

Sun Rules: 5 Facts to Know About Summer Sun Safety

By Emily Wojcik

Now that summer is here, there's no end to new information about vitamin D, skin cancer, and sun protection factor (SPF) levels. Sun-related topics take on special importance for people with lupus. Here are five facts you need to know for a safer summer.

1. UV rays are not all the same. When we talk about sun exposure, what we really mean is ultraviolet (UV) radiation. The sun emits light at all wavelengths in the electromagnetic spectrum, but ultraviolet rays are the ones responsible for causing skin damage such as sunburns. Ultraviolet rays are divided into three wavelength bands—UVA, UVB, and UVC.

"UVA and UVB are the types that most often penetrate the ozone layer to reach Earth," says David Fiorentino, M.D., Ph.D., assistant professor of dermatology at the Stanford University School of Medicine. "UVB is shorter—it's the 'burning' ray. It causes sunburn and can damage DNA and cells."

He cautions, "UVA is longer and can penetrate more deeply into the top layer of the skin—the dermis—which contains the proteins, such as collagen, that make up most of the structure and bulk of our skin." Both types can cause skin cancer.

UVA can also trigger cutaneous (skin) lupus and cause flares of existing systemic lupus, says Andrew Franks Jr., M.D., a professor of dermatology and medicine and director of the Skin Lupus & Autoimmune Connective Tissue Disease Center at the New York University School of Medicine.

He explains, "UVA rays interfere with the skin's immunity, allowing damage to cells and promoting the development of autoimmune antibodies, such as ANAs." ANAs are antinuclear antibodies that bind to a cell's nucleus, damaging or destroying the cell. Most people with lupus are familiar with the ANA test that helps to confirm a lupus diagnosis by revealing the existence of these damaging autoantibodies. In fact, excessive sun exposure is often the trigger for symptoms that eventually lead to a lupus diagnosis.

Ultraviolet ray levels are not constant: The position of the sun in the sky and low ozone both correlate with increased UV rays. Sand, snow, and water all reflect UV rays. And don't be fooled by the clouds—they do not block UV. The amounts of UV also vary with altitude, with increased UV penetration at higher altitudes due to the thinner atmosphere.

Skin damage from UV rays also depends on your skin type: Fair skin is less tolerant than dark skin, but all skin types will be affected; it may just take a little longer.

Stacie Collett, 39, of Holly Springs, GA, tells a familiar story. Diagnosed with lupus in 2005, she found that being at the beach caused fatigue and bad headaches, even when she was younger. "In my 20s, I would get this lacy rash on my thighs after being in the sun," she says. "I thought that was just part of tanning." Now, she says, "I can't be in the sun at all. It just zaps my energy."

2. UV reaction can take many forms. People with lupus need to be aware of UV photosensitivity. “Photosensitivity could mean a systemic response, like feeling sick, having chills, fever, even joint pain, or that you sunburn more easily,” Fiorentino says. Sometimes, though, the reaction may not be visible.

Beth Lindsley, 49, of Three Forks, TX, was diagnosed with lupus three years ago. But she noticed her sensitivity long before that. “I lived in the sun. I coached (high school tennis teams and elementary and middle school kickball teams), surfed, swam, jogged,” she says. “Nine years ago, I started passing out after being in the sun. I would feel shaky and get a little rash. Now I have immediate reactions.” Lindsley’s rheumatologist explained that this type of extreme photosensitivity can cause a flare of lupus, which leads to damage in her internal organs.

“You don’t necessarily know when the damage has been done until it’s too late,” says Franks.

3. There’s no such thing as a “safe” tan from UV light. One of the most dangerous myths about UV rays is that damage occurs only after a sunburn. The idea that a “base tan” will prevent burning and, therefore, prevent illness is particularly troublesome. “Any time you have a tan, it means your skin is trying to protect itself from further damage by producing melanin,” Fiorentino says. While melanin might provide a minimal level of protection, about SPF 6, it also indicates that damage has already been done.

Tanning beds, which use UVA rays, are especially dangerous. “People think tanning parlors are safe because they don’t get burned,” Franks says. “But we now know tanning beds cause a tremendous increase in skin cancer and melanoma.” In fact, Franks notes, 26 states have shut down tanning parlors.

