

TANNING SALONS ARE A HOT TOPIC FOR THE INDUSTRY

THE CONTROVERSIAL practice of indoor tanning is a \$5 billion industry in the U.S. Thirty million Americans visit tanning salons every year—a five-fold increase since 1992.



NADIM SHAATH
ALPHA RESEARCH
& DEVELOPMENT LTD.

DR. NADIM SHAATH IS THE PRESIDENT OF ALPHA RESEARCH & DEVELOPMENT LTD., A CONSULTING FIRM IN WHITE PLAINS, NY, SPECIALIZING IN SUNSCREEN FORMULATIONS AND NEW PRODUCT IDEAS IN COSMETICS, ESSENTIAL OILS AND ULTRAVIOLET FILTERS. HE HAS OVER 30 YEARS OF EXPERIENCE AS CHAIRMAN OF THE CHEMISTRY DEPARTMENT AT SUNNY-PURCHASE, THE TECHNICAL DIRECTOR AT FELTON, THE PRESIDENT OF NICKSTADT-MOELLER, INC. AND THE CEO OF KATO WORLDWIDE. HE CAN BE REACHED AT ALPHARN@AOL.COM

On an average day, more than one million Americans “catch some rays” in the nation’s 25,000 salons which employ more than 160,000 tanning professionals.

Most tanners are young women; nearly 70% of the tanning patrons are females between the ages of 16 and 29. The industry has grown into a culture that promotes the ultimate bronze tan. Celebrities such as Lindsay Lohan and Hulk Hogan admit to “tanorexia” and TV shows such as *Sunset*

aboard the yacht of the Duke of Westminster. A sign of wealth and leisure, a tan became the ultimate accessory for the fashionable set. After World War II, women’s magazines in the U.S. promoted sun tanning with pictures of stars like Betty Grable and Rita Hayworth revealing their fabulous tans in skimpy bathing suits.¹ Eventually, along with the tan came the sunburn, the agony, the wrinkles, the leathery skin and ultimately, skin cancer. Today, more than 1.3 million new cases of skin cancers appear in the U.S., and 60,000 cases of malignant melanomas contribute to the death of more than 10,000 Americans every year.²

A Known Carcinogen

The U.S. Department of Health & Human Services has declared UV radiation from the sun and artificial sources, such as tanning beds and sun lamps, as a known carcinogen.³ UV rays from sunbeds have been classified as Group 2A carcinogens by the International Association for Research into Cancer (IARC).⁴ In the UK, a significant study from the British Medical Association found that sunbed users were 2.5 times more likely to develop skin cancer. A Swedish study presents strong evidence that exposure to UV radiation during indoor tanning increases the risk of melanoma, especially when exposed at an early age.⁵ In September 2008, three reviews were published in the medical journal *Pigment Cell and Melanoma Research* that highlighted the huge amount of evidence linking tanning salons and melanoma.⁶⁻⁸

The concept of developing a tan without going outdoors became popular in the late 1970s. For those not affluent enough to travel to sunny vacation spots, indoor tanning made

it possible to get a fashionable, yet inexpensive tan close to home.

The tanning bed was brought to America from Germany by Friedrich Wolff in 1978. He patented his invention and began licensing the technology to U.S. companies. The U.S. FDA began regulating the manufacture of sunlamps in 1979.⁹ In 1985, the FDA issued its performance standard for sunlamp products including a requirement for a timer to limit the exposure allowing exposures of three times per week for the development of a tan, and one to two times per week for maintenance exposures.¹⁰ However, the indoor tanning industry often interprets this policy as allowing three exposures a week on a continuous basis.¹¹ The regulations were updated in 1999 and focused on lamp design in regard to maximum exposure times and other safety protocols. The FDA left the enforcement of the specific regulations in the salons to the individual states. To date, only 29 states have regulated the tanning salon industry, and rules vary widely from state to state.

A History of Unsafe Tanning

Most modern tanning beds have not changed dramatically from the original Wolff system. The lamps are still the fluorescent type emitting about 95% UVA rays and 5% UVB rays. The beds are single use units with a padded acrylic area to lie on and contain from 6 to 36 lamps for the desired tanning effect.

As tans became a fashion statement, symbolic of health and wealth, the sun care industry promoted products to enhance and accelerate the deep bronze tan. In the 1960s and 1970s, personal reflective panels were recommended and widely used to redirect the sun’s rays. In the 1960s, Schering-Plough introduced QT, a

Tan glamorize the practice.

A tan became fashionable in the 1920s when French designer “Coco” Chanel, developed her tan on a cruise

product formulated with dihydroxyacetone (DHA). DHA is a reducing sugar that was discovered serendipitously by European scientists who stained their skin brown after careless handling of DHA.

