

Fraxel Laser Achieves High Efficacy for Acne Scars

BY BOB KRONEMYER, ASSOCIATE EDITOR

Many physicians who have looked long and hard for safe and effective treatment of acne scars and other atrophic scars are resting easier now, thanks to the fractional approach of selectively heating tissue with the Fraxel® SR Laser from Reliant Technologies (Mountain View, Calif.).

"We have been very pleased with how the Fraxel laser treats acne scars," said Paul Friedman, M.D., a dermatologist in private practice in Houston, Texas. "We have successfully treated a variety of scars, including broader atrophic scars and pitted scars. The Fraxel laser is an effective modality for acne scarring, because of the depth of microthermal penetration you are able to safely deliver."

Dr. Friedman generally recommends three to five treatment sessions, spaced four weeks apart. A session generally lasts around 20 minutes and all skin types are candidates. "We've seen significant improvements on all areas of the face, particularly the cheeks and temple area," reported Dr. Friedman, a clinical assistant professor of dermatology at University of Texas Medical School in Houston. "We can also safely treat the neck, chest and upper back. Patients can expect on average a 50% improvement in scars." Patient discomfort is alleviated with Zimmer air-cooling and application of a topical anesthetic one hour before treatment.

"I believe the Fraxel laser has given us a no recovery means of improving acne scars, in particular pitted acne scars that don't respond ideally to any modality, but seem to respond, at least to an extent, to

"Treatment is very safe, if you follow appropriate guidelines," Dr. Bass said. "Typically, you can expect to achieve about a 50% reduction in scar depth after a series of treatments. The Fraxel laser allows you to vary both the density and depth of microthermal zones. I think the key to success with treating scars is to have



Lawrence Bass, M.D.

Director of Minimally Invasive Plastic Surgery at
New York University
New York, NY

relatively fewer zones that are relatively deep. The ability of the Fraxel laser to provide a very deep thermal effect, even compared to ablative laser resurfacing, is what makes this technology in some ways more successful at treating acne scars, and in particular pitted acne scars."

A study of 17 patients with acne scars and atrophic scars who were treated with the Fraxel laser recently appeared in the *Journal of Dermatologic Surgery*.

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Paul Friedman, M.D.

Clinical Assistant Professor of Dermatology
University of Texas Medical School, Houston
Private Practice
Houston, TX

Fraxel treatments," observed Lawrence Bass, M.D., director of Minimally Invasive Plastic Surgery at New York University. "I've also found that hypertrophic scars or old thickened scars from surgery or trauma like acid burns can be nicely flattened with a series of Fraxel treatments."

"Patients were treated at four to six week intervals, for a total of four to six sessions," explained co-author Cameron Rokhsar, M.D., an assistant clinical professor of dermatology at Albert Einstein College of Medicine in New York City. Patients were evaluated by two

investigators for improvement on a quartile scale (1-4) in scar color (defined as the degree of mismatch of scar color in relation to the surrounding tissue), scar texture, and overall scar appearance. "Subjects also rated their own improvement based on the same quartile scale," Dr. Rokhsar said.

Patients felt their pigmentation had improved to 2.28 on the quartile scale, 2.39 for texture, and 2.30 for overall appearance. "The two investigators found similar results," Dr. Rokhsar reported. "These are great results. This probably has to do with the fact that the Fraxel can penetrate fairly deeply at aggressive settings. We can go as deep as 700 microns. The laser also allows for collagen remodeling, which is probably superior to the other available non-ablative technologies."

The study found no adverse events. "However, there is the risk of hyperpigmentation in darker skinned individuals," Dr. Rokhsar cautioned. "But this is on the order of 10%." For acne scars, in general, "you achieve results that approach ablative resurfacing, such as erbium or CO₂. At the same time, you are eliminating significant risk of raw skin and a prolonged recovery period. With very aggressive treatment with the Fraxel laser, patients may be red up to seven days and adenomatous two to four days. So I usually like to schedule treatment on a Thursday or Friday. Then, by the following Monday or Tuesday, the patient should be fine. Fraxel has become my number one modality of choice for treating acne scars."

"I think with our new treatment protocols, where we use higher intensity at more depth, results are much better for acne scarring than about any other modality," concurred Simeon Wall, Jr., M.D., a plastic surgeon who exclusively performs cosmetic surgery in private practice in Shreveport, La. "We have found that acne scars respond better to deeper penetration. By penetrating down into the dermis, we have seen a lot more flattening and smoothing. Fraxel uses higher intensity with decreased density. With fractional resurfacing, you're hitting only about 18% to 20% of the surface at any time. The advantage is that healing occurs in 18 hours."

Previously, Dr. Wall would treat scars at energies of 8 mJ/cm². "But in lighter skinned people, we now always treat above 10 mJ/cm², usually from 12 to 18 mJ/cm²," he said. The roughly five sessions are spaced two weeks apart. "We're seeing at least a 50% improvement, and potentially much better," Dr. Wall



stated. "Although I try not to oversell results, I've been really encouraged. Some patients are probably 80% to 85% better, which is pretty much on par with the best of the CO₂ lasers. But there aren't any side effects or risks with the Fraxel laser. We don't see the hyperpigmentation or the hypopigmentation. You also don't have an open wound and the patient does not ooze. There is not much risk of infection because you heal in less than 24 hours."

Because there are no open wounds, "a man can shave the next day and a woman can apply makeup," Dr. Wall continued. "You only have a sunburn effect for about two days. I tell people that the Fraxel laser is the biggest breakthrough in laser technology in 15 years because of the fractional concept. Healing is so much quicker because there is no open wound. You're not dependent on the deep dermal structures to regenerate the skin. Fractional resurfacing depends solely on the surrounding skin to heal. We're treating a lot more people for scarring than we ever did with the CO₂ and erbium lasers. Fraxel laser treatment is so much easier and more convenient for the patient." ■