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Take Control of Your Health

Don't Underestimate Your Need for This Critical Nutrient

Analysis by Dr. Joseph Mercola ✔ Fact Checked | May 19, 2022

STORY AT-A-GLANCE

- In 2018 researchers called for an immediate revision of public health recommendations on sun exposure, noting that "nonburning UV exposure is a health benefit and — in moderation — should be recommended as such"
- Four years later, the public is still being misled and misinformed about the health ramifications of sun avoidance, as there are significant hazards associated with vitamin D deficiency, including a heightened risk of heart disease and several cancers, especially internal cancers but also lethal skin cancer
- Sensible sun exposure is the most effective way to optimize your vitamin D level. Sun exposure also has health benefits beyond vitamin D production that help lower your risk of chronic disease and death
- When you're deficient in vitamin D, your health can deteriorate in a variety of important ways, because your cells require the active form of vitamin D to gain access to the genetic blueprints stored inside the cell
- An estimated 12% of all U.S. deaths may be linked to inadequate sun exposure, and sun avoidance is as potent a risk factor for death as smoking

This article was previously published February 11, 2019, and has been updated with new information.

A 2019 article[1] in Outside magazine highlighted the importance of sensible sun exposure, stating "Current guidelines for sun exposure are unhealthy and unscientific,

controversial new research suggests — and quite possibly even racist. How did we get it so wrong?"

The research[2] in question, published in the International Journal of Environmental Research and Public Health in December 2018, called for an immediate revision of public health recommendations, noting that "nonburning UV exposure is a health benefit and — in moderation — should be recommended as such."

The authors warned that the public is being misled and misinformed about the health ramifications of sun avoidance, as there are significant hazards associated with vitamin D deficiency, including a heightened risk of heart disease and several cancers, especially internal cancers but also skin cancer.[3]

Vitamin D research demonstrates vitamin D is involved in the biochemical function of nearly every cell and tissue in your body, including your immune system. When you're deficient in vitamin D, your health can deteriorate in a variety of important ways, because your cells require the active form of vitamin D to gain access to the genetic blueprints stored inside the cell. A press release[4] by the Canadian Vitamin D Society notes:

> *"The authors examined the current state of scientific research and found that severe sunburns are linked to an increase risk of melanoma but nonburning sun exposure is linked to a reduced risk of melanoma.*
>
> *'This is a message the public never receive from current public health guidelines,' states Dr. David Hoel, lead author, department of public health sciences, Medical University of South Carolina. 'The public is led to believe that all sun exposure should be avoided and that the avoidance of sun exposure is free of risk from a health perspective. That is not the case.'"*

Indeed, the paper warns an estimated 12% of all U.S. deaths may be linked to inadequate sun exposure, and that sun avoidance is as potent a risk factor for death as smoking.

Sun Exposure Guidelines Put Certain Racial Groups at Risk

Importantly, current guidelines,[5,6,7] which recommend sun avoidance for all, are completely inappropriate for darker skinned individuals who not only are at far lower risk of skin damage from sun exposure but actually require far more sun exposure in order to produce vitamin D, and therefore tend to be more prone to vitamin D deficiency to begin with.

As such, it seems current guidelines are far more harmful to certain racial groups. Issuing sun exposure guidelines that fail to take skin color into account is a really nonsensical, and most definitively unscientific, stance, yet it's the recommendation of most health organizations, including the U.S. Surgeon General, the American Academy of Dermatology and the Skin Cancer Foundation.

When asked why the recommendations fail to take into account skin type and color, Dr. Henry Lim, who sits on the Skin Cancer Foundation's photobiology committee, foolishly and ignorantly replied that such information is irrelevant because vitamin D supplements can address deficiency. According to Lim:[8]

> *"We want to make it simple as a public health message — as to what the public should reasonably be able to absorb and understand. To fine tune it is just too complicated …"*

But by oversimplifying the matter, dermatologists place a great number of people at grave risk for vitamin D deficiency, which may not be identified until health problems have already set in. What's more, research suggests the best, most effective way to raise your vitamin D level is not through supplementation but through sun exposure.

Sun Exposure Benefits Health in Myriad Ways

In fact, sun exposure provides a number of health benefits over and beyond vitamin D production, all of which contribute to optimal health. Vitamin D merely is a surrogate marker for healthy sun exposure. As noted in Outside:

> *"… [A] rogue band of researchers … argue that what made the people with high vitamin D levels so healthy was not the vitamin itself. That was just a marker. Their vitamin D levels were high because they were getting plenty of exposure to the thing that was really responsible for their good health — that big orange ball shining down from above."*

The article cites research by Dr. Richard Weller, a dermatologist at the University of Edinburgh, who discovered "a previously unknown biological pathway by which the skin uses sunlight to make nitric oxide" — a gas known to dilate blood vessels and lower blood pressure, among other things.

Weller's research confirmed that sun exposure — 30 minutes of exposure in the summer, without sunscreen — raised participants' nitric oxide levels and lowered their blood pressure. It likely does this through the UVA and near-infrared frequencies.

