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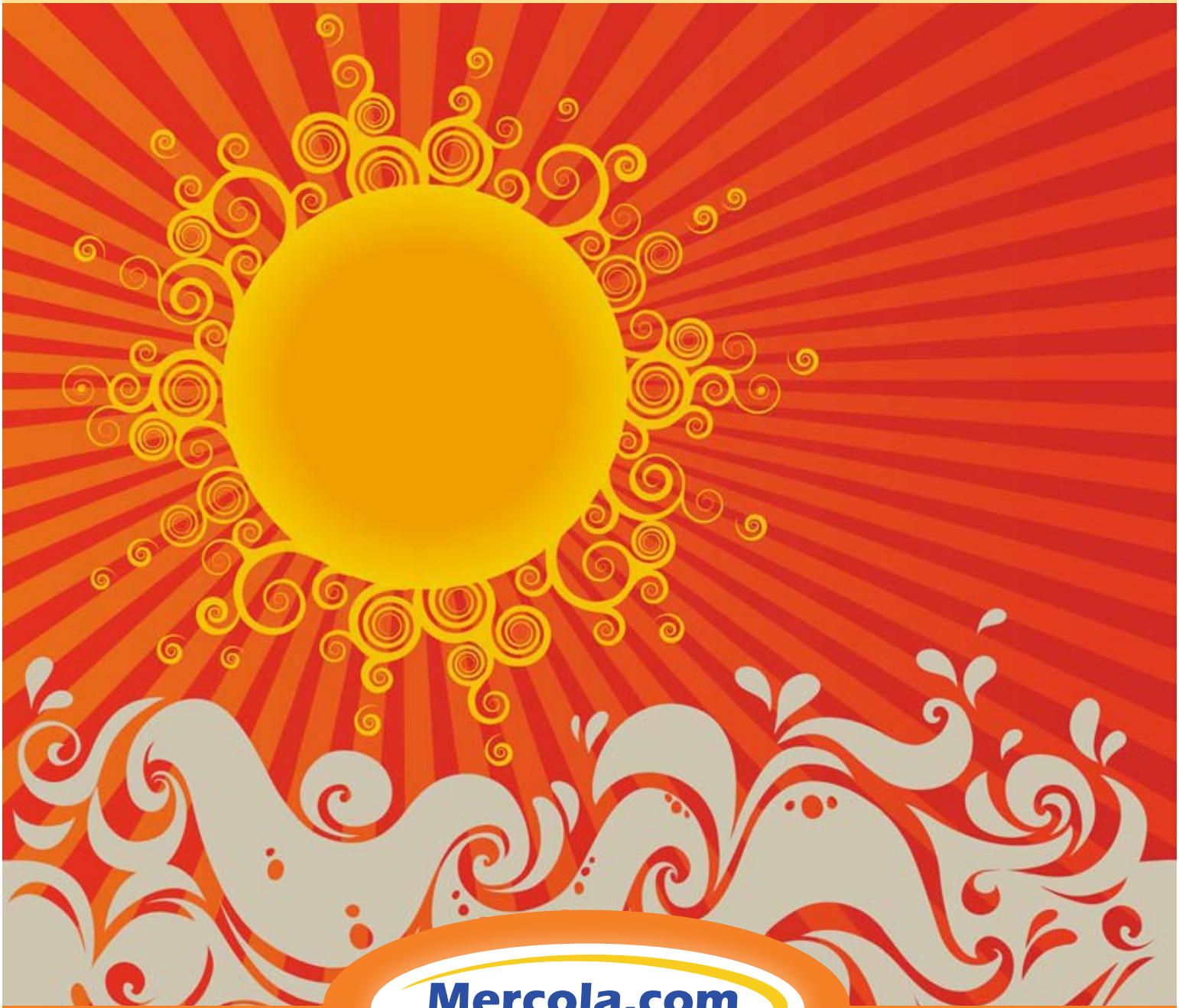
Over a Million People Die EVERY Year From Lack of Sun Exposure



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Take Control of Your Health

DR. MERCOLA

The information in the pages to follow has the power to save at least 600,000 lives worldwide every year. This is a MAJOR announcement, and one that every man, woman, and child needs to be aware of.

