



Health Effects of Overexposure to the Sun

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Since the appearance of an “ozone hole” over the Antarctic in the early 1980s, Americans have become aware of the health threats posed by ozone depletion, which decreases our atmosphere’s natural protection from the sun’s harmful ultraviolet (UV) rays. This fact sheet provides a quick overview of the major health problems linked to overexposure to UV radiation:

- Skin cancer (melanoma and nonmelanoma)
- Premature aging of the skin and other skin problems
- Cataracts and other eye damage
- Immune system suppression

Understanding these risks and taking a few sensible precautions will help you to enjoy the sun while lowering your chances of sun-related health problems later in life.

Skin Cancer

The incidence of skin cancer in the United States has reached epidemic proportions. One in five Americans will develop skin cancer in their lifetime, and one American dies every hour from this devastating disease. Medical research is helping us understand the causes and effects of skin cancer. Many health and education groups are working to reduce the incidence of this disease, of which one million cases have been predicted for 1999 alone.

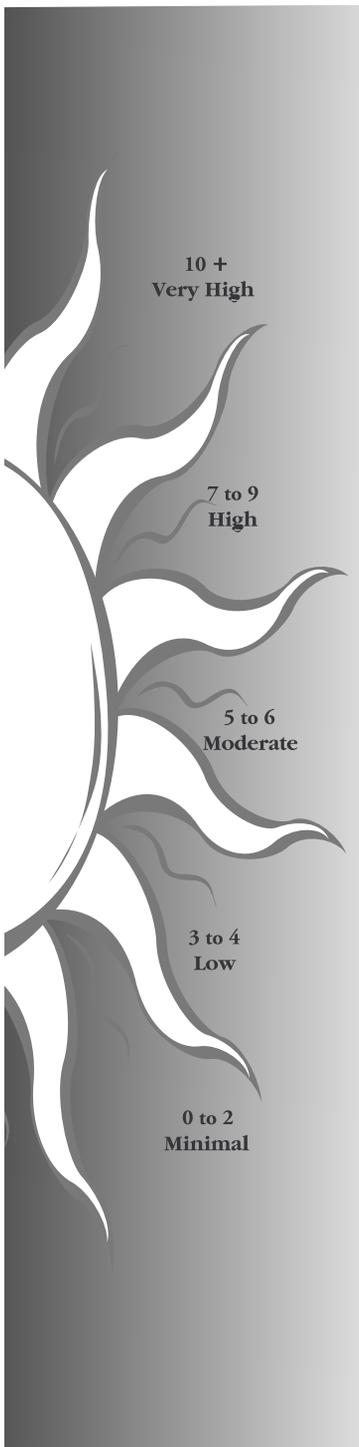
Melanoma

Melanoma, the most serious form of skin cancer, is also one of the fastest growing types of cancer in the United States. Many dermatologists believe there may be a link between childhood sunburns and melanoma later in life. Melanoma cases in this country have more than doubled in the past 2 decades, and the rise is expected to continue.

Nonmelanoma Skin Cancers

Nonmelanoma skin cancers are less deadly than melanomas. Nevertheless, left untreated, they can spread, causing disfigurement and more serious health problems. More than 960,000 Americans will develop nonmelanoma skin cancer in 1999, while more than 2,000 will die from the disease. There are two primary types of nonmelanoma skin cancers. These two cancers have a cure rate as high as 95 percent if detected and treated early. The key is to watch for signs and seek medical treatment.

- **Basal Cell Carcinomas** are the most common type of skin cancer tumors. They usually appear as small, fleshy bumps or nodules on the head and neck, but can occur on other skin areas. Basal cell carcinoma grows slowly, and rarely spreads to other parts of the body. It can, however, penetrate to the bone and cause considerable damage.



The UV Index provides numeric values and describes a person's likelihood of exposure to the sun's harmful rays.

- **Squamous Cell Carcinomas** are tumors that may appear as nodules or as red, scaly patches. This cancer can develop into large masses, and unlike basal cell carcinoma, it can spread to other parts of the body.

Other Skin Damage

Other UV-related skin disorders include actinic keratoses and premature aging of the skin. Actinic keratoses are skin growths that 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 lesion. Although premalignant, actinic keratoses are a risk factor for squamous cell carcinoma. Look for raised, reddish, rough-textured growths and seek prompt medical attention if you discover them. Chronic exposure to the sun also causes premature aging, which over time can make the skin become thick, wrinkled, and leathery. Since it occurs gradually, often manifesting itself many years after the majority of a person's sun exposure, premature aging is often regarded as an unavoidable, normal part of growing older. With proper protection from UV radiation, however, most premature aging of the skin can be avoided.

Cataracts and Other Eye Damage

Cataracts are a form of eye damage in which a loss of transparency in the lens of the eye clouds vision. If left untreated, cataracts can lead to blindness. 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 cost billions of dollars in medical care each year.

Other kinds of eye damage include pterygium (i.e., tissue growth that can block vision), skin cancer around the eyes, and degeneration of the macula (i.e., the part of the retina where visual perception is most acute). All of these problems can be lessened with proper eye protection from UV radiation.

Immune Suppression

Scientists have found that overexposure to UV radiation may suppress proper functioning of the body's immune system and the skin's natural defenses. All people, regardless of skin color, might be vulnerable to effects including impaired response to immunizations, increased sensitivity to sunlight, and reactions to certain medications.

EPA's SunWise School Program

In response to the serious public health threat posed by overexposure to UV radiation, the U.S. Environmental Protection Agency (EPA) is working with schools and communities across the nation through the SunWise School Program. SunWise aims to teach children in elementary school and their caregivers how to protect themselves from overexposure to the sun.



For More Information

To learn more about how to protect yourself from overexposure to the sun's UV rays, refer to EPA's fact sheet about action steps for sun protection (EPA430-F-99-026). For more information, call EPA's Stratospheric Ozone Information Hotline at 800 296-1996 or visit our Web site at <www.epa.gov/sunwise>.