

Sun Safety by Steve Swatzel, Environmental Health Specialist, Dir. Of Environ. Health



The word, “radiation” brings to mind X-rays machines, nuclear power plants, nuclear bombs, or even microwave ovens but do you know the sun also emits several forms of solar radiation, one being ultra-violet radiation (UV). Other sources of UV radiation occur from tanning beds, in some types of light bulbs and lasers. It is a type of radiation that you cannot see or feel. Visible light and heat are not the same as UV radiation. There are benefits to the UV radiation but also serious health risks to humans. The planet’s atmosphere prevents most but not all UV radiation from reaching the surface. Several personal products have been developed to limit UV exposure. Be informed and prepared to protect yourself before enjoying summer weather.

There are actually benefits of limited exposure to UV radiation. Our bodies produce Vitamin D when exposed to UV radiation. Vitamin D boosts our immune systems and strengthens bones, but it only takes a few minutes a day in the sun to produce an adequate level of Vitamin D. Exposure also helps our moods. Our brains produce the hormone, Serotonin which helps you feel calm and focused. Insects, such as bees, can only see certain kinds of ripe fruits, flowers and seeds that absorb UV radiation. UV radiation is being used in the disinfection of drinking water and wastewater. UV producing machines artificially expose viruses and bacteria to high doses of radiation that will destroy them at a cellular level.

There are significant health risks to our bodies when being over-exposed to UV radiation. Skin cancers are primarily caused by UV radiation exposure. One in five Americans will develop skin cancer in their lifetime. The UV radiation damages the DNA in our skin cells causing them to grow out of control and develop cancer. Sunburns are actual radiation burns caused from too much exposure. Skin cells damaged by the radiation cause the body to increase blood flow to the area leaving the area red and swollen. Another health risk related to UV radiation is cataracts and cancer of the eye and eyelid. Prolonged exposure to UV rays modifies lens proteins, leading to cataract formation and worsening eyesight. Over time, cataracts can make vision blurry, hazy, or less colorful. Cancers of the eyelid have been linked to exposure to UV radiation. Finally, it is a fact that UV radiation damages the collagen and connective tissues under the skin leaving the skin to appear much older than it is.

Reducing your exposure to UV radiation starts with protecting the Earth’s ozone layer in the upper atmosphere. The ozone layer is the Earth’s sunscreen because it prevents much of the UV radiation from reaching the surface. In the mid 1990’s the United States adopted legislation that phased out the use and production of ozone layer depleting chemicals such as CFC’s (chlorofluorocarbons) which were used in the manufacture of aerosol sprays, blowing agents for foams and packing materials, as solvents, and as refrigerants. The US EPA believes the ozone layer is healing and should fully recover by about 2065. There are many ways you can protect yourself from UV radiation. Anything you can do to limit your time in direct sunlight will help. Wearing hats and clothes that cover the skin offer the most protection. If covering up is not an option, consider applying plenty of sunscreen. Consider using sunscreens that are labeled as “broad spectrum”, “waterproof”, and are “SPF-15” or higher. Sunscreen cannot completely protect you, so it’s still best to limit your time in the sun. Most sunglasses offer UV protection. Before you buy, check the label to make sure they do. Labels that say “UV absorption up to 400 nm” or “Meets ANSI UV Requirements” mean the glasses block at least 99% of UV rays. Those labeled “cosmetic” block about 70% of UV rays. If there is no label, don’t assume the sunglasses provide any UV protection. Most doctors and health organizations recommend not using tanning beds or sun lamps due to the UV radiation exposure, especially for anyone under the age of 30 due to documented links in skin cancer patients as reported by the American Cancer Society. Enjoy the summer but be safe in the sun. For more information contact the Meigs County Health Department.