

The D-Light-Full Vitamin Could Save Millions of Lives & Billions of Dollars

By Lauren Ayers with Ginny Jones & Jeanie Keltner

Why is Vitamin D important? More than a "vitamin," it is a hormone essential to the functioning of almost all bodily systems. Nearly every cell has vitamin D receptors. And nearly every American is deficient.

News about this gift from the sun is widespread in alternative and mainstream health news. Asthma,¹ arthritis,² cancer,³ diabetes,⁴ fibromyalgia,⁵ heart disease,⁵ high blood pressure,⁵ MS,⁶ muscle weakness,⁷ obesity,⁸ osteoporosis,⁹ TB,¹⁰ ADD,¹¹ autism,¹² depression,¹³ and schizophrenia,¹⁴ are just some of the health conditions that can be alleviated, cured, or prevented by this essential nutrient. Vitamin D is especially important for cognitive ability because it increases calcium absorption twenty-fold, and the calcium circulating in our blood is absolutely crucial for a whole range of brain functions.¹⁵

Vitamin D comes from two sources: sunlight and food. Ultraviolet rays (UVB, not UVA) make D in natural oils in our skin—if you don't wash the oil off before being in the sun or too soon afterwards. As ancient humans moved north, they discovered D-rich foods to compensate for reduced sun exposure: lard (pork fat), salmon, sardines, herring, fish liver oil (there's also some in beef liver, egg yolks, and cheese).

Modern people don't get much D from food or sun because fish is now a luxury and lard was wrongly evicted from our diet. We are outside much less, and slather on the sunscreen when we are.

In the old days people took cod liver oil containing both D and omega-3s in winter. Unfortunately removing mercury and PCBs in fish oil also removes vitamin D. Sardines are a wonder food, providing the essential omega-3s DHA and EPA, calcium, protein, and vitamin D. Sardines are low on the food chain so they are very low in mercury. Lemon juice or salsa makes sardines more appealing. Fortified milk, on the other hand, has only a paltry amount of D and 70% of African Americans, 50% of Hispanics, and 90% of Asians are allergic to milk.¹⁶

How D deficiency affects our children

Headlines recently bemoaned that one out four California high school students do not graduate. Worse, black and Latino kids are two to three times more likely drop out than Asian and white kids.¹⁷ This is related to the Achievement Gap, in which black and Latino students are, on average, up to four years behind Asian and white students in school. People of color also have a higher incidence of asthma, cancer, diabetes, heart disease, high blood pressure, and mental health problems.

True, racism is undoubtedly one cause of the Achievement Gap, and the constant stress of racism (overt and subtle, personal and institutional) is a factor in higher rates of illness.¹⁸ But the experts overlook another profound influence, one that would be easy to fix, namely, vitamin D deficiency.

Dr. Michael Holick, in *The UV Advantage*, explains that blacks make five to 10 times less vitamin D in their skin from sun than whites, due to having more melanin, which blocks UVB rays. The Center for Disease Control found 10 times more blacks than whites D deficient.¹⁹ Latinos are also lower than average in D.²⁰ Asians have more melanin than whites, but also consume much more D-rich fish, which probably helps explain their high test scores.

Nearly everyone needs D supplements, especially in winter when, regardless of skin tone, anyone north of Los Angeles cannot make vitamin D. That's when flu hits the most people, which is why one researcher calls the flu a vitamin D deficiency disease.²¹ But you don't need to swallow cod liver oil; powdered D (made from lanolin) has no fishy taste; for kids just open the capsule and mix into food.

For vegans, food sources of D are very limited and nine months of sunlight might not provide enough to carry them through winter.²² Because rickets is once again a public health problem, "we've found that lactating women need about 6,000 IU a day to transfer enough vitamin D into their milk to supply adequate amounts to a nursing infant," says Bruce W. Hollis of the Medical University of South Carolina in Charleston. His research finds that black women may need 4,000 IU/day or more.²³

Michael Pollan, in *The Omnivore's Dilemma* and *In Defense of Food—An Eater's Manifesto*, lauds Dr. Weston Price's discoveries about traditional diets and health. Price, a dentist, reported on indigenous

communities in Switzerland, Canada, Polynesia, Africa, Australia, New Zealand, Peru, and others, in *Nutrition and Physical Degeneration* (1945, Price-Pottenger Nutrition Foundation, San Diego, CA (619) 574-7763). Dr. Price, and hundreds of researchers since, show that vitamin D is crucial for health.

