

# Vitamin D and Your Bone Health

**Why is vitamin D important? Vitamin D is necessary to form and maintain strong bones. Vitamin D helps your body absorb the calcium you take in from food or supplements. Once absorbed, calcium, along with other minerals, provides the strength needed for bones to withstand the stresses of daily activities. Low levels of vitamin D or calcium intake can lead to bone loss, making bones weaker. An adequate diet, especially in terms of calcium and vitamin D, and exercise are the cornerstones of achieving and maintaining optimal bone health and helping to prevent broken bones.**



## Why Don't Some People Get Enough Vitamin D?

Everyone needs vitamin D. However, people are different in their ability to get enough of this vitamin. Vitamin D can be produced in the skin as a result of sun exposure, typically 10-15 minutes per day, with arms and legs exposed. The amount of vitamin D made this way is variable, depending on where you live and the time of year: the farther north you live and during winter months, less vitamin D is made. Also, adults over the age of 50, due to changes in chemical reactions in the skin, may be limited in their ability to make vitamin D with sun exposure. In addition, people with darker complexions and people of any race who use sunscreen make less vitamin D, due to lower sunlight absorption. People make almost no vitamin D with the use of sunscreen with an SPF of 15 or higher. People with less exposure to the sun, including those living in more northern regions, those with jobs indoors, the elderly and those who are chronically ill, also have limited ability to make vitamin D. Once produced in the skin, the precursor form of vitamin D is further processed in the liver and kidney, producing its active form. This makes people with chronic liver and kidney diseases at risk of low levels of active vitamin D.

Vitamin D can also be obtained in the diet. However, vitamin D occurs naturally in only a few foods, including salmon and other fatty fish, liver and egg yolks. Vitamin D is frequently added to dairy products, especially milk, as well as some fruit juices and cereals. However, since it does not naturally occur in these products, you need to be careful in reading the label, as different products contain different amounts of vitamin D. Some people are lactose intolerant or are otherwise unable to consume vitamin D-containing dairy products. These people are at risk of not getting enough vitamin D to maintain optimal bone strength. Even those products with vitamin D contain only a portion of the amount that you need every day. So, even if vitamin D-supplemented products are a regular part of your diet, it may be difficult to take in enough vitamin D. Check product labels for the amount of vitamin D contained in individual servings.

## How Much Vitamin D Do I Need?

The Institute of Medicine, a group that reviews current scientific studies in order to advise policy makers, doctors and the public, recently reviewed the evidence concerning current intake of calcium and vitamin D. As discussed elsewhere in this pamphlet, the biology of vitamin D is complex and impacted by many factors, making recommendations about how much of this vitamin that you should take in every day difficult to determine. After reviewing the best evidence available, the Institute of Medicine suggested that adults consume 600 IU (International Units) of vitamin D, and those over the age of 70 need up to 800 IU per day. More may not be better: taking in more than 4,000 IU per day may be dangerous.

Discuss with your health care provider how much vitamin D is right for you and your bones and how best to take in enough vitamin D. Your health care provider may recommend that you get a blood test to see how much vitamin D is in your body. Not all doctors and researchers agree on the blood level of vitamin D that is needed to maintain optimal bone health. Medications to treat osteoporosis work better if you are taking in enough vitamin D and calcium to help build bone. If you are already on one of these medications, talk with your health care provider to ensure that you are getting enough vitamin D. If you and your health care provider decide that you aren't getting enough vitamin D from your diet and that you need vitamin D supplements, discuss the supplements that are best for you because different supplements contain different forms and amounts of vitamin D.

**Vitamin D is necessary to develop and maintain bone health. Vitamin D, along with calcium and exercise, can help prevent broken bones. It is important for you to talk with your health care provider to find out how much vitamin D you need and the best way to make sure you are getting enough every day.**

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