

Vitamin D: Are you getting enough?



Most Americans don't get enough vitamin D—even people who are active, eat a healthy diet and take vitamin supplements. According to a 2007 study by St. Luke's and the Whiteside Institute for Clinical Research, our community reflects this national trend. Nearly half of all study participants were found to be deficient in vitamin D, including some who were taking a daily multivitamin.*

Vitamin Superstar

We've long known that vitamin D helps build strong bones and benefits our overall health. Less well understood, however, is how it protects us against a number of serious physical and emotional health conditions, and even premature death.

Osteoporosis, falls and hip fractures

Vitamin D helps the body absorb calcium, maintain bone mass and prevent osteoporosis. Low bone mass is associated with weak, brittle bones, which can result in falls and injuries such as hip fractures.

Cancer

People with high vitamin D levels have a lower risk of developing breast, pancreatic, colon and other gastrointestinal cancers, and leukemia.

Diabetes

Infants who are given high doses of vitamin D during their first year of life have a far lower risk of developing type 1 diabetes. Adults with low levels of vitamin D increase their risk of developing type 2 diabetes.

Heart attack

People with low vitamin D levels and hypertension are more likely to suffer a heart attack.

Immune diseases

Vitamin D deficiency is linked to diseases such as multiple sclerosis, rheumatoid arthritis, lupus, fibromyalgia and inflammatory bowel disease.

Premenstrual syndrome

Women with low vitamin D levels increase their risk of experiencing symptoms of premenstrual syndrome.

Anxiety and depression

Both men and women with vitamin D deficiencies are more likely to suffer from anxiety and depression.

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Factors That Influence Vitamin D Levels

The human body naturally produces vitamin D when exposed to direct sunlight. This explains why factors such as season, geographic latitude, time of day, cloud cover, angle of the sun, smog and sunscreen use can affect the amount of vitamin D we produce. People living in the northern regions of the United States, for example, get fewer hours of sunlight, which limits their vitamin D production.

Aging and diet are two other factors that influence vitamin D levels. As we age, our skin loses its ability to manufacture vitamin D from sun exposure. And although most diets do provide some amounts of vitamin D, food alone—even vitamin-fortified foods—can't compensate for a lack of sun or the effects of aging.

How Much Is Enough?

The amount of vitamin D we need depends on a variety of factors, including gender, age, skin color and pregnancy. The American Academy of Pediatrics recommends that infants and children receive 400 international units (IU) of vitamin D per day. For adults, most experts recommend 800-2,000 IU per day, with older adults requiring the highest amounts.**

Sources of Vitamin D

Sun exposure, foods and supplements are the primary sources of vitamin D.

Sun exposure

Ten to 15 minutes of sunshine three times a week without sunscreen is enough to produce sufficient vitamin D in summer months for younger adults. Because age decreases the skin's ability to make vitamin D from sunlight, it is safest for older adults to take vitamin D supplements year round. At the same time, too much sun increases the risk of skin cancer, so it's important to wear sunscreen for longer periods of exposure.

Food

Fish is one of the few foods naturally high in vitamin D. Most of the vitamin D in the American diet comes from fortified foods, such as cereal, margarine, orange juice and milk. All milk sold in the United States is fortified with vitamin D.

Salmon, 3.5 oz	360 IU
Margarine (fortified), 1 tbsp	250 IU
Tuna (canned in oil), 3 oz	200 IU
Milk (fortified), 8 oz	100 IU
Orange juice (fortified), 8 oz	100 IU
Egg	20 IU
Swiss cheese, 1 oz	12 IU

Supplements

Because it's nearly impossible to reach the recommended vitamin D requirement from food alone, most adults will need to take a supplement. The amount of vitamin D in supplements varies, so it's important to check the label first.

Multivitamins	400-800 IU
Calcium with vitamin D	200 IU
Vitamin D	400-5,000 IU

*The research study, led by David Arvold, MD, was conducted through the Whiteside Institute for Clinical Research with a grant from St. Luke's Foundation. Participants were patients who visited St. Luke's Internal Medicine Associates during February 2007. Research findings were published in *Endocrine Practice*, April 2009;15(3):202-211.

**Holick MF. Vitamin D deficiency. *N Engl J Med*. 2007;357(3):266-281.

The Whiteside Institute for Clinical Research is a collaborative partnership between St. Luke's and the University of Minnesota Medical School Duluth. Launched in 1996 with a generous trust bequest from Miss Muriel Whiteside, the Institute seeks to promote, implement and advance clinical research activities with emphasis in the areas of cancer, lung and heart disease. Funding for this educational flyer was provided by St. Luke's Foundation.

