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Dermalogica® Research and Development News

Shedding Light on Sun Safety

by Dr. Claudia Aguirre

A new report has been making its way across the internet condemning 92% of the available U.S. sunscreens. This report, published online by the Environmental Working Group, a non-profit organization, has spurred countless reports warning consumers against sunscreens. At issue is the safety and effectiveness of many sunscreens. If you only read recent news headlines, you may get the impression that sunscreens do more harm than good. In essence, the EWG report warns against products that have little or no protection against UVA rays and products that contain the vitamin A derivative retinyl palmitate. A real concern in the medical and scientific community is that these reports will stray consumers away from sun protection, which is critical to preventing damage and skin cancer. What's a consumer to do? With so many conflicting reports, many consumers are left confused and scared- indeed it is becoming a controversy for the upcoming summer months. So should you ditch the sunscreen this summer? Before you do, consider the facts behind sun safety and the science behind these ingredients.

Who's actually getting burned in the sunscreen controversy?

More than one million people are found to have skin cancer each year in the U.S., amounting roughly to one person in 300. In Australia, which has the highest rate of skin cancer in the world, the incidence is an astounding one in 50, where approximately two in three Australians will be diagnosed with skin cancer before the age of 70. These staggering facts are the basis behind all the efforts to prevent becoming one more statistic. One of the main efforts behind sun protection is using sunscreen. EWG Senior Vice President for Research Jane Houlihan called most U.S. sunscreens "the equivalent of modern-day snake oil," stating that they do not protect as well as they claim and may be dangerous. What she fails to see is that in the U.S., sunscreens are regulated as

over-the-counter (OTC) drugs by the FDA, meaning they must undergo rigorous scientific assessment including safety and efficacy evidence to comply with FDA standards. EWG suggests that the use of sunscreens is behind the rise in cancer statistics due to mislabeling and harmful chemicals. The group is specifically warning against high-SPF sunscreens, which Houlihan says promote a false sense of security for users. However, it is no mystery that most people do not properly use sunscreen, and that this can be a contributing factor to elevated skin cancer rates. In fact, the National Cancer Institute reports that only 58% of adults say they protect themselves from the sun. That leaves 42% of the population vulnerable to the effects of harmful UV rays. So, can you really conclude that sunscreens don't work because people still get skin cancer? I think not.

What about Vitamin A?

The Environmental Working Group analyzed and broadcasted on their website a report based on findings from a 2009 FDA study of retinyl palmitate, a vitamin A derivative. In the one-year study, cancerous cells developed 21% faster in lab mice who received an application of cream containing vitamin A than a control group who were treated with a vitamin-free version. Both lab groups were exposed to the equivalent of nine minutes of direct noontime Florida sun every day for a year. From this study, the EWG made the claim that retinyl palmitate found in sunscreens may accelerate cancer formation. There are a few concerning issues with their conclusions. Firstly, although they may have qualified individuals reading these studies, the analysis of scientific data is reserved for research scientists actually working in the field and furthermore, is always peer reviewed. Publishing data analyses based on one study is irresponsible and can be misleading to the public, especially when published to the lay public and not the scientific community for peer review. More concerning, the EWG report makes leaps that are

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not based on solid evidence. The EWG contends that retinyl palmitate in *sunscreens* can accelerate skin cancer formation. Unfortunately, they made this claim from one study that examined plain vitamin A cream, not sunscreen containing vitamin A, on mice. To extrapolate these findings to humans and make the claim that retinyl palmitate in sunscreens will accelerate cancer formation is a giant leap and would not hold up in the scientific community. According to John Bailey, chief scientist of the Personal Care Products Council, this FDA study is ongoing but is not designed to study retinyl palmitate in the presence or absence of sunscreen. Even FDA scientific publications on retinyl palmitate point out that “one must be cautious in using these results for evaluation of risks associated with exposure to topically applied retinyl palmitate-containing cosmetics and sunlight” (Xia, 2006). In fact, clinical and experimental studies have shown that topically applied vitamin A can act as a sunscreen by absorbing UVB radiation and providing protection against UV-induced erythema (Antille, 2003; Fu, 2007). In all cases, the scientific community is in agreement that further studies are needed to better understand the characteristics of vitamin A in sun-exposed skin.

OK enough science, what is the current situation?

In 1987, the U.S. Cosmetic Ingredient Review Expert Panel reviewed the safety of retinyl palmitate in cosmetic preparations and concluded that the use of vitamin A as a cosmetic ingredient is safe under current practices and concentrations. The Skin Cancer Foundation’s Photobiology Committee, a group of renowned experts in the study of the interaction of ultraviolet radiation and the skin, have concluded that there is no scientific evidence to support claims that retinyl palmitate is a photocarcinogen in humans. The FDA is set to provide an updated monograph on sunscreens in Winter 2010. FDA confirms that this study, which did not include a treatment of retinyl palmitate together with a sunscreen, will be peer reviewed at the next Technical Report Review Subcommittee (TRRS) meeting to be held in January 2011 and that it is premature to draw conclusions from the study at this

time. Until a new monograph with updated guidelines is released, we at Dermalogica will do our best to comply with federal regulations and update our ingredients as necessary.

Take a shot

We urge the public not to prematurely make assumptions based on non-scientific reports that do not check sources nor cite accurate information about such preliminary information. Bottom line is that science is an ongoing phenomenon and using sunscreen is far better than not using it at all. Science points to the harmful effects of UV, even via indoor tanning, and the development of skin cancer. No sunscreen is perfect- but that is no reason to toss it! Take a shot- the proper amount is a shot glass full of sunscreen to exposed skin. Use too much rather than too little. Always reapply, especially after water or sweat. Don’t fret. Go swim. Get your skin checked. Stay tuned.

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