

SMART TAN'S POSITION:

How the Indoor Tanning Industry Embraces Proper Usage of SPF Products



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How The Indoor Tanning Industry Embraces Proper Usage of SPF Products

OVERVIEW

1. The professional indoor tanning industry, in promoting the proper use of sun protection factor (SPF) sunscreen products for outdoor usage, promotes and teaches what we refer to as The Golden Rule of Smart Tanning: Don't ever sunburn.
2. The indoor tanning industry has been more effective at teaching sunburn prevention than those who promote complete sun avoidance. Non-tanners sunburn more often than people who tan indoors.^{1,2}
3. An estimated 30 million North Americans patronize indoor tanning facilities at some point during the year. Every year, millions of indoor tanners successfully develop "base tans" before embarking on sunny vacations – tans that, combined with the proper use of sunscreen outdoors, help them prevent sunburn.¹
4. A tan is the body's natural protection against sunburn. Your skin is designed to tan as a natural body function. If you have the ability to develop a tan, having a base tan multiplies the effectiveness of sunscreen in preventing sunburn.
5. Smart Tan believes that SPF products should be used outdoors to prevent sunburn in situations where sunburn is a possibility. However, the public should be aware that daily usage of sunscreen product in environments where sunburn is not a possibility may inhibit natural production of vitamin D from normal sun exposure and therefore may potentially be harmful to human health.³
6. The professional indoor tanning salon industry is part of the solution in the ongoing battle against sunburn and in teaching people how to use sunscreen product effectively and in identifying a proper and practical life-long skin care regimen.

THE ROLE OF SUNSCREENS

Sunscreens are products designed to prevent sunburn and overexposure to ultraviolet light. Smart Tan supports the correct usage of sunscreen for tanners and non-tanners alike as a tool to prevent sunburn outdoors in situations where burning is a possibility. We are concerned, however, that sunscreen is potentially being overused by a public that is being told to wear it even in situations when sunburn is not a possibility.

- First and foremost, sunscreen is not a magic bullet in the war against skin cancer. While the product does protect skin from sunburn – which is believed to be a risk factor in all forms of skin cancer – no research has proven that sunscreen use itself prevents skin cancer. That seems to be the root of much confusion about the product.
- A 1998 meta-analysis by Dr. Marianne Berwick, then an epidemiologist at the Memorial Sloan-Kettering Cancer Center in New York, questioned whether sunscreen users might have a *greater* risk of the most deadly form of skin cancer, malignant melanoma. Berwick, now chief of the department of Epidemiology at the University of New Mexico, has continued work into this counter-intuitive suggestion.

Berwick's study and subsequent work showed no difference in melanoma risk in sunscreen users versus non-users. But Berwick reviewed data from several other studies that showed sunscreen users actually have a greater risk of contracting melanoma than non-users. Berwick's work hit the dermatology industry like a bomb, igniting a furious volley of press releases slamming her for her conclusions and defending the use of sunscreen, urging Americans to keep buying the lotions. In fact, Berwick *never* said people should stop using sunscreen – she very overtly encouraged people to continue using the product appropriately. She merely stated the facts: That sunscreen is an important weapon in the fight against sunburn, but that no evidence exists to prove it does anything else.

That incident is a great example of how political the sunscreen issue is and perfectly illustrates the need for better education about the proper role of sunscreens in a smart sun protection program.

HOW SUNSCREENS WORK

Sunscreens are rated in what you know as their “Sun Protection Factor” – or SPF. The SPF ratings, which range from 2 to 45, refer to how much longer an individual can be exposed to sunlight without experiencing a sunburn.

For example, an SPF 10 allows an individual who would sunburn in 10 minutes outdoors to stay in the sun 100 minutes before burning. The part of that equation that most tanners don't understand is that the tanner still is able to tan in that time period. After 100 minutes, that individual will have received the most UV they can get without burning – which means they still get a tan.

How is that SPF number derived? The SPF number for a given product is derived by testing at least 20 people to determine its ability to increase the length of time needed for ultraviolet light exposure (usually from a solar simulator) to induce redness in the skin. It is a process regulated by the U.S. Food and Drug Administration.

