

GREEN

Sun

Protection

SAFE AND EFFICACIOUS
SUN CARE PRODUCTS

By Emily Stocker, Contributing Editor & Advisor



We are all educated on the damaging effects of the sun on our skin - skin cancer, premature aging, sunspots, and wrinkles - and encourage patients to take heed and use sun protection when going out in the sun. Even with the risk of skin cancer posted clearly on the wall, the tanning salon industry still flourishes with customers, growing to a seven billion dollar industry annually. Teenagers and adults alike flock to the beach all summer long, soaking in more than their share of vitamin D. Are they getting enough? How safe is the sunscreen they are repeatedly applying all summer long?

DANGERS OF SUNSCREEN

Oxybenzone is a synthetic chemical and a sunscreen ingredient that should be avoided whenever possible. Oxybenzone is an endocrine disruptor which can affect the nervous system. It penetrates the skin and enters the bloodstream.

It has been linked to cancer and creates free radicals which, when exposed to the sun, are also harmful. The Center for Disease Control conducted bio-monitoring surveys in which they

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detected oxybenzone in the bodies of ninety-seven percent of Americans tested.

Parabens contained within a plethora of beauty products, including sunscreen, are a group of chemicals widely used as preservatives. Parabens mimic hormone estrogen, which has been linked to

the development of breast cancer.

In August of 1978, the FDA began developing comprehensive regulations for sunscreen safety and effectiveness. To this day, they have yet to release final regulations. This leaves us as consumers swimming in a sea of products marketed by advertising claims that are unsupported by mandatory testing, and in no way offer the best available combination of safety and efficacy.

FDA officials state that many manufacturers of sunscreen products voluntarily abide by a set of sunscreen regulations issued in 2007 but again, to this day still have not been put into effect. The agency has nothing more than a set of unenforceable recommendations when it comes to what manufacturers put in their sunscreens and what claims they can make about them. Yet because these regulations are not legally binding, the sunscreen industry operates in a legal grey zone. The FDA estimates the regulations may be issued by next October, but they are expected to give manufacturers at least a year to comply with the new rules. By these standards regulated sunscreens will not be available in stores until summer of 2012.

NANO PARTICLES VS. MICRONIZED

Zinc Oxide and Titanium Oxide are seen as safe alternatives, but even they are under scrutiny. There have been conflicting reports regarding nano versus micronized particles of titanium and zinc oxide, their reactions to UV light, and their ability to pass through the skin more easily. Products with nano particles are generally not white in color and often are packaged in spray form.

The concern is that nano titanium and zinc oxide particles have higher photo reactivity than coarser particles, and these in turn will generate free radicals that cause cell damage. Several manufacturers have addressed the issue by coating the particles in hopes of preventing free radical formation.

The FDA task force on nanotechnology urged more extensive study of nanosize ingredients in products. In an attempt to modernize their assessment of sunscreen ingredients and efficacy, stable, non-penetrating UV filters with fewer toxicity



concerns are being researched. At this time little is known about nanomaterials in sunscreen.

Are we getting too much sun? The Centers for Disease Control and Prevention suggest that both increased use of sun protection and higher body weight are associated with lower vitamin D levels. Over the last two decades, vitamin D levels in the United States have been decreasing steadily. This has created a growing epidemic of vitamin D insufficiency. Seventy percent of children in the United States have low levels of vitamin D; and of those, nine percent have a serious deficiency.

As we spend more time indoors, there is less exposure to sunlight leading to decreased vitamin D production. Researchers have indicated that lack of vitamin D may influence the development of autoimmune diseases such as type-two diabetes, multiple sclerosis, inflammatory bowel disease, and rheumatoid arthritis. It has also been associated with increases in cardiovascular mortality, colon cancer mortality, and breast cancer

risk. It has been linked to skin cancer, metabolic disease, hypertension and obesity. Vitamin D deficiencies in pregnant women result in more allergies and asthma in children. Long-term vitamin D deficiency leads to rickets, osteoporosis, type-one diabetes, and cancer.

Vitamin D is essential for a great many processes of the body, including maintaining healthy bones, a strong immune system, and protection from cancer. The main source of vitamin D in humans is sun exposure.

But, what about skin cancer? Clearly skin cancer is a dangerous consequence of inadequate sun protection. The three most common forms, basal cell carcinoma, squamous cell carcinoma, and malignant melanoma have been steadily rising in the United States over the past several decades. Physicians and scientists worldwide universally agree that sun protection is essential to the prevention of skin cancer.

The American Medical Association recommends that everyone get ten to fifteen minutes of direct sunlight several times a week. This amount is sufficient for adequate vitamin D production. The American Academy of Dermatology has expressed a very different opinion in its 2009 position statement. “There is no scientifically validated, safe threshold level of UV exposure from the sun that allows for maximal vitamin D synthesis without increasing skin cancer risk.”

The American Academy of Dermatology recommends increased intake of food naturally rich in vitamin D, vitamin D fortified foods, and vitamin D supplements.

