

Study helps identify beachgoers at increased risk of skin cancer

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Identifying the sun-protection practices and risk profiles of beachgoers may help determine those who would benefit from targeted interventions intended to reduce the risk of skin cancer, according to a study in the November issue of *Archives of Dermatology*.

In the U.S., skin cancer incidence and death attributable to outdoor exposure to UV radiation (UVR) has increased rapidly in the past three decades, according to background information in the article.

Recommendations to reduce the risk of skin cancer include limiting time spent in the sun, using sunscreen and wearing protective clothing.

"Adults and adolescents are particularly at risk for intense, episodic sun exposure while on vacation or in 'high-risk' environments such as beaches," the authors write.

David L. O'Riordan, Ph.D., of the University of Queensland, Brisbane, Australia, and colleagues conducted a study examining the levels of UVR exposure and the range of sun protection behaviors of vacationers at a popular beach in Honolulu, Hawaii. The study, conducted in February and March 2004, included 88 participants who completed a sun habits survey prior to entry to the beach and an exit survey on leaving regarding their sun protection practices while at the beach. UVR was measured daily.

The researchers found that the participants spent an average of three hours at the beach, during which most were exposed to levels of UVR equivalent to five times the UVR dose required to result in sunburn

among unprotected fair-skinned populations. Approximately 70 percent of the participants went to the beach with an intention to tan, despite 40 percent reporting they had obtained a sunburn in the previous 48 hours. Almost 23 percent of participants reported attending a tanning salon in the past 30 days.

Analysis identified three groups with distinct characteristics and sun protection behaviors:

- Class 1 - Unconcerned and at lower risk, who used the least amount of sunscreen and less clothing, used shade the least, intended to tan, and had the fewest members with a high risk of developing skin cancer.
- Class 2 – Tan seekers, highest number who reported that they sunburn easily, used the most sunscreen coverage and the least clothing coverage, had the most tanning salon use.
- Class 3 – Were concerned about UVR and were protected, the most careful group with the most clothing coverage and shade use and had the lowest proportion with an intention to tan.

"Findings from this study indicate that the beach is an ideal setting to initiate a program aimed at promoting sun-safe practices while enjoying the many activities that a day at the beach has to offer. Collaborative efforts with key stakeholders such as local government, the tourist industry, local business and community representatives should examine a broad range of strategies—not just targeting individual behavior change, but also the environment—to promote the reduction of intense UVR exposures among beachgoers," the authors write.

"Specific strategies should target the subsets of the beach-going population (particularly those in group 2—the tan seekers) that intend to tan and sunburn repeatedly, taking into account their relevant personal attributes and behavior patterns. A balance should be provided between messages that focus on the immediate detrimental effects (photoaging,

soreness) as well as the long-term detrimental health effects (skin cancer) of excessive UVR exposure, all the time balancing the health interests of the public with the needs of local industry."

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