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When It Comes to Health, D Is a Good Grade


Dr. David G. Williams

Winter is coming to a close and spring is now close at hand. It's during these seasonal transitions that we see a lot of people come down with colds and flu. Undoubtedly, much of the illness comes about because our bodies are trying to adapt to the extreme temperature fluctuations. One day it starts to feel like spring, and the next it can revert back to winter. That extra environmental stress takes a toll on your immune system, making it harder to deal with an assault from the various viruses, bacteria, fungi, and other pathogens. It doesn't help matters if our vitamin D stores are lower from not getting the necessary sun exposure during the winter months.

It seems like I've been talking forever about the enormous benefits of increasing your vitamin D levels and sun exposure. Studies over the last seventy years have linked low levels of vitamin D with 18 different kinds of cancer (including breast, prostate, colon, ovarian, and Hodgkin's lymphoma), osteoporosis and osteomalacia in adults (resulting in hip and vertebral fractures), rickets in children, multiple sclerosis, rheumatoid arthritis, lupus, hearing loss, high blood pressure, psoriasis, heart disease, and diabetes.

Almost 20 years ago I warned *Alternatives* readers about the effects we would begin to experience if efforts to prevent widespread vitamin D deficiencies weren't undertaken. Then, ten years ago I explained that we were experiencing the predicted full-blown epidemic of vitamin D deficiency, one that was going unnoticed by most researchers and those in the field of health care. The problem has continued unabated, and now we're starting to see many of the long-term effects in our elderly—and even in our younger generations. The problem is getting worse every year and, for some reason, no one else seems to be alerting the public or doing anything to correct the situation. I honestly don't understand why not.

I've written before about all the studies linking vitamin D deficiencies to various diseases, so I won't repeat that information here. The evidence continues to get stronger, however, as I'll discuss a little later. First, there's new research you need to be aware of. Researchers have now discovered that your vitamin D level has a direct influence on whether you succumb to the flu, a cold, or some other form of infection. In addition to helping prevent all the diseases I mentioned above, vitamin D is the body's natural antibiotic and antiviral compound—one that could make the difference between life and death. With the ever-present threat of deadly viruses and pathogens increasing daily, vitamin D is one of the safest and most effective tools you can use for protection.

Breathing Easier with Vitamin D

Vitamin D deficiencies are now thought to be the reason influenza epidemics are seasonal in this country, and the factor that makes both adults and children more susceptible to all kinds of respiratory infections during the wintertime.

In This Issue

You will observe with concern how long a useful truth may be known, and exist, before it is generally received and practiced on. — Benjamin Franklin

In fact, Dr John Cannell recently published a study which helps explain the connection between low vitamin D levels and numerous well-known observations. I've included a few of them here. (*Epidemiol Infect 06;134:1129–1140*)

As you read further it will hopefully become very clear just how important a factor vitamin D levels are when it comes to flu, colds, and other respiratory diseases.

- Flu season occurs in the months following the winter solstice (the shortest day of the year), when vitamin D levels are at their lowest.
- Flu disappears after the longest day of the year (summer solstice).
- Flu is more common in the tropics during the rainy season.
- Children exposed to sunlight are less likely to get colds.
- Ingesting cod liver oil (one of the richest food sources of vitamin D) reduces viral respiratory infections.
- Russian researchers discovered that UVB sunlamps reduced colds and flu in schoolchildren and factory workers, by producing vitamin D in the skin.
- The elderly who live in countries like Norway that have high vitamin D consumption are less likely to die in the winter.
- Children with vitamin D deficiency (resulting in rickets) suffer from frequent respiratory infections.
- The elderly are much more likely to die from heart attacks in the winter than in the summer.
- Physicians who have given high doses of vitamin D to children who were constantly sick from colds and flu found the children were suddenly free from infection.
- Dark-skinned individuals, with their lower vitamin D levels, are more likely to die from influenza and pneumonia than lighter-skinned people are.

