 By Rebecca James Gadberry

Understanding Sunscreens

Q. Is it true that some major companies that sell sun block are being sued for lying about the effectiveness of their products?

A. Yes. In March, two of the United States' top class action lawsuit firms filed a lawsuit against the makers of five sunscreens marketed as sun blocks—Banana Boat, Bullfrog, Coppertone, Hawaiian Tropic and Neutrogena. The suit alleges that certain statements made by these companies create a sense of artificial security that endangers users. "False claims such as 'sun block,' 'waterproof' and 'all-day protection' should be removed from these products immediately," states Samuel Rudman, a New York-based partner with one of the filing firms, Lerach Coughlin Stoia Geller Rudman & Robbins LLP, in a published statement.

Although not widely acknowledged in the sun-protection world, these claims were deleted during the past decade from the terminology allowed by the U.S. Food and Drug Administration (FDA) for sunscreens. The agency's reasoning was very clear: No product can deliver on these types of promises. Sunscreens lessen the amount of exposure the skin has to ultraviolet (UV) rays, but they do not block them altogether. No sunscreen is absolutely waterproof, but if it remains active after 40 minutes of exposure to water, the FDA says it can be described as "water-resistant"; 80 minutes of activity earns it a "very water-resistant" claim. After toweling off, regardless of how much time a person spends in the water, every sunscreen must be reapplied.

However, rather than focusing on whether these claims are rightly made, it's more important to look at the backlash that can—and probably will—occur from the publicity this lawsuit is getting in the media. After reading headlines stating that sun block companies are being sued for fraud, as well as the media's favorite quote from Rudman, "Sunscreen is the snake oil of the 21st century, and these companies that market it are Fortune 500 snake oil salesmen," many of the clients you've worked so hard to convince throughout the past 30 years to wear sunscreen may decide to

MANY CLIENTS may decide to stop using sunscreen because they think they've been deceived.

stop this practice because they think they've been deceived. That is the tragedy of this lawsuit and the claims that have brought it into being. Although Rudman's group has made it clear that they aren't suing because someone was injured, imagine all the people who will be hurt when they develop skin cancer because they stopped using the sunscreens they now believe were sold to them under false pretenses and fraudulent claims.

So what do we do? First, stop referring to sunscreens as sun blocks. They're not, and the FDA has clearly stated that they are not to be described as such. This is a false promise and is very misleading to your clients who may believe that their skin never will be touched by UV rays as long as they have this product between them and the sun. Instead, use the proper terminology: sunscreens. These products screen out or reflect some—and sometimes most—of the sun's UV rays, but they don't block them completely, and to imply that they do is not being honest.

Next, it is important to bring up the lawsuit and express your concern that the message being delivered by the media is not the real message. It isn't that these companies lied about the fact that sunscreens protect the skin from UV rays; it's that they led consumers to believe they were more protected than they actually were. Sunscreens do work to protect skin from UVB and some UVA rays, but there's more to protecting the skin than just wearing it.

Here are some other tips from the American Academy of Dermatology that you can share with your clients.

- Wear protective clothing, such as a long-sleeved shirt, pants, a wide-brimmed hat and sunglasses, when possible.
- Seek shade when appropriate, and remember that the sun's rays are strongest between 10 AM and 4 PM.
- Use extra caution near water, snow, sand and concrete because they reflect the damaging rays of the sun, which can increase your chance of sunburn.
- Protect children from sun exposure by applying sunscreen. Kids younger than six months old should be kept out of the sun.
- Get vitamin D safely through a healthy diet that includes supplements. Don't seek it from the sun.
- Avoid tanning beds. UV light from both the sun and tanning beds causes skin cancer and wrinkling. If you want to look

like you've been in the sun, consider applying a sunless self-tanning product, but continue to use sunscreen with it.

- Check your birthday suit on your birthday. If you notice anything changing, growing or bleeding, see a dermatologist. Skin cancer is very treatable when caught early.

Q. *Why don't sunscreens block all UV rays?*

A. Some UV rays still get through, even with the very highest SPFs. Because the actual reason requires more than a passing knowledge of physics to understand, it's simpler to look at SPFs and how much protection they provide the skin.

The FDA has defined SPF as the amount of time it takes to produce minimal redness (erythema) in skin via UVB exposure. This is called the Minimal Erythemal Dose (MED), and it's achieved when the skin attains the amount of UVB required to produce redness, more commonly known as a sunburn.

