Despite the noise, sunscreen is your best protection against skin cancer

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"Total bunk." That was the first thought that crossed Timothy Caulfield's mind when he heard about the latest misinformation trend about sunscreen. Then the anger and frustration hit.

Social media influencers on TikTok and elsewhere have been spreading dangerous and inaccurate claims about sunscreen, alleging the chemicals in it are more harmful than exposure to the sun itself.

Lacking evidence, says Caulfield, they say things like, "The sun doesn't cause cancer; sunscreens do," or argue that a tan is all the protection you need against the sun's UV rays.

"It's absurd nonsense," says Caulfield, adding that there is a broad, long-settled scientific consensus that sunscreens are safe and effective.

"Do you want to side with the scientific consensus or someone speculating on TikTok?" he says, pointing out that social media and other wellness influencers are only interested in attracting followers by promoting controversial views.

Caulfield has been fighting misinformation for decades. In 2015 he released "The Science of Celebrity, or Is Gwyneth Paltrow Wrong About Everything?" It's an influential critique of the hype around celebrity culture and the wellness industry. Lately he has focused his attention on science misinformation online, including exaggerated claims about alternative cancer therapies.

The recent attack against sunscreen on social media reflects a misguided philosophy that all things natural are good for your health and that synthetic products containing chemicals are necessarily toxic, says Caulfield. "But I could give you a whole list of natural things that are bad for you."

Such views exploit irrational fears, inflaming "chemophobia" to make arguments seem more scientific and persuasive, he adds. "If people don't know what the chemicals are and how they interact with your body, it will sound scary."

In reality, one in five Canadians will get some form of skin cancer during their lifetime, mostly from sun exposure, and about 1,300 die from it every year—about 64,000 worldwide. The vast majority of skin cancer deaths are from melanoma, the most serious form. The International Agency for Research on Cancer has classified UV radiation from the sun, tanning beds and welding as carcinogenic.

Studies have shown that regular use of a sun protection factor (SPF) 15 or higher broad-spectrum sunscreen reduces chances of developing squamous cell carcinoma by about 40%, melanoma by 50% and premature skin aging by 24%.

Busting myths about sunscreen

Here are the biggest myths about sunscreen, some of which Caulfield debunks on the website for his social media campaign, ScienceUpFirst.

Ingredients in sunscreen are not safe

Minimal amounts of some ingredients in sunscreen may be absorbed into the body in small amounts, but research shows they are not harmful at typical use levels. In other words, "absorption does not equal harm."

Chemical filters in some sunscreens, such as oxybenzone, are "free radical" generators, producing unstable molecules in the body that increase the risk of cancer.

There is no evidence to suggest the cancer risk of chemicals in sunscreen is greater than the risk of getting cancer from the sun's UV rays, and oxybenzone's toxicity has been largely debunked. Any "potential link" between skin cancer and sunscreen is likely explained by correlation, says Caulfield. People who use sunscreen also spend more time in the

sun, and most people don't apply it properly.

Using sunscreen will lead to vitamin D deficiency

According to the Skin Cancer Foundation, there have been no studies linking regular sunscreen use to vitamin D deficiency. You can acquire your recommended daily dose very quickly, says Caulfield, with unprotected exposure about 10 minutes three times a week. Even with sunscreen, a small amount of the UVB radiation that produces vitamin D will penetrate the skin. You can also get adequate vitamin D through diet.

Dark-skinned people have enough protection from the sun and don't need sunscreen

This is more complicated, but dark-skinned people can still get skin cancer. According to the Skin Cancer Foundation, skin cancer accounts for 1–2% of all cancers in Black people, 2–4% in Asian people and 4–5% in Hispanic people.

A good tan protects you from harmful UV rays

A common myth is that building the melanin pigment gradually provides natural protection against the sun. But a tan—estimated to provide between 2 and 4 SPF, compared with the recommended 30 SPF—will not protect you from sunburn or other damage to skin.

Sunscreen disrupts hormones

Concerns about oxybenzone disrupting hormones arose from studies in which rats were given massive doses, far exceeding normal sunscreen use.

Keep in mind that sunscreens have been approved by both the FDA in the United States and by Health Canada and have been on the market for years, says Caulfield, "with no direct evidence linking them to adverse health effects."

"Don't believe the myths. Recognize that the sun can do real harm, and to the best of our knowledge, sunscreen does not cause cancer," he adds.

Or heed the advice in Baz Luhrmann's 1997 spoken-word song, "Everybody's Free (To Wear Sunscreen)," an imaginary convocation address: "If I could offer you only one tip for the future, sunscreen would be it … trust me on the sunscreen."

Provided by University of Alberta

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