This is especially important if you:

- Believe the news portrayed by the media that sunlight should be avoided
- Live in most places in the U.S. or Europe
- Have dark-colored skin
- Spend very little time outdoors, with your skin exposed to the sun
- Would like to reduce your risk of cancer

YOU NEED AN AVERAGE OF AT LEAST 10-15 MINUTES OF SUNLIGHT EVERY DAY TO PREVENT CANCER

A breakthrough study[1] was recently published, which demonstrated just how important getting regular exposure to sunlight is for you.

Regularly spending even relatively short intervals of only 10 to 15 minutes in the sunlight allows your body to produce vitamin D, and having adequate vitamin D3 levels can drastically reduce your risk of colon and breast cancer.

The researchers, from the Moore's Cancer Center at the University of California, San Diego (UCSD), estimated that by increasing vitamin D3 levels, particularly in countries north of the equator, 250,000 cases of colorectal cancer, and 350,000 cases of breast cancer could be prevented worldwide.

In all, that amounts to 600,000 cases of breast and colorectal cancer prevented, including close to 150,000 in the U.S. alone.

This is an unprecedented study because it's the first to take satellite measurements of sunshine and cloud cover in the same countries where blood serum levels of vitamin D3 had also been taken. In all, surveys of serum vitamin D levels from 15 countries were evaluated for the study—during the winter when sunlight is at a minimum.

The data was then used to estimate the average serum level of vitamin D3 among the people living in 177 countries throughout the world.

Here's what the researchers found:

There's an inverse association between serum vitamin D and the risk of colorectal and breast cancers. In other words, the higher your vitamin D level, the lower your risk of these two cancers.

The beneficial effect began in the range of 24 to 32 ng/ml of vitamin D concentration in the serum. The vitamin D level is the main indicator of vitamin D status. (For the rest of this report I will simplify the terminology by just stating vitamin D, but please realize that I am referring to the active form of vitamin D that was actually measured in the study.)

However, in the United States, people do not typically even come close to these protective levels. The late winter average of vitamin D in the United States is only about 15-18 ng/ml.

In addition to preventing about 600,000 cases of cancer each year, the researchers concluded that increasing the intake of vitamin D3 throughout the world could easily prevent diseases that would otherwise claim *close to 1 million lives each year*.

YOUR FAMILY'S LIFE IS AT STAKE HERE

Yes, it's true; this flies in the face of most public health statements and "expert" physicians recommendations to stay OUT of the sun. Sun exposure, they say, can lead not only to skin cancer, but also to premature aging of the skin (wrinkles), and cataracts.

It is vital for you to understand, right here and now, that the dangers of sun exposure have been greatly exaggerated, and the benefits highly underestimated.

I am not exaggerating here when I tell you the very life of you, your family, and your friends hangs in the balance unless you understand the truth about this issue. It is more than worth your time to analyze your belief about this topic because if you choose wrong, you could easily leave this world decades before your time.

I believe that the evidence is very clear; you are not nearly as likely to develop deadly skin cancer as you have been led to believe, and the benefits you will receive from normalizing your vitamin D levels continue to be documented daily in the scientific literature.

There IS merit to the advice to avoid getting sunburned. You will obviously want to exercise common sense and always avoid getting sunburned. But that is a relatively simple strategy, and I will give you some practical guidelines below that will easily help you implement this strategy.

If your skin is unused to the sun, it is important to build up your tolerance regularly and gradually. It's good to start early in the year, in the spring and early summer. This will prepare your skin for the stronger sunlight later in the year. Early morning is, for similar reasons, the best time to sunbathe if you are not used to sunlight, because there is less chance of burning than there is later in the day. In addition, it's best to sunbathe when the temperature is below 64 degrees Fahrenheit (18 degrees Celsius), so that you don't overheat.

Regular sunbathing is extremely important; you can't cram all of your sun exposure into a two or three week vacation period and expect to experience the benefits. When you do sunbathe, it's also important to treat it as a medicine and control the dosage; frequent, short periods of exposure are best. If you overindulge or skip too many days, it can be dangerous. Regular exposure protects against skin cancer, but intermittent exposure can actually increase the danger.

