

# **MANAGEMENT OF FACIAL LINES AND WRINKLES**



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## CHAPTER 22

# SIMPLE SOLUTIONS TO COMMON FACIAL SKIN PROBLEMS

*Pigmentation Solutions* ▶ *Sunblock* ▶ *Acne*  
▶ *Wrinkles* ▶ *Bruises*

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Skin care is an important aspect of the facial plastic surgeon's practice. It can enhance a surgical result or provide a service to the nonsurgical candidate. Patients often seek the latest advances in the skin-care field. A physician's basic education in this area promotes a sense of detailed aesthetic awareness. It is important to know about prescription topicals as well as over-the-counter products. We need to know what is compatible and what may be redundant in our patient's home treatment regimen. New preparations and techniques are introduced frequently, making it difficult to have personal experience with them. This rapid evolution of skin preparations and techniques makes it most challenging to stay current. All products and techniques should be validated by the prescriber for their efficacy and side effects. To deliver the best care and recommendations possible, it is essential to experiment on ourselves. Under careful direction, an enthusiastic staff can assist in this testing process and be instrumental in evoking patient confidence in the techniques and/or products you recommend.

Before treatment begins, it is necessary to get a detailed patient history; be sure to note what routines and treatments have worked or failed. Determine at this time if the patient is currently under a dermatologist's care. Always respect the care plan the dermatologist has prescribed, even if the patient has not yet achieved

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the desired results. Refer the patient to the dermatologist for assessment if necessary. The exception is when the treatment you prescribe is specific to a surgical procedure to be performed.

I have no proprietary interest in any of the products discussed.

## ► Pigmentation Solutions

Pigmentation problems are not solved overnight and demand strict compliance with routine over several months. Pigmentation variations can be caused by many things; sun exposure, hormone therapy, and scarring are some of the most prevalent causes.

Five important facts to discuss with the patient:

1. Hypo- and hyperpigmentation are treated similarly. The aim is to lighten the darker areas of skin to blend with the lightest tone on the face. Unless the bleaching agent used incorporates sunblock in its formula, sunblock must be applied daily 30 min before sun exposure to achieve a more even skin tone. Failure to comply with sunblock use will limit the success of treatment. The physical sunblocks containing micronized zinc oxide or titanium oxide are preferred and are discussed further in this chapter.
2. Patients receiving hormone therapy may have limited results.
3. It takes a minimum of several weeks to see results. Three to six months is an average course of treatment.
4. During treatment, the hyperpigmentation may appear to darken slightly before it fades.
5. If irritation or dryness occurs during treatment, stop the product use. Notify the physician. In most cases, reducing the frequency of product use will relieve the problem. A light layer of petroleum jelly or hydrocortisone ointment, 1%, can be used nightly on all skin types until the skin returns to normal.

**Hydroquinone** is often the first product considered for skin lightening. Certainly it can be effective, especially when combined with other agents. Eldoquin Forte 4% Cream, when used alone, can be effective and contains a sunblock, thus eliminating the need for another layer of sunblock product. Light N Block by Physician's Choice of Arizona combines kojic acid and sunblock gentle enough to use near the lower eyelid. Combining hydroquinone with tretinoin is discussed later in this chapter.

Hydroquinone cannot be used indefinitely. A break of at least a month should be taken after a few months' use to prevent ochronosis. Alternative products, such as oxygen creams and kojic acid preparations, can be used during the break period.

With sensitive skin, hydroquinone is not always the topical of choice. Starting with a mild, more easily tolerated preparation can be the key to patient confidence in and compliance with the physician's prescribed care. The scale of strength moves from oxygen creams,  $\alpha$ -hydroxy acids (AHAs), vitamin C preparations, kojic acids, tretinoin-hydroquinone compounds, to Equanim Skin Tone Equalizer.



Equanim Skin Tone Equalizer is actually a mild product containing, as one of its minor active ingredients, kojic acid. It is placed at end of the scale for two reasons: it is most effective after hydroquinone use, and it is expensive.

