

Scientists say sunshine may prevent cancer

Updated Sun. May. 22 2005 10:35 AM ET

Associated Press

Scientists are excited about a vitamin again. But unlike fads that sizzled and fizzled, the evidence this time is strong and keeps growing.

If it bears out, it will challenge one of medicine's most fundamental beliefs: that people need to coat themselves with sunscreen whenever they're in the sun. Doing that may actually contribute to far more cancer deaths than it prevents, some researchers think.

The vitamin is D, nicknamed the "sunshine vitamin" because the skin makes it from ultraviolet rays. Sunscreen blocks its production, but dermatologists and health agencies have long preached that such lotions are needed to prevent skin cancer.

Now some scientists are questioning that advice. The reason is that vitamin D increasingly seems important for preventing and even treating many types of cancer.

In the last three months alone, four separate studies found it helped protect against lymphoma and cancers of the prostate, lung and, ironically, the skin. The strongest evidence is for colon cancer.

Many people aren't getting enough vitamin D. It's hard to do from food and fortified milk alone, and supplements are problematic.

So the thinking is this: Even if too much sun leads to skin cancer, which is rarely deadly, too little sun may be worse.

No one is suggesting that people fry on a beach. But many scientists believe that "safe sun" — 15 minutes or so a few times a week without sunscreen — is not only possible but helpful to health.

One is Dr. Edward Giovannucci, a Harvard University professor of medicine and nutrition who laid out his case in a keynote lecture at a recent American Association for Cancer Research meeting in Anaheim, Calif.

His research suggests that vitamin D might help prevent 30 deaths for each one caused by skin cancer.

"I would challenge anyone to find an area or nutrient or any factor that has such consistent anti-cancer benefits as vitamin D," Giovannucci told the cancer scientists. "The data are really quite remarkable."

The talk so impressed the American Cancer Society's chief epidemiologist, Dr. Michael Thun, that the society is reviewing its sun protection guidelines.

"There is now intriguing evidence that vitamin D may have a role in the prevention as well as treatment of certain cancers," Thun said.

Even some dermatologists may be coming around. "I find the evidence to be mounting and increasingly compelling," said Dr. Allan Halpern, dermatology chief at Memorial Sloan-Kettering Cancer Center in New York, who advises several cancer groups.

The dilemma, he said, is a lack of consensus on how much vitamin D is needed or the best way to get it.

No source is ideal. Even if sunshine were to be recommended, the amount needed would depend on the season, time of day, where a person lives, skin color and other factors. Thun and others worry that folks might overdo it.

"People tend to go overboard with even a hint of encouragement to get more sun exposure," Thun said, adding that he'd prefer people get more of the nutrient from food or pills.

But this is difficult. Vitamin D occurs naturally in salmon, tuna and other oily fish, and is routinely added to milk. However, diet accounts for very little of the vitamin D circulating in blood, Giovannucci said.

Supplements contain the nutrient, but most use an old form — D-2 — that is far less potent than the more desirable D-3. Multivitamins typically contain only small amounts of D-2 and include vitamin A, which offsets many of D's benefits.

As a result, pills might not raise vitamin D levels much at all.

Government advisers can't even agree on an RDA, or recommended daily allowance for vitamin D. Instead, they say "adequate intake" is 200 international units a day up to age 50, 400 IUs for ages 50 to 70, and 600 IUs for people over 70.

Many scientists think adults need 1,000 IUs a day. Giovannucci's research suggests 1,500 IUs might be needed to significantly curb cancer.

How vitamin D may do this is still under study, but there are lots of reasons to think it can:

_Several studies observing large groups of people found that those with higher vitamin D levels also had lower rates of cancer. For some

of these studies, doctors had blood samples to measure vitamin D, making the findings particularly strong.

Even so, these studies aren't the gold standard of medical research — a comparison over many years of a large group of people who were given the vitamin with a large group who didn't take it. In the past, the best research has deflated health claims involving other nutrients, including vitamin E and beta carotene.