HOW LONG SHOULD YOU SUNBATHE?

A common myth is that occasional exposure of the face and hands to sunlight is "sufficient" for vitamin D nutrition. For most of us, this is an absolutely inadequate exposure to move vitamin levels to the healthy range of 45–55 ng/ml.

In fact, in some societies where clothing is traditionally worn over most sun-exposed areas year-round, a greatly increased risk of rickets and osteomalacia has been observed.

You need to expose large portions of your skin to the sun, and you need to do it for more than a few minutes.

However, UV exposure beyond the minimal dose required to produce skin redness will not increase vitamin D production any further.

In Caucasian skin, an equilibrium occurs within 20 minutes of ultraviolet exposure. It can take 3 to 6 times longer for darkly pigmented skin to reach the equilibrium concentration of skin vitamin D.

So, bearing in mind that you need to gradually increase your time, starting in the spring, you should be aiming towards exposing large areas of your skin to the sun, anywhere from 20 minutes at a time to 2 hours at a time, depending on your skin type and environmental factors.

A light-skinned person fairly far from the equator (such as in the UK or the northern U.S.) needs at least three of these 20 minute sessions per week, in bright midday sunlight and with few clothes. Longer will be needed if sunbathing occurs at off-peak times for ultraviolet light (before 12 PM or after 3 PM) or at the beginning or end of the summer (April or September) when the sun is lower in the sky for most of the day. A dark-skinned person, of course, should be outside significantly longer.

MAJOR CAUTION: AVOID SUNBURN

Once again, I would advise you to use common sense. You must exercise caution and be careful not to burn. Never, ever, fall asleep in the sun.

At the beginning of the season, go out gradually and limit your exposure to perhaps as little as 10 minutes a day.

Progressively increase your time in the sun so that in a few weeks, you will be able to have normal sun exposure with little risk of skin cancer.

However, even taking this risk into account, the benefits of UVB (ultraviolet B) exposure from which you derive most of your vitamin D3 far outweigh any adverse effects by a ratio of 15:1, according to William B. Grant, Ph.D., of the Sunlight, Nutrition, and Health Research Center (SUNARC).

In the UK, where solar UVB levels tend to be lower, the ratio is likely even higher.

WHY SUNLIGHT IS HEALTHY

How do the benefits of sunlight so vastly outweigh the risks?

Vitamin D, the sunshine vitamin, is entirely different from any other vitamin you have heard of because it is not really a vitamin at all, but a prohormone that your body actually produces

16 types of internal cancers

Diabetes

Heart disease

Hypertension

Multiple Sclerosis

Osteoporosis

Psoriasis

Rickets

Schizophrenia

Tuberculosis

Myopathy

from cholesterol. Because it is a prohormone, it influences your entire body—receptors that respond to the vitamin have been found in almost every type of human cell, from your brain to your bones.

Regular exposure to UVB from sunlight (which in turn increases your vitamin D levels) reduces your risk of the following diseases[2]:

For all of these benefits, the only risks of UVB come from overexposure. This can be greatly minimized by avoiding sunburn, not staying out in the sun too long, and eating a healthy diet (full of antioxidants from fruits and vegetables.)

What you may not realize is that the amount of antioxidants that you have in your skin plays a major role in your development of sunburn. The more antioxidants you take in, the lower your risk of sunburn.

Additionally, omega-3 fat deficiencies are a far more significant risk factor for deadly skin cancers than sun exposure (I'll explain this more later).

Please understand that while sunburn can increase your risk of skin cancer, it is typically the far less serious skin cancer, basal cell carcinoma. There is little to no evidence that sun exposure without sunburn increases your risk of melanoma, the most serious type of skin cancer.

Quite to the contrary, there is a good deal of evidence that sun exposure without sunburns actually decreases your risk of melanoma.

Another interesting point to keep in mind when you hear the media telling you the sun is dangerous is that while melanoma skin cancer is clearly a dangerous illness that can be fatal if left untreated, non-melanoma skin cancer has a very low death rate.

Less than half of 1 percent of people who develop non-melanoma skin cancer die from the disease, which is about 1,200 people each year in the United States. This amounts to only two-tenths of 1 percent of all the cancer deaths in the United States each year.

