

Surgical savvy

Caution is critical when combining lasers with more invasive aesthetic procedures

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Combining today's lasers and other energy sources with aesthetic surgical procedures may be a daunting proposition for many cosmetic surgeons, particularly for more "old-school," traditional professionals.

"In order to keep in step with the times and to better serve their patients, many physicians seek to incorporate lasers in their surgical procedures. However, many may find it difficult to embark on this endeavor, mostly because of the multitude of aesthetic devices on the market and/or inexperience with them and not knowing when to implement them," says Warren B. Seiler III, M.D., owner and medical director of Seiler Skin Cosmetic Laser Center, Birmingham, Ala.

One of the quintessential combinations of lasers and plastic surgery is seen when an older individual with severe skin laxity requires major skin tightening (especially in the face and the neck). In the majority of cases, lasers alone will not tighten the skin sufficiently; these patients usually will need a more invasive face and/or neck lift surgery first, followed by CO₂ and/or fractionated laser treatments to help improve the texture, fine lines and dyspigmentations on their skin.



Dr. Niamtu

"The concomitant use of laser resurfacing with facelift, browlifts and blepharoplasty can be a controversial combination, and in my opinion, simultaneous laser and facelift should only be attempted by those surgeons with extensive experience with laser resurfacing and facelift surgery. This may sound obvious, but combining facelift and laser is simply not for the novice surgeon," says Joe Niamtu III, D.M.D., F.A.A.C.S. Dr. Niamtu is a board-certified oral and maxillofacial surgeon with a practice limited to cosmetic facial surgery in Richmond, Va.

FACELIFTS FIRST When combining facelift and laser procedures, Dr. Niamtu typically performs the facelift first and does the laser work last. Although some surgeons only laser very small facelift flaps, Dr. Niamtu says he does not limit the extent of the flap dissection when performing simultaneous laser resurfacing.

"Before I close the incision, I mark the extent of the flap undermining. I treat the central oval of the face normally and will perform up to three passes of high-fluence, high-density resurfacing. When I get to the junction of undermined flap, I maintain the laser fluence but decrease the density and perform a single non-debrided flap. Alternately, the surgeon can maintain the density but decrease the power," Dr. Niamtu says. "Some surgeons do not lower settings at all when switching from normal skin to undermined skin, but I don't personally recommend that."

The timing of a laser procedure following surgery depends on the invasiveness of the surgery, he says. Larger surgeries will not only require longer healing times, but also the extended use of bandages and wraps.

According to Dr. Niamtu, the use of post-facelift dressings can complicate laser healing from the abrasion of the dressing on the raw skin. As a result, he says he has moved from occlusive dressings on lasered skin to simply covering the area with a petrolatum-type dressing. This approach does not aggravate the lasered tissue, and there is no obstruction of the healing flap, as sometimes seen with traditional facelift dressings.

"One thing that is very well known in the surgical and laser community is that you have to be careful with an aggressive laser peel on top of a full-face lift, which typically entails major dissection of tissues including the SMAS," Dr. Seiler says. "Here, there is some concern for either over-tightening the skin and/or damaging the blood supply, which can be microscopically

damaged and compromised during the surgery.”

BROWLIFT FLAPS AND EYES When lasering over an endoscopic browlift flap, Dr. Niamtu says he makes no separate distinction, and since the flap is thick and subperiosteal, he typically uses traditional multipass, high-fluence and high-density settings.

“However, I do change my settings when lasering over a subcutaneous browlift flap. I treat this flap as I would a facelift, as it is much thinner than the endoscopic brow flap. Again, I use the same fluence, but decrease the density and only use a single laser pass,” Dr. Niamtu says.

To help minimize complications of a laser treatment performed after eyelid surgery, the surgeon must be careful to treat the face without lasering the lid skin too aggressively (or not treating the lids with a laser at all), Dr. Seiler says. Patients receiving a combined treatment can expect approximately one week of downtime, very much the same as if each procedure were performed separately.

Dr. Niamtu only uses transconjunctival approaches on the lower lid during blepharoplasty. “So I make no concession when lasering over the lower-eyelid skin,” he says. “I traditionally perform two high-fluence, high-density, non-debrided passes on the lower-lid skin as part of the blepharoplasty procedure. In the rare event that I perform a lower-lid subciliary approach and remove skin, I am much more conservative with the laser, preferring not to laser and remove lower-lid skin simultaneously.”

