

Did You Know This About Vitamin D?

What is Vitamin D?

Vitamin D is a fat soluble vitamin that is manufactured in the body by way of ultraviolet (UVB) rays when our skin is exposed to the sunlight. It is fat-soluble and plays an important role in bone metabolism.

Vitamin D is a hormone precursor that is present in 2 forms. Ergocalciferol, or vitamin D₂, is present in plants and some fish. Cholecalciferol, or vitamin D₃, is synthesized in the skin by sunlight. The time needed to produce adequate vitamin D from the skin depends on the strength of the UVB rays (where the person lives), the length of time spent in the sun, and the amount of pigment in the skin.

Most foods, unless they are fortified, are poor sources of vitamin D and there are only a small amount of vitamin D rich foods for us to choose from. (See the list below).

Lack of vitamin D can happen at any time of the year, but especially in the winter months. Because most of us try to protect our skin from sun damage, we may be depriving our bodies of this essential vitamin.

Vitamin D and Diseases

Recent epidemiologic studies suggest that vitamin D could play a role in the prevention and treatment of a number of different conditions, including diabetes, high blood pressure, glucose intolerance, and autoimmune diseases. Low vitamin D levels are associated with increased levels of inflammation and oxidative load. It also tends to have anti-inflammatory and immune-modulating properties.

Vitamin D and Bone / Muscle Strength

Because Vitamin D may help to increase muscle strength, it could help to prevent falls in some people regardless of age. It has to be taken in high enough doses to have an effect on bone and muscle health. A summary of the evidence comes from a combined analysis of 12 fracture prevention trials that included more than 40,000 geriatric women. Researchers found that high intakes of vitamin D supplements of about 800+ IU per day reduced hip and non-spine fractures by 20 percent, while lower intakes (400 IU or less) failed to offer any fracture prevention benefit.

* Article Vitamin D and Health – Harvard T.H. CHAN

Vitamin D and Heart Disease

It is not surprising that Vitamin D is linked to heart disease, since there are receptors in the heart. A Health Professional Study checked the vitamin D blood levels in 50,000 healthy men, and followed them for 10 years. They discovered that men the who were deficient in vitamin D were twice as likely to have a heart attack as men who had higher levels of vitamin D.

- Giovannucci E, Liu Y, Hollis BW, Rimm EB. 25-hydroxyvitamin D and risk of myocardial infarction in men: a prospective study. *Arch Intern Med.* 2008; 168:1174-80.

Protecting the Breast and Prostate

There are several ongoing studies on prostate cancer, sun exposure and vitamin D supplementation. Research has shown that there could be a link between prostate cancer and vitamin D, because studies have shown that men with prostate cancer generally have lower levels of vitamin D in the blood. However,

the relationship between prostate cancer and vitamin D is complex and still being researched.

Ongoing studies are promising and may show that high levels of both vitamin D metabolites were associated with a non-significantly lower risk of breast cancer. For both metabolites, (25-hydroxyvitamin D and 1, 25-dihydroxyvitamin D) the association was stronger in women age 60 and older.

Vitamin D and Immune Function

Studies show that vitamin D is a key controller of immune function and inflammation on a cellular level. Data from human vitamin D supplementation studies have shown beneficial effects of vitamin D on immune function, in particular for autoimmunity problems.

Unfortunately, studies have suggested that about 40 percent of North American adults are vitamin D deficient. Wearing a sunscreen with a sun protection factor of 30 reduces vitamin D synthesis in the skin by more than 95%. And people with a naturally dark skin tone have natural sun protection, so they require at least three to five times longer exposure to make the same amount of vitamin D as a person with a white skin tone.

** From the Article "The "Sunshine" Vitamin" PMC – US Library of Medicine

Top 10 Vitamin D Sources

1) Sunlight

Promotes vitamin D synthesis from cholesterol in the skin.

2) Cod liver oil

1 tsp: 440 IU (over 100% DV)

3) Sardines

3 ounces: 164 IU (41% DV)

4) Salmon

3 ounces: 400 IU (100% DV)

5) Mackerel

3 ounces: 400 IU (100% DV)

6) Tuna

3 ounces: 228 IU (57% DV)

7) Raw Milk

1 cup: 98 IU (24% DV)

8) Caviar

1 oz: 33 IU (8% DV)

9) Eggs

1 large: 41 IU (10% DV)

10) Mushrooms

1 cup: 2 IU (1% DV)

** From the Article: "Vitamin D Deficiency Symptoms & Sources to Reverse It"! By Dr. Josh Axe

The National Institutes of Health Recommended Dietary Allowances (RDAs) for Vitamin D

Age	Male	Female	Pregnancy	Lactation
0–12 months	400 IU (10 mcg)	400 IU (10 mcg)		
1–13 years	600 IU (15 mcg)	600 IU (15 mcg)		
14–18 years	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)

The National Institutes of Health Recommended Dietary Allowances (RDAs) for Vitamin D

Age	Male	Female	Pregnancy	Lactation
19–50 years	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)
51–70 years	600 IU (15 mcg)	600 IU (15 mcg)		
>70 years	800 IU (20 mcg)	800 IU (20 mcg)		