

# PROFRACTIONAL™ FOR ACNE SCARRING

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## INTRODUCTION/BACKGROUND

The successful treatment of scarring secondary to active acne vulgaris is a major challenge to practitioners of aesthetic medicine. To the patient, acne scarring is as physically and emotionally traumatic as active acne. The number of patients requesting cosmetic improvement of acne scars is rising rapidly, and armed with knowledge about emerging technology, so are their expectations. But even with new therapies, the issue is still a complex one. Many available treatment options do not seem to satisfy patients, and as such, 50% improvement is considered a success.

Patients come into our clinics daily looking to improve their appearance by reducing acne scarring. Until recently all we had to offer them were ablative modalities such as dermabrasion, chemical peels, or CO<sub>2</sub> laser resurfacing, all of which require the patient to accept a significant amount of downtime in one form or another.

Technology has since evolved for improvement of the different phases of scars. Intense pulsed light (IPL), vascular lasers, and fractional systems that started with Fraxel™ (Reliant Technologies, Palo Alto, CA), offer the same level of improvement as previous modes without the downtime and hassle. Fraxel, however, had the difficult-to-remove blue dye, significant discomfort and required a long treatment series. Even the new generation of Fraxel does not provide adequate control over the device according to some.

The new ProFractional™ (Sciton, Inc. Palo Alto, CA) softens and blends scars, and patients can feel the difference. Building up on the Contour™ 2940 Er:YAG laser (used to perform MicroLaserPeel®), Sciton added the

ProFractional capability that allows users to adjust a scanned pattern size from 6 x 6 mm to 20 x 20 mm and a precise penetration depth of 25–1000 μm. This allows the physician to treat different types of scars gently or assertively, as the patient requires. There is still a little downtime—patients look like they have a sunburn for a short time. The economics of the ProFractional are advantageous since there are no consumable components.

## PROFRACTIONAL VS. TRADITIONAL FRACTIONAL TECHNOLOGY

The advent of fractional technology came with the promise of better results with less downtime, even with acne scarring. The ProFractional device ablates narrow, precise channels into the dermis with no collateral thermal necrosis, stimulating neocollagenesis and wound healing in the dermis to create smoother, softer skin that feels better to the touch. The untreated surrounding tissue promotes rapid, uniform healing. With ProFractional, precise depths can be selected as can the pitch or distance between the spots. In comparison, Fraxel creates necrotic microthermal zones to a depth of 90 microns; ProFractional can ablate from 25 μm to 1.5 mm. ProFractional can be as effective as other fractional devices but offers the physician more treatment flexibility. This leads to positive results that can be seen in fewer treatments and less overall downtime.

More importantly, ProFractional users can treat individual scars as minimally or as aggressively as necessary to create an overall evenness to the skin. Deeper scars that require more aggressive treatments can be treated accordingly, while

more shallow scars on the same patient can be treated at a different setting. Though ProFractional can spot treat, treating the whole face at varying intensities creates a uniform color, texture, and tone.

## TREATMENT PROTOCOL

ProFractional protocols will vary according to each patient's individual needs and we continue to improve techniques and outcomes. Factors that affect treatment include the number of treatments required; location, type, depth, and severity of the scar; and age of the patient.

The nice thing about the ProFractional is that it's easy to precisely regulate treatment depth, which is shallower for the forehead and nose and deeper on the cheeks. A single pass is all that is required for most patients. Patients don't require dressings, pain killers or wound care. Acne scars require four or five treatments about a month apart using conservative protocols. The interval is approximate; four weeks gives the patient time to heal, and allows time for collagen remodeling. Three weeks is sufficient, as would be six. This flexibility of intervals is nice for both the patients and clinics.

For areas of mild acne, a shallow depth of approximately 100  $\mu\text{m}$  at 4% coverage is effective. For more aggressive treatment, depth settings can be increased to 400  $\mu\text{m}$  or even 800  $\mu\text{m}$ .

Pre- and post-treatment care with ProFractional is relatively universal. The procedure is only slightly uncomfortable depending on density settings used, and topical anesthetics can make the patient more comfortable with aggressive treatment. Side effects at any setting are minimal. No blisters or scabs have been observed by us. Pinpoint bleeding may occur, but chemical cautery swabs such as aluminum hexahydrate will seal the tiny wounds. For posttreatment care, any simple, water-based moisturizers will effectively promote healing and make the patient comfortable after treatment. Thermal mist sprays also help cool and comfort the skin as the moisture evaporates.