> *"Because of its connection to heart disease and strokes, blood pressure is the leading cause of premature death and disease in the world, and the reduction was of a magnitude large enough to prevent millions of deaths on a global level,"* Outside writes, adding:[9]

> *"Wouldn't all those rays also raise rates of skin cancer? Yes, but skin cancer kills surprisingly few people: less than 3 per 100,000 in the U.S. each year. For every person that dies of skin cancer, more than 100 die from cardiovascular diseases."*

The relative safety of skin cancer is hidden, however, by combining statistics for nonfatal and fatal skin cancers. The two most common types of skin cancer, basal cell carcinoma (BCC) and squamous cell carcinoma (SCC), are nonlethal, and reported increases in skin cancer refer to increases in these nonlethal forms, not melanoma.

Outside quotes Weller saying, "When I diagnose a basal-cell skin cancer in a patient, the first thing I say is congratulations, because you're walking out of my office with a longer life expectancy than when you walked in." How's that possible, you ask? Because

carcinomas are strongly linked to sun exposure, and sun exposure is associated with lower mortality and better health overall.

Indeed, indoor workers have double the rate of lethal melanoma skin cancer than outdoor workers.[10] As noted by Weller, "The risk factor for melanoma appears to be intermittent sunshine and sunburn, especially when you're young." While burning may raise your risk for melanoma, nonburning sun exposure is really important for optimal health and longevity. As noted by Weller in a scientific review of the evidence:[11]

> *"All-cause mortality should be the primary determinant of public health messages. Sunlight is a risk factor for skin cancer, but sun avoidance may carry more of a cost than benefit for overall good health."*

Sun Avoidance Is as Risky as Smoking

Compelling evidence supporting the idea that regular sun exposure benefits health and longevity was published in the Journal of Internal Medicine in 2014. In this study, led by Pelle Lindqvist, senior research fellow at Sweden's Karolinska Institute, the sun exposure habits of nearly 30,000 Swedish women were evaluated in a 20-year-long study. According to the authors:

> *"We found that all-cause mortality was inversely related to sun exposure habits. The mortality rate amongst avoiders of sun exposure was approximately twofold higher compared with the highest sun exposure group, resulting in excess mortality with a population attributable risk of 3 percent.*
>
> *The results of this study provide observational evidence that avoiding sun exposure is a risk factor for all-cause mortality. Following sun exposure advice that is very restrictive in countries with low solar intensity might in fact be harmful to women's health."*

The take-home message of this study bears repeating: Women who avoided the sun had DOUBLE the mortality risk of those who got regular sun exposure. As noted in Outside, "There are not many daily lifestyle choices that double your risk of dying."

Two years later, Lindqvist published a follow-up paper,[12,13] in which more than 25,500 Swedish women between the ages of 25 and 64 were again followed for 20 years. Detailed information about sun exposure habits and confounding factors were obtained and analyzed in a "competing risk" scenario.

Overall, women who got regular sun exposure did have a higher risk for melanoma compared to sun avoiders, but again, they still had a lower all-cause mortality risk, likely due to their increased vitamin D levels. Women with active sun exposure habits had a lower risk of cardiovascular disease and noncancer death compared to those who avoided the sun.

What's more, sun avoidance was determined to be as hazardous as smoking, in terms of its effects on life expectancy:

> *"Nonsmokers who avoided sun exposure had a life expectancy similar to smokers in the highest sun exposure group, indicating that avoidance of sun exposure is a risk factor for death of a similar magnitude as smoking. Compared to the highest sun exposure group, life expectancy of avoiders of sun exposure was reduced by 0.6 to 2.1 years."*

Research Shows Sunscreen Does Not Protect Against Skin Cancer

To make matters even worse, the advice to use sunscreen is also on shaky scientific ground. According to an analysis[14] by epidemiologist Marianne Berwick, Ph.D., there's very little evidence to suggest that sunscreen use will prevent skin cancer.

After analyzing a dozen studies on basal cell carcinoma (BCC), which is typically nonlethal, and melanoma, which is the most lethal form, Berwick found that people who use sunscreen actually tend to be more likely to develop both of these conditions. Only two out of 10 melanoma studies found that sunscreen was protective against this condition; three found no association either way. None found sunscreen use protected against BCC.

According to the featured study[15] in the International Journal of Environmental Research and Public Health, public sun exposure guidelines that advise against "over exposure" should be revised to specify that it is sunburn that needs to be avoided, not nonburning exposure, and that the amount of exposure to get burned will vary depending on skin type. By being more specific, the needs of all racial groups would be addressed.

Vitamin D Needs Are Underestimated by a Factor of 10

Please remember that sun exposure is the ideal way to optimize your vitamin D status. Not only does sun exposure on enough of your skin increase vitamin D, but it also structures the water in your cells, metabolizes vitamin A so it can improve your immune function, increases nitric oxide, and most importantly will increase the vitally important antioxidant. melatonin, in your mitochondria to reduce oxidative stress and preserve your cellular energy production systems.

It is imperative that you do whatever it takes to work up to one hour of sun exposure every day. If you don't live in an area where this is possible, I strongly encourage you to use this as an excuse to move. Yes, if you value your health, it is that important. Florida is a great option for many as not only is it the sunshine state but it is the state most committed to resisting tyranny.

If you do choose to supplement with vitamin D, understand it is a far inferior option. You will also need to use the correct dose. Many studies consider a "high dose" — 2,000 International Units (IUs) a day, which is not a high dose at all. In fact, it's completely inadequate for most people. Research has found a sixfold variability in dosage response,[16] meaning one person taking 5,000 IUs of vitamin D per day may achieve a level of just 20 ng/mL (50 nmol/L) while another is able to reach a level of 120 ng/mL (300 nmol/L) taking the same amount.