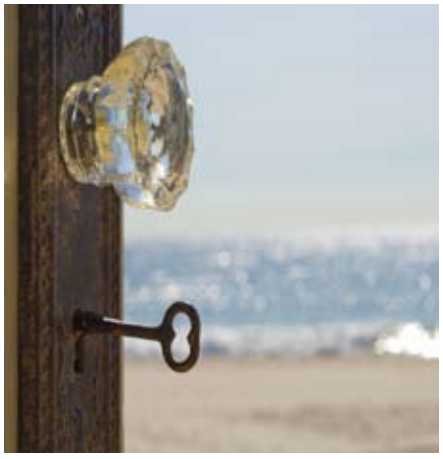
VITAMIN D DEFICIENCY DOUBLES YOUR RISK OF CANCER

Even many physicians do not realize that the number one cause of death in western cultures is not heart disease but cancer. Yes, it is more likely that you will die from cancer than from a heart attack.

Researchers now agree that this epidemic of a wide variety of cancers may be due to widespread vitamin D deficiency, which is caused in large part because of sun avoidance.

The cancers most strongly linked to low levels of vitamin D are:

- Breast
- Colon
- Lung
- Prostate cancer



The studies linking low exposure to UVB (which indicates a potential risk for vitamin D deficiency) with cancer just keep pouring in. For example, low exposure to UVB increased the risk of endometrial cancer in one study[3].

In mid 2007, even the Canadian Cancer Society came out recommending vitamin D for all adults—the first time a major public-health organization has endorsed the vitamin as a cancer-prevention therapy.

The announcement came in response to a study that looked at almost 1,200 women, aged 55 and older, over the course of four years[4]. Those in a group that were given supplemental calcium and vitamin D had a 60 percent lower risk for all cancers than those who received a placebo.

Vitamin D has a protective effect against cancer in several ways, including:

- Increasing the self-destruction of mutated cells (which, if allowed to replicate, could lead to cancer)
- Reducing the spread and reproduction of cancer cells
- Causing cells to become differentiated (cancer cells often *lack* differentiation)
- Reducing the growth of new blood vessels from pre-existing ones, which is a step in the transition of dormant tumors turning cancerous

YOUR SIMPLE CURE FOR MOST COUGHS AND COLDS

Instead of relying on potentially dangerous and ineffective over-the-counter remedies for cough and colds, your solution may simply be to get outside and have more sun exposure on as much uncovered skin as possible.

This is because vitamin D has also been found to cause your immune system T-cells—the cells that destroy damaged and infected cells—to change shape and migrate to the uppermost layer of your skin. This may also help explain why vitamin D has such a protective effect against skin cancer in particular.

Aside from helping to prevent cancer, vitamin D is also excellent for your heart, and can increase your body's production of naturally occurring antimicrobial peptides, which destroy the cell walls of viruses and bacteria. Sun exposure also increases blood levels of germ-destroying lymphocytes (white blood cells).

Because of these properties, sunlight was used as early as a century before the discovery of antibiotics as an effective tuberculosis cure.

Tuberculosis (TB) is a potentially deadly disease that is spread by airborne bacteria, which settle in the lungs and result in long-term infections. TB is currently responsible for more deaths worldwide than any other single infectious disease.

Auguste Rollier began using sunlight therapy to treat TB in Switzerland in 1903, with such success that, over the course of the next forty years, his methods were adopted by hospitals worldwide, including in the United States. Of the 2,167 patients who were under his care for tuberculosis following World War II, 1,746 completely recovered their health, an astonishing number for the time, with the only failures being those who were already in the most advanced stage of the disease.

Studies have also shown that metabolizing vitamin D can restrict the growth of tuberculosis within cells[5]. In one study, Indonesian scientists found that treating tuberculosis patients with 10,000 units of vitamin D daily (instead of the much smaller amount usually advocated by conventional medicine) led to a cure rate of 100 percent—everyone in the study[6]. Quite impressive indeed!

Tuberculosis is not the only disease documented to be influenced by vitamin D. Sunlight has also been shown to be effective against anthrax, cholera, E. coli, dysentery, influenza, staphylococcus, streptococcus, and other illnesses.

