

UV Camera Shows Importance of Sun Safety

The Office of Community Outreach and Engagement uses the device to show sun damage and emphasize the importance of using sunscreen.

May 30, 2025 By Greg Glasgow at the University of Colorado Cancer Center

When Tatiana Gerena, MPH, CPH, visits Denver-area high schools to teach students about sun safety, she doesn't just talk about the damage that sunlight can cause to your skin. With the help of a UV camera, she can show each student the effects of ultraviolet radiation on their face and hands.

"Living in Colorado, young people tend to tan a lot more — myself included, when I was a teenager," says Gerena, principal community outreach and engagement coordinator for the [University of Colorado Cancer Center's Office of Community Outreach and Engagement](#) (COE). "Usually we'll do the presentation, and afterward, we use the camera to show current skin damage."

The UV camera makes visible the brown spots on the face where melanin has accumulated in response to sun exposure, Gerena says, as well as areas of skin that have more blood flow because of sun damage, which can lead to [skin cancer](#).

"Melanin is a pigment that our bodies create naturally as protection from the sun," she says. "People associate tans with beauty and looking sun-kissed, but a tan is a response from our skin when it's being damaged. It's producing more melanin to protect us from UV rays. Someone who always wears sunscreen should have fewer brown spots than somebody who is always outside and never wears sunscreen."

In addition to using the UV camera in high schools, the COE plans to begin using it soon as part of an outreach effort to Colorado migrant workers, who spend hours in the sun each day. For both populations, the COE hands out sun-protective armbands and sunscreen, vital tools in staying protected from the sun's harmful rays — especially in Colorado, where the higher elevation places people much closer to the sun.

For more information about sunscreen and how to choose and apply the one that's best for you, we turned to CU Cancer Center member [Theresa Pacheco](#), MD, associate professor of dermatology at the CU School of Medicine.

Why is sunscreen important in preventing skin cancer?

Sunscreen is important because it helps protect your skin from the sun's harmful ultraviolet (UV) rays. These rays can damage your skin cells and increase the risk of skin cancer. By using sunscreen, you reduce the amount of UV radiation that reaches your skin.

What does SPF mean on a sunscreen label, and what number is best for preventing skin cancer?

SPF stands for Sun Protection Factor. It measures how well the sunscreen can protect your skin from UVB rays, which cause sunburn and contribute to skin cancer. A higher SPF number means more protection. For preventing skin cancer, it's best to use a sunscreen with at least SPF 30.

How often should you reapply sunscreen? What if it's waterproof sunscreen and you are swimming or going into water?

You should reapply sunscreen every two hours, or more often if you are sweating or swimming. Even if the sunscreen is labeled as waterproof, you should reapply it after swimming or towel drying.

Do you need to apply sunscreen if you are wearing a hat or other clothing that protects you from the sun?

Yes, you should still apply sunscreen. Hats and clothing can help protect some parts of your body, but sunscreen ensures that all exposed skin is protected, especially areas not covered by clothing.

Do you need to apply sunscreen on a cloudy day?

Yes, you should apply sunscreen on cloudy days because UV rays can penetrate through clouds and still cause skin damage.

Do people with darker skin need to use the same amount of sunscreen as those with fairer skin?

Yes, people with darker skin should use sunscreen just like those with fairer skin. While darker skin has more natural protection against UV rays, it is still at risk for sun damage and skin cancer.

Is aerosol or lotion sunscreen better at preventing skin cancer, or is there a difference?

Both aerosol and lotion sunscreens can be effective at preventing skin cancer if used correctly. The key is to apply a sufficient amount and cover all exposed skin. Some people prefer lotion for more even coverage, while others like aerosols for their convenience.

What is the difference between chemical sunscreens and physical blocker sunscreens? Is one more effective than the other?

Chemical sunscreens absorb UV rays and turn them into heat, while physical blocker sunscreens (like those with zinc oxide or titanium dioxide) sit on top of the skin and reflect UV rays. Both types

can be effective, but physical blockers are often recommended for sensitive skin.

If you wear makeup or skin lotion with SPF, does that mean you don't need to also wear sunscreen?

Makeup or lotion with SPF can provide some protection, but it might not be enough, especially if you don't apply it evenly or in a thick enough layer. It's a good idea to use a separate sunscreen for better protection.

Are there certain types of skin cancer in which sunscreen is more or less effective?

Sunscreen is effective in reducing the risk of various types of skin cancer, including basal cell carcinoma and squamous cell carcinoma. It also helps reduce the risk of melanoma, the most serious type of skin cancer, though no sunscreen can provide 100% protection.

Can sunscreen cause skin cancer, or is there any association between sunscreen use and melanoma risk?

There is no evidence that sunscreen causes skin cancer. In fact, using sunscreen regularly is associated with a lower risk of melanoma and other skin cancers.

Are there any other health risks associated with sunscreen use?

Most people can use sunscreen without any problems. However, some people might experience skin irritation or allergic reactions to certain ingredients. It's important to choose a sunscreen that works well for your skin type.

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