**Oxygen creams** are a wonderful adjunct or singular skin treatment for mild pigmentation problems. Even patients with extremely sensitive skin can tolerate this form of treatment. Karin Herzog's Oxygen Face Cream 2% and/or Oxygen Body Cream 3% (applied to the face) once or twice daily will have a lightening effect without irritation. Always start treatment with the mildest cream, Oxygen Face Cream 2%, to avoid the possible undesirable side effect of a sensation of burning on application. These products are stabilized hydrogen peroxide that break down into water and oxygen when a light layer is applied to the skin. The oxygen is forced into the skin at 10 atmospheres of pressure. Caution the patient to avoid product contact with hair and fabric, because lightening may occur. These creams can be used with a gentle exfoliant such as a mild scub or AHA to enhance their effect. Use the exfoliant first. An AHA should be a 4% to 8% solution and be followed with the oxygen cream. It is important to note that the oxygen cream must be patted on the skin, leaving a thin layer that is absorbed over a 3- to 5-minute period. Do not massage the cream into the skin.

**$\alpha$ -Hydroxy acids** (e.g., glycolic, salicylic, and lactic acid) may have some benefit either alone or combined with other products. Someone with slight pigment irregularity, and particularly those with sensitive skin, may find improvement with this type of product in its milder forms. These acids work by exfoliation. Neostrata's gluconolactone 4% cream or Therapeutic Dermatologic Formula's 8% cream used twice daily can be effective products. For those with oily skin and male patients, who tend to prefer solutions that do not leave a perceptible residue, AHA solutions such as Therapeutic Dermatologic Formula's Oily and Acne Solution and Topix's Glyco pads should be considered. The AHA solutions also are preferred if used in combination with any emollient products. AHA cream applied over a hydroquinone 4% cream or gel (such as Solaquin 4% Forte) will act as a driver, making the hydroquinone more effective.

**Vitamin C** products are variable in their efficacy of lightening the skin because of their formulations. This is a better product choice for someone who has slight pigment irregularity or for those patients who desire to lighten their overall facial color one make-up foundation shade. Emergin C Eye Gel and Cream are two products with which the author can report patient satisfaction. Emergin C Eye Gel is particularly useful on patients with sensitive skin. It can be used as an all-over face preparation twice daily as a first-rung method of treatment. The cream is more suitable for less-sensitive skin types. Plan a 1- or 2-month trial to judge effectiveness.

**Kojic acid** as the active lightening ingredient is an alternative to hydroquinone preparations. The Pigment Gel line by Physician's Choice of Arizona, ordered without hydroquinone, is particularly effective for those patients with postinflammatory hyperpigmentation associated with acne flare-ups. It lightens and has some antibacterial action that treats the acne. It can be used for the long term, unlike hydroquinone. Physician's Choice of Arizona also makes a Pigment Bar. This soap contains kojic acid and, among other things, azelaic acid. It is alkaline-composed and emits salt-based lighteners that remain on the skin. It is useful for its additive effect when used with other products. The Pigment Bar can be



somewhat drying and is best dispensed to those with normal to oily or acne-prone skin types.

**Tretinoin** compounds such as Renova, Avita, and Retin-A 0.1% Micro Microspheres will be of some benefit because of exfoliation and the suppression of the melanocytes. The brands mentioned are in my experience the least irritating. Photosensitivity and the even greater need for sunblock should be discussed with the patient. These products should be started slowly, used 2 or 3 times a week at bedtime, eventually using them every night. Once the skin has acclimated to the product, an alternate product can be used in the mornings. An oxygen cream, kojic acid, vitamin C cream, hydroquinone, or AHA may be used. Note that Renova's added fragrance may irritate those with sensitive or acne-prone skin.

**Resistant hyperpigmentation**, in those individuals whose skin type can tolerate the active ingredients, can be treated with a compound of Retin A Micro Microspheres 0.1% (20 grams), Aristocort 0.1% cream (20 grams), and Eldoquins Forte 4% Cream (30 grams). This compound is used each night after cleansing. As with all tretinoin preparations, this compound increases photosensitivity, making it mandatory to apply an SPF 15 sunblock each morning.