This is why it's so important to get your vitamin D level tested at regular intervals. You simply cannot go by dosage. In reality, you should take whatever dosage required to get the vitamin D level in your blood into a healthy range.

According to a study in Anticancer Research,[17] it would require 9,600 IUs of vitamin D per day to get a majority (97.5%) of the population to reach 40 ng/mL (100 nmol/L), which research suggests is the very low end of sufficiency.[18] That's a far cry from the 600 IUs recommended by the Institute of Medicine (IOM).

What's more, science has shown 20 ng/mL (50 nmol/L), which is typically considered the cutoff for sufficiency, is still grossly inadequate and dangerous to health. For optimal disease protection, you need a vitamin D blood level between 60 to 80 ng/mL[19] (150 to 200 nmol/L).

Once you get above 60 ng/mL, the risk for cancer and other chronic illness declines dramatically — in the case of breast cancer by more than 80%.[20] The VITAL study and others like it simply did not give participants high-enough doses to get them into a protective range.

One reason why the public has been misled on the issue of dosage stems from a simple mathematical error that has never been corrected. As pointed out in a 2014 paper,[21] the IOM actually underestimates the need by a factor of 10 due to a simple mathematical error. If this error in calculation were to be corrected, the official IOM recommendation would actually be 6,000 IUs a day, not 600 IUs.

You can use this simple tool from GrassrootsHealth to calculate the estimated additional vitamin D intake needed to reach your targeted vitamin D serum level.

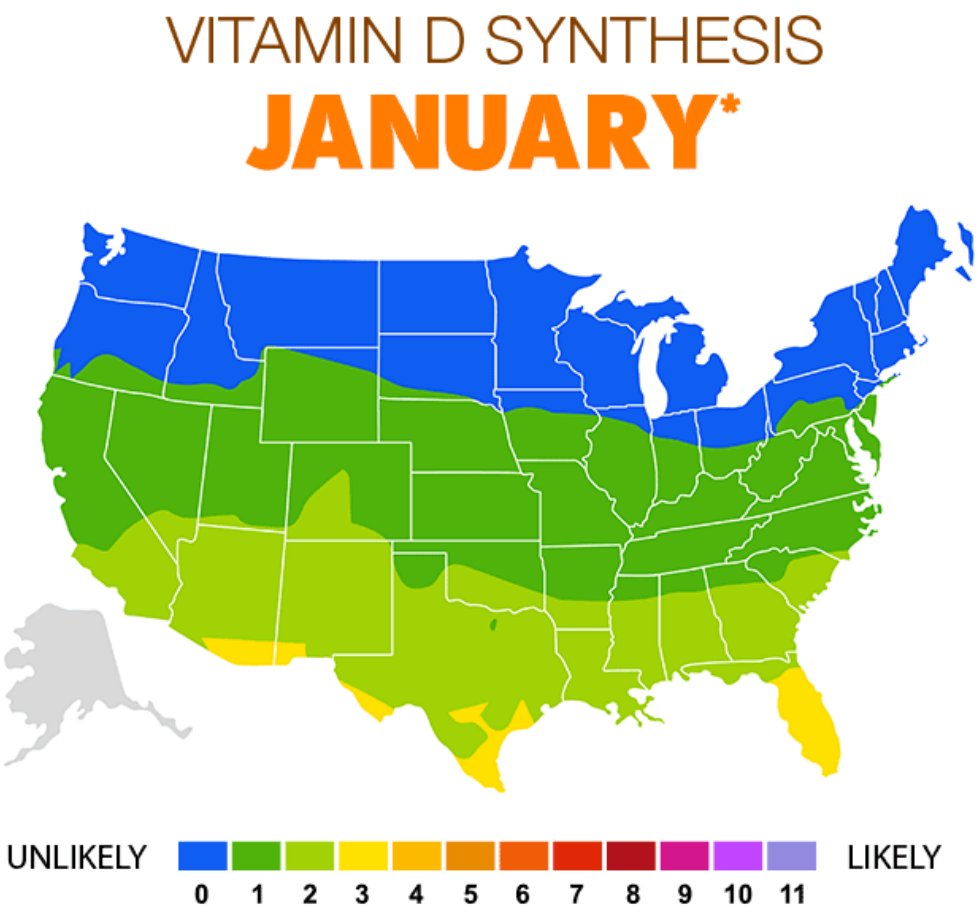
According to data published in the Archives of Internal Medicine,[22] 75% of American adults and teens are deficient in vitamin D, based on a sufficiency level of 30 ng/mL. If the sufficiency cutoff were to be moved to 40 or 60 ng/mL, deficiency rates in the U.S. would likely be in the high 90% bracket.

Even with a sufficiency level of 30 ng/mL, 97% of African-Americans and 90% of Mexican-Americans are deficient in this crucial nutrient, which places them at increased risk of chronic disease. Remember it is best to optimize your vitamin D levels with sunshine, NOT oral supplements.

How Much Vitamin D Can You Make and When?

Our skin pigmentations are linked to ancestral latitudinal proximities that optimized our ancestors' skin for sun exposure. The further from the equator our ancestors lived, the lighter their skin, allowing them to biologically maximize the limited availability of the sun, and UV light specifically.

