



# THE SUNSHINE VITAMIN

By Monica Montag, MA, HHP, CN

**V**itamin D is emerging as a super-nutrient. It's not only a vitamin but also a pro-hormone, making it part of a myriad metabolic processes. Between 2000-2012, almost 32,000 scientific studies were published about the effects of vitamin D, wowing us with its powerful protective effects far beyond bone building.

There's a lot of talk out there about vitamin D deficiency issues, but just how prevalent is the condition?

Your body produces vitamin D from cholesterol. Because it's a pro-hormone, vitamin D influences your entire body; receptors that respond to the vitamin have been found in almost every type of human cell, from your brain to your bones. Vitamin D influences more than 3,000 genes (of the roughly 30,000 genes we have, so quite a significant percentage), including genes related to cancer and autoimmune diseases like multiple sclerosis.

Dr. Michael Holick, M.D., PhD and a leading vitamin D researcher, says that vitamin D deficiency is rampant. The Center for Disease Control and Prevention report 32 percent of adults in the U.S. were vitamin D deficient in the year 2000. The National Health and Nutrition Examination Survey found that 50 percent of 1 to 5-year-olds and 70 percent of kids between 6 and 11 are deficient in D.

If you live at this latitude, north of the Mason-Dixon Line, vitamin D deficiency is likely, even in the summertime. Above 40 degrees latitude, there simply isn't enough UVB radiation to help us produce Vitamin D on our skin. Clothing, sunblock, and spending too much time inside further reduce exposure.

Certain drugs including statins to

lower cholesterol, and problems with fat absorption, such as poor bile production, gall bladder weaknesses or low pancreatic enzyme production, also hinder uptake of vitamin D. So do darker and aging skin types.

So, what are some signs of vitamin D deficiency?

In more than 27 years of practice I have seen dramatic changes in people's health in ways that are not documented in the literature. I had one client whose severe lockjaw cleared after a few days of high dose vitamin D, a middle aged man whose brain fog lifted after adding it to his regimen for just a few weeks, and numerous reports of relaxed muscles and improved energy levels.

A middle-aged client with Rheumatoid Arthritis reported an easing of her "bone pain" when adding vitamin D. Another client exhibited a classic sign of D deficiency, a sweaty head, which cleared up within weeks. Still another client, with a rash encircling her mouth, around the lips, (another sign of deficiency) improved with the addition of vitamin D. It took about a month for hers to resolve, but it was a symptom she'd had for many years and she was thrilled to be rid of it!

Here are some documented benefits of optimal Vitamin D:

## IMMUNE SYSTEM

Vitamin D has become my first recommendation to boost immunity to prevent or help overcome infectious illnesses like colds or flu. It's easy and safe and most importantly, effective.

A study published in Japan showed decreased infections, including a 40 percent reduction in influenza in children taking 1,200 units of vitamin D each day.

In addition to being less expensive than a flu shot, the vitamin D supplementation yields many other benefits.

In-utero vitamin D deficiency is linked with higher incidence of asthma and wheezing disorders in children. New studies are revealing that children who are vitamin D deficient are more likely to develop type 1 diabetes, multiple sclerosis, rheumatoid arthritis, as well as Crohn's disease.

## BRAIN

The news about vitamin D just keeps getting better and better...especially for all things connected with the brain. Optimizing vitamin D levels can prevent dementia, Alzheimer's, Seasonal Affective Disorder and depression.

One study, which tracked more than 1,200 people aged 65 to 95, showed that blood vitamin D levels were 14 percent lower in individuals with major and minor depression. Vitamin D levels below 20 ng/mL had an 85 percent increased risk of depression compared to those with vitamin D levels greater than 30 ng/mL.

Another study showed seniors with low levels of vitamin D had a 53 percent increased risk for dementia, and a 70 percent higher risk of Alzheimer's. Severely deficient individuals (<30 ng/mL) had a 125 percent higher risk for dementia and 120 percent higher risk for Alzheimer's.

## SKELETAL SYSTEM

We have long known that vitamin D is critical for bone building. It enhances calcium metabolism, especially if adequate trace minerals, including boron, are present. It also strengthens cartilage and supports healthy teeth and gums.

## GLUCOSE METABOLISM

Optimizing vitamin D is an important strategy in preventing Type II diabetes; 60 percent of patients with Type II diabetes have vitamin D deficiency. What's the connection? Vitamin D has a role in supporting insulin production and improving glucose tolerance.

One of Dr. Holick's studies showed significant DNA repair in 80 different metabolic processes, on just 2,000 IU's of vitamin D each day over a few months.