Swimming and perspiration reduce the actual SPF value, so polymers that form a film on top of the skin are added and the product is labeled “waterproof,” “water-resistant,” “sweat proof” and “sweat-resistant.” These claims of water-resistant and waterproof properties are also based on standardized testing procedures.

- To be “**water-resistant**,” a product must maintain its SPF rating after the person being tested engages in some type of water activity for a total of 40 minutes.
- “**Waterproof**” requires no loss of SPF value after 80 minutes of water activity. These tests are performed in chlorinated pools, which are believed to be more rigorous for the product than salt water or sweat. Hence, “waterproof” products can be considered “sweat proof” as well.

SUNSCREEN INGREDIENTS

Active ingredients in sunscreen products have changed through the years. There are two main kinds of active ingredients⁴:

- **Chemical blocks:** These are absorbed by the skin. UV light is broken up by a chemical sunblock, preventing sunburn.
- **Physical blocks:** These work on the surface of the skin but, unlike a chemical sunscreen, are not absorbed into the skin. With a physical block, UV light is either absorbed by the chemical and converted into other forms of energy or is reflected away from the skin in a mirror-like fashion. These agents have improved since the days of white or red creams that left a physical color on the skin (For example, lifeguards often used these products on their noses). Today some physical products are transparent and thus invisible.

One of the concerns with sunscreens is that chemicals that absorb UV light, converting it into other energy, often create free radicals in the skin -- atoms with unpaired electrons that react with neighboring atoms. It is widely believed that free radicals can age and damage the skin. Nevertheless, it is also widely believed that the benefits of preventing sunburn with a sunscreen outweigh whatever risks these free radicals could create.

The earliest sunscreens used a substance called Para-aminobenzoic acid, or PABA, as a chemical sunscreen to block UVB light. But PABA often stained clothing and concerns about its safety -- including allegations that it may be carcinogenic itself -- led to decline in its use and bad publicity. Although PABA and its derivatives, the most popular of which is a compound called Padimate O, are very effective at blocking UVB radiation, sunscreen manufacturers today use a combination of other agents to attain better results without having to use PABA.

These are the most common active ingredients used in sunscreens today:

- **Avobenzone:** Also called Parsol 1789. Avobenzone is a widely used full-spectrum blocking agent, meaning it blocks UVA and UVB light.
- **Ensulizole:** An effective UVB blocker often used in combination with other agents.
- **Meradimate:** A UVA blocking agent often used in combination with other agents.
- **Octinoxate:** One of the most widely used ingredients. Usually combined with another active ingredient to improve its effectiveness.
- **Octisalate:** A supplementary UVB blocker.
- **Octocrylene:** Often used to increase the SPF value of another blocker. Often used with avobenzone.
- **Oxybenzone:** Often used to supplement UVB protection, Oxybenzone blocks UVB and some UVA wavelengths.
- **Titanium Dioxide:** A physical sunscreen agent that blocks the entire UV spectrum.
- **Zinc oxide:** A physical sunscreen agent that blocks the entire UV spectrum.

WHO NEEDS SUNSCREENS?

Everyone can benefit from sunscreen use to prevent sunburn, but three groups in particular are prime candidates for this product:

- **Children and adolescents up to age 18.** How much sun exposure does this group get? The answer is confusing. The anti-tanning lobby's contention that 80 percent of a person's lifetime sun exposure happens prior to age 18 was shattered in 2002 when an international photobiology group showed that the number is probably more like 25 percent. But the belief is still universal that sunburns at an early age are potentially more damaging than they are later in life, so teaching teens to avoid sunburn and to be smart tanners is critical.
- **People with pale complexions** who tend to burn easily or freckle probably benefit the most from using sunscreen, especially those with skin type I, who cannot develop a tan.
- **People who “pre-tan”** before their vacation should use sunscreen and good sense to avoid sunburn.

APPLYING SUNSCREEN PROPERLY

The most recommended SPF rating is 15 or higher. Here's how to tell your clients to apply it:

- Apply sunscreen liberally to all exposed skin, about 20 minutes before exposure, before going out in the sun (yes, you can apply it in the sun, sitting on the beach, but it isn't as effective).
- Remember to apply sunscreen to easily overlooked areas like the tops and lobes of the ears, the back of the neck, the tops of the feet and bald spots.
- For an average adult, the recommended dose is one ounce, or one quarter of a four-ounce bottle, per application.
- Sunscreen should be reapplied every two hours, after being in the water, or after exercise or sweating.

