

Optimizing Redness Reduction, Part 1: Rosacea and Skin Care

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Rosacea patients form a subset of individuals with sensitive skin, which makes the process of selecting skin care products and cosmetics problematic. Ingredients that typically cause little difficulty in the average patient can cause severe stinging and burning in rosacea patients. Sometimes the adverse reaction can be invisible; however, it is typically characterized by the rapid onset of facial flushing. For this reason, developing a methodology for product recommendations for rosacea patients becomes important. This article is part of a 2-part series discussing methods of optimizing redness reduction through the use of skin care products, cosmetics, and cosmeceuticals. Whereas it is clear that prescription therapy is necessary to reduce inflammation as well as inflammatory papules and pustules, the onset of facial redness can be minimized by carefully counseling patients on product selection. Part 1 of this series explains a rationale for the selection of cleansers and moisturizers, whereas part 2 addresses the selection of facial cosmetics and cosmeceuticals for rosacea patients.

Facial Cleansers

Proper skin care can enhance rosacea treatment or, in some cases, totally negate a positive effect. No skin care act is more important than cleansing. Since *Demodex* and *Propionibacterium acnes* may be contributory in some forms of rosacea, skin cleansing is the first step to restoring and maintaining a healthy biofilm. Thorough cleansing is also necessary to control the growth of *Pityrosporum* species in patients with an overlap of rosacea and seborrheic dermatitis. In short, the goals of cleansing for rosacea patients are to remove excess sebum, environmental debris, desquamating corneocytes, unwanted organisms, and residue from skin care and cosmetic products while leaving the skin barrier untouched. This can be a challenge because cleansers cannot distinguish between

sebum and intercellular lipids; therefore, products that clean too well may be problematic. This discussion focuses on the use of cleansers in rosacea patients with various skin types, including oily, normal, dry, and sensitive skin (Table 1).

Cleansers for Oily Skin

Many rosacea patients with highly sebaceous skin produce abundant sebum. Even though the skin is oily, over-cleansing will result in shiny, flaky skin. This is due to the barrier disruption created by the removal of intercellular lipids, causing premature corneocyte desquamation, followed by the subsequent accumulation of sebum. The face is overdry immediately after cleansing, but oily again 2 to 4 hours after cleansing. This is a challenging situation because cleansing does not reduce sebum production; it only removes the sebum present at the time of cleansing. This observation accounts for the ill-founded belief of some rosacea patients that skin cleansing produces redness and increases sebum.

The most basic cleanser for oily skin is soap, which is created from a reaction between a fat and an alkali, resulting in a fatty acid salt with detergent properties. Soap is composed of long-chain fatty acid alkali salts with a pH between 9 and 10. The high pH thoroughly removes sebum, but can also damage intercellular lipids. For persons with extremely oily skin, soap cleansers may be appropriate. Aggressive scrubbing with a washcloth or other implement should be avoided when trying to remove copious sebum because manipulation of the skin may provoke redness. A better solution is to wash the face twice, which will remove more sebum each time. It is best to gently massage the cleanser into the skin with the hands and then to rinse the skin with lukewarm water. It is important to avoid exposing the face to extreme water temperatures, which could provoke flushing.

Cleansers for Normal Skin

There is no definition of normal skin, however for this discussion the term will refer to patients without oily or dry skin. Soap may remove too much sebum in this population, thereby making syndet cleansers the

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TABLE 1

Cleansing Categories for Rosacea Patients

Rosacea Skin Type	Cleanser Type	Formulation
Oily	Soap	Long-chain fatty acid alkali salts, pH 9–10
Normal	Syndet	Synthetic detergents, contain less than 10% soap, adjusted pH of 5.5–7
Dry to sensitive	Lipid-free cleanser	Low-foaming liquids that clean without fats

preferred choice. Syndets, also known as synthetic detergents, contain less than 10% soap with an adjusted pH of 5.5 to 7. The neutral pH, closer to the natural pH of the skin, produces less irritation. In general, all beauty bars, mild cleansing bars, and bars for sensitive skin are of the syndet variety. The most commonly used detergent is sodium cocoyl isethionate. These cleansers also possess excellent rinsability, meaning that a film of soap scum is not left behind on the skin when used with water of varying hardness. Removing all traces of soap is an important property for rosacea patients with sensitive skin because the soap film might produce irritation.

For rosacea patients who are concerned about body odor and desire their skin to feel squeaky clean, using a combars cleanser is an option. Combars are produced by combining an alkaline soap with a syndet in order to produce less aggressive sebum removal than soap, but more aggressive sebum removal than a syndet. Most of the combars also add an antibacterial, such as triclosan, to provide odor-control properties. These cleansers are commonly labeled as deodorant soaps. For rosacea patients with abundant sebum production and difficult to control pustules, this type of cleanser may be beneficial. Triclosan is not approved as an acne ingredient in the United States, but it is used in Europe for this purpose. For rosacea patients with normal sebum production, the deodorant cleanser can be used once daily or once every other day to provide antibacterial effects without overdrying the face.