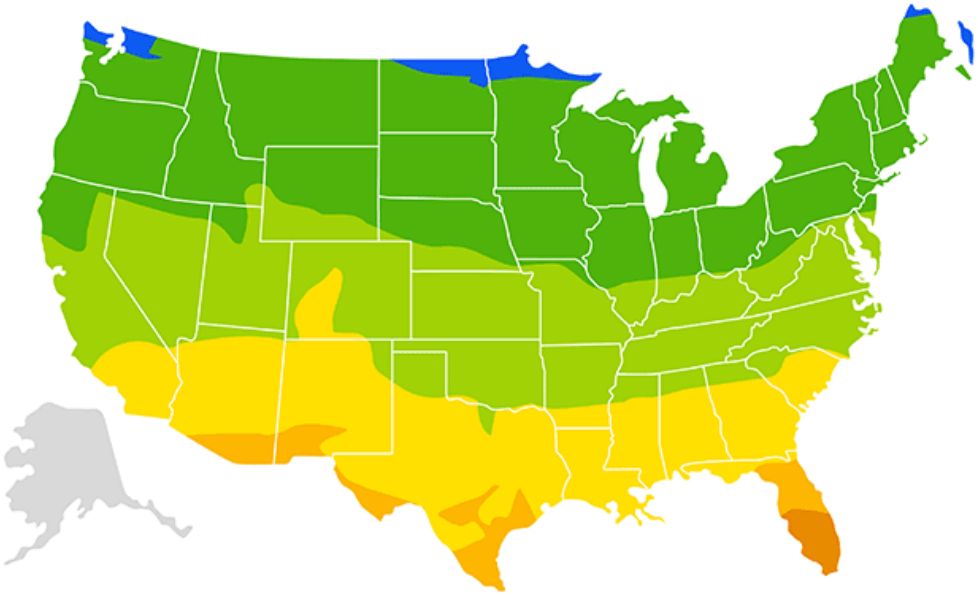
Remember: Your body produces vitamin D through exposure to UVB light. For those living in northern latitudes, this may only be an option for a few short months each year. As a general rule, you have to live below 22 degrees' latitude if you want to produce any vitamin D at all during the winter. The charts below display the likelihood of vitamin D synthesis across the U.S. by month.



Source for UV index: https://www.epa.gov/sunsafety/sun-safety-monthly-average-uv-index
*The figures provided are estimates and can vary depending on the person and/or climate changes.

VITAMIN D SYNTHESIS

FEBRUARY*



UNLIKELY LIKELY

0 1 2 3 4 5 6 7 8 9 10 11

Source for UV index: https://www.epa.gov/sunsafety/sun-safety-monthly-average-uv-index
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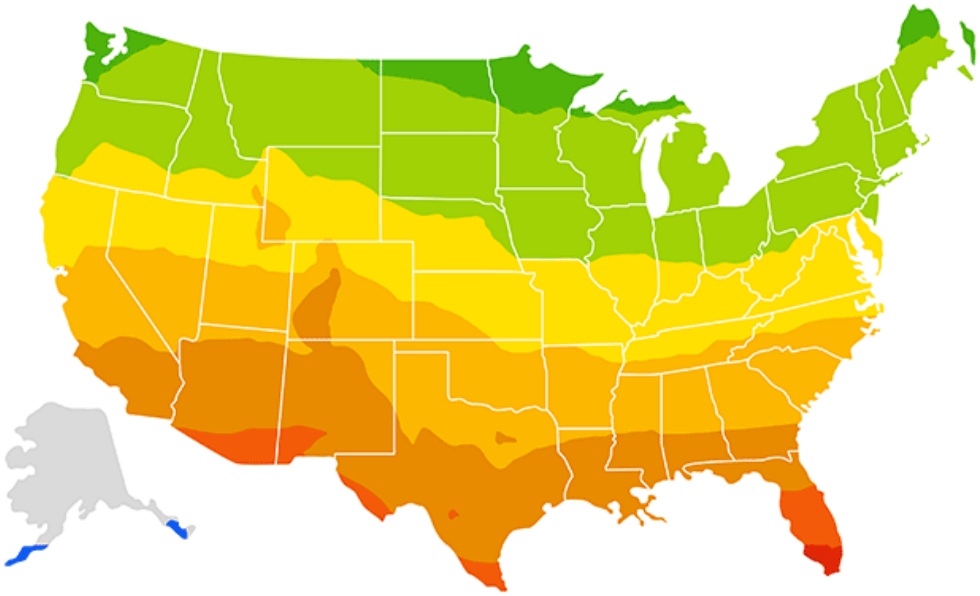
VITAMIN D SYNTHESIS

