ENERGY-BASED DEVICES: JOINT EFFORTS



Consulting with patients on the right option is important for the desired outcome.

WITH SUE ELLEN COX, MD, PAUL F. FRIEDMAN, MD, AND SUZANNE L. KILMER, MD

As energy-based devices (EBDs) undergo continual refinements, aesthetic physicians must weigh the costs and capabilities of new gear against those of their existing equipment. From cutting-edge EBDs to workhorse lasers, maximizing success requires realistic patient expectations and, almost always, combination therapies.

MULTIFACETED APPROACH

"The more different ways that you attack a problem, the better results you can get," Suzanne Kilmer, MD, director of the Laser & Skin Surgery Center of Northern California in Sacramento, and clinical professor of dermatology at the University of California Davis School of Medicine, also in Sacramento, told *Modern Aesthetics*®. "Optimal body contouring requires losing fat, strengthening muscles, and firming or tightening skin."

Destroying fat without improving muscle definition could leave patients unsatisfied. To address this, Dr. Kilmer uses CoolSculpting with Emsculpt muscle stimulation, which provides cosmetic benefits and has been shown to improve strength, energy, and confidence.[1]

For skin tightening, she says, Sofwave is a "kinder, gentler, faster" ultrasound option. With a penetration depth of 1.5 mm (versus 4.5 mm for previous generation ultrasound), Dr. Kilmer explains that Sofwave is more comfortable for patients. Shallower penetration depth also means practitioners need not monitor treatment depths via ultrasound.

With four 1.5-mm parallel beams, says Sue Ellen Cox, MD, medical director and president of Aesthetic Solutions in Chapel Hill, North Carolina, Sofwave covers more ground horizontally than deeper pinpoint

coagulation. Sofwave disposables cost around $200 per patient. In the midface, Dr. Cox combines ultrasound with biostimulators such as Sculptra to build collagen from below the skin surface. Botulinum toxin can prevent the platysma and depressors from pulling downward during healing, she adds.

Optimal facial rejuvenation also might require combining neuromodulators and injectable fillers with Emface muscle stimulation to improve tone and raise cheeks and eyebrows, says Dr. Kilmer.

LASER LOVE

Thanks to technological advances, according to Paul M. Friedman, MD, director of the Dermatology & Laser Surgery Center in Houston, and clinical assistant professor of dermatology at UT Health Houston, his practice has seen a resurgence in ablative fractional resurfacing for indications including advanced photoaging, fine lines and wrinkles, scar revision,[2] dyschromia, use of full ablation, and nasal contouring (rhinophyma). The novel fractional ablative UltraClear 2910 nm erbium-doped glass fiber laser (2910 fiber laser) delivers ablation and coagulation that can be customized based on the patient's condition, skin type, and downtime tolerance, Dr. Friedman says.

"The 2910 fiber laser delivers very small (170 nm diameter) ablation channels, and the thermal relaxation time between micropulses allows pressure and steam to escape the channel, resulting in a more comfortable patient experience," he said. When it comes to treating scars, says Dr. Kilmer. UltraClear works as well as existing ablative fractional lasers, with less pain and downtime. Its flexible fiber technology makes the device easier to handle, she says. However, Dr. Friedman noted that some users may find UltraClear's adjustable modes and parameters to be a learning curve, which may prolong treatment times.

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Dr. Friedman added that UltraClear offers laser-enabled tissue coring for skin tightening, an indication also addressed by Ellacor's micro-coring system. The latter uses modified hypodermic needles less than 0.5 mm in diameter to remove 5% to 7% of redundant skin, resulting in tissue tightening.

For improving overall skin quality, Dr. Cox prefers ablative CO_2 lasers.

"The ULTRApulse Alpha is a brand-new fully ablative CO_2 laser that's taking the place of some older CO_2 devices." In her hands, she says, the device provides significant tissue tightening for smoker's lines.

Options for age spots include intense pulsed light and Q-switched alexandrite lasers. For lentigines, tattoos, café-au-lait macules, and other benign pigmented lesions, Dr. Cox likes the Alex TriVantage so much that she owns two.

