



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 of Child Health and Human Development, National Institute of Dental and Craniofacial Research, National Institute of Diabetes and Digestive and Kidney Diseases, NIH Office of Research on Women's Health, DHHS Office on Women's Health, and the National Institute on Aging.

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



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 or break. 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:

- being thin or having a small frame
- having a family history of the disease
- being postmenopausal or having an early menopause
- not having menstrual periods

- using certain medications, such as glucocorticoids, for a long time
- not getting enough calcium
- not getting enough physical activity
- smoking and
- drinking too much alcohol.

Osteoporosis is a silent disease that often can be prevented. If it is not detected, it can progress for many years without symptoms until a fracture occurs.

The Lactose Intolerance – Osteoporosis Link

One of the primary risk factors for developing osteoporosis is not getting enough calcium in your diet. Since 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, while others have not. Regardless, people with lactose intolerance should follow the same basic strategies to build and maintain healthy bones, and pay extra attention to getting enough calcium.

Bone Health Strategies

Calcium and vitamin D: A 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.

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. Vitamin D is also found in some foods, such as fish oil, egg yolks, fortified margarine, and breakfast cereals. While many people are able to obtain enough vitamin D naturally, older individuals are often deficient in this vitamin due, in part, to limited time spent outdoors. They may require vitamin D supplements to ensure an adequate daily intake.

Exercise: Like muscle, bone is living tissue that responds to exercise by becoming stronger. The best exercise for your bones is weight-bearing exercise that forces you to work against gravity. Some examples include walking, stair climbing, and dancing. Regular exercise can 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 for 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 negatively affect bone health. Heavy drinkers are more prone to bone loss and fracture because of poor nutrition, as well as an increased risk of falling.

Bone density testing: Specialized tests known as bone mineral density (BMD) tests measure bone density in various parts of the body. These tests can detect osteoporosis before a bone fracture occurs and 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 bone density test.

Medication: Like lactose intolerance, osteoporosis has no cure. However, there are medications available for preventing and treating osteoporosis. Several medications (alendronate, risedronate, ibandronate, raloxifene, calcitonin, teriparatide, and estrogen/hormone therapy) are approved by the U.S. Food and Drug Administration for the prevention and/or treatment of osteoporosis in postmenopausal women. Alendronate is also approved for use in men. Alendronate and risedronate also are approved for glucocorticoid-induced osteoporosis in women and men.

Resources

For additional information on osteoporosis, visit the NIH Resource Center's Web site at www.osteoporosis.org or call 1-800-624-2663.

For additional information on lactose intolerance, visit the National Digestive Diseases Information Clearinghouse's Web site at <http://digestive.niddk.nih.gov/index.htm> or call 1-800-891-5389.

The National Resource Center acknowledges the assistance of the National Osteoporosis Foundation in the preparation of this publication.

Revised May 2006

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 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.