



What People With Lactose Intolerance Need to Know About Osteoporosis

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

2 AMS Circle
Bethesda, MD 20892-3676

Tel: 800-624-BONE or
202-223-0344
Fax: 202-293-2356
TTY: 202-466-4315

Internet: www.niams.nih.gov/bone
E-mail: [NIAMSBoneInfo@
mail.nih.gov](mailto:NIAMSBoneInfo@mail.nih.gov)

The NIH Osteoporosis and Related Bone Diseases ~ National Resource Center is supported by the National Institute of Arthritis and Musculoskeletal and Skin Diseases with contributions from the National Institute on Aging, the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development, the National Institute of Dental and Craniofacial Research, the National Institute of Diabetes and Digestive and Kidney Diseases, the NIH Office of Research on Women's Health, and the HHS Office on Women's Health.

The National Institutes of Health (NIH) is a component of the U.S. Department of Health and Human Services (HHS).



What Is Lactose Intolerance?

Lactose intolerance is a common problem. It happens when your body does not have enough *lactase*, which is an enzyme produced in the small intestine. Lactase is necessary to digest lactose – the natural sugar found in milk and other dairy products. In the intestines, undigested lactose leads to the buildup of gas. Within 30 minutes to 2 hours after eating dairy products containing lactose, people with lactose intolerance start to develop stomach cramps and diarrhea. These two symptoms must be present for a person to be diagnosed with lactose intolerance.

Between 30 and 50 million Americans are lactose intolerant. The disorder is more common in some ethnic groups than in others. For example, up to 75 percent of all adult African Americans and Native Americans and 90 percent of Asian Americans are considered to be lactose intolerant. In contrast, people of northern European descent are less likely to be lactose intolerant.

What Is Osteoporosis?

Osteoporosis is a condition in which bones become less dense and more likely to fracture. Fractures from osteoporosis can result in pain and disability. Osteoporosis is a major health threat for an estimated 44 million Americans, 68 percent of whom are women.

Risk factors for developing osteoporosis include:

- thinness or small frame
- family history of the disease
- being postmenopausal and particularly having had early menopause
- abnormal absence of menstrual periods (amenorrhea)

- prolonged use of certain medications, such as those used to treat lupus, asthma, thyroid deficiencies, and seizures
- low calcium intake
- lack of physical activity
- smoking
- excessive alcohol intake.

Osteoporosis often can be prevented. It is known as a silent disease because if undetected, bone loss can progress for many years without symptoms until a fracture occurs. Osteoporosis has been called a childhood disease with old age consequences because building healthy bones in youth helps prevent osteoporosis and fractures later in life. However, it is never too late to adopt new habits for healthy bones.

The Link Between Lactose Intolerance and Osteoporosis

One of the primary risk factors for developing osteoporosis is not getting enough calcium in your diet. Because dairy products are a major source of calcium, you might assume that people with lactose intolerance who avoid dairy products could be at increased risk for osteoporosis. However, research exploring the role of lactose intolerance in calcium intake and bone health has produced conflicting results. Some studies have found that people with lactose intolerance are at higher risk for osteoporosis, but other studies have not. Regardless, people with lactose intolerance should follow the same basic strategies to build and maintain healthy bones and should pay extra attention to getting enough calcium.

Bone Health Strategies

Calcium and vitamin D: A well-balanced diet rich in calcium and vitamin D is important for healthy bones. Besides low-fat dairy products, good sources of calcium include dark green, leafy vegetables and calcium-fortified foods and beverages. Many low-fat and low-sugar sources of calcium are available. Also, supplements can help people with lactose intolerance meet their daily requirements of calcium and other important nutrients. The Institute of Medicine recommends a daily calcium intake of 1,000 mg (milligrams) for men and women, increasing to 1,200 mg for those age 50 and older.

Studies have shown that people who have at least some intestinal lactase can increase their tolerance to lactose by *gradually* introducing dairy products into the diet. These people can often eat small portions of dairy products without developing symptoms. The key for them is to consume small amounts of dairy products at a time so that there is enough lactase available in the intestine to digest the lactose. When the lactose is fully digested, symptoms do not develop.

Also, certain sources of dairy products may be easier for people with lactose intolerance to digest. For example, ripened cheese may contain up to 95 percent less lactose than whole milk. Yogurt containing active cultures also lessens gastrointestinal symptoms. A variety of lactose-reduced dairy products, including milk, cottage cheese, and processed cheese slices, are also available. Lactose replacement pills and liquid are also available to help with the digestion of dairy products.

Vitamin D plays an important role in calcium absorption and bone health. It is synthesized in the skin through exposure to sunlight. Food sources of vitamin D include egg yolks, fish oil, saltwater fish, liver, fortified margarine, and breakfast cereals. Many people obtain enough vitamin D by getting about 15 minutes of sunlight each day; others, especially those who are older or housebound, may need vitamin D supplements to achieve the recommended intake of 400 to 600 IU (International Units) each day.

Exercise: Like muscle, bone is living tissue that responds to exercise by becoming stronger. The best activity for your bones is weight-bearing exercise that forces you to work against gravity. Some examples include walking, climbing stairs, weight training, and dancing. Regular exercise, such as walking, may help prevent bone loss and, by enhancing balance and flexibility, can reduce the likelihood of falling and breaking a bone.

Healthy lifestyle: Smoking is bad for bones as well as the heart and lungs. Women who smoke tend to go through menopause earlier, which triggers earlier bone loss. In addition, smokers may absorb less calcium from their diets. Alcohol also can have a negative effect on bone health. Those who drink heavily are more prone to bone loss and fracture because of both poor nutrition and increased risk of falling.

Bone density testing: A bone mineral density (BMD) test measures bone density in various parts of the body. This safe and painless test can detect osteoporosis before a bone fracture occurs and can predict one's chances of fracturing in the future. People with lactose intolerance should talk to their doctors about whether they might be candidates for a BMD test, which can help determine whether medication should be considered.

Medication: Like lactose intolerance, osteoporosis has no cure. However, medications are available to prevent and treat osteoporosis. The Food and Drug Administration has approved several medications (alendronate, risedronate, ibandronate, zoledronic acid, raloxifene, calcitonin, teriparatide, and estrogen/hormone therapy) for the prevention and/or treatment of osteoporosis in postmenopausal women. Alendronate and risedronate are also approved for use in men. For people with or at risk for glucocorticoid-induced osteoporosis,

alendronate has been approved to treat this condition and risedronate has been approved to treat and prevent it.

Resources

For more information on osteoporosis, visit the National Institutes of Health Osteoporosis and Related Bone Diseases ~ National Resource Center's Web site at www.niams.nih.gov/bone or call 800-624-2663.

For more information on lactose intolerance, visit the National Digestive Diseases Information Clearinghouse's Web site at <http://digestive.niddk.nih.gov/index.htm> or call 800-891-5389.

The National Institutes of Health Osteoporosis and Related Bone Diseases ~ National Resource Center acknowledges the assistance of the National Osteoporosis Foundation in the preparation of this publication.

Reviewed January 2009

For Your Information

This publication contains information about medications used to treat the health condition discussed here. When this fact sheet 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 Food and Drug Administration at 888-INFO-FDA (888-463-6332, a toll-free call) or visit its Web site at www.fda.gov.

For updates and questions about statistics, please contact the Centers for Disease Control and Prevention's National Center for Health Statistics toll free at 800-232-4636 or visit its Web site at www.cdc.gov/nchs.

Recognizing the National Bone and Joint Decade: 2002-2011