Dr Cannell, who also heads the Vitamin D Council, has suggested that high doses of vitamin D can be used short-term to knock out colds and flu. He suggests taking 50,000 IU a day for the first three days at the first sign of a flu or cold. His feedback has been very positive. I haven't personally tried this, since I haven't experienced any cold or flu symptoms this year, but I wouldn't hesitate to do so.

A Quick Biology Lesson

As you've likely heard before, vitamin D isn't truly a vitamin. It has more characteristics of a hormone:

- It's made in the body, and under ideal conditions you don't need to get it from your diet.
- It's made at one site in the body and transported to another.
- It acts on specific receptors on cells.
- It's activated by an enzyme.
- Production is up-regulated or down-regulated in response to the body's needs.

In addition, vitamin D isn't even a single substance. There are two forms, called D2 (ergocalciferol) and D3 (cholecalciferol). The first comes mostly from plants—especially nuts, seeds, wheat germ, and green leafy vegetables. The second is found in animals—particularly eggs (one of my favorite foods for nutrition) and fatty salt-water fish such as salmon and sardines (another of my favorites).

The form you make in your skin, D3, uses cholesterol as its raw material. Unfortunately, the "war on cholesterol" has deprived the population of critical nutrients essential for optimal health. The statin drugs used to lower cholesterol levels have received a good deal of negative publicity, due to the fact that they deplete the body of coenzyme Q10 as part of the process involved in lowering cholesterol levels. For some reason, however, no one seems to mention that, by lowering cholesterol levels, statins also have a negative impact on vitamin D production. We're currently in the middle of a worldwide vitamin D deficiency, and I have no doubt that statin use will only add dramatically to the problem. [*Editor's note: See Vol. 11, No. 19 for details on the harm that can come from taking statin drugs.*]

Finally, the D3 made in your skin needs to be transformed before it can be used elsewhere in the body. It gets changed in your liver, then again in your kidneys.

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If you have trouble with any of those organs, you're more likely to have a deficiency in vitamin D. The transformation takes some time, so you're actually producing the final form for up to 36 hours after the D3 is created.

How D Provides Immune Support

Recent research has revealed that, through a chain of events, vitamin D increases the production of a substance called cathelicidin in cells like natural killer cells, neutrophils, and monocytes. These are the cells of your immune system that attack invading pathogens. Cathelicidin rips holes in the cell wall of harmful microbes, causing their destruction. (*FASEB J 05;19(9):1067–1077*) (*J Immunol 04;173(5):2909–2912*)

In fact, when tested against numerous other compounds, vitamin D proved to be one of the most powerful agents for increasing cathelicidin production. The increased production of vitamin D and cathelicidin increases the immune system's ability to fight off respiratory infections, and new research indicates it also triggers the production of natural antibiotic compounds locally that can fight wounds and skin infections. (*J Invest Dermatol 05;125(1):9–13*) (*Adv Dermatol 05;21:357–374*)

In a related study from the University of California at Los Angeles (UCLA), researchers wanted to test the vitamin D and cathelicidin connection with regard to their ability to fend off the bacteria that causes TB (tuberculosis).

The researchers compared the effects of adding TB bacteria to blood serum samples of black individuals with serum samples of whites. Past research has shown that blacks are not only more susceptible to TB than whites, but also tend to develop more serious infections from the disease. When the TB bacteria was added to the blood serum of black individuals, the serum produced 63 percent less cathelicidin.

The investigators also found that the vitamin D level in the black individuals was far less than in the whites. It is well-known that the sun-filtering effect of the darker skin in blacks makes them more susceptible to vitamin D deficiencies. However, when the researchers added vitamin D to the serum of blacks, up to the same level as whites, the cathelicidin production and ability to kill the TB bacteria equaled that of the white individuals. (*Science 06;311(5768):1770–1773*)

Here Comes the Sun

I've been following the worldwide vitamin D deficiency problem for a long time. And probably what surprises me most is the fact that it stems from something as simple as lack of sunlight exposure. It certainly seems to be the common thread that ties a multitude of health concerns together.

