



Groundbreaking new research shows that vitamin D is crucial for protecting against cancer, diabetes, depression and heart disease—and that it helps prolong our lives. Yet 78 percent of us don't have high enough levels.

She dragged through each day, suffering constantly from colds and bouts of pneumonia. Finally, in 2006, she was referred to a physician who made a startling diagnosis: Billie Jo was deficient in vitamin D. She started taking supplements in December, and “by February, I was off antidepressants,” she says. Her pain gradually eased, she was able to sleep at night and her stamina returned. She even lost 29 pounds in three months. “I’m a completely different person than I was two years ago,” she says. “I can’t believe the fix was so easy.”

Groundbreaking new research shows that D not only relieves health conditions like Billie Jo’s but is also crucial for protecting against cancer, diabetes, depression and heart disease. It also helps prolong our lives. A study published last summer found that people with the highest levels of D in their blood are 21 percent less likely to die of any cause than people with the lowest. While other nutrients, like vitamin E, have proved disappointing in similar large studies, “there really seems to be something super-protective about D,” says study coauthor Michal Melamed, M.D., an assistant professor of medicine, epidemiology and population health at Albert Einstein College of Medicine in New York City.

But the scary thing is, as many as 78 percent of Americans don’t have the amount of vitamin D necessary for good health, according to the Office of Dietary Supplements in Washington, D.C. One-third of the population—mostly women—fails to meet even the current minimum. As many as half of young adults are low in D, putting them at risk for developing a rare bone disorder called osteomalacia. Unlike osteoporosis, which is characterized by bone loss, the condition causes the skeleton to soften from a lack of calcium, resulting in aches and pains throughout the body. “Some patients have bones that look almost clear on X-rays,” says Michael F. Holick, M.D., Ph.D., director of the Bone Health Care Clinic at Boston University School of Medicine.

Vitamin D deficiency is so widespread that it has become a serious health problem for women and men of all ages, experts say. Yet most of us have no idea we’re at risk.

A Knockout Nutrient

To bone up on D, it helps to know how the vitamin works. We get small amounts of it from food, especially fortified dairy products, but the nutrient is mainly produced from ultraviolet B radiation in sunshine. Those rays penetrate our skin and transform cholesterol-like molecules there into a preliminary form of D that circulates in the blood. It then travels to receptors in the liver and the kidney, where it becomes mobilized to do its number-one job of regulating calcium and storing it in our bones. “Once that’s done, D

begins to have other benefits,” Dr. Holick says. For one thing, it triggers the genes in our bodies that inhibit cell growth, which may prevent cancer cells from forming. In fact, women who spend more time outdoors in the sun and drink 10 or more glasses of milk a week when they’re in their teens and twenties have lower rates of breast cancer than women who don’t, according to one recent study. Other research suggests that getting too little D can increase the risk of colon, ovarian and breast cancers. The vitamin also regulates the activity of the immune system’s cells, helping to ward off infections and protect against such autoimmune diseases as lupus, multiple sclerosis and rheumatoid arthritis.

And that’s not all. D helps prevent inflammation in the body, which has been linked to heart disease, and it regulates blood pressure. Azzie Young, Ph.D., president and CEO of Mattapan Community Health Center in Boston, discovered this for herself three years ago. Young started taking megadoses of the vitamin once a week for two months as prescribed by her doctor after she was diagnosed with vitamin D deficiency. As a result, her blood pressure dropped, and she now

D IN YOUR DIET

Although taking supplements is the best way to load up on the vitamin, these five foods have enough per serving to help bolster your intake.