MARCH*



Source for UV index: https://www.epa.gov/sunsafety/sun-safety-monthly-average-uv-index
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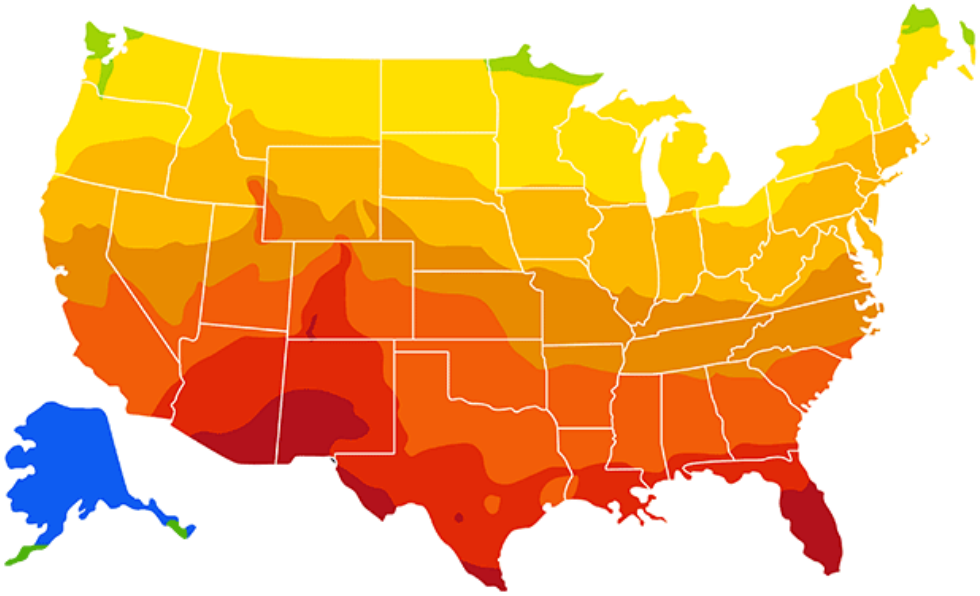
VITAMIN D SYNTHESIS

APRIL*



Source for UV index: https://www.epa.gov/sunsafety/sun-safety-monthly-average-uv-index
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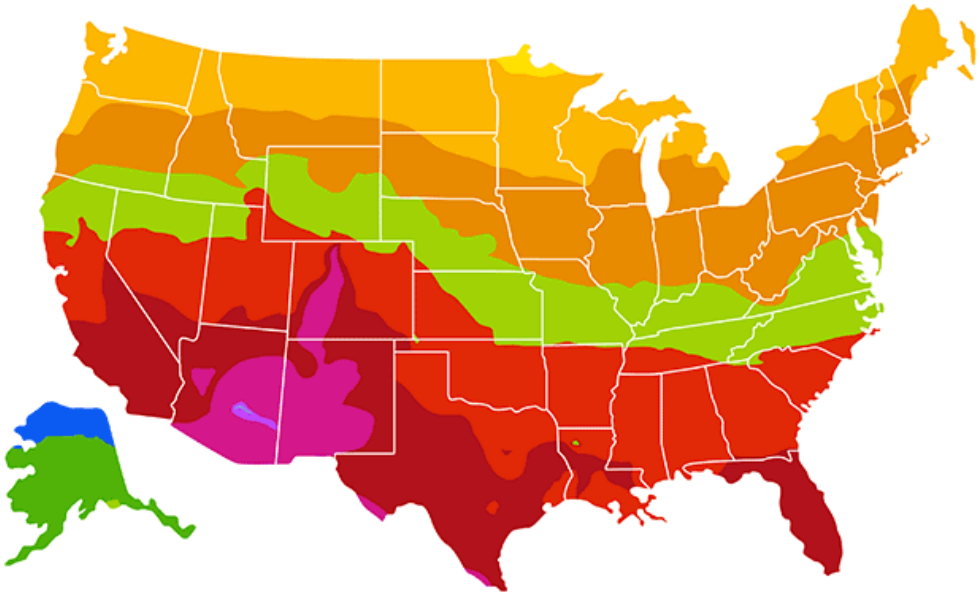
VITAMIN D SYNTHESIS

MAY*



Source for UV index: https://www.epa.gov/sunsafety/sun-safety-monthly-average-uv-index
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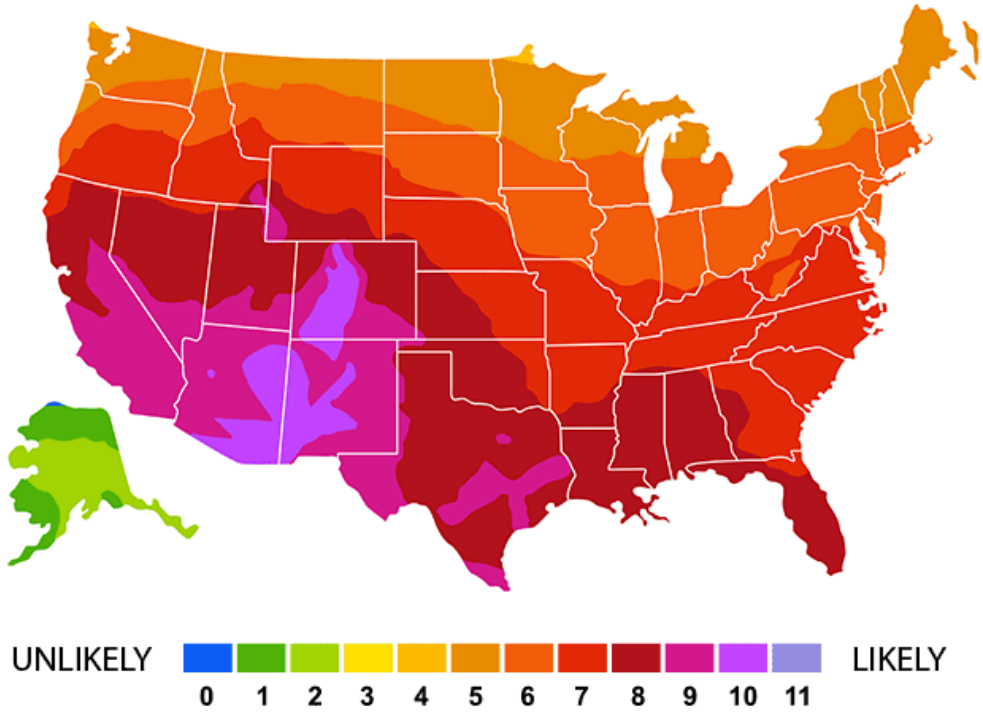
VITAMIN D SYNTHESIS

