
**Abstract**

Constitutional and environmental determinants of actinic skin damage, assessed by cutaneous microtopography, were evaluated in 1,216 subjects attending the 1981 Busselton Health Survey in Western Australia. Increasing age, male sex, the tendency to burn on exposure to sunlight and outdoor occupation were found to have independent predictive value for the presence of actinic skin damage. Crude positive and inverse associations of actinic skin damage with several other factors were shown to arise from confounding. Effect measures for outdoor leisure pursuits and sunscreen use were underestimated due to inverse associations of these factors with older age, and inverse associations of high-exposure outdoor activities with poor skin response to sunlight. Associations of constitutional traits typical of fair individuals and sunscreen use with the tendency to burn resulted in overestimation of effect measures. Empirical relationships of actinic skin damage with certain leisure activities and with use of sunscreens were also confounded by sex. The results indicate a need for greater attention to confounding in nonexperimental skin cancer research.