

Optimizing Results of Nonsurgical Cosmetic Procedures With a Topical Skin Care Regimen

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When the American Society for Aesthetic Plastic Surgery released its 2007 statistics on cosmetic surgery, it was particularly notable that of the 11.7 million cosmetic procedures (surgical and nonsurgical) performed in the United States that year, the vast majority (82%) were nonsurgical cosmetic procedures.¹ The number of nonsurgical cosmetic procedures performed each year has increased by 754% since 1997.¹

In large part, this tremendous growth has been fueled by a range of advances in technique and technology that are meeting patients' demands for safe and effective procedures that minimize risks, help reduce recovery times, and fit in with patients' active lifestyles. Laser skin resurfacing, including intense pulsed light (IPL) and fractionated laser treatments, chemical peels, and microdermabrasion ranked among the top nonsurgical procedures administered in physicians' offices in 2007, and recent technological advances in these nonsurgical procedures have been significant.² Ablative skin resurfacing, for example, while highly effective in the treatment of photodamaged skin, is associated with a prolonged 2-week recovery time, with a small but significant complication risk. This has driven the development of nonablative and, more recently, fractionated laser resurfacing in order to minimize risk and shorten recovery time. Indeed, nonablative fractionated laser resurfacing is rapidly gaining acceptance as the gold standard in the treatment for mild to moderate photoaging of the face, rhytides, acne scars, surgical scars, therapy-resistant melasma, striae, and nonfacial areas as well.

Also rapidly evolving is the science of topical antiaging treatments, including retinoids, antioxidants, and probiotics, and our understanding of their value in pre- and postprocedure skin care. Much attention is currently focused on the complementary use of topical

skin care regimens to manage postprocedure recovery; minimize side effects such as redness, irritation, and swelling; and promote healing, thus enhancing overall patient satisfaction with the nonsurgical facial rejuvenation experience.

Skin that is undergoing a cosmetic procedure has a distinct set of needs, and procedure results can be maximized if the skin is properly prepared and then adequately supported as it heals. In my practice, patients are benefiting from an approach I call global rejuvenation, which combines complementary nonsurgical cosmetic procedures with a comprehensive topical skin care regimen specially formulated to help meet the needs of skin prior to, during, and after procedures in order to help manage and ease the recovery process and to enhance and maintain aesthetic improvement.

Preprocedure Strength Training

Prior to treatment, deep cleansing and gentle exfoliation to help accelerate cell turnover without disturbing the skin are vital to achieve smooth and effective penetration of the procedure. In addition to deep cleansing and gentle exfoliation, it is helpful to take steps to prepare and strengthen skin prior to ablative and nonablative skin resurfacing procedures. Retinoids, for instance, are sometimes used preprocedure to help jump-start the process of stimulating new collagen production and to improve skin texture, wrinkles, and skin tone.³ Products containing hydroquinone are sometimes used in the preprocedure phase to help correct dyspigmentation, lighten skin, and even out skin tone. However, to date there has been little systematic study and validation of these approaches. A need exists for a more comprehensive, standardized pre- and postprocedure protocol to address the multiple and complex skin care needs that confront patients undergoing many nonsurgical cosmetic procedures.

Postprocedure Healing, Protection, and Maintenance

The quality of recovery during the first week postprocedure is critical to achieving optimal aesthetic outcomes.

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COMMENTARY

Immediately after the procedure, steps must be taken to support the healing process and manage potential side effects including excess inflammation, which can impede proper healing, as well as redness, irritation, tightness, and hyperpigmentation. During this time, cleansing must continue to be thorough but nonirritating because the skin will be highly sensitized. In addition, postprocedure skin can be vulnerable and needs protection from bacteria and environmental pollutants. Hyperpigmentation, a common side effect of many cosmetic procedures, needs to be minimized. Finally, UV exposure often suppresses the skin's natural immunity, which can compromise the healing process, and strong UVA/UVB protection is essential to maintain results and help prevent further photodamage.

Role of a Topical Antiaging Regimen in Pre- and Postprocedure Skin Care

Given the multiple and complex skin care needs that exist for patients undergoing many nonsurgical cosmetic procedures, it is clear there would be advantages to a more standardized pre- and postprocedure protocol, especially one utilizing complementary products that combine the latest advances in skin care science. In addition to complementing the effects of facial rejuvenation procedures, instituting an effective topical cosmeceutical regimen to help increase patient comfort, manage side effects, and accelerate recovery in the postprocedure phase is also likely to increase patient satisfaction, as well as facilitate patient compliance and retention over the course of multiple treatments. A further advantage is that once patients have adopted a daily cleansing and rejuvenation routine and have been educated to understand its benefits, they may be more likely to continue it after the procedure to help maintain aesthetic improvement and prevent further damage.