JUNE*



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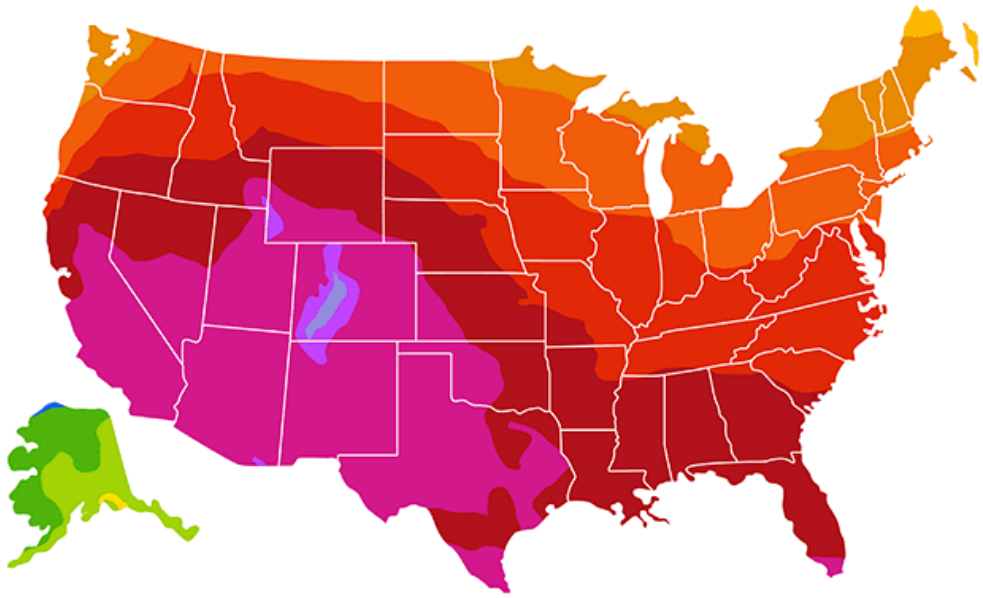
VITAMIN D SYNTHESIS

JULY*



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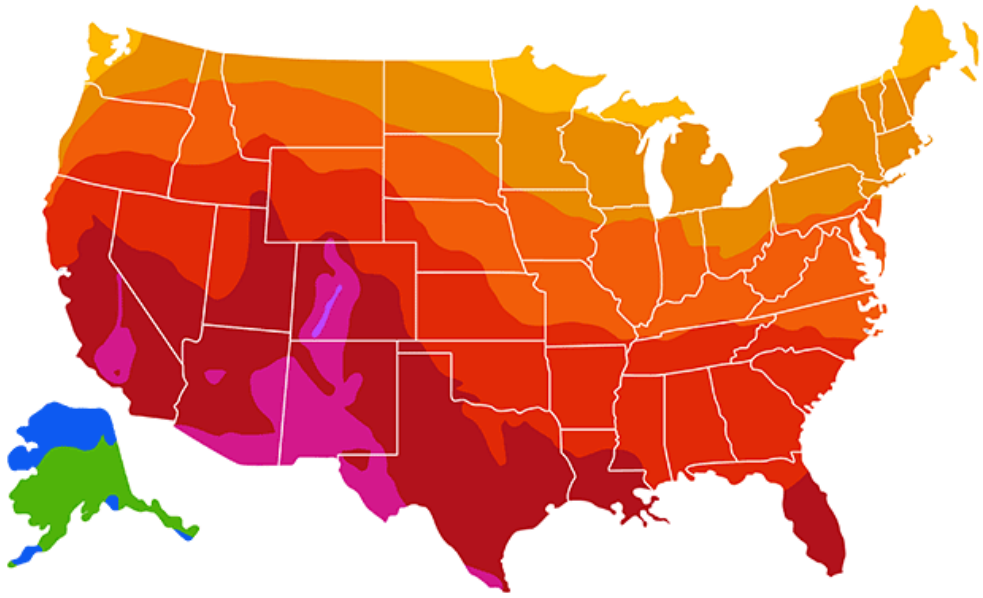
VITAMIN D SYNTHESIS

