

# Sun Safe Behaviors: Confronting Compliance, Creating Change

**M**ore Americans this year will be diagnosed with skin cancer than with breast, prostate, lung, or colon cancer, combined. Despite the grim reality—and the fact that UV avoidance, including use of sunscreen, is the best way to prevent skin cancer—American consumers don't regularly use sunscreen. Those who do, may not apply it properly. Confronted with this reality—or worse, when seeing patients with sunburns and skin cancers—dermatologists can become frustrated. They assume patients are disregarding their advice. But what if the problem were more complex? Perhaps patients *want* to take a more active role in protecting their skin but are simply tied down by patterns of poor behavior.



Elizabeth Tanzi, MD

The field of behavior psychology has clearly established that behavior change can be difficult. And, as discussed in Part 1 of this series (available online at [PracticalDermatology.com](http://PracticalDermatology.com)), facts and science are not always good motivators of change.

"It's not good to just 'scare' people out of the sun," observes Elizabeth Tanzi, MD.

"We need to provide an action plan they can use to reduce the risk. A friendly conversation is helpful about practicing 'safe sun' with a good quality sunscreen, sun protective clothing, hat, sunglasses, etc. All those things work so people can have fun outside but protect their skin at the same time."

## RISKS AND REALITIES

### Get Real: UV Risks Include Skin Cancer and Skin Aging

While scare tactics are not effective, Dr. Tanzi and her peers agree that patients require education about the effects

## Mom Always Said...And Did

Most habitual tanners pick up the habit at an early age, Dr. Pagoto says. The conventional wisdom that good habits (and bad) start young holds true in the literature. Data also show that moms who tan are more likely to have daughters who tan. Dr. Pagoto is currently conducting research on moms/daughters and tanning. She encourages dermatologists to talk to adolescents and the mothers of adolescents about avoiding tans and using sunscreen. Likewise, studies show us that kids are more likely to wear sunscreen if they see their moms apply sunscreen. Encourage patients to apply sunscreen in front of their kids to impact sun behaviors of the next generation. Emphasize the importance of setting an example. "Even if she tells her daughter, 'You should wear sunscreen,' her influence on her daughter will be more so from what she does than what she says," Dr. Pagoto notes.



Neutrogena® brought together leaders in dermatology, photobiology, skin cancer advocacy and behavior psychology for a discussion about how to reframe the narrative around sun protection and skin cancer. Inspired by that dialogue, *Practical Dermatology*® magazine last month published a discussion of key motivators for patient behavior with an emphasis on encouraging UV-healthy habits. This month, we take a closer look at myths and misperceptions that hinder compliance with UV safety recommendations, and focus on confronting the skin cancer epidemic.

# How to Encourage Sun Safe Behavior

of cumulative UV exposure so they can recognize the risks—and the need for action. And the risks aren't limited to skin cancer. "When discussing the damaging effects of UV exposure with patients, I make sure they realize that the sun is the number one thing that is causing their skin to show the classic signs of aging. This resonates, because many of the patients in my office are there for cosmetic treatments to reduce the signs of aging; if they are making the investment to look more youthful, why ruin it by getting too much sun?" Dr. Tanzi explains.



Cheryl Burgess, MD

Cheryl Burgess, MD takes a similar tack, emphasizing both short and long-term consequences of exposure. "I explain to my patients the analogy that A=aging, B=burns. UVA exposure can penetrate through windows, and nothing stops the aging process. UVA exposure makes us look older. Therefore, long-term, we can minimize or slow down aging by blocking UVA. Sunburns are both immediate and delayed. There is immediate discomfort and delayed possibility of

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## Get Real: Science Supports the Benefits, Safety of Sunscreen

Dermatologists must present the facts to patients and also counter popular myths. In recent years, certain "watchdog groups" and associations have been questioning the efficacy and safety of sunscreen formulations, and popular media outlets have been quick to report their assertions.

Citing research—some of which is early bench work that was never duplicated or expanded on—some groups suggest to consumers that sunscreens are ineffective or may actually cause cancer. They have described certain sunscreens, like oxybenzone as hormone disruptors and environmental toxins. They have suggested that antioxidants in sunscreens simply suppress erythema while UV damage accumulates, and have cited small, contested studies that suggest sunscreen use encourages individuals to stay in the sun longer.

## Innovations in Compliance: From Texts to Formulation



Steven Q. Wang, MD

Sunscreens have come a long way since they were first introduced in the 1940s. Today, they are the predominant form of photoprotection around the world. Yet, surveys show that only 4 in 10 households actually purchase sunscreen in the US and only 33% of the public apply sunscreen. Making matters worse, most individuals apply just one third to one half of the desired amount of sunscreen resulting in significant discrepancy between the SPF on the label and the actual SPF. These are poor statistics despite decades of public health campaign by dermatologists, non-profit organizations and government health agencies to Americans about the risks associated with cumulative UV exposure.

Evidence and experience suggest that simply urging patients to use sunscreen—even within the context of warnings about the dire consequences of not using it—does not change behavior. Dermatologists, then, must find other meaningful solutions to change behaviors.