There are also a number of physiological mechanisms triggered by vitamin D production—through sunlight exposure—that act to fight heart disease, according to the British Journal of Nutrition[7], including:

- An increase in the body's natural anti-inflammatory cytokines
- The suppression of vascular calcification
- The inhibition of vascular smooth muscle growth

LACK OF SUNSHINE IS LEADING CAUSE OF MATERNAL AND FETAL DEATHS WORLDWIDE!

Preeclampsia is a deadly condition that can cause both the baby and mother to die. It affects as many as 7 percent of first pregnancies and can progress to eclampsia, which produces seizures and often-fatal complications of the liver, kidneys, lungs, blood and nervous system. Eclampsia causes 15 percent of maternal deaths during pregnancy and as many as 70 percent of such deaths in developing countries.

Preeclampsia is a serious complication of pregnancy marked by soaring blood pressure and swelling of the hands and feet, preeclampsia is the leading cause of premature delivery and

maternal and fetal illness and death worldwide, conservatively projected to contribute to 76,000 deaths each year

Scientists at the University of Pittsburgh School of Health Sciences recently found[8] that vitamin D deficiency is one of the most common reasons for this condition. Amazingly prior to 2007 this was not known.

So it is vital for any pregnant woman to make certain she is getting enough sun exposure to allow her vitamin D levels to go into the healthy range.

WHY YOU CAN'T USE SIMPLE GUIDELINES TO TELL YOU HOW MUCH SUN EXPOSURE YOU NEED

It is important to bear in mind that everyone responds differently to sunlight, depending on antioxidant levels, age, skin color, the amount of melanin in your skin, tan level, latitude, elevation, cloud cover, pollution, season, time of day, and many other factors.

A person with dark skin may need as much as ten times more sun exposure to produce the same amount of vitamin D as a person with pale skin.

You will need to carefully determine your own sunlight needs and tolerances, and learn what kind of exposure you need, to tan without burning.

SO HOW DO YOU KNOW HOW MUCH SUN TO GET?

Fortunately, there is a relatively simple non-fasting blood test, which nearly any doctor can perform for you, that will tell you if you are getting enough sunshine.

You can follow the practical guidelines I list later in this report to help guide your sun exposure. However, if you have any serious health challenge, especially cancer, or autoimmune diseases like MS, rheumatoid arthritis, or Crohn's disease, then one of the MOST important aspects of your treatment will be to optimize your vitamin D level.

Optimal vitamin D levels lie in a very narrow range. To be certain that your levels are where they should be, have your physician test your blood, then supplement (or, preferably, get moderate sun exposure) as needed in order to maintain that level.

Please bear in mind when you go for the test that there are TWO vitamin D tests: 1,25(OH) D and 25(OH)D.

25(OH)D is the better marker of overall D status. It is this marker that is most strongly associated with overall health.

The correct test your doctor needs to order is 25(OH)D, also called 25-hydroxyvitamin D.

When you receive your results, please note the difference between normal and optimal. You don't want to be average here; you want to be optimally healthy. There is a high likelihood that the reference ranges of your lab will not be correct. So please be sure and use the values listed in this report to guide your treatment.

Normal 25-hydroxyvitamin D lab values are 20-56 ng/ml (50-140 nmol/l). However, this range is far too broad to be ideal.

In fact, your vitamin D level should never be below 32 ng/ml, and any levels below 20 ng/ml are considered serious deficiency states, increasing your risk of breast and prostate cancers and autoimmune diseases like multiple sclerosis and rheumatoid arthritis. Remember, the late winter average of 25-hydroxyvitamin D in the United States, is only about 15-18 ng/ml!

The OPTIMAL value that you're looking for is 50–55 ng/ml (115–128 nmol/l).

Keeping your level in this range, and even erring toward the higher numbers in this range, is going to give you the most protective benefit.

A study published in March 2007 supported this range[9]. After assessing data from two studies, they found that individuals with serum 25(OH)D of approximately 52 ng/ml hada *50 percent lower risk of breast cancer* than those with serums of less than 13 ng/ml.

The researchers pointed out that the 52 ng/ml is high enough to provide the needed benefit, but has been found by other scientists to be low enough to avoid health risks.