AUGUST*



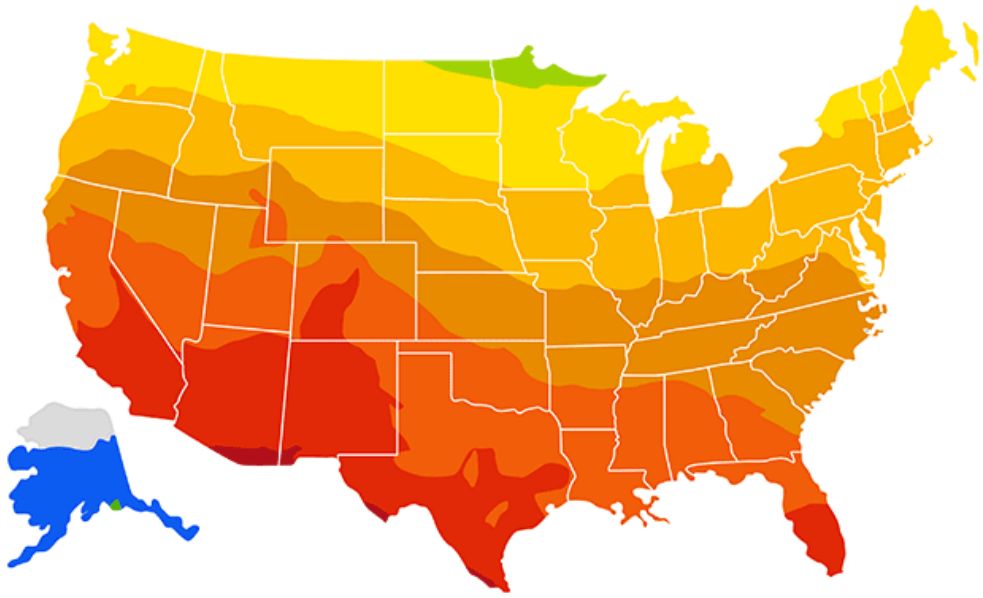
UNLIKELY — LIKELY

0 1 2 3 4 5 6 7 8 9 10 11

Source for UV index: https://www.epa.gov/sunsafety/sun-safety-monthly-average-uv-index
*The figures provided are estimates and can vary depending on the person and/or climate changes.

VITAMIN D SYNTHESIS

SEPTEMBER*



UNLIKELY 0 1 2 3 4 5 6 7 8 9 10 11 LIKELY

Source for UV index: https://www.epa.gov/sunsafety/sun-safety-monthly-average-uv-index
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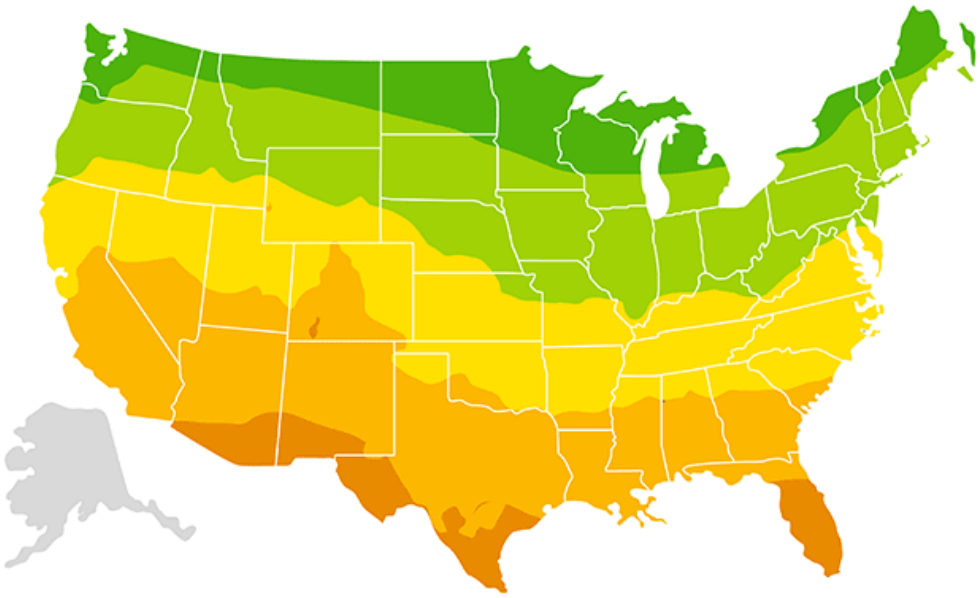
VITAMIN D SYNTHESIS

OCTOBER*



UNLIKELY 0 1 2 3 4 5 6 7 8 9 10 11 LIKELY

Source for UV index: https://www.epa.gov/sunsafety/sun-safety-monthly-average-uv-index
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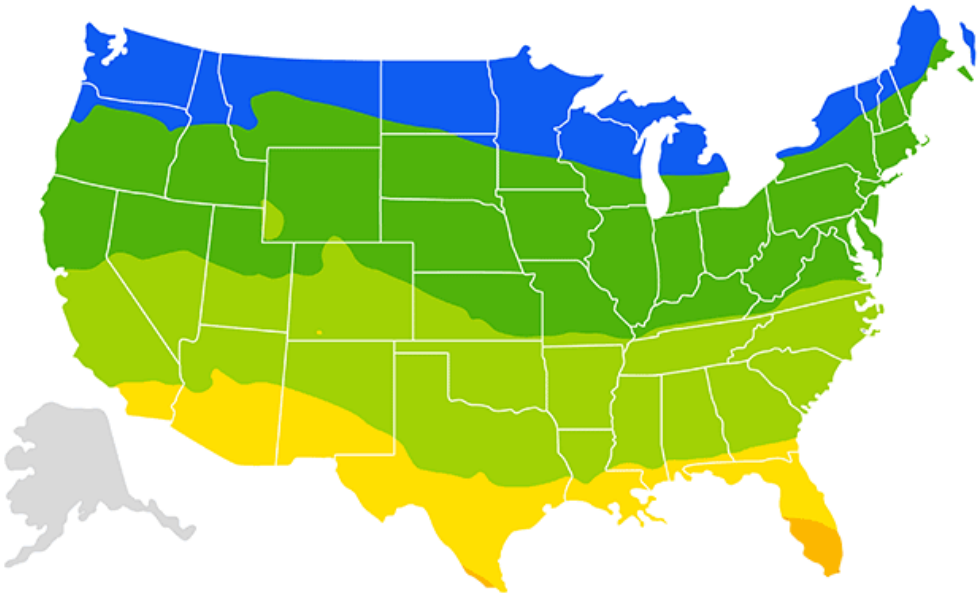
VITAMIN D SYNTHESIS

