

PERSONAL HEALTH | Jane E. Brody

# When Tanning Turns Into an Addiction

Welcome to summer! For many of us, that means more time outdoors and less time lost putting on and taking off multiple layers of clothing. That in turn means more time and tissue exposed to the single biggest cause of skin damage and cancer: ultraviolet radiation.

Despite a flourishing market in sunscreens and, to a lesser extent, sun-protective clothing, as well as a dermatologists' campaign going back to 1983, millions of Americans continue to abuse the rays that in small doses help maintain health but in larger doses can destroy it. And not just when the summer sun shines. For some who frequent tanning salons or own tanning beds, sun worship is a year-round activity.

Dermatologists, whose incomes are bolstered by the fallout from UV abuse, nonetheless express great frustration with their seeming inability to deter tanning behavior, particularly among adolescents and young adults, who are most at risk for the ill effects from these otherwise life-giving rays.

There are many explanations for this failure, including the widespread belief that people look better (read healthier and perhaps thinner) when they are tan. This notion has helped to foster the multibillion-dollar indoor tanning industry, supported by some young patrons as often as 20 times a month.

But in recent years, another explanation has emerged for which there is now considerable scientific support: the idea that exposing one's skin to UV radiation has addictive potential.

As with alcohol, not everyone who is exposed becomes dependent on the sun. But there are enough UV abusers — one in five college students, perhaps half of beach habitués and 70 percent of indoor tanners, according to various studies — to warrant a new medical diagnostic category: tanning addiction.

## 3.5 Million Cases of Skin Cancer

When Dr. Richard F. Wagner Jr., a dermatologist at the University of Texas Medical Branch in Galveston, reported five years ago that as many as half of local beachgoers met the psychiatric definition of a substance abuse disorder, he received an e-mail message from a man in Canada who described himself as "a poster boy for your study." The man said he traveled all over the world to maintain a tan, and even though he knew he could get cancer as a result, he could not stop.

In a new report in *The Skin Cancer Foundation Journal*, Dr. Robin L. Hornung and Solmaz Poorsattar of the University of Washington in Seattle wrote that the "continued purposeful exposure to a known cancer-causing agent suggests that factors besides lack of knowledge are driving individuals to tan." Although many say that a tanned appearance is their strongest motivation for sunbathing and tanning bed use, "tanners also report mood enhancement, relaxation



JUSTIN PUMFREY/GETTY IMAGES

and socialization" as their reasons, the authors wrote.

And so the incidence of skin cancers, including potentially fatal melanoma, continues to rise. This year, 3.5 million new cases of superficial but often disfiguring skin cancers, and an estimated 68,720 melanomas, will be diagnosed among Americans.

Many people think a tan protects them by helping block the damaging effects of UV radiation. In fact, a tan represents skin damage. Even brief exposure to ultraviolet light can cause mutations in the DNA of skin cells, including the melanocytes, the host cells for melanoma. Accumulate enough of those mutations and a cancer can result.

"As we age, the number of mutations increase and our immunity wanes," Dr. Wagner explained — a double whammy that greatly increases the likelihood of skin cancer.

Even those who escape cancer will eventually experience the aging effects of repeated tanning: loose, wrinkled, leathery skin that can make people look decades older than they are. My paternal grandmother, who lived a block from the beach in Brooklyn and swam daily in the years before sunscreens, had what we called "elephant skin" by her 50s. But my 90-year-old Aunt Gert, who lives nearby and winters in Florida but never went to the beach or sat in the sun, has the skin of a 60-year-old. Summarizing the mounting evidence for the addictive potential of UV radiation, Dr. Hornung said in an

interview that frequent tanners showed signs of both physiological and psychological dependence. As with cigarette smoking and heavy drinking, which are "often practiced despite knowledge of their dangers," she said, attempts to curtail UV abuse through education about its dangers seem to fall on deaf ears.

Clearly, something else is driving the behavior, and for some people that something seems to be addiction.

In Dr. Wagner's study, conducted with Dr. Molly M. Warthan and Tatsuo Uchida, two tests of substance abuse were administered to 145 people basking in the sun on Galveston Island Beach. One is a modified version of the test often used to root out alcohol addiction. It's called CAGE, an acronym for four questions: Have you ever felt you needed to cut down on your tanning? Have people annoyed you by criticizing your tanning? Have you ever felt guilty about tanning? Have you ever felt you needed to tan first thing in the morning — as an eye opener?

The authors, who published their report in 2005 in *The Archives of Dermatology*, found that 26 percent of the beachgoers met the CAGE criteria for addiction. And in a second test, a modified version of the psychiatric profession's official diagnostic criteria for a substance abuse disorder, 53 percent of the respondents scored positively.