Cleansers for Dry Skin, Sensitive Skin, or Both

Many rosacea patients possess sensitive skin that must be gently cleansed because of limited sebum production. These patients are usually mature postmenopausal women. Lipid-free cleansers represent a cleansing alternative for this population. Lipid-free cleansers, which are characterized by low foam production, are liquids that

clean without fats, which distinguishes them from soaps. Lipid-free cleansers are applied to dry or moistened skin, then rubbed into the skin to produce a slight lather, and are rinsed or wiped away. These products may contain water, glycerin, cetyl alcohol, stearyl alcohol, sodium laurel sulfate, and occasionally propylene glycol. They leave behind a thin moisturizing film, but they do not possess strong antibacterial properties. For this reason, lipid-free cleansers are excellent for dry skin, but they are not recommended for cleansing the groin or armpits. They are also not recommended for removing excessive environmental dirt or sebum.

Cleansers for Removing Cosmetics

Removing cosmetics is important for rosacea patients, especially in the eye area in order to prevent worsening ocular rosacea. Many of the new polymer-based mascaras can be difficult to remove with water, necessitating the use of an additional cleanser. Low-foaming lipid-free cleansers may be used to remove cosmetics in rosacea patients. They can be applied dry and rubbed over the eyelids, cheeks, and lips to remove both water-removable and water-resistant cosmetics, followed by rinsing the skin with lukewarm water. If necessary, another cleanser can be used for additional cleansing. Many of the commercially marketed cosmetic removers contain solvents that are volatile and damaging to intercellular lipids, thus provoking facial redness.

Another product for removing cosmetics is cleansing cream. Cleansing creams are composed of water, mineral oil, petrolatum, and waxes. The most common variant of cleansing cream, known as cold cream, is created by adding borax to mineral oil and beeswax. These products are popular among mature women because they provide cosmetic removal and mild cleansing in one step. Even though these products are older formulations, they have withstood the test of time and should be considered by

rosacea patients with dry skin who are in need of thoroughly removing cosmetics.

Cleansing Cloths and Facial Redness

Cleansing devices combine a cleanser with an implement for washing the skin, with the most common cleansing device being a disposable cleansing cloth impregnated with a cleanser. The cleansing cloth is composed of polyester, rayon, cotton, and cellulose fibers, which are heated to produce a thermobond. Additional strength is imparted to the cleansing cloth by hydroentangling the fibers with high pressure jets of water, eliminating the need for adhesive binders. This creates a soft, durable cloth. The cleansing cloth can be packaged dry or wet, typically with a syndet cleanser. Dry cleansing cloths are wetted before use.

The amount of sebum removal produced by the cleansing cloth varies by the amount of cleanser and by the weave of the cloth. There are 2 types of fiber weaves used in cleansing cloths: open weave and closed weave. Open-weave cleansing cloths possess 2- to 3-mm windows between adjacent fiber bundles. These cleansing cloths are used in persons with dry skin, sensitive skin, or both in order to increase the softness of the cleansing cloth and to decrease the surface area to be cleansed. On the other hand, closed-weave cleansing cloths are designed with a much tighter weave and provide a more thorough cleansing, as well as induce exfoliation, which is intended to remove desquamating corneocytes. Whereas exfoliation may be beneficial for some rosacea patients, it may be problematic for others. The degree of exfoliation achieved is dependent on the type of weave of the cleansing cloth, the pressure with which the cleansing cloth is stroked over the skin surface, and the length of time the cleansing cloth is applied.

Many patients with rosacea wish to exfoliate their face because this has become a standard part of the modern skin care routine. The hydroxy acid and salicylic acid exfoliant cleansers and moisturizers may be problematic in this population due to the irritation invoked, which results in facial redness. Individuals with sensitive skin may wish to consider using an open-weave cleansing cloth gently over the face once weekly for mild exfoliation. This can improve skin texture without provoking unnecessary redness.

Moisturizing cleansing cloths are also available and may be the preferable choice in rosacea patients. These cleansing cloths contain 2 sides, which may be designed differently in order to deliver various benefits. Moisturizing cleansing cloths contain a cleanser on the textured side and a moisturizer on the smooth side. The moisturizing

cleansing cloth is activated with water, and the textured side is used first to clean and gently exfoliate the skin. The moisturizing cleansing cloth is then rinsed and turned over in order to rinse and moisturize the face simultaneously. This double-sided technology can also be used for removing cosmetics in some patients with rosacea.

A variant of the cleansing cloth is the cleansing pouch. Fusing 2 cleansing cloths around skin cleansing and conditioning ingredients creates the cleansing pouch. A plastic membrane is placed between 2 fibered cloths containing holes of various diameters to control the release of ingredients onto the skin surface. Many times the cleansing pouches contain a variety of botanicals, which may be problematic for rosacea patients.

