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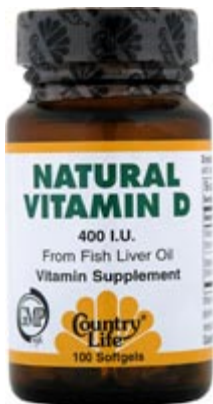


Vitamin D

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Vitamin D: Enjoying its day in the sun

New study summing up anticancer research adds to its luster.



We met someone the other day who had just been told by his doctor to give up his daily vitamin B pill. The vitamin's reputation has slid as studies have challenged the view that it prevents heart disease, Alzheimer's disease, or cancer and in the large daily doses of 400 International Units (IU) that people have been taking, it may actually do harm. "But" our health-conscious acquaintance asked, "should I be taking vitamin D instead?"

Cancer prevention

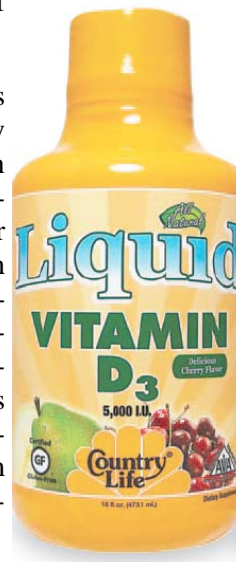
That question is on many people's minds these days. A study published by the American Journal of Public Health late last year concluded that taking vitamin D pills could substantially reduce the risk for breast, colon, prostate, and ovarian cancer. The study itself was just a summary of previously published research. But the University of California, San Diego, researchers spiced it up with a strongly worded conclusion scolding the public health and medical communities for not adopting vitamin D supplementation for cancer preven-

tion sooner. They contrasted the nickel-a-day cost of a L000 IU vitamin D pill with "the high human and economic costs of treating cancer attributable to insufficiency of vitamin D₂

Other positive findings

Anticancer promises—they're always going to grab the spotlight. But over the past several years, there's been a steady accumulation of research showing a variety of other health benefits from vitamin D. Moreover, the evidence isn't just for the standard quantities of vitamin D found in nutritional guidelines, but for larger amounts, which for both practical and health reasons would probably best be taken as vitamin D pills or as part of a multivitamin.

For example, there's now a convincing body of evidence that vitamin D may be just as important as calcium for building bone strength and preventing osteoporosis. This makes perfect sense. One of vitamin D's main functions is to increase the absorption of calcium needed for the formation of bone.



Doctors have known for 20 years that many body tissues other than bone have receptors for vitamin D, suggesting that the vitamin plays some role in the health of many tissues.

For example, vitamin D seems important in building muscle strength. This, in turn, protects older people from falling and from bone fractures. Several small studies hint that extra vitamin D confers cardio-vascular benefits. There are also intriguing reports of protection against multiple sclerosis, rheumatoid arthritis, and other autoimmune conditions. Researchers theorize that vitamin D is crucial to the regulation of Th1 cells, an important group in the complicated menagerie of immune cells. When the vitamin is in short supply, the Th1 cells may run amok, attacking tissues in the body instead of fighting off germs.

Natural food sources of vitamin D are scarce. You're basically limited



to fat-rich fish that thrive in cold water: bluefish, mackerel, salmon, and so on. Health officials recognized this problem years ago, when the main risk from a deficiency was rickets in children, and ordered the fortification of the food supply. In the United States, they picked milk as the vehicle. Each cup is supposed to contain 100 IU of vitamin D.

But for many people, the largest source of vitamin D is their own skin. When ultra-violet-B (UVB) light hits your skin, it turns a cholesterol-related compound into a preliminary form of the vitamin, which—several metabolic steps later—is rendered into vitamin D.

This dependence on sunshine presents several problems. In the warm, sunny months, there's skin cancer and damage to worry about. Sunscreens are a dilemma, because they block UVB light. And during the colder months, in many northern latitudes, UVB light is too weak to jump-start vitamin D production. The authors of the American Journal of Public Health anticancer paper say that from November to March, people living north of 37° (Richmond, Virginia, is at that latitude) in the Northeast don't get enough sun-generated vitamin D, no matter how much they go outside. This is an estimate. Others have drawn the line at 40°. And regional air pollution is a factor, so this warning may not apply to all higher latitudes. Fortunately, vitamin D is stored in fat, so Northeasterners do "bank" some of the vitamin during the sunnier months.

Vitamin D researchers say lack of sunlight, and therefore the vitamin, may explain some north-south variations in dis-

ease rates. In the United States, for example, the higher the latitude, the higher the incidence of breast, colon, ovarian, and prostate cancer. There is the same north-south gradient for multiple sclerosis.

African Americans may have higher rates of some cancers because of vitamin D shortfall. The darker your skin, the less effective UVB is in starting the vitamin D conversion process. As a result, African Americans have, on average, about half as much vitamin D in their blood



ing to work, because vitamin D isn't found in plants. Vitamin D may be yet another reason to eat fish, but you'd have to eat an awful lot to get that much vitamin D. Milk presents the same problem. Food makers have started to add vitamin D to their products. Some of Tropicana's juices, for example, now contain vitamin D.

But unless you live in the South and spend a fair amount of time out-doors, some kind of supplement is the answer. Most multivitamins contain 400 IU of vitamin D, but you shouldn't just take two because the vitamin A in the pill may interfere with the vitamin A. Many calcium pills now contain about 200 IU of vitamin D, so a multivitamin and two calcium pills would get you to 800 IU. For women, that's not a bad way to go. For men, it may be. Professor Willett cites evidence for a possible link between high calcium intake and prostate cancer.

You can buy vitamin D pills, but the products we've seen are made of ergo-calciferol, or vitamin D₂. Some research has shown that ergocalciferol is less potent than cholecalciferol, or vitamin D₃ the form that's used to fortify milk. The form used in multivitamins varies, so you have to read the label to see if it's ergo-calciferol or cholecalciferol. But not to worry: Evidence of the benefits of the "sunshine vitamin" is growing, so we're optimistic that plenty of vitamin D products will soon be for sale.

<u>AGE</u>	<u>Daily Amount</u>
0-50	200 IU
51-70	400 IU
Over 70	600 IU

as whites.

Vitamin D recommendations

The 1,000-IU pill

Well before the cancer prevention paper made such a big splash, reputable nutrition experts said the amounts were too low, especially for older adults. Professor Walter Willett, chair of the Harvard School of Public Health's nutrition department and a member of the Health Letter's editorial board, is among them. He says adults should be getting 800-1,000 IU of vitamin D per day. But don't mega-dose. The National Academy of Sciences has set 2,000 IU daily as the "tolerable upper limit" for vitamin D.

So how should you get 800-1,000 IU a day? Eat more fruit and vegetables? That isn't go-