

Sunscreen

Sunscreen is one of the most important tools we have to protect our skin from the sun. Too much sun exposure can cause sunburn, premature aging, wrinkles, and in many cases, skin cancer. Unfortunately, many people think that a tan is a healthy look. But what these people don't know is that a tan is actually like a giant scab that your skin creates to try to protect itself from more sun damage.

It is impossible to completely avoid the sun, of course, but you can take precautions to ensure that you are protecting yourself from its harmful rays. Shade, avoiding the sun during the hours of 10:00 a.m. and 4:00 p.m., wearing protective clothing like hats and sunglasses, and of course sunscreen can make the time you spend outdoors in the sun both safe and enjoyable.

What Makes the Sun Harmful?

The sun itself is not what harms our skin. It is the ultraviolet (UV) radiation that the sun gives off that actually causes the damage. There are three types of UV rays that hit your skin when you are outdoors: UVA, UVB, and UVC. UVA rays penetrate deepest into your skin, reaching the new skin that lies far beneath the surface. UVB rays penetrate about 50 percent farther than UVC rays, which stop at your skin's surface. UVB rays are responsible for most of the damage that your skin incurs from the sun, but UVA rays (the ones used in tanning booths) can cause more serious damage because they affect new skin. A sunscreen that protects against all types of UV radiation is the most effective.



Forms of Sunscreen

There are several factors to consider when choosing a sunscreen product that is right for you. Some factors involve your personal preferences, while others involve the necessity of protecting against the sun's harmful effects. For example, the form of sunscreen purchased is a personal preference. You can buy sunscreen in many forms: creams, gels, lotions, ointments, and wax sticks, and these are all fine choices. You may want to consider the following information when making your sunscreen selection:



- Lotions tend to be less irritating to children, but spray-on and squeeze bottle options are also good.
- Alcohol-based sunscreen products should be avoided on children because they can cause irritation.
- Choose products that are PABA-free and contain the ingredient titanium dioxide and/or zinc oxide for children and individuals with sensitive skin. Titanium dioxide and zinc oxide physically deflect rather than chemically absorb ultraviolet radiation and, therefore, do not cause allergic reactions.
- Creams may work better on the face since gels can sting around the eyes.
- Lighter textured sunscreens may work better for those prone to acne (just remember to apply a thick enough layer to be sure to protect yourself).
- Lip balms with sunscreen rated SPF 15 or higher are an important and necessary form of lip protection.

Classification of Sunscreens

Sunscreens are classified by the strength of their SPF. SPF ratings can range from minimal (2–11 SPF), to moderate (12–29 SPF), to high (30+ SPF).

The SPF number gives you some idea of how long you can stay in the sun without burning. The SPF rating is calculated by comparing the amount of time needed to produce a sunburn on sunscreen-protected skin to the amount of time needed to cause a sunburn on unprotected skin. For example, if a sunscreen is rated SPF 2 and a person who would normally turn red after 10 minutes of sun exposure uses it, it would take 20 minutes of exposure for the skin to turn red. A sunscreen with an SPF of 15 would allow that person to multiply that initial burning time by 15, which means it would take 15 times longer to burn, or 150 minutes (about 2 1/2 hours). This number, however, is imperfect, since other factors such as perspiration, humidity, rubbing or toweling off, etc., can all reduce the actual SPF value, and thus, reduce the sunscreen's effectiveness.

It is also important to note that SPF ratings do not actually increase proportionately. In other words, an SPF of 30 is not double the protection of an SPF of 15. In fact, an SPF 30 deflects 97 percent of the sun's UVB rays; SPF 15 deflects 93 percent of the sun's UVB rays, and SPF 2 deflects 50 percent of the sun's UVB rays. SPF ratings over 30 have not been shown to provide greater protection from the sun's harmful UV rays than those containing SPF 30.

Ideally, all individuals, regardless of skin tone or color, should select a sunscreen with SPF 15 or higher. For children and individuals with very sun-sensitive skin, SPF 30 may be warranted.