Approaches have been shifting education from fear based (i.e., skin cancer) to appearance based (i.e., prevent photoaging) motivation. In addition to provide motivation, dermatologists should also adopt technologies and other behavior altering tactics to help the public to remember to use sunscreens and other photoprotective

methods on a regular basis. One example of technology is using low-cost text message reminders. Studies have shown that daily text on weather, followed by reminder to use sunscreens increase patients' compliance to apply and reapply their sunscreen.

We as dermatologists should also urge ongoing development in the realm of sunscreen formulation and continue to educate our patients about the latest innovations. Patient dissatisfaction with formulations may be an impediment to use. Some formulations of the past were sticky, tacky, greasy, or smelly—depending on the patient's perspective. Some have been known to leave a white sheen on the skin, especially in patients with dark skin tones. Today's sunscreens are more patient-friendly and continue to improve. Where there once were only "sunscreen lotions," consumers have the option of sprays and sticks,

In sum, great technical progress has been made in the field of sunscreen. Modern day sunscreens provide much higher SPF and UVA protection. However, future ongoing technical development should focus on sensory aspect of sunscreen formulation and other tactics to enhance compliance. In the end, the best sunscreen is not necessarily the one with the highest SPF value. Rather, it is the one that is liked by consumers who want to use it on a regular basis for their skin health.

—Steven Q. Wang, MD

It's impossible to know the motives of these groups, but Adam Friedman, MD suspects that some have financial motives, while other groups may think they are doing a public service. Regardless, he says, dermatologists must arm themselves with "powerful data" supporting the safety and efficacy of sunscreens in the US.

Sometimes the reported "danger" is extrapolated from in vitro studies where human cells, such as sperm cells, are exposed to high concentrations of a chemical in a test tube, with negative consequences. "Those safety concerns do not necessarily translate to real world usage," he says, because it's unlikely that the topically applied chemicals even enter the bloodstream to interact with the types of cells tested. He also notes, for example, that some groups frequently target retinyl palmitate, which is a derivative of vitamin A and has not been associated with adverse effects over many years of use.

Similarly, the emergence of nanoparticle mineral sunscreens has been an important innovation, making these ingredients more cosmetically acceptable, Dr. Friedman says. Some reports suggest that nanoparticles enter the bloodstream posing a risk to health, but Dr. Friedman, who has been heavily involved in nanoparticle research, notes that, "Not a single study to date has shown that nanoparticles penetrate the skin."



Adam Friedman, MD

### Get Real: UVA Screens Matter

When organizations start undermining confidence in UV filters, consumers lose, Dr. Friedman says. "There are very few UV filters—especially UVA filters—approved in the US," he observes, and to suggest the people shouldn't use them based on unfounded risks "is irresponsible."

Interestingly, products sold in the US do not have to state the degree of UVA screening provided; they must simply conduct a pass/fail test based on the critical wavelength value of 370nm. However, the in vitro Protection Factor in UVA (PFA) test, which measures either pigment darkening or erythema following UVA exposure, can indicate the degree of UVA protection a formulation provides, according to the Skin Cancer Foundation. Physicians and consumers should ask sunscreen marketers to verify the PFA value of a given formulation to confirm its level of UVA protection.

### Get Real: You Don't Need Unprotected UV Exposure for Vitamin D

And what about the concern over vitamin D deficiency arising from UV avoidance? "I tell patients you can go to any drug store and get a bottle of vitamin D for not very much money," Dr. Friedman says. So why risk skin cancer?

There is a notion among some patients with darker skin that they are naturally protected from UV. However, Dr. Burgess observes, in the US, many patients "adore their skin color and do not want to be lighter or darker." She capitaliz-

## Don't Take My Word for It

When confronting patient concerns about the safety or benefits of sunscreen use, dermatologists can trust their peers to support their recommendations. According to a recent survey by the National Society for Cutaneous Medicine (NSCM), dermatologists overwhelmingly believe sunscreens are both safe and essential. Here's a look at the findings.

**99%** Dermatologists agree that regular use of sunscreens helps lower skin cancer risk.

**96%** Dermatologists consider FDA approved sunscreens currently available in the US to be safe, including those with filters like oxybenzone and avobenzone.

**99%** Dermatologists recommend their family and friends use sunscreen to help protect their skin.

**96%** Dermatologists agree patients generally under-apply sunscreen.

**3 out of 4** Dermatologists agree sunscreens with a SPF 50+ provide an additional margin of safety at real-life application levels.

**SPF** One of the main criteria that dermatologists regularly use to recommend a sunscreen.

es on this desire by assuring patients that "application of sun protection preparations are the perfect method to curtail unwanted change in skin color." She also educates patients of color that a sunburn is not always manifested as erythema. "I educate them that soreness or sensitivity to touch after being out in the sun is also a sign of sunburn. Seeing demarcation of a clothing outline on the skin is also associated with sunburn."