Dr. Friedman prefers the PicoWay laser for treating epidermal and dermal pigmented lesions. "This technology has integrated nicely, particularly in my practice in Houston, where we see many patients with skin of color."

For vascular issues such as hemangiomas, telangiectasias, rosacea, and port wine birthmarks (PWBs), Drs. Cox and Friedman prefer the Vbeam 595 µm pulsed-dye laser. In a recent study coauthored by Dr. Friedman, a novel Vbeam Prima pulsed-dye laser, with a larger spot and higher fluence, achieved at least 50% improvement in PWBs significantly faster than did its predecessor.[3] This device will debut later this year.

For patients with brown spots and visible vessels, Dr. Kilmer uses a dual-wavelength laser such as the Fraxel 1550/1927 nm, which can tar-

get brown spots, tighten tissue, and "carpet-bomb" vessels.

After a patient has had many EBD procedures, Dr. Friedman adds global cryomodulation with Glacial Rx, delivering feedback-controlled customized cooling. In another study he coauthored, the device reduced discomfort, erythema, and recovery time following non-ablative fractional resurfacing.[4]

"All these devices have their place," added Dr. Cox. "It's just figuring out how to best use them for the patient in front of you."

REASONABLE EXPECTATIONS

"Patient satisfaction with most energy-based devices is highly dependent on the expectations that you set." Unlike injectables, she says, patients respond more variably to EBDs. To avoid overselling, she shows patients photos of good, fair, and minimal results.

"If a patient has a lot of skin laxity," adds Dr. Cox, "I suggest they consult with a plastic surgeon so they can make an educated decision whether they want to go the surgical route, which is still the gold standard, or if they want to try and achieve more subtle improvements."

Patients must know up front that no treatment is perfect. With fat-killing devices, for example, uneven treatment can result in nodules or lumpiness. In one study of 3,000 patients, Dr. Kilmer noted that cryolipolysis can cause paradoxical fat hyperplasia. Liposuction, on the other hand, which is the only other effective fat-removal option, may carry far greater risks. —by John Jesitus ■

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Disclosures: Dr. Kilmer is an investigator for Sofwave Medical, Zeltiq Aesthetics, BTL Industries, Solta Medical, Acclaro Medical, Lumenis, and more than 20 other aesthetic device manufacturers.

Dr. Cox is an investigator and advisor for Galderma, an investigator and advisor for Allergan, and an advisor for Sofwave.

Dr. Friedman is an advisor, speaker, and consultant for Solta Medical; an advisor and speaker for Candela; an advisor for Acclaro, Cytrellis, and R2 Technologies; and a consultant for Allergan.

1. Bachelor EP, Kilmer S, Porcari JP, Gamio S. A prospective, open-label study to evaluate functional changes following electromagnetic muscle stimulation of abdominal muscle. *Aesthet Surg J Open Forum*. 2023;5:ojad045. Published 2023 May 25. doi:10.1093/asjof/ojad045
2. Murray TN, Guo EL, Richmond H, Friedman PM. Single treatment scar resurfacing with a novel ablative fractional 2910 nm erbium-doped fluoride glass fiber laser. *Lasers Surg Med*. Published online October 17, 2023. doi:10.1002/lsm.23729
3. Sodha P, Wang JV, Aboul-Fettouh N, Martin K, Geronemus RG, Friedman PM. Largest comparative analysis: novel large spot size 595 nm, high-energy, pulsed dye laser reduces number of treatments for improvement of adult and pediatric port wine birthmarks. *Lasers Surg Med*. 2023;55(8):741-747. doi:10.1002/lsm.23693
4. Murray TN, Darji K, Friedman PM. Split-face study to evaluate efficacy of global cryomodulation for reduction of pain and inflammation after nonablative fractional resurfacing. *Lasers Surg Med*. Published online September 3, 2023. doi:10.1002/lsm.23721
5. Sofwave Medical. Sofwave Medical receives FDA clearance of SUPERB technology for improvement of the appearance of skin laxity on the upper arm. https://sofwave.com/news/sofwave-receives-fda-clearance-for-improvement-of-the-appearance-of-skin-laxity-on-the-upper-arm/. December 26, 2023. Accessed January 8, 2024.

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