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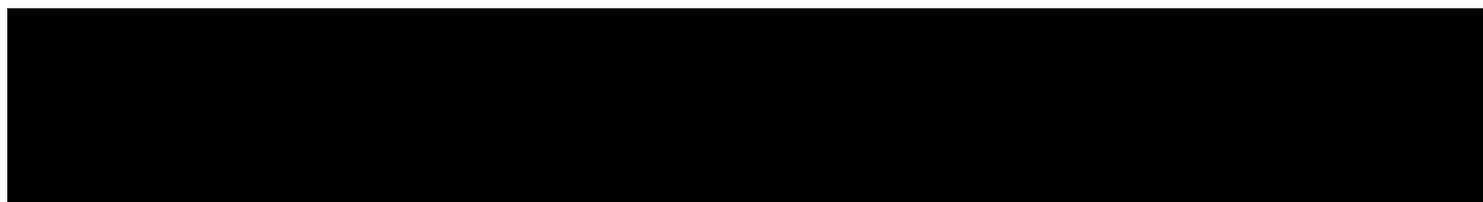
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## Shocking Update — Sunshine Can Actually Decrease Your Vitamin D Levels

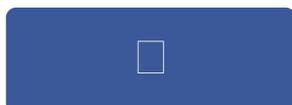
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Malignant melanoma has been increasing at an exponential rate in indoor workers since before 1940. The reason may be indoor exposure to UVA radiation. Unlike UVB, which is blocked by glass, UVA can pass through windows.

UVA can cause cancerous mutations, and can also break down the vitamin D formed in your skin after outdoor UVB exposure. And vitamin D is a potent defense against melanoma -- melanoma cells convert it to calcitriol, which causes growth inhibition and apoptotic cell death in vitro and in vivo. New research shows that increased UVA exposures and inadequately maintained cutaneous levels of vitamin D promote melanoma.

### Vitamin D Dose Recommendations

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Age	Dosage
Below 5	35 units per pound per day
Age 5 - 10	2500 units
Adults	5000 units
Pregnant Women	5000 units

#### WARNING:

There is no way to know if the above recommendations are correct. The ONLY way to know is to test your blood. You might need 4-5 times the amount recommended above. Ideally your blood level of 25 OH D should be 60ng/ml.

### Dr. Mercola's Comments:



At this point, you're probably wondering how exposure to sunshine could possibly *decrease* your vitamin D levels... If you're a regular reader of this newsletter, you know I've made it a point to educate you on the incredible value of safe sun exposure to *increase* your vitamin D levels

I have regularly stated that the ideal way to obtain your vitamin D is from safe exposure to sunshine. As it turns out, there is a major caveat, which affects nearly anyone living in a modern day civilization.

But first, I want to review something that's even more surprising – the connection between exposure to sunshine, vitamin D3, and *showering!*

## What Does Showering Have to Do With Your Vitamin D Levels?

First, it's important to understand that vitamin D3 is an oil soluble steroid hormone. It's formed when your skin is exposed to ultraviolet B (UVB) radiation from the sun (or a safe tanning bed). When UVB strikes the surface of your skin, your skin converts a cholesterol derivative in your skin into vitamin D3.

However, the vitamin D3 that is formed is on the surface of your skin does not immediately penetrate into your bloodstream. It actually needs to be absorbed from the surface of your skin into your bloodstream.

The critical question then is: how long does it take the vitamin D3 to penetrate your skin and reach your bloodstream?

If you're thinking about an hour or two, like I did until recently, you're wrong. Because new evidence shows it takes up to **48 hours** before you absorb the majority of the vitamin D that was generated by exposing your skin to the sun!

Therefore, if you shower with soap, you will simply wash away much of the vitamin D3 your skin generated, and decrease the benefits of your sun exposure. So to optimize your vitamin D level, you need to delay washing your body with soap for about two full days after sun exposure.

Now not many people are not going to bathe for two full days.