Earlier last century TB was a huge problem. Sanitariums were set up to treat TB patients and isolate them from the rest of the population. One of the therapies for TB was sunbathing. It was called "heliotherapy." The thought was that vitamin D somehow damaged the bacteria that caused TB, but it turns out that sunlight itself can kill the bacteria. When drug therapies were developed for TB, the use of sunlight was quickly dismissed as primitive and ineffective. Dr. Cannell's review above suggests otherwise.

This UCLA study clearly illustrates just how powerful vitamin D can be in combating infectious diseases. I doubt it will be the case, but it should be a strong wakeup call to everyone about the importance and health benefits of sun exposure. Instead, what appears to be happening is even stronger promotion of sunscreens and increased propaganda on the dangers of sunlight. That's not to say the pharmaceutical companies aren't capitalizing on this latest research, however. Obviously, since there's no money to be made in recommending "heliotherapy" or sunbathing, there will be a push to sell drugs and prescription forms of synthetic vitamin D. After all, the public has already been brainwashed into believing that exposure to the sun, at practically any level, is dangerous. So the logical solution would be to simply use another pharmaceutical product.

For the dwindling few of us who still can use a little common sense in these matters, sunlight and vitamin D–containing foods and supplements can be a godsend.

When it comes to exposure to the sun, keep in mind we weren't designed to spend our lives hiding in caves or under shady trees. All of the research, and common sense, tells us that direct sunlight is one of the primary sources of this essential vitamin.

A Little Dapple'll Do Ya

It really doesn't require that much exposure to reap the benefits. One twenty-minute full-body exposure to the summer sun will result in putting 20,000 IU into the body within 48 hours. (This dosage above for colds and flu is about the equivalent of spending two days at the beach.) As I'll explain later, however, if you're dark-skinned, older, obese, a vegetarian, or using sunscreen, sun block, or cholesterol-lowering drugs, you'll probably get far less than 20,000 IU. It's also interesting to note that a sunscreen with an SPF rating of 8 reduces vitamin D production by 95 percent. (*Cancer Epidemiol Biomarkers Prev 04;13:1502–1508*)

One recent study involving eight light-skinned individuals showed that a single dose of sunlight, which was just enough to produce mild skin reddening the next day, elevated vitamin D production and cathelicidin levels. (*J Invest 05;125(5):1072–1074*)

Most of us don't have the luxury of sunbathing regularly, so supplementation is a necessity. This is especially true if you live above the 38 degree north latitude—which runs approximately through Baltimore, St. Louis, Denver, and San Francisco—where the sun is too weak from mid-fall through winter into mid-spring to stimulate vitamin D production in any significant quantity.

And, as we get older our skin is less efficient at producing vitamin D. Obesity can also be a problem, as I mentioned earlier. Excessive fat layers decrease vitamin D production. Also, if you have darker skin the melanin blocks the penetration of the sun's UV rays and lowers vitamin D production. Some studies have shown that to produce adequate amounts of vitamin D naturally you require 50 times more sun exposure than fairer-skinned people.

Based on the latest research, I'm now of the opinion that practically all darker-skinned people in this country, Canada, and Europe need to be supplementing their diet with vitamin D supplements or cod liver oil. It's just not practical to spend the amount of time in the sun needed to maintain adequate vitamin D levels.

If all this wasn't enough to make us vitamin D deficient, we now run from the sun like cockroaches when the light gets turned on. In just the last couple of decades, exposure to sunlight has been linked to premature aging of the skin, wrinkles, and possibly some forms of skin cancer. This has sent the masses scurrying for sunscreen and cover.