When performing an upper-lid blepharoplasty, Dr. Niamtu frequently will laser the skin before closing the incisions and use the same power and density setting as that used on upper lids if the laser and blepharoplasty procedures were not performed simultaneously.

“If you are not doing a lot of dissection or fat removal from the lids, you can do a light laser resurfacing of the skin with a fractionated CO₂ laser right after the surgery,” Dr. Seiler says. “However, you have to be careful not to tighten the skin too much because the laser treatment will shrink and tighten the skin even more, above and beyond what you accomplished from the surgery. Here, experience plays a key role in knowing when to use the CO₂ laser and how high to set the energy and density settings, which will translate into the depth and aggressiveness of treatment. This must be gauged with the invasiveness of the surgery itself.”

LASER OPTIONS Some surgeons may opt to perform a fully ablative CO₂ laser treatment along with surgery in one sitting, Dr. Seiler says, but the patient must expect several weeks to one month of

downtime, which will be associated with significant edema and erythema. Patients treated with a lighter fractional CO₂ resurfacing will only have about one week of downtime, he says. Minimally invasive lower- and midface lifts can be combined with lighter laser resurfacing such as fractionated CO₂, provided that the amount of skin removed and the undermining performed does not significantly compromise the local vascularity.

According to Dr. Seiler, fractionated CO₂ is one of the best lasers to improve wrinkles, fine lines, skin texture and skin quality. Although Thermage (Solta Medical) can achieve some tightening in the eyelids, the device is only appropriate for a select few patients — with realistic expectations, he says.

In terms of surgery, ideal candidates for Thermage would be those who are absolutely against or contraindicated for surgery and those who don't need a surgical lift but want some tightening of the skin. Usually, a fractional laser procedure is done along with the Thermage to achieve lifting and textural/pigment improvement. One must be able to properly consult with the patient so that expectations are understood.

CAUTION IS KEY Surgeons performing laser and surgery at the same time need to be extremely wary of the amount of dissection, lifting of the flaps and inevitable vascular insults to the skin, particularly when considering performing different levels of laser treatments, Dr. Seiler says.

“In a traditional facelift procedure, the surgeon is potentially interrupting vital blood supply in varying degrees at the surgical site, particularly to the superficial skin. If a major skin-tightening laser procedure is performed on top of this, not only may you tighten the skin too much, but you may also cause some vascular compromise, which will typically lead to difficulties with wound healing,” he says.



A 63-year-old patient before (left) and 90 days after simultaneous facelift with SMASectomy and simultaneous CO₂ ablative resurfacing. The facelift and laser procedures complement each other, Dr. Niamtu says, and the improvement of facial rhytids and dyschromia add a significant dimension of rejuvenation to the case.

Typically, the deeper laser peels and aggressive fractional or fully ablative CO₂ procedures will go deep enough to cause petechial bleeding. Combined with a larger surgery, a more aggressive CO₂ laser treatment will further compromise the local blood supply, which may further impede the healing process in the area.

The more aggressive the surgical technique, the more the surgeon may want to wait to perform a secondary treatment with laser in the same session, Dr. Seiler says. This is especially true for those physicians with limited experience in both of these procedures.

“Regardless of what procedures you personally are able to offer your patients, being fully informed of all available techniques and informing your patients of the possibilities is the best way to treat your patients,” he says.

Adds Dr. Niamtu, “Combining the two procedures creates a synergy where the total is greater than the sum of the parts. Although many surgeons are enamored with fractional laser resurfacing, I remain much less impressed and favor old-school high-fluence, high-density, multi-pass treatment. Yes, it is a big recovery, but taking two weeks off to reverse a half century is not bad math in my book.” ◀

Disclosures:

Dr. Seiler is a physician trainer and consultant for Lumenis. Dr. Niamtu reports no relevant financial interests.



The facelift flap being marked (top) to delineate the normal skin from the undermined skin. A traditional facelift patient (bottom) immediately after aggressive resurfacing of the central oval of the face and before resurfacing of the undermined flap. (Photos credit: Joe Niamtu III, D.M.D., F.A.A.C.S.)