**Equanim Skin Tone Equalizer**, made by Geneda Corporation, is an effective alternative to the Retin-A/hydroquinone compound. This does not contain hydroquinone. It is an herbal extract blend incorporating, among other things, licorice and bamboo extracts and a minute amount of kojic acid. Although it is not essential, a pretreatment course of  $\geq 2$  weeks with any form of hydroquinone enhances this product's effectiveness. It is an excellent follow-up to the Retin-A compound if pigment still exists after a course of treatment.

**Equanim Bio-Occlusive Moisturizer**, made by Geneda Corporation, is an antiinflammatory compound that helps to even skin tone and remove redness. It promotes wound healing and can be used after the tenth day after laser skin resurfacing. This product does not contain steroids and may be a good choice for those individuals who may be at greater risk for hyperpigmentation during the healing phase.

**In-office skin treatments** may be instituted to accelerate results. Treatments consist of exfoliating and lightening preparations layered to maximal efficacy. These treatments ideally start after 2 weeks of using one or more of the products described at home. Two weeks of home treatment can reveal important information about the patient's skin. Any irritation from the suggested home-use products alerts us to reevaluate treatment and products. A patient reporting no effect from the use of the at-home products after 2 weeks can probably tolerate a more aggressive in-office treatment. Their at-home products also should be reevaluated. It should be noted that 2 weeks of use without pigment change does not mean that the products are not working. The presence of undesirable side effects, redness, or burning would direct change at this time. Any evidence of improvement after 2 weeks of home treatment confirms that you have selected a proper treatment routine, and in-office treatments will most certainly be beneficial. When a patient is eager and has had some form of prior treatment, or the skin condition is extreme, in-office treatment is immediate. Keep in mind that it is easier to determine if you have chosen the right home therapy, which affects the majority of cures, if you wait the full 2 weeks before evaluation. In general, in-office treatments can be performed a minimum of 2 weeks apart, and ideally, 3 to 4 weeks apart. The goal of the in-office treatments is to make the skin look better in color



and texture. We refrain from calling the treatments peels, for we do not want to connote any downtime or inconvenience. Being too aggressive and frequent with treatments can create dry, irritated, and/or peeling skin, so do not rush the schedule of treatments. Remember that irritation can be a set-up for more pigment problems.

**The in-office treatment** we prefer combines a modified Jessner's solution and an oxygen cream preparation. This particular treatment is suitable for treating hyperpigmentation and acne. It can also be used as a series of treatments for photo-aged skin, separating treatments by a minimum of 2 weeks. To begin an in-office treatment, drape the patient with nonpermeable towels. A headband or cap can be used to keep hair back. A small personal fan can be given to the patient to hold on the chest, directed at the face. This aids in drying solutions applied and diffuses any burning sensations associated with preparations applied to the skin. We use a 5% to 8% AHA solution to cleanse and degrease the skin. I prefer Smoothing Toner or Nutrient Toner by Physician's Choice of Arizona, applied with cotton or gauze that is lightly dampened with the solution. Thoroughly remove any make-up and/or oil on the facial skin by gently swabbing with the solution. Be careful around the eye area, avoiding the upper eyelid entirely. Cottonballs moistened with water can be applied to the eye area as an additional safeguard. The toner is followed by Physician's Choice of Arizona's PCA peel, a modified Jessner's solution (without hydroquinone or resorcinol), applied by dampening a 6-inch cotton-tip applicator with the solution and uniformly applying the solution to the face. Wait approximately 3 minutes for the solution to dry. Any crystallization on the skin can be removed with the Smoothing or Nutrient Toner. Next apply a thick layer of Karin Herzog's Oxygen Face Cream 2%, being careful to avoid hair and clothing. This cream can bleach hair and clothing with repeated application. Allow this to remain on the skin 5 to 10 minutes, and then gently remove with gauze or cotton. Hytone 2.5% lotion or Neostrata's Post Peel Cream can be applied to any irritation. Follow with a chemical-free sunblock such as Therapeutic Dermatologic Formula's Chem Free Sunblocking Cream SPF 15, or for those desiring make-up, Estee Lauder's Maximum Cover Make-Up SPF 11.

