

INDOOR TANNING FACT SHEET

Who Tans Indoors?

- On an average day in the United States, more than 1 million people tan in tanning salons.¹
- Nearly 70 percent of tanning salon patrons are Caucasian girls and women 16 to 29 years old.²
- Nearly 28 million people tan indoors in the United States annually. Of these, 2.3 million are teens.^{3, 4}
- The indoor tanning industry has an estimated revenue of \$5 billion, a fivefold increase from 1992.^{4,5}

Risks of Indoor Tanning

- The United States Department of Health & Human Services has declared ultraviolet (UV) radiation from the sun and artificial sources, such as tanning beds and sun lamps, as a known carcinogen (cancer-causing substance).⁶
- Indoor tanning equipment, which includes all artificial light sources, including beds, lamps, bulbs, booths, etc., emits UVA and UVB radiation. The amount of the radiation produced during indoor tanning is similar to the sun and in some cases may be stronger.^{7,8}
- A Swedish study presents strong evidence that exposure to UV radiation during indoor tanning increases the risk of melanoma, especially when exposed at an early age.⁹
- Evidence from several studies has shown that exposure to UV radiation from indoor tanning devices is associated with an increased risk of melanoma and non-melanoma skin cancer such as squamous cell carcinoma and basal cell carcinoma.^{1,2, 9-11}
- A review of seven studies found a statistically significant increase in the risk of melanoma in those who had been exposed to UV radiation from indoor tanning before the age of 35.¹¹
- Studies have demonstrated that exposure to UV radiation during indoor tanning damages the DNA in the skin cells. Also excessive exposure to UV radiation during indoor tanning can lead to skin aging, immune suppression, and eye damage, including cataracts and ocular melanoma.^{1,12-15}
- Because UV radiation from indoor tanning can lead to skin cancer, eye damage, aging skin and immune suppression, it is not safe to use tanning lamps to obtain vitamin D.¹⁶

Legislation

- Only half of the states in the U.S. regulate indoor tanning use by minors, despite the call from the World Health Organization (WHO) to prohibit minors from indoor tanning because of the danger of skin cancer.¹⁷⁻¹⁹
- In September 2007, the Tanning Accountability and Notification Act, or TAN Act (FDA reform bill, HR 3580), became law. This law requires the U.S. Food and Drug Administration to determine whether the current labeling of indoor tanning beds provides sufficient information about the risks associated with indoor tanning and whether modifying the warning label required on tanning beds to read “Ultraviolet radiation can cause skin cancer” would more effectively communicate the risks of skin cancer to the general public.

Academy Position Statement on Indoor Tanning

- The American Academy of Dermatology Association (AADA) opposes indoor tanning and supports a ban on the production and sale of indoor tanning equipment for non-medical purposes.
- The American Academy of Dermatology supports the World Health Organization recommendation that minors should not use indoor tanning equipment because indoor tanning devices emit UVA and UVB radiation and overexposure to UV radiation can lead to the development of skin cancer.

¹Whitmore SE, Morison, WL, Potten CS, Chadwick C. Tanning salon exposure and molecular alterations. *J Am Acad Dermatol* 2001;44:775-80.

²Swerdlow AJ, Weinstock MA. Do tanning lamps cause melanoma? An epidemiologic assessment. *J Am Acad Dermatol* 1998;38:89-98.

³Kwon HT, Mayer JA, Walker KK, Yu H, Lewis EC, Belch GE. Promotion of frequent tanning sessions by indoor tanning facilities: two studies. *J Am Acad Dermatol* 2002;46:700-5.

⁴Dellavalle RP, Parker ER, Ceronsky N, Hester EJ, Hemme B, Burkhardt DL, et al. Youth access laws: in the dark at the tanning parlor? *Arch Dermatol* 2003;139:443-8.

⁵Demierre MF. Time for the national legislation of indoor tanning to protect minors. *Arch Dermatol* 2003;139:520-4.

⁶U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program. Report on carcinogens, 11th ed: Exposure to sunlamps or sunbeds.

⁷Hornung RL, Magee KH, Lee WJ, Hansen LA, Hsieh YC. Tanning facility use: are we exceeding the Food and Drug Administration limits? *J Am Acad Dermatol*. 2003 Oct;49(4):655-61.

⁸Miller, SA, Hamilton, SL, Wester, UG, Cyr, WH. An analysis of UVA emissions from sunlamps and the potential importance for melanoma. *Photochem Photobiol* 68(1998), 63-70.

⁹Westerdahl J, Ingvar C, Masback A, Jonsson N, Olsson H. Risk of cutaneous malignant melanoma in relation to use of sunbeds: further evidence for UV-A carcinogenicity. *Br J Cancer* 2000;82:1593-9.

¹⁰Karagas M, et al. “Use of tanning devices and risk of basal cell and squamous cell skin cancers.” *Journal of the National Cancer Institute*. 2002 February 6;94(3):224-6.

¹¹The 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*. 2006 March 1;120:1116–1122.

¹²Piepkorn M. Melanoma genetics: an update with focus on the CDKN2A(p16)/ARF tumor suppressors. *J Am Acad Dermatol*. 2000 May;42(5 Pt 1):705-22; quiz 723-6.

¹³Vajdic CM, Krickler A, Giblin M, McKenzie J, Aitken JF, Giles GG, Armstrong BK. Artificial ultraviolet radiation and ocular melanoma in Australia. *Int J Cancer*. 2004 Dec 10;112(5):896-900.

¹⁴Walters BL, Kelly TM. Commercial tanning facilities: a new source of eye injury. *Am J Emerg Med* 1987;120:767-77.

¹⁵Clingen PH, Berneburg M, Petit-Frere C, Woollons A, Lowe JE, Arlett CF, Green MH. Contrasting effects of an ultraviolet B and an ultraviolet A tanning lamp on interleukin-6, tumour necrosis factor-alpha and intercellular adhesion molecule-1 expression. *Br J Dermatol*. 2001 Jul;145(1):54-62.

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¹⁶Levine JA, Sorace M, Spencer J, Siegel DM. The indoor UV tanning industry: a review of skin cancer risk, health benefit claims, and regulation. *J Am Acad Dermatol*. 2005 Dec;53(6):1038-44

¹⁷Virgo Publishing. National Tanning Training Institute regulatory information.

¹⁸Francis SO, Burkhardt DL, Dellavalle RP. 2005: A banner year for new US youth access tanning restrictions. *Arch Dermatol* 2005;141:524-5.

¹⁹McLaughlin JA, Francis SO, Burkhardt DL, Dellavalle RP. Indoor UV tanning youth access laws: update 2007. *Arch Dermatol*. 2007 Apr;143(4):529-32.