An SPF 2 enables the skin to be exposed to UVB twice as long as when a sunscreen is not used before the MED is attained. This means that an SPF 2 absorbs 50% of UV rays, allowing the other 50% to get through, so it takes twice as long for the skin to absorb the amount of UV needed to produce redness. An SPF 8 absorbs 87.5% of the rays, leaving 12.5% to reach the skin. If you multiply 12.5% by 8, you get 100%, so the skin requires eight times the amount of UV needed to produce redness when wearing an SPF 8. An SPF 15 absorbs 93.33%, allowing 6.67% UV to get through, and an SPF 30 absorbs 96.67%, allowing 3.33% to pass. If you follow the diminishing numbers, you'll see that even the highest SPF will not absorb 100% of UV rays. This is why the FDA no longer allows the use of the term "sun block" to describe sunscreens.

Q. *Does an SPF 30 offer twice the protection as an SPF 15?*

A. Based on the numbers in the last answer, an SPF 30 offers less than 4% more protection than an SPF 15. But that isn't the whole story. To achieve the extra 4%, the higher SPF must reach beyond UVB rays into the UVA part of the sun's radiant spectrum. Because UVA is implicated in phototoxic and photoallergic reactions, as well as diseases such as lupus, this extra 4% can be enough to keep certain complexions safe in the sun.

Q. *Is it OK to add a sunscreen ingredient or a blend of ingredients to a moisturizer or foundation before selling it to my clients?*

A. No, it isn't OK. Adding sunscreen ingredients to another product makes you the product's manufacturer in the eyes of the FDA. Sunscreens are over-the-counter (OTC) drugs that are regulated by the FDA. They must be

produced, labeled and filled by an OTC manufacturing facility registered with and inspected by the FDA. Although it is highly unlikely that the FDA ever would become aware that you are adding sunscreen ingredients to your products before selling them to clients, if a client should ever make a claim against your liability insurance, the insurance company would not back such a practice.

Q. How much sunscreen should I tell my clients to apply if they're just wearing it on their face every day?

A. Follow the two-finger rule: Instruct your clients to put a line of sunscreen 1/8 inch wide down the lengths of their index and middle fingers. Unlike recommending a standard measure, such as a teaspoon, for each client, using a person's own fingers to measure will deliver the right amount of sunscreen for their size. This amount is enough to cover the entire face, ears, neck, throat and upper chest.

The two-finger rule applies regardless of whether the sunscreen is in the form of a moisturizer, foundation, blush or dedicated sunscreen product. Because most clients won't want to put this much foundation or moisturizer on their skin, and probably won't apply foundation to regions such as the backs of their neck or ears, recommending a sunscreen that's separate from other products may be preferable if reliable, consistent protection is desired.

Q. I have a client who went to Mexico for vacation and burned with the SPF 30 she's worn in the sun at home for years. Why did this happen?

A. Climate, altitude, time of year, medication, disease, cloud cover and even the number of reflective surfaces—water, sand, snow and cement—can increase the effects of UV hitting the skin. If a person burns in their backyard in June in 15 minutes, they would be able to stay out in the same backyard in June for three and a half hours with an SPF 15. But if that same person goes to a high-altitude location, such as Aspen, Colorado, in June on a cloudy day and has been taking diuretics for several days, that SPF is going to change and they are going to burn faster. In fact, the SPF could be

cut in half, allowing the person to stay in the sun for less than two hours. The same is true if your client moved from a northern climate, such as New Jersey, to one closer to the equator, such as Mexico. The message here: SPF isn't specific to the person; it's specific to the environment and conditions of exposure. Be sure to take all these points into consideration when advising someone in the selection of a sunscreen.

Q. *Are ingredients such as carrot oil, walnut extract, aloe and beta carotene natural sunscreens? If they are, why don't more manufacturers use them instead of chemicals such as benzophenone and octyl methoxycinnamate?*

A. It doesn't matter whether or not these ingredients are natural sunscreens. The FDA doesn't recognize them as such, so you can't claim them to be. The only ingredients that are recognized by the FDA as sunscreens in these OTC drugs are the following chemicals.

Aminobenzoic acid (PABA)
Avobenzone
Cinoxate
Dioxybenzone
Homosalate
Menthyl anthranilate
Octinoxate (formerly octyl methoxycinnamate)
Octocrylene
Octyl salicylate
Oxybenzone
Padimate O
Phenylbenzimidazole sulfonic acid
Sulisobenzone
Titanium dioxide
Trolamine salicylate
Zinc oxide

These are the only ingredients that legally can be claimed as sunscreens in OTC drugs in the United States. If carrot oil, aloe or any other ingredient is in a product—regardless of whether or not it delivers UV protection—it cannot be identified as a sunscreen. The only exception is if the product, not the individual ingredient, receives New Drug Approval from the FDA.