

Safe Fun in the Sun  
Nutrition Offers UV Shield  
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Because sunlight activates the synthesis of vitamin D, a nutrient that works with vitamin A to build strong bones and good eyesight it is essential for health. Furthermore, bright light, specifically sunshine, can improve your mood and help ward off depression. But all things in moderation. Overexposure to UV rays can cause potentially extensive damage to the skin, an all-too-common occurrence. "Skin cancer is now considered epidemic throughout the nation", according to The Centers for Disease Control Prevention. "Over one million residents in the United States are expected to get skin cancer this year more people than the collective total of all who will get cancers of the breast, prostate, lung and colon. Exposure to ultraviolet (UV) rays in sunlight causes 90 percent of the skin cancer cases." And this overexposure may double the risk of melanoma, a type of skin cancer that causes more than 80 percent of skin cancer deaths.

UV rays cause oxidative damage and can actually change the skin's DNA cellular structure, creating highly unstable and toxic molecules. These are known as free radicals and can lead to malignancies. Sunscreen, adequate coverage and sunglasses have long been recommended to avoid this damage, but diverse studies now suggest some promising supplemental strategies for UV protection from the inside out. Certain nutrients and a low-fat diet have shown specific anti-cancer properties.

Free Radical Control Antioxidants have long been known to neutralize free radicals and render them inactive, protecting cellular structure. Powerful antioxidants include vitamin C (citrus fruits, strawberries, broccoli, tomatoes), vitamin E (asparagus, raw nuts and seeds, spinach), beta-carotene (yellow and orange vegetables) as well as the minerals zinc (shell fish, legumes, whole-grain foods) and selenium (nuts, whole-wheat bread, oatmeal). A recent study published in the Journal of Investigative Dermatology demonstrates that lutein and zeaxanthin, plant pigments found in predominately green leafy vegetables, also have strong antioxidant properties that diminish the effects of UV irradiation by reducing the acute inflammatory responses. Lutein- and zeaxanthin-rich foods include green, leafy vegetables such as spinach, kale, broccoli and turnips as well as corn and egg yolks.

As long ago as 1991, studies have shown green tea consumption and topical application afford protection against skin tumors. More recent research corroborates these results and points to the polyphenols in green tea, which contain antioxidant and anti-inflammatory properties. In addition, one major element in green tea, epigallocatechin-3-gallate (EGCG), is thought to stop production of an enzyme required for cancer cell growth. Several cups of green tea might be a worthwhile addition to your daily routine.

Avoiding fatty foods may also provide benefit. Studies suggest that a low-fat diet can reduce the incidence of premalignant lesions called actinic keratosis. To maintain a low-fat diet, the U.S. Department of Agriculture recommends that you get most of your calories from organic, whole foods such as grains, fruits, and vegetables and to avoid foods high in saturated fats. For more information, visit the website [www.health.gov/dietaryguidelines/](http://www.health.gov/dietaryguidelines/).