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Sunscreens remain safe, effective form of sun protection

SCHAUMBURG, Ill. (May 23, 2011) —
The American Academy of Dermatology (Academy) today reiterated the safety and effectiveness of sunscreens to protect against the damaging effects from exposure to ultraviolet (UV) radiation. As one component of a daily sun-protection strategy, sunscreen is an important tool in the fight against skin cancer, including melanoma, the deadliest form of skin cancer.

Unprotected sun exposure is the most preventable risk factor for skin cancer. More than 3.5 million new cases of skin cancer will be diagnosed in the United States this year, affecting 2 million people. At current rates, one in five Americans will develop skin cancer in his or her lifetime. About 75 percent of skin cancer deaths are from melanoma, and the incidence of melanoma has been rising for at least 30 years.

"Scientific evidence supports the benefits of sunscreen usage to minimize short and long-term damage to the skin from UV radiation and outweighs any unproven claims of toxicity or human health hazard," said Ronald L. Moy, MD, FAAD, president of the Academy."To reduce the risk of skin cancer and premature aging, dermatologists continue to recommend generously applying a water-resistant, broad-spectrum sunscreen — that protects against both types of ultraviolet radiation (UVA and UVB) — with an SPF 30 or higher, in conjunction with other sun-safe practices such as limiting sun exposure, seeking shade, and wearing sun-protective clothing, hats and sunglasses."

Sunscreen products contain one or more active drug ingredients -- compounds that absorb, scatter or reflect UV light -- and are regulated as over-the-counter (OTC) drugs by the U.S. Food and Drug Administration (FDA). The FDA has several safety and effectiveness regulations in place that govern the manufacture and marketing of all sunscreen products, including safety data on its ingredients. However, recent media reports have questioned the health risks of some sunscreen ingredients, specifically oxybenzone and retinyl palmitate, as well as the use of nanotechnology in sunscreen.

Oxybenzone is one of the few FDA-approved ingredients that provides effective broad-spectrum protection from UV radiation, and has been approved for use since 1978. "Contrary to recent reports, available scientific literature and decades of public use does not support a link between oxybenzone in sunscreen and hormonal alterations, or other significant health issues in humans," stated Dr. Moy. "The FDA has approved oxybenzone in sunscreen for use on children older than six months, and dermatologists continue to encourage protecting children by playing in the shade, wearing protective clothing and applying broad-spectrum sunscreen."

Retinyl palmitate is a form of vitamin A (retinol), but is not an active drug ingredient in sunscreen. When used in sunscreen, retinyl palmitate serves cosmetic purposes as an antioxidant to improve product performance against the aging effects of UV exposure, or to enhance product aesthetic qualities. Despite recent concerns from in vitro (test tube) studies and one unpublished report using mice, "topical and oral retinoids are widely prescribed to treat a number of skin diseases, such as acne and psoriasis, and there is no published evidence to suggest either increase the risk of skin cancer in these patients," said Dr. Moy. "In fact, oral retinoids are used to prevent skin cancers in high-risk patients such as those who have undergone organ transplantation." Dr. Moy also added that "unlike more potent prescription forms of vitamin A, there is no evidence to suggest that use of sunscreen with retinyl palmitate poses comparable risks."

The broad-spectrum sunscreen active ingredients titanium dioxide and zinc oxide leave a white residue on the skin following application when used in a larger particle form. However, when these active ingredients are converted into

nanoparticles – smaller, lighter molecules – they appear to vanish on the skin, do not leave a residue, and retain and enhance their ability to block UVA and UVB light.

“While widespread use of nanotechnology in medicine is currently under evaluation, one of the main benefits of nanoparticles in sunscreens is that the small molecules can provide more protection and more even coverage on the skin’s surface than larger particles,” said Dr. Moy. “Considerable research on the use of nanoparticles on healthy, undamaged skin has shown that the stratum corneum – the outermost layer of the skin – is an effective barrier to preventing the entry of nanoparticles into the deeper layers of the skin. Titanium dioxide and zinc oxide have a long history of safe use in sunscreens and offer good options for broad-spectrum UV protection.”

There has also been concern that sunscreen use prevents the synthesis of vitamin D by the skin. Vitamin D is an essential nutrient that is vital for strong bones and a healthy immune system. The Academy recommends that an adequate amount of vitamin D should be safely obtained from a healthy diet that includes foods naturally rich in vitamin D (e.g., dairy products and fish), foods/beverages fortified with vitamin D (e.g., fortified milk and fortified cereals), and/or vitamin D supplements -- and not from UV exposure. The Academy recently updated its position statement on vitamin D based on the published review of the increasing body of scientific literature on this vitamin conducted by the National Academy of Sciences Institute of Medicine (IOM).

“Unprotected UV exposure to the sun or indoor tanning devices is a known risk factor for the development of skin cancer. Since sun exposure is responsible for vitamin D production in the skin, wearing sunscreen can decrease the skin's production of vitamin D, but alternative and safer options are available to obtain your vitamin D,” states Dr. Moy. “Individuals who properly and consistently wear sunscreen or use other UV protective measures, and are concerned about their vitamin D, should discuss obtaining sufficient vitamin D from foods and/or vitamin supplements with their doctor.”

The FDA is continuing to work on addressing requirements for UVA coverage in sunscreens and considering sunscreen labeling changes to help the public make knowledgeable decisions about protecting themselves from the dangers of sun exposure. “Dermatologists recommend the use of broad-spectrum sunscreen products to protect against UVA and UVB rays and we rely on the FDA to confirm the safety of the products,” said Dr. Moy. The American Academy of Dermatology currently awaits the FDA’s final ruling to provide the most current information.

“Despite any concerns over the use of sunscreen, they are an important component of a daily protection plan, as dermatologists understand the limitations of clothing and minimizing sun exposure. There are many sunscreen products available that meet the Academy’s recommendations, and consumers need to be comfortable with their choice of product in order to use it routinely”, Dr. Moy added. “Since allergic and other reactions can occur, individuals should read the product’s labeling carefully, use as directed, and seek the advice of their dermatologist in using sunscreens and any product applied to the skin. The American Academy of Dermatology will continue to monitor scientific evidence related to sunscreen ingredients and their effectiveness to help guide patients and the public.”

Headquartered in Schaumburg, Ill., the American Academy of Dermatology (Academy), founded in 1938, is the largest, most influential, and most representative of all dermatologic associations. With a membership of more than 17,000 physicians worldwide, the Academy is committed to: advancing the diagnosis and medical, surgical and cosmetic treatment of the skin, hair and nails; advocating high standards in clinical practice, education, and research in dermatology; and supporting and enhancing patient care for a lifetime of healthier skin, hair and nails. For more information, contact the Academy at 1 (888) 462-DERM (3376) or www.aad.org.