VITAMIN D ISSUES

Research has shown that wearing sunscreen almost completely prevents your skin from manufacturing vitamin D from sun exposure. While some have suggested that the best remedy for this is to put sunscreen on 15-20 minutes after you go outdoors, Smart Tan believes this may put people at risk for sunburn and suggests the following regimen:

- Apply sunscreen liberally to all exposed skin, about 20 minutes before exposure, before going out in the sun.
- Plan short periods of time when you can go outdoors without wearing sunscreen. Depending on your skin type and the intensity of sunlight where you are, you should plan these short exposures regularly to effectively allow your skin to manufacture vitamin D without sunburning.

For overall health, this regimen is favorable to simply wearing sunscreen every time you step outdoors. It allows you to make vitamin D naturally while still using sunscreen properly.

VACATION PRE-TANNING

Just as you would condition your muscles before you would subject them to a long climb or a long run, you should precondition your skin before you subject it to longer hours in the sun. This is the concept behind tanning the skin before vacations to climates that will expose the skin to higher than usual amounts of ultraviolet light. It is an often-misunderstood cornerstone of the development of the indoor tanning salon industry.

The bottom line is that suntanning and sunburning are different biological processes, and that tanning – combined with the proper usage of sunscreen – can help prevent sunburns more effectively than sunscreen usage alone. According to Dr. Michael Holick, a Boston University research dermatologist, a gradual tan attained in a professional indoor tanning facility is an important tool in the fight against sunburn for millions of Americans who take southerly vacations. Holick warns those who take vacations in sub-tropical climates to avoid sunburn at all costs. He explained:

- ***“The sunburn probably means that skin cells have been injured or are in some way insulted by the exposure to ultraviolet A and ultraviolet B radiation. The tanning process, however, is a natural process by which the skin cells recognize the potential damaging effects of exposure to UVA and UVB radiation, and they respond by increasing the production of melanin.”***

Here is how a pre-vacation tan obtained in a tanning salon works: If in your initial indoor tanning session is five minutes and, after gradually increasing your exposure times over a period of weeks, your last session is 20 minutes, you’ve effectively increased your tolerance to UV light by a factor of 4.

Now when you apply an SPF 15 on your skin – which is four times more resilient from burning than it was before you started tanning – the effective protection multiplies. Your skin with an SPF 15 becomes 60 times more resistant to sunburn than it was before you started tanning. That’s critical in sub-tropical environments where sunscreen alone will not offer adequate protection for many people during regular outdoor activities.

CONCLUSIONS

Studies of indoor tanners have shown consistently that indoor tanning customers, once they begin tanning in a professional salon, are up to 81 percent less likely to sunburn than they were before they started tanning.

There are two factors that contribute to these results:

- Those indoor tanners have activated their natural defense against sunburn.
- Indoor tanners have been educated by tanning salon skin care specialists at professional tanning facilities and know how to avoid sunburn outdoors, how to use sunscreens appropriately and how to properly moisturize their skin.

You know your indoor tanning clients ARE spending time outdoors, whether they’re basking on the beach or playing a sport or just hanging outside on the porch because it feels good. And you and your salon are a part of their outdoor experiences already – even if you’ve never talked to them about outdoor skin care.

How so? You've taught them to take care of their skin indoors, to avoid sunburn. You've taught them their skin type and made sure they know how to protect their eyes from ultraviolet light. You've trained them to use quality lotions. You've got them thinking about what medications might react adversely to sunlight. What you've done is taught them how to tan "smart" indoors.

¹ Comprehensive Survey of Indoor Tanning Client Beliefs and Behaviors. International Smart Tan Network. May 2005.

² Consumer Survey of 4,000 Indoor Tanning Clients. International Smart Tan Network. 1997.

³ Holick, MF, Jenkins M. The UV Advantage. iBooks. 2003.

⁴ Levy, SB. Sunscreens and Photoprotection. Published on eMedicine.com.