Rosacea, Part II

by rebecca james gadberry

In the April 2003 issue of *Skin Inc.* magazine, common rosacea tripwires and how to avoid them were reviewed in this column. This month, a few cosmetic ingredient solutions that may help will be examined and when combined with lifestyle management techniques, can help keep signs of rosacea under control.

Though rosacea is one of the five most-diagnosed skin disorders by dermatologists, its root cause still is unknown and there is no cure. A plethora of recent research suggests rosacea may be due to a variety of biological factors, ranging from cascades of biochemicals triggered by heat, UV or stress, to a little mite known as demodex. Authorities, however, do seem to agree on one thing: rosacea is a vascular disorder triggered by episodes of blushing or flushing. More specifically, rosacea appears to be a neurovascular disorder that is a combination of the nervous system and blood vessels, influenced by biochemical mediators that cause the tips of blood vessels, known as capillaries, to expand, and then slowly contract after a lengthy period of time. After enough episodes, the capillaries remain permanently expanded and fine red lines called telangiectasia are obvious, usually around the base of the nose and on the cheeks. Once capillaries are expanded, swelling can occur when fluid leaks from dilated blood vessels into dermal tissue. The easily identified red nose of rosacea, known as rhinophyma, can occur in advanced cases and most often in men. Pustules and papules also form, perhaps as a response to prolonged or severe irritation.

Even though it is obvious rosacea is a vascular disorder, the traditional medical treatment for rosacea—a broad-spectrum oral antibiotic like tetracycline, minocycline or doxycycline in combination with the topically applied antibacterial and antiprotozoal drug, metronidazole—has been shown to bring rosacea flares down within a few weeks for the majority of rosacea patients. To keep rosacea in check, metronidazole is continued long-term. For advanced cases of pustular rosacea, Accutane* may be prescribed, while patients who experience severe and uncontrollable flushing may be put on the beta-blocker propranolol, or other blood pressure medications such as clonidine, lofexidine or methyldopa that are reported to reduce flushing by managing heat-regulating chemicals in the brain in the same way estrogen does.

These medical therapies are highly advised for rosacea patients displaying aggravated symptoms or frequent flare-ups. In fact, in a six-month study of rosacea patients using long-term therapies like metronidazole, 77% reported they remained in remission while 42% of those who did not maintain therapy experienced a relapse. That being said, those with milder symptoms often are more comfortable adopting drug-free methods that include lifestyle changes and cosmetic controls. In some cases, these drug-free methods may even help control aggravated symptoms. Of

*Accutane is a registered trademark of Hoffmann-LaRoche Pharmaceuticals, Nutley, NJ.

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course, if rosacea worsens, a dermatologist's intervention is strongly advised. Ideally, you and the dermatologist would work together to make sure your client gets the best care possible.

The purpose is not to discuss the causes of rosacea, except what is needed to explain why certain treatments may be working. If you want to learn more about rosacea—including new research into suspected causes of the disorder, the new method for classifying the physical signs of rosacea, more about accepted medical treatments, or how to help your clients recognize and control rosacea—visit the National Rosacea Society's (NRS) Web site at *www.rosacea.org*, or the American Academy of Dermatology's site at *www.aad.org*.

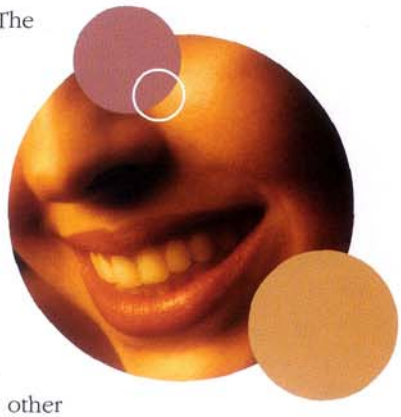
Q: What are the lifestyle modifications that are recommended to help control rosacea?

A: That depends upon your client. Rosacea tripwires vary from person to person, and can vary in impact at different times for the same person. The most common tripwire is sun exposure, 81%; followed by stress, 60%; and heat, 53%. Avoiding these and other triggers is considered one of the most reliable methods to curbing rosacea episodes: 96% of those who had identified personal tripwires reported that avoiding these triggers reduced their flare-ups. For a more thorough answer, see "Ingredient Review: Rosacea, Part I" in the April 2003 issue of *Skin Inc.* magazine. You also can contact the NRS for educational material, including a new booklet *Coping with Rosacea*, to help inform your clients about common tripwires and how to avoid or minimize them. The NRS can also provide you with a daily checklist to help your clients identify their personal tripwires.

