

# The Midday Sun for Cancer Prevention?

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“Go out in the midday sun and don’t wear sunscreen,” may sound like an outmoded mantra from the 1970’s tanning era. But, years after the declaration that “there is no such thing as a safe tan,” some medical researchers are now giving that exact prescription to prevent and treat a host of disorders, including cancer.

When the rays from the sun hit human skin, vitamin D is created. Vitamin D is the single most underrated nutrient in the world of nutrition, according to William Grant, Ph.D., the director of the Sunlight, Nutrition and Health Research Center (SUNARC).

“Thirty percent of cancer deaths could be prevented by higher levels of vitamin D,” Grant said.

Although many prominent cancer researchers in both the U.S. and Europe back his claims, the topic has been a subject of controversy in the medical community. Given that excessive sun exposure is a well-known carcinogen, researchers and physicians alike are calling for caution in advising people to expose themselves to the sun’s rays.

“Skin cancer is the most common type of cancer in the U.S. and we shouldn’t be encouraging the public to do anything which would increase their risk of getting it,” Dr. Robert Delavalle, chief dermatologist at the Denver VA Medical Service, said.

However, the support for sunshine exposure as a cancer prevention protocol is growing. Studies and scientific research reviews examining the connection between vitamin D and cancer have proliferated. Preliminary results

have lent support to the argument of the sunshine advocates.

A recent study, conducted by the Creighton University School of Medicine and funded by the National Institute of Health, showed a reduction in cancer rates among postmenopausal women who took vitamin D3 combined with calcium, compared to those who took calcium supplements alone and those who simply took a placebo.

The randomized study followed 1,179 healthy, postmenopausal women over a period of four years and

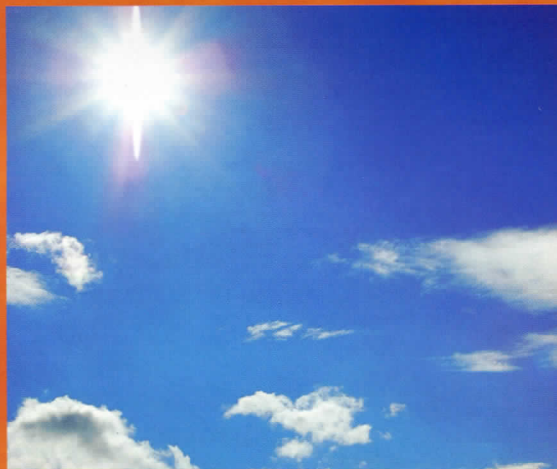


Photo courtesy of Bob Miller.

gave them a daily dosage of 1,100 IUs of vitamin D3—four times the recommended daily amount. Over the course of the trial, the cancer incidents were 60 percent less in the women who had taken vitamin D3 and calcium, as opposed to those taking the calcium alone or those taking the placebo.

“Vitamin D is a critical tool in fighting cancer as well as many other diseases,” Joan Lappe, Creighton professor of medicine, said in the official Creighton University press release.

Studies such as these have added more weight to the sunshine exposure argument.

While vitamin D can be obtained from fish, egg yolks and fortified milk, it is estimated that the average American gets around 250–300 IUs daily from dietary sources.

However, Edward Giovannici, a medical professor at Harvard, suggests that a minimum of 1,500 IUs might be needed to significantly prevent cancer.

This is where sunshine comes into the picture.

“The most efficient and inexpensive way to meet this requirement is, undoubtedly, through sun exposure, as the body has the ability to produce about 10,000 IUs of vitamin D each day,” Grant said. “Solar radiation is the most important source of vitamin D for about 90 percent of Americans.”

However, the amount of vitamin D that is actually synthesized each day depends on a number of factors, including how much skin is exposed, the time of day when a person is exposed, geographical location and skin pigmentation.

Sunshine exposure advocates recommend that a light-skinned person in the U.S. should get at least three 20-minute sessions of sun exposure a week, wearing few items of clothing in the bright midday sunlight.

“If you only have 10 percent of your body exposed to the sun, you can make about 1,000 IUs per day, and if half of your body is exposed, you can make 5,000 IUs,” Grant said.

However, these guidelines run con-



trary to the standard advice given by the American Cancer Society, where their message is quite clear: avoid sun exposure whenever possible.

Dictates such as, "Don't go out in the sun between 10am and 2pm," "wear sunscreen" and "keep covered up" have become wholly ingrained in our consciousness, even if we don't always manage to stick to them.

Delavalle, as well as being a practicing dermatologist, is a member of Sun Safe Colorado, a task force of the Colorado Cancer Coalition which is focused on educating the public about safe sun exposure. While being relatively unconcerned about the advice to go out in the sun for 20 minutes, he is concerned that the guidelines are opening the doorway to irresponsible sun exposure habits for the general population.

