



Dr. Frank Lipman Integrative Physician Vitamin D: What You Need To Know

Hardly a day goes by without some groundbreaking news about Vitamin D. Originally known for its crucial role in maintaining calcium levels for bone health, it is rapidly becoming apparent that we have vastly underestimated Vitamin D's significant importance for our overall health and wellbeing. In short, judging by what I see in my practice and speaking with colleagues around the country, it's looking very much like we're facing an epidemic of Vitamin D deficiency, with potential grave consequences. This Vitamin D FAQ will help to get you up to speed on this important topic.

What diseases are associated with Vitamin D deficiency?

Vitamin D deficiency has been shown to play a role in almost every major disease, including:

- Osteoporosis and Osteopenia
- 17 varieties of Cancer (including breast, prostate and colon)
- Heart disease
- High blood pressure
- Obesity
- Metabolic Syndrome and Diabetes
- Autoimmune diseases
- Multiple sclerosis
- Rheumatoid arthritis
- Osteoarthritis
- Bursitis
- Gout
- Infertility and PMS
- Parkinson's Disease
- Depression and Seasonal Affective Disorder
- Alzheimer's Disease
- Chronic fatigue syndrome
- Fibromyalgia
- Chronic Pain
- Periodontal disease
- Psoriasis

What is vitamin D?

Although it's called a vitamin, **vitamin D is really a hormone** not a vitamin. Vitamins cannot be produced by your body, we get them from dietary sources, whereas hormones like vitamin D are made in your body. It's your body's only source of calcitriol (activated vitamin D), the most potent steroid hormone in the body.

What does vitamin D do?

Like all steroid hormones, vitamin D is involved in making hundreds of enzymes and proteins,

which are crucial for preserving health and preventing disease. It has the ability to interact and affect more than 2,000 genes in the body. It enhances muscle strength and builds bone. It has anti-inflammatory effects and bolsters the immune system. It helps the action of insulin and has anti-cancer activity. This is why vitamin D deficiency has been linked with so many of the diseases of modern society. Because of its vast array of benefits, **maintaining optimal levels of D is essential for your health.**

Where do I get vitamin D from?

The only 2 reliable sources of vitamin D are the sun and supplements. Sunlight exposure is the only reliable way for your body to generate vitamin D. Vitamin D is produced by your skin in response to exposure to ultraviolet radiation from the sun. In fact, this is such an efficient system that most of us make approx. 20,000 units of vitamin D after only 20 minutes of summer sun **without suntan lotion** (or clothes!) That's 100 times more than the government recommends per day! There must be a good reason why we make so much in so little time.

You do not generate vitamin D when sitting behind a glass window, whether in your car or at home because these UV rays cannot penetrate glass to generate vitamin D in your skin. Also sunscreens, even weak ones, almost completely block your body's ability to generate vitamin D.

The other reliable source is vitamin D3 supplements (not vitamin D2)

Only about 10% of your vitamin D comes from diet, so it is nearly impossible to get adequate amounts of vitamin D from your food.

What are the food sources of vitamin D?

1. Fish liver oils, such as cod liver oil. Fatty wild fish like mackerel, salmon, halibut, tuna, sardines and herring
2. Fortified milk, orange juice and cereal
3. Dried Shitake mushrooms
4. Egg yolks

But to get adequate amounts of vitamin D from food, you would have to eat at least 5 servings of salmon a day or drink 20 cups of fortified milk

My Doctor told me to avoid the sun, what do you think?

There is an old Italian saying "*Where the sun does not go the doctor does.*"

For about the last 25 years, doctors (dermatologists in particular) have demonized sun exposure and repeatedly told us it is bad for you and causes cancer. But is that true? In the last few years, numerous studies have shown that **modest** exposure to sunlight may actually be good for you, helping the body produce the vitamin D it needs to keep bones healthy and protect against cancer, including skin cancer. Though repeated sunburns--in children and very fair-skinned people--have been linked to melanoma, there is no credible scientific evidence that **moderate** sun exposure causes it. Since it's almost impossible to get adequate amounts of vitamin D from food alone (including fortified milk and fatty wild fish), the sun is your best source. I'm not suggesting you go bake in the sun with your suntan oil or go to tanning salons. But getting some sun without getting sunburned makes healthy sense.

