

The SPF Resource Guide

by Shelly Leonard

Sunshine plays a role in our everyday lives. Whether you're spending time outdoors during the summer or skiing down a mountain in the middle of the winter, you're bound to be affected by the sun's powerful rays. Perhaps one of the most well known terms when discussing sun protection is SPF.

What is SPF and why is it important?

SPF stands for Sun Protection Factor and is the universal measurement of protection against UV - ultra-violet - rays. It measures how much UV radiation is required to produce a sunburn on skin that's protected with sunscreen as opposed to how much UV radiation is required to produce a sunburn on unprotected skin.

Here's an example: An SPF 20 sunscreen will protect the skin against *20 times* the exposure of UV rays than if you weren't wearing any sunscreen at all.

A common misconception is that a sunscreen's effectiveness can be calculated by multiplying the SPF value by the length of time it takes to get a sunburn without sunscreen. In reality, each person's sun exposure is dependent upon what time of the day it is, their geographic location, weather conditions, how long they're in the sun, and more.

The Importance of SPF

Studies have shown that the #1 cause of damage and aging to the skin is sun exposure. Excessive exposure to the sun's rays can cause wrinkling, a leathery skin appearance, and in worst cases - skin cancer. It's also been proven that overexposure to the sun can interfere with your immune system. Currently, sunscreen products containing a recommended SPF rating of 15 or above play an important role in helping diminish the harm of the sun's rays.

Find out more about SPF here:

Sunburn Protection Factor

Revolution Health: Sun Protection Factor

Definition of Sun Protection Factor

UVA vs. UVB Protection

Years ago, UVB rays were considered the greatest concern when it came to sun exposure. However, as scientists learn more and more about UVA rays and the damage they can cause, they're taking a closer look into both types.

Excessive UV radiation of either kind - UVA or UVB - produces genetic mutations that can lead to skin cancer. In fact, UV radiation has been identified as a proven human carcinogen by both the World Health Organization and the U.S. Department of Health and Human Services.

UV radiation plays a key part in the deadliest form of skin cancer - melanoma - that kills more than 8,000 Americans each year. It's also the main cause of basal cell carcinoma (BCC) and squamous cell carcinoma (SCC). These are both types of non-melanoma skin cancer that more than 250,000 Americans are diagnosed with each year.

What's the difference between UVA and UVB rays?

UVA (Ultraviolet A) Rays - More than 90 percent of the UV radiation that hits the earth's surface is in the form of UVA rays. These rays penetrate deeper into the skin but are less likely to cause sunburn than UVB rays. They are also considered to be a big contributor to the leathery and wrinkling of the skin, as well as other aspects of photo aging. Recently, it has been found that UVA rays increase the cancer-causing effects of UVB rays and may even directly cause certain types of skin cancer like melanoma.

The tricky part about UVA rays is that they are 30 to 50 times more prevalent than UVB rays. They have the same intensity as UVB rays during daylight hours, but can even penetrate through clouds and glass - so you can be affected by UVA rays even on overcast days.

UVB (Ultraviolet B) Rays - UVB rays are more likely to cause sunburn than UVA rays and are considered a primary cause of basal and squamous cell carcinomas. They are also known as a significant cause of melanoma. The intensity of UVB rays can vary by the time of day, season, and location. In the United States, UVB rays are the

strongest from April to October between 10 a.m. and 4 p.m.

Learn more about how UVA and UVB rays can affect you:

Understanding UVA and UVB

UVA vs. UVB Rays

SPF, UVB, and UVA Protection Explained

How to Choose the Best Sunscreen

With all the options available, it can be a bit confusing to choose what's right for you and your skin. Sunscreens come in many forms, from gels and thick creams to sprays and wax sticks. Ultimately, the type you pick should be based on preference while still considering the health benefits.

Let's start with the basics. SPF's range from 2 to 50. It's important to note, though, that SPF protection doesn't increase proportionally to an increased SPF number. An SPF of 4 will block 75 percent of UVB rays, while an SPF of 15 will block 93 percent, and an SPF of 50 will block 98 percent. So, an SPF of 50 is only 5 percent more effective than SPF 15. For maximum protection, the American Academy of Dermatology recommends wearing an SPF of 15 or higher.

Sunblock vs. Sunscreen - What's the difference?

It's a common misconception that sunblock and sunscreen are the same product. Although they're similar and both important to protecting the skin, there are a few notable differences.

Sunblock - Sunblock is able to block a majority of UVA and UVB rays because it reflects light so that it doesn't reach the skin at all. To do this, two important reflective particles are used - zinc oxide and titanium oxide.

Sunscreen - Sunscreen can also help protect against harmful UVA and UVB rays, but not quite as well as sunblock. Sunscreen is a combination of organic and inorganic chemicals that filter sunlight so less of it reaches the deep layers of your skin. Consider sunscreen like a screen door - some light can get through, but not as much as if the screen wasn't present at all. For sunscreen to be effective, it needs to be consistently reapplied throughout the day.

