



SUNSCREEN

3 Steps to Playing it Safe in the Sun:

1. **Avoid Too Much Sun:** Wear protective clothing (shirt, hat, pants, sunglasses) when in the sun for more than 15 minutes; seek shade as much as possible; avoid mid-day (10am-2pm) sun.
2. **Apply Sunscreen to Exposed Skin:** Apply 20 minutes before sun exposure; apply a generous coat and reapply every 2 hours or more often if getting wet or sweating heavily.
3. **Choose Sunscreen Wisely:** Look at the label. Choose a sunscreen that:
 - Offers broad spectrum (UV-A & UV-B) protection
 - Is rated SPF 30 or above
 - Is water resistant
 - Has broad-spectrum UVA and UVB coverage

Why should I wear a sunscreen?

More than 1 million people in the United States are diagnosed with skin cancer each year, making it the most common form of cancer in the country. It is largely preventable through broad sun protection. Approximately 90% of non-melanoma and 65% of melanoma skin cancers are associated with ultraviolet (UV) radiation from the sun. Sunscreen can effectively stop most UV radiation from penetrating your skin if used according to the directions, and prevent skin damage.

When should I wear sunscreen?

Daily sunscreen should be applied to uncovered skin and under thin or open weave clothing as UVA radiation can penetrate through windows.

How should I apply sunscreen?

Sunscreen should be applied at least 20 minutes before going outside and reapplied every two hours. If swimming or sweating, apply more often.

How much sunscreen should I apply?

Most people don't apply enough sunscreen, which is why undesirable sunburns and tanning can occur despite sunscreen application. To achieve the Sun Protection Factor (SPF, which protects against the sun's UVB radiation) reflected on a bottle of sunscreen, you should use approximately two milligrams of sunscreen per square centimeter of skin. In practice, this means applying the equivalent of a shot glass (two tablespoons) of sunscreen to the exposed areas of the face and body – a nickel-sized dollop to the face alone. If you're using a spray, apply until an even sheen appears on the skin. Remember that sunscreen needs to be reapplied every two hours, or more frequently after swimming, heavy perspiration, or toweling off. Also remember, no matter how much sunscreen you apply, the SPF should be 15 or higher for adequate protection – and ideally 30 or higher for extended time spent outdoors.

What should I look for in a sunscreen?

Sunscreens are products combining several ingredients that help prevent the two types of ultraviolet radiation, UVA and UVB, that damage the skin, age it prematurely, and increase your risk of skin cancer. UVB is the chief culprit behind sunburn, while UVA rays, which penetrate the skin more deeply, are associated with wrinkling, leathering, sagging, and other light-induced effects of aging (photoaging). They also exacerbate the carcinogenic effects of UVB rays, and increasingly are being seen as a cause of skin cancer on their own.





Sunscreens vary in their ability to protect against UVA and UVB. Most sunscreens with an SPF of 15 or higher do an excellent job of protecting against UVB. SPF is a measure of a sunscreen's ability to prevent UVB from damaging the skin. Here's how it works: If it takes 20 minutes for your unprotected skin to start turning red, using an SPF 15 sunscreen theoretically prevents reddening 15 times longer — about five hours. Another way to look at it is in terms of percentages: SPF 15 filters out approximately 93 percent of all incoming UVB rays. SPF 30 keeps out 97 percent and SPF 50 keeps out 98 percent. They may seem like negligible differences, but if you are light-sensitive, or have a history of skin cancer, those extra percentages will make a difference. In all cases we recommend a broad-spectrum sunscreen offering protection against both UVA and UVB rays.

What sunscreen should I use?

Many of the sunscreens available in the US today combine several different active chemical and physical ingredients in order to provide broad-spectrum protection. Chemical blockers (ingredients like oxybenzone and avobenzone) protect the skin at a cellular level by absorbing UV radiation and need to interact with the skin cells to be effective. Thus, chemical blockers need to be applied to bare skin (under moisturizer and makeup) at least 20 minutes prior to sun exposure. If you have sensitive skin, though, you may want to avoid chemical blockers as they may be more irritating. Physical blockers (ingredients like titanium dioxide and zinc oxide) work like a physical shield on the surface and reflect UV radiation away from the skin to prevent absorption of the damaging sun rays. As a result, these types of sunscreens work best when applied as the last step in a skin care routine. They're also thought to be more effective, overall, at blocking the sun's UVA and UVB rays. Other benefits include a longer shelf life and longer wear time on the skin, although they're not as resistant to water and sweat like chemical blockers. In addition, many of today's physical blocker formulations, particularly the ones manufactured with micronized titanium dioxide and/or zinc oxide, are less likely to give skin a whitish overtone.

