

# Fractional Laser Tx Found Effective for Hands

BY BRUCE JANCIN

PHOENIX — Nonablative fractional laser therapy applied at conservative settings achieved moderate global improvement in photodamaged hands in a pilot study.

Six months following their last treatment session, 8 of the 10 patients in the study showed a 26%-50% improvement in wrinkles, pigmentation, and skin texture, based on a formal investigator-rated scoring system, Dr. Neil S. Sadick reported at the annual meeting of the American Academy of Cosmetic Surgery. Patient assessments correlated well with the investigators' ratings.

"What you can expect is moderate, intermediate-level global improvement. But it's hard to achieve these global changes with any other type of technology," said Dr. Sadick, a dermatologist at Cornell University, New York, and immediate past president of the Cosmetic Surgery Foundation.

As is the case with other skin remodeling technologies, the results improved from 1 month post treatment to the 6-month follow-up mark, he noted.

The treatment sessions were well tolerated, side effects were mild and self-limited, and return to daily activities was immediate. "In our no-downtime world, this is what our patients are looking for in a nonsurgical venue," Dr. Sadick said.

The 10 patients (mean age, 57 years) were Fitzpatrick skin types I-III. Their bilateral photodamage on the dorsum of the hands was treated with a fractional 1,550-nm erbium-doped fiber laser, the first-generation Fraxel laser marketed by Reliant Technologies Inc.

Patients underwent five or six treatment sessions 3-4 weeks apart, with topical anesthesia. The laser energy setting was 6 mJ at the first session, increasing as tolerated by 2 mJ at each subsequent session. The total microthermal zone density was 1,000-2,000/cm<sup>2</sup>.

The technique used in treating the hands was the same as with Fraxel therapy on the face, with three or four passes per session being done, depending on the degree of photoaging.

All patients had immediate posttreatment erythema. Unlike on the face, where it resolves within a day or two, the erythema on the hands lasted for as long as 4 weeks.

"This is something that you need to tell your patients if you're going to use this modality," Dr. Sadick said.

Half of the patients developed mild edema. This was most prominent after the first treatment session, but it occasionally occurred after others as well.

No scarring or long-term inflammatory dyschromia occurred. Patients reported that the discomfort associated with treatment was mild but increased slightly with increasing laser energy.

Three patients underwent biopsies at baseline and again 3 and 6 months after their last session. Histologic evaluation using hematoxylin and eosin and elastin

tissue stains showed a treatment-related decrease in atypical keratinocytes, increased rete ridge formation in the epidermis, enhanced collagen density in the epidermis and papillary and reticular dermis, improvement in the baseline irregular dermal architecture, and reduced solar elastosis. Consistent with clinical findings, there was no histologic evidence of scarring or inflammatory changes.

Dr. Sadick said he plans to study whether fractional laser therapy at greater energy densities will result in even better outcomes in fewer treatment sessions than in this initial study. "We're presently doing a study using a CO<sub>2</sub> Fraxel laser with just two treatment sessions. The results appear to be even better than in this pilot study," he said.

He disclosed that he performed his pilot study for Reliant in return for discounted equipment. He is on the speakers bureaus for laser and medical device manufacturers Cynosure, Palomar Medical Technologies Inc., Syneron Medical Ltd., and Cutera Inc. ■



The image at left shows a hand before treatment with a nonablative fractional laser at conservative settings. At right, the same hand is shown 6 months after the last of six treatment sessions.

PHOTOS COURTESY DR. NEIL S. SADICK

## Consider Patient Demographics Before Purchasing a Laser

BY DOUG BRUNK

LAS VEGAS — Before investing in a laser, take patient demographics into consideration, suggested Dr. Arielle N.B. Kauvar.

For example, for practices with a large number of patients with acne and rosacea, intense pulsed light (IPL) devices, pulsed dye lasers, or potassium-titanyl-phosphate (KTP) lasers would be good choices. "With all three of these, you can also treat pigmented lesions, so you'd have some versatility," Dr. Kauvar said at the annual meeting of the American Society of Cosmetic Dermatology and Aesthetic Surgery.

IPL also can be used for hair removal, but for rosacea patients it may require more treatment sessions for individuals with discrete telangiectasia, said Dr. Kauvar, a dermatologist who practices in New York. Pulsed dye lasers also can be used to treat vascular birthmarks and hypertrophic scars.

For practices with a large number of patients asking for tattoo removal as well as rejuvenation, she recommends Q-switched lasers plus another device. "To effectively treat tattoos, you need three wavelengths," she said. "So you need to have one device that has all three wavelengths or you have to purchase two dif-

ferent lasers. Then you'll need a separate device for rejuvenation."

After a device has been selected, the new procedures will have to be accommodated into the work flow. If you currently have a busy medical dermatology practice, "you need to think about scheduling these patients at a different time," Dr. Kauvar said. "If you are already performing some type of cosmetic procedure such as injectables, liposuction, or sclerotherapy, you are at a distinct advantage because most patients seeking one cosmetic procedure will be interested in others as well."

She discussed other points to consider before purchasing a laser:

► **Recognize patient needs.** To determine what devices would be most appropriate, consider asking patients to fill out an office questionnaire to get a sense of treatments that interest them. Provide them with a list of common treatments "because they may not know that their problem is treatable," she noted. "Ask them to prioritize their list, and get some idea of what they would be willing to pay for a procedure or for a series of treatments."

When the day comes to add a new procedure, discount the initial treatments. This "allows you to develop experience with the procedure and it also

provides you with feedback from your patients," she said.

► **Set a monthly budget.** Individual devices can cost up to \$150,000. Most clinicians lease their equipment for 3-5 years, but month-to-month rental is another option. "You need to figure out how many procedures you have to perform to break even with each device that you add to your practice," Dr. Kauvar advised.

Renting a laser provides an opportunity to try it without a long-term commitment, but the rental costs are steep—usually \$1,000/day per laser.

On the other hand, a 3-year lease on a \$100,000 laser would cost about \$3,000/month, while a 2-year lease on that same unit would cost about \$2,000/month. "This monthly lease amount will vary to some degree depending on your termination options," she said. Leasing may provide a tax advantage in the form of depreciation of the equipment, but it also poses certain disadvantages, including a long-term financial commitment and the fact that technology evolves quickly.

Other costs to consider before buying a laser include maintenance contracts, which are "almost always advisable," said Dr. Kauvar, also of the department of dermatology at New York University. "Typically they come with 1- to 3-year

warranties. But once the warranty expires, you will probably have to pay somewhere on the order of \$5,000-\$10,000/laser per year for a maintenance contract. You have to factor that into the cost of the device."

Maintenance contracts are important, "because these are fragile pieces of equipment, and they do break down."

Other hidden costs include items such as laser or device tips, replacement heads for IPL devices, cryogen, marketing materials in the form of brochures and advertisements, and possible installation of a dedicated high-voltage line. "You also need to assess your ventilation needs, because many of these lasers and devices generate a lot of heat output," she noted.

► **Get training.** Seek out appropriate training in laser safety and laser-tissue interactions, "not only didactic training sessions but hands-on laser training sessions for techniques and procedures," Dr. Kauvar said. "You have to absolutely understand what you're doing to the skin."

She also warned against delegating these procedures to untrained staff. "They're not cookbook procedures," she said. "When these lasers and devices are used inappropriately, they can lead to long-term dyspigmentation and scarring."

Dr. Kauvar disclosed having no relevant conflicts of interest. ■