Additional information about sunblock vs. sunscreen:

Sunblock: Sunscreen and Sun Safety

How Does Sunscreen Work?

Sunblock vs. Sunscreen: What's the Difference?

Here are some other factors to consider when choosing a sunscreen:

Complexion - If you have fair skin, you're more likely to absorb solar energy than those with dark skin, even under the same conditions. If you're a fair-skinned person and are known to sunburn easily, choose a sunscreen with a high SPF for added protection.

Type - In today's market, there are several options available, from creams and lotions to oils. It's important to note that oils normally don't contain a significant amount of sunscreen and have a very low SPF - usually less than 2. Creams are ideal for those with dry skin, but gels are a great alternative on hairy areas, like a man's chest.

Activities - Consider what you'll be doing throughout the day and how often you'll be able to reapply sunscreen. If you plan to be near the water, be sure to choose a sunscreen that is waterproof. And even then, it will need to be reapplied several times throughout the day.

Waterproof vs. Water-resistant - This is where the terminology can get a bit sticky. If you plan to spend time in or near the water, you should choose either waterproof or water-resistant sunscreen. According to the FDA, a sunscreen is "water-resistant" if it maintains its SPF level after 40 minutes of exposure to the water; it is considered "waterproof" if it maintains its SPF after 80 minutes.

So many choices! Learn more about what's right for your skin:

[EWG's 2010 Sunscreen Guide](#)

[Melanoma Foundation: Facts About Sunscreen](#)

How to Choose the Right Sunscreen

Choosing Sunscreen For Your Face

If you have oily skin or are prone to breakouts, sunscreen designed for areas of the body isn't recommended for use on your face. But before you skip it all together, know that skin cancer, hyper pigmentation, and premature aging are all caused by the sun, so sunscreen for your face is still a necessity. Here's what to keep in mind when shopping:

Choose oil-free and/or noncomedogenic - Many noncomedogenic sunscreens are recommended by dermatologists because they won't clog pores, are surprisingly lightweight, and will keep your face from feeling oily all day.

Choose the right SPF - As with sunscreens designed for the body, the American Academy of Dermatology recommends using a product with an SPF 15 or higher.

Get broad-spectrum protection - To get maximum protection for your face, look for a product that protects against both UVA and UVB rays.

Consider a sunscreen and moisturizer combination - A relatively new product to the market, you can now purchase sunscreen that protects you from the sun while moisturizing your skin, saving you both time and money. When shopping around, make sure the moisturizer has an SPF of at least 15. **Note:** *If you use a topical acne medication, wait until it is fully absorbed (about 20 minutes), and then apply sunscreen.*

Prevent breakouts! Choose the right sunscreen for your face:

How to Choose an Acne Face Sunscreen

11 Best Sunscreens For Your Face

The Best Face Moisturizers with SPF

Should I Use a Different Sunscreen For My Face?

New FDA Sunscreen Regulations

As skin cancer becomes a growing concern throughout the world, The FDA wants to ensure that all consumers are well informed on the sunscreen they are buying, so they

are issuing a regulation (planned for October of 2010) that requires expanded sunscreen labeling to provide the following:

Four-star rating system - The rating system will inform consumers how well the sunscreen protects against UVA rays (1 star = low protection, 2 stars = medium, 3 stars = high, and 4 stars = the highest over-the-counter protection available).

"No UVA Protection" label - If the sunscreen has lower than a 1 star rating, it will be required to state "No UVA Protection" somewhere on the front label.

Additional information - This additional information will inform users about other ways to limit the dangers caused by overexposure to sunlight.❖

Find additional information about the FDA regulations here:

[FDA Wrapping Up Sunscreen Label Changes](#)

[FDA Aims to Upgrade Sunscreen Labeling](#)

How to Apply Sunscreen: The *Right* Way

Regardless of how well informed you are about sunscreen and SPF, one of the biggest mistakes is in applying it correctly. Studies have shown that most people use only 25 - 50 percent of the recommended amount of sunscreen. How much you apply to your skin directly impacts the amount of solar energy that is absorbed into your skin - the more sunscreen you apply, the less solar energy absorption.

Here's how to do it correctly:

1. Shake the bottle well, and apply it about 30 minutes before you plan to go outdoors so it will have time to dry.
2. When applying, make sure to put it on all areas that will be exposed. Pay close attention to your hands, arms, face, and ears.
3. Coat the skin liberally. To properly cover the exposed areas of the body, you should use one ounce (enough to fill a shot glass) of sunscreen. Rub it in well.
4. Reapply every two hours, or after spending time in the water or sweating. Even if your sunscreen is "water-resistant," it can lose its effectiveness after you spend even 40 minutes in the water.
5. Sunscreens can also be easily rubbed or washed off, so be sure to reapply after you

towel dry.

