Just the Facts: Teens and the Dangers of Indoor Tanning

Despite reputable scientific studies showing that tanning devices can cause skin cancer, misconceptions about the risks and dangers of indoor tanning persist. This is due, in part, to misleading advertising and health claims by the tanning industry.¹² Youth are especially susceptible to the industry’s misleading claims and are frequent targets of marketing promotions (i.e. back-to-school, prom, and homecoming specials).¹ This is cause for concern, because teens are using indoor tanning devices at increasingly higher rates. This fact sheet debunks many of the most egregious claims made by the industry.

Claim: The dangers of ultraviolet radiation from tanning beds are not scientifically proven.

**FACT:** A meta-analysis showed that indoor tanning use before the age of 35 increases melanoma risk by 59 percent, squamous cell carcinoma by 67 percent, and basal cell carcinoma by 29 percent.³⁴ Similarly, a more recent study found that indoor tanning was associated with a six-fold increase in melanoma risk among women younger than age 30.⁵ A 2014 systematic review and meta-analysis estimated that over 410,000 cases of skin cancer may be attributable to indoor tanning in the U.S.⁶ Of those 410,000 cases, approximately 6,200 cases of melanoma have been attributed to indoor tanning.⁵ Additionally, over 3,200 indoor tanning-related acute injuries are treated in U.S. hospital emergency departments each year, with over 400 of those injuries affecting individuals under the age of 18.⁷

In 2009, the World Health Organization’s (WHO) International Agency for Research on Cancer increased the classification of UV emitting indoor tanning devices to the highest level of cancer risk – Group 1 – “carcinogenic to humans.” This classification places tanning devices in the same category as other known carcinogens such as tobacco, benzene, and asbestos.⁸

Other well-established dangers of exposure to UV radiation include short-term adverse effects such as sunburn, eye damage (i.e., keratitis and corneal burns), fainting, and suppression of the immune system.⁷,⁹,¹⁰ The damage of UV radiation is cumulative over an individual’s lifetime.⁹ Repeated exposures can result in long-term effects, such as premature aging of the skin, wrinkles, solar keratosis, permanent eye damage, and skin and ocular cancers.⁷,⁹

Claim: Indoor tanning is no different from being outside in the sun.

**FACT:** Tanning devices deliver UVA (long-wave) dosages 5-15 times higher than delivered by the summer midday sun on a Mediterranean beach.¹¹ UVA is the main UV wavelength individuals are exposed to in tanning devices and frequent exposure to UVA increases the risk of melanoma.¹²

Claim: Melanoma is not an issue for young people.

**FACT:** Since UV radiation is cumulative, it can take a significant amount of time before UV exposure develops into melanoma, which is why higher rates of melanoma are often seen in late adulthood. The current increase in melanoma in older populations is the result of exposure to UV radiation starting in childhood and young adult years.⁹,¹³ Therefore, preventing exposure to UV radiation as early as possible in a person’s life is critical.
Today melanoma is the fourth most common cancer in individuals aged 15-29 years, and the third most common cancer in individuals aged 25-29. Reducing exposure to UV radiation, both through indoor and outdoor tanning, is an important way of reducing these rates.

**Claim: Tanning bed use by teens is not a big problem.**

**FACT:** Melanoma is currently the second most common cancer among females aged 15-29 and the second most common cancer among females aged 25-29. Studies show using an indoor tanning device before the age of 35 increases the risk of melanoma by 59 percent, squamous cell carcinoma by 67 percent, and basal cell carcinoma by 29 percent.

Of the estimated 11.3 million Americans who tan indoors every year, approximately 1.6 million are adolescents. The most recent data indicates that, in 2015, one in nine high school girls have used a tanning device, with numbers increasing to one in six high school girls by their senior year. Among those teens who tanned in the last year, nearly 56 percent reported getting a burn from a tanning device or sun within the past year. Additionally, multiple studies have shown frequent use of indoor tanning among adolescents. Risk for melanoma increases with the number of total hours, sessions, and years that indoor tanning devices are used. A recent Centers for Disease Control and Prevention (CDC) study found that 16.7 percent of non-Hispanic white female high school students reported engaging in frequent indoor tanning (10 times or greater). Moreover, melanoma incidence rates are steadily increasing, largely among youth non-Hispanic white females, and, in part, due to indoor tanning.

Youth are especially susceptible to the industry’s misleading claims and are frequently the targets of industry marketing promotions (i.e. back-to-school, prom, and homecoming specials).

**Claim: Tanning bed restrictions don’t need to pertain to older teens.**

**FACT:** Data shows that older teens are more at risk for exposure to the dangers of indoor tanning due to increased use. Female adolescents aged 17-18 are approximately twice as likely to tan indoors as female adolescents aged 14-15.

**Claim: Parents should be allowed to decide whether youth can use tanning devices.**

**FACT:** Parental consent laws are not adequate in effectively deterring minors from using tanning devices. Studies show that many youth are able to purchase a tanning session without parental permission, even if it is required by law. A CDC study found that parental permission laws without age restriction were not associated with a reduction in adolescent use of indoor tanning, whereas age restriction laws were successful. Additionally, literature shows that parental permission and parental tanning bed use are strongly associated with the use of indoor tanning among youth.

Products or devices deemed to be harmful are often regulated to protect consumers. WHO’s International Agency for Research on Cancer categorizes tanning devices as its highest cancer risk category (Class 1) – “carcinogenic to humans” – and recommends that minors not be allowed to use them. In 2014, the United States Food and Drug Administration (FDA) reclassified tanning devices to a class II device, which requires greater regulatory safety controls. In addition, the FDA recommended the devices should not be used on individuals under 18 years of age. The U.S. Surgeon General released a call to action to prevent skin cancer,
naming tanning beds as a risk factor for skin cancer and encouraged prohibiting the use of tanning devices for individuals under 18, as well as proper enforcement of state laws. Finally, in December 2015, the FDA issued two proposed rules on indoor tanning devices to protect public health through prohibiting the use of tanning devices by minors, raising awareness of the health risks of these devices for adults, and requiring sunlamp manufacturers and tanning facilities to take additional safety measures for these devices. Unfortunately, no further action was taken to finalize these rules at the federal level, making it that much more important for state and local governments to address the public health risks of indoor tanning devices.

Laws that prohibit the use of indoor tanning devices for those under 18 are successful in reducing the use of these devices by minors. Female high school students in states with indoor tanning laws, particularly those with age restrictions, are 30 percent less likely to use indoor tanning than in states without any laws. A recent Minnesota Department of Health survey found that, since the state’s law to prohibit minors under the age of 18 from using indoor tanning devices was passed, the number of 11th grade white females that used indoor tanning devices decreased over 70 percent – from 2013 (33 percent) to 2016 (9 percent). Additionally, a recent CDC cohort study following a group of 61.2 million youth aged 14 years or younger in the U.S. found that restricting indoor tanning among minors younger than 18 years was estimated to prevent 61,839 melanoma cases, prevent 6,725 melanoma deaths, and save the U.S. $342.9 million in treatment costs over the group's lifetime.

The use of other harmful consumer products and services (e.g., tobacco) are not left to similar discretionary decision-making. To protect youth from the harmful effects of artificial UV radiation age restriction laws that prohibit the use of tanning devices for individuals under 18 should be required, without exceptions. In addition, proper enforcement measures and oversight mechanisms should be in place to guarantee that youth are not gaining access to these harmful devices.
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