Such a regimen is currently being studied in a multicenter, investigator-led, clinical trial to assess the benefits of a 5-product, physician-dispensed topical skin care regimen, Clinique Medical. The study is investigating the efficacy of the regimen for strengthening skin prior to laser skin resurfacing procedures, such as IPL and fractionated laser treatments, and its ability to aid patients in the posttreatment recovery process by helping to manage visible excess redness and inflammation and to encourage an even skin tone.

Two other separate, double-blind, controlled, 12-week studies to assess the effectiveness of this regimen in optimizing the outcome of nonsurgical cosmetic procedures have been conducted, one examining the use of Clinique Medical in conjunction with IPL treatments, and the other with a trichloroacetic acid (TCA) 30% peel.⁴ Results

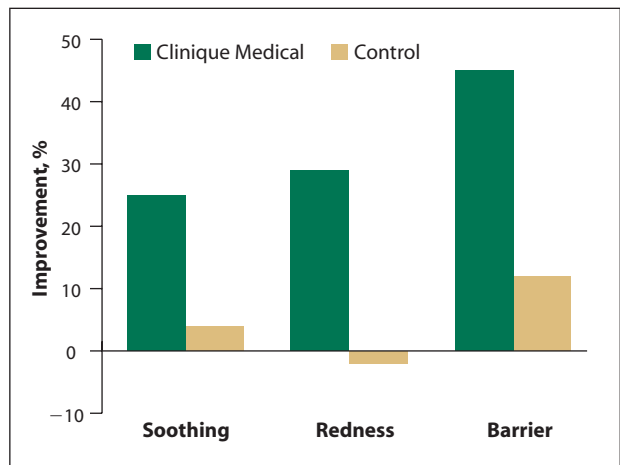


Figure 1. Improvement in postprocedure symptoms following intense pulsed light (IPL) treatments.

at 12 weeks posttreatment for both studies demonstrated that the regimen significantly improved many of the hallmark signs of aging, including the appearance of lines and wrinkles, skin radiance and skin tone, and age spots and barrier strength as compared with a control group using standard skin care products.⁴

In the IPL study, after 2 IPL treatments and 12 weeks of using Clinique Medical, the regimen significantly reduced postprocedure symptoms by improving soothing by 21%; reducing skin redness by 31%; and improving skin barrier strength by 33% more than the control group (Figure 1).⁴ Compared to the control group, Clinique Medical also showed postprocedure benefits, including a 13% improvement in moisturization; a 43% improvement in skin density; and a 19% improvement in skin smoothness. There was also a 37% reduction in lines and wrinkles; a 31% improvement in skin firmness; a 14% improvement in skin tone; a 15% reduction in age spots; and a 23% improvement in skin radiance (Figure 2).⁴

Similar results were demonstrated in the study with the TCA 30% peel.⁴ Clinique Medical significantly reduced postprocedure symptoms by improving soothing by 21%; reducing skin redness by 30%; and improving skin barrier strength by 38% more than the control group (Figure 3). Posttreatment benefits included a 14% improvement in moisturization as compared with control; a 43% improvement in skin density; a 21% improvement in skin smoothness; a 31% reduction in lines and wrinkles; a 25% improvement in skin firmness; an 11% improvement in skin tone; a 12% reduction in age spots; and a 20% improvement in skin radiance (Figure 4).⁴

The preprocedure Clinique Medical regimen for strengthening the skin and increasing receptivity includes formulas containing deep cleansers; a 3-part exfoliating complex of