We evolved in the sun; we were made to get some sun, not to live our lives indoors and slather on sunscreen every time we go outside. If the sun is shining where you are today, get out and enjoy it, talk about a free natural treatment! All you need is a little common sense when heading outdoors, do it gradually and **always avoid sunburn.**

Special Note: Remember to take antioxidants when you sit in the sun, as these can help prevent

skin cells from sun damage.

How much sunshine do I need?

All living things need sun, the key is balance. Too much sun exposure can cause melanoma and skin aging, while too little creates an inadequate production of vitamin D. The amount needed depends on the season, time of day, where you live, skin pigmentation and other factors. As a general rule, if you are not vitamin D deficient, about 20 minutes a day in the spring, summer and fall on your face and arms or legs without sunscreen is adequate. It doesn't matter which part of the body you expose to the sun. Many people want to protect their face, so just don't put sunscreen on the other exposed parts for those 20 minutes.

If you live north of 37 degrees latitude (approximately a line drawn horizontally connecting Norfolk, Virginia to San Francisco, California) sunlight is not sufficient to create Vitamin D in your skin in the winter months, even if you are sitting in the sun in a bathing suit on a warm January day! The further you live from the equator, the longer exposure you need to the sun in order to generate vitamin D

How much vitamin D do I need?

How much vitamin D you need varies with age, body weight, percent of body fat, latitude, skin coloration, season of the year, use of sun block, individual variation in sun exposure, and - probably - how ill you are.

As a general rule, old people need more than young people, big people need more than little people, fat people need more than skinny people, dark-skinned people need more than fair skinned people, northern people need more than southern people, winter people need more than summer people, sun block lovers need more than sun block haters, sun-phobes need more than sun worshipers, and ill people may need more than well people.

What I and many of my colleagues around the country are finding is that even people spending what we thought was adequate amount of time in the sun, are still showing up with low blood vitamin D levels. I am not sure why at this stage but there is an easy and cheap solution...vitamin D supplementation.

How much vitamin D should I supplement with?

Most important is that you take **vitamin D3**, (cholecalciferol) the active form of vitamin D. Do not take vitamin D2 as it is not as biologically active nor as effective, and nor as safe as vitamin D3. And taking the right amount is crucial, most doctors tend to under dose. The current recommendations from the Food and Nutrition Board of the U.S. Institute of Medicine: from 200 to 600 IU/day depending on one's age, are way too low. These values were originally chosen because they were found to prevent osteomalacia (bone softening) and rickets

Here are some guidelines

If your blood level is above 45ng/ml and for maintenance, I recommend 2,000-4,000 IU daily depending on age, weight, season, how much time is spent outdoors, where one lives, skin color and obviously blood levels

In other words if you are older, larger, living in the northern latitudes during the winter, are not getting sun and have dark skin, I recommend the higher maintenance dose.

If your blood level is 30-45 ng/ml, I recommend you correct it with 5,000 IU of vitamin D3 a day for 3 months under a doctor's supervision and then recheck your blood levels.

If your blood level is less than 30 ng/ml, I recommend you correct it with 10,000 IU of vitamin

D3 a day under a doctor's supervision and then recheck your blood levels after 3 months. It takes a good 6 months usually to optimize your vitamin D levels if you're deficient. Once this occurs, you can lower the dose to the maintenance dose of 2,000 - 4,000 IU a day.

What are the symptoms of vitamin D deficiency?