GREEN ALTERNATIVES

Green sunscreens that use minerals, sometimes referred to as physical sunscreens, provide a safer alternative to their chemical counterparts. Wearing a mineral sunscreen is equivalent to wearing thousands of mirrors on the skin to reflect the sun’s rays. Mineral sunscreens in essence sit on top of the skin. Included in mineral sunscreens are zinc oxide and titanium dioxide or any combination of the two.

Avocado, olive, nut, and seed oils have been used throughout history for skin protection.

Natural oils contain fatty acids that can restore the pliability and elasticity to coarse, sun-drenched skin, thus partially offsetting harmful effects of excessive sun exposure. They cannot, however, reverse photo aging and protect us from skin cancer.

SKIN PROTECTION FROM WITHIN

A diet rich in antioxidants and lipids are the most important skin nutrients and are essential for skin renewal. Other essential nutrients such as essential fatty acids and vitamin B keep your skin supple and aid your skin in doing its work as an organ and encourage skin cells to multiply and regenerate. View the Circles of Antioxidants for details.

Oligomeric Proanthocyanidins

OPCs protect cells, support immunity and moderate inflammation, which occurs in nearly all skin conditions.

EAT: cranberries, grapes, blueberries, green tea, and pine bark extract.

Alpha Lipoic Acid

ALA boosts the action of vitamins C and E and stimulates the liver to produce the antioxidant glutathione. ALA can be taken in supplement form because, although it is contained in spinach, broccoli and organ meats, ALA food sources have little effect on blood levels.

Vitamin A & Other Carotenoids

These increase the rate of cell division in your skin, promoting renewal.

EAT: Brightly colored fruits and vegetables including carrots, red peppers, sweet potatoes, cantaloupe, and mangoes, also eggs, kale, and spinach.

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FACT

Vitamin C

One of the most powerful and effective antioxidants, vitamin C also has a major role to play in the formation in collagen, which keeps the skin elastic.

EAT: broccoli, cabbage, citrus fruit, kiwi, and red peppers.

Zinc

Essential mineral zinc can help to regulate the oil production of cells as well as promote tissue repair. Your skin needs it for protein synthesis and collagen formation.

EAT: eggs, lentils, peas, shellfish, and spinach.

Vitamin E

This fat-soluble vitamin protects the lipid layer from oxidation.

EAT: avocados, wheat cereals, herring, nuts, especially Brazil, hazel, peanut, and pine nuts.

FACT

Seventy percent of children in the United States have low levels of vitamin D; and of those, nine percent have a serious deficiency.

We are all also aware of common sense alternatives. Encourage your patients to stay out of the sun during peak hours when sun damage is most likely to occur. Have them cover up with clothing made from tightly woven cotton or linen, and wear wide brimmed hats. Sun protective clothing has also hit the market over the past few years, but be leery and do your research. Some vendors use chemical additives to furnish sun protective abilities into the clothing. Use a broad-spectrum mineral sunscreen containing micro, not nano particles containing zinc oxide, titanium oxide, or a combination of the two. At the end of the day have your patients use the common sense alternatives; do their research and protect themselves safely.

EM'S ORGANICS SUN BODY OIL

If patients suffer from sunburn, windburn, or dry skin from the sand or sea, this formula is incredibly soothing. This product has an SPF of approximately 5, and is formulated to condition and nourish your skin.

Ingredients

- ¼ cup of pure organic aloe vera juice
- ¼ cup of organic sesame base oil
- ¼ cup of neem base oil
- 3 teaspoons Vitamin E oil
- 1 teaspoon anhydrous lanolin

Suggested for: All skin types, with the exception of oily skin

Preparation: 10 minutes

Use: Before, during, and after sun exposure

Store in: PBA-free squeeze bottle

Produces: One and one-half cup

Combine all ingredients into a storage container. The aloe vera juice is water based and will separate, so make sure you shake vigorously prior to each use. Refrigerating the sun oil is not necessary, as it will last approximately three weeks. If you do choose to refrigerate, it may last from four to six months. It will thicken when chilled but will liquefy when brought back to room temperature.

Application: Massage in thoroughly to the entire body immediately before and repeatedly during sun exposure. **1011**

WHY USE ORGANIC PRODUCTS?

Because they are better.

Resources

1. Environmental Working Group www.ewg.org
2. American Medical Association www.ama-assn.org
3. American Academy of Dermatology www.aad.org
4. Food and Drug Administration www.fda.gov
5. Skin Deep www.cosmeticsdatabase.com
6. Safe Mama www.safemama.com
7. Daily Beauty Blog www.newbeauty/dailybeauty.com
8. The Organic Pharmacy - book
9. Green Beauty - book



About the Author

Emily Stocker steps into the business of being green (and happy) with Em's Organics, offering products like sea sponge soap made from USDA Organic ingredients and baby and children's clothing and accessories. And that's just the beginning. Visit Emily on the worldwide web: www.EmsOrganics.com, which officially launched April 22nd, Earth Day. Contact Emily via email at: emily@EmsOrganics.com.