(As an interesting side note, some researchers now think Australia's "slip, slop, slap" campaign [slip on a shirt, slop on sunscreen, and slap on a hat] to prevent skin cancer may have led to their current epidemic of type 2 diabetes. Studies have shown that the lower your vitamin D level, the higher your blood glucose. (*Clin Endocrinol 05;62(6):738–741*))

Getting Your D From the Source

In addition to sunlight, fats from animals and animal products are one of the primary natural sources of vitamin D and several other crucial nutrients. Unfortunately, our dietary fat sources have changed dramatically over the last 50 years—and the result has been a steady decline in our overall health.

And the obesity epidemic in this country spawned the development of low-fat and fat-free foods, only making the problem worse. No one seems to have told the public, however, that the obesity problem in this country isn't a result of eating too much food. Instead, it's a result of eating too much of the *wrong* foods.

Many of the diseases and ailments I write about each month are a direct result of deficiencies in items like vitamin D, vitamin A, DHA, EPA, activator X, and many essential fatty acids.

Our ancestors used to consume the fat and fatty food products from wild fish, wild animals, or grass-fed animals, all of which are rich in these substances—as well as in the enzymes necessary for their assimilation. We no longer do so. The unfounded fear of cholesterol has made the consumption of animal products off limits. As a result, we're seeing an escalation in hundreds of health problems linked to deficiencies in these nutrients.

We're seeing cardiovascular problems, learning disabilities, and behavioral problems that could have been prevented through the increased consumption of fish oils rich in DHA, EPA, and other essential fatty acids. We're also seeing increases in the rates of cancer, depression, mental decline and senility, and bone weakness and fractures—all of which have links to deficiencies in these fats and fatty compounds.

I know I've said this before, but it bears repeating. Make sure your multi-vitamin/mineral supplement is giving you at least 800 IU of vitamin D per day, as D3 (cholecalciferol). I consider this the bare minimum for a supplement, and even then you'll still need to consume fish regularly and get adequate sunlight to obtain the amount of vitamin D you need. If your supplement doesn't provide this much vitamin D, then you'll definitely need to take additional D from food sources or as an additional supplement.

(Milk and milk products don't seem to be that effective at preventing vitamin D deficiencies, despite the fact that many have been "fortified" with the vitamin.)

D From the Sea

Most cod liver oil comes from Norway and the other Scandinavian countries, where it has been part of the diet for decades. The immune-boosting benefits of the oil may be only now coming to light in this country, but they've been common knowledge in those countries. You'll still find that most moms and grandmothers keep a jar of cod liver oil in their cupboard.

If you take or decide to use cod liver oil, which I think is an excellent option, keep a few things in mind.

First, if you sunbathe a lot you may not need to supplement year-round with cod liver oil. In the summer months you may be getting enough vitamin D. If you do sunbathe a lot, I would suggest having your doctor check your vitamin D levels before you take cod liver oil.

Second, not all cod liver oil is the same. In fact, most products are worthless, either because they're rancid or because of the way they're produced. Also, much like olive oil, cod liver oil is marketed in a couple of different grades. Regular cod liver oil "from the top of the barrel" is a lighter oil containing less in the way of vitamins and essential fatty acids. Oil from "lower in the barrel" is richer in vitamins, nutrients, and essential fatty acids. For example, a teaspoon of regular cod liver oil contains about 5,000 IU of vitamin A, whereas a teaspoon of premium "high vitamin" cod liver oil contains about 10,000 IU of vitamin A. (I know we've been talking about vitamin D here, but vitamin A is the guiding element in dosing.) I could write an entire issue on the problems surrounding cod liver oil, but it's probably best just to give you information on the products I recommend instead.

Radiant Life sells an excellent product called Premier High Vitamin Cod Liver Oil. I've used it myself and with our young son. Contact Radiant Life on their Web site at *www.radiantlifecatalog.com* or by phone at 888-593-8333.