There is no clear pattern of symptoms. In fact many people remain asymptomatic despite low levels. But here are some of the more common symptoms:

- Fatigue
- General muscle pain and weakness
- Muscle cramps
- Joint pain
- Chronic pain
- Weight gain
- High blood pressure
- Restless sleep
- Poor concentration
- Headaches
- Bladder problems
- Constipation or diarrhea

What about vitamin D toxicity?

It is impossible to generate too much vitamin D in your body from sunlight exposure: your body will self-regulate and only generate what it needs. Although very rare, it is possible to overdose and become toxic with supplementation as vitamin D is a fat soluble vitamin and therefore stored in the body for longer periods of time. **Therefore if you are taking 5,000 IU or more daily, you should have your blood levels monitored approximately every 3 months.**

What blood test should I have to check my vitamin D levels?

The only blood test that can diagnose vitamin D deficiency is a **25-hydroxy-vitamin D (25 OH vitamin D)**. Unfortunately, some doctors are still ordering the wrong test, 1,25-dihydroxy-vitamin D. In fact a common cause of high 1,25-dihydroxy-vitamin D is a low 25(OH)D or vitamin D deficiency. So when doctors see the 1,25-dihydroxy-vitamin D is normal or high and tell their patients that they are OK, they are often vitamin D deficient.

Your doctor should do this test for you. Unfortunately even some of the labs, in particular Qwest, have had problems with correct results, usually giving [erroneously high results](#).

If you don't want to go through your doctor, the [ZRT lab](#) does a blood spot test that you can order without going through a doctor.

What is the ideal blood level of 25 hydroxy vitamin D?

The current ranges for "normal" are 20 to 55 ng/ml. These are much too low!!! They may be fine if you want to prevent rickets or osteomalacia, but not for optimal health. The ideal range for optimal health is 50-80 ng/ml.

How often should I have a 25 hydroxy vitamin D blood test?

At least once a year especially at the beginning of winter. If you are supplementing, I suggest you

monitor your vitamin D levels approximately every 3 months until you are in the optimal range. If you are taking high doses (10,000 IU a day) your doctor must also check your calcium, phosphorous, and parathyroid hormone levels every 3 months

My doctor prescribed Drisdol, 50,000 IU per week. What is it?

Drisdol is a prescription of 50,000 IU tablets of vitamin D2 or ergocalciferol. Ergocalciferol is not vitamin D but it is similar. D2 is not normally found in humans and most studies show it does not raise 25(OH)D levels as well as (cholecalciferol or vit D3) does. **If you are vitamin D deficient, the best thing to do, is to take vitamin D3.**

Can I take cod liver oil to get my vitamin D?

Although Cod liver oil contains a fair amount of vitamin D, it also contains high amounts of vitamin A. Vitamin A antagonizes the action of vitamin D and can be toxic at high levels.

Why is there an epidemic of vitamin D deficiency?

It is estimated that anywhere from 30 to 100% of Americans, depending upon their age and community living environments, are deficient in Vitamin D. More than half of all American children are vitamin deficient. Supposedly almost 3/4s of pregnant women are vitamin D deficient, predisposing their unborn children to all sorts of problems. Worldwide, it is estimated that the epidemic of vitamin D deficiency affects one billion people. In my practice over 80% of patients whose vitamin D levels I check are deficient. No one is exactly sure why this is happening apart from the fact that we spend too much time indoors and when we go out into the sun, we lather sunscreen on ourselves. I think it must be more than that. But whatever the reason, the reality is we have a major epidemic on our hands.

What about the use of tanning beds to get my vitamin D?

I tend not to recommend them because we don't really know if they are safe. Because the light sources vary with different tanning beds, it makes them unpredictable and possibly unsafe. In addition, most commercial tanning beds emit an unknown amount of EMF and because one is so close to the actual bed, it may be an unnecessary high dose. Theoretically both these problems could be overcome, but in reality they usually are not.

For more information on vitamin D, go to <http://www.vitamindcouncil.org/>