

### Radiation Emitted from Tanning Beds:

- UVA (ultraviolet-A): Longer wavelength (320-400nm), deeper penetrating radiation
- UVB (ultraviolet-B): Shorter wavelength (280-320nm), primarily responsible for sunburn and skin cancer.

### Health Effects from Tanning Beds:

- UVA's longer-wavelength rays can damage the skin's connective tissue, leading to premature aging as well as play a role in causing skin cancer.
- UVA rays also increase the risk of cataracts and retinal damage
- Tanning beds emit two to three times the amount of UVA that reaches the earth outdoors.<sup>1</sup>
- UVB causes severe sunburns
- Both UVA and UVB cause skin cancer
- UVA can burn and when it does it burns more deeply and severely than any other UV wavelength.
- Studies show that UVA depresses the activity of immune cells in the skin and perhaps in relation to this, exposure to UVA can evoke bacterial infections in the skin.<sup>2</sup>
- People who use tanning beds are 1.5 times more likely to develop basal cell carcinoma and 2.5 times more likely to develop squamous cell carcinoma than people who have never used tanning beds.<sup>3</sup>
- A person who uses a tanning device before the age of 20 increases their risk of squamous cell cancer 3.6 times and their basal cancer risk is 1.8 times greater.<sup>3</sup>
- The amount of melanin (pigment) in your skin determines the color of the skin. The more melanin the darker the skin, and the more protection from the harmful effects of UV light. It is much more harmful for some skin types to tan and it is also unnecessary. The chart below shows the effects of tanning on different skin types.

### Skin Sunburn and Tanning History<sup>4</sup>

Skin Type	According to Skin Type
I	Always burns, never tans; sensitive ("Celtic")
II	Burns easily, tans minimally
III	Burns moderately; tans gradually to light brown (Average Caucasian)
IV	Burns minimally; always tans well to Moderately brown (Olive Skin)
V	Rarely burns; tans profusely to dark (Brown Skin)
VI	Never burns; deeply pigmented, not Sensitive (Black Skin)

### Warning Signs of Skin Cancer<sup>5</sup>

- Basal Cell Carcinoma
  - An open sore that bleeds, oozes, or crusts and remains open for three or more weeks.
  - A reddish patch or irritated area, frequently occurring on the chest, shoulders, or legs. The patch may crust, itch, hurt, or have no discomfort.
  - A shiny bump or nodule, that is pearly or translucent and is often pink, red, or white. The bump can also be tan, black, or brown. Can be confused with a mole.
  - A pink growth with a slightly elevated rolled border and a crusted indentation in the center. As the growth enlarges, tiny blood vessels may develop on the surface.
  - A scar-like area that is white, yellow or waxy, and often has poorly defined borders. The skin itself appears skinny and taut. It can indicate the presence of an aggressive tumor.
- Squamous Cell Carcinoma
  - A wart-like growth that crusts and occasionally bleeds.
  - A persistent, scaly red patch with irregular borders that sometimes crusts or bleeds.
  - An open sore that bleeds and crusts and persists for weeks.
  - An elevated growth with a central depression that occasionally bleeds. A growth of this type may rapidly increase in size.
- Malignant Melanoma
  - Malignant melanomas are usually small brown-black or larger multicolored patches, plaques or nodules with irregular outline.
  - They may crust on the surface or bleed. Many of them may arise in pre-existing moles.

## IAC 641-46 Tanning Booth Requirements<sup>6</sup>

- No tanning facility can be operated without a permit to operate issued by the Iowa Dept. of Public Health
- The permit application, consisting of forms provided by the department or board of health, must contain all required information. There is a nonrefundable \$5 application fee
- The permit must be renewed annually upon the acceptance of a renewal application provided by the department before the end of the specified day in the month and year the permit was granted. The renewal fee is \$5.
- If the application has been filed prior to the expiration of the existing permit, the existing permit will not expire until the department has finally determined the application status.
- Annual inspections at the cost of \$33 per booth, \$330 max per facility
- Inspections include: proper operation, maintenance of devices, review of required records, training documentation, operation understanding and competency, and the requirements of these rules.
- A trained operator must be present when the tanning device is operational.
- A tanning facility shall not claim, or distribute promotional materials that claim, that using a tanning device is safe or free from risk or that the use of the device will result in medical or health benefits. The only claim that may be made is that the device is for cosmetic use only.
- A warning sign must be in a conspicuous location readily visible to persons entering the establishment. The sign shall use 0.5 in letters for "DANGER, ULTRAVIOLET RADIATION" and 0.25 in letters for all other lettering. The sign shall use red lettering with a white background and have the following wording:

<p>Danger Ultraviolet Radiation --Overexposure can cause</p> <ul style="list-style-type: none"><li>• Eye and skin injury</li><li>• Allergic reaction</li></ul> <p>--Repeated exposure may cause</p> <ul style="list-style-type: none"><li>• Premature aging of the skin</li><li>• Skin cancer</li></ul> <p>--Failure to wear protective eyewear may result in</p> <ul style="list-style-type: none"><li>• Severe burns to eyes</li><li>• Long-term injury to eyes</li></ul> <p>--Medication or cosmetics may increase your sensitivity</p>
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- A tanning facility must provide each consumer with a written warning statement prior to the consumer's initial exposure and annually thereafter that includes all the health risk factors and a list of potential photosensitizing drugs and agents. The statement also must include how different skin types respond to the tanning.

## References:

- 1) Tanning Beds: Hotbed of Controversy:  
<http://www.docguide.com/news/content.nsf/NewsPrint/1F FEFC1C8193C4318525654000653D6D>
- 2) Tanning-bed Risks are High, Benefits Zero:  
[www.acs.ohio-state.edu/units/cancer/tanning.htm](http://www.acs.ohio-state.edu/units/cancer/tanning.htm)
- 3) Karagas MR, Stannard VA, Mott LA, Slattery MJ, Spencer SK, Weinstock MA. Use of Tanning Devices and Risk of Basal Cell and Squamous Cell Skin Cancers. *Journal of the National Cancer Institute.* 2002;94:224-226.
- 4) The Darker Side of Tanning:  
[www.fda.gov/cdrh/consumer/tanning.html](http://www.fda.gov/cdrh/consumer/tanning.html)
- 5) The Skin Cancer Foundation:  
<http://www.skincancer.org/>
- 6) Iowa Administrative Code:  
<http://www.legis.state.ia.us/Rules/2000/iac/641iac/64146/64146.pdf>

## For Further Information:

### Sun Exposure Facts:

<http://www.uhs.berkeley.edu/HealthInfo/EdHandouts/skincancerprotection.htm>

### Tanning Beds: Not as Safe as You Think:

[www.biol.sc.edu/~elygen/Andrea%20Stanley.htm](http://www.biol.sc.edu/~elygen/Andrea%20Stanley.htm)

### Tanning Salon Exposure Can Lead to Skin Cancer:

[www.aad.org/PressReleases/exposure.html](http://www.aad.org/PressReleases/exposure.html)