

Press Release

Source: American Academy of Dermatology

## Comprehensive Examination of Scientific Research Supports American Academy of Dermatology's Stance That Harmful Effects of Sunlight Outweigh Benefit of Vitamin D Production

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### Incidental Protected Sun Exposure and Dietary/Nutritional Supplements Provide Sufficient Amounts of Vitamin D in Most Populations

SCHAUMBURG, Ill., Jan. 30 /PRNewswire/ -- Despite publications and media coverage linking vitamin D deficiency to an increased incidence of certain diseases, and implicating inadequate sun exposure as the cause, a comprehensive review of the scientific literature published in the February 2006 issue of the Journal of the American Academy of Dermatology confirms that exposing oneself to harmful doses of ultraviolet radiation -- either from natural sunlight or light sources found in indoor tanning salons -- is an unsafe practice that is not essential to maintain an adequate supply of vitamin D.

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Dermatologist Barbara A. Gilchrest, M.D., professor and chair of the department of dermatology at Boston University School of Medicine and co-author with Dr. Deon Wolpowitz of the article "The vitamin D questions: How much do you need and how should you get it?" advises the public to turn to vitamin D fortified foods and nutritional supplements instead of unprotected sun exposure to assure adequate levels of vitamin D, a hormone critical for maintaining good bone and muscle health and recently suggested to have other health benefits, largely on the basis of epidemiologic associations.

"Any individual or organization that advocates intentional sun exposure as the preferred means of producing

vitamin D is doing a tremendous disservice to the public," said Dr. Gilchrest. "Ultraviolet (UV) radiation is a known carcinogen that is responsible for photoaging and for well over 1 million skin cancers each year in the U.S. While some researchers and professional groups are now questioning whether higher vitamin D levels should be recommended for optimal health, no responsible group or individual is advocating UV exposure as a remedy. Dr. Wolpowitz and I hope that this detailed review will put to rest these erroneous claims that sunlight is somehow good medicine."

Dr. Gilchrest acknowledges that some populations are at-risk for vitamin D deficiency or insufficiency, specifically older adults and darker-skinned ethnicities. However, studies show that dietary intake and nutritional supplements are a safe and easy way to maintain recommended levels of the nutrient.

For older adults, vitamin D deficiency increases the already significant threat of osteoporosis-induced fractures. In examining findings from randomized, prospective clinical trials of elderly patients, Dr. Gilchrest reported that the evidence suggests vitamin D supplementation above current USDA recommendation can reduce falls and resulting fractures in this group, but that vitamin D supplementation alone does not maximize the hormone's beneficial effect on bone and muscle strength.

"Vitamin D alone is not a cure-all for preventing fractures in older adults," said Dr. Gilchrest. "Research suggests that vitamin D must be paired with calcium supplementation and/or a diet high in calcium to maximize the nutrient's benefit. Moreover, vitamin D's documented benefit is limited to preventing fractures in bones other than the hip, while hip fractures account for most of the morbidity and mortality. Importantly, no study supports the notion that ultraviolet radiation alone will provide the same benefit as balanced dietary supplements." Conversely, a study in the journal *Metabolism* in 1991 found that even in children in equatorial Africa, who are inarguably vitamin D sufficient as a result of ample year-round sun exposure, cases of florid rickets have been documented as a result of deficiency of dietary calcium and were completely cured by calcium supplementation alone.

Although intentional unprotected exposure to sunlight is not recommended for vitamin D production in any population, Dr. Gilchrest's review notes that incidental protected sunlight coupled with dietary foods rich in vitamin D, such as fortified milk or orange juice, easily provides young fair-skinned individuals with desired levels of the nutrient year-round. She emphasizes that this is important because it is fair-skinned teenagers and young adults, not frail elderly and darkly pigmented individuals, who are targeted by the tanning industry and who are most at risk for photodamage.

Research shows that the precise impact of each sun exposure on vitamin D production depends on UVB intensity, which varies with latitude, season of the year, and time of day, among other factors. For example, in darker-skinned individuals, the large amount of melanin pigment absorbs UV photons and reduces their skin's ability to photosynthesize vitamin D. However, at noon in June in Boston, a fair-skinned individual will maximally produce vitamin D in five minutes or less - with additional sun exposure resulting in more photodamage but not more vitamin D. After applying a sun protection factor (SPF) 15 sunscreen in the customary manner, which studies have shown to be approximately half the amount recommended by the manufacturer, it would take about 20 minutes to maximally produce vitamin D and more than meet even the upwardly revised recommended daily requirement.

"A few studies made headlines by inaccurately portraying sunscreen as a common cause of vitamin D deficiency in healthy individuals," explained Dr. Gilchrest. "On the contrary, research shows that even if properly applied, sunscreens by definition do not completely block UVB, the portion of sunlight responsible for vitamin D production. An SPF-15 product allows at least 1/15th or seven percent of the sun's effective rays to penetrate the skin. In effect, regular sunscreen use does not cause vitamin D deficiency or insufficiency."

Even in winter months when very little to no vitamin D can be made from sunlight, Dr. Gilchrest's review of the existing scientific literature found that diet and daily vitamin D supplements were all that was needed to maintain adequate amounts of the nutrient. This information is especially important for teenagers and young adults, who are often lured into the tanning salons during the winter by exaggerated claims of health benefits.

"The common adage 'there are two sides to every story' really applies in the debate over vitamin D and sun exposure," added Dr. Gilchrest. "I would advise anyone who is confused by conflicting reports of the health benefits of sunlight, whether in conjunction with vitamin D production or otherwise, to remember the number of people who suffer from skin cancer every year. And ultraviolet radiation is the culprit."

At current rates, one in five Americans will develop skin cancer during their lifetime. It is estimated that 10,500 people lost their lives to skin cancer last year alone.

The American Academy of Dermatology (Academy), founded in 1938, is the largest, most influential, and most representative of all dermatologic associations. With a membership of more than 14,000 physicians worldwide, the Academy is committed to: advancing the diagnosis and medical, surgical and cosmetic treatment of the skin, hair and nails; advocating high standards in clinical practice, education, and research in dermatology; and supporting and enhancing patient care for a lifetime of healthier skin, hair and nails. For more information, contact the Academy at 1-888-462-DERM (3376) or <http://www.aad.org>.

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