Q: Redness seems to be the most common condition of rosacea. Are there any ingredients other than makeup that can reduce redness?

A: Prolonged redness can be due to a number of causes, but most researchers believe it is linked to inflammation that develops either before or after blood vessels expand and don't contract quickly. Antibiotics are thought to help calm this inflammation, but they need to be used judiciously and aren't recommended for long periods of use. The same is true for the over-the-counter drug hydrocortisone. Hydrocortisone also can worsen some cases of rosacea, so usually it is avoided as a treatment.

Some cosmetic ingredients are showing great promise as potent soothers—the cosmetic version of anti-inflammatories, which are drugs. Chemically standardized extracts of grapeseed, pomegranate, borage, kava kava, green tea or white tea, zinc oxide, allantoin, alpha lipoic acid, mangiferin from mango, bisabolol from matricaria, resveratrol from red grapes, glycyrrhizinates from licorice and quercetin from citrus, grapes and tea are among the most promising cosmetic ingredients being used to calm rosacea. Sea whip—*pseudopterogorgia elisabethae*, a feathery member of Caribbean-grown gorgonian coral, may hold the most promise: 0.06% of the extract neutralizes 90% of phospholipase A2 (PLA2), a naturally occurring enzyme in the body that leads to the pain and swelling seen with rosacea. Pseudopterosin, sea whip's active compound, is currently under review as a new drug for the treatment of arthritis, burns, psoriasis and contact dermatitis. A combination of sea whip and green tea that contained a standardized percentage of epigallocatechingallate (EGCG), the natural chemical researchers believe is behind green tea's anti-inflammatory effects, was applied to four rosacea clients displaying various stages of redness, from light to extremely red. The redness in all four paled and became normal within 5–10 minutes, returning six to eight hours later. I'm continuing my research to see if an aged version of the concoction has the same effect.



One last thought regarding redness: since the superoxide free radical usually is at the heart of the inflammation response, antioxidants specifically targeted to superoxides also should be of help. These include superoxide dismutase, glutathione, zinc and copper. A new broad-spectrum antioxidant from France derived from the green stone malachite appears to be the most effective superoxide-specific antioxidant found to date. Studies show just 0.01% malachite extract, produced by its supplier using a proprietary process, scavenges 98.3% superoxide and contributes to the biological formation of glutathione—one of the body's antioxidant enzyme boosters that may help control other biochemicals contributing to rosacea.

Ingredient Review

Q: Does washing the face help control rosacea? Some clients seem to think they can reduce flares just by keeping their face clean.

A: Remarkably, even though rosacea is a vascular disorder, keeping the skin clean seems to have a profound effect on reducing flares. In a study of 1,633 rosacea patients, reported by the NRS this past winter, 24% said the simple act of washing their face once a day was enough to control signs of rosacea, while 69% said twice a day was best. The form of cleanser did not seem to matter.

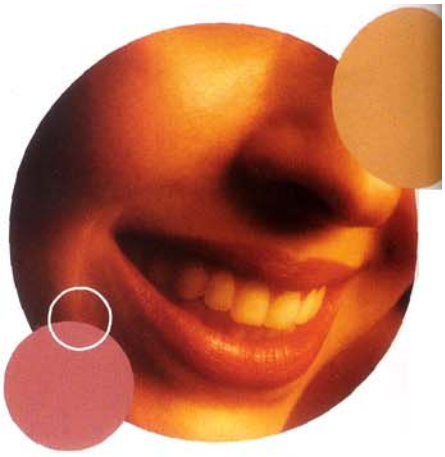
One explanation for this could be that washing removes lipase, an enzyme secreted by a strain of staphylococcus facial bacteria exposed to surface skin temperatures of 99 F or higher—a temperature that can easily be reached with the flushing and blushing seen with rosacea. Lipase breaks down sebum on the skin's surface and in pores. Found in all rosacea patients tested, but in only half of those without rosacea, lipase is thought to cause inflammation and contribute to the papules and pustules seen in some rosacea clients. This could be one reason why certain antibiotics help control rosacea outbreaks: they may reduce the amount of lipase-producing bacteria on the skin. At 0.5–1.0%, tea tree—*melaleuca alternafolia*—oil produced to the Australian standard is reported to kill staphylococcus and other bacteria that also may be implicated in rosacea, but some skin may find it too irritating to be helpful. Lipase also is found in the body's gastrointestinal tract, where it helps digest and absorb fat from the diet. Nature-oriented researchers are searching for plant-derived methods to reduce lipase that would make the fat indigestible and therefore pass from the body. One promising possibility is found in the young leaves of *Rhododendron caucasicum*, an evergreen grown in the Caucasus Mountains in the Republic of Georgia. Also known as the "snow rose," it is rich in the polyphenols caffeic, chlorgenic and gallic acids, the combination of which has proven effective at lipase inhibition. Another lipase inhibitor, *Cassia nomame*, commonly known as "sensitive senna," grows wild in parts of China, Southeast Asia, India and South America. In a Japanese study, an extract of *Cassia nomame* inhibited lipase production by 28%. While both of these plants show promise, to my knowledge no one has yet used them in a product for rosacea.

