

# SUNSCREEN

## What Are Sunscreens?

Sunscreens are chemical agents that help prevent the sun's ultraviolet (UV) radiation from reaching the skin. Two types of ultraviolet radiation, UVA and UVB, damage the skin 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, leathery, sagging, and other effects of 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.

## What Is SPF?

Most sunscreens with an SPF of 15 or higher do an excellent job of protecting against UVB. SPF — or Sun Protection Factor — 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 blocks approximately 93 percent of all incoming UVB rays. SPF 30 blocks 97 percent; and SPF 50 blocks 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. And as you can see, no sunscreen can block all UV rays. But there are problems with the SPF model: First, no sunscreen, regardless of strength, should be expected to stay effective longer than two hours without reapplication. Second, "reddening" of the skin is a reaction to UVB rays alone and tells you little about what UVA damage you may be getting. Plenty of damage can be done without the red flag of sunburn being raised.

## Who Should Use Sunscreen?

Anyone over the age of six months should use a sunscreen daily. Even those who work inside are exposed to ultraviolet radiation for brief periods throughout the day. Also, UVA is not blocked by most windows. Children under the age of six months should not be exposed to the sun. Shade and protective clothing are the best ways to protect infants from the sun.

## What Type of Sunscreen Should I Use?

The answer depends on how much sun exposure you're anticipating. In all cases we recommend a broad-spectrum sunscreen offering protection against both UVA and UVB rays. Many after-shave lotions and moisturizers have a sunscreen (usually SPF 15 or greater) already in them, and this is sufficient for everyday activities with a few minutes here and there in the sun. However, if you work outside or spend a lot of time outdoors, you need stronger, water-resistant, beachwear-type sunscreen that holds together on your skin. The "water resistant" and "very water resistant" types are also good for hot days or while playing sports, because they're less likely to drip into your eyes. However, these sunscreens may not be as good for everyday wear. They are stickier, don't go as well with makeup, and need to be reapplied every two hours. Many of the sunscreens available in the US today combine several different active chemical sunscreen ingredients in order to provide broad-spectrum protection. Usually, at least three active ingredients are called for. These generally include PABA derivatives, salicylates, and/or cinnamates (octylmethoxycinnamate and cinoxate) for UVB absorption; benzophenones (such as oxybenzone and sulisobenzone) for shorter-wavelength UVA protection; and avobenzone (Parsol 1789), ecamsule (Mexoryl™), titanium dioxide, or zinc oxide for the remaining UVA spectrum.

## How Much Sunscreen Should I Use and How Often Should I Put It On?

To ensure that you get the full SPF of a sunscreen, you need to apply 1 oz — about a shot glass full. Studies show that most people apply only half to a quarter of that amount, which means the actual SPF they have on their body is lower than advertised. During a long day at the beach, one person should use around one half to one quarter of an 8 oz. bottle. Sunscreens should be applied 30 minutes before sun exposure to allow the ingredients to fully bind to the skin. Reapplication of sunscreen is just as important as putting it on in the first place, so reapply the same amount every two hours. Sunscreens should be reapplied immediately after swimming, toweling off, or sweating a great deal.