This blood level corresponds to a supplemental vitamin D intake of 4,000 IU (International Units, a measure of vitamin activity) per day, which far exceeds the National Academy of Sciences upper limit of 2,000 IU/day.

The researchers recommended maintaining a 25(OH)D level of 52 ng/ml by taking 2,000 IU/day of supplemental vitamin D, and spending about 12 minutes per day in the sun.

HOW WIDESPREAD IS VITAMIN D DEFICIENCY?

Vitamin D deficiency is a growing epidemic across the world and is contributing to many chronic debilitating diseases.

In the United States, the late winter average vitamin D is only about 15-18 ng/ml, which is considered a serious deficiency state.

Robert P. Heaney, M.D., a professor of medicine at Creighton University believes that of all the nutrients associated with chronic disease, none has the potential payoff of vitamin D.

Meanwhile, it's thought that up to 90 percent of U.S. senior citizens may be deficient, along with 70 percent of the American public.

Consider the following vitamin D facts:

- Vitamin D deficiency is epidemic in adults of all ages who have increased skin pigmentation, such as those whose ancestors are from Africa, the Middle East, or India, who always wear sun protection, or who limit their outdoor activities[10].
- African Americans and other dark-skinned people and those living in northern latitudes make significantly less vitamin D than other groups.
- 60 percent of patients with type 2 diabetes have vitamin D deficiency[11]
- Studies showed very low levels of vitamin D among children, the elderly, and women.
- One nationwide study of women revealed that almost half of the African American women of childbearing age might be vitamin-D deficient.

Winter, when sun exposure is at its lowest, is the time of year when you need to be most concerned about the amount of vitamin D you are receiving, as your vitamin D levels can drop by up to 50 percent in the winter.

Of course, if you have the tendency to spend the summer months indoors, out of the sun, or you only go outside with sunscreen on, then you would need to be concerned during the summer months as well.

SHOULD YOU GET YOUR VITAMIN D FROM THE SUN OR SUPPLEMENTS?

Vitamin A Is Also Crucial to Protect You

What many people, including health professionals, fail to realize is that your cells have two receptors for vitamin A, for every vitamin D receptor. There is a vitally important relationship between vitamin A and vitamin D. If you receive too much vitamin D, vitamin A will help protect you from an excess. This is a crucial concept to understand, as many individuals will take this new information regarding vitamin D, and start to take massive doses - thinking this would be a good thing.

Mark my words, that would cause problems. You simply were not designed to receive your vitamin D from your food, but rather to absorb it from the sun shining on your skin. If you receive it from supplements, or even foods, and you have not built up sufficient quantities of vitamin A to balance this, you will actually create symptoms of vitamin D deficiency such as osteoporosis and rickets.

Now please understand that I am referring to vitamin A, NOT beta-carotene. Beta carotene will simply not provide the protection against vitamin D overdose that you require. You need the real deal vitamin A. Probably the best source of vitamin A is beef liver. About 3-4 ounces twice a week or six ounces once week would be an appropriate amount for most people. Since it is an oil soluble vitamin, you don't need it every day.

If beef liver does not sound very appealing to you, vitamin A concentrates from fish are inexpensive and available at most health food stores. 50,000 units once or twice a week, should provide you with most of the vitamin A you will need.

The researchers in the aforementioned study recommended supplementing your diet with vitamin D, but is this a wise choice? Many experts would disagree with me about this, but after reviewing the evidence and having personally overdosed on vitamin D, I am convinced that although you can clearly get some benefit from oral vitamin D, it is not your best choice—it is simply too darn easy to overdose.

The major danger of overdosing on vitamin D is that there are no symptoms, just like most with high blood pressure; you frequently don't have symptoms until it is too late. Once you overdose on vitamin D, there is no simple way to treat it other than time, and complete avoidance of vitamin D.

Another danger of overdosing on vitamin D is that it will cause nearly similar complications as underdosing. An overdose of oral vitamin D can cause a number of serious problems, including:

- Vomiting
- Constipation
- Weight loss
- Kidney failure
- Calcification of the arteries

Even with this approach, it may take many months to normalize your levels from elevated levels due to taking ORAL vitamin D. This simply does not happen when you use the sun as a source of vitamin D. First of all your feedback loop will mostly prevent this from happening, but even if it doesn't the levels will typically normalize in days to weeks, not months.