"If it was just 20 minutes three times a week there would be no problem," Dellavalle said. "But who really goes out in the sun for just 20 minutes. People are just going to go out for longer."

But while the suggested duration of sun exposure has not proved to be a strong point of contention, the time at which the sun exposure advocates suggest going out in the sun most certainly is. Sunshine advocates recommend that people should seek the sun in the midday hours — advice that has been cautioned in the past.

"The best time to take your vitamin D supplement from the sun is at noon," Johan Moan, a researcher from the Institute of Cancer Research in Oslo, Norway, said.

Moan is in the unique position of

being a researcher on both sides of the story, as he studies not only the links between sunlight and internal cancer prevention, but has also extensively studied the link between sun exposure and melanoma.

Moan argues that the rationale for emphasizing noon-time exposure is twofold and it is based on the fact that not all sunlight is created equal. The spectrum of ultraviolet radiation (UV), the "invisible portion" of sunlight, can be divided into categories depending on the wavelength of radiation.

UVB radiation, the shorter wavelength radiation, is responsible for the main health-giving benefit of sun-stimulated vitamin D synthesis. However, UVA, the longer wavelength radiation, is responsible for melanoma—the fatal form of skin cancer.

UVB radiation, however, is absorbed to a greater extent by the ozone layer. When the sun is lower in the sky, and the UV rays have to pass through more of the atmosphere to reach the earth, more UVB radiation is absorbed by ozone. This means that the best time to receive its benefits is at midday when the sun is at its highest point in the day.

Moan argues that by going out in the middle of the day, you are maximizing the sun's potential to create vitamin D. Therefore, the duration of exposure needed is short, thereby minimizing the risk of melanoma.

"The health recommendations given by authorities in many countries, that sun exposure should be avoided for three to five hours around noon and postponed to the afternoon may be wrong, and may even promote malignant

melanoma," Moan said.

His controversial claim that sunshine exposure may actually help prevent and treat melanoma, has some support from a research study conducted in New Mexico in 2005. Over a period of four years, researchers

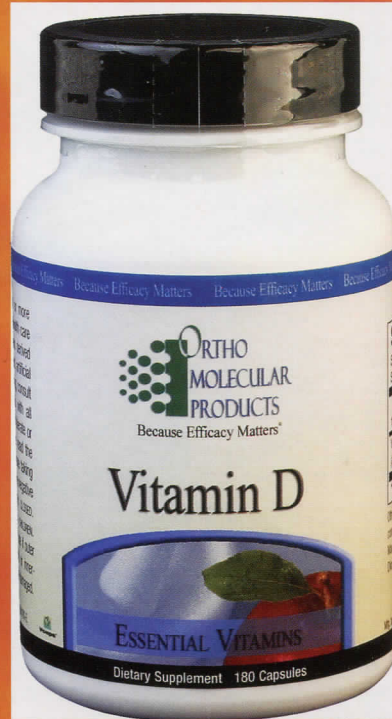
followed 528 people who had suffered from skin cancer, monitoring their levels of sun exposure. The results, which were published in the *Journal of the National Cancer Institute*, indicated that increased sun exposure is actually strongly associated with survival from melanoma.

However, his claims and the New Mexico study have met with opposition from researchers such as Delavalle. In a letter to the journal, Delavalle cautioned that the experimental

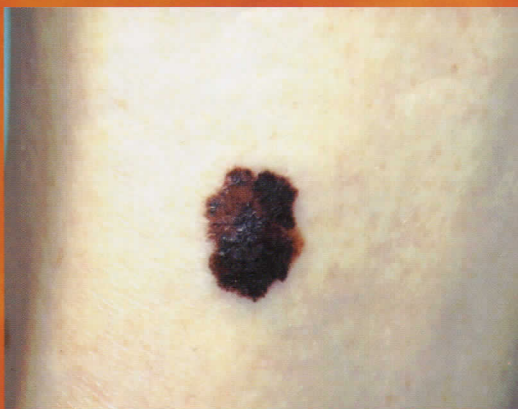
conditions were to some extent flawed, and the results were over-interpreted. Perhaps most importantly, he pointed out that no distinction had been made between those who had a family history of melanoma, which is a genetic predisposition, and those who had the "less aggressive" environmental variant of the disease.

Delavalle cited research indicating that only those with the "environmental melanoma" were the ones who responded to sunshine and that those who had a genetic predisposition were, in fact, unaided by sun exposure. He believes that before people are encouraged to get more sun exposure, more detailed studies must be done, especially focusing on the sector of the population who has a genetic predisposition to skin cancer.

"The most important thing to consider when exposing yourself to the sun is your individual predisposition to getting skin cancer. If you are fair-skinned, have lots of moles and have a



Bottle of vitamin D. Photo courtesy of LifeLuxure.



A melanoma plaque. Photo courtesy of Eric Ehram, MD.