Commonly Missed Areas

Like most people, you've probably gotten a bad sunburn in the past-even just from missing certain areas of your body when applying sunscreen. Here are some of the most commonly missed spots and why you should make sure you cover them next time:

Hands - Hands are a commonly missed area because people assume they're covered since they've been used to apply sunscreen to the rest of the body. But that's just the *palms* of your hands; you should make sure to cover the top as well. Your hands are one of your body parts that spend a lot of time outdoors performing every day tasks. If they're constantly exposed to the sun without protection, you'll be at a higher risk of developing skin cancer, and it's likely you'll start to see age spots or even damage to the fingernails.

Behind the knees - Most people apply sunscreen part by part, from shoulder to upper arms, to lower arms. But that's when important parts get left out, like behind the knees. This is even more likely when you're sitting down to apply it - you may forget that crease is even there! Make sure to hit behind the knees next time-a burn like that can make it painful to walk.❓❓

Feet - Sure, feet can be a pesky place to apply sunscreen, but that doesn't make them less important. The truth is, your feet are at risk for skin cancer just as much of the rest of the body, and it often goes unnoticed because feet aren't a common place to check. So, apply sunscreen to your feet next time you go out - you'll lessen your risk for skin cancer while avoiding a sandal tan.❓

Ears - Ears are normally forgotten when applying sunscreen to the face. You hit your nose, cheeks, and forehead, but forget the sides of the face and ears. Be sure to apply sunscreen to *all* parts of the ears next time - the lobes, tops, rims and bowls - even if they look like they're protected from the sun by a hat, it never hurts to be extra cautious.

Scalp - Applying sunscreen to the scalp isn't just for those who are bald. Even if you have thick hair, the sun can still get through. Consider wearing a hat for protection, or investing in a gel or spray sunscreen that can cover your hair without looking greasy or messy.

Do it right the first time! Here's how:

Five Spots Commonly Missed When Applying Sunscreen

Apply Sunscreen

Sunscreen: How to Select, Apply, and Use it Correctly

How to Apply Sunscreen

SPF Myths & Truths

With the increase in skin cancer diagnoses over the last decade, SPF has become a popular topic that you can find information about nearly everywhere. However, not all of it is true. Here are some of the most popular misconceptions - and facts - about SPF.

Myth: If I usually get sunburned in an hour, an SPF 10 sunscreen allows me to stay in the sun for ten hours (10 times longer) without getting burned.

Truth: SPF isn't directly related to how long you're exposed to solar radiation, but instead, the *amount* of solar radiation. Although these two things are related, there are many other factors that contribute as well. One of these is the intensity of solar energy.

You've probably heard that the sun is normally strongest mid-day, or between 10 a.m. and 4 p.m. That means that you could be exposed to the same amount of solar energy during one hour of outdoors time at 8 a.m., versus just 15 minutes at 1 p.m.

The amount of solar radiation you are exposed to can also be determined by where you live. Greater solar intensity occurs in cities at lower latitudes. Another factor is clouds - since they absorb solar energy, the intensity is usually greater on clear days.

Myth: Using SPF 60 sunscreen provides twice the sun protection of an SPF 30 sunscreen.

Truth: An SPF 30 sunscreen will protect against about 97 percent of UVB rays, and an SPF 60 or higher will protect against 99 percent of rays, which is only a slight increase in protection.

Myth: It's cloudy -- I don't need to wear sunscreen.

Truth: According to the FDA, up to 80 percent of the sun's UV rays can get through the clouds - even when it's overcast.

Myth: I found this old bottle of sunscreen in my medicine cabinet, but it's probably just as effective as a brand-new bottle.❖

Truth: Sunscreens are designed to be effective and remain at their original strength for up to three years. Many even have an expiration date on the bottle that marks a time when the product will no longer be effective. You should throw away any sunscreen or tanning oil that's been in your cabinet for more than three years, or is past the expiration date.

Keep in mind, if you spend a lot of time outside and are applying your sunscreen properly, a bottle shouldn't last you that long. By following the guideline of a "shot glass" of sunscreen each time, a 16-ounce bottle will only last you 16 applications.

Myth: I'm going on vacation soon, and I heard it's better to get a "base tan" beforehand so I won't get sunburned.

Truth: A base tan *does* give your skin some protection, but the reality is that any change in skin color (whether before or during your trip) is due to your body's reaction to UV rays -- a sure sign that your skin is damaged. The more frequently your skin is exposed to UV rays, the more likely you are to experience premature skin aging and skin cancer.

