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Vitamin D

Vitamin D is a fat-soluble vitamin. Fat-soluble vitamins are stored in the body's fatty tissue. Vitamin D helps the body absorb [calcium](#). Calcium and phosphate are two minerals that are essential for normal bone formation. Throughout childhood, your body uses these minerals to produce bones. If you do not get enough calcium, or if your body does not absorb enough calcium from your diet, bone production and bone tissues may suffer. Vitamin D deficiency can lead to [osteoporosis](#) in adults or [rickets](#) in children. The body makes vitamin D when the skin is directly exposed to the sun. That is why it is often called the "sunshine" vitamin. Most people get some of their vitamin D needs this way. Very few foods naturally contain vitamin D. As a result, many foods are fortified with vitamin D. Fortified means that vitamins have been added to the food. Fatty fish (such as tuna, salmon, and mackerel) are among the best sources of vitamin D. Beef liver, cheese, and egg yolks provide small amounts. Most milk in the United States is fortified with 400 IU vitamin D per quart. It should be noted that foods made from milk, such as cheese and ice cream, are usually not fortified. Vitamin D is added to many breakfast cereals and to some brands of soy beverages, orange juice, yogurt, and margarine. Check the nutrition fact panel on the food label. Studies show that 60% of adults are Vitamin D deficient.

It can be very hard to get enough vitamin D from food sources alone. As a result, some people may need to take a vitamin D supplement. Vitamin D found in supplements and fortified foods comes in two different forms Vitamin D₂ (ergocalciferol) and Vitamin D₃ (cholecalciferol). 10 to 15 minutes of sunshine three times weekly is enough to produce the body's requirement of vitamin D. The sun needs to shine on the skin of your face, arms, back, or legs (without sunscreen). Because exposure to sunlight is a risk for skin cancer, you should use sunscreen after a few minutes in the sun. People who do not live in sunny places may not make enough vitamin D. Skin that is exposed to sunshine indoors through a window will not produce vitamin D. Cloudy days, shade, and having dark-colored skin also cut down on the amount of vitamin D the skin makes.

Because vitamin D can come from sun, food, and supplements, the best measure of one's vitamin D status is blood levels of a form known as 25-hydroxyvitamin D.

There is emerging evidence between Vitamin D deficiency and General health. Studies show that person with normal levels of Vitamin D have lower incidence of Prostate Cancer, Endometrial Cancer, Pancreatic Cancer, Colorectal Cancer, autoimmune disease, Multiple Sclerosis, Diabetes, Hypertension, and Cardiovascular Disease. Vitamin D deficiency in pregnancy has been associated with a higher risk of C-Section.

Vitamin D supplements — The best source of Vitamin D is following the above recommended sunlight guidelines when this is not possible (ie: hx of skin cancer) there are many types of vitamin D preparations available for the treatment of vitamin D deficiency or insufficiency. The two commonly available forms of vitamin D supplements are ergocalciferol (vitamin D₂) and cholecalciferol (vitamin D₃). We suggest vitamin D₃ when possible, rather than vitamin D₂, because vitamin D₃ is the naturally occurring form of the vitamin and it may raise vitamin D levels more effectively.

It is recommended that pregnant women and those trying to conceive have a Vitamin D level greater than 50ng/mL

The recommended dose of vitamin D depends upon the nature and severity of the vitamin D deficiency:

- If your Vitamin D level is:
 - ≤ 35 ng/mL - you will take 4000 IU of Vitamin D twice daily
 - 35-50 ng/mL - you will take 2000 IU of Vitamin D daily