Green Pastures is another company I've recommended and used in the past. They sell both cod liver oil and the butter oil I've written about before. [*Editor's note: See Vol. 10, No. 19 for more about the benefits of butter oil.*] (Butter oil and cod liver oil are rich sources of the activator X that I mentioned above. It's needed for the proper absorption and utilization of fat-soluble vitamins.) Green Pastures can be reached at 402-338-5551 or on their Web site at *www.greenpasture.org*.

I would suggest starting with one teaspoon a day of cod liver oil. The generally recommended dosage for children age 3 to 12 is that which provides 5,000 IU of vitamin A per day. For ages 12 and above, 10,000 IU a day is the recommended dosage.

More D-tails

Keep in mind that vitamin D is a fat-soluble vitamin. If you have difficulty digesting fats (or have had your gallbladder removed and aren't taking bile salts), you will have a more difficult time using vitamin D from either cod liver oil or your diet. Cod liver oil has also been shown to work better when there is an adequate amount of saturated fats in the diet as well. A high-quality butter works well in this respect. (By now, I would hope you're well aware of the dangers of margarine and have already switched to butter.)

This latest research on vitamin D comes at a time when we may need it most. Every day we hear more and more about the dangers of a new flu epidemic. And while I think the media certainly likes to overplay the danger at times, I do think we will see a serious flu pandemic in the near future. I don't think it's so much a matter of *if* we'll see one but rather *when* it will occur. Regardless of whether it's the flu bug or some other pathogen, there are always some individuals who are exposed but don't come down with the disease. And, it's certainly not because the bug chooses not to infect that person. Rather, it's because their immune system is strong enough to keep the bug from getting the upper hand.

We now know that even a slight deficiency of vitamin D can seriously compromise the immune system. This is particularly important if a flu epidemic hits in the winter months and you happen to be dark-skinned and/or live in the Northern states. Something as simple—and inexpensive—as vitamin D may be the key to stopping such an epidemic dead in its tracks. It may be one of the easiest ways you can boost your immune system and stay protected.

D Keeps Your Cells Charged

If this latest research isn't enough motivation to make you want to increase your vitamin D levels, maybe some of the newest research from the last few years will make you change your mind.

It has been estimated that every year between 50,000 and 63,000 individuals in this country die prematurely from various cancers caused by insufficient vitamin D. Researchers have determined that providing 1,000 IU of vitamin D for all American adults would cost $1 billion a year. Vitamin D supplementation would reduce the occurrence of various cancers by 30 to 50 percent, and the expected annual economic benefits *for cancer alone* would be in the range of $16–25 billion. (*Photochem Photobiol 05;81:1276–1286*) (*Recent Results Cancer Res 07;174:225–234*) (*Am J Public Health 06;96(2):252–261*)

Here are some specific cases:

- Increasing vitamin D by just 1,000 to 2,000 IU per day through supplements, sun exposure, or the diet would cut the risk of colon cancer in half. (*Am J Prev Med 07;32(3):210–216*)
- The total economic burden in 2004 due to vitamin D deficiency from inadequate UVB exposure, diet, and supplements was estimated at $40 to 56 billion. (*Photochem Photobiol 05;81(6):1276–1286*)

(*Vitamin D continued on page 175*)

NEWS TO USE FROM AROUND THE WORLD

Checking the Young at Heart

Just recently my daughter, Meagan, asked me why more and more younger athletes seemed to be experiencing sudden cardiac death. A teammate of one of her best friends had just died from cardiac problems during a basketball game.

When we hear about sudden cardiac death in adults, it's generally linked to atherosclerosis or clogging of the arteries. During vigorous exercise, if the blood flow to the heart muscle becomes blocked the heart can stop working—resulting in death. In children, however, the problem is normally due to a congenital abnormality of the heart muscle.

A child may play sports for years without any apparent problem. But these defects, which often involve abnormal rhythm, can cause the heart to stop pumping at any time—particularly during heavy exercise.

