

Tanning bed users exhibit brain changes and behavior similar to addicts

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People who frequently use tanning beds may be spurred by an addictive neurological reward-and-reinforcement trigger, researchers at UT Southwestern Medical Center have found in a pilot study.

This could explain why some people continue to use [tanning beds](#) despite the increased risk of developing melanoma, the most lethal form of [skin cancer](#). The [brain activity](#) and corresponding blood flow tracked by UT Southwestern scientists involved in the study is similar to that seen in people addicted to drugs and alcohol.

"Using tanning beds has rewarding effects in the brain so people may feel compelled to persist in the behavior even though it's bad for them," said Dr. Bryon Adinoff, professor of psychiatry and senior author of the study available online and in a future print edition of *Addiction Biology*. "The implication is, 'If it's rewarding, then could it also be addictive?' It's an important question in the field."

About 120,000 new cases of melanoma are diagnosed in the U.S. each year, according to the Skin Cancer Foundation. People younger than 30 who use a tanning bed 10 times a year have eight times the risk of developing [malignant melanoma](#). While public knowledge of these dangers has grown, so has the regular use of tanning beds.

In this study, participants used tanning beds on two separate occasions: one time they were exposed to [ultraviolet radiation](#) and another time special filters blocked exposure to ultraviolet radiation. Participants did

not know on which session they received the real or the filtered ultraviolet exposure. At each visit, participants were asked before and after each session how much they felt like tanning. Participants were also administered a compound that allowed scientists to measure brain blood flow while they were tanning.

Dr. Adinoff, who also is a staff physician at the Veterans Affairs North Texas Health Care System, said the next step is to create technology to further study [brain changes](#) among frequent tanners.

Provided by UT Southwestern Medical Center

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