

Know the facts

Health



Fun under the Sun

Qs & As

Do I need any protection from the sun once I am tanned?

Any sun exposure subjects the skin to ultraviolet rays that may cause damage regardless of whether one's skin is tanned or not. Any time you tan you not only accelerate your skin's aging process but you may also increase your risk of skin cancer.

Do I need sunscreen even if I am dark-skinned?

Although darker skin has more natural protection from the sun than fair skin, groups including African-Americans, Hispanics, Asians, and Native Americans can still burn and still need to protect themselves from sun damage and skin cancer.

Do clouds protect us from the sun's UV rays?

According to the American Academy of Dermatology, up to 80% of the sun's UV rays can pass through clouds and damage your skin. Always wear sunscreen or protective clothing even on cloudy days.

I have Vitamin D deficiency, should I expose myself to the sun without any protection in order to get more Vitamin D?

According to the American Cancer Society, "Whenever possible, it is better to get vitamin D from your diet or vitamin supplements rather than from sun exposure because dietary sources and vitamin supplements do not increase risk for skin cancer and are reliable ways to get the amount you need." Dietary sources of vitamin D include eggs, fish, and foods fortified with vitamin D, such as milk, yogurt, and some cereals and bread.

On the other hand, according to the Vitamin D Council, it is *impossible* to get all the vitamin D your body needs from food sources. Since sunscreen limits the amount of the sun rays hitting your skin, wearing sunscreen will decrease your skin's production of vitamin D. The Vitamin D Council recommends exposing your bare skin to the sun for half the amount of time it would take for your skin to turn pink before it begins to burn. This time varies according to where you live in, the time of day, the time of year and the color of your skin. Visit the Vitamin D Council website for more information.



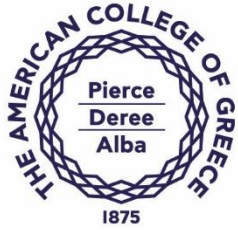
picture courtesy of Alumni Ino Ioannidi DC '01

Does an umbrella provide better protection from the sun than sunscreen?

Beach umbrellas provide good shade but little protection from UV rays that reflect off the sand and under the umbrella. In fact, the amount of UV radiation under an umbrella can be up to 84% of what you'd get out in the open sun.

Is window glass enough to protect us from the harmful sun rays?

You may be protected from UVB rays that can't penetrate glass however UVA rays can. The American Academy of Dermatology recommends that you use a broad-spectrum, water-resistant sunscreen with an SPF of at least 30 year-round, even if you're going to be inside.



Summer Fun

Questions & Answers

Are all sunscreens the same?

Only sunscreens labeled as both "Broad Spectrum" and "SPF 15" (or higher) can reduce the risk of skin cancer and the risk of early skin aging. The SPF – sun protection factor - rating refers only to the level of protection from UVB rays, not UVA rays. Some sunscreens protect against only UVB rays, which are the primary cause of sunburn. UVA rays penetrate deeper into our skin and may contribute to the development of skin cancers. Both UVB and UVA exposure can lead to premature skin aging, skin cancer, and sunburn.

Does a high SPF 30+ provide double the protection of a SPF 15?

SPF stands for "sun protection factor," and that refers to how much longer it takes you to sunburn while wearing that sunscreen, not to how much protection you're getting. For example, it should take 15 times longer for you to sunburn with an SPF 15 sunscreen than it would if you weren't wearing any; with an SPF 30, it should take 30 times longer. An SPF 30 screens out only a small percentage more UVB rays (97%) than an SPF 15 (93%), so higher SPF numbers do not indicate a proportionately higher amount of sunscreen strength. No sunscreen provides 100% protection.

Do I need to reapply a water-resistant sunscreen if I stay in the water all day?

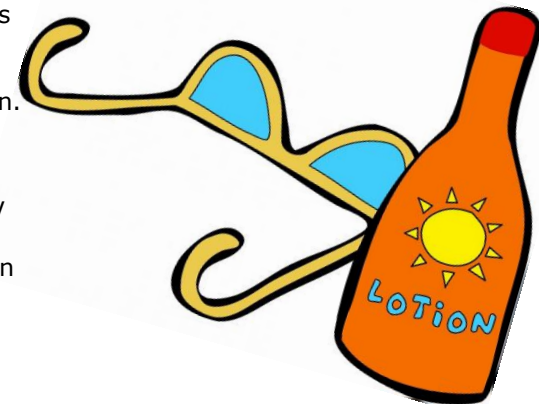
A "water-resistant" label means the sunscreen works in the water for about 40 minutes. Very water-resistant sunscreens give you about 80 minutes in the water. No sunscreen is completely waterproof. Like all sunscreens, water-resistant products should be reapplied after two hours, regardless of water exposure, and after toweling off.

