

## Vitamin D and Immune Function

I personally take 10,000 IU per day in the months October through March. In the summer, I spend some time outside in the sun several times each week. When I cannot get spring/summer sun exposure, I take about a 4000 IU dose of supplemental D. For most adults 4,000 IU is an adequate safe dose (per the endocrine society). Everybody varies. You can monitor your levels through a blood test. Your provider may order this for you, although many insurance companies do not cover the cost of this test so you should plan to pay for it out of pocket. If your provider will not order the test, there are some test kits you can purchase over the counter to send off.

There are many reputable brands of supplements. I personally use VitaCost.com (most reliable vitamins are made in the US, not China). Shop around and read reviews to find a brand that you can access. The app, D Minder, is a great tool for determining when and how to optimize your natural exposure to Vitamin D.

Here are a couple of references about Vitamin D and COVID

[https://www.uchicagomedicine.org/forefront/coronavirus-disease-covid-19/vitamin-d-covid\\_study](https://www.uchicagomedicine.org/forefront/coronavirus-disease-covid-19/vitamin-d-covid_study)

<https://www.nature.com/articles/s41598-020-77093-z>

<https://vitamindwiki.com>

<https://c19vitamind.com>

### Other supplements that may be of use:

Magnesium – nightly 250-400 mg. The “-ate” forms (citrate, glycinate, sulfate) are better absorbed than oxide forms. In Americans, 80% of individuals are deficient. This is a critical factor for bone health, blood pressure, and Vitamin D effectiveness.

Zinc – 15-20 mg per day when healthy. 70-80% of Americans are deficient. Critical for DNA replication in cell division and growth. Important in helping fight viruses and pathogens. Trace copper (1mg) with Zinc is also helpful. If one has COVID, higher dose (30mg) Zinc has been recommended during the week of infection. This is also useful with other viral illnesses such as colds.

Selenium – 100 micrograms (also present in Brazil nuts). Critical cofactor in immune function.

Vitamin C – important antioxidant and antimicrobial at higher dose.

N-Acetyl-Cystine (NAC) – Critical antioxidant and free radical scavenger. It is the precursor to the body's own natural glutathione.

Melatonin – nightly, very low dose (.10mg) acts as mitochondrial protector as well as an antioxidant, in addition to helping one sleep.

Vitamin D is best taken with 100 micrograms of Vitamin K2 for bone health.

Vitamin A and Vitamin E are also important, but should be taken at a very low dose, as excess of either can lead to toxicity.

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The average American diet is deficient in many vitamins and minerals, especially if one consumes more highly processed foods. A plant rich, “real” food diet is best for optimal health and well-being. Adequate sleep is also critical for immune function, as well as mental clarity and balance.

## **Weight Loss**

I lost 45 pounds following a low carbohydrate, higher fat, ketogenic diet. This became a lifestyle choice, and not a temporary diet. With some occasional exceptions, I avoid refined sugar and white flour.

Some important resources that informed this journey are:

- the work of Gary Taubes, especially his books *Why We Get Fat* and *The Keto Cure*
- the work of Stephen R. Gundry, MD, particularly his book *The Plant Paradox*
- The Hacking of the American Mind* by Robert H. Lustig, MD, MSL
- More recently, I have been following the work of Dr. Benjamin Bickman, and his recent book *Why We Get Sick*

Each of these authors also have numerous lectures and podcasts that are widely available. You should also make sure your thyroid function is normal, which can be tested with a simple blood test that your doctor can order. Consult a trusted health care professional based on your health needs and journey.

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