- Lab and animal studies show that vitamin D stifles abnormal cell growth, helps cells die when they are supposed to, and curbs formation of blood vessels that feed tumours.
- Cancer is more common in the elderly, and the skin makes less vitamin D as people age.
Blacks have higher rates of cancer than whites and more pigment in their skin, which prevents them from making much vitamin D.
- Vitamin D gets trapped in fat, so obese people have lower blood levels of D. They also have higher rates of cancer.
- Diabetics, too, are prone to cancer, and their damaged kidneys have trouble converting vitamin D into a form the body can use.
- People in the northeastern United States and northerly regions of the globe like Scandinavia have higher cancer rates than those who get more sunshine year-round.

During short winter days, the sun's rays come in at too oblique an angle to spur the skin to make vitamin D. That is why nutrition experts think vitamin D-3 supplements may be especially helpful during winter, and for dark-skinned people all the time.

But too much of the pill variety can cause a dangerous buildup of calcium in the body. The government says 2,000 IUs is the upper daily limit for anyone over a year old.

On the other hand, D from sunshine has no such limit. It's almost impossible to overdose when getting it this way. However, it is possible to get skin cancer. And this is where the dermatology establishment and Dr. Michael Holick part company.

Thirty years ago, Holick helped make the landmark discovery of how vitamin D works. Until last year, he was chief of endocrinology, nutrition and diabetes and a professor of dermatology at Boston University. Then he published a book, "The UV Advantage," urging people to get enough sunlight to make vitamin D.

"I am advocating common sense," not prolonged sunbathing or tanning salons, Holick said.

Skin cancer is rarely fatal, he notes. The most deadly form, melanoma, accounts for only 7,770 of the 570,280 cancer deaths expected to occur in the United States this year.

More than 1 million milder forms of skin cancer will occur, and these are the ones tied to chronic or prolonged suntanning.

Repeated sunburns — especially in childhood and among redheads and very fair-skinned people — have been linked to melanoma, but there is no credible scientific evidence that moderate sun exposure causes it, Holick contends.

"The problem has been that the American Academy of Dermatology has been unchallenged for 20 years," he says. "They have brainwashed the public at every level."

The head of Holick's department, Dr. Barbara Gilchrest, called his book an embarrassment and stripped him of his dermatology professorship, although he kept his other posts.

She also faulted his industry ties. Holick said the school has received \$150,000 in grants from the Indoor Tanning Association for his research, far less than the consulting deals and grants that other scientists routinely take from drug companies.

In fact, industry has spent money attacking him. One such statement from the Sun Safety Alliance, funded in part by Coppertone and drug store chains, declared that "sunning to prevent vitamin D deficiency is like smoking to combat anxiety."

Earlier this month, the dermatology academy launched a "Don't Seek the Sun" campaign calling any advice to get sun "irresponsible." It quoted Dr. Vincent DeLeo, a Columbia University dermatologist, as saying: "Under no circumstances should anyone be misled into thinking that natural sunlight or tanning beds are better sources of vitamin D than foods or nutritional supplements."

That opinion is hardly unanimous, though, even among dermatologists.

"The statement that 'no sun exposure is good' I don't think is correct anymore," said Dr. Henry Lim, chairman of dermatology at Henry Ford Health System in Detroit and an academy vice president.

Some wonder if vitamin D may turn out to be like another vitamin, folate. High intake of it was once thought to be important mostly for

pregnant women, to prevent birth defects. However, since food makers began adding extra folate to flour in 1998, heart disease, stroke, blood pressure, colon cancer and osteoporosis have all fallen, suggesting the general public may have been folate-deficient after all.

With vitamin D, "some people believe that it is a partial deficiency that increases the cancer risk," said Hector DeLuca, a University of Wisconsin-Madison biochemist who did landmark studies on the nutrient.

About a dozen major studies are under way to test vitamin D's ability to ward off cancer, said Dr. Peter Greenwald, chief of cancer prevention for the National Cancer Institute. Several others are testing its potential to treat the disease. Two recent studies reported encouraging signs in prostate and lung cancer.

As for sunshine, experts recommend moderation until more evidence is in hand.

"The skin can handle it, just like the liver can handle alcohol," said Dr. James Leyden, professor emeritus of dermatology at the University of Pennsylvania, who has consulted for sunscreen makers.

"I like to have wine with dinner, but I don't think I should drink four bottles a day."