



Vitamin D, Calcium, **and** Bone Health

WHY IS BONE HEALTH IMPORTANT?

Bone is a living tissue that is constantly breaking down and being replaced. Throughout life, your body balances the loss of bone with the creation of new bone. You reach your highest bone mass (size and strength) at about age 30. After that, you begin to lose bone mass.

Over time, bone loss can cause osteopenia (low bone mass) and then osteoporosis, a condition in which bones become weak and are more likely to break (fracture). Fractures can cause serious health problems, including disability and premature death.

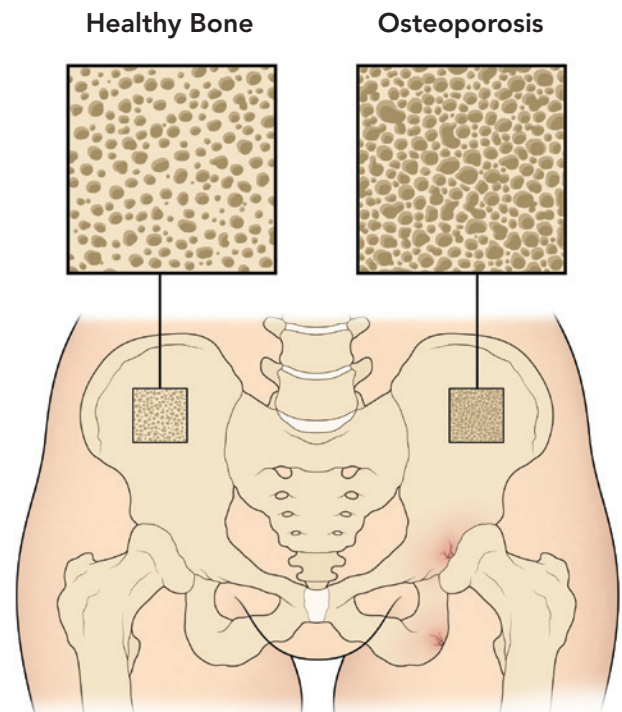
Getting enough vitamin D and calcium is important in keeping your bones healthy and reducing your chances of developing osteopenia or osteoporosis. Regular, weight-bearing exercise also helps keep your bones strong.

DID YOU KNOW?

Vitamin D is the only vitamin made by your own body. Other vitamins, like A, B, and C only come from food and supplements.

WHY ARE VITAMIN D AND CALCIUM IMPORTANT TO BONE HEALTH?

Vitamin D allows your body to absorb calcium. Calcium is necessary for building strong, healthy bones. Without enough vitamin D and calcium, bones may not form properly in childhood and can lose mass, become weak, and break easily in adulthood. Even if you get enough calcium in your diet, your body will not absorb that calcium if you don't get enough vitamin D.



WHAT IS VITAMIN D?

Vitamin D is a fat-soluble vitamin, which means it is stored in the body's fatty tissue. People normally get vitamin D through exposure to sunlight, which triggers vitamin D production in the skin.

Vitamin D is found naturally in very few foods. In the United States, it is routinely added to milk and infant formula. Other good food sources are egg yolks and some types of fish such as salmon and mackerel. Vitamin D is also available in nutritional supplements.

You probably don't get enough vitamin D if you

- spend little time in the sun or use a strong sunblock
- have very dark skin
- are over age 50, when the body is less able to make and use vitamin D efficiently
- have certain medical conditions such as diseases of the digestive system that interfere with fat and vitamin D absorption
- are very overweight, because vitamin D can get "trapped" in body fat and be less available for the needs of the body

WHAT IS CALCIUM?

Calcium is a mineral with many functions. Most of the body's calcium is stored in the bones and teeth where it supports their structure. Calcium mainly comes from the foods you eat.

Good sources of calcium include dairy products (milk, cheese, yogurt); calcium-fortified products (foods and beverages with added calcium); canned fish with bones; and green, leafy vegetables. Like vitamin D, calcium is also available in supplements.

RECOMMENDED DAILY INTAKE OF VITAMIN D AND CALCIUM FOR ADULTS

	Vitamin D	Calcium
Under age 50	400 to 800 International Units (IU)	at least 1,000 milligrams (mg)
Over age 50	800 to 1,000 IU	at least 1,200 mg

You may need extra calcium if you

- are a post-menopausal woman
- eat few or no dairy products
- have a digestive disease that interferes with nutrient absorption

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The Hormone Health Network offers free, online resources based on the most advanced clinical and scientific knowledge from The Endocrine Society (www.endo-society.org). The Network's goal is to move patients from educated to engaged, from informed to active partners in their health care. This fact sheet is also available in Spanish at www.hormone.org/Spanish.

Vitamin D, Calcium, and Bone Health Fact Sheet

Questions to ask your doctor

- How much calcium and vitamin D do I need?
- How do I know if I'm getting enough?
- Should I take a calcium or vitamin D supplement? How much should I take?
- Should I be tested for vitamin D deficiency?
- What else can I do to keep my bones strong?

RESOURCES

- Find-an-Endocrinologist: www.hormone.org or call 1-800-HORMONE (1-800-467-6663)
- Hormone Health Network osteoporosis information: www.hormone.org/osteoporosis
- Centers for Disease Control and Prevention: www.cdc.gov/nutrition/everyone/basics/vitamins/calcium.html
- National Institute of Child Health and Human Development (National Institutes of Health-NIH): www.nichd.nih.gov/health/topics/bone_health.cfm
- National Osteoporosis Foundation: www.nof.org
- Osteoporosis and Related Bone Diseases Resource Center (NIH): www.osteoporosis.gov or call 1-800-624-BONE



www.hormone.org