Cleansers that Rosacea Patients Should Possibly Avoid

Some cleansers and cleansing implements may be problematic for rosacea patients. Products that induce aggressive exfoliation, such as abrasive scrubs, may provoke flushing. Abrasive scrubs incorporate polyethylene beads, aluminum oxide, ground fruit pits, or sodium tetraborate decahydrate granules to induce various degrees of exfoliation. The most aggressive exfoliation is produced by irregularly shaped aluminum oxide particles and ground fruit pits, which should be avoided by rosacea patients. Milder exfoliation is produced by polyethylene beads, which possess a smooth, rounded surface. The least aggressive exfoliation is produced by sodium tetraborate decahydrate granules, which soften and dissolve during use. I would recommend avoiding these products and using a cleansing cloth once weekly.

Another form of aggressive exfoliation is produced by sponges composed of nonwoven polyester fibers. These sponges are too aggressive for most rosacea patients. Rosacea patients have sensitive skin that must be handled gently, like a silk scarf. Pulling, tugging, rubbing vigorously, and using strong cleansers will ruin a silk scarf immediately; therefore, they are not recommended for rosacea patients with sensitive skin. Some rosacea sufferers will scrub their face mercilessly hoping to cleanse away the inflammatory lesions and redness, when in actuality they are only worsening the barrier damage. However, repair to the barrier damage can be facilitated with moisturizers.

Facial Moisturizers

Facial moisturizers are important in providing an environment suitable for barrier repair in rosacea patients. Facial moisturizers are the most important cosmetic in the

TABLE 2

Moisturizers for Day Wear that Contain Sunscreen

Rosacea Skin Type	Formulation
Oily	Neutrogena Oil-Free Moisture SPF 15
Oily to normal	Olay Complete Defense Moisture Lotion SPF 15
Normal	Neutrogena Moisture SPF 15 Purpose Dual Treatment Moisture Lotion With SPF 15
Normal to dry	Cetaphil Daily Facial Moisturizer SPF 15

prevention of a facial rosacea flare because they attempt to mimic the effect of sebum and intercellular lipids, which are composed of sphingolipids, free sterols, and free fatty acids. Facial moisturizers intend to provide an environment that allows healing of the stratum corneum barrier by replacing the corneocytes and intercellular lipids. Yet, the moisturizing substances must not occlude the sweat ducts, or miliaria will result; must not produce irritation at the follicular ostia, or an acneiform eruption will result; and must not initiate comedone formation. Furthermore, facial moisturizers must not produce noxious sensory stimuli, which may also provoke a rosacea flare.

Facial moisturizers are used to heal barrier-damaged skin by minimizing transepidermal water loss (TEWL) and creating an environment optimal for rosacea control. There are 3 categories of substances that can be combined to enhance the water content of the skin, including occlusives, humectants, and hydrocolloids. Occlusives are oily substances that retard TEWL by placing an oil slick over the skin's surface. Humectants are substances

that attract water to the skin from the skin's inner layers; however, if the ambient humidity is 70%, the water is absorbed from the environment. Humectants draw water from the viable dermis into the viable epidermis and then from the nonviable epidermis into the stratum corneum. Lastly, hydrocolloids are large substances, which cover the skin, thus retarding TEWL.

The best facial moisturizers that prevent facial rosacea flares combine occlusive and humectant ingredients. For example, a well-formulated moisturizer might contain petrolatum, mineral oil, and dimethicone as occlusive agents. Petrolatum is a synthetic substance that resembles intercellular lipids; however, too high a concentration will yield a sticky, greasy ointment. The aesthetics of petrolatum can be improved by adding dimethicone, which prevents water loss and reduces the concentration of petrolatum, resulting in a more acceptable formulation. Mineral oil is an excellent agent for barrier repair and further improves the ability of the moisturizer to spread, thereby yielding enhanced aesthetics. The addition of glycerin to the formulation will attract water from

TABLE 3

Moisturizers for Night Wear

Rosacea Skin Type	Formulation
Normal to oily	Olay Total Effects
Normal to dry	Cetaphil Moisturizing Cream CeraVe Moisturizing Cream Olay Original Active Hydrating Beauty Fluid

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the dermis and speed hydration. It is through the careful combination of these ingredients that facial moisturizers can be constructed to prevent facial redness.

Some basic facial moisturizer recommendations for rosacea patients are listed in Tables 2 and 3. These products were selected from those routinely sampled to dermatologists and are organized by skin type. Table 2 lists facial moisturizers for day wear that contain sunscreen, an important ingredient for rosacea patients because redness is worsened by chronic UV exposure. Table 3 lists products that are appropriate for night time use and is also arranged by skin type.

Summary

Rosacea patients may pose a challenge to dermatologists who are aiming to give practical advice on selecting skin care products. This article has addressed the basic concepts for selecting cleansers and facial moisturizers. The key to success in reducing facial redness is customizing a skin treatment regimen for each patient. Identifying skin needs and matching products to those needs will result in a satisfied patient. This article has provided some ideas for supplementing traditional prescription rosacea therapy with carefully selected skin care products. Part 2 will examine the selection of cosmetics and cosmeceuticals that reduce facial redness. ■