

Tanning beds may be even riskier than thought

By Denise Mann, HealthDay

Indoor tanning beds may be even more likely to cause skin cancer than previously believed.

New research published online Oct. 6 in the *Journal of Investigative Dermatology* suggests that the main type of ultraviolet rays used in tanning beds -- UVA1 -- may penetrate to a deep layer of skin that is most vulnerable to the cancer-causing changes caused by UV rays.



Rob Engelhart, for USA TODAY.

Tanning beds have the same ratio of UV waves as the sun.

The new study comes as the U.S. Food and Drug Administration considers banning the use of tanning beds among children under 18. The [American Academy of Pediatrics](#) is on record that it supports such a ban.

In the study, 12 volunteers were exposed to UVA1 and UVB rays on their buttocks. (One difference in the waves is length: UVB waves are shorter.)

The UVA1 was more damaging to the skin's basal layer than the UVB light. The UVA1 induced a type of lesion called thymine dimers on the deeper basal layers of the skin. UVB radiation caused more of these lesions, but they did not go as deep, and thus may be less likely to cause the changes linked to skin cancers.

"The doses we used were comparable for erythema -- sunburn -- for UVA and UVB. That would be roughly equivalent to the doses needed for tanning in each spectrum," said study co-author Antony R. Young, a professor at the St. John's Institute of Dermatology at King's College School of Medicine in London.

"Indoor tanning is like smoking for your skin," said Dr. Doris Day, a dermatologist at Lenox Hill Hospital in New York City. "It's the single worst thing you can do in terms of skin cancer and premature aging."

Many indoor tanning salons advertise that tanning beds can help boost the body's production of vitamin D, known as the sunshine vitamin because skin makes it when exposed to the sun's rays. "This is nonsense and an excuse," Day said. "We know people burn in tanning beds and that UVA and UVB are toxic."

Teens are particularly vulnerable, she said. "They are immortal in their mind, and skin cancer and aging seem a long ways away." Melanoma, a potentially fatal form of skin cancer, "is not an old person's disease," she said. The new study provides "a little bit more muscle in helping to warn people about the dangers of tanning, but an [FDA](#) ban is what we need," she added.

"I do think there should be legislation on sunbed use under 18 years of age," said Young, who added that such use is already prohibited in England.

John Overstreet, executive director of the Indoor Tanning Association, a Washington, D.C.-based trade group representing the industry, said that if there was science to back up many of these claims, the FDA would have acted by now. The agency has been mulling these claims since March 2010, he noted.

What's more, the new study is about ultraviolet radiation, not tanning beds, he said. "Tanning beds have the same ratio of UV waves as the sun. UVA-1 is the primary wave length emitted by the sun, too," he said. "The sun and indoor tanning pose the same risks and benefits if you don't burn. There is no science that shows non-burning exposure to sun or a sun lamp causes cancer."

Dr. Heidi A. Waldorf, director of Laser and Cosmetic Dermatology at Mount Sinai Hospital in New York City, said that the new study adds to the body of evidence about the damaging effects of the sun's rays. "This finding fits with our understanding of UVA as the deeper penetrating 'aging' rays," she said. "The data is important as we discuss regulatory changes in the labeling of broad-spectrum sun protection products and as we educate patients, particularly young women, about the dangers of indoor UVA tanning beds."

The FDA now requires sunscreens to have a minimum sun protection factor (SPF) of 15 and be labeled as broad spectrum to show that that protect against both UVA and UVB waves.

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