Do dark clothes protect me from the sun better than light-colored clothes.

Ultraviolet rays pass through lighter-colored fabrics easier than dark-colored fabrics. Experts say you get the best protection from deep blue and black colors or bright colors, such as orange and red. Also, tightly woven fabrics offer more protection than loose weaves. If you can see light through the fabric when you hold it up to the light, the sun's damaging rays are passing through to your skin.

Do dark sunglasses block more of the sun's UV rays than lighter ones?

Both types can be effective at blocking UV light as long as they are labelled "Meets ANSI UV Requirements" which means the glasses will block 99% of UV rays, compared with about 70% for most cosmetic glasses. Sunglasses are an important aspect of sun safety, because the eyelid area is a frequent site of skin cancer and sun exposure can contribute to other eye problems like cataracts, macular degeneration and sunburn of the cornea (keratitis).





How to choose a good sunscreen

The sunscreen industry uses active ingredients in sunscreens that act as filters that protect skin from UV rays. These same active ingredients that protect us from UVA and UVB light rays may also be hazardous to our health.

These filters are either mineral or chemical. The most common sunscreens contain chemical filters which include one or more of these active ingredients: Oxybenzone, Avobenzone, Octisalate, Octocrylene, Homosalate, Octinoxate and Mexoryl SX. Mineral sunscreens use: Zinc oxide and/or Titanium dioxide.

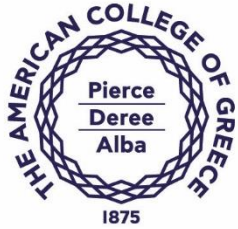


Although chemical filters may be effective in blocking UVA and UVB rays, the side effects are troubling. Retinyl Palmitate, a form of Vitamin A is sometimes used because manufacturers believe it slows skin aging. They may be right in the case of lotions and night creams used indoors, but some studies have raised the possibility that it may speed the growth of cancerous tumors when used on skin exposed to sunlight. Oxybenzone has been found to act like estrogen and has high rates of skin allergy. Octinoxate has also been found to have hormone-like activity and moderate rates of skin allergy. Homosalate disrupts estrogen, androgen and progesterone. All but Octisalate, Avobenzone and Mexoryl SX have been detected in mother's milk. Sunscreens made with mineral filters which physically block out a broad spectrum of UVA and UVB rays are a better choice as they provide strong sun protection with few health concerns. Mineral sunscreens also work immediately as opposed to chemical filters which require at least 30 minutes to be absorbed in order to work effectively.

We would like to point out that the research conducted by the Deree Center of Excellence for Sustainability in 2015 regarding the safety of sunscreen use, found that sunscreens with the following components may be harmful for one's health:

- Oxybenzone can disrupt the hormone system.
- Nano-Size Zinc and Titanium Dioxide may penetrate skin or be inhaled.
- Both sunscreen NPs induce (photo)cyto- and genotoxicity and have been sporadically observed in viable skin layers especially in case of long-term exposures.
- High SPF 50+ provides minimal additional protection compared to the extra chemicals used. They may also create a false sense of safety.

Sources: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3781714/>, <https://www.ewg.org/sunscreen/>



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picture courtesy of Alumni Spiros Gerakis, DC '12

How much?

- Apply two tablespoons of sunscreen to your face and the exposed areas of your body.
- If you are using a spray, apply until an even film appears on the skin.
- Apply 20 minutes before the exposure to the sun
- Reapply every 1-2 hours even when using a water-resistant sunscreen. No sunscreen is completely waterproof and should be reapplied regardless of water exposure, and after toweling off.

Words for the wise Excessive sun exposure damages your skin, and every little bit of damage you sustain from the sun is cumulative and adds up over time to cause skin aging, fine lines, wrinkles, sun spots, elastosis (the degradation of the elastic tissue of the skin), the breakdown of collagen, hyperpigmentation, and other more serious conditions including skin cancer. Use caution when you're in the sun and avoiding the sun during peak hours 11:00-15:00. Using hats, clothing, and sitting in the shade continues to be the safest protection for our bodies. Make sure you are always hydrated and have a fabulous summer!

Sources & further reading:

