A Message From the President

This issue marks the 30th anniversary of *Sun & Skin News*. When we launched in 1984, The Skin Cancer Foundation already strongly believed that ultraviolet B (UVB) radiation from the sun was the major cause of basal cell carcinoma (BCC), squamous cell carcinoma (SCC), and melanoma. We asserted that using daily sun protection — shade, sun-safe clothing (including wide-brimmed hats and UV-protective sunglasses), and sunscreen — would vastly reduce the risk of developing these skin cancers, while regularly examining one's skin head to toe and having a yearly professional skin exam would help detect skin cancers at an early, curable stage. At that time, people were totally uninformed about these things, and though I'd seen a great deal of evidence in my own practice, the definitive studies did not yet exist to prove our claims.

The Skin Cancer Foundation was also the first organization to maintain that adequate sunscreen protection required an SPF (sun protection factor) of a minimum of 15 daily. Unfortunately, few sunscreens available then provided an adequate SPF against UVB.

How times change! In the intervening years, both UVB and ultraviolet A (UVA) radiation from the sun have been proven to cause skin cancer in humans — including melanoma, the deadliest form of skin cancer. In the past few years, research has also confirmed that indoor UV tanning is at least as dangerous as solar UV, and possibly more dangerous.

Our original recommendations about sun protection and skin exams have proven to be true. Recent landmark studies have shown that regular sunscreen use can reduce melanoma incidence by 50 percent, and that regular total-body skin exams by physicians can reduce melanoma deaths by half. Sunscreens are vastly improved today, with higher SPFs providing excellent UVB protection and new ingredients providing much more complete UVA protection. We also now have access to both everyday and specially made clothing that is virtually impervious to sun exposure.

In short, science has confirmed our original assertions. The public is more aware of skin cancer dangers than ever, thanks to ongoing educational campaigns. The Foundation now has the foremost skin cancer website in the world, SkinCancer.org, with 600 pages of skin cancer content that reach millions of people annually. Facebook and Twitter add to our outreach.

Nonetheless, skin cancer incidence is still skyrocketing. When we printed our first issue, 400,000 skin cancer cases were being diagnosed annually in the US; today *3.5 million* cases occur annually. The public's behavior has to reflect its improved knowledge; people are still going out in the sun unprotected, and more than a million a year still go to tanning parlors. We will continue doing our very best to discourage these harmful habits while keeping you up to date on the prevention, detection and treatment of the world's most common cancer.

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Ask the Expert

Mary Hall, MD

Q. What products truly promote anti-aging? Can any ingredients help undo the sun damage I've sustained?

A. Today, vitamins are incorporated into many topical anti-aging products. Vitamins A, C, and E in particular play an important role: as antioxidants, they inhibit oxidation, the process that produces harmful "free radicals" that can lead to skin aging and skin cancers. Vitamins C (often listed on labels as ascorbic acid or ascorbyl glucosamine) and E (sometimes known as alpha or beta tocopherol) can decrease sun damage and improve skin texture. Vitamin A derivatives, known as retinoids, help soften fine lines and correct uneven skin tone by stimulating production of collagen, a protein required for healthy skin, and hyaluronic acid, a major component of skin and connective tissue. Vitamin A derivatives include over-the-counter retinyl palmitate and the prescription retinoids Renova (tretinoin) and Tazorac® (tazarotene) (which should all be avoided during pregnancy). Retinoid users must be vigilant about sun protection, since these products make the skin especially sun-sensitive.

Alpha hydroxy acids (AHAs, which also increase sun sensitivity) are another important topical anti-aging ingredient. Glycolic acid is the most beneficial, since it enhances dead skin shedding and helps correct skin discoloration. Proteins like growth factors and peptides also show promise. Growth factors play a role in cell division, new cell and vessel growth, and production of collagen and elastin, a connective tissue protein. Peptides stimulate collagen growth.

For a product to be truly anti-aging, however, it must also protect the skin from the sun's ultraviolet A (UVA) and ultraviolet B (UVB) rays, which not only can lead to skin cancer, but cause more than 90 percent of the skin changes we commonly attribute to aging, including wrinkles, sagging skin, and brown spots. I recommend products containing a broad-spectrum (UVA/UVB) "physical" sunscreen with an SPF (sun protection factor) of 30+. Physical (mineral) sunscreens, primarily zinc oxide and titanium dioxide, reflect UV radiation away from the skin. (In contrast, "chemical" sunscreens absorb UV rays before they reach the skin.)