However you really only need to use soap underneath your arms and your groin area. , so this is not a major hygiene issue. You'll just want to avoid soaping up the larger areas of your body that were exposed to the sun.

## Research Yet to Be Published

I realize that the bulk of the "conventional" thinking on how vitamin D is formed in the skin does not support what I am telling you. Most of this research is based on Dr. Michael Hollick's work. However that is over 25 years old and there is new evidence that suggests the currently described on vitamin is formed is not accurate.

Dr. Cannell will actually be publishing a paper specifically detailing this position later this year. Rest assured as soon as the paper is published I will let you know about it. But in the meantime the logic behind this position is really quite solid.

As of this date no one has ever tested whether vitamin D is formed in human sebum, the fat that your skin produces. The only study that support that vitamin D3 is formed in the dermal epidermal junction was done in humans were the sebum was removed from the skin.

However, this has been extensively tested in animals and that is precisely where the vitamin D3 is formed. In fact that is where most of the oral vitamin D3 in supplements comes from, lanolin and the sebum like material in the skin of sheep and cows

Additionally you can rub vitamin D3 on your skin and it easily penetrates into your bloodstream (assuming you don't wash it off for 48 hours). This is also likely the reason why surfers in Hawaii who are in the sun and water continuously don't have vitamin D levels comparable to lifeguards that don't go in the water. The surfers typically have levels in the 70s while the lifeguards and other who are in the sun as much without going into the water will have vitamin D levels around 100.

The bottom line is that washing the sebum off of your skin is NOT good and should be avoided. You were NOT designed to use soap. It is fine to wash areas that are prone to bacterial overgrowth such as your axilla (armpits) and groin but it is in your best interest to leave the sebum that was designed to be on your skin, to stay on your skin.

Obviously you can do as you wish, but it is my STRONG recommendation to avoid soap on most of your skin.

### **Other Reasons to Avoid the Shower**

Avoiding the shower can also benefit your health in a number of other ways, because unless you have well water, you're showering in water from a municipal water supply that is loaded with chlorine, fluoride, disinfection by products, and pharmaceutical drugs that have made their way into the sewer system.

Chlorine, although it's best avoided as much as possible, is actually not the major issue. The biggest danger comes from the byproducts created when chlorine combines with organic material in the water.

These **disinfection byproducts (DBPs)**, such as trihalomethanes (THMs) and haloacetic acids (HAAs) are EXTREMELY toxic. Some experts believe them to be **over 1,000 times more toxic than chlorine**. They're so dangerous, in fact, that the U.S. Environmental Protection Agency (EPA) sets the goal limit for some of them at zero. Unfortunately, it's impossible to enforce, which means you always have some in your municipal water supply.

DBPs have been linked to reproductive problems in both animals and humans, and human studies suggest that lifetime consumption of chlorine-treated water can more than double the risk of bladder and rectal cancers in certain individuals.

Unfortunately, studies have shown DBPs may wreak even more havoc when they're absorbed through your skin. For example, one **study** published in the *Journal of Environmental Sciences* last year found that swimming in a chlorinated pool presented *an unacceptable cancer risk*.

You can easily absorb as many DBP toxins in one shower as you would by drinking tap water all week long, so the less time you spend in the shower, the better.

### **So, How Exactly Does Sunshine Lower Your Vitamin D Levels?**

First, there's an important distinction that must be made. There are two primary forms of ultraviolet radiation from the sun: UVA, and UVB, and they have different wave lengths and impact your body in different ways.

UVA has a wavelength of about 320 to 400 nanometers, and UVB has a wave length of about 280 to 320 nanometers. (A wavelength is simply the distance a wave has to travel before it starts repeating itself, and a nanometer is a millionth of a meter.)

Because the UVA has a longer wavelength, it penetrates materials more easily, such as the earth's atmosphere and window glass.