Patients with skin types I to IV have been treated more often than V and VI, but the evidence so far suggests that ProFractional can treat even darker skin types without unwanted pigmentation changes.

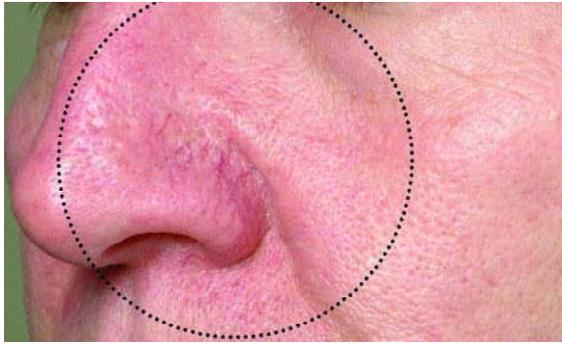
## PROFRACTIONAL COMBINED WITH MICROLASERPEEL

ProFractional is also being used in combination with Sciton's MicroLaserPeel® (MLP) procedure to treat acne scars. Acne scars cause uneven texture, and often uneven color and tone in the skin as well. This uneven appearance is accentuated with accumulated sun damage. The one-two punch of superficial resurfacing and deep penetration collagen remodeling helps blend these textures, tone and color.

The ProFractional creates small channels that stimulate collagen remodeling, giving the benefits of deep resurfacing without creating excess necrotic debris that hinders wound healing. The adjustability of ProFractional is useful for different areas of the face where scarring is more or less severe. The user can selectively deposit different amounts of energy. Depth and density of spots can be customized to provide uniform color, texture and tone to the face—and can do so without heavy ablation, scabs, crusting, and long downtime. The MLP treats the surface of the skin to put on a finishing touch, especially around sensitive areas such as the eyelid.

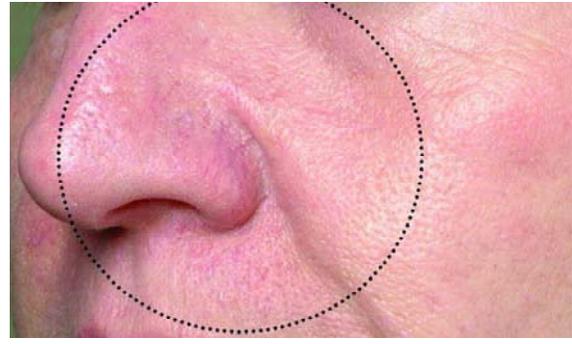
## RESULTS

Acne scars have always been a treatment challenge, so managing expectations plays a key part in patient satisfaction. Whether for the treatment of acne scars or traumatic scars, 50% improvement in texture, tone, color, depth and size is the accepted standard with any treatment option. Photography is helpful in that both patients and clinicians can see improvement by comparison. And happy patients will come back for more treatments.



**Before Treatment**

*Photos courtesy of  
B. Kent Remington, M.D., F.A.C., F.R.C.P.  
Calgary, Canada*



**Four weeks after 1 treatment**

- Improved Texture Tone – Radiance
- Acne Scars, Pits and Icepick Areas Softened-Flattened



**Before Treatment**

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Patient satisfaction has been very high because both visible and tactile improvement is obvious. Acne scars make the skin dull; after ProFractional treatment patients' skin looks fresh, and they have the glow of a more youthful person. This device really improves the overall quality of the skin.

## **CONCLUSION/FUTURE**

Much of the focus with ProFractional has been for facial acne scarring, but successful treatment of the neck and chest is also possible and has been done in our clinics. Overall, patients report satisfaction with the improvement in

their skin's texture, tone and color. Dermal fillers are being used after the third treatment by one author to help elevate the scars and bring more dramatic results on the face. Inflexible scars such as depressed pox scars require that the filler not be injected until after the third ProFractional treatment due to the effects of collagen remodeling. But acne is a management project, and such a combination is proving beneficial. Combination treatments, such as with MLP or dermal fillers and others involving laser- and light-based modalities, mean that the future for ProFractional looks bright.