Overview: Ultraviolet (UV) rays are a part of sunlight that is an invisible form of radiation. UV rays can penetrate and change the structure of skin cells. There are three types of UV rays: ultraviolet A (UVA), ultraviolet B (UVB), and ultraviolet C (UVC). UVA is the most abundant source of solar radiation at the earth's surface and penetrates beyond the top layer of human skin. Scientists believe that UVA radiation can cause damage to connective tissue and increase a person's risk for developing skin cancer. UVB rays penetrate less deeply into skin, but can still cause some forms of skin cancer. Natural UVC rays do not pose a risk to workers because they are absorbed by the Earth's atmosphere. Sunlight exposure is highest during the summer and between 10:00 a.m. and 4:00 p.m. Working outdoors during these times increases the chances of getting sunburned. Snow and light-colored sand reflect UV light and increase the risk of sunburn. At work sites with these conditions, UV rays may reach workers’ exposed skin from both above and below. Workers are at risk of UV radiation even on cloudy days. Many drugs increase sensitivity to sunlight and the risk of getting sunburn. Some common ones include thiazides, diuretics, tetracycline, doxycycline, sulfa antibiotics, and nonsteroidal anti-inflammatory drugs, such as ibuprofen. Workers at increased risk of UV damage include lifeguards, construction workers, agricultural workers, landscapers, gardeners, and other outdoor workers.

Recommendations for Workers
Workers should follow these recommendations to protect themselves from UV damage:

- Wear sunscreen with a minimum of SPF 15.
  - SPF refers to the amount of time that persons will be protected from a burn. An SPF of 15 will allow a person to stay out in the sun 15 times longer than they normally would be able to stay without burning. The SPF rating applies to skin reddening and protection against UVB exposure.
  - SPF does not refer to protection against UVA. Products containing Mexoryl, Parsol 1789, titanium dioxide, zinc oxide, or avobenzone block UVA rays.
  - Sunscreen performance is affected by wind, humidity, perspiration, and proper application.
- Old sunscreens should be thrown away because they lose their potency after 1-2 years.
- Sunscreens should be liberally applied (a minimum of 1 ounce) at least 20 minutes before sun exposure.
  - Special attention should be given to covering the ears, scalp, lips, neck, tops of feet, and backs of hands.
- Sunscreens should be reapplied at least every 2 hours and each time a person gets out of the water or perspires heavily.
  - Some sunscreens may also lose efficacy when applied with insect repellents, necessitating more frequent application when the two products are used together.
- Follow the application directions on the sunscreen bottle.
- Another effective way to prevent sunburn is by wearing appropriate clothing.
  - Dark clothing with a tight weave is more protective than light-colored, loosely woven clothing.
  - High-SPF clothing has been developed to provide more protection for those with photosensitive skin or a history of skin cancer.
- Workers should also wear wide-brimmed hats and sunglasses with almost 100% UV protection and with side panels to prevent excessive sun exposure to the eyes.

Recommendations for Employers
Employers should take the following steps to protect workers from exposure to UV radiation:

- When possible, avoid scheduling outdoor work when sunlight exposure is the greatest
- Provide shaded or indoor break areas
- Provide training to workers about UV radiation including:
  - Their risk of exposure
  - How to prevent exposure
  - The signs and symptoms of overexposure

Source: Centers for Disease Control and Prevention