

# Super

# D

Your comprehensive guide to the vitamin that might save your life. *By Nancy Kalish*

FOR DECADES VITAMIN D's claim to fame was its role as calcium's trusty escort, helping our bones absorb the essential mineral. But a recent flood of research is revealing that D does much more: "There is a vitamin D receptor on every one of our cells," says Michael F. Holick, PhD, MD, author of *The Vitamin D Solution*. "And those receptors are there for a reason." Actually, many reasons—all of our bodily functions seem to rely on the nutrient, and studies show that it's key to helping prevent everything from migraines to cancer.

The trouble is, most of us—53 percent of women, 41 percent of men, and 61 percent of kids—have insufficient levels. Though our bodies naturally produce the vitamin from the sun's UV-B rays, these days we don't absorb nearly enough sunlight to manufacture an adequate amount—and during winter, most of the country gets so little sun, doing so is impossible. But don't sweat it: With a few easy moves, you can boost your D levels. We've gathered the latest info on the vitamin everyone's suddenly talking about.



## Why It's Essential

More and more studies are revealing the benefits of having plenty of D—and the dangers of having too little.

### HIGH LEVELS ARE LINKED TO...

- **Greater resistance to viruses**  
During a recent study, researchers at the Yale University School of Medicine discovered that **people with high levels of vitamin D got sick about half as often** as people with low levels. And when they did fall ill, they recovered in fewer days. The reason: Vitamin D instructs your white blood cells to manufacture a protein that kills infections.
- **Less cancer**  
Specifically, a **30 to 50 percent lower chance of breast cancer**, and a **50 percent lower chance of colon cancer**. D regulates some of the genes responsible for cellular growth and survival, says Holick, and it does its job cleverly: "It helps shut down any out-of-control growth to prevent malignancy. If that doesn't work, it will help kill the cell. And if a tumor grows anyway, it will work to cut off blood supply."
- **Higher cancer survival rate**  
At the Dana-Farber Cancer Institute, researchers found that colon cancer patients with high levels of D had a **39 percent lower chance of dying from the disease**. And this might actually apply to all cancers, says Edward Giovannucci, MD, ScD, professor of nutrition and epidemiology at the Harvard School of Public Health.
- **Reduced risk of Parkinson's**  
Researchers believe the correlation, which *Archives of Neurology* reported in July, may have to do with D's **protective effect on the brain**: It regulates calcium levels, enhances the conduction of electricity through neurons, and detoxifies cells, among other handy functions.

### LOW LEVELS ARE LINKED TO...

- **Heart disease**  
People with insufficient D levels have an **80 percent greater risk of narrowing of the arteries**, according to a long-term study at Johns Hopkins. This might have to do with D's role in regulating more than 200 genes and controlling inflammation, and its possible involvement in modulating blood pressure.
- **Diabetes**  
Since D stimulates insulin production, it's no surprise that too little is associated with diabetes. Research has also shown that **kids who are deficient in D have a 200 percent greater chance of developing type 1**.
- **Chronic pain**  
A 2008 study showed that more than **25 percent of chronic pain patients have low D levels**, which could be because D helps control neuromuscular function. And a 2010 study correlated low levels of the vitamin with migraines and headaches. A dearth of D may prevent blood vessels from constricting and dilating properly, which can lead to throbbing pain.
- **Depression**  
D may help stimulate serotonin production, which could explain why people who don't get enough are **more susceptible to the blues**.
- **Higher risk of death**  
After analyzing D levels of more than 13,000 people, researchers at Johns Hopkins found that those with the lowest levels had a **26 percent greater chance of dying—from any cause**.

# The Risk Factors

If you meet any of the criteria below, chances are you're not getting enough D.



## YOU LIVE NORTH OF 34 DEGREES LATITUDE.

"From October through March, the angle of the sun is so low that we just can't produce any D from it," says Joan M. Lappe, PhD, a researcher and professor at Creighton University. Only those living south of 34 degrees (imagine a line running from Los Angeles to Columbia, South Carolina) get enough UV-B rays year-round.



## YOU SLATHER ON SUNSCREEN.

If properly applied, SPF 30 will block 97 percent of UV-B rays, which is why some experts feel we should (gasp!) be using less of it. In Australia—the skin cancer capital of the world—the Cancer Council has actually begun recommending a small amount of daily exposure sans protective goop.

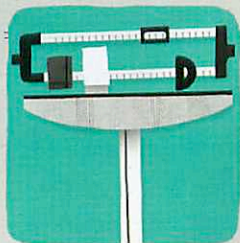


## YOU RELY ON A MULTI FOR YOUR DAILY DOSE OF D.

The daily value for vitamin D was set back in 1997, and many experts believe it's woefully inadequate. For example, studies found that taking 400 IU (the amount in most multis) did almost nothing to lessen the risk of bone fractures in older women. But taking 700 to 800 IU considerably reduced fractures.

## YOU HAVE DARK SKIN.

If your skin has a high melanin content, you absorb less sunshine. Forty to 60 percent of African-Americans are deficient in vitamin D.

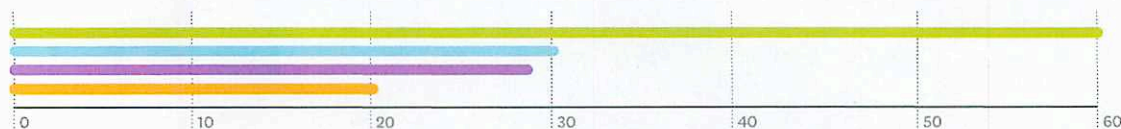


## YOU'RE OBESE.

The vitamin is stored in fat, and people who have a greater amount of fat tend to have less D circulating in their blood for use throughout the body. Chances are, the higher your BMI, the lower your D levels. (The good news: Increasing your D intake could help you lose weight. In a small diet study at the University of Minnesota, people who started with the highest levels of D lost significantly more weight—and more of it was dangerous abdominal fat.)

## ARE YOU D DEFICIENT?

THE VITAMIN D BLOOD TEST MEASURES YOUR LEVELS IN NANOGRAMS PER MILLILITER (NG/ML). HOW THE NUMBERS STACK UP:



## Dos and Don'ts

Here's how to make sure your D levels are as high as they should be.

### DO get tested.

Your doctor is unlikely to order the test unless she suspects osteoporosis. But everyone should get tested, says Giovannucci, especially those with a family history of cancer or autoimmune disease.

### DON'T assume you get enough from your diet.

D is found naturally in fatty fish, eggs, liver, and some cheeses, but none of these sources contain enough to meet your daily needs. (You'd have to eat 95 eggs to come close.) You can buy D-fortified foods, but Holick warns that labels can't always be trusted. His research found that only 30 percent of milk brands he tested contained the amount of D they claimed to. And 20 percent of nonfat milks had none.

### DO get some unprotected sun exposure—safely.

The most common recommendation from physicians is ten to 15 minutes on your arms and legs (never your face) every day.

### DO take a supplement.

If your levels are above 30 ng/ml (or you haven't been tested), Holick suggests 2,000 IU daily for adults and 1,000 IU for kids. If your levels are below 30 ng/ml: Take 5,000 to 6,000 IU daily for a couple of months, then 2,000 IU.

### DON'T overdo it.

While it's hard to reach toxic levels (150 ng/ml), it's not impossible. Holick recommends no more than 10,000 IU daily, an amount proved to be free from side effects.