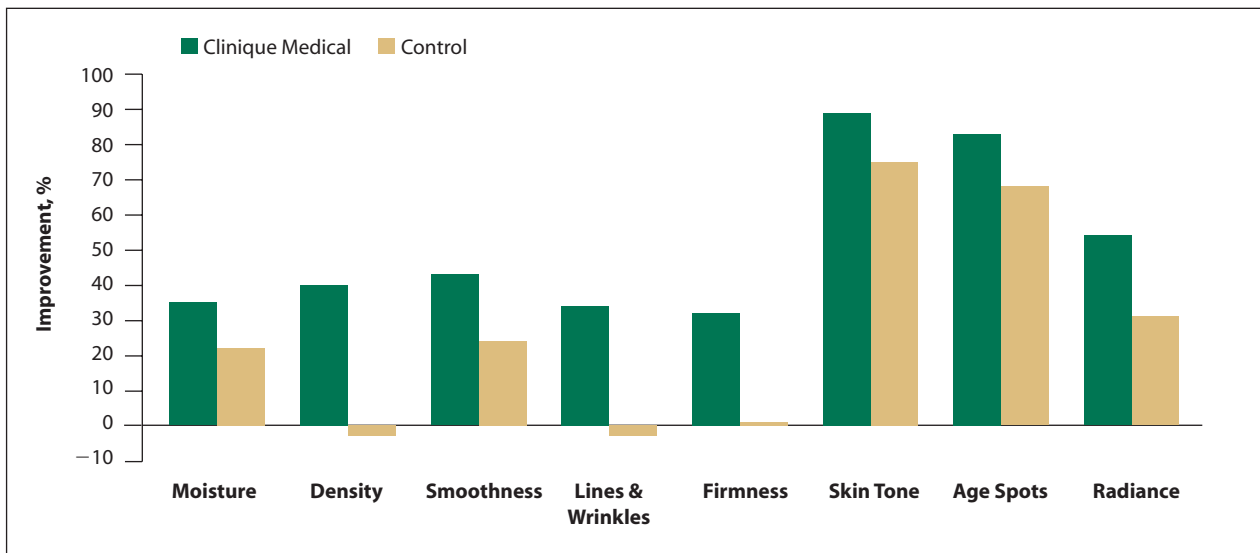


Figure 2. Improvement in postprocedure benefits following intense pulsed light (IPL) treatments.

vitamin A, salicylic acid, and glucosamine to accomplish gentle exfoliation; probiotics to help maintain the skin's natural balance; vitamin A (retinyl palmitate) to add and maintain collagen, help diminish the appearance of lines and wrinkles, restore clarity, and even skin tone; and important antioxidants, including vitamins C and E to protect the skin from damaging free radicals and promote even skin tone.

Probiotics are key ingredients in several of the products in this system. Normal human skin serves first and foremost as a barrier protecting the body from dangerous bacteria and other external threats. It also plays an important role as part of the immune system by producing a range of antimicrobial peptides that work to eliminate potential cutaneous pathogens. When the skin's barrier is compromised, such as following certain nonsurgical

cosmetic procedures, it can impede the healing process and fuel excess inflammation. Probiotics, the so-called good bacteria, work to maintain the skin's natural balance. Experiments investigating the effects of topical application of *Lactobacillus*, an accepted probiotic for gastrointestinal infections, have demonstrated an increase in skin barrier strength and barrier repair following topical application to the skin. Improvement in skin quality was accompanied by a reduction in bacterial colonization resulting from keratinocytes that release antimicrobial peptides.⁵

Immediately postprocedure, in addition to using a cleanser and an SPF 38 sunscreen containing antioxidants and RNA fragments for DNA repair, the regimen consists of a hydrocortisone 1% formulation to reduce inflammation and visible redness, which are 2 side effects of most concern to patients undergoing skin resurfacing or considering such procedures. This formula, which also contains probiotics and antioxidants, creates a breathable, lipid-rich, protective barrier against external substances that could compromise the healing process.

To maintain the aesthetic benefits of the procedure over the long-term, a simplified maintenance regimen is recommended to manage irritation, stimulate and help support the healing process, support natural repair, and improve barrier function. It continues delivering key ingredients, including probiotics, vitamin A, antioxidants, and daily SPF 38 sunscreen.

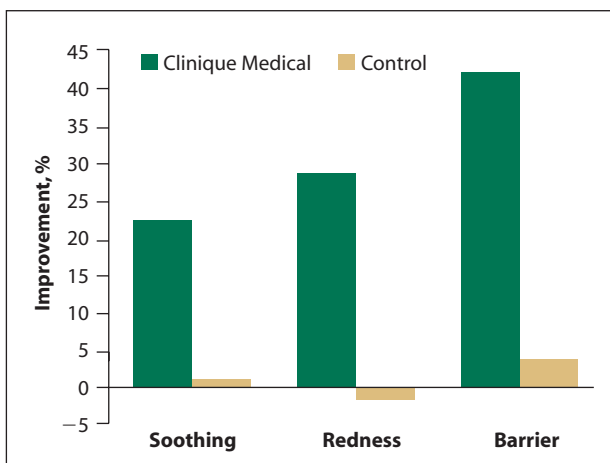


Figure 3. Improvement in postprocedure symptoms following trichloroacetic acid (TCA) 30% peels.