Take a look at more myths about SPF - and the truth behind them:

[Top 5 Tanning Myths](#)

[Debunking Sunscreen Myths](#)

[Sunblock SPF, Skin Cancer and Sunburns - Sunscreen Myths Explained](#)

[The Truth About Tanning Beds](#)

It seems everyone is in search of a tan -- whether it's adding a little color or a deep brown glow. Tanning is the skin's natural form of protection against the sun, but there is really no such thing as a "healthy tan."

It was once reported that tanning beds were a safe alternative to spending your days in the sun, but recent studies have shown that is simply not true. Tanning beds expose the skin to UV rays, all of which are harmful and can lead to skin cancer, as well as damage to the eyes, sunspots, wrinkles, and other signs of premature aging. In fact, the U.S. Department of Health and Human Services has considered exposure to tanning beds and sunlamps as carcinogenic to humans. The longer you're exposed, the greater your risk -- especially to those under the age of 30.

Not only is using a tanning bed *not* safer, but repeated exposure to the UV rays emitted can actually *increase* the amount of damage that is done to your skin by ordinary sunlight. Over time, ultraviolet light thins the skin, so it's not able to heal itself correctly - in turn, your skin will remain vulnerable much longer.

A few years ago, there were tanning bulbs designed to use more UVA rays than UVB rays. The idea behind this was that UVB rays impact the skin's surface, but UVA rays penetrate to the deeper layers. Both can cause sunburns, but UVA rays will burn the skin even deeper. These types of tanning bulbs were soon deemed equally dangerous by the World Health Organization, as they're more likely to cause melanoma.

Learn more about the risks involved with using tanning beds:

[Mayo Clinic: Are Tanning Beds Safer Than Natural Sunlight?](#)

[FDA Likely to Tighten Tanning Bed Industry Regulations](#)

[A Top 10 Fact Sheet on Tanning Booths](#)

[Discovery Health: Top 5 Tanning Myths](#)

[SPF: Additional Protective Measures](#)

Sunscreen is the primary way to protect yourself against the sun's rays, but there other things you can do as well. One of the latest ideas to hit the market is sun-protective clothing. Studies have shown that wearing these garments is one of the most effective

ways of guarding your skin from harmful rays.

1. Many sun-protective clothing items also have chemicals added that absorb UV radiation into the fabric. When shopping for sun-protective clothing, consider the following: Look for a high UPF (UV Protection Factor). This can be found on the product label and usually ranges from 15 (good) to 50+ (excellent) UPF. A UPF measures how much of the sun's ultraviolet rays can reach your skin. So, a shirt labeled 20 UPF will only allow $1/20^{\text{th}}$, or five percent, of the sun's rays through.
2. Sun-protective clothing can lose its effectiveness from normal wear and tear like stretching, washing, and getting wet. Purchasing a garment with a UPF of 40 or above will help prevent this from happening.

When deciding whether or not to invest in sun-protective clothing, ask yourself a few questions like "Do I plan to spend a lot of time outdoors?" or "Is the cost of the clothing more cost effective than purchasing sunscreen?"

If you find that sun-protective clothing isn't in your budget right now, there are other steps you can take to protect your skin. When going out in the sun, choose tightly woven, loose-fitting clothing that covers most of your skin. Dark colors are the best because they're more effective than lighter colors at blocking out the sun.💎 To test the fabric, hold it up to the light. If you can see through it, UV radiation can penetrate it and reach your skin. There are also laundry products, like SunGuard, that when added to your laundry, can help boost a regular fabric's UPF.

What to wear? Find out more about sun-protective clothing:

Sun-Protective Clothing: Worth the Expense?

Skin Cancer Foundation: Protective Clothing

Understanding Sun Protection Clothing

How to Treat a Sunburn

Despite your careful efforts to prevent a sunburn, it can sometimes happen anyway. If you are outdoors and begin to feel your skin reddening or getting hotter, seek shade immediately.

If your skin begins to peel, use a non-greasy or oil-free moisturizer to sooth it. Many people try to cover the sunburned area with a self-tanning lotion to even out the skin tones, but this isn't recommended. It can actually stick to the peeling skin and make it look even worse. Here are a few additional ways to help ease your discomfort:

1. Take acetaminophen or Ibuprofen if you have a headache or chills. This can be repeated every four to six hours.
2. To replace body fluids lost, drink water, juice, or a sports drink like Gatorade or Powerade.
3. Use a light moisturizer to soothe the skin. Lotions with aloe Vera are a great choice, as they cool the skin.
4. Take a cool bath in lukewarm water. When you get out, air dry or gently "pat" yourself with a towel so you don't irritate the sunburn.
5. Most importantly, stay out of the sun until your burn is healed.

Check out more easy ways to soothe your sunburn:

Worst Case Scenario: Treating a Sunburn

Top Solutions for Treating a Sunburn

Sunburn: Home Treatment

Popular Beauty Schools