Are sunscreen ingredients safe?

Over the past decade, dozens of studies have examined the potential health hazards of sunscreen chemicals. These include possible skin irritation or allergy, hormone disruption and skin damage that occurs when sunlight acts on sunscreen chemicals.

Nearly every chemical sunscreen contains avobenzone because it is the best agent for filtering skin-damaging UVA rays. However, avobenzone alone may break down when exposed to sunlight. Chemicals such as octocrylene must be added to the product to stabilize it. This practice has become more common in recent years.

A few animal studies have raised concerns that oxybenzone could disrupt endocrine functions, mimicking hormones, such as estrogen; however, to date, no studies have shown this ingredient to pose risks to humans. Further reports have raised the theoretical concern that sunscreens with oxybenzone and other ultraviolet filters cause release of free-radicals in the skin; however, this too has not been shown in scientific studies.

Review of scientific literature has been performed regarding nanoparticles in sunscreens containing zinc oxide and/or titanium dioxide, and to date, there is no evidence that these nanoparticles pose any risk to users; however, nanoparticle-free zinc and titanium sunscreens are available, but will often leave more of a white-residue on the skin than the micronized physical blockers.

Do sunscreens expire?

It is important to pay attention to expiration dates or to discard sunscreens without expiration dates within two years as they do lose their efficacy with prolonged shelf life. Further, store sunscreen at room temperature in a dark place when possible. If sunscreen is exposed to hot temperatures for prolonged periods, it should





be discarded prior to its expiration date. Since sunscreens are often exposed to hot temperatures in cars, at the beach or pool, it is generally a good idea to discard at the end of a summer season to ensure maximal efficacy.

Common Sunscreen Myths:

Wearing sunscreen can cause vitamin D deficiency.

There is some controversy regarding this issue, but few dermatologists believe (and no studies have shown) that sunscreens cause vitamin D deficiency. Also, vitamin D is available in dietary supplements and foods such as salmon and eggs, as well as enriched milk and orange juice.

If it's cold or cloudy outside, you don't need sunscreen.

This is not true. Up to 40 percent of the sun's ultraviolet radiation reaches the earth on a completely cloudy day. This misperception often leads to the most serious sunburns, because people spend all day outdoors with no protection from the sun.

Eighty percent of your sun exposure comes as a child, so it's too late to do anything now.

It appears that this universally promoted idea was based largely on a misinterpretation. A recent multi-center study showed that we get less than 25 percent of our total sun exposure by age 18. In fact, it is men over the age of 40 who spend the most time outdoors, and get the highest annual doses of UV rays. And since adult Americans are living longer and spending more leisure time outdoors, preventing ongoing skin damage will continue to be an important part of a healthy lifestyle.

Sunscreens for daily use in moisturizers:

CeraVe AM with SPF, CDG Tinted Daily Moisturizer with SPF, Aveeno Positively Radiant Moisturizer with SPF, Cetaphil Daily Moisturizer with SPF, Vanicream sunscreen, Anthelios Fluide Extreme SX/XL

For Men: Kiehl's Facial Fuel UV Guard SPF 50+, Neutrogena Men Triple Protect Face Lotion with SPF 20, L'Oreal Men's Expert Comfort Max After-Shave Balm with SPF 15

Sunscreens for use in extended sun:

For the Face: Elta-MD UV Clear Broad Spectrum Facial, Skinceuticals Physical UV Defense, Anthelios Fluide Extreme SX/XL, Neutrogena Helioplex

For the Body: Bioderma Photoderm Max Spray SPF 50+ 400ml, La Roche Posay Anthelios SX/XL, Neutrogena Helioplex

For Kids: Elta-MD UV Pure, Aveeno MineralBlock, Blue Lizard, Badger, California Baby, Babo Botanicals, Kiss My Face, Anthelios Dermo-Pediatrics

For Sensitive Skin: Vanicream sunscreen