Since lipase production seems to increase with heat, keeping the skin cool also is advisable, as is washing soon after an episode of flushing or blushing, which causes the skin's surface temperature to rise. Cool compresses, a cooling gel mask generously applied over flushed areas, or water misted over the skin and allowed to air dry are all effective methods to quickly reduce skin temperature. Avoiding heat-producing chemical sunscreens like octinoxate and avobenzone also is advisable. Instead, the best choice seems to be a sunscreen with micronized zinc oxide that reflects light and does not reduce UV to heat. Zinc oxide also offers anti-inflammatory protection and seems to calm pustular rosacea.

Q: What type of skin care routine should I suggest for rosacea clients who are using topical medication?

A: First, it's important to remember that rosacea is a condition of the skin, not a skin type. Therefore, the skin care products you recommend should be appropriate for the client's skin type, and should be void of those ingredients your clients have recognized as triggering rosacea in their particular skin. Suggest that your clients apply products to dry skin, not moist. Moist skin is much more absorbent than dry skin and therefore is more likely to transmit irritants into lower skin layers where reddening occurs.

As with other types of sensitive skin, remind clients that the less they do, including applying the fewest number of products with the least amount of ingredients, the less chance their skin will have to respond to a trigger. Therefore, selecting a few simple, but multi-functional products is ideal. The exception to this rule is moisturizer with sunscreen. Since most people don't apply enough moisturizer to get the full SPF value of a moisturizer/sunscreen combination, it is advised that the two be applied separately, even though it may cost more money and require an extra step



each morning. The extra protection is definitely worth it, especially where rosacea is involved.

Here's a good method for combining homecare and medication in a normal skin care routine:

Step 1: Cleanse the face each morning, using a gentle, sulfate-free, rinseable cleanser. Sulfates tend to dry the skin of some rosacea clients, which leads to a damaged barrier that can aggravate rosacea symptoms. Splash 12–15 times with plenty of room temperature water until all of the cleanser is removed. Do not rub the skin with a cloth, sponge or anything else that might be rough on the skin. To dry the skin, blot; don't rub, with a soft towel. Finish by air drying. Wait at least 10 minutes for skin to dry completely before applying any medications or skin care products. Studies show that moist skin is ten times more absorbent than dry skin, which means the skin's barrier will not be wholly effective when skin is fresh from washing. *Tip:* If the room is steamy from a hot shower, a little longer than 10 minutes may be needed to air dry the skin.

Step 2: After 10 minutes, gently apply topical medication with thoroughly clean fingertips. Allow the medication to dry another 5–10 minutes. During this time, the medication will penetrate into lower layers of the skin, where it cannot be removed or diluted by perspiration or skin care products.

Step 3: It is now safe to apply a water-based moisturizer, a UVA/UVB physical sunscreen of titanium dioxide or zinc oxide with an SPF 15 or higher, and makeup products, usually in that order. Allow each layer to dry a few minutes before proceeding to the next.

Step 4: In the evening, repeat Steps 1 and 2. Follow with an evening moisturizer, allowing the medication to dry completely before applying.

For clients with enlarged pores or rough skin, a non-granular gommage that contains wax that binds to the upper skin cells then is gently rolled away with the fingertips, may be mild enough for many rosacea clients. This can be used 1–2 times a week, depending upon your client's ability to tolerate the gommage. Advise them to avoid the areas where rosacea pops up on their face—usually the butterfly zone across the nose and cheeks. But AHAs and other forms of chemical exfoliants are definitely out of the question, as are granular scrubs and microdermabrasion creams containing microfine grains. If a gommage is used on the skin, wait several hours until applying medication to avoid irritation. ■