Make sure any anti-aging product you choose is packaged in an opaque container with a pump or wand dispenser. This helps protect the ingredients from exposure to light and air, which can prompt their breakdown.

Topical products are not the only route to anti-aging. Vitamins A, B, C, D, E, and K; essential fatty acids (alpha-linolenic and linoleic acids); folic acid (a.k.a. folate, or vitamin B9), and the minerals zinc and selenium, all important for healthy skin, can be obtained through diet. Supplements are a safe and inexpensive way to obtain nutrients that are difficult to acquire solely from food, like vitamin D.

For a product to be truly anti-aging, it must protect the skin from the sun's UVA and UVB rays, which cause more than 90 percent of the skin changes we commonly attribute to aging.

There are also more invasive options: lasers, radiofrequency, facelifts, chemical peels, Botox, and soft tissue fillers (e.g., Restylane®) can all help reverse the signs of aging (some can even eliminate precancerous cells), but must be repeated periodically to maintain benefits.

For an effective anti-aging (and skin cancer prevention) regimen, see The Skin Cancer Foundation's Prevention Guidelines at skincancer.org/prevention.

Our guest expert, Mary Hall, MD, is co-director of Hall and Hall Dermatology Associates in Morgantown, West Virginia. She attended medical school at West Virginia University, completing her dermatology residency in 2002. Dr. Hall is a fellow of the American Academy of Dermatology and the American Society for Dermatologic Surgery.

More stories, news and information available at **SkinCancer.org**

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Perry Robins, MD, President | Mary Stine, Executive Director

Tanning Machines Are Twice as Dangerous as the Midday Mediterranean Sun

Both indoor and outdoor ultraviolet radiation (UVR) tanning are proven causes of skin cancer, but the average indoor tanning machine in England is 2.3 times *more* cancer-causing than the midday Mediterranean sun. In fact, some British tanning machines are up to six times as dangerous, according to researchers who measured ultraviolet A (UVA) and ultraviolet B (UVB) radiation output from hundreds of tanning machines.

In the US, a 2003 study found that the average tanning bed emitted four times the UVA radiation, and two times the UVB radiation, of the midday summer sun in Washington, DC.

In the US, tanning beds have been found to be comparably dangerous. A 2003 study found that the average tanning bed emitted four times the UVA radiation,

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and two times the UVB radiation, of the midday summer sun in Washington, DC. Furthermore, high-speed sunlamps emit a UVA dose six times, and high-pressure sunlamps 12 times, that of the Washington, DC, summer sun.

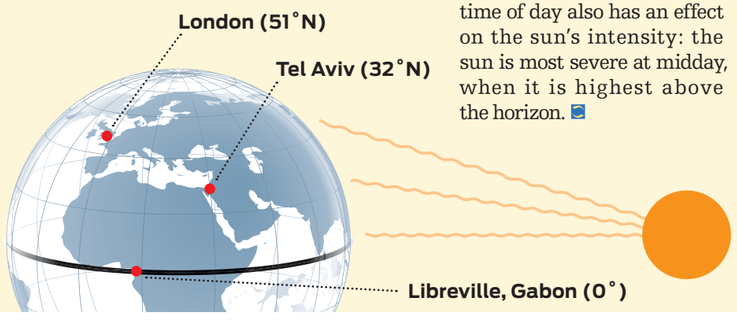
Melanoma, the deadliest form of skin cancer, will kill an estimated 9,480 people in the US in 2013, and a single indoor tanning session increases users' chances of developing melanoma by 20 percent. Regular tanners also have 2.5 times the risk of developing squamous cell carcinoma and 1.5 times the risk of developing basal cell carcinoma compared to non-tanners.

The British study's authors, writing in the *British Journal of Dermatology*, determined that nine out of 10 tanning beds in England emit more UV radiation than recommended by British and European safety standards, typically almost *double* the recommended amount. These excessive levels are especially worrisome considering that any UV tanning causes DNA damage that ages the skin and can ultimately cause skin cancers.