For a tanned look, tanning products are the way to go. Cosmetic bronzers wash off like regular makeup; sunless tanners temporarily stain the skin (see “Protect Your Skin”). But remember: The “tan” you get with these products does not provide UV protection.

4. Vitamin D doesn’t have to come from the sun. For people with lupus, vitamin D is a real concern. “It’s high on everyone’s radar and with good reason,” Fiorentino says. “UVB is required for the body to make vitamin D, so if you use sunscreen or clothing that decreases your UVB exposure, you decrease the vitamin D that your body makes.”

To meet your daily vitamin D requirement without spending extra time in the sunlight, you can eat foods with vitamin D or take vitamin supplements. For most people, the National Institutes of Health recommends 600 international units (IUs) per day, though your doctor may recommend up to 1,000 IUs. “It’s much easier and safer to supplement with vitamins, especially since it’s hard to recommend any sun exposure beyond what people with lupus get in day-to-day life,” Fiorentino says.

5. The right sun protection is more than just SPF. Always be aware of potential sources of UV rays, indoors and out. “Sun is the primary outdoor source of UV light,” says Fiorentino. “Even cloudy days can provide up to 80 percent of the UV of a sunny day.” When indoors and in

cars, he says, “the biggest risk is often outdoor sun coming through windows.” While glass does block UVB transmission, most UVA can get through.

Other UV sources can be harder to spot. Franks says the new flat computer and television screens do not emit radiation, but older models do. The bigger concern is lighting. “Halogen and fluorescent lights emit more radiation than incandescent,” he says. “You can, however, completely block UV with plastic covers.” If the bulb is exposed, especially a halogen bulb, “people who are photosensitive can have problems if they are within four feet of it,” Franks says.

Lindsley knows this well. A former teacher, her desk at school was next to a big window and under a large fluorescent light. “All of a sudden I started getting rashes from being near the window,” she says. “I went from wanting every window open to shutting windows and turning the light off. My mom thought I was depressed. She said, ‘You sit in the dark all the time.’”

Today Collett and Lindsley both wear long sleeves and hats and never leave the house without skin protection. Lindsley says, “I coached and taught for 20 years, and lupus took both of those away from me. The one thing it’s not going to take is my participation in life. I’m not going to let it.”

Protect Your Skin

Protective Clothing. Sun-protective clothing, made from specially treated fabrics, is extremely effective, says dermatologist Andrew Franks Jr., M.D. If you want to treat your current clothing, find one of the products that can be added to your laundry to increase fabrics’ SPF from a normal level of about 6 to SPF 15. And when looking for hats, think beyond the baseball cap variety. “You need something with a wider brim, at least four inches all the way around,” Franks says.

Sunscreen or Sunblock? “Sunscreens have an interaction with your skin and absorb UV radiation. Put them on 30 minutes prior to sun exposure to allow your skin to absorb the polymer,” Franks says. Sunblocks, on the other hand, “reflect radiation and immediately block it without a wait time.”

But not all sunblocks protect against both types of UVA rays, UVA-1 and UVA-2. “Right now, by far the best sunscreen on the market today is Mexoryl,TM which blocks both [in addition to UVB],” Franks says. There is more than one brand, so be sure the ingredient list includes Mexoryl. Products with the Helioplex® compound, which Franks says is close to Mexoryl in effectiveness, also protect against UVA-1 and 2. Recommendations from the American Academy of Dermatology are at aad.org.

Eye Protection. Check the labeling: Sun-glasses with at least 99 percent UVA and UVB blockage are the best, especially if they cover the sides of your face, preventing UV rays from entering from the side.

Light Covers. Window film and light shields help protect against UVA and UVB exposure. The Naturalux Light Shields [Web site](#) includes a special section on lupus.

DIY Tanning. Find out about self-applied tanning lotions, gels, and sprays at [WebMD](#). (The LFA cannot endorse specific products.)

Editor's Note: On June 15, the Food and Drug Administration (FDA) announced new labeling and product testing guidelines for manufacturers of sunblocks and sunscreens. Click [here](#) for more information.
