center provides patients, health professionals, and the public with an important link to resources and information

on metabolic bone diseases. The mission of NIH ORBD~NRC is to expand awareness and enhance knowledge and understanding of the prevention, early detection, and treatment of these diseases as well as strategies for coping with them.

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