For more about the dangers of tanning, please visit **skincancer.org/tanning.**

Latitude and the Sun's Intensity

The legendary intensity of the Mediterranean sun is partly due to its relative closeness to the equator (0° latitude), where the sun is strongest. The further north or south a location is from the equator, the weaker its solar intensity. For example, London, located 51° north of the equator in southern England (in the UK), receives less intense sun than does the Mediterranean city of Tel Aviv, Israel, which is at 32° North. The time of day also has an effect on the sun's intensity: the sun is most severe at midday, when it is highest above the horizon.



FAST FACTS

85% Scientists recently found that 85 percent of nonfamilial, advanced melanomas contain a specific gene mutation (abnormality) caused by exposure to ultraviolet (UV) radiation from the sun or tanning beds.

76% Of melanoma cases among 18-to-29-year-olds who had tanned indoors, 76 percent were attributable to tanning bed use.

75% People who first use a tanning bed before age 35 increase their risk for melanoma by 75 percent.

All in the Family

A recent study in the *British Medical Journal* found that children of a parent with a history of melanoma or squamous cell carcinoma (SCC) have a greatly increased risk of developing these skin cancers themselves, even if the parents developed their skin cancers at an advanced age.

300% On average, those with a parent who has been diagnosed with melanoma are almost **300 percent more likely to develop the disease** than children who do not have a parent with a history of melanoma.

One in 10 melanoma patients has a relative with a history of the disease.

76,690 An estimated 76,690 new cases of melanoma will be diagnosed in the US in 2013; **the disease will kill 9,480.**

220% Children with a parent who has been diagnosed with squamous cell carcinoma (SCC) are **220 percent more likely to develop the disease** than those who do not have a parent with a history of SCC.

2,500 The second most common skin cancer, SCC affects an estimated 700,000 people in the US annually. **It kills approximately 2,500 every year.**

Since about 86 percent of melanomas and 90 percent of non-melanoma skin cancers can be attributed to the sun's ultraviolet (UV) rays, it is essential for children of parents with a history of skin cancer to practice daily sun protection. For The Skin Cancer Foundation's complete sun safety regimen, go to skincancer.org/prevention.

Taking Action Against MTV For *Jersey Shore*'s Disturbing Depiction of Tanning

The Skin Cancer Foundation recently filed a complaint with the Federal Trade Commission (FTC), asking it to investigate the MTV series *Jersey Shore*'s portrayal of tanning. The complaint alleges that *Jersey Shore* — recently cancelled but expected to live on through repeats — consistently depicted ultraviolet (UV) tanning as an enjoyable ritual (part of the cast's "GTL", or gym, tan, laundry routine), instead of the cancer-causing activity it is. "The references to tanning as harmless recreation are hazardous to public health," said Perry Robins, MD, the Foundation's President and Founder.

Jersey Shore's tanned Snooki

The Foundation's survey of 17 *Jersey Shore* episodes identified 186 visual or verbal references to UV tanning, including a photo of a tanning parlor shown in the show's opening credits — with no mention of tanning's serious health risks. Just one indoor tanning session increases chances of developing melanoma by 20 percent, and each additional session significantly adds to the risk. Melanoma will kill almost 9,500 people in the US this year alone.

Repeats of *Jersey Shore* will continue to expose its young audience to this disturbing behavior, without any disclaimer. "We are dealing with a tanning epidemic, and I see the effects on young people every day in my practice," said Deborah S. Sarnoff, MD, Senior Vice President of the Foundation. "There's a cavalier attitude that it's 'just' skin cancer, easily remedied. But it's not a joke to people who watch their nose get destroyed by skin cancer, or who undergo chemotherapy to stop the spread of a potentially deadly melanoma. I've had patients — frequent tanners as young as 25 — *die* from melanoma." While MTV does not advocate any particular behavior, the network has an impressionable demographic at particular risk for skin cancer: from 1970 to 2009, melanoma incidence increased by *800 percent* among young women and 400 percent among young men. By refusing to warn *Jersey Shore* viewers about the dangers of tanning, MTV is putting lives in danger.

The Foundation's complaint is available at skincancer.org/jersey-shore.

YES! I want to help win the war against skin cancer. Enclosed is my tax-deductible contribution of:

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