**Hyperpigmentation** immediately after laser surgery and dermabrasion can be prevented by treating the skin for a minimum of 2 weeks before surgery with a compound of Retin-A 0.1% Micro Microspheres (20 grams), Aristocort 0.1% Cream (20 grams), and Eldoquin Forte 4% Cream (30 grams). It should be applied nightly to the areas to be treated. Those with an allergy to hydroquinone could use Physician's Choice of Arizona Pigment Gel no. 13 without hydroquinone each morning and Retin-A 0.1% Micro Microspheres nightly. Emphasis should be placed on using sunblock over all areas to be treated and applied 30 minutes before sun exposure daily.

In the event of hyperpigmentation occurring in the immediate period after laser surgery or dermabrasion, the in-office lightening treatment can begin at 14 days after operation. At 14 days after surgery, Karin Herzog's Oxygen Face Cream 2% can be used twice daily, or for a more aggressive approach, Equanim's Skin Tone Equalizer also can be used twice daily. Again, sunblock applied 30 minutes before sun exposure is important. The in-office lightening treatment described earlier can be used in this instance at 21 days after surgery. Substitute Cetaphyl lotion for the toner used in degreasing the skin before treatment with the modified



Jessner's solution. This can be repeated every 2 to 3 weeks or until the desired effect is achieved.

If prolonged redness, with or without hyperpigmentation, is an issue, Karin Herzog's Oxygen Face Cream 2% used twice daily can accelerate healing. Apply Hytone 2.5% lotion or hydrocortisone 2.5% ointment after the oxygen cream to reduce redness further. Equanim Bio-Occlusive Moisturizer also is an option, as described previously.

## ► Sunblock

In general, patients tend to regard sunblock in much the same way as they regard make-up. It is a very personal decision, and people like to select from the wide variety available over the counter. Many different and some newer types on the market may be excellent choices. The patients I address in this chapter are those with extremely sensitive skin or those who have had recent surgery. Experience with the products named has been positive.

The value of sunblock in wrinkle prevention should be stressed with nonsurgical and surgical patients. Its use should be seen as a preventive measure to photoaging. Sunblock use alone can allow the skin to reverse some of the damage done.

Most patients see a greater connection between sunblock and hyperpigmentation. When this is a concern, the discussion should begin by clearly defining the relation between skin exposure and pigment darkening. If the patient wants to prevent absolutely any darkening of skin pigmentation, the skin should not be visible during sun exposure. That means, regardless how much or often sunblock is applied, the skin may darken its pigmentation if the skin is visible to the eye when exposed to sunlight. Make-up foundation is used over the face to occlude the skin and to ensure sun protection. Using a foundation on the face after sunblock application is especially important in cases in which hyperpigmentation is an issue. It also is helpful to wear a hat with a brim and eyeglasses with UVA/UVB protection.

A sunblock that has zinc oxide or titanium dioxide as the active ingredient works as a physical block to the light. The fact that the product is not absorbed to be effective makes it suitable for sensitive skin types. Therapeutic Dermatologic Formula's Chem Free Sunblocking Cream SPF 15 is ideal after laser surgery or dermabrasion. It is also a good choice for acne-prone skin. Zinc oxide and titanium dioxide can dry the skin, especially when used over healed lasered or dermabraded skin. A thin layer of petroleum jelly should be applied under these products. The petroleum jelly is blotted with a tissue to remove all but a fine layer. The sunblocking cream is then applied. It too is blotted with a tissue. As a final protective layer, Estee Lauder's Maximum Cover is patted on. This three-step approach is long-lasting coverage that protects the skin from sun exposure.

Chemical sunblocks with octylmethoxycinnamate as the primary active chemical ingredient are the least irritating in our experience. Presun, Shade, Gio Pelle Hands Free, and Lyphazome are brands with cosmetically elegant products including this ingredient.

Solar Escape SPF 15 by Geneda Corporation uses state-of-the-art enzyme



technology to correct DNA damage caused by sun exposure. It claims to be 92% effective in protecting from UVA rays and 98% effective in protecting against UVB rays. It is well tolerated by all skin types.

