All About Sun Safety

Sun exposure can lead to all types of skin cancers (melanoma, basal cell, and squamous cell cancers), premature (early) aging of the skin, eye damage, and cataracts. Understanding the dangers of the sun can help you prevent these problems.

What is unsafe about sunlight?

Sunlight is made of up two types of ultraviolet light:

- UVA: long wave ultraviolet rays, which go deeply through the skin.
- UVB: short wave ultraviolet rays, which cause damage to the top layer of your skin and are the cause of sunburn.

It was long thought that UVB rays were the only ones that caused cancer. This may be because they cause a burn that you can see and is a sign of skin damage. We now know that UVA can also causes skin cancer. UVA harms the DNA of skin cells. Along with causing cancer, exposure to both UVA & UVB plays a role in premature aging, wrinkling, and eye damage.

Does the sun cause cancer?

UV radiation that comes from the sun or a tanning booth is a carcinogen, meaning it causes cancer. Despite the warnings about the dangers of sun exposure, many people still spend hours in the sun, without proper protection. Sunscreen is important, but limiting sun exposure is even better.

What about vitamin D?

Our bodies use UVB from the sun to make vitamin D, so a little bit of sun exposure can in fact be helpful. Experts have found that 10-15 minutes of sun exposure, 2-3 times a week is plenty to make the vitamin D our bodies need for healthy bones and teeth, a healthy immune system, and even to help prevent certain cancers. Studies have also found that using sunscreen doesn’t mean you will end up with low vitamin D levels. Researchers think this is because no matter how much sunscreen you use, UVB is still getting to your skin.

You can also get good amounts of vitamin D from food sources, such as:

- Fatty fish like salmon and mackerel.
- Fortified juices.
- Supplements.

The key takeaway: you can get your vitamin D and still protect your skin from damage.

Doesn't my dark skin protect me from skin cancer?

Dark skin has a better ability to protect itself from the sun than light skin, but it too can “tan,” be damaged, and develop skin cancer.

Get to know your skin so you can see if something new appears or something old changes. Cases of melanoma in people with darker skin tend to happen in areas of the body that are not exposed to the sun, such as on the:

- Buttocks.
- Genitals.
- Bottom of the feet.
- Under the fingernails or toenails.

Types of Skin Cancer

There are three types of skin cancers:

- Melanoma: The most serious type of skin cancer and it starts in the melanocyte cells.
- Basal cell and squamous cell cancers: They are called "non-melanoma skin cancers." They can look like a sore that won't heal, a red or irritated patch on the skin, shiny bumps, and rough or scaly patches.

Skin cancer can happen to anyone and is happening more often in the younger population.

Sun Protection/Skin Cancer Prevention Tips

Protecting yourself against the sun's damage is the best prevention for skin cancer. You can check the UV index for your area through the US Environmental Protection Agency.

- Avoid exposure when the sun's rays are the strongest, from 10 am to 4 pm.
- Wear protective clothing such as a wide-brimmed hat, long sleeves, and sunglasses. These can block out some of the sun's harmful rays.
- Stay in the shade when you can.
- Do not use tanning booths or sun lamps – these are not a safe alternative to the sun. These emit both UVA & UVB light and greatly increase the risk for all types of skin cancer.

Sunscreen

Everyone, no matter the color of their skin, should use sunscreen every day, even in the winter. There are many sunscreens to choose from and it is best to use one with an SPF of 15 or greater. Use a sunscreen that protects against both UVA *and* UVB rays. These sunscreens are labeled "broad spectrum" or "multi-spectrum."

There are two different ways that sunscreen ingredients work, physical and chemical. Most sunscreens include these compounds:

- Physical compounds (titanium dioxide and zinc oxide) work by reflecting the UV rays off of the skin. These sunscreens protect from UVA and UVB rays. Some concerns with these are a white or colored appearance when put on, a tendency to stain clothing, and comedogenesis (the blocking of skin follicles, leading to blackheads & acne).
- Chemical compounds take in instead of reflecting off UV radiation, and many only cover UVB rays. These include Para-aminobenzoic acid (PABA), salicylates, and cinnamates, among others. Newer chemical compounds also protect against UVA rays; these include dioxybenzone, oxybenzone, and sulisobenzone.

Sunscreen cannot offer total protection from UV rays. Even with sunscreen, UV radiation can go through the top few layers of skin. So, most dermatologists recommend using sunscreen with other forms of protection such as clothing, hats, and shade. Clothing cannot protect the skin fully, as the sun's rays can penetrate it.

Understanding SPF

The SPF in sunscreen stands for Sun Protection Factor. SPF only targets UVB rays. This number is a measure of

how long it will take for the UVB rays to cause the skin to redden. A person using an SPF of 15 will take 15 times longer to redden than they would without sunscreen.

An SPF of 30 allows an individual to stay out in the sun twice as long as an SPF of 15 with the same protection. Using one coat of sunscreen that has 30 SPF on top of another sunscreen that has 15 SPF does not mean it is an SPF of 45.

An SPF of 15 will block out 93 out of 100 UVB rays, SPF of 30 blocks 97 out of 100 of UVB, and an SPF of 50 blocks 98 out of 100. No sunscreen can block all UVB rays. You can see that the protection gained with an SPF above 30 is not much, but for people with more sensitive skin, this may be helpful.

How to Use Sunscreen

Sunscreen should be put on (and reapplied) every two hours and after swimming, sweating a lot, and showering. No sunscreen is “waterproof" or "sweatproof," so the FDA does not allow these terms to be used. Products may be labeled as "water-resistant" or “sweat-resistant” to either 40 minutes or 80 minutes. This can help you tell when you should reapply. But, you should always reapply after 2 hours, as it stops working at that point. A good way to remember to reapply is to set a timer or reminder on your phone.

Sunscreen should be applied 15 to 20 minutes before going out into the sun. This allows it to soak into the deeper layers of the outer skin before exposure. On average, an adult should use about two tablespoons (about a shot glass full) of sunscreen for a single application. Studies consistently show that people often do not use enough sunscreen. Check the expiration date of your sunscreen since some ingredients can break down over time.

Spray-on sunscreen can be easier to put on, but it can be harder to get the same level of protection. There is a lot of concern about the safety of breathing in the spray, mostly among kids. And lastly, spray sunscreens have alcohol in them, which is flammable. There have been many cases of burns in people who used spray sunscreen and were near open flames.

All experts agree, that limiting sun exposure is by far the best way to protect yourself. Self-tanning lotions or sprays are a safe option instead of the sun, but this does not give you protection, so you will still need to use SPF after tanning with these products.

If you are reading this a little too late and already have a sunburn, The Skin Cancer Foundation has tips to manage the sunburn.

To learn about factors that could affect your cancer risk, use the Reduce My Risk tool.