

Young indoor tanning increases early risk of skin cancer

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Dartmouth researchers have found that early exposure to the ultraviolet radiation lamps used for indoor tanning is related to an increased risk of developing basal cell carcinomas (BCC) at a young age. Their findings are reported in "Early-Onset Basal Cell Carcinoma and Indoor Tanning: A Population-Based Study," a study that will be published in the July 2014 issue of *Pediatrics*. Since indoor tanning has become increasingly popular among adolescents and young adults, this research calls attention to the importance of counseling young people about the risk of indoor tanning.

"Our findings suggest that teens and [young adults](#) who seek [indoor tanning](#) may be especially vulnerable to developing BCC, the most common form of skin cancer, at a young age," said lead author Professor Margaret Karagas, co-director of the Cancer Epidemiology and Chemoprevention Research Program at the Norris Cotton Cancer Center and Director of the Children's Environmental Health and Disease Prevention Research Center at Dartmouth. "But a recent survey in New Hampshire, where our study was conducted, found that 74 percent of high schools have at least one tanning salon within 2 miles, and an additional 22 percent have easy access to a tanning salon. We need to help young people understand these risks."

The researchers collected data on 657 participants in the New Hampshire Skin Cancer Study (all under 50) who had newly diagnosed cases of BCC and 452 controls. The data they collected included the type of indoor tanning device used (sunlamps, [tanning beds](#), or booths), and

skin sensitivity to the sun and proportion of time spent outdoors in childhood.

A higher proportion of patients with early-onset BCC reported indoor tanning with a tanning lamp compared to controls, and this association was present for all types of indoor tanning devices. The researchers also found that participants with early-onset BCC were more likely to burn rather than tan during the first hour of sun exposure in summer as compared to controls. In about 40 percent of cases BCCs were located on the torso (and sites other than the head and neck) and the association with indoor tanning was stronger for tumors occurring in these places.

The study notes that indoor tanning products can produce 10 to 15 times as much UV radiation as the midday sun, and supports the recommendation of medical groups, including the American Academy of Pediatrics, to minimize ultraviolet exposure, including from indoor tanning.

Provided by The Geisel School of Medicine at Dartmouth

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