

TerranearPMC Safety Share

Week of August 11, 2014 – Fun in the Sun?

Amid the more dynamic world topics competing for the top headlines in the newspapers and television media, I noticed one story that occupied some space away from the front page. It wasn't about a war-torn region of the world, or a deadly plane crash or about a deadly virus. It was a story about the human love affair with the sun and how many of us value the bronze hue that our skin transforms into when we expose ourselves to the sun's rays: and yes, I did say "expose" as it is typical of a hazardous material.

Skin cancer is on the rise, according to the American Cancer Society, with more cases diagnosed annually than breast, prostate, lung and colon cancer cases combined. Quite recently, the United States surgeon general issued a call to action to prevent the disease, calling it a major public health problem that requires immediate action. The fact is that nearly 5 million people are treated for skin cancer **each year**.

As quoted by the acting Surgeon General Dr. Boris Lushniak, who quoted the surgeon general stating that "UV radiation is bad for you; protect your skin." This comes in light of the Centers for Disease Control and Prevention (CDC) announcing that two-thirds of adults reported getting sunburned in 2010; and, because a single sunburn incident increases a person's risk for skin cancer, Lushniak said that it's important for people to realize that sun safety applies to everyone, even if you're not fair-skinned. "We know that the risk level for skin cancer decreases with more skin pigmentation," he said. "But no one is immune. All races are still diagnosed and still affected by UV rays."

Skin cancer develops in the cells in the epidermis – the top or outer layer of the skin. UV radiation is made up of UVA and UVB rays which are able to penetrate the skin and cause permanent damage to cells. UVC rays do not penetrate Earth's atmosphere, as they are filtered by the ozone layer (in the stratosphere); but can be artificially generated through such sources as germicidal lamps (and through such sources, can burn the skin and cause skin cancer). UVA (the largest UV wavelength, slightly shorter than visible violet light) does penetrate deeply into the skin (the dermis) and causes genetic damage to cells, while being responsible for photo-ageing (wrinkling, blotchiness etc) and immune-suppression. UVB penetrates into the epidermis causing damage to the cells. UVB is responsible for sunburn – a significant risk factor for skin cancer, especially melanoma. If the body is unable to repair this damage the cell can begin to divide and grow in an uncontrolled way. This growth can result in the formation of tumors.

The U.S. Department of Health and Human Services has set five goals for communities to decrease the risk of skin cancer, such as providing shade at parks, schools and other public spaces, and reducing indoor tanning.

Of all the skin cancers, melanoma is the the deadliest due to its ability to metastasize and spread quickly to other parts of the body. While melanoma accounts for only 2% of skin cancer cases, according to the American Cancer Society, it is responsible for the majority of skin cancer deaths.



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Each year, more than 63,000 cases of melanoma are diagnosed in the United States, and 9,000 people die from it. From 1973 to 2011, melanoma rates increased more than 200%, according to the Department of Health and Human Services. The National Cancer Institute reported that melanoma is the most common form of cancer in adults; ages 25 to 29 and second most common for young adults aged 15 to 29.

A dermatologist himself, the acting surgeon general stressed the importance for parents to teach their children about sun safety, just as they would dental care and eating healthily. "We have to change the social norms about tanning," he said. "Tanned skin is damaged skin, and we need to shatter the myth that tanned skin is a sign of health."

To reduce the risk of skin cancer, the CDC recommends wearing a hat, sunglasses and protective clothing and using sunscreen with an SPF of at least 15. On July 28 2014, the House of Representatives passed the Sunscreen Innovation Act. The bill includes a review process for all manufacturers submitting a new sunscreen to the Food and Drug Administration, with a deadline for the FDA to provide final decisions: one year for pending applications and 1½ years for new ones.

As a general rule, SPF 15 blocks 93% of UVB rays, SPF 30 blocks 97% and SPF 50 blocks 98%. Doctors now typically recommend *at least* SPF 30. If you have a family history of skin cancer or are vacationing in a tropical spot (where the sun is especially intense), go for 50 or even 70. Just keep in mind that **no sunscreen provides 100% protection**. Experts insist that sunscreen needs to be reapplied every two hours and after a swim, even if you used the water-resistant kind..so says Dr. Joshua Zeichner, director of cosmetic and clinical research in dermatology at Mount Sinai Hospital in New York City. It should also be noted that sunscreen becomes less effective about three years after you open the container.

The current policy requires the FDA to undergo an extensive rule-making process before reviewing any new product application and adding it to the approved list. This process can take years, making the process inefficient. The last over-the-counter sunscreen ingredient approved by the FDA was in the 1990s. Eight new sunscreen applications have since been filed with the FDA. All are still waiting for review, with some applications being in the review process for over a decade

Many of the new sunscreens awaiting approval in the United States have been available in Europe, Central Asia and South America for years. Generally speaking, the ingredients waiting for approval are simply newer types of UVA filters than are currently being used, Werner said, but they differ slightly by manufacturer.

While today, sunglasses are worn more as a fashion statement; they do provide an important health benefit as they do protect your eyes from the sun's rays, which can cause serious damage to a person's site. Health experts agree that sunglasses are the best way to prevent ocular damage by UV rays; and for those who don't wear sunglasses, contact lenses or eyeglasses with UV coating provide the necessary protection.

Every strike brings me closer to the next home run

Babe Ruth