The estimates of sudden cardiac death in US school-aged children range anywhere from 250 to 500 per year. Practically all of these deaths could be avoided by screening these young athletes with an EKG (electrocardiogram). Several countries have made EKG screenings mandatory in school physicals, and the practice has practically eliminated their sudden cardiac death problems. Unfortunately, that's not the case here in the US.

If you have a child that intends to participate in high-intensity sports, I would highly recommend getting an EKG done. The typical physical examination using a stethoscope won't be able to detect most congenital heart defects.

Watch Over Your Medicine Chest

While I'm on the topic of youngsters, it may be of interest, particularly if you have school-age children, to know about a recent trend in recreational drug use.

The newest craze involves over-the-counter cough remedies. It's commonly referred to as "robo-tripping" or "skittling" and involves taking high doses of cough medicines that contain dextromethorphan (DXM). A normal therapeutic dose is about 30 mg every six hours. Recreational users are downing 150 to 2,000 mg at a time. DXM works on the same receptors in the brain as the drug PCP, and it's classified as a hallucinogen. It can cause dream-like effects, color distortions, and out-of-body sensations.

The name "robo-tripping" is short for the cough medicine Robitussin. "Skittling" refers to the use of Coricidin HBP Cough and Cold tablets, which resemble the candy Skittles. (The tablets are also sometimes referred to as "triple-C's," from the name Coricidin Cough and Cold.)

The practice is becoming more and more widespread, with one study finding 7 percent of 17- and 18-year-olds getting high with this method during the previous year. So far there haven't been any deaths reported, primarily only problems with seizures and breathing difficulties. One of the concerns involves using cough and/or cold remedies that include acetaminophen. As we've discussed in the past, high doses of acetaminophen cause severe liver damage and failure resulting in the need for a liver transplant.

Reviving Old-Fashioned Skills

LONDON, ENGLAND—On a couple of past occasions I've discussed research relating finger length to various physical characteristics and health risks. A new study from St. Thomas' Hospital has found that women whose index finger is much shorter than their ring finger are much more likely to be athletic.

The length ratio of these two fingers has been the focus of numerous research studies, but most of these studies have been conducted using men only. Associations have been made between these finger ratios and disease susceptibility, sexuality, and even cognitive ability. As strange as it may seem, I suspect that many of these findings are highly accurate.

During fetal development the balance of various male and female hormones is crucial to normal development. During that period of time a predominance of male hormones can lead to more aggressive male type behavior and development. A predominance of female hormones can result in more feminine characteristics and behavior. The timing of the growth and formation of certain organs, structures, appendages, et cetera is also highly dependent on hormone levels. This helps explains why an individual who has, for example, a longer ring finger could also exhibit behavior and characteristics more commonly associated with males and/or higher testosterone levels.

In the above study, x-rays were used to measure the second to fourth finger ratios in 607 women. The women were then asked to rank their achievements in various sports. The association with finger ratio was highest for running, tennis, and soccer. The researchers felt that the results of their study were so strong that finger ratio could be used to accurately help predict a female's future athletic ability. (That is, the longer the ring finger in relation to the index finger, the more athletic potential.) (*Br J Sport Med 06;40(12):981–983*)

The ancient Oriental healing arts focus on very subtle physical characteristics and signs to help evaluate an individual's strengths and weaknesses. Through hundreds of years of observation, they determined the significance of such details and use them to help pre-

vent and treat disease. As our focus has shifted to more "advanced" technology, we seem to have lost much of that ability. In many instances, it truly seems that "we can't see the forest for the trees."

An Equal-Opportunity Amino Acid

BROOKLYN, NEW YORK—Osteoporosis is a worrisome condition for many women, and with good reason. In the ten years after menopause, a woman can lose as much as ten percent of her former bone mass. The thinned bones are a setup for fractures of the spine, hip, and wrist. (It's worth mentioning here that "hip" fractures actually involve the upper end of the thighbone, and "wrist" fractures the lower end of the forearm.)