### Get Real: Tanning Beds Are Not Safe

Dr. Burgess also sees another disheartening trend. "There is a misconception among young people that tanning beds are safer than being in the natural sun," she says. This is not true. "I educate them on the dangers of UVA and UVB and the number of young people I see who will not look sexy at the beach with scars all over the body from skin cancer excisions. The risk of getting more skin cancers once the first one is diagnosed dramatically increases, because the skin was equally affected by sun's ultraviolet radiation. It is just a matter of time!"

# How to Encourage Sun Safe Behavior

## BAN THE TAN?

Despite progress, the perception that a tan is a sign of beauty stubbornly persists. A tan is *not* necessarily a sign of health. Rather, it is a sign of skin's response to UV. State legislatures and the CDC are calling for age restrictions at tanning salons. This can help to shift perceptions. More must be done to influence individuals, especially adults, to view tan skin as the potential damage it truly represents.

Dermatologists would likely prefer that patients individually and society overall would abandon the notion that a tan reflects "health" or "beauty." This may be a realistic long-term goal, says behavior psychologist Sherry Pagoto, PhD, but don't expect a paradigm shift in the near future. For some patients, tanning is a stress-reduction activity. So how can dermatologists encourage healthier behavior?



Sherry Pagoto, PhD

*Understand Motives.* "For the group of people who really like to tan, who put a lot of effort into getting tan, just telling them about skin cancer—and even premature aging, to some extent—doesn't really change that behavior. They're still motivated by that immediate consequence of getting a tan," Dr. Pagoto says. "It's really important to understand why people are tanning and offer healthy alternatives to achieve those goals." Offering new, healthier stress reduction strategies can be especially helpful."

*Offer Safe Alternatives.* Rather than make the "tan" the enemy when dealing with these patients, it may be necessary to focus instead on UV itself. Research, including studies Dr. Pagoto conducted, show that patients who really want a tan aren't easily swayed by other arguments.

Even when tanners accepted and used free sunscreen as part of a study, they tended to use minimal amounts and endorsed its value to reduce burning while optimizing tanning!

Talk to patients about safer alternatives to UV-based tanning: bronzing make-up, sunless tanners, spray tans, etc. Patients may have tried older, less-effective versions of these, so let them know they have new, more aesthetically elegant options.

*Don't Put Patients on the Defensive.* Tanners often are aware of risks and sometimes indicate some worry—but for them the risks don't outweigh the value of the tan. "Be careful not to put people on the defensive," Dr. Pagoto warns. "Be careful that you express that you understand their ambivalence. Validate it...But ask, 'Have you thought about other things that will give you the results you want?'"

"We do find that tanners in a lot of our studies are very high in terms of body image concerns," Dr. Pagoto points out. This may be a benefit for dermatologists. "Dermatologists have everything in their pocket in terms of a discussion about things we can do to improve your look."

*Identify Addiction.* Tanning has also been identified as a potentially addictive behavior. Patients may habitually tan because of appearance concerns or for relaxation. Dermatologists can be vigilant for signs of true addiction, such as persistent tanning despite bad sunburns or tanning after a skin cancer diagnosis, and be prepared to make referrals to mental health professionals who can help.

## NOW IS THE TIME

The US faces a skin cancer epidemic. "We're in a terrible crisis," Dr. Friedman says bluntly. And there is increasing evidence that patients are developing cancers at an earlier age. Dr. Tanzi says she sees more young patients—especially women—with skin cancers. Having one skin cancer is often enough to motivate UV avoidance. So Dr. Tanzi shares her patients' stories and her own (she survived melanoma) to educate others.

Dr. Burgess is "treating more pigmented basal cell carcinomas from people of darker complexions than I have in my 29 years of practice. In my light complexion patients, the skin cancers are appearing sooner in life."

Treating skin cancer is a financial burden on the US health-care system. Dr. Friedman believes patients ought to think more about the costs: "Cost to healthcare, cost to the person, cost to their family." In contrast, he says, "How much does it cost to apply sunscreen every day?"

Dr. Friedman acknowledges that patients can't fully "grapple with the idea of developing skin cancer over time." So he urges doctors to focus on the immediate and long-term consequences of UV exposure. Many patients don't realize that in addition to redness, aging, and skin cancer, UV exposure has immediate immunosuppressive effects (think herpes labialis reactivation).

And, of course, to stem the tide of skin cancer, patients and dermatologists need to think beyond the use of SPF. "I think we really need to be raising the discussion to 'safe sun'," Dr. Tanzi maintains. "It is important for people to get outside and have a great time, but always think about protecting the skin (and eyes) at the same time.

"Sunscreen is just one tool in the toolbox for a good sun protection program. It's not a magic potion to prevent all skin injury from excessive UV exposure, which (unfortunately) is the message that many people hear. The bottom line: have fun in the sun, but use common sense and protect your skin from harmful UV as best you can with a combination of avoidance (shade, umbrellas, hats, sunglasses), cover with clothing (they make very nice sun protective clothing now) and of course, use a broad-spectrum sunscreen of at least SPF 30 (if not higher) and reapply often to protect the skin that is exposed."

*Read Part 1 of this series at [PracticalDermatology.com](http://PracticalDermatology.com)*