SALMON (3.5 ounces)
360 IU

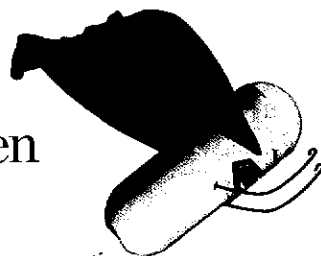
CANNED TUNA IN OIL (3 ounces)
200 IU

FORTIFIED MILK
(1 cup) 98 IU

FORTIFIED BREAKFAST CEREAL
(1 cup) 40 IU

2 EGG YOLKS 40 IU

Just 5 to 30 minutes of sunshine at least twice a week will give you the amount of D you need for good health. The key is to get outside between 10 a.m. and 3 p.m., when the sun is almost directly overhead.



sleeps better, is more energized and has fewer aches and pains. "I was blown away that something so simple, safe and inexpensive could make that big a difference," Young says. She has since started a vitamin D-awareness initiative to help spread the word about this powerful pill.

Hello, Sunshine

The sun is key to D production, and it doesn't take much: Research suggests that 5 to 30 minutes of unprotected exposure between 10 a.m. and 3 p.m. at least twice a week will give you most of the D you need. To guard against skin cancer, "I recommend always wearing sunscreen on your face but not putting it on your arms or legs if you're going to be outside for only 10 or 15 minutes," Dr. Holick says.

For the sun to create vitamin D, however, conditions have to be just right. Overcast skies reduce ultraviolet energy, and thus D production, by half; standing in the shade, even if it's caused by smog, lowers it by 60 percent. Even more critical is the position of the sun. When its rays are at an angle, they must pass through more of the atmosphere, which absorbs energy needed to trigger D formation. "People may think, 'I'm out in the sun at 8 a.m., so I'm making vitamin D,' but they aren't," Dr. Holick says. "The sun needs to be almost directly overhead."

The prime D-forming hours occur when most of us are indoors at work. And if you live above 42 degrees latitude, which runs roughly from Boston to northern California, your body won't produce the vitamin at all from November to February. Researchers now speculate that a lack of D is why we're more prone to flu in winter and the reason people are more likely to survive serious illnesses like cancer if they're diagnosed in summer, when vitamin D levels are higher.

D Is for Defense

To find out if you're low in this super supplement, ask your doctor for a simple vitamin D blood test, called 25-Hydroxyvitamin D. (It costs \$50 to \$200 and is typically covered by insurance.) Current guidelines say you're deficient if your level is below 20 nanograms per milliliter, the amount needed to prevent rickets, a bone disorder. "But if you bring blood levels above 30, your body absorbs more than twice as much calcium," Dr. Holick explains. This is the point at which vitamin D, finished with its bone-strengthening duties, is free to work its magic on the rest of the body. James Dowd, M.D., an associate clinical professor of medicine at Michigan State University and author of *The Vitamin D Cure*, goes even further: "I consider 45 to 65 to be the sweet spot to maintain health and prevent disease," he says.

Because most of us can't get enough D from the sun, experts recommend taking a supplement daily. But don't think your multivitamin or a calcium-vitamin D combo has you covered. These typically supply the RDA of 200 to 400 international units (IU), which the latest research indicates is far too low. So how much is enough? Studies indicate that 1,700 IU of D a day nudges blood levels to 32. A growing number of experts even recommend at least 2,000 IU a day—which, according to the Institute of Medicine, is the highest amount that's deemed safe to take.

Billie Jo Coomer used sunshine and daily supplements to boost her level of vitamin D from 11 to 52 nanograms per milliliter, and the results have been dramatic. "My life has totally turned around," Billie Jo says. "I have the energy to get together with friends again, and I can climb the three flights of stairs to my apartment without feeling out of breath." She adds, "The difference vitamin D has made is astonishing. I recommend it to everybody." ■

THESE D's GET AN A

Vitamins, which are essentially unregulated by the Food and Drug Administration, can vary in quality. In tests of D, ConsumerLab.com, an independent organization that screens supplements for contaminants and accuracy in labeling, gave the thumbs-up to products from these widely distributed brands:

- **Enzymatic Therapy**
- **GNC**
- **Nature Made**
- **Puritan's Pride**
- **Schiff**
- **Sundown**