

HEALTH EFFECTS OF OVEREXPOSURE TO THE SUN



Americans love the sun, and spend increasing amounts of time outside — working, playing, exercising — often in clothing that exposes a lot of skin to the sun. Most people are now aware that too much sun has been linked to skin cancer, but few know the degree of risk posed by overexposure, and fewer are aware that the risks go beyond skin cancer. Recent medical research has shown that overexposure to the sun's ultraviolet (UV) radiation can contribute to serious health problems.

This fact sheet provides a quick overview of the major problems linked to UV exposure: skin cancer (melanoma and non-melanoma), other skin problems, cataracts, and immune system suppression. Understanding these risks and taking a few sensible precautions (described in other UV Index fact sheets) will help you to enjoy the sun while lowering your chances of sun-related health problems later in life.

MELANOMA

Melanoma, the most serious form of skin cancer, is also one of the fastest growing types of cancer in the U.S. Many dermatologists believe that there may be a link between childhood sunburns and malignant melanoma later in life. Melanoma cases in this country have almost doubled in the past two decades, with at least 32,000 new cases of melanoma and 6,900 deaths estimated for 1994 alone. The rise in melanoma cases and deaths in America is expected to continue.

CURE RATE

Melanoma can spread to other parts of the body quickly, but when detected in its earliest stages it is almost always curable. If not caught early, melanoma is often fatal.

WHAT TO WATCH FOR

Melanoma begins as an uncontrolled growth of pigment-producing cells in the skin. This growth leads to the formation of dark-pigmented malignant moles or tumors, called melanomas. Melanomas may suddenly appear without warning, but may also develop from or near a mole. For that reason it is important to know the location and appearance of moles on the body so any change will be noticed. Melanomas are found most frequently on the upper backs of men and women, and the legs of women, but can occur anywhere on the body.

Be aware of any unusual skin condition, especially a change in the size or color of a mole or other darkly or irregularly pigmented growth or spot; scaliness, oozing, bleeding or change in the appearance of a bump or nodule; spread of pigment from the border into surrounding skin; and change in sensation including itchiness, tenderness, or pain.

NON-MELANOMA SKIN CANCERS

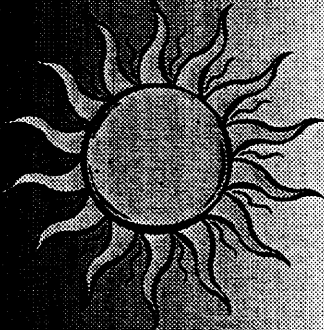
Unlike melanoma, non-melanoma skin cancers are rarely fatal. Nevertheless, they should not be taken lightly. Untreated, they can spread, causing more serious health problems. An estimated 900,000 Americans developed non-melanoma skin cancers in 1994, while 1,200 died from the disease.

There are two primary types of non-melanoma skin cancers:

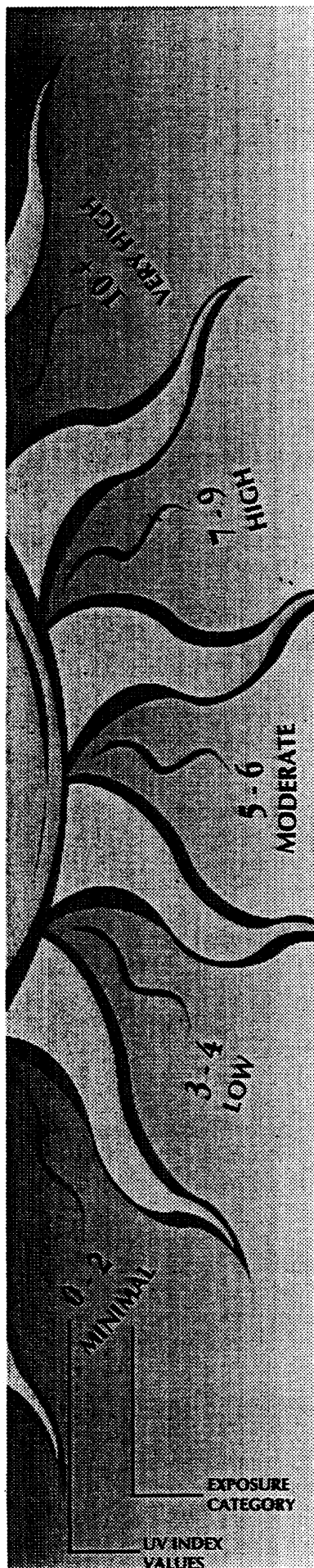
Basal Cell Carcinomas are tumors of the skin which usually appear as small, fleshy bumps or nodules on the head and neck, but can occur on other skin areas as well. It is the most common skin cancer found among fair-skinned people. Basal cell carcinoma does not grow quickly, and rarely spreads to other parts of the body. However, it can penetrate below the skin to the bone and cause considerable local damage.

Squamous Cell Carcinomas are tumors which may appear as nodules or as red, scaly patches. The second most common skin cancer found in fair-skinned people, squamous cell carcinoma is rarely found in darker-skinned people. This cancer can develop into large masses, and unlike basal cell carcinoma, it can spread to other parts of the body.

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CURE RATE

These two non-melanoma skin cancers have high cure rates — as high as 95 percent if detected and treated early. The key is to watch for signs and to detect the cancer in its early stages.

