

*Disclaimer:*

*The following is intended for information and education, and not as medical advice. You are encouraged to do your own research, and make an informed decision regarding your health and any supplement, medication, or other treatment(s). Remember, you are in charge of your healthcare choices; work with your healthcare provider who should always give informed consent, discussing the benefits, and risks of any treatment, as well as possible alternatives to that treatment.*

Vitamin D is known as the sunshine vitamin because unobstructed (either by glass or applied sunscreen) exposure to sunlight (specifically UVB) is required to convert the inactive form to the active form within the body. This also helps to explain why people living further away from the equator, those who work indoors, or those who are not able to get outside routinely (infirm or frail) often are deficient in Vitamin D. Also, those with more melanin in their skin have a reduced rate of active Vitamin D production. In the United States, more than 40% of the population has a low Vitamin D level.

Adequate Vitamin D is required to maintain healthy bones and muscles, and many people supplement with Vitamin D due to osteopenia or osteoporosis. But, Vitamin D also helps to regulate the immune system, and those with low or deficient levels of Vitamin D have an increased susceptibility to respiratory viral infections, such as colds, Influenza, RSV, and Covid. They also have an increased risk of autoimmune diseases such as rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis, and an increased risk of cancer. Further, low Vitamin D levels are associated with increased risk of Type 2 diabetes, cardiovascular disease, and depression.

There are few dietary sources of Vitamin D, including fatty fish such as trout, tuna, salmon, and mackerel, and smaller amounts in beef liver, eggs, and cheese.

Many people who are trying to stay healthy and prevent disease will want to supplement Vitamin D. The recommended supplement for most people is Vitamin D3 (with Vitamin K2, which has an interactive role with Vitamin D in bone and cardiovascular health), and the dosage is dependent on the individual's risk factors like latitude, outdoor activities, diet, and ethnicity. Some may want to have a blood test to have their Vitamin D level checked. The range of "normal" is wide, generally 30-100, but those whose level is >55 have improved immune function, less infections, and other diseases. Most adults can take Vitamin D3/ K2 5000 units daily, and should take it with food to increase the absorption.

A study published in 2022 in *Frontiers in Aging* found that active adults aged 70 and older could reduce their risk of cancer by supplementing Vitamin D, Omega-3 fatty acids, and doing simple home exercises. (Bischoff-Ferrari HA, et al, (2022) Combined Vitamin D, Omega-3 Fatty Acids, and a Simple Home Exercise Program May Reduce Cancer Risk Among Active Adults Aged 70 and Older: A Randomized Clinical Trial. *Front. Aging* 3:852643. <https://pubmed.ncbi.nlm.nih.gov/35821820/> )

In summary, Vitamin D is very important to overall health. Consider getting sunshine, incorporating fatty fish into your diet, and taking a Vitamin D supplement.