

Advances in Body Contouring Technology

Suneel Chilukuri, MD, and Joshua A. Lampert, MD, discuss surgical and nonsurgical body contouring devices taking over the specialty in 2021.

B LISETTE HILTONody contouring is taking on a new look in 2021. Technology is getting better, treatment times are getting shorter and procedures are becoming less and less invasive, says dermatologic surgeon Suneel Chilukuri, MD, director of Cosmetic Surgery, Refresh Dermatology, Houston, Texas.

Today's aesthetic providers are treating the body aesthetically, but also functionally, Chilukuri says. Emsculpt[®] (BTL Industries Inc.) changed the body contouring market by introducing technology for muscle building and enhancement.

"This has really played out during COVID-19 because people have not been able to get to the gym or they've chosen not to exercise as much," Chilukuri says. "We saw a huge influx of clients coming in and new referrals for those who wanted to jumpstart their regimen, not just from a cosmetic standpoint, but from a functional standpoint."

Next-generation body contouring technologies include combining radiofrequency (RF) with high-intensity focused electromagnetic energy to enhance body contouring results. Emsculpt NEO,² released October 2020, is one example. BTL evaluated how to combine pulses of the 2 technologies without heating up the magnet and causing a thermal burn, he says.

The company reports that Emsculpt NEO, a hands-free treatment, can achieve an average 30% reduction in fat and 25% growth in muscle volume.³ "There are also changes in terms of what we can do for subcutaneous fat and lifting of the face and neck," Chilukuri says, referring to InMode Aesthetics' Evoke device.⁴

Evoke's hands-free facial remodeling platform is currently available to physicians, however, Chilukuri is conducting clinical trials to determine enhanced protocols, including ideal treatment length and optimal time between treatments.

"What we are seeing clinically is a change of the ligaments that are separating fat compartments of the face," Chilukuri says. "By tightening those ligaments on the lateral aspect of the face we are able to see significant improvement in jowling and visible lifting of the cheeks. Evoke [InMode] is a hands-free RF technology. When we combine it with our currently available injectables, patients and physicians are seeing excellent results."

An ideal candidate for the Evoke is a patient with fuller cheeks and little bit of jowling, plus those with submental fat. Chilukuri says he uses the device on patients 40 to 80 years of age.

Both Evoke and Emsculpt NEO have real-time feedback on the device to prevent burns through thermal sensing technology, he says.^{3,4}

In 2020, InMode launched its Morpheus8 body multipulse burst radiofrequency vulcanization technology, a RF micro-needling device that goes 7 mm under the skin, Chilukuri says.⁵ "The depth of penetration sets it apart from other devices and allows us to treat the abdomen fat and inner and [outer] thighs," Chilukuri says. "It is a nonsurgical treatment. You do not have to put a large cannula into the patient, and you can fine tune how to destroy fat and tighten the skin."

Morpheus8 automatically deploys bipolar RF energy to multilevel treatment depths in a single cycle. It has the ability to target tissue sequentially at three levels with 1 trigger pulse, thereby shortening treatment times, minimizing skin injury, increasing treatment uniformity, and enabling customized full body fractional procedures, according to a press release.⁶

NEW FAT GRAFTING AND HARVESTING TECHNOLOGY



Joshua A.
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Joshua A. Lampert, MD, a plastic and reconstructive surgeon at Lampert MD in Miami, Florida, says his favorite tools for body contouring this year are the power-assisted liposuction device and the new finer fat grafting harvest cannulas. Today's state-of-the-art fat harvest and processing systems help ensure low-pressure fat harvesting and help avoid exposure to the ambient air, he says.

Although harvesting fat using smaller cannulas with narrower diameters and lower pressure suction takes longer, Lampert believes high pressure liposuction causes fat cell rupture. "This optimizes fat survival and improves overall body contouring outcomes," Lampert says. "What has changed more recently with body contouring is that we are no longer just looking at where we can remove volume, but where we can also replace it. Fat grafting is more reliable than it was in the past and often gives us an additional tool in contemporary plastic surgery that was not utilized as frequently years ago."⁷

One example of how Lampert uses fat grafting is in breast augmentation for women who do not want implants or want their implants removed.⁸ "We have found that we can obtain much better results using fat grafting at the same time as implant removal in order to augment the breast. The fat

harvest also adds improvement to the body contour where patients have troubling fat deposits," Lampert says.⁸

Using a combination of modalities can further optimize results, he says. "Often, after [surgical] skin tightening procedures and excess fat removal, devices such as the Emsculpt machine can help further define the body contour through muscle hypertrophy growth," Lampert says.

Published animal models show a greater percentage of fat survives when the harvested fat is placed in a small hyperbaric chamber, he says.⁹ "I think this is very interesting as MRI-documented fat grafting survival has demonstrated improved survival with the refinement of technique," Lampert says. "In the future, we may get to a point where we can do a 1-to-1 correction, meaning all the fat that we graft or the majority of it survives. Currently it is estimated that anywhere between 40% to 60% of fat that is grafted will survive in a healthy patient that does not smoke." ■

DISCLOSURES

Lampert reports no relevant or financial disclosures. Chilukuri is a consultant for BTL Industries and InMode Aesthetics.

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BEFORE | AFTER



Patient before and after fat grafting treatment.

Photo courtesy of Joshua A. Lampert, MD