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Sunscreen Update

Now that summer is in full swing, even the Pacific Northwest is sunny and bright which causes many people to turn to sunscreens so they can enjoy their favorite summer activities, while preventing overexposure to the sun. Skin cancer **is** the most common form of cancer in the United States with more than 3.5 million cases annually, so it should be a big concern for all; however in an attempt to minimize cancer risk many are causing additional damage to their bodies through the use of chemical laden products that can have allergic, carcinogenic and endocrine disrupting side effects.

Among the many ingredients that are often used in topical sunscreen, some of the most important to be aware of include:

Retinyl palmitate – A derivative of vitamin A which can serve as a potent anti-oxidant, this compound has been shown to break down when exposed to UV light and produce free radicals that can cause damage to DNA in mouse and rat studies. There is some controversy regarding whether or not these changes may occur in humans or if the free radicals produced are simply quenched by the antioxidant milieu in human skin. Topical retinoids are frequently prescribed for a variety of skin conditions with no published data to suggest that they increase skin cancer risk; however it is currently restricted from being used in cosmetics in Canada and Japan.

Oxybenzone – This compound is an aromatic ketone and one of a greater category of organic compounds called benzophenones that are included in sunscreens as broad-spectrum UV blockers. Oxybenzone is present in close to half of all sunscreens and problems include a high photoallergic potential (meaning that an allergen is produced with UV exposure causing contact dermatitis), but our primary interest in this chemical is the estrogenic effect it has on the endocrine system.

Nanoparticles – Mineral based UV filters such as titanium dioxide and zinc oxide have long been used in sunscreen products and have a low photoallergic reaction rate as well as relative stability in the sun. Issues with these products have largely been cosmetic, as they tend to produce an opaque or white appearance on skin. Newer formulations are using nanosized particles of these minerals to minimize the cosmetic impact and while that has raised question of systemic absorption and toxicity, analysis has been unable to demonstrate toxicity so these may be one of the best bets when it comes to UV blockers.

Keep in mind that large amounts of UV exposure do increase the risk of certain skin cancers, especially basal cell and squamous cell carcinomas and therefore protection from the sun is very important. We recommend you do some research and choose sunscreens with the fewest amounts of endocrine disrupting ingredients along with a combination of timing your outdoor activities when the sun is not at its peak and covering exposed skin with light weight cotton materials or hats. For detailed information about specific ingredients and ratings on sunscreens, visit the [Environmental Working Groups 2012 Sunscreen Guide](#).

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