

Mayo Clinic Q&A: Vitamin D—too much or too little can lead to health problems

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Research suggests that consistently getting enough vitamin D can significantly lower the risk for the bone-thinning disease osteoporosis. Low vitamin D also is associated with falls, multiple sclerosis, rheumatoid arthritis, chronic pain, diabetes, [high blood pressure](#), cardiovascular disease and some cancers. However, an association does not mean low vitamin D causes these conditions, or that taking a vitamin D supplement will adequately prevent or treat them.

Vitamin D is found in some foods, such as egg yolks, cheese, [cod liver oil](#), beef liver and fatty fish like tuna, salmon, sardines, herring and mackerel. But the amount of vitamin D in these foods is quite small. In the U.S., many people get the bulk of their dietary vitamin D from foods that are fortified with it, including milk, cereals and some brands of yogurt and orange juice.

Dear Mayo Clinic: I have heard different recommendations from different sources regarding vitamin D. One doctor told my husband that everyone living in the Northern Hemisphere should take a vitamin D supplement every day, even in the summer. What do you recommend?

A: Understanding how much [vitamin D](#) you need can be confusing because there are different recommendations about how much vitamin D adults should get. Using the recommendations that fall on the low end, many adults don't get the amount of vitamin D they should. Because few foods contain vitamin D naturally, eating foods fortified with vitamin D and taking a supplement may be beneficial.

Vitamin D is important because it helps your body sustain normal levels of calcium and phosphorus. Because it works as a key that allows your body to absorb calcium, vitamin D plays a critical role in forming and maintaining healthy bones. It also helps keep your muscles, nerves and immune system healthy.

In general, even with fortified foods, diet usually doesn't provide enough vitamin D. And certain health conditions that affect the gastrointestinal tract may decrease the absorption of vitamin D and predispose to low vitamin D blood levels. You also can get vitamin D through direct exposure to sunlight, although the amount of sun you need to get enough vitamin D can vary greatly.

For people in northern climates or those who spend most of their time indoors, adequate exposure to sunlight can be hard to get. Also, if you regularly wear sunscreen with a sun protection factor higher than eight—a wise move to protect your skin from cancer—or if you have a darker skin tone, you may not be absorbing vitamin D, even when you are out in the sunshine.

Recommendations for how much daily vitamin D adults need through diet have changed over the years. Currently, different recommendations exist. The Institute of Medicine has placed the recommended dietary allowance, or RDA, for vitamin D at 600 international units (IU) per day for

young adults and 800 IU per day for adults older than 70. Other experts suggest that adults' vitamin D needs are much higher.

While getting too little vitamin D is associated with [adverse health effects](#), getting too much vitamin D also can lead to problems. For this reason, large doses aren't recommended unless someone has a condition, such as having had gastric bypass surgery, in which it is challenging to obtain recommended amounts.

Mayo Clinic recommends that adults get at least the RDA of 600 IU. However, 1,000 to 2,000 IU per day of vitamin D from a supplement is generally safe, should help people achieve an adequate blood level of vitamin D, and may have additional health benefits. While there are no guidelines for checking your vitamin D blood level, it may be prudent in people with osteoporosis or certain other [health conditions](#). Discuss with your health care provider if it may be beneficial to check your vitamin D level.

If you have ongoing health concerns or a chronic health condition, talk to your [health care provider](#) before you begin taking any dietary supplement, including vitamin D. He or she can help you decide if supplements are appropriate for your situation.

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