Saving Billions

In California's budget, over half of the General Fund goes to education, K-12 as well as state colleges.²⁴ Improving student nutrition would mean less need for intensive tutoring, special ed (such as ADHD and autism), class size reduction, and retention (repeating a grade). If students ate well they would grow up less impulsive (lower crime rates) and more productive, and would need less health care²⁵, which takes up 16% of the Gross Domestic Product. And as adults, better food choices mean better health, which would cut the rate of addiction and crime, and boost America's productivity.

America's health plummeted in recent decades compared to other countries—from 14th place for life expectancy in 1980 down to 29th by 2007. As for infant mortality, 29 nations have a higher infant survival rate than the U.S. Illness costs American business more than \$1 trillion a year in lost productivity²⁶ and billions in prescription costs. In 2002, the top 10 pharmaceutical companies made more money than the other 490 companies in the Fortune 500 combined.²⁷

As a teacher, it is frustrating to see hundreds of millions go to new curricula, after school programs, and class size reduction when a fraction of that money spent on better school food would improve test scores²⁸ and behavior.²⁹ Research shows that students with high blood levels of lead (from pre-1978 paint dust) have both a low graduation rate and a high incarceration rate³⁹; when scientists test D levels of students, they will find that deficiency also correlates with the 'brain chemistry of failure.'

As Pollan explains, USDA-subsidized school meals are nothing more than a price-support for Big Ag. Drop by a school at lunch and see how food is loaded with trans fats, corn syrup, and artificial colors and flavors, while skimping on fresh vegetables.

Even with reports of widespread D deficiency, the FDA has resisted the pleas of experts to raise the recommended daily allowance (RDA) from its inadequate 200-600 IU. Compare that to the 20,000 IU that a (pale) person wearing a bathing suit can make at noon during summer in only 15 minutes!³⁰

Sadly, because most vitamin D research has been very recent, information—especially about the need for far larger doses— is not yet included in medical courses. Having read this far, you may know more than your doctor about D.^{31,32} Research shows that even 10,000 IU a day is safe.³³

In November, 2008, the American Academy of Pediatrics advised doubling the RDA from 200 IU of D to 400. In the same month, 18 University of California experts on vitamin D, including Dr. Anthony Norman, who, 40 years ago, first discovered that D is a hormone, announced that adults should get 2000 IU a day.

In December, 2008, Mayer Eisenstein, M.D., advocated at least 5,000 IU of vitamin D daily for every adult, and 2,000-3,000 IU daily for children, which is much higher than the new 400 IU recommendation from the AAP.³⁴

In Finland, back in the 1960's, infants that received 2,000 IU of vitamin D each day reduced their risk of getting Type 1 diabetes by 80%.³⁵

Dr. Douglass Bibuld of Boston's Mattapan Community Health Center, interviewed on NPR, prescribes up to 7000 IU for some patients who are especially low in D.³⁶

To sum up, D-deficiency is wrecking lives, budgets, and the pursuit of happiness. Bureaucracies like school districts, prisons, public health, and the armed services are slow to change, so it's up to individuals and flexible organizations like PTA's, community groups, and unions to alert the public.

Want to check your vitamin D level?

Ask your doctor to order a 25-OH-D test or go to grassrootshealth.org and click on D-Action to get a home test kit for \$30. This blood spot test is less intrusive for infants than drawing blood. The optimum is 60 ng/ml.³⁷ Life-guards and farmers typically exceed 100 ng/ml. Each 150 IU of D supplementation will raise the blood level approximately 1 ng/ml.³⁸ If your test result is 20 ng/ml, and you want to reach 60 ng/ml, that is $40 \times 150 = 6,000$ IU. Tips on testing at:

<http://articles.mercola.com/sites/articles/archive/2002/02/23/vitamin-d-deficiency-part-one.aspx>

For more info, and to see the citations, go to www.goodschoolfood.org.

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This handout is available in Spanish.

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