WHAT TO WATCH FOR

Basal cell carcinoma tumors usually appear as slowly growing, raised, translucent, pearly nodules which, if untreated, may crust, discharge pus, and sometimes bleed. Squamous cell carcinomas usually are raised, red or pink scaly nodules or wart-like growths that form pus in the center. They typically develop on the edge of the ears, the face, lips, mouth, hands and other exposed areas of the body.

ACTINIC KERATOSES

These sun-induced skin growths occur on body areas exposed to the sun. The face, hands, forearms and the "V" of the neck are especially susceptible to this type of blemish. They are pre-malignant, but left untreated, actinic keratoses can become malignant. Look for raised, reddish, rough-textured growths. See a dermatologist promptly if you notice these growths.

PHOTOAGING

Chronic exposure to the sun causes changes in the skin called actinic, or solar, degeneration. The skin over time becomes thick, wrinkled, and leathery. This condition has often been referred to as "premature aging" of the skin. Since it occurs gradually, often manifesting itself many years after the majority of a person's exposure to the sun, photoaging is often regarded as an unavoidable condition, a normal part of growing older. With proper protection from UV radiation, however, photoaging can be substantially avoided.

CATARACTS AND OTHER EYE DAMAGE

Cataracts are a form of eye damage, a loss of transparency in the lens which clouds vision. Left untreated, cataracts can rob people of vision. Research has shown that UV radiation increases the likelihood of certain cataracts. Although curable with modern eye surgery, cataracts diminish the eyesight of millions of Americans, and necessitate millions of dollars of eye surgery each year. Other kinds of eye damage include: pterygium (tissue growth on the white of the eye that can block vision), skin cancer around the eyes, and degeneration of the macula (the part of the retina near the center, where visual perception is most acute). All of these problems could be lessened with proper eye protection from UV radiation.

IMMUNE SUPPRESSION

Scientists have found that sunburn can alter the distribution and function of disease-fighting white blood cells in humans for up to 24 hours after exposure to the sun. Repeated exposure to UV radiation may cause more long-lasting damage to the body's immune system. Mild sunburns can directly suppress the immune functions of human skin where the sunburn occurred, even in people with dark skin.

ABOUT THE UV INDEX...

The UV Index, developed by the National Weather Service and the Environmental Protection Agency, provides a forecast of the expected risk of overexposure to the sun and indicates the degree of caution you should take when working, playing, or exercising outdoors. The UV Index predicts exposure levels on a 0 - 10+ scale, where 0 indicates a low risk of overexposure, and 10+ means a very high risk of overexposure. Calculated on a next-day basis for dozens of cities across the U.S. by the National Weather Service, the UV Index takes into account clouds and other local conditions that affect the amount of UV radiation reaching the ground in different parts of the country.

FOR MORE INFORMATION

To learn more about the UV Index and how to protect yourself from overexposure to the sun's UV rays, call EPA's Stratospheric Ozone Hotline at (800) 296-1996. Hotline staff can supply you with other fact sheets in this series, as well as other useful information.

UV INDEX



ACTION STEPS FOR SUN PROTECTION

TOO MUCH SUNLIGHT CAN BE DANGEROUS....

Being outside on a warm, sunny day is one of life's great pleasures, but getting too much sun can be dangerous. Excessive sun exposure can result in painful sunburn, but can also lead to other serious health problems, including melanoma, a life-threatening form of skin cancer. Melanoma is one of the fastest growing forms of cancer in the U.S. New melanoma cases in the U.S. have more than doubled over the past two decades, with an estimated 6,900 American deaths from the disease in 1994. In addition to melanoma, excessive UV exposure can lead to premature aging of the skin, cataracts, non-melanoma skin cancers, and immune system suppression.

BE SUN WISE

Protecting yourself from overexposure to UV radiation is simple:



WEAR SUNGLASSES THAT BLOCK 99-100% OF UV RADIATION

Sunglasses that provide 99-100% UVA and UVB protection will greatly reduce sun exposure that can lead to cataracts and other eye damage. Check the label when buying sunglasses.



WEAR A HAT

A hat with a wide brim offers good sun protection to your eyes, ears, face, and the back of your neck — areas particularly prone to overexposure to the sun.



PROTECT OTHER AREAS OF YOUR BODY WITH CLOTHING DURING PROLONGED PERIODS IN THE SUN

Tightly-woven, loose-fitting clothes are best, but any clothing is better than none at all.



ALWAYS USE A SUNSCREEN WHEN OUTSIDE ON A SUNNY DAY

A sunscreen with a Sun Protection Factor (SPF) of at least 15 blocks most harmful UV radiation. Apply sunscreen liberally and reapply every two hours when working, playing, or exercising outdoors. Even waterproof sunscreen can come off when you towel off sweat or water.



AVOID THE MIDDAY SUN AS MUCH AS POSSIBLE

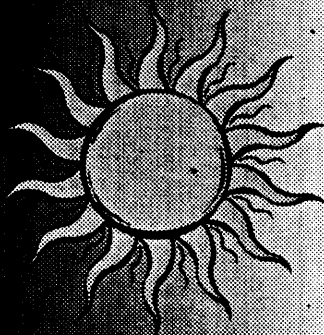
The sun's UV rays are strongest between 10 a.m. and 4 p.m. To the extent you can, limit exposure to the sun during these hours.



AVOID SUNLAMPS AND TANNING PARLORS

Sunbeds damage the skin and unprotected eyes and are best avoided entirely.

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WATCH FOR THE UV INDEX

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