

Natural Health News

Vitamin D: Its Role in Health and Disease

Vitamin D has been in the news recently. Maybe you've seen the headlines: *Vitamin D May Help Guard Against Breast Cancer* • *Low Vitamin D Levels Common in Otherwise Healthy Children* • *Vitamin D May Lower Diabetes Risk*.

We've known for decades that vitamin D helps keep bones strong, preventing rickets in children and brittle bones in adults. Recent research points to a much greater role of vitamin D in protecting us from a variety of cancers as well as a host of other illnesses. At the same time, studies have shown that most of us are not getting enough vitamin D in our diets or from sun exposure.

Sources of Vitamin D: Food and Sunshine

Vitamin D comes from two major sources: the food we eat and the amount of sunlight to which we are exposed.

Vitamin D is generally scarce in our diet. The two major types of vitamin D found in food are D₂ and D₃. D₂ is added to milk and dairy products and is the most common form found in dietary supplements. Other food sources include cod liver oil, cold-water fish such as salmon, herring, mackerel and sardines, and egg yolks. Vegetables are

generally a poor source of D, with dark green leafy vegetables being the best veggie source.

Sunlight is a major source of vitamin D, as our skin produces vitamin D upon exposure to ultraviolet radiation. The amount produced can vary greatly based on where one lives, seasonal variations, time of day of sun exposure, skin color, and use of sunscreens. Amounts obtained from sunlight can vary from as little as none to over 10,000 IU per day.

Scientists who study vitamin D calculate production from sunlight in units called MEDs, short for minimal erythemal dose. One MED produces the equivalent of 10,000-25,000 IU of oral vitamin D. For pale-skinned people living in the southern USA, full body exposure to noontime sun produces 1 MED or 10,000 IU in 4-10 minutes. By comparison, African Americans require 60-80 minutes of full body exposure to produce 1 MED given the same conditions.

Less exposure to the sun in general and the widespread use of sunscreens to prevent skin cancers such as melanoma may be one cause of low vitamin D levels. Sunscreens block UV penetration into the skin, which is why it prevents sunburns and also why it prevents production

of vitamin D. Even relatively weak sunscreens labeled SPF-8 will stop vitamin D production.

Studies suggest that how we get our vitamin D may make a difference in its effects on our health. In other words, staying out of the sun or using sunscreens and replacing that loss of vitamin D with oral supplements may not do quite the same thing. It appears that when sunlight causes vitamin D production in the skin, it triggers other mechanisms that improve immunity in the skin and other parts of our bodies. This may help explain why vitamin D may help keep our immune systems healthy and prevent diseases such as cancer.

Vitamin D and Bone Health

Vitamin D is important for healthy bones, ensuring that calcium is absorbed into the bones and the muscles. Bone problems related to vitamin D deficiency are most common in young children and the elderly. The current RDA for vitamin D has been set at levels to prevent bone diseases such as rickets in children and osteomalacia in adults, and these conditions are now rare.

Vitamin D is also important in maintaining muscle strength. One dose of vitamin D given to elderly people has been shown

to reduce the risk of hip fractures for 6 months. This is not due to its effects on bones but to the observation that people fell down less following vitamin D supplementation.

Vitamin D and Cancer

The association between vitamin D and cancer rates has been studied in recent years, and the results are striking.

A Harvard study of more than 30,000 premenopausal women published in May 2007 found that those with the highest vitamin D intake had a 35% reduced breast cancer risk. In June 2007, Nebraska researchers found that women who got 1100 IUs of vitamin D daily lowered their risk of all cancers by 77%. Researchers at UC-San Diego found that 1100 IU of vitamin D daily decreases the risk of colorectal cancer by half. In a 2005 prostate cancer study, men with the most lifetime sun exposure were 49% less likely to develop prostate cancer than those men with the least lifetime sun exposure.

In general, researchers currently estimate that exposure to UVB and vitamin D reduces the risk of 17 types of cancer.

But what about sunscreen preventing skin cancer? Could we be raising our risk for a number of cancers by using sunscreen to reduce the risk of skin cancer? This question is hotly debated. A 1999 analysis of 13 studies on the relationship of sunscreen use to melanoma rates found that 3 studies showed a decreased melanoma risk, 4 showed an increased risk, and 6 were inconclusive. A 2002

review published in the British Journal of Dermatology showed similar conclusions.

Vitamin D and Other Health Problems

There are a number of other diseases where adequate vitamin D levels have shown benefits. It has long been known that one risk factor for multiple sclerosis is living in northern latitudes. A 2006 Harvard study found that white people with the highest vitamin D levels had a 62% lower risk of developing MS. Vitamin D deficiency is linked with increased risk of developing both juvenile and adult-onset diabetes by impairing the production and use of insulin. Other conditions that vitamin D has shown benefit in include autoimmune diseases such as lupus and Crohn's disease, Alzheimer's disease, heart disease, and immune deficiency.

Vitamin D Tests & Treatment

Vitamin D levels can be measured by a simple blood test. A range of 30-90 ng/ml of the 25 (OH) form is considered to be sufficient for good health. Most patients we screen for vitamin D status at this clinic are below the normal range and require extra vitamin D through their diets or exposure to sunlight.

The RDA for adults ranges from 200-600 IU/day. Because of the expanding awareness of vitamin D's role in other health concerns, most researchers and doctors believe the RDAs are too low. Further, it has been determined that supplementing higher levels of vitamin D is generally safe.

When a patient is found to be low in vitamin D, we generally recommend a whole foods omnivorous diet rich in vitamin-D-containing foods, appropriate oral supplementation, as well as judicious exposure to sunlight without burning.

Our doctors can order the appropriate test to check your vitamin D status and help you determine the safe and appropriate ways for you to increase your levels if you're found to be deficient, taking into account your individual health history and needs.

Carl Hangee-Bauer, ND, LAc

SOMA Acupuncture & Natural Health Clinic



Founded clinic in 1989. Integrates naturopathic medicine and acupuncture.

Carl Hangee-Bauer, ND, LAc



Amy Day,
ND



Erika
Horowitz, ND

Women's health specialists



Michele
Hangee-Bauer,
Office Manager



Shannon
Fitzsimons,
Receptionist