Typical therapy is to put a woman on a prescription drug: estrogens; bisphosphonates such as Fosamax and Boniva; or estrogen receptor modulators such as Evista. The drugs do work in the short term, reducing or preventing the bone loss associated with menopause, but the end result is often lower-quality bone—and a woman usually needs to keep taking the drug or the effects disappear.

An interesting fact is that statin drugs used to lower cholesterol also appear to have some benefit for bones, and the bone drugs show some cholesterol-lowering effects. Research into the connection uncovered a link to nitric oxide (NO). This gas is constantly produced and eliminated throughout your body, particularly in the endothelial cells that line your arteries.

One of NO's roles is to maintain the flexibility of your arteries. Another is to regulate the production of osteoblasts, the cells that build new bone. Putting these two facts together, researchers decided to try a source of NO to see if it would affect bone health. In a small study, the NO donor of choice, nitroglycerin, was as effective as estrogen therapy in preventing post-menopausal bone loss. In fact, an earlier study had shown that nitroglycerin could reverse pre-existing bone loss in rats. (*Endocrine 04;23(1):1–10*) (*Calcif Tissue Int 00;66(1):56–60*)

As you can imagine, I'm not suggesting that you run to your physician looking for a prescription for nitro. But there is another avenue to the same end—the amino acid L-arginine. I've written often about L-arginine's ability to generate NO. The increased level of NO helps dilate blood vessels of all sizes, improving circulation throughout the body. Taking L-arginine can prove beneficial for people dealing with high blood pressure, Raynaud's syndrome, and impotency. The improved circulation also helps heal wounds and burns. [*Editor's note: For more about the benefits of L-arginine, see the Subscriber Center section of the* Alternatives *Web site,* www.drdavidwilliams.com.]

The usual dose of L-arginine is 5–6 grams per day, taken in divided doses on an empty stomach. At this level it's extremely safe, with the only side effect possibly being some stomach upset. If this happens to you, then take it with food. The best source for L-arginine, and for amino acids in general, is JoMar Laboratories, at *www.jomarlabs.com* or (800) 538-4545.

(Vitamin D continued from page 173)

- Staying out of the sun doubles your risk of prostate cancer. (*Cancer Res 05;65(12):5470–5479*)
- Studies have shown that women with the lowest levels of vitamin D have a five times higher risk of developing breast cancer. (*Eur J Cancer 05;41(8):1164–1169*)
- Chronic pain is associated with very low vitamin D levels. Studies also showed that once vitamin D levels were returned to normal the pain was reduced dramatically or even disappeared. (*Ann Rheum Dis 05;64(8):1217–1219*)

One Step Forward, Two Steps Back

Practically everything we've done as a society over the last couple of hundred years has systematically reduced our exposure to the sun and vitamin D intake. We've moved from a primarily agricultural economy, where we worked outdoors, first to factories and then to offices. Our lighting has gone from natural to incandescent to fluorescent.

To make matters worse, during this same period, our dietary preferences have changed. Vitamin D–rich meats, fats, fish such as sardines, and many vegetables have fallen out of favor.

Based on the false premise that cholesterol is the work of the devil and causes heart disease, meat consumption has fallen. And with the advent of large slaughterhouses, the consumption of wild game isn't that common. Instead of grass-fed animals, most are now grain-fed in feed-lots, which alters the fatty-acid content of the meat.

Margarine has replaced butter. Potatoes (or, more accurately, French fries) have become the number-one consumed vegetable. Beans and legumes are foreign to the last couple of generations, as are green vegetables—unless you count iceberg lettuce smothered with ranch dressing.

Wild fish has been replaced with the farmed variety, and my house is probably the only place where sardines are still considered the breakfast of champions.

The list of changes in our food could go forever, but in practically every instance the change has resulted in a decline in our vitamin D consumption.

