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# Sun Protection



Too much sun exposure causes wrinkles, freckles, texture changes, dilated blood vessels, skin cancers, and other disorders. The following measures will help prevent these problems:

**Don't sunbathe or use tanning lights.** A tan is not a sign of good health. A suntan is actually the result of skin injury. Most tanning salons use ultraviolet-A (UVA) bulbs and studies have shown that UVA rays go deeper into the skin and contribute to premature wrinkling, age spots and skin cancer, including deadly melanoma.

**Sit in the shade whenever possible.** Beach umbrellas and other kinds of shade are a good idea, but they do not provide full protection because UV rays can still bounce off sand, snow, water and decks.

**In the summer, engage in outdoor activities earlier or later in the day to avoid peak sunlight hours between 10 am and 4 pm.**

Use a **broad-spectrum** sunscreen or sun-block with a **sun protective factor (SPF) of 30 to 50**. Anything higher than **SPF 50** doesn't provide much additional protection. Use on all exposed skin, including the lips, even on cloudy days. **Broad spectrum** means that the product blocks both ultraviolet A and B (**UVA and UVB**) sunlight, while the SPF number only refers to **UVB** protection. In the United States zinc oxide is currently the best single sun protective agent, other than protective clothing, for the following reasons:

- 1) It provides reasonably good protection from UVA & UVB.
- 2) It provides longer-lasting protection than some chemical sunscreens, provided it doesn't get washed or rubbed off your skin. For best protection reapply it every two hours, sooner if swimming or perspiring.
- 3) It appears relatively safe for humans and the environment, compared to some of the chemical sunscreens, like oxybenzone that may cause skin rashes, hormonal disruptive effects and have negative effects on the environment like damaging coral reefs. See our 2019 Spring-Summer Newsletter at [www.rutlandskin.com](http://www.rutlandskin.com) for more information on chemical sun-screen safety.

Titanium dioxide is another common mineral sun-block that is also safe, but it doesn't provide adequate protection from UVA rays unless combined with zinc oxide or chemical sunscreens. A sun-block with 20% zinc oxide would be sufficient for most everyday applications. A lower concentration of zinc oxide in combination with titanium dioxide or chemical sunscreens can also work.

As per my Summer 2019 Newsletter @ [www.rutlandskin.com](http://www.rutlandskin.com), I recommend primarily zinc oxide as most of the other sunscreen chemicals have been shown to get absorbed through the skin into the blood system and we are uncertain if this is harmful. Zinc oxide and titanium dioxide are not significantly absorbed, although they are more effective when mixed with other sunscreen chemicals. The cancer-causing agent benzene has recently been found in 75 sunscreen products as well as hair, underarm and foot sprays. Go to my **Summer 2021 Newsletter** @ [www.rutlandskin.com](http://www.rutlandskin.com) to see if your sunscreen product was tested (and my **Winter 2021-22 Newsletter** to see if your hair, underarm or athlete's foot sprays have been recalled due to benzene contamination.). So don't give up on using sunscreens along with other sun protective measures, but **select a mineral based sun block from the benzene free list such as Neutrogena Pure & Free Baby Sunscreen Lotion, SPF 50, Blue Lizard Lotion Australian Sunscreen Lotion Baby, SPF 30+, Eltamd UV Pure Broad Spectrum Sunscreen Lotion, SPF 47. For a less white look for the face, consider Eltamd UV Clear Broad-Spectrum, Moisturizing Facial Sunscreen Lotion, SPF 46, but be aware that it also has Octinoxate 7.5%, a chemical agent that has been shown to be absorbed through the skin.** Hopefully in the future manufacturers will put "benzene free" labels on their products to make the selection and purchasing process easier.

**Wear protective broad-brimmed hats, UV-protective sunglasses and clothing.** Baseball caps don't protect the ears, neck or the sides of the face well. Wearing UV blocking sunglasses to help prevent cataracts. The tighter the weave in clothing, the more sun protection it will offer. Several clothing lines offer ultraviolet protection and are easily accessed through the internet ([coolibar.com](http://coolibar.com), [sunprecautions.com](http://sunprecautions.com); [sunproof.com](http://sunproof.com); [sundayafternoons.com](http://sundayafternoons.com)).

**SunGuard™** can be added to the laundry to help improve the sun protectiveness of clothes ([amazon.com](http://amazon.com)).

**Take supplemental vitamin D.** Although it is difficult to get adequate amounts of vitamin D (vitD) in our diet, our skin makes it with intense summertime UVB sunlight exposure. However, the skin does not make enough in the wintertime. Because vitD deficiency has been linked to weak bones, worse Covid-19 infections, increased heart disease & cancer risk, and other health disorders, vitD supplements are recommended in the wintertime (October through April), or year round if not getting much sun exposure, or are following rigorous sun-protective measures or are very dark skinned (as the pigment blocks the ability of the skin to make as much vitD). An adult should ingest about 1,000 Units daily. Vitamin D3 is the preferred supplement.