## ► Acne

Acne is an important topic in relation to surgery. An acne breakout can overwhelm a patient's view of a surgical result. It is important to identify and discuss this possibility with a patient before surgery. Anyone with a history of acne, regardless of age will be prone to breakouts after facial surgery. This is a result of an increase in skin metabolism resulting from surgical activity. Patients who have been using isotretinoin (Accutane) must wait  $\geq 6$  months after treatment to be a surgical candidate. Any person currently using acne medications, oral and/or topical, should be advised to continue throughout the surgical postoperative course. Special attention should be paid at pre- and postoperative visits assessing the acne status. If the patient has mild acne and is not seeing a dermatologist, treatment should begin before surgery.

Discussing the cause of acne will often aid in patient compliance to a prescribed routine. Acne-prone skin tends to have a thicker stratum corneum. This thickness makes the pores themselves more rigid. The lining of a pore has cells like the outside surface of the skin; these cells are supposed to shed and be pushed out of the pore by the sebaceous oil. The cells that are shed in an acne-prone person's pores tend to stick to each other, forming a clump of cells. This clump, combined with excess oil, bacteria, and a rigid pore opening, forms a pimple. AHAs break the bond between the cells and thin the stratum corneum, making the pore opening less rigid. The clumping of cells is prevented, and the dead cells and oil from the pores more easily evacuate. Many times an AHA alone will be effective in controlling mild acne. Along with following the guidelines listed later, we find that incorporating an AHA solution for these patients, such as Therapeutic Dermatologic Formula's Oily and Acne Solution or Topix's Gly/Sal pads, is effective and of reasonable cost. Used twice daily like a toner after cleansing, applied with cotton or gauze, it can benefit those with a minimal acne breakout. This simple step added to a patient's daily routine will often control the problem. Sometimes we add Karin Herzog's Oxygen Face Cream 2% to a patient's skin-care routine twice daily. It acts as an antibacterial and an alternative to irritating benzoyl peroxide preparations. We may also perform the in-office skin treatments discussed earlier in this chapter. If the patient needs more treatment than this, we refer them to a dermatologist.

Formulating an information sheet that can be given to the patient describing skin care and products will minimize instruction time. It is important to point out to acne-prone patients that their skin type is among the most sensitive. Those patients should use many of the guidelines for the most sensitive, easily irritated skin.

Guidelines should include:

1. Avoid fragrances, particularly floral scents. The irritation caused by fragrance can stimulate a breakout. This includes fragrance found in soaps for the hands, face, hair, body, and clothing. We generally recommend



Dove for Sensitive Skin as a hand, face, or body soap; the Aussie product line as a hair shampoo; and unscented laundry soaps including Unscented Tide and Cheer-Free for sheets and towels. Fabric softeners, scented or unscented, should be considered a source of irritation and their use discontinued.

2. Do not aggressively rub or wash the skin. Vigorous manipulation can stimulate an acne flare-up.
3. Foods fried in oil or containing chocolate may not aggravate an acne condition, but the patient should avoid any food associated with acne flare-ups. Foods high in iodine content and foods that cause facial flushing, such as chili peppers, may contribute to acne breakouts. Caffeine should be avoided as well.
4. Avoid sunburns and tanning. In the short run, they may clear the skin. In most cases, acne breakouts increase in the 10 to 14 days after sun exposure. Sun exposure to a pink acne lesion may result in hyperpigmentation. Use of a titanium dioxide-based or octylmethoxycinnamate-based sunblock is important. Make-up foundation such as Estee Lauder's Maximum Cover provides extra sun protection.
5. Make-up should be water based and fragrance free.

**Rosacea** is often mistaken for acne. Close inspection should be made of the skin to determine whether there is a plethora of broken capillaries, particularly on the nose, cheeks, and chin. Easy facial flushing is a common symptom. Acne-type lesions may be evident. Although many of the guidelines for treatment are the same as those for acne, some acne treatments will aggravate this condition. This is a problem better handled by the dermatologist and should be referred.

