

SPF: SUN PROTECTION FACTS OR FICTIONS? PART II

AH, SUMMERTIME at the shore—what could be better than the sun and the surf? Summer brings more sunshine and more sun protection. When you're surfing the internet,

however, trying to find accurate information on sunscreens is no day at the beach.

Sun protection data is available, but it is difficult to determine the validity of what you read. Discrepancies and contradictions in the sunscreen information on the internet expose opposing interests and conflicting agendas, the ranting of wayward bloggers and repeated industry half-truths. The expansion of the internet forum has invigorated the healthy

debate about sunscreens and opened the door for nonprofessionals to battle with experts on the subject. Warnings must be issued about the information

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online—not everything you read is true. *The Sunscreen Filter* proposes to filter the sunscreen facts from fictions.

In my April column, I discussed the industry's response to the FDA's Proposed Rule issued in August 2007. This month, I'll expand on the points I brought up in July's column aimed at debunking popularized misconceptions and promoting accuracy. In July,

I tackled the following issues:

- Sunscreens and coral reefs;
- Natural, chemical-free and so-called "organic" sunscreens and
- Safety of sunscreens.

In this month's column, I will address the following topics in the news:

- Sunscreens, senators and generals;
- Sunscreens and vitamin D and
- The American Academy of Dermatology's (AAD) endorsement seal.

In November, I will conclude the series by addressing the remaining "burning" issues regarding sunscreen including nanotechnology, litigations and the tanning salon industry.

Sunscreen, Senators and Generals

Senators Christopher Dodd (D-CT) and Jack Reed (D-RI) introduced legislation in Congress on Aug. 1, 2008 that would compel the FDA to finalize its sunscreen rules within 180 days of the bill's



NADIM SHAATH
ALPHA RESEARCH
& DEVELOPMENT LTD.

DR. NADIM SHAATH IS THE PRESIDENT OF ALPHA RESEARCH & DEVELOPMENT LTD., A CONSULTING FIRM IN WHITE PLAINS, NY, SPECIALIZING IN SUNSCREEN FORMULATIONS AND NEW PRODUCT IDEAS IN COSMETICS, ESSENTIAL OILS AND ULTRAVIOLET FILTERS. HE HAS OVER 30 YEARS OF EXPERIENCE AS CHAIRMAN OF THE CHEMISTRY DEPARTMENT AT SUNY-PURCHASE, THE TECHNICAL DIRECTOR AT FELTON, THE PRESIDENT OF NICKSTADT-MOELLER, INC. AND THE CEO OF KATO WORLDWIDE. HE CAN BE REACHED AT ALPHARD@AOL.COM

Ensuring proper levels of sun protection is no day at the beach.



passage. Sen. Dodd declared, “While the FDA has proposed to improve their testing and labeling rules, they have done nothing to make the rules final and enforceable.”²¹ The new Sun Act is supported by the American Cancer Society, the Melanoma Research Foundation, Citizens for Sun Protection, the Environmental Working Group and sunscreen manufacturers Banana Boat and Hawaiian Tropic. It is co-sponsored by Senators Kerry (D-MA), Carper (D-DE), Clinton (D-NY) and Biden (D-DE).

On July 24, 2008, Connecticut’s Attorney General, Richard Blumenthal, acting at the behest of a group of dermatologists, wrote a letter requesting that the FDA Commissioner Andrew C. von Eschenbach act immediately to implement rules to stop misleading claims in sunscreen advertising and labeling. He urged for the immediate implementation of the sunscreen rules by stating, “For far too long sunscreen manufacturers have exploited the FDA’s abject failure to enact regulations and insure truthful, accurate claims in sunscreen advertising and labeling.” He added, “To protect consumers, I

strongly urge the FDA to implement, with no continued undue delay, the 2007 Amendment to the Final Monograph for over-the-counter sunscreen products.”²²

These tough words from the Attorney General and the Senators will add fuel to the fires of pending litigations in California and elsewhere. These statements have also sparked a blogging frenzy that overwhelmingly puts the onus on the FDA for its inaction. Although I have joined the chorus accusing the FDA of dragging its feet and of inflexibility, publishing a

Final Rule is pretty serious stuff with legal ramifications. Many issues remain unresolved including the inadequacies of the science behind the SPF and UVA testing protocols. (For an excellent review, read the recent paper by Dominique Moyal on testing protocols.³) The FDA must balance the consumer’s concerns with those of the industry as well as harmonization with international regulations. In addition, new filters, quenchers, photostabilizers and improved technologies are appearing on the market on a daily basis that must be evaluated. I do not envy the predicament that the FDA finds itself in to finalize the monograph, nor that of the sunscreen industry in having to develop new products or defend the deficiencies of their current products. Most importantly, I do not envy the predicament of the consumer who is suddenly asked to make serious personal decisions to insure adequate protection with little guidance, all the while fearing the worldwide escalating incidents of skin cancers and melanomas.

