The Truth About Vitamin D

What is Vitamin D?

Vitamin D is a nutrient found in some foods that is needed for muscle movement, nerve impulses, proper immune function, and for maintenance of strong bones. It does so by helping the body absorb calcium from food and supplements. People who get too little vitamin D may develop soft, thin, and brittle bones, a condition known as rickets in children and osteomalacia in adults.

How Much Vitamin D Do I Need?

Adults 19–70 years	600 IU
Adults 71 years and older	800 IU
Pregnant and breastfeeding women	600 IU

* IU= International Units

What Foods Contain Vitamin D?

Very few foods naturally have vitamin D. Fortified foods provide most of the vitamin D in American diets:

- Fatty fish such as salmon, tuna, and mackerel are among the best sources.
- Beef liver, cheese, and egg yolks provide small amounts.
- Mushrooms provide some vitamin D. In some mushrooms that are newly available in stores, the vitamin D content is being boosted by exposing these mushrooms to ultraviolet light.
- Almost all of the U.S. milk supply is fortified with 400 IU of vitamin D per quart. But foods made from milk, like cheese and ice cream, are usually not fortified.
- Vitamin D is added to many breakfast cereals and to some brands of orange juice, yogurt, margarine, and soy beverages; check the labels.

Can I Get Vitamin D From the Sun?

The body makes vitamin D when skin is directly exposed to the sun, and most people meet at least some of their vitamin D needs this way. Skin exposed to sunshine indoors through a window will not produce vitamin D. Cloudy days, shade, and having dark-colored skin also cut down on the amount of vitamin D the skin makes.

However, despite the importance of the sun to vitamin D synthesis, it is prudent to limit exposure of skin to sunlight in order to lower the risk for skin cancer.

What Kinds of Vitamin D Dietary Supplements are Available?

Vitamin D is found in supplements (and fortified foods) in two different forms: D2 (ergocalciferol) and D3 (cholecalciferol). Both increase vitamin D in the blood.

Am I Getting Enough Vitamin D?

Because vitamin D can come from sun, food, and supplements, the best measure of one's vitamin D status is blood levels of a form known as 25-hydroxyvitamin D. Levels are described in either nanomoles per liter (nmol/L) or nanograms per milliliter (ng/mL), where 1 nmol/L = 0.4 ng/mL.

In general, levels below 30 nmol/L (12 ng/mL) are too low for bone or overall health, and levels above 125 nmol/L (50 ng/mL) are probably too high. Levels of 50 nmol/L or above (20 ng/mL or above) are sufficient for most people.

What Happens if I Don't Get Enough Vitamin D?

People can become deficient in vitamin D because they don't consume enough or absorb enough from food, their exposure to sunlight is limited, or their kidneys cannot convert vitamin D to its active form in the body. In children, vitamin D deficiency causes rickets, where the bones become soft and bend. It's a rare disease but still occurs, especially among African American infants and children. In adults, vitamin D deficiency leads to osteomalacia, causing bone pain and muscle weakness.

Can Vitamin D be Harmful?

Yes, when amounts in the blood become too high. Signs of toxicity include nausea, vomiting, poor appetite, constipation, weakness, and weight loss. And by raising blood levels of calcium, too much vitamin D can cause confusion, disorientation, and problems with heart rhythm. Excess vitamin D can also damage the kidneys.

The safe upper limit for vitamin D is 4,000 IU/day for children 9 years and older, adults, and pregnant and lactating teens and women. Vitamin D toxicity almost always occurs from overuse of supplements. Excessive sun exposure doesn't cause vitamin D poisoning because the body limits the amount of this vitamin it produces.

Disclaimer

This fact sheet by the Office of Dietary Supplements provides information that should not take the place of medical advice. We encourage you to talk to your health care provider.

Adapted from the article “Dietary Supplement Fact Sheet: Vitamin D” from the Office of Dietary Supplements and the National Institutes of Health. Created by AmeriCorps Member Amy Houser.

AMERICORPS IOWA

Healthy Siouxland