So, rather than supplements, I believe it's important to strive to obtain your vitamin D naturally, from safe sunshine exposure.

There are, however, certainly times when it can be nearly impossible to get enough sun.

The darker your skin is, the farther away from the equator you are, and the further away you are from the summer months, the less likely it is that you will produce adequate vitamin D levels from sun exposure alone.

In these cases, supplementing with vitamin D is acceptable, but you need to be hyper-cautious when using oral vitamin D preparations. I would not recommend using them at all unless you monitor your blood levels of vitamin D regularly, using the test described above (25(OH)D).

IT IS VERY DIFFICULT TO OVERDOSE ON VITAMIN D FROM THE SUN

There is very little risk overdosing on vitamin D, however, when your body generates it from safe sun exposure.

This is because when UVB light penetrates your skin, it converts a form of steroid called a sterol, the prohormone 7-dehydrocholesterol, into pre-vitamin D3. For a few days, after it is created, the pre-vitamin D3 continues to undergo more changes in your skin until it becomes the actual inactivated vitamin D3.

However, if the pre-vitamin D3 in your skin is exposed to the sun for long enough, then instead of becoming inactivated D3, it is converted into chemicals called lumisterol or tachysterol, which are biologically inert.

In short, this means that if you stay out in the sun for a long time, your body will produce the same amount of vitamin D that it would had you only been out for a moderate time, making it virtually impossible to overdose on vitamin D obtained from sun exposure.

In Caucasians and others with paler skin, you will actually hit an "equilibrium point" where vitamin D will no longer be produced after you've been exposed to strong UVB light for 20 minutes or so. If you have darker pigmentation, reaching the equilibrium point can take two to three times longer (or up to an hour).

When you take vitamin D orally, on the other hand, this sophisticated process that gives you just the right amount of vitamin D does not take place, leaving you vulnerable to overdose.

IF YOU TAKE ORAL VITAMIN D, MAKE SURE YOU TAKE THE CORRECT TYPE

There is one other warning you need to be aware of if you choose to use an oral vitamin D supplement: there are basically two types.

The natural one is D3 (cholecalciferol), which is the same vitamin D your body makes when exposed to sunshine.

The synthetic one is vitamin D2, which is sometimes called ergocalciferol.

Once either form of the vitamin is in your body, it needs to be converted to a more active form. Vitamin D3 is converted 500 percent faster than vitamin D2. Interestingly, it was previously thought that the kidney exclusively performed this function; at least that is what I was taught in medical school.

However, in 1998 Dr. Michael Holick, the person who discovered activated vitamin D, showed that many other cells in your body can make this conversion, but they use it themselves, and it is only the kidney that makes enough to distribute to the rest of your body.

This is new information that virtually no physicians are aware of, as it was discovered after they went to medical school.

While there have been no clinical trials to date demonstrating conclusively that D2 prevents fractures, every clinical trial of D3 has shown it does. Further, vitamin D2 has a shorter shelf life, and its metabolites bind with protein poorly, making it less effective.

However, nearly all the prescription-based supplements contain synthetic vitamin D2, which was first produced in the 1920s through ultraviolet exposure of foods. The process was patented and licensed to drug companies for use in prescription vitamins. So if you receive a prescription for vitamin D from your doctor, be aware that it is almost assuredly vitamin D2.

VITAMIN D FROM PASTEURIZED MILK IS NOT YOUR BEST CHOICE

There are many good reasons you should not be using pasteurized milk products. If you don't know why, please review the benefits of raw milk on my site www.mercola.com.

However, independent of the pasteurization process, you probably didn't know that the vitamin D that is added to milk is NOT D3 but rather is the highly inferior vitamin D2.

At least one study has actually concluded that "vitamin D2 should no longer be regarded as a nutrient appropriate for supplementation or fortification of foods.[12]"

So, if you do decide to supplement, make sure it is with vitamin D3, NOT D2.

Vitamin D3 is also the type of vitamin D found naturally in foods like eggs, organ meats, animal fat, cod liver oil, and fish.

