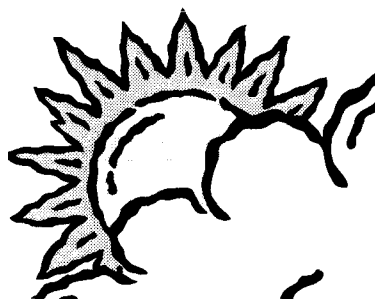


# Health and Safety

## Is the Sun Coming Out? Better Get the Sunscreen!

Do you know everything about sunscreen that you need to know so you are using it effectively? Well, here are some common questions about sunscreen to help you better protect your skin.



**When should I use sunscreen?** Sunscreens should be used every day if you are going to be in the sun for more than 20 minutes. They can be applied under makeup. There are many cosmetic products available today that contain sunscreens for daily use because skin protection is the principle means of preventing premature aging and skin cancer. Sunscreens used on a regular basis actually allow some repair of damaged skin. And don't reserve sunscreens just for sunny days! Use them when the sun's reflective power is great, like after a snowfall or near the sand. Even on a cloudy day, 80 percent of the sun's ultraviolet light rays pass through the clouds.

**How do I choose a sunscreen?** There are so many types of sunscreens, that selecting the right ones can be quite confusing. The type of sunscreen you choose is a matter of choice. Sunscreens are available in many different forms including ointments, creams, gels, lotions, and wax sticks. PABA or para-aminobenzoic acid, was the original compound which was the basic ingredient of sunscreens. However, it stained clothes. Today's PABA has been refined. The newer ingredient called PABA esters include glycerol PABA, padimate A (pentyl dimethyl PABA) and padimate O (octyl dimethyl PABA). These rarely stain clothing as the original PABA once did.

**What is an SPF?** SPF stands for Sun Protection Factor. Sunscreens are rated or classified by the strength of their SPF. The SPF numbers on the packaging can range from as low as 2 to as high as 60. These numbers refer to the product's ability to screen or block out the sun's burning rays. The sunscreen SPF rating is calculated by comparing the amount of time needed to produce a sunburn on protected skin to the amount of time needed to cause a sunburn on the unprotected skin. For example, if a sunscreen is rated SPF-? and a fair skinned person who would normally turn red after 10 minutes of exposure in the sun, 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. with a designated SPF number. In higher SPF's such as 39, around 97 percent of sun burning rays are absorbed, while an SPF of 15 indicates 93 percent absorption and an SPF of 2 equals 50 percent absorption.

### ULTRAVIOLET RADIATION

UVA rays constitute 90-95% of the ultraviolet light reaching the earth. They have a relatively long wavelength (320-400 nm) and are not absorbed by the ozone layer. UVA light penetrates the furthest into the skin and is involved in the initial stages of suntanning. UVA tends to suppress the immune function and is implicated in premature aging of the skin.

UVB rays are partially absorbed by the ozone layer and have a medium wavelength (290-320 nm). They do not penetrate the skin as far as the UVA rays do and are the primary cause of sunburn. They are also responsible for most of the tissue damage which results in wrinkles and aging of the skin and are implicated in cataract formation.

UVC rays have the shortest wavelength (below 290 nm) and are almost totally absorbed by the ozone layer. As the ozone layer thins UVC rays may begin to contribute to sunburning and premature aging of the skin.

All forms of ultraviolet radiation are believed to contribute to the development of skin cancer.

### SUNSCREENS

Sunscreens are designed to protect against sunburn (UVB rays) and generally provide little protection against UVA rays. They come in two forms:

**CHEMICAL SUNSCREENS** contain chemicals such as benzophenone or oxybenzone (benzophenone-3) as the active ingredient. They prevent sunburn by *absorbing* the ultraviolet (UVB) rays.

**PHYSICAL SUNSCREENS** contain inert minerals such as titanium dioxide, zinc oxide, or talc and work by *reflecting* the ultraviolet (UVA and UVB) rays away from the skin.

**Does SPF 30 have twice as much sun protection as SPF 15?** SPF protection does not actually increase proportionately with a designated SPF number. In higher SPF's such as 39, around 97 percent of sun burning rays are absorbed, while an SPF of 15 indicates 93 percent absorption and an SPF of 2 equals 50 percent absorption.

**Does the SPF tell how well a sunscreen blocks ultraviolet A (UVA) or ultraviolet B (UVB) rays?** No the SPF number only reflects the screening ability for UVB rays. At present, there is no FDA-approved rating system that identifies UVA protection.

**How much sunscreen should be used, and how often would it be applied?** Sunscreens should be applied to dry skin 15 to 30 minutes **BEFORE** going outdoors. When applying sunscreen, pay particular attention to the face, hands, and arms, and coat the skin liberally. One ounce, or enough to fill a shot glass, is considered the amount needed to cover the exposed areas of the body properly. Be careful to cover exposed areas completely. A missed spot could mean a sunburn in that area. All sunscreens need to be reapplied. Water resistant sunscreens need to be reapplied about every 2 hours or immediately after swimming or strenuous activities. Gels need to be reapplied frequently (as they sweat off and wash off most easily), but may be preferable for acne-prone skin.

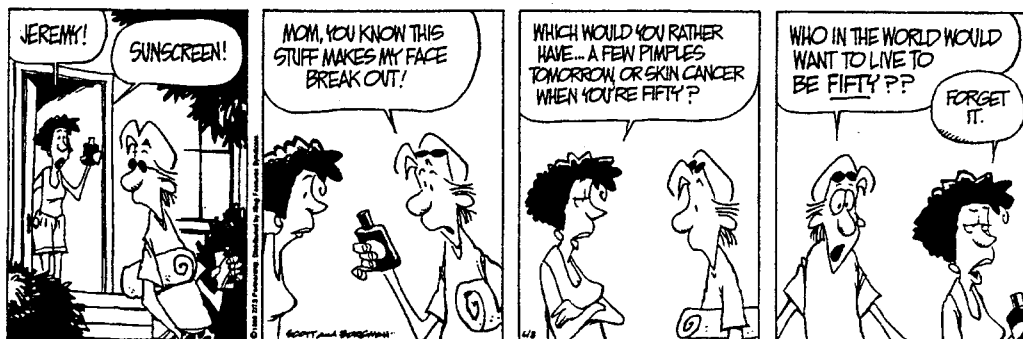
**Is there a difference between sunscreen and sun block?** Sunscreens chemically absorb UV rays. Sun blocks physically deflect them.

**Are sunscreens all I need to protect myself from the sun?** No. Although sunscreens are a very important part of maximum sun protection, wide brimmed hats, protective clothing and sun avoidance (between the hours of 10 a.m. and 4 p.m.) are also important. Sunscreens should be viewed as back-up to primary means of sun protection.

**Sources:**

The Wellness Institute

Larsen, H.R. *Sunscreens: Do They Cause Skin Cancer?* (<http://www.com/HealthNews/sunscreens.html>)



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