Most of us living in contemporary culture are modern day cavemen. We work inside and don't spend much time outdoors. It really wasn't until the industrial revolution that we had the development of mass produced windows. Prior to that time, windows were very costly and only the very wealthy could afford them. So people working indoors were not exposed to sunlight filtered through window glass.

The key point here is that window glass will effectively filter out the majority of UVB radiation, but it minimally filters out UVAs.

What's the significance of that, you ask?

It's important to realize that vitamin D3 is formed from exposure to UVB rays, whereas UVA radiation actually *destroys* vitamin D.

This helps keep your body in balance; it's one of the protective mechanisms your body has to avoid overdosing on vitamin D when you're outside. However, when you're exposed to sunlight through windows -- in your office, your home or your car -- you get the UVA but virtually none of the beneficial UVB.

This can lead to significant health problems, because in addition to destroying vitamin D3, UVA's also increase oxidative stress.

UVA is one of the primary culprits behind skin cancer, and it increases photo aging of your skin. It's also what causes you to tan. You can actually get vitamin D without significantly darkening your skin, because the UVB wavelength does not stimulate the melanin pigment to produce a tan.

Normally, of course, when you get tanned from outdoor sun exposure you're getting both UVA and UVB at the same time, so it's not a problem. But when you are indoors and expose yourself to sunlight filtered through window glass, you are increasing your risk of a variety of conditions, primarily skin cancer, because the UVA's are effectively destroying your vitamin D3 levels while you're getting none of the benefits from UVB.

### **Anecdotal Evidence of How Vitamin D Can Benefit Your Skin**

I recently received an interesting anecdote from Dr. Leonard Smith, a very prominent integrative medicine physician from southern Florida, who is now in his mid-60s.

He'd been an avid windsurfer for years, but suddenly noticed his vitamin D levels were low. So he took 5,000 units of oral vitamin D for awhile, but after several months his levels had only increased to about 31 ng/ml. He increased his dose to 10,000 units, and after a few months his levels were up to 50 ng/ml.

Interestingly, once he increased his vitamin D levels, a variety of skin conditions he'd acquired, such as moles and basal (cancer) cells in his skin, decreased substantially.

So clearly, vitamin D can be very powerful against a number of skin problems, including [skin](#)

[cancer](#).

## The Connection Between Cholesterol and Healthy Vitamin D Levels

As I said earlier, one of the precursors for vitamin D is cholesterol. So if you're taking drugs statin drugs, or proton pump inhibitors like Prilosec or Prevacid, which are typically used to treat ulcer conditions, you'll naturally lower your cholesterol levels.

This in turn will decrease your body's ability to manufacture vitamin D.

This is yet another potential reason your vitamin D levels may be low, or why you may have trouble optimizing your vitamin D levels.

### Key Messages

It may seem confusing, and admittedly there are a lot of pieces to this puzzle, which is why I seek to share as much of this information as possible.

But the key take-home points here are:

- To optimize your vitamin D levels, get safe outdoor sun exposure or use a safe tanning bed, being careful not to get sunburned.

If for whatever reason you're unable to do that, then clearly you're going to want to use an oral or sublingual vitamin D3, which can also eliminate the whole issue of absorbing the vitamin D3 from your skin. However, beware that anytime you use oral vitamin D you'll want to [get your vitamin D levels checked](#) regularly, using a qualified lab such as LabCorp, to make sure you're within the optimal range and to avoid overdosing.

- If you're going to shower after spending time outdoors in the sun, don't use soap for at least two days, to maximize the absorption of vitamin D in your skin.

The benefits of vitamin D are staggering, and the optimal way to get your vitamin D is through safe exposure to the sun. I've written extensively on this topic over the past year, but if you need to refresh your memory, please review the related articles listed below. It is worth the extra effort to apply this information so you and your family can get all the vitamin D benefits they deserve.

So remember, making sure you're spending plenty of time outdoors this summer can help you

reap [the incredible health benefits of this essential nutrient.](#)



**Sources and References**

Medical Hypotheses 72: 2009; 434-443

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