

Shunning the sun may be harmful to your health

December 21 2010, By Donna Hesterman

SANTA CRUZ, Calif. - Skin cancer is the most common cancer in the United States, with more than a million new cases diagnosed each year. But efforts to prevent it might be creating a health crisis of another sort.

For years doctors have told patients to avoid sun exposure because it causes skin cancer and ages the skin prematurely. Poolside mothers slather their children in buckets of sun block and vigilantly watch for the first signs of sunburn. People who used to sunbathe on the beach now don long-sleeved shirts and floppy hats when they head to the sand. And many Americans put sunscreen on their hands and face as part of their daily routine.

"I wear it under my makeup every day, even though I'm mostly in the office," said Dee Fitzpatrick, a lawyer from Washington, D.C., who recently traveled to San Francisco on business. "I hate being so pasty all the time, but it isn't worth the risk of having to get a chunk of my skin removed later."

But now studies reveal that people who avoid the sun are depriving their bodies of an important source of vitamin D, which protects bones from fractures, boosts the immune system and plays an important role in preventing heart disease, multiple sclerosis and diabetes, as well as colon, breast and [ovarian cancer](#).

A recent Stanford University study showed skin cancer patients who avoided the sun on doctors' orders had lower levels of vitamin D than

people who did not.

"It just goes to show you how important the sun is for synthesizing vitamin D," said Dr. Jean Tang, a Stanford dermatologist who was the study's lead researcher.

Tang matched 41 sun-dodging skin cancer patients with people of the same age, sex, skin tone, [body mass index](#) and geographic latitude who didn't have skin cancer. She paired the study's participants by age, gender and skin color because all of those things - along with how fat you are and how far you live from the equator - affect the amount of vitamin D your body produces for the same amount of sunlight.

The skin produces vitamin D when it is exposed to ultraviolet light. UV rays from the sun react with a substance in skin cells to produce vitamin D. From the skin cells, the nutrient enters the bloodstream and circulates to bones and organs, doing its important work of healing, building and fortifying.

As we age, our skin becomes less effective at converting sunlight to vitamin D. And melanin, the pigment responsible for differences in skin color, blocks the amount of sunlight that reaches vitamin D producers in the skin. Your weight affects vitamin D levels in the blood because fat absorbs vitamin D and keeps it from circulating through the body.

The irony is that the same UV rays that trigger vitamin D production in your body also produce chemical changes in the skin's DNA. These changes, or mutations, in the DNA tamper with the blueprint that skin cells use to reproduce themselves. That causes loss of elasticity in the skin, wrinkling and the annoying brown spots that make you look old before your time. In a worse case scenario, the defective blueprint can call for construction of a malignant tumor - skin cancer.

Doctors are at odds over how much sun their patients should get.

Michael Holick, a professor of medicine at Boston University School of Medicine, suggests up to 30 minutes of midday sun twice a week to ensure adequate levels of vitamin D. But given the very real risk of skin cancer that comes with even a conservative dose of UV, most doctors are reluctant to say that any amount of sun exposure is safe.

"It's like handing your kids a bag of cookies and telling them not to eat the whole bag - just eat a few - and then expecting them to make a good decision," said Barbara Gilchrest, a dermatologist at Boston University.

She said that as studies came out showing low levels of vitamin D in the general population, dermatologists caught flak from other doctors for pushing the use of sunscreen. She said there was so much squabbling that the editor of the Journal of Investigative Dermatology asked her to respond to the accusations in an article titled, "What is All This Commotion About Vitamin D?"

Much of the brouhaha, Gilchrest said, may be just another side effect of a population that's getting fatter each year. She said that many of the ailments such as heart disease, diabetes and cancer being attributed to low vitamin D levels are also statistically linked with obesity.

People who are obese have low levels of vitamin D in their blood because it's sequestered in their overabundant fat cells. It's also possible that much of the commotion stems from inconsistent use of the terms defining levels of vitamin D. Researchers define "insufficient," "deficient" and "low" levels differently, and that could be stirring the pot as well, according to Gilchrest.

Blame the dermatologists, or thank the dermatologists. But many people are avoiding the sun to save their skin, and vitamin D levels are dropping

as we head for the shade.

Foods such as cod, salmon, beans and vitamin D fortified milk can make up for the deficit, said Ed Blonz, professor of clinical pharmacy at the University of California-San Francisco. But since you'd have to drink four glasses of milk every day to get all the vitamin D you need, he recommends taking a vitamin D3 supplement. Most adults need up to 2000 international units per day, and children need about 400 IU daily.

Tang emphasizes that she doesn't want people to get the wrong idea when they read about sun avoidance being linked to low levels of vitamin D.

Especially for fair-skinned individuals or people with a family history of skin cancer, she said, the risk of [skin-cancer](#) may outweigh the benefit of free [vitamin D](#) from the [sun](#).

"I wouldn't change your sunscreen habits based on this," she said.

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