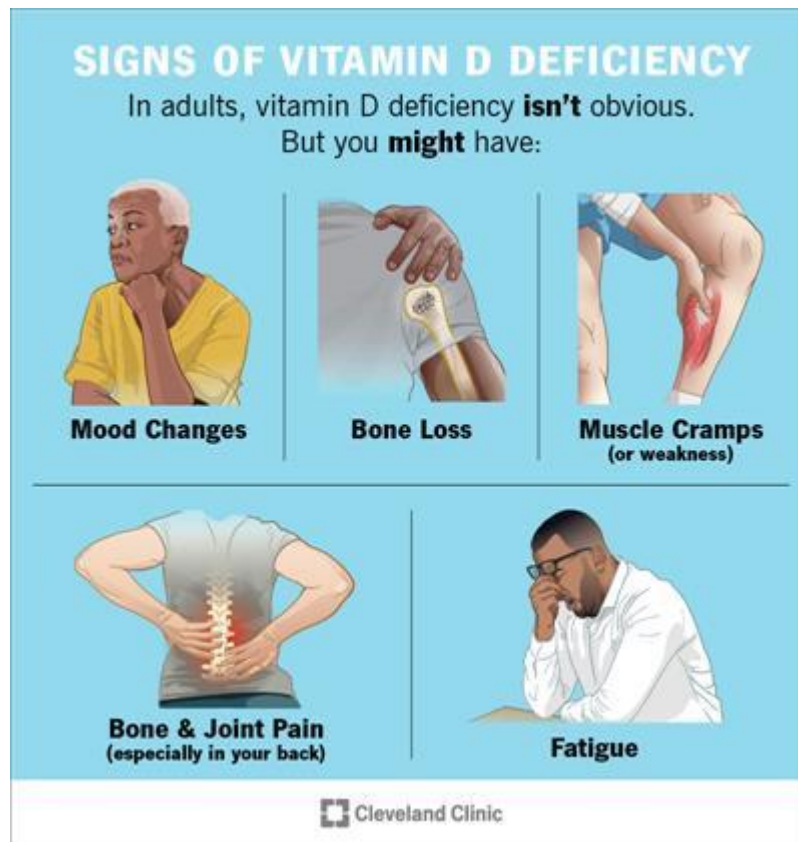


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Vitamin D Deficiency

The UK Government has announced it will be providing free vitamin D supplements to vulnerable people starting in January. More than 2.5 million in England who are considered at-risk will be offered a free supply of the vitamin in a bid to protect the vulnerable from coronavirus. (Manchester Evening News, 28 Nov. 2020, Zara Whelan)

If you shun the sun, suffer from milk allergies, or adhere to a strict vegan diet, you may be at risk for vitamin D deficiency. Known as the sunshine vitamin, vitamin D is produced by the body in response to skin being exposed to sunlight. It also occurs naturally in a few foods -- including some fish, fish liver oils, and egg yolks -- and in fortified dairy and grain products.

Vitamin D is essential for strong bones, because it helps the body use calcium from the diet. Traditionally, vitamin D deficiency has been associated with rickets, a disease in which the bone tissue doesn't properly mineralize, leading to soft bones and skeletal deformities. But increasingly, research is revealing the importance of vitamin D in protecting against a host of health problems.

Symptoms and Health Risks of Vitamin D Deficiency

Symptoms of bone pain and muscle weakness can mean you have a vitamin D deficiency. However, for many people, the symptoms are subtle. Yet, even without symptoms, too little vitamin D can pose health risks. Low blood levels of the vitamin have been associated with the following:

- Increased risk of death from cardiovascular disease
- Cognitive impairment in older adults
- Severe asthma in children
- Cancer

Research suggests that vitamin D could play a role in the prevention and treatment of a number of different conditions, including type 1 and type 2 diabetes, hypertension, glucose intolerance, and multiple sclerosis.

Causes of Vitamin D Deficiency

Vitamin D deficiency can occur for a number of reasons:

You don't consume the recommended levels of the vitamin over time. This is likely if you follow a strict vegan diet, because most of the natural sources are animal-based, including fish and fish oils, egg yolks, fortified milk, and beef liver.

Your exposure to sunlight is limited. Because the body makes vitamin D when your skin is exposed to sunlight, you may be at risk of deficiency if you are homebound, live in northern latitudes, wear long robes or head coverings for religious reasons, or have an occupation that prevents sun exposure.

You have dark skin. The pigment melanin reduces the skin's ability to make vitamin D in response to sunlight exposure. Some studies show that older adults with darker skin are at high risk of vitamin D deficiency.

Your kidneys cannot convert vitamin D to its active form. As people age, their kidneys are less able to convert vitamin D to its active form, thus increasing their risk of vitamin D deficiency.

Your digestive tract cannot adequately absorb vitamin D. Certain medical problems, including Crohn's disease, cystic fibrosis, and celiac disease, can affect your intestine's ability to absorb vitamin D from the food you eat.

You are obese. Vitamin D is extracted from the blood by fat cells, altering its release into the circulation. People with a body mass index of 30 or greater often have low blood levels of vitamin D.

Tests for Vitamin D Deficiency

The most accurate way to measure how much vitamin D is in your body is the 25-hydroxy vitamin D blood test. A level of 20 nanograms/milliliter to 50 ng/mL is considered adequate for healthy people. A level less than 12 ng/mL indicates vitamin D deficiency.

Treatment for Vitamin D Deficiency

Treatment for vitamin D deficiency involves getting more vitamin D -- through diet and supplements. Although there is no consensus on vitamin D levels required for optimal health -- and it likely differs depending on age and health conditions -- a concentration of less than 20 nanograms per milliliter is generally considered inadequate, requiring treatment.

Guidelines from the Institute of Medicine increased the recommended dietary allowance (RDA) of vitamin D to 600 international units (IU) for everyone ages 1-70, and raised it to 800 IU for adults older than age 70 to optimize bone health. The safe upper limit was also raised to 4,000 IU. Doctors may prescribe more than 4,000 IU to correct a vitamin D deficiency.

If you don't spend much time in the sun or always are careful to cover your skin (sunscreen inhibits vitamin D production), you should speak to your doctor about taking a vitamin D supplement, particularly if you have risk factors for vitamin D deficiency.