It's in the Ingredients

It is very important to find a sunscreen that offers UVA protection in addition to UVB protection. You may see the sunscreen product labeled with the term "broad spectrum" to indicate that it protects against UVA and UVB rays. Sunscreens—even those

with the same SPF rating—can have different ingredients or different combinations of ingredients. To be sure the sunscreen protects against UVA radiation, check for any of the following common ingredients:

- benzophenones,
- oxybenzone,
- sulisobenzene,
- titanium dioxide,
- zinc oxide, or
- avobenzone (also known as Parsol 1789).

Water Resistance

When choosing a sunscreen, ideally it should be water-resistant so that it cannot be easily removed by sweating or swimming. These sunscreens stay on the skin longer even if they get wet, but they are not actually "waterproof" since no product is completely waterproof. Rather, they should be labeled as "water-resistant" or "very water-resistant." In testing procedures, "water-resistant" sunscreen retains its SPF after 40 minutes of sweating/perspiring or water activity; "very water-resistant" sunscreen retains its SPF after 80 minutes (1 1/2 hours) of sweating/ perspiring or water activity. Like other types of sunscreen, water-resistant sunscreens still need to be reapplied often when sweating or swimming, and especially after towel drying when it can be rubbed off. Check the product label for reapplication directions.



Sunscreens Do Expire

Unless indicated by an expiration date on the product, the U.S. Food and Drug Administration requires that all sunscreens be stable at their original strength for at least 3 years. While you can use the bottle of sunscreen you bought last year, if you are using the appropriate amount, a bottle of sunscreen should not last you very long.

Choosing the Right Sunscreen: Cost

Sunscreens can vary in price from a few cents per ounce for generic brands to a few dollars

per ounce for designer brands. Studies show that the price of sunscreen is not related to its effectiveness.

However, for some high-risk individuals who are especially sensitive to the sun's rays, cost may make a difference. Often, the sunscreen's cost suggests a special way that the product was made. For example, a sunscreen made especially for babies may cost more than regular sunscreen, but the difference in price is worth it when you realize that the baby's sunscreen was created with a special formula that won't burn if it gets in the baby's eyes.

For most people, however, any sunscreen that contains an FDA-approved sunblocking agent will provide adequate protection. Your best bet is to try out several different products, and find the one that works best for you.

Putting It on

Like many other products, part of sunscreen's effectiveness is related to how it is used. Sunscreen works best when it is applied about 30 minutes before you head out into the sun. The best way to apply sunscreen is to smooth it in lightly with your fingertips, and then allow it to dry before you put on clothes so that it doesn't have a chance to rub off. Many sunscreens will stain clothing, so it is a good idea to let the sunscreen dry completely before dressing.



One of the biggest mistakes we make when it comes to sunscreen use is that we don't use enough. To get the maximum protection from sunscreen, one ounce—one large handful—is the amount needed to properly cover the exposed areas of the body. Think about the

areas of your body that are exposed to the sun. In the summertime, even more areas are exposed when wearing shorts, short sleeves, or swimming suits. Use sunscreen liberally, uniformly, and thickly to cover all exposed areas. Pay special attention to covering the face, ears, and neck so as not to miss a spot. A missed area can mean a patchy area of painful sunburn. Also, be sure to use a lip balm with sunscreen SPF 15 or higher to avoid damage to the lips.

Sunscreen should be reapplied at least every 2 hours. If activities involve water or heavy perspiration, a water-resistant sunscreen is recommended. You will still need to reapply sunscreen every 2 hours or more often if you towel dry or rub off the sunscreen in any way.

Skin Reactions

The first sunscreens relied on a chemical called para-aminobenzoic acid or PABA. This product irritated many people's skin, so many sunscreens have changed to milder chemicals. A PABA-free sunscreen is an especially good choice for those with sensitive skin. Additionally, fragrances added to sunscreens can cause allergic reactions in some people who use them. There are fragrance-free alternatives that protect just as well.

When to Use

Many manufacturers recommend using sunscreen every day. This is a good idea since we are all exposed to the sun's rays, even on cloudy or cold days. However, many lotions, cosmetics, and lipsticks/balms contain sunscreen. In many cases, these products have a high enough SPF factor to protect you on a daily basis, so you only have to apply regular sunscreen if you are planning on spending an extended amount of time outdoors.

Prepared by: Courtney J. Schoessow, MPH, Extension Program Specialist—Health, Texas Cooperative Extension, December 2005, Family & Consumer Sciences website:

<http://fcs.tamu.edu>