Sunscreen and Vitamin D

A controversy has been brewing concerning the depletion of vitamin D levels in our bodies, which is presumably linked to the over-use of sunscreen products. A number of prominent scientists, doctors and dermatologists have addressed this

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topic eloquently by illustrating that these statements are untrue, yet the issue repeatedly attracts the attention of individuals, bloggers, the media and a few physicians. I personally addressed this subject in my 2007 manuscript on Ultraviolet Filters⁴ but for the sake of updating the information and addressing new insights, I will review the facts:⁵

1. Vitamin D3 is a necessary vitamin that can be obtained *either* by sun exposure *or* from your diet.

2. All you need is about 10-15 minutes of sun exposure on any part of your face or limbs, three times a week, to obtain a sufficient level. Vitamin D levels typically reach a maximum plateau after 20 minutes of sun exposure and so any excessive sun exposure is unwarranted and inadvisable without adequate protection.

3. Vitamin D is formed in the skin mainly by exposure to UVB light, but personal levels may vary depending

upon where you live on the globe and the color of your skin.

4. Oral vitamin D supplements (1000 IU/day) reliably increase your vitamin D levels without any sun exposure. Foods that naturally contain vitamin D include cod liver oil, salmon, canned tuna and sardines, as well as milk, cereal and fortified orange juice. These are all useful in supplementing your body's requirements of vitamin D.

5. It should be noted that the lack of vitamin D in the body has been linked to a number of diseases and cancers including breast, colon, prostate and ovarian, and osteoporosis. Thus, avoiding the sun altogether coupled with a diet deficient in vitamin D is unwise.

Internet claims pointing to sunscreen use as the cause for vitamin D depletion in our bodies are misleading. When you combine the above facts with what we already know about over exposure to sunlight and the damage it can

cause to the skin, potentially leading to skin cancer, protective action becomes advisable. For those who find themselves under the rays of the sun for longer than 15 minutes a day, extra measures are suggested for safety. Sunscreens remain the choice method for protection—especially when combined with common sense, proper clothing, umbrellas and efforts to avoid the peak hours of 10 a.m. to 3 p.m.

The AAD Endorsement Seal

A squabble between the AAD's leadership and a group of dermatologists led by Dr. Bernard Ackerman, a former AAD board member, has developed over the use of the AAD seal to endorse sunscreens. The academy's leadership views the seal program as an educational device to inform the public about the importance of sun protection. Will the endorsement program simplify consumer protection or will it complicate the process?

The AAD has set minimum standards for each product category. The documentation for any product applying for the seal, obtained from an independent laboratory, is evaluated by an AAD scientist. The Academy charges \$5000 for the initial endorsement and \$10,000 annually. Dr. Ackerman, who received the "Master Dermatologist Award" in 2006, considered the seal plan disgraceful and a sell-out of ethical principles:

"They don't do their own testing, and it costs all that money to have someone look at their data?"⁶

Dr. Ackerman further charges that six out of the seven AAD officers in 2006 and four of seven in 2007 had ties to companies that manufacture sunscreens. The AAD board has dismissed all charges of personal conflict of interest and insists that the criteria for receiving the Seal of Recognition are "public and verifiable and evenly applied to all applicants."

Conclusions

By scratching the surface of each sunscreen fact available on the internet, we can see layers of inaccuracies, misinformation, and imbalanced interests beneath. As illustrated in my past two columns, what appears to be fact may turn out to be fiction. To be sure, always question your sources and accept each truth with healthy skepticism. The internet has clearly enlivened conversation and stoked the fires of genuine debate but, if left unabated, may have serious consequences on the future of the sunscreen industry and the quality of protection and safety the consumer receives. As practitioners in this field, it is incumbent upon us more than ever before to be diligent and reveal the truth, highlight the facts and scientifically dismiss the fiction.

My November column will address nanotechnology and sunscreens, the tanning salon industry and the litigations concerning sunscreens. As always,

I welcome your comments and suggestions. You can reach me at alpharnd@aol.com. ●

References

1. <http://ctpoliticalreport.wordpress.com/2008/08/02>
2. http://www.stamfordplus.com/stm/information/nws1/publish/News_1/Attorney_General_calls_FDA_delay_on_sunscreen_rules_unconscionable_and_inexcusable2931.shtml 7/29/2008
3. Moyal, Dominique, "How to measure UVA protection afforded by Sunscreen Products," *Expert Rev. Dermatol.*, 2008; 3(3): 307-313.
4. Shaath, Nadim. "*The Encyclopedia of Ultraviolet Filters*," Allured, 2007, p.25.
5. www.washingtonpost.com/skin-sense/March2008. The Vitamin D Deal, Rachel Herschenfeld, M.D., dermatologist.
6. www.medicalnews.com. General Dermatology, March 13, 2008.