

VITAMIN D3



D vitamins are fat-soluble vitamins and play an important role in calcium absorption and bone health, as well as immune function.

There are two forms of vitamin D dietary supplements:

- Vitamin D2 (ergocalciferol) D2 mainly comes from plant sources and fortified foods and is normally used only to treat specific medical conditions
- Vitamin D3 (cholecalciferol) D3 is indicated for <u>dietary supplementation</u> and is only found in animal-sourced foods.

When exposed to sunlight, our skin produces vitamin D, yet remember that the use of sunscreen will prevent the body from producing vitamin D.⁵ Vitamin D is often called the sunshine vitamin.

Function – Vitamin D helps your body absorb calcium, a mineral that's responsible for the normal development and maintenance of healthy teeth and bones. It helps maintain proper blood levels of calcium and phosphorus. and bone remodeling by osteoblasts and osteoclasts. Without sufficient vitamin D, bones can become thin, brittle, or misshapen. Vitamin D sufficiency prevents rickets in children and osteomalacia in adults. Together with calcium, vitamin D also helps protect older adults from osteoporosis.

Vitamin D promotes calcium absorption in the gut and maintains adequate serum calcium and phosphate concentrations to enable normal bone mineralization and to prevent hypocalcemic tetany, which is the involuntary contraction of muscles, leading to cramps and spasms.

Immune Support – Many people are deficient in this important vitamin, which may negatively affect immune function. In fact, low vitamin D levels are associated with an increased risk of upper respiratory tract infections, including influenza and allergic asthma.²

Vitamin D enhances the pathogen-fighting effects of monocytes and macrophages — white blood cells that are important parts of your immune defense — and decreases inflammation, which helps promote immune response.¹

Summary – Getting adequate amounts of vitamin D and calcium can prevent or slow osteoporosis and reduce bone fractures. A growing body of research also suggests that maintaining healthy levels of vitamin D may reduce the risk of developing muscle pain and weakness, autoimmune diseases (such as rheumatoid arthritis and multiple sclerosis), cardiovascular disease and certain cancers. In addition, vitamin D deficiency appears to be a growing problem in the United States. As a result, supplemental vitamin D is commonly recommended for many people. Vitamin D has also been recommended to help your immunity in combination with other supplements to help your immune system in fighting Covid-19.³

Vitamin Sources – Vitamin D3 is formed naturally in the skin when exposed to sunlight, is present in significant levels in certain fish and eggs and is also commercially made from lanolin washed from lambs' wool. For reference, one cup (8 ounces) of fortified milk contains 100 IU of Vitamin D.⁶

Suggested Serving – 1 Capsule Daily 5000 IU

Resources –

- ¹ ncbi.nlm.nih.gov/pmc/articles/PMC6164750
- ² ncbi.nlm.nih.gov/pmc/articles/PMC3738984
- 3 ncbi.nlm.nih.gov/pmc/articles/PMC7295866
- ⁴ ods.od.nih.gov/factsheets/VitaminD-HealthProfessional
- ⁵ singlecare.com/blog/vitamin-d-vs-d3
- ⁶ mayoclinic.org/documents/mc5129-0709-sp-rpt-pdf/doc-20079085