

Nonablative vs. ablative: Each has benefits

Decision to use still-strong ablative techniques depends largely on patient types seen

By **FRED WILSON** STAFF CORRESPONDENT

New Orleans — Using both new and traditional laser systems, dermatologists can now improve skin texture, mild acne scars, and fine lines without wounding the surface of the skin.

According to Arielle N.B. Kauvar, M.D., these procedures, which have evolved over the last year or two, deposit laser energy in the dermis and induce a microscopic wound-healing response — fibroblast activation and new collagen production.

"Patient satisfaction is high, particularly in younger individuals just developing signs of aging and who aren't ready to undergo more aggressive therapy," said Dr. Kauvar, associate director at the Laser & Skin Surgery Center of New York, and clinical associate professor of dermatology, New York University School of Medicine, New York.

"The procedures are also ideal for the working population because they require essentially no downtime."

Dr. Kauvar, speaking here at the annual meeting of the American Academy of

Dermatology, said patients undergoing nonablative rejuvenation notice improved skin tone and texture after one to two treatment sessions. "Usually we use four to six treatment sessions delivered at two- to four-week intervals, depending on the system used," she said. "Early studies show that improvement is stable six months following the last treatment session, although it's unclear whether there is sustained improvement for years."

Ablative procedures have prowess

Dr. Kauvar cautioned, however, that nonablative laser techniques do not produce the same degree of clinical improvement as ablative laser resurfacing. "Nonablative rejuvenation results in 10 to 30 percent improvement in wrinkling over baseline compared to 40 to 80 percent improvement in wrinkling or scarring with ablative techniques," she said. "This is an area of intense research, and our goal is to optimize the nonablative procedure to achieve more improvement."

According to Dr. Kauvar, the disadvantage of traditional ablative laser resurfacing is that it requires a one- to two-week downtime. The technique may also lead to changes in pigmentation, and, very rarely, infections and scarring. "The risks of nonablative resur-

facing are obviously considerably lower and almost nonexistent," she said.

Two classes for nonablatives

According to Dr. Kauvar, lasers for nonablative rejuvenation fall into two classes: (1) those used specifically to improve skin tone and texture and (2) those used to improve pigmentation and telangiectasia (common findings in photodamaged skin) in addition to skin tone and texture. "To improve skin tone and texture, physicians can use a Q-switched Nd:YAG laser at 1064 nm, 1320-nm Nd:YAG laser with cryogen cooling, or 1540-nm erbium:glass," said Dr. Kauvar.

To induce new collagen formation and improve telangiectasia associated with chronic photodamage, Dr. Kauvar recommended using a pulsed dye laser or an intense pulse light source. "The intense pulse light source, which uses filters to limit the wavelength range to between 500 nm and 1200 nm, can be used to improve epidermal melanin, superficial blood vessels, and skin texture," she said. "When the 500- to 800-nm wavelengths are used, the energy is absorbed by epidermal melanin and dermal hemoglobin, leading to improvement in pigmentation and telangiectasia. When the light is adjusted to deliver more infrared, the energy is nonspecifically absorbed by water in the dermis, resulting in a microscopic wound-healing response with activation of fibroblasts, production of collagen, and remodeling, which improve skin texture."

Lasers used in combination have also produced favorable results. "The pulsed Nd:YAG laser has been studied in conjunction with the frequency-doubled Nd:YAG laser (pulsed KTP laser) at 532 nm," said Dr. Kauvar. "Those studies have shown both improvement in pigmentation and in superficial blood vessels, as well as improvement in the skin texture. This second group of lasers is providing a global sort of treatment; whereas the infrared lasers are mainly aimed at improving skin texture."

The technique the physician chooses — ablative or nonablative — depends on the patient, according to Dr. Kauvar. "Patients with minimal skin laxity but a high degree of photo-damage and wrinkle formation benefit from ablative laser resurfacing," she said. "That group, particularly if fair skinned, is ideally suited to the ablative procedure. Patients with less photodamage and less wrinkling, however, can achieve good clinical improvement with nonablative laser resurfacing."

Dr. Kauvar has no financial interest in the laser systems described.DT

For more information

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Dr. Kauvar