"Individuals who chronically and repetitively expose themselves to ultraviolet light to tan may have a novel type of ultraviolet-light substance-related disorder," the report concluded. Release of pleasure-giving endorphins in the brains of UV abusers is the likely stimulus for tanning addiction, studies suggest.

## Withdrawal and Prevention

Research by Dr. Steven R. Feldman and colleagues at Wake Forest University Baptist Medical Center demonstrated that frequent salon tanners experienced withdrawal symptoms when given the drug naltrexone, which blocks the pleasurable effects of narcotics. Frequent tanners, but not occasional tanning patrons, reported symptoms like nausea and jitteriness when naltrexone blocked their endorphins.

Dermatologists are uniformly in favor of strict regulations of tanning salons, especially prohibiting patronage by minors. Dr. Hornung (who told me she just lost a patient to melanoma — "a beautiful 45-year-old single mother of four children who had been an avid indoor tanner") also advocates starting to teach children at a very early age to always use sunscreen and to avoid excessive sun exposure even when they do use it, since even the best sunscreens cannot fully prevent sun damage.

Just as child-restraint laws fostered routine seat belt use in older children and adults, wise sun habits initiated in early childhood could carry over for a lifetime — and a longer life.

## VITAL STATISTICS

### Weight-Lifting Injuries on the Rise

More and more people are lifting weights these days — and sometimes dropping them where they shouldn't.

A new study finds that from 1990 to 2007, nearly a million Americans wound up in emergency rooms with weight-training injuries, and that annual injuries increased more than 48 percent in that period.

About 82 percent of the 970,000 people injured were men, according to the study, which appeared in the April issue of *The American Journal of Sports Medicine*. (The researchers used data from a national injury surveillance database.) But the annual number of injuries in women increased faster — by 63 percent, compared with 46 percent among men — perhaps because weight training is growing more popular with women.

Women were more likely to injure their feet and legs, while men's injuries were more common in the trunk and hands; men had more sprains and strains, and women had more fractures.

People were most often injured by dropping weights on themselves, crushing a body part between weights or hitting themselves with the equipment. Over-

exertion, muscle pulls and loss of balance accounted for about 14 percent of emergency room visits. More than 90 percent of the injuries occurred while using free weights rather than weight machines.

Under 2 percent of the injuries resulted in hospitalization, but a few were fatal: the researchers estimate that 114 deaths nationwide were related to weight training over the 18-year period.

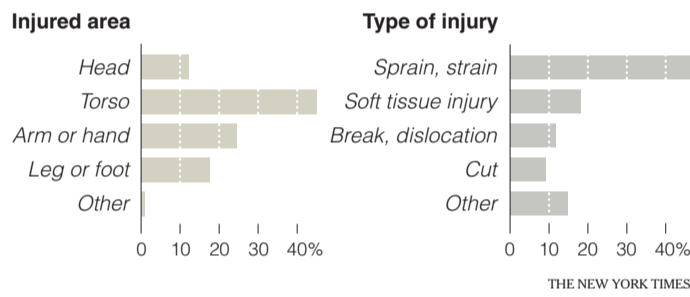
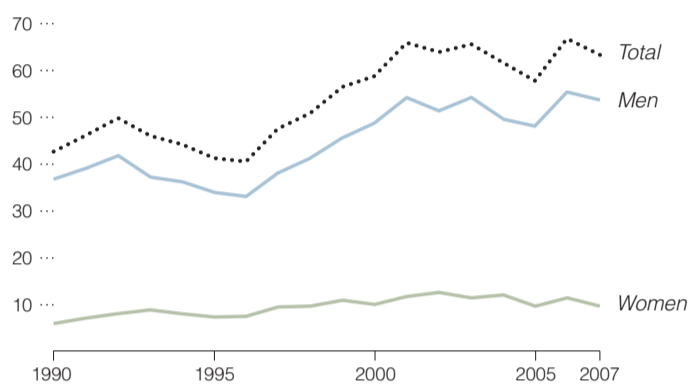
Estimates of the number of people who use weights vary, but according to the National Sporting Goods Association, a trade group, 34.5 million people participated in weight training in 2009.

"We want people to continue to use weight training as part of their physical routine," said a co-author of the study, Christy L. Collins, a senior research associate at Nationwide Children's Hospital in Columbus, Ohio. But, she added, they "should receive proper instruction and use proper techniques for their lifts."

"As researchers," she went on, "we want to learn more about these injuries so that we can develop targeted preventive measures."

NICHOLAS BAKALAR

Estimated weight-training injuries, in thousands



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