

*L. Khudolii, Student*  
*O. Zablotska, Dr. in Ped., Prof., research advisor*  
*I. Nikolayeva, As. Prof., research advisor*  
*J. Bereziuk, PhD in Ed., As. Prof., language advisor*  
*Zhytomyr Medical Institute*

## **THE HEALTH EFFECTS OF VITAMIN D: BENEFITS AND RISKS**

Vitamin D is both a nutrient we eat and a hormone our bodies make. It is a fat-soluble vitamin that has long been known to help the body absorb and retain calcium and phosphorus; both are critical for building bone. Also, laboratory studies show that vitamin D can reduce cancer cell growth, help control infections and reduce inflammation. Many of the body's organs and tissues have receptors for vitamin D, which suggest important roles beyond bone health, and scientists are actively investigating other possible functions. [1]

Food with a high content of vitamin D2 and D3: dairy and plant milks, such as oat, almond, and soy milk, orange juice, cereals, cod liver oil, trout, salmon, sardines, eggs, beef liver.

Vitamin D2 and D3 are the main forms of vitamin D and both perform the same role in the body. Scientists are not sure if one is better than the other, although some studies have found that D3 is more effective in raising vitamin D levels in the body than D2. Vitamin D2 comes from plants, while animals, including people, produce D3. Few foods naturally contain vitamin D. Therefore, manufacturers may fortify foods with vitamin D, such as milk, juice, and cereals. Mushrooms are a good natural source of vitamin D2, while fatty fish are a good source of vitamin D3. [2]

How much vitamin D do we need? The amount of vitamin D you need each day depends on your age. The recommended amounts, in international units (IU), are:

- Birth to 12 months: 400 IU; Children 1-13 years: 600 IU; Teens 14-18 years: 600 IU;
- Adults 19-70 years: 600 IU; Adults 71 years and older: 800 IU; Pregnant and breastfeeding women: 600 IU.

People at high risk of vitamin D deficiency may need more. Check with your health care provider about how much you need.[3]

Vitamin D deficiency can lead to a loss of bone density, which can contribute to osteoporosis and fractures (broken bones). Severe vitamin D deficiency can also lead to other diseases: In children, it can cause rickets. Rickets is a rare disease that causes the bones to become soft and bend. The main consequence of vitamin D toxicity is a buildup of calcium in your blood (hypercalcemia), which can cause nausea and vomiting, weakness, and frequent urination. Vitamin D toxicity might progress to bone pain and kidney problems, such as the formation of calcium stones. [3]

Body size is more influential than sex when it comes to vitamin D intake recommendations, Foroutan says. On average, men weigh more than women. However, the relative amount of body fat an individual has may be more pertinent, since vitamin D is stored in body fat.[4]

Vitamin D is one of many vitamins your body needs to stay healthy. It plays a crucial role in maintaining the balance of calcium in your blood and bones and in building and maintaining bones. More specifically, you need vitamin D so your body can use calcium and phosphorus to build bones and support healthy tissues. With

chronic and/or severe vitamin D deficiency, a decline in calcium and phosphorus absorption by your intestines leads to hypocalcemia (low calcium levels in your blood). This leads to secondary hyperparathyroidism (overactive parathyroid glands attempting to keep blood calcium levels normal). Both hypocalcemia and hyperparathyroidism, if severe, can cause symptoms, including muscle weakness and cramps, fatigue and depression. [5]

#### **REFERENCES:**

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