

## **The Risks and Benefits of Sun Exposure 2016**

David G. Hoel, Department of Public Health Sciences, Medical University of South Carolina, Charleston, SC, USA [Correspondencedghoel@gmail.com](mailto:Correspondencedghoel@gmail.com).; Marianne Berwick, Department of Internal Medicine and University of New Mexico Cancer Center, Division of Epidemiology and Biostatistics, University of New Mexico, Albuquerque, New Mexico, USA; Frank R. de Gruijl, Department of Dermatology, Leiden University Medical Center, Leiden, The Netherlands; Michael F. Holick, Section of Endocrinology, Diabetes and Nutrition, Department of Medicine, Boston University Medical Center, Boston, MA, USA.

### **Abstract**

Public health authorities in the United States are recommending that men, women and children reduce their exposure to sunlight, based on concerns that this exposure will promote skin cancer. On the other hand, data show that increasing numbers of Americans suffer from vitamin D deficiencies and serious health problems caused by insufficient sun exposure. The body of science concerning the benefits of moderate sun exposure is growing rapidly, and is causing a different perception of sun/UV as it relates to human health. Melanoma and its relationship to sun exposure and sunburn is not adequately addressed in most of the scientific literature. Reports of favorable health outcomes related to adequate serum 25(OH)D concentration or vitamin D supplementation have been inappropriately merged, so that benefits of sun exposure other than production of vitamin D are not adequately described. This review of recent studies and their analyses consider the risks and benefits of sun exposure which indicate that insufficient sun exposure is an emerging public health problem. This review considers the studies that have shown a wide range health benefits from sun/UV exposure. These benefits include among others various types of cancer, cardiovascular disease, Alzheimer's disease/dementia, myopia and macular degeneration, diabetes and multiple sclerosis. The message of sun avoidance must be changed to acceptance of non-burning sun exposure sufficient to achieve serum 25(OH)D concentration of 30 ng/mL or higher in the sunny season and the general benefits of UV exposure beyond those of vitamin D.