Enhancing Compliance and Patient Satisfaction

To help patients get the most out of their skin rejuvenation experience, patient education has to play a substantial role.

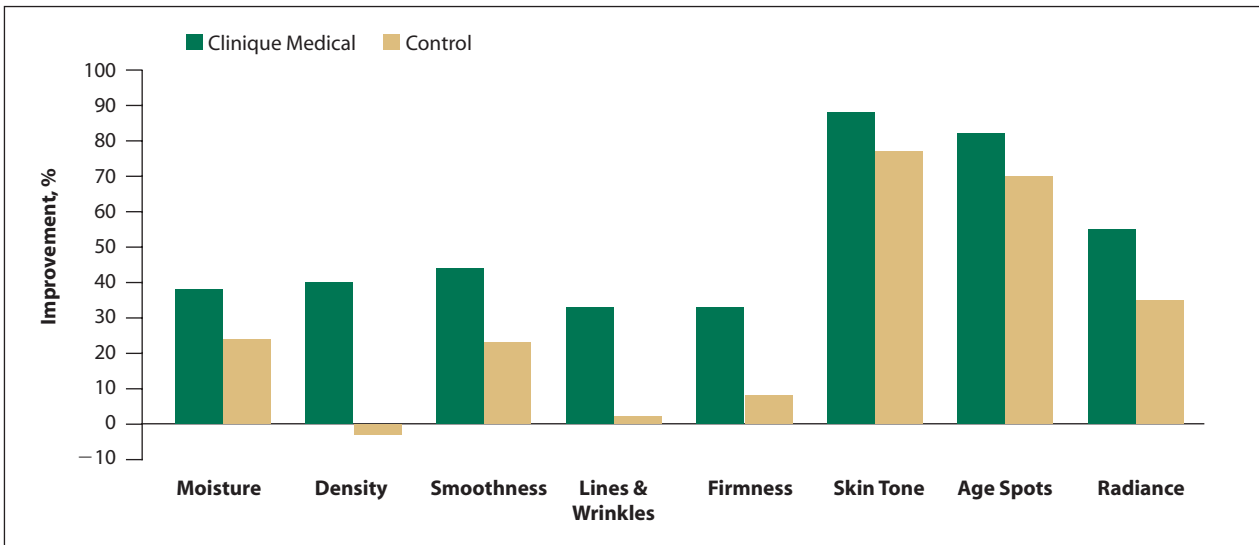


Figure 4. Improvement in postprocedure benefits following trichloroacetic acid (TCA) 30% peels.

This can be achieved by clinicians working with patients to set appropriate goals and expectations for treatment, facilitate compliance over the course of repeat procedures, or encouraging the adoption of an ongoing facial skin care routine to maintain aesthetic benefits. In my practice, we expend considerable effort to explain to patients what specific procedures can and cannot do, how to use products, what to expect in terms of results, and how various procedures and topical skin care regimens can be employed in complementary ways.

To that end, we educate patients about the 4 r's: resurfacing, refilling, relaxing, and retaining. We also educate them about the value of a more systematic, global approach to facial rejuvenation. Ridding the patient of a few static lines or a forehead wrinkle will not be nearly as aesthetically effective if the surrounding skin shows damage from years of sun exposure, counterproductive skin care, and lifestyle choices. We stress the multiple factors that contribute to skin damage over time so that the patient understands the rationale for complementary treatment recommendations. This point also assists us in the very important task of encouraging patients to maintain a lifelong antiaging skin care routine to protect and maintain skin health. We emphasize that the treatment cycle should not begin and end in the physician's office, but that good results also depend on proper pre- and post-procedure care by the patient. We also serially document patients' progress photographically and review progress with the patient by noting specific areas of improvement that may not be obvious to an untrained eye.

Summary

Technological advances in nonsurgical approaches to facial rejuvenation have spurred significant growth in their popularity, although many individuals who might consider such treatments remain concerned about recovery time and potential complications, even for the newest procedures that have minimized these risks substantially. The science of topical skin care is also advancing at a rapid pace, and a greater appreciation is developing for the role of complementary topical skin care regimens and their value in optimizing procedure results, minimizing risks, accelerating the recovery process, and enhancing patient satisfaction. The initiation of a pre- and postprocedure skin care regimen has the additional advantage of encouraging patients to adopt a skin care regimen to protect and maintain healthy skin throughout their lifetime.

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