

OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Michiel Rorick

The Truth About Sunscreen

Ultraviolet (UV) radiation is responsible for more than half of all human skin cancers (including melanoma), according to researchers from the Boston University School of Medicine, Department of Dermatology. But without exposure to adequate amounts of sunlight, the human body can't produce vitamin D: vital to bone, muscular and immune health.

Then there is the issue of sunscreen — a controversial topic because so many of today's commercial products contain harmful chemicals. So what's a sun-sensitive person to do?

The key to a healthy and safe summer, says Dr. Rorick, is finding a way to protect the skin from cancer without polluting the body with toxic chemicals.



How Does Sunscreen Work?

In an effort to protect against premature aging and skin cancer, sunscreen absorbs, reflects or scatters the sun's rays (wavelengths) across the skin (*Dermatol Nurs* 2007;19:87).

There are three UV wavelengths:

- UVA — UVA is not absorbed by the earth's ozone layer, allowing it to penetrate skin deeper than UVB.
- UVB — although partially blocked by the ozone layer, it still has enough power to damage skin.
- UVC — totally absorbed by the

earth's atmosphere, UVC is generated solely from artificial radiation sources.

Overexposure to UVA and UVB can cause both immediate and long-term skin damage, with effects ranging from sunburn to rashes, cell and tissue damage, premature wrinkling and skin cancer.

New technology, however, has allowed manufacturers to combine and stabilize the formulations of ingredients that block both UVA and UVB rays (*Dermatol Nurs* 2007;19:87). These formulations are available in a wide range of SPF (sun protection factor) levels. The higher the SPF number, the higher the level of UV protection.

The problem? Dr. Rorick cautions that the majority of these products contain potentially toxic chemicals.

Toxic Ingredients

Dr. Rorick explains to patients that the most common toxic — and tongue-twisting — sunscreen ingredients include the following:



- 2-hydroxy-4-methoxybenzophenone
- 2-ethylhexyl-p-methoxycinnamate
- 2-ethylhexylsalicylate (octylsalicylate)
- Salicylic acid 3,3,5-trimethylcyclohexyl ester (homosalate)

The first, 2-hydroxy-4-methoxybenzophenone (HMB), occurs naturally in flower pigments and is synthesized for use in sunscreens. It is also used as a UV stabilizer in various cosmetic products and in some plastic materials.

Unfortunately, animal testing reveals that HMB sparks kidney and liver changes, including lesions (*Toxic Rep Ser* 1992;21:1-14).

Evidence also suggests 2-ethylhexyl-p-methoxycinnamate (2-EHMC) may initiate tumors (*Aust J Exp Biol Med Sci* 1984;62:577-88), while 2-ethylhexylsalicylate (octylsalicylate) and salicylic acid 3,3,5-trimethylcyclohexyl ester (homosalate) pose their own health threats.

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The bottom line? Toxic chemicals do not belong in the human bloodstream. Yet that's exactly where they're ending up, with "significant penetration of all sunscreen agents into the skin." (*J Chromatogr B Analyt Technol Biomed Life Sci* 2004;803:225-31.) Just like above-ground pollutants filter down through the earth and contaminate water sources, these chemicals filter through the skin into the blood.

Apply All-Natural Skin Protection

Luckily, there are ways to protect yourself from the sun without using toxic chemicals.

For instance, antioxidants — like vitamin E, beta carotene and vitamin C — protect the skin against harmful UV rays: with no dangerous side effects. Researchers are also investigating the UV-protective properties of green tea and fish oil (*Dermatol Nurs* 2007;19:87).

Unfortunately, antioxidants alone may be insufficient to ward off burns. That's why doctors of chiropractic suggest that patients use all-natural sunscreens.

You can find a vast array of natural sunscreens at reputable health food markets and online at sites like aubrey-organics.com. The Aubrey® product line includes Natural Sun SPF 25 Green Tea Protective Sunscreen, Saving Face SPF 10 Sunscreen Protection Spray and Natural Sun SPF 20 Tinted Sunscreen. Australian-based UV-Natural (uvnatural.com) also offers a full line of all-natural sunscreen products.

The active ingredient in most all-natural sunscreens is titanium dioxide, a mineral that deflects burning rays from the skin's surface. In addition, these sunblocks include ingredients such as green tea, shea butter and white camella oil.

It's important to note that some all-natural sunscreens are not recommended for young children, so take care to read the labels thoroughly before applying these products on youngsters.

Seek Sun-Protective Clothing

Specially manufactured UV-blocking clothing offers another chemical-free alternative to sunblock.

At sunsolutions.com, the entire line of hats, shirts, jackets and pants features a 50+ UPF (Ultraviolet Protection Factor) rating. To accomplish this, clothing is made of lightweight fabric treated either with a UV inhibitor or woven to eliminate penetration of the sun's harmful UV rays.

According to the Federal Trade Commission, fabric with a UPF rating of 20 allows only 1/20th of the sun's UV radiation to pass through it. "This means that this fabric will reduce your skin's UV radiation exposure by 20 times where it's protected by the fabric." But beware: Improperly cared for garments lose their effectiveness over time. This includes items that are too tight or stretched out, wet or damp, or subjected to repeated laundering and wear (*ftc.com*).

Platypus Australia, founded in 1996 by two mothers, also offers an extensive line of UV-blocking fashions (platypusaustralia.com), as does the Canadian company Sun Protective Clothing (sunprotectiveclothing.com).

Dodge Drugs

Doctors of chiropractic reject the use of symptom-masking drugs. Instead, they focus on identifying the source of pain and illness, restoring health safely and naturally.

And there's an additional reason to steer clear of drugs: It may protect you from sun damage. In addition to camouflaging symptoms and sparking a host of potentially serious side effects, some drugs actually increase patients' sensitivity to the sun's rays. These include a litany of commonly used medications, such as certain antibiotics, wrinkle creams, acne medications, birth control pills, diuretics, antihistamines and antidepressants.

Don't Forget the Vitamin D

It's important to note that avoiding sun exposure altogether is not a viable option. The only way that the body

can naturally produce vitamin D is via sunlight. Chronic vitamin D deficiency leads to severe bone and muscular disorders, including osteoporosis (*Reumatismo* 2007;59:15-9).

Dwindling levels of vitamin D also have a negative impact on immune response (*Nurs Stand* 2007;21:15). Boosting the dietary intake of calcium and vitamin D, however, correlates with lower incidences of colon and colorectal cancers. Therefore, moderate sun exposure (with all-natural sunscreen) and consumption of vitamin D-rich foods or supplements are essential for good health.

According to the National Institute of Health (NIH), good sources of dietary vitamin D include cod liver oil, salmon, mackerel, tuna fish and sardines, eggs, liver and Swiss cheese. In addition, fortified dairy products include the vitamin.

But before downing a bottle of cod liver oil or stocking up on vitamin D supplements, talk with your doctor of chiropractic. According to the NIH, "Vitamin D toxicity can cause nausea, vomiting, poor appetite, constipation, weakness and weight loss. It can also raise blood levels of calcium, causing mental status changes such as confusion. High blood levels of calcium also can cause heart rhythm abnormalities."

Sun exposure and diet are unlikely causes of vitamin D toxicity, say NIH researchers, "unless large amounts of cod liver oil are consumed." Overuse of vitamin D supplementation, however, can prove toxic. So it is vital to consult a doctor of chiropractic before beginning any supplementation, including vitamin D.

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