It was later discovered that DHA reacted with the free amino acids on the skin in a Maillard-type non-enzymatic browning reaction to form Schiff-base compounds that led to melanin-like structures known as melanoidins.¹² What started as an accidental discovery soon led to the “artificial” or “false” tan that is currently quite popular.

Today, tanning products fall into three categories—tanning accelerators, sunless tanners and tanning bed products.

Tanning accelerators enhance the body’s natural tanning process to deliver a more intense tan. However, since they are intended to affect the biological process, melanogenesis, the FDA considers them to be drugs and are regulated as such.¹²



There are better ways to catch some rays besides tanning beds.

Sunless tanners, on the other hand, tan the skin via a colorant reaction with the skin using DHA or other dyes and pigments. But sunless tanning products can lead to streaking or uneven color toning of the skin, which has created a major opportunity for the tanning salon industry. The proper preparation and cleaning of the area of the skin is of crucial importance. Any excess of free amino acids in the skin can lead to exces-

sively darkened spots and streaking. The elbows and knees are areas that should be exfoliated prior to application, and reliance on experienced aestheticians becomes paramount.

Tanning bed products include moisturizers, exfoliants, hair care and aromatherapy products, application gloves, goggles and a wide array of accessories. In addition, a number of spray applications and airbrush machines have been installed to insure even application.

All have contributed to the growth of the tanning salon industry.

Dubious Benefits

The tanning salon industry has a powerful lobby called the Indoor Tanning Association (ITA) which has an effective website, annual meetings and seminars, and continuously engages scientists to defend their position.¹³ The ITA website notes, “Although indoor tanning is considered a cosmetic exercise in the U.S.,

the industry’s roots are therapeutic, and many Americans do, in fact, visit tanning facilities for that purpose.”

According to ITA, the production of vitamin D caused by UV rays is related to a positive physiological effect. The association claims that tanning promotes the production of endorphins and serotonin that, in turn, are related to positive psychological

effects. ITA coined phrases such as Base Tan, Holiday Tan and the Sunshine vitamin (for vitamin D). Americans are generally deficient in vitamin D, which in turn may lead to a number of health problems including bone disease and an increase in some cancers. Vitamin D, produced in the body when skin is exposed to UVB light, helps maintain the body’s calcium levels. The American Academy of Dermatologists (AAD)

states unequivocally that “Vitamin D from food and dietary supplements offers the same benefits without the danger of skin cancer, as vitamin D obtained from UV light. While the benefits of vitamin D are well known, it also is well known that overexposure to UV radiation can cause skin cancer.”¹⁴

The ITA recommends visits to indoor tanning salons to initiate and promote vitamin D in the body. The fallacy to this argument is that vitamin D can be supplemented with vitamins and foods that are fortified and rich with vitamin D, such as milk, cereal, juices, tuna, salmon, sardines and mackerel. Additionally, 10-15 minutes of daily sun exposure to the hands and feet—during non-peak hours—are sufficient to produce vitamin D in the body. A 20-minute tanning session provides about 5 to 7 times more UV radiation than is needed to produce vitamin D.¹⁵

The AAD recently launched a campaign against indoor tanning.¹⁶ The World Health Organization (WHO) recommends that minors be banned from indoor tanning because of skin cancers.¹⁷ In September 2007, the Tanning Accountability and Notifications Act (TAN) became law.¹⁶ It requires the FDA to determine whether the current labeling of indoor tanning beds provides sufficient information about the risks associated with indoor tanning and whether modifying the warning label required on tanning beds to read “Ultraviolet radiation can cause skin cancer” would be more effective in communicating the risks of skin cancer to the general public. To date, no such recommendation has been issued by the FDA.

As the battle rages on, it seems to me that there is irrefutable evidence that over exposure to both UVA and UVB rays is associated with skin problems and cancer. The rays emitted in a tanning bed are no exception. Most dermatologists agree that there is no such thing as a “healthy” tan. They consider a tan to be an injury to the body and should be generally avoided. If you must for vanity purposes, then a “fake tan” is perhaps safer.

The argument for visiting tanning salons to increase vitamin D, does not play well here. The risks far outweigh the benefits. Safe alternatives are currently available with minimum outdoor sun exposure. It has to be pointed out that these salons also sell considerable cosmetic products and their aestheticians administer professional and effective fake tanning applications. Shutting down the salons would have a dramatic impact on the sale, distribution, and effectiveness of an array of tanning cosmetics.

In conclusion, the answer lies in educating the consumer by providing accurate, timely and unbiased information and, of course, conducting more research into the safety of tanning devices along with effective regulations and controls. If the FDA complies with the TAN Act, the 50 states enforce the rules and regulations, the salon owners comply and exceed the standards of safety and hygiene and the media does not glamorize the tan, then the safety of this practice will dramatically increase. ●

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