Again, be sure you have your blood levels monitored to avoid overdosing, even if you are taking vitamin D3.

What about getting vitamin D from natural foods?

Although you can get some vitamin D from natural food sources, about **90 percent of the vitamin is produced within your body as a result of exposure to sunlighT.**

To put it in numbers, you can expect to get, at most, 200 to 400 IU of vitamin D per day from dietary sources alone, but your body needs at least 600 to 1,000 IU of vitamin D per day, and some experts believe it is much more.

OPTIMIZING YOUR OMEGA-3'S TO PREVENT SKIN CANCER

If you consume the typical American diet, you are probably not getting enough omega-3s in your diet. This is unfortunate for a large number of reasons, but in the context of sunlight, omega-3 fats will dramatically cut down your risk of skin cancer.

Further, your *ratio* of omega-3 to omega-6 fats is a very important key to lowering your cancer risk.

As a general rule of thumb, most people in the United States are consuming far too many omega-6 fats (found in vegetable oils like corn, soy, canola, safflower, and sunflower oil) and too few omega-3 fats (found in flaxseed oil, walnut oil, and seafood).

While your ancestors traditionally adhered to a healthy ratio of 1:1, dietary changes in the last century have increased the typical U.S. ratio of omega-6 to omega-3 to anywhere from 20:1 to 50:1!

Ideally, you should strive for the 1:1 ratio, although even a ratio of 3:1 would be a major improvement.

Consider a study in the Proceedings of the National Academy of Sciences that found a low omega-6:3 ratio was the key to preventing skin cancer development; omega-6 fats were demonstrated to increase the risk of skin cancer, while omega-3 fats decreased it.

Another study, this one in Cancer Research , found similar results: omega-6 fats stimulate the development and progression of a range of human cancers, including melanoma, while omega-3 fats inhibit it.

Improving your omega-6 to omega-3 ratio for optimum cancer prevention is simple: it's just a matter of including more omega-3 in your diet (ideally from krill oil), and less omega-6 (which means cutting back or eliminating vegetable oils).

HOW DO YOU GET SAFE SUN EXPOSURE?

Again, sunburn should always be avoided, but there are many all-natural ways to protect yourself from sunburn that you can use instead of resorting to the toxic infusions of commercial sunscreens.

Boosting your skin's "internal sunscreen" from within with effective antioxidants from whole fresh vegetables and fruits like goji berries (not the juice), raspberries, blackberries, and blueberries, are far healthier options. Slathering on some aloe vera gel can also be helpful.

Build up your time in the sun gradually, spending perhaps as little as 10 minutes a day in the beginning of the season. Progressively increase your time in the sun so that in a few weeks you will be able to have normal sun exposure with little risk of skin cancer.

Spending up to an hour in the sun each day is not an unreasonable goal.

You'll also need to make sure enough of your skin is exposed to the sun. Exposing only your face and hands while going from your office to your car is not enough for conversion into vitamin D. Strive to have at least 40 percent of your skin uncovered.

If you have light-colored skin, you can also use the color of your skin to tell you when you've had enough sun and it's time to get in the shade (or cover up using a long-sleeved shirt, pants, and a hat). Stay out just long enough so that your skin turns the very lightest shade of pink.

However, if you have a darker complexion, please be aware that you have unique risk factors.

If you're African-American, Middle Eastern, or Indian, and you live in the United States, Europe, or a very northern latitude, you're at a very high risk for developing certain cancers—as high as four times the average risk.

This is because darker skin serves as a filter, causing the need for two to five times as much sunlight to produce adequate vitamin D as someone with very pale skin. If you have a darker complexion, make sure you get as much sun exposure (without getting burned) as you can, and have your vitamin D levels tested to determine if you need further supplementation (which is highly likely).

If you're still hooked on the idea of using a cream for sun protection, there are safer natural sunscreen products that contain no petrochemicals, which you can likely find in your local health food store.

Just remember, although these products are non-toxic, **they still prevent you from metabolizing vitamin D**, so use them with caution.

In fact, I recommend testing your vitamin D levels to make sure you're not deficient before resorting to sunscreen of any kind.

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