

ULTRAVIOLET AWARENESS MONTH SPOTLIGHT

JULY 2018

ULTRAVIOLET (UV) RADIATION



What is it?

Ultraviolet (UV) light is part of a family of radiations called the electromagnetic (EM) spectrum. UV is just beyond the violet end of visible light and has smaller wavelengths and greater energy. As with all electromagnetic spectrum radiations, UV travels at the speed of light. Humans

cannot see it, but some animals, especially some insects, can see UV light and have body markings that reflect UV light.

UV is produced naturally by very hot objects such as

our Sun. About 10% of the Sun's energy output is UV. UV shines on the Earth along with heat and visible light. Our atmosphere reflects much of the incoming UV back out to space and absorbs most of the rest. Overall, then, only a small proportion of the Sun's UV reaches us. The ozone layer at the top of the Earth's atmosphere and oxygen within the atmosphere absorbs the

more energetic UV with shorter wavelengths. It is some of the longer wavelength UV that reaches the Earth's surface.

The sun emits radiation known as UV-A and UV-B rays. Both types can damage your eyes and skin. Ozone layer depletion decreases our

Overexposure to UV radiation can cause sunburns now, but also can lead to skin cancer, cataracts, and premature aging of the skin.

atmosphere's natural protection from the sun's harmful ultraviolet (UV) radiation.

Of the solar UV energy that reaches the equator, 95

percent is UV-A and 5 percent is UVB. Broad-spectrum ultraviolet radiation (UV-A and UV-B) is the strongest and most damaging to living things.

- UV-B rays have short wavelengths that reach the outer layer of your skin
- UV-A rays have longer wavelengths that can penetrate the middle layer of your skin.

CARE MANAGEMENT CONSIDERATIONS

- Familiarize yourself with sun safety so you can be a good example for members.
- Educate members on the risks of UV exposure.
- Assist members to locate weather appropriate clothing and sunscreen to protect themselves.
- Give special consideration to children. Those under 6 months of age are advised to avoid direct sun exposure.
- Educate members to look for sunglasses that offer 99 to 100 percent UV protection.
- Watch out for bright surfaces, like sand, water and snow, which reflect UV and increase exposure.
- Teach members the Shadow Rule: If your shadow is taller than you are (in the early morning and late afternoon), your UV exposure is likely to be lower. If your shadow is shorter than you are (around midday), you are being exposed to higher levels of UV radiation.

HEALTH EFFECTS OF UV RADIATION

What are the risks?

Skin Cancer

Each year, more new cases of skin cancer are diagnosed in the U.S. than new cases of breast, prostate, lung, and colon cancer combined. One in five Americans will develop skin cancer in their lifetime. One American dies from skin cancer every hour. Unprotected exposure to UV radiation is the most preventable risk factor for skin cancer.

Melanoma

The most serious form of skin cancer, is now one of the most common cancers among adolescents and young adults ages 15-29. While melanoma accounts for about three percent of skin cancer cases, it causes more than 75 percent of skin cancer deaths. UV exposure and sunburns, particularly during childhood, are risk factors for the disease.

Nonmelanoma Skin Cancers

Less deadly than melanomas, they can spread if left untreated, causing disfigurement and more serious health problems. There are two primary types of non-melanoma skin cancers: **basal cell** and **squamous cell carcinomas**. If caught and treated early, these two cancers are rarely fatal.

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.

Squamous cell carcinomas are tumors that may appear as nodules or as red, scaly patches.

Premature Aging and Other Skin Damage

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.

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. However, up to 90 percent of the visible skin changes commonly attributed to aging are caused by the sun.

Cataracts and Other Eye Damage

Cataracts are a loss of transparency in the lens of the eye that clouds vision. If left untreated it can lead to blindness. Research has shown that UV radiation increases the likelihood of certain cataracts. 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 (tissue growth that can block vision), and degeneration of the macula (the part of the retina where visual perception is most acute).

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. For example, the skin normally mounts a defense against foreign invaders such as cancers and infections. But overexposure to UV radiation can weaken the immune system, reducing the skin's ability to protect against these invaders.

Protect yourself!

The UV Index provides a forecast of the expected risk of overexposure to UV radiation from the sun. The UV Index is accompanied by recommendations for sun protection and is a useful tool for planning sun-safe outdoor activities.

Ozone depletion, as well as seasonal and weather variations, cause different amounts of UV radiation to reach the Earth at any given time. Taking these factors into account, the UV Index predicts the level of solar UV radiation and indicates the risk of overexposure on a scale from 0 (low) to 11 or more (extremely high). A special UV Alert may be issued for a particular area, if the UV Index is forecasted to be higher than normal.

UV Index Scale

The UV Index scale used in the United States conforms to international guidelines for UVI reporting established by the World Health Organization.



1. Cover Up: Wearing a Hat (preferably wide brimmed) or other shade-protective clothing can partly shield your skin from the harmful effects of UV ray exposure. Proper clothing may include long-sleeved shirts, pants, hats, and Sunglasses - for eye protection.

2. Stay in the Shade: The sun's glare is most intense at midday. Staying in the shade between the hours of 10 a.m. and 4 p.m. will further protect your skin. The sun can still damage your skin on cloudy days or in the winter. For this reason, it is important to stay protected throughout the year.

3. Choose the Right Sunscreen: This is extremely important. The U.S. Food and Drug Administration's (FDA) new regulations for sunscreen labeling recommend that your sunscreen have a sun protection factor (SPF) of at least 15, and should protect against both Ultraviolet A (UV-A) and Ultraviolet B (UV-B) rays.

4. Use the Right Amount of Sunscreen: According to the National Council on Skin Cancer Prevention, most people apply only 25-50 percent of the recommended amount of sunscreen. When out in the sun, it's important that you apply at least one ounce (a palmful) of sunscreen every two hours. You should apply it more often if you are sweating or swimming, even if the sunscreen is waterproof.