NOVEMBER*



UNLIKELY — LIKELY

0 1 2 3 4 5 6 7 8 9 10 11

Source for UV index: https://www.epa.gov/sunsafety/sun-safety-monthly-average-uv-index
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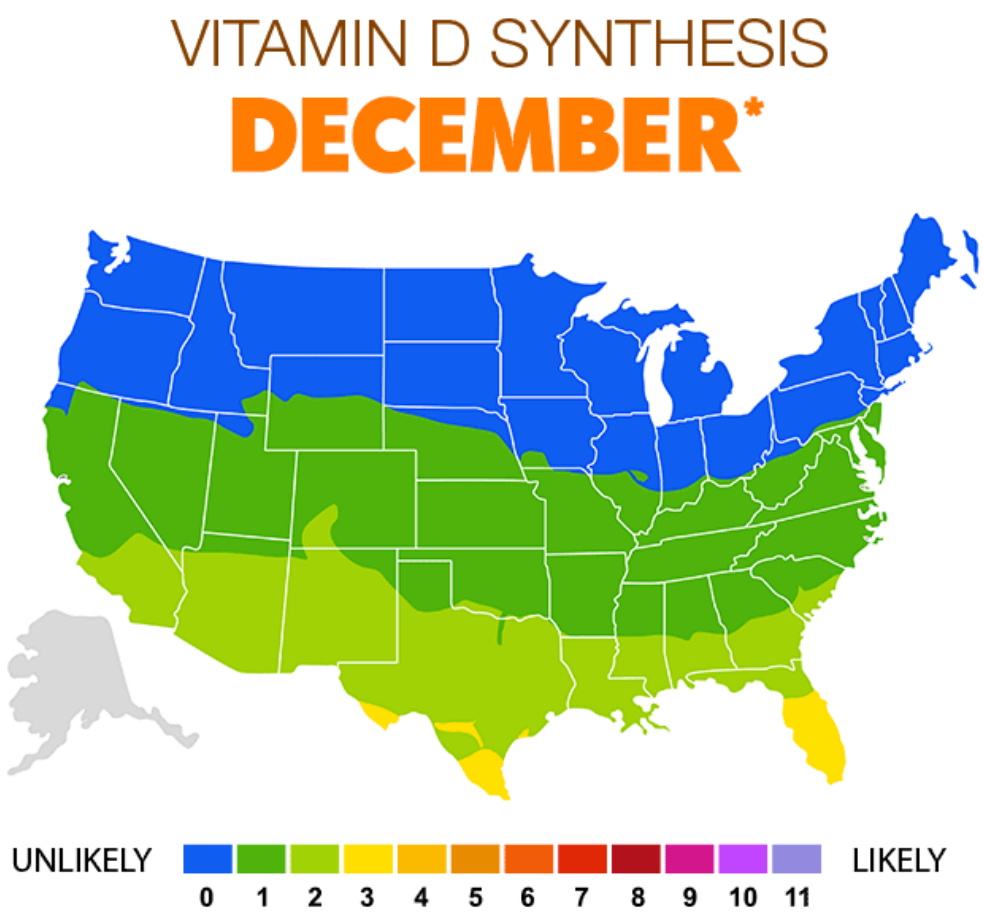

Prioritizing Nonlethal Melanoma Is Ill-Advised

For decades, the concern over skin cancers, most of which are nonlethal, has taken the front seat. As a result, other far more serious chronic health conditions such as depression, heart disease and internal cancers that claim far more lives than melanoma have been allowed to proliferate. It's high time we straighten our priorities.

The evidence in support of vitamin D optimization is overwhelming, and becomes all the more compelling when the blood level is the primary parameter being measured and tracked.

Overall, research supports the idea that higher levels offer greater cancer protection, and even levels as high as 100 ng/mL appear safe and beneficial. Importantly, having a

serum vitamin D level of 60 ng/mL has been shown to positively impact anyone with breast cancer or diabetes (both Type 1 and Type 2), as well as pregnant women and lactating mothers.

In short, the recommendation to avoid sun exposure at all costs is inadvertently killing people while saving very few if any from deadly melanoma. Outside magazine likens it to the public health recommendation to trade saturated fat for trans fats — a public health policy that has since been found to have killed millions by causing the very problem it aimed to prevent.

Remember, the only way to ensure vitamin D sufficiency is to get tested, and then get sensible sun exposure along with a sufficiently high dose of vitamin D3 if needed, to get you into the 60 to 80 ng/mL range. It's time for the U.S., Canada and other nations to acknowledge the science backing sensible sun exposure recommendations, such as those by Australia's Cancer Council, which states:[23]

> *"Ultraviolet radiation from the sun has both beneficial and harmful effects on human health … A balance is required between excessive exposure which increases the risk of skin cancer and enough sun exposure to maintain adequate vitamin D levels …*
>
> *It should be noted that the benefits of sun exposure may extend beyond the production of vitamin D. Other possible beneficial effects of sun exposure … include reduction in blood pressure, suppression of autoimmune disease, and improvements in mood."*

Sources and References

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