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## The Sun's Rays

The sun produces both visible and invisible rays. The invisible rays, known as ultraviolet-A (UVA) and ultraviolet-B (UVB), cause most of the problems. Both cause suntan, sunburn and sun damage. The sun's harmful effects are also increased by reflections from water, sand and snow. Snow reflects up to 80 percent of the sun's rays, causing sunburn and damage to uncovered skin. Winter sports in the mountains increase the risk of sunburn because there is less atmosphere at high altitudes to block the sun's rays. Even on cloudy days UV radiation reaches the earth.

**Sunburn** - If skin is exposed to sunlight too long, redness may develop and increase for up to 24 hours. A severe sunburn causes skin tenderness, pain, swelling and blistering. Additional symptoms like fever, chills, upset stomach and confusion indicate a serious sunburn and require immediate medical attention. Wet compresses, tub baths and soothing lotions may provide some relief. If you develop a severe sunburn or begin to develop a fever, your dermatologist may suggest medicine to reduce swelling, pain and prevent infection. Your chances of developing a sunburn are greatest between 10 am and 4 pm.

**Aging** - Sun exposure is thought to be one of the most important factors causing skin cancer and may be responsible for up to 80% of visible aging changes in Caucasians. People who work outdoors or sun bathe without sun protection can develop tough, leathery skin, making them look older than they are. The sun can also cause large freckles called "age spots" and scaly growths (actinic keratoses) that may develop into skin cancer. These skin changes are caused by years of sun exposure. Protecting children from the sun is especially important. Excessive sun exposure in childhood can cause more moles to develop.

**Skin Cancer** - More than 90 percent of all skin cancers occur on sun-exposed skin. The face, neck, ears, forearms and hands are the most common places it appears. The three most common types of skin cancer are basal cell carcinoma, squamous cell carcinoma and melanoma. **Basal cell carcinoma** usually develops on the face, ears, lips and around the mouth of fair-skinned individuals. It can start as a red patch or shiny bump that is pink, red or white. It may be crusty or have an open sore that does not heal or heals only temporarily. This type of cancer can be cured easily if treated early. **Squamous cell carcinoma** usually appears as a scaly patch or raised, warty growth. It also has a high cure rate when found and treated early. In rare cases, if not treated, it can be deadly. **Melanoma** is the most dangerous form of skin cancer. It usually looks like a dark brown or black mole-like patch with irregular edges. Sometimes it is multicolored with shades of red, blue or white. This type of skin cancer can occur anywhere on the body and when found early, can be cured. If ignored, it spreads throughout the body and can be fatal.

**Allergic Reactions** - Some people develop allergic reactions to the sun. Bumps, hives, blisters or red blotches are the most common symptoms of a sun allergy. These reactions may be due to cosmetics, perfumes, plants, or medications.

**Other Diseases** - Some diseases can be made worse by the sun, including cold sores, chickenpox and a number of less common disorders such as lupus erythematosus. UV rays also can cause cataracts that worsen eye vision.

## Protection from the Sun

Using sun protection will help prevent skin damage and reduce the risk of cancer. The American Academy of Dermatology recommends that you avoid deliberate sunbathing, wear a wide-brimmed hat, sun-glasses and protective clothing and if you must be in the sun, use a sunscreen with a sun protection factor (SPF) of at least 30, even on cloudy days. Sun protection is also important in the winter. Sunscreens are available in many forms, including ointments, creams, gels, lotions and wax sticks. All are labeled with a Sun Protective Factor (SPF) number. The higher the SPF number, the greater the protection from sunburn, caused mostly by UVB rays. Some sunscreens, called "broad spectrum," block out both UVA and UVB rays. These do a better job of protecting skin from other effects of the sun, including rashes and photoaging effects that cause wrinkles and brown blotchiness. Sunscreens are not perfect, however. Sun protection should always start with avoiding peak sun hours and dressing sensibly. Sunscreens should be applied generously about 20 minutes before going outdoors, and reapplied every few hours if you remain in the sun. Even water-resistant sunscreens should be reapplied after swimming or strenuous activities.

Beach umbrellas and other kinds of shade are a good idea, but they do not provide full protection because UV rays can still bounce off sand, water and porch decks - remember, UV rays are invisible. Most clothing absorbs or reflects UV rays, but white loose-knit fabric and wet clothes that cling to your skin do not offer much protection. The tighter the weave, the more sun protection it will offer.