## CARDIOVASCULAR

Holick also reports that vitamin D deficiency increases the risk of heart attack by 50 percent and, even worse, if you're low in vitamin D, your risk of dying from a heart attack is 100 percent. That is sobering!

One of the ways vitamin D impacts the cardiovascular system is by reducing oxidative stress and several markers of inflammation: CRP, IL-61 and fibrinogen.

## AUTOIMMUNE

Calms autoimmune reactions such as:

- MS
- Type I diabetes
- rheumatoid arthritis
- psoriasis
- inflammatory bowel disease (Crohn's, ulcerative colitis)
- lupus
- thyroiditis
- reduces transplant rejection
- reduces cancer risk and development of cancers: colon, breast, prostate, melanoma
- enhances vaccines antibody response
- reduces inflammation

NOTE: There is one caution against using vitamin D: the autoimmune condition, sarcoidosis, may be adversely affected by vitamin D supplementation.

## CANCER

There are more than 800 references showing vitamin D's effectiveness against cancer. Its action includes increasing the self-destruction of mutated cells (which, if allowed to replicate, could lead to cancer). Vitamin D reduces the spread and reproduction of cancer cells and reduces the growth of new blood vessels from pre-existing ones, a step in the transition

of dormant tumors turning cancerous. It also causes cells to become differentiated (cancer cells are often undifferentiated).

Just a few quick examples of the effectiveness of vitamin D against cancer include a study published in the American Journal of Preventative Medicine in 2007 that shows a 50 percent lower risk of colorectal cancer with a vitamin D level over 33 ng/ml.

The Nurses' Health Studies showed that nurses who had the highest blood levels of 25-OH D, averaging about 50 ng/ml, reduced their risk of developing breast cancer by as much as 50 percent. Another study correlates significantly lower rates of breast cancer recurrence with a vitamin D level of over 55. What an easy way to stack the deck in favor of avoiding future cancers!

Research published in 2007 showed that after four years of follow up, there was a 77 percent cancer risk reduction in women who received 1,100 IUs of vitamin D and 1,450 mg calcium per day, and, achieved a serum level of approximately 40 ng/ml vitamin D. If a drug yielded a 77 percent reduction in cancer risk, we would all know it by name from the media attention. I've wondered if one of the contributing factors to the increase in cancers is our depleted vitamin D levels for the reasons I've listed here.

## ADRENAL SUPPORT

Vitamin D has a role in supporting the synthesis of adrenaline, so that deficiency may cause fatigue and fibromyalgia-like symptoms. It may also counteract some detrimental effects of corticosteroids such as osteoporosis.

## LEAKY GUT

Turns out that vitamin D controls zonulin, the molecule that is the glue of tight junctions in the lining of your small intestine. So it literally "guards" the gut membrane and can help prevent "leaky gut" by preventing a breakdown of the gut lining, thereby creating IGG, or "hidden" food allergies.

How to supplement with Vitamin D  
If you get a prescription for 50,000 IU's of vitamin D, consider tossing it. We don't get a mega dose of vitamin D once a week in nature; that's not how our bodies absorb nutrients. We need a steady intake over time. More importantly, vita-

min D must be paired with Vitamin K to avoid hardening of the small blood vessel walls. The once-a-week mega dose of Vita D is a setup for a heart attack or stroke.

Studies indicate that taking 10,000 IU's of vitamin D/day for two months generally increases D levels by 50 points. If your levels are in the 20's, taking 10,000 IU's vitamin D and vitamin K for two months will bring you into the 70's, which is considered optimal range. Most people can switch to maintenance dose of 3,000-5,000 iu's /day after one bottle of the higher dose.

There are a small number of folks who have a genetic polymorphism or change that prevents them from absorbing D vitamins. That would explain why vitamin D levels can vary wildly. In my practice I've encountered a landscaper, who you'd expect to have good levels, with extremely low levels and a 91-year-old, unsupplemented, within the optimal range. That's why it's so important to have it checked regularly so you understand your patterns and can supplement accordingly.

Get your D levels tested (25-(OH) D3 test). Aim for optimal levels, between 50-70 ng/mL rather simply "normal", which is categorized as over 30 ng/mL.

The low threshold was recently increased from 20 to 30, but I think it will be going higher still, as we continue to discover more ways that vitamin D is important to health.

You can measure your own at home using our new Bloodspot Vitamin D kit or one you can order from the Vita D Council website ([www.vitamindecouncil.org](http://www.vitamindecouncil.org)).

Maximizing your vitamin D is so easy and has such profound effects. Rarely is there a substance that is so inexpensive and readily available and has such wide-ranging benefits as this one does.

Make sure you have enough! ❖

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