Sunscreen: Tips, Facts, & Use

Choosing a sunscreen that is safe and effective can be a very daunting task. The terminology on the label can be very confusing and misleading. So here are a number of tips and facts to help guide you through the "wall of sunscreens" the next time you go to the store. Remember, the terms "sunblock", "sweatproof" and "waterproof" are no longer allowed on sunscreen labels.

Choose a sunscreen that has broad spectrum, UVA & UVB protection. Both UVA and UVB exposure cause skin cancer, and are transmitted through the windows of your car. **UVA** (**Ultraviolet A Radiation**) is the longer wavelength that causes long lasting skin damage, penetrates the skin deeply, and leads to skin aging & wrinkles, and skin cancer. **UVA** exposure results in extensive skin damage **without** causing a sunburn, so its exposure cannot be measured. **UVB** (**Ultraviolet B Radiation**) is the shorter wavelength that causes sunburns, skin damage and skin cancer. Because **UVB rays are responsible for burning and tanning your skin**, its effects are able to be quantified and are used to measure **SPF or Sun Protection Factor**.

SPF, or **Sun Protection Factor**, is a measure of a sunscreen's ability to prevent UVB from damaging the skin. If it takes 20 minutes for your unprotected skin to start turning red, using an SPF 15 sunscreen should theoretically prevent reddening the skin 15 times longer, so approximately 5 hours. Only broad-spectrum sunscreens with an SPF 15 or higher may state that they help protect against skin cancer & early signs of aging if used as directed with other sun protection measures.

So what SPF do we really need? For incidental sun exposure (when you're outside for only minutes at a time), an **SPF of 15, which filters out 93%** of UV radiation is usually sufficient If you are trying to keep sunspots, brown spots and melasma away, please use and SPF of 30 for daily use and incidental sun exposure. For extended exposure, outdoor activities & swimming, you should use a broad spectrum, sunscreen with an SPF of 30 or higher. An **SPF 30 filters out 97 percent**. An **SPF 50 filters out up to 98 percent**. Because SPF 100 does not filter out 100 percent of UV radiation, all sunscreens higher than SPF 50 are now labeled "SPF 50+". Most importantly, **there is no such thing as 100% protection – 100% of the time**.

Choosing a sunscreen requires reviewing the active ingredients. The active ingredients fall into two categories: **Physical** and **Chemical**. Many of the sunscreens available in the US today combine several different active chemical and physical sunscreen ingredients in order to provide broad-spectrum protection.

The **physical** or **mineral blockers**, such as **Zinc Oxide** and **Titanium Dioxide**, actually reflect the sun away from your skin. They provide UVA & UVB protection. Zinc Oxide provides the best broad spectrum UVA & UVB coverage. Titanium Dioxide does require some additional UVA coverage either with Zinc or a chemical sunscreen. Because they are natural minerals, the physical sunscreens stay stable longer, do not get absorbed into your skin, and rarely cause allergic reactions or irritation. **Definitely choose a sunscreen with Zinc Oxide and/or Titanium Dioxide, especially for your face!**

The **chemical sunscreens** work by absorbing the energy of UV radiation before it affects or damages your skin. They break down or destabilize during use, can be absorbed into your body, can cause allergic reactions or irritation, and some have been implicated in causing hormone imbalances. **Multiple chemical active ingredients are usually required to provide broad spectrum UVA&UVB coverage.** Because the chemical sunscreens degrade or break down in sunlight, they result in less protection over time. Photostabilizing chemicals, like octocrylene, may be needed. Common UVA chemical sunscreens are: Mexoryl or Ecamsule (commonly found in Laroche Posay/L'Oreal products), and Avobenzone (Parsol 1789). Benzophenones (such as oxybenzone and sulisobenzone) are used for shorter-wavelength UVA protection. Common UVB chemical sunscreens are cinnamates (octylmethoxycinnamate and cinoxate), salycilates (octisalate), and PABA.

Now that you have it, how do you wear it? **Apply sunscreen NAKED ☺!** Always apply sunscreen before you get dressed or before you put on your swimsuit. Slather it on thick. Use at least 2 ounces. Always apply 20 minutes before going outside. Re-apply sunscreen every two hours when you are outside, especially if you are sweating and swimming. Sunscreens will degrade in the sun – "all-day protection" does not exist.

Remember to wear your sunscreen on cold, cloudy, and windy days. Up to 40 percent of the sun's ultraviolet radiation reaches the earth on a completely cloudy day. This can lead to the most serious sunburns without initially feeling the sunburn.

What not to buy and what to watch out for. Do not buy sunscreen wipes, powders (including SPF in powder make-up), and sunscreen spray products. The safety of inhaling spray and powder sunscreen is still being investigated. Do not spray them directly on your face. Keep your eyes and mouth closed when spraying sunscreen and only use them outdoors or in a well-ventilated room.

Sunscreens may claim to be "water-resistant", but not "water-proof". Water-resistant sunscreens must specify whether they protect the skin for 40 or 80 minutes of swimming or sweating. After the specified amount of time, they must be re-applied.

Yes. Sunscreens do expire. In general, sunscreens have a shelf life of 2-3 years from the date of manufacture. After this time, the effectiveness of the sunscreens deteriorate. If you can't find the expiration date- toss it! Remember, the manufacture date and the date that you bought it are two very different dates.

Store your sunscreen at room temperature. When stored at high temperatures (car, boat, golf bag, or beach bag), the sunscreen becomes less stable and ineffective due to chemical degradation and breakdown.

Finally, does sunscreen block the body from absorbing Vitamin D? There is some controversy regarding this issue, but few dermatologists believe (and no studies have shown) that sunscreens cause vitamin D deficiency. Sunscreen prevents sunburn by blocking UVB light, so theoretically, sunscreen use lowers vitamin D levels. But as a practical matter, very few people put on enough sunscreen to block all UVB light, or they use sunscreen irregularly, so sunscreen's effects on our vitamin D levels might not be that important. An Australian study that's often cited showed no difference in vitamin D between adults randomly assigned to use sunscreen one summer and those assigned a placebo cream. **Bottom line, please wear sunscreen!**