

## Statement on the Use of Indoor Tanning Devices and Risk of Melanoma

The Melanoma Research Alliance (MRA) is pleased to provide the following information about the use of indoor tanning devices and risk of melanoma. Founded in 2007, MRA is a public charity that accelerates the pace of scientific discovery and its translation into effective options for patients in order to eliminate suffering and death due to melanoma. To date, MRA has awarded more than \$38 million to 97 innovative research programs worldwide aiming to improve melanoma prevention, diagnosis, and treatment.

Use of indoor tanning devices is a known and significant health threat, especially to young people, as they are clearly associated with increased risk for all skin cancers including deadly melanoma. Tanning beds emit both UVA and UVB radiation, both of which damage skin cells, causing skin cancer and premature skin aging. The U.S. Food and Drug Administration warns consumers that UV radiation in tanning devices poses serious health risks.<sup>1,2</sup> The world's leading scientific authority on carcinogens – the International Agency for Research on Cancer – has classified tanning devices in the highest cancer risk category: “carcinogenic to humans.” They established a 75% increased risk of melanoma in indoor tanning bed use before age 35, and a 225% increased risk of squamous cell carcinoma associated with “ever use” of indoor tanning.<sup>3</sup>

Subsequent research studies have confirmed the link between tanning beds and increased risk for melanoma and other skin cancers. Researchers confirmed that those who had tanned indoors had a 74% increased risk of melanoma, and this risk increased with greater years of use, number of sessions or total hours of use.<sup>4</sup> Another study reported a 69% increased risk of early-onset basal cell carcinoma associated with indoor tanning among young people.<sup>5</sup> A study published just this month showed an increased risk of all three types of skin cancers (melanoma, squamous cell carcinoma, and basal cell carcinoma) associated with tanning bed

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<sup>1</sup> <http://www.fda.gov/radiation-emittingproducts/radiationemittingproductsandprocedures/tanning/default.htm>

<sup>2</sup> <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm186687.htm>

<sup>3</sup> The International Agency for Research on Cancer Working Group on artificial ultraviolet (UV) light and skin cancer. The association of use of sunbeds with cutaneous malignant melanoma and other skin cancers: A systematic review. *International Journal of Cancer*, 120:1116–1122, 2006.

<sup>4</sup> Lazovich et al. Indoor Tanning and risk of melanoma: a case-control study in a highly exposed population. *Cancer Epidemiology, Biomarkers & Prevention*, 19(6):1557-68, 2010.

<sup>5</sup> Ferrucci LM et al. Indoor tanning and risk of early onset basal cell carcinoma. *Journal of the American Academy of Dermatology*, 2011.

use before the age of 35.<sup>6</sup> The evidence is clear – tanning beds are not safe, and we need to keep young people out of them.

Parental permission laws do not offer adequate protection for children and have been shown to have no real impact on teens' use of tanning beds.<sup>7</sup> The tanning industry has specifically targeted young and vulnerable populations.<sup>8,9</sup>

The tanning industry has argued that cutaneous production of Vitamin D outweighs the risks of UV exposure to skin. This argument is deeply flawed because oral supplements of vitamin D produce identical (and more predictable) vitamin D supplementation, without carcinogenic risk. Attempts by the tanning industry to make such erroneous medical claims have led to a lawsuit by the State of Texas against Darque Tan.

Melanoma is the deadliest of skin cancers and the incidence is rising dramatically. Melanoma has the ability to spread widely to other parts of the body and once that occurs, there are few effective treatments. While very early stage (localized, Stage I) melanoma is greater than 90 percent curable with surgery, patients with disseminated Stage IV melanoma have a median life expectancy of less than one year.

Approximately 30 million Americans use tanning salons at least once a year, and women and young people are the most frequent users. In a survey conducted in 2010 and recently analyzed by the U.S. Centers for Disease Control and Prevention and U.S. National Cancer Institute, it was found that among adults (18 years or older), more than half of women and 40% of men use tanning beds 10 times or more per year.<sup>10</sup> The highest rates of indoor tanning were among white women aged 18-25 years; about a third of them use indoor tanning equipment.<sup>10</sup> Melanoma incidence rates are increasing and melanoma is now the most common cancer diagnosed in U.S. women age 25-29 years.<sup>11</sup>

Clearly, indoor tanning devices are a known health danger, particularly for young people. Increased efforts are needed to prevent many from receiving a diagnosis of skin cancer in the future. It is an important step we need to take to protect the public's health.

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<sup>6</sup> Zhang M et al. Use of tanning beds and incidence of cancer. *Journal of Clinical Oncology*, 30, 1588-1593, 2012.

<sup>7</sup> Cokkinides V et al. Indoor tanning use among adolescents in the US, 1998 to 2004. *Cancer*, 115(1), 190-198, 2009.

<sup>8</sup> Freeman S et al. UV tanning advertisements in high school newspapers. *Archives of Dermatology*, 142(4):460-462, 2006.

<sup>9</sup> "False and Misleading Health Information Provided to Teens by the Indoor Tanning Industry," Investigative Report, 2012, <http://democrats.energycommerce.house.gov/sites/default/files/documents/Tanning%20Investigation%20Report%202.1.12.pdf>

<sup>10</sup> Use of Indoor Tanning Devices by Adults – United States, 2010, *Morbidity and Mortality Weekly Report*, 61(18):323-326, 2012.

<sup>11</sup> Purdue MP et al. Recent trends in incidence of cutaneous melanoma among US Caucasian young adults. *Journal of Investigative Dermatology*, 128:2905-2908, 2008.