Safety Above All

There's an almost hysterical fear of vitamin D overdosing, when in reality the risk is very small. It's been estimated that our body needs 4,000 IU of vitamin D a day from all sources (sunlight, food, et cetera). Potential toxicity may start at 10,000 IU a day for an extended period, but top researchers feel that number may actually be closer to 40,000 IU a day. After all, remember your body can easily make 20,000 IU after only a few minutes at the beach. The real problem is allowing these deficiencies to go uncorrected, and that's exactly what's happening with the large majority of health professionals.

To make matters worse, just recently we've started to see a wave of new pharmaceutical industry–backed "research" warning that nutritional supplements are not only worthless but possibly even harmful to your health. Although 70-plus years of research continues to prove the safety and need for these fat-soluble compounds, the media loves to focus on the alleged dangers of their "toxicity" when taken at too high a dosage. What the skeptics always fail to mention is the difference between the natural and the synthetic forms of vitamins like A, D, and E. When they occur in their natural forms they remain safe even at elevated dosages, particularly when they are eaten as part of a complete food.

Getting back to vitamin D, you don't have to worry about toxicity if you receive your vitamin D from sunlight. Our bodies have a built-in mechanism to slow its production. As you get darker from the sunlight, your skin naturally produces less D. There has never been a case of vitamin D toxicity resulting from sun exposure.

When you combine all these factors with the data showing how these 16 various forms of cancer, MS, heart disease, depression, et cetera, et cetera, are all more prevalent in the northern latitudes around the globe, a clear picture begins to emerge. Our vitamin D levels play a very significant role in our overall health.

I would venture to say that a large majority of readers of *Alternatives* are deficient in vitamin D. That may sound surprising, considering that they are probably some of the most well-read and most health-conscious individuals around. But existing problems like osteoporosis, diabetes, hypertension, cardiovascular disease, et cetera, can all be signs of a deficiency. Dr Robert Heaney of Creighton University, one of the top vitamin D researchers, has stated that as many as 75 percent of the women in the US are deficient. I'm sure we'd see similar deficiencies in other groups if the testing were performed, but I don't suspect that will happen anytime soon.

Take care,

One for the Good Guys

The amino acid L-tryptophan was taken off the market nearly 20 years ago after a contamination problem in Japan. For the longest time it was difficult to obtain. You could get it with a prescription (and it was always included in formulas used for tube-feeding in hospitals). In addition, some pet supply houses were selling pharmaceutical-grade products "strictly for pets."

L-tryptophan is most widely known for its use in relieving insomnia, at doses of 1–2 g taken at bedtime. The amino acid is converted directly to serotonin in the brain, so it's also useful for depression at around 3–5 g per day. (Once you see some relief, you can cut back to the lower level.).

The availability situation has recently changed, and you can buy L-tryptophan freely once again. One very reliable source is Freeda Vitamins, a company that I've recommended many times in the past. They will also give *Alternatives* readers a 20 percent discount if you mention you are a subscriber, along with an additional $2 discount. They can be reached on the Web at *www.freedavitamins.com* or by phone at 800-777-3737.

If you have questions or comments for Dr. Williams, please send them to the mail or e-mail addresses listed to the right. Of course, practical and ethical constraints prevent him from answering personal medical questions by mail or e-mail, but he'll answer as many as he can in the Mailbox section of *Alternatives*. For our part, we'll do our best to direct you to his issues, reports, and products related to the subject of your interest.

Here's how you can reach us:

- For Customer Service matters such as address changes, call **800-527-3044** or write to **custsvc@drdavidwilliams.com.**
- If you are a licensed health professional and would like to learn how to begin reselling MHN supplements to your patients, please e-mail practitionerinquiries@davidwilliamsmail.com.
- For back issues or reports, call **800-718-8293.**
- To sign a friend up for *Alternatives*, call **800-219-8591.**

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