**Quick fixes** for large inflamed acne cysts include the use of intralesional triamcinolone, 2.5 mg/mL solution (<0.05 mL), injected into a cystic lesion that has been evacuated. Reduction of the lesion is usually evident within 24 hours. Atrophy may result if it is injected too deeply, and be aware not to reinject within 1 month. Nonsteroidal antiinflammatories such as ibuprofen taken by mouth also can aid in the reduction of cyst inflammation.

## ► Wrinkles

Many products tout their antiwrinkle benefits. These can be narrowed down to a few that make a difference and are worth the effort and cost. It is important to be honest with patients and explain that at best these products help the fine lines. Only surgery can improve the deep lines.

**AHAs** are effective in exfoliating and can have a minor collagen-stimulating effect. The very fine lines may be reduced, and the skin will seem more refined, with possibly better color and texture. The most noticeable effect from these products will be during the first month or two of use, depending on skin type and strength of product. Always start with the mildest strength (Neostrata's gluconolactone 4% or Therapeutic Dermatologic Formula's Facial Lotion 10%), and once the skin is acclimated, stronger strengths  $\leq 20\%$  may be introduced. It is best to



start use slowly, depending on skin type. The most sensitive might use the product once daily, 2 to 3 times weekly. Most can start the product once daily for the first week at bedtime and twice daily thereafter. If excessive dryness occurs, stop using the product and wait till the skin returns to normal. A thin layer of petroleum jelly can be used on all skin types at bedtime to counteract dryness.

**Vitamin C** preparations (L-ascorbic acid, stabilized in a low-pH, water-based solution) are useful for their exfoliating properties much like the AHAs. They have the added benefit of combating free radicals, somewhat retarding melanin production and protecting slightly against ultraviolet light exposure. They can be useful for improving fine lines, color, and texture. Products should be kept away from direct sunlight and preferably in a cool place to ensure products' stability. Not all vitamin C products are created equal. This is a product for which validation of product efficacy by the prescribing physician is important. The Emergin C line, distributed by Renature Skin Care, Inc., is a reliable product line. C-Serum in combination with Nutragel (a bioprotein moisturizer made from wild yams) distributed by Nutraceuticals is one of the most effective treatments for wrinkle effacement. The drawback in prescribing the C-Serum and Nutragel combination is that it is unsuitable for anyone with a history of acne.

**Oxygen creams** are useful for the slight skin-tightening effect they appear to produce, as well as improvement of color and texture. When used with a mild scrub for exfoliation, they improve fine lines and color. They are perfect for the postoperative patient to use directly over incisional areas. They promote healing, especially in those patients with a history of smoking. Karin Herzog's Oxygen Face Cream 2% and Mild Scrub used together are excellent choices for any skin type including the most sensitive.

**Tretinoin** can exfoliate, stimulate collagen production, and suppress melanocytes. Fine lines and color are improved over several months' time. There can be considerable redness and irritation at the start of use. Photosensitivity is an important side effect to be discussed with the patient. Sunblock suggestions should be given with the prescription. Avita, Renova, and Retin-A Micro Microspheres 0.1% are among the gentlest formulations. They should be applied at bedtime. Avoid prescribing Renova for acne-prone patients because its formulation is emollient and contains fragrance. Once the patient is acclimated to a tretinoin, an AHA may be introduced as a morning preparation; this further aids in wrinkle effacement.

**B<sub>2</sub> Actigen**, the active ingredient in Geneda Corporation's Moisturizer for Dry Skin, stimulates collagen production at a greater rate than tretinoin without irritation or photosensitivity. The product line consists of a cleanser, a moisturizer, and facial mask treatments. Mask treatments can be done in the office or at home. This line is not suitable for the acne-prone patient.

## ► Bruises

**Vitamin K** cream, as in Advanced ResKue topical cream, can help prevent bruises if applied 2 weeks before surgery on the area to be operated on. The skin should be moist, and application is twice daily. It also can be helpful in resolving bruises when used as a postoperative treatment in the same fashion.



**Oxygen cream** can be useful, applied to the bruise twice daily. The patient should be directed to pat a fine layer over the bruised area and allow it to be absorbed over a 5-minute period. Continue use until the bruise has resolved.

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