Rhinoplasty: CO₂ Laser Offers Advantages Over External Shaving

Among the most frustrating cases in rhinoplasty is one in which the patient does not respond to standard rhinoplasty techniques. Utilizing the closed technique without anesthetic injection or distortion of the nasal tip or dorsum, the surgeon can see the definition and projection of the nasal tip at the time of surgery. Good nasal tip definition with adequate nasal tip projection is the goal and is what will make your rhinoplasty successful. What you see is what you get! The frustration occurs when what you see, you don’t like.

Thick sebaceous nasal skin is certainly one of the most frustrating challenges. All of the rhinoplasty techniques to achieve adequate nasal tip definition may not work. Frequently doctors will accept the result as the best that they can do, but this answer is not any consolation to the dissatisfied patient. How many doctors and patients wait years for that persistent edema to resolve and everything to look a lot better? How many Kenalog® injections in the nasal tip and supratip will solve the problem?

The answer for the patient with thick nasal skin does not lie in time or steroid injections. The answer is to treat the thick skin. Use of a scalpel for external shaving is a great technique to thin the involved problem skin, but it has its own inherent problems. First, the technique is usually used as the last resort during a revision rhinoplasty after the patient has waited a year with no further tip improvement. Most surgeons do not want to risk the chance of a scar or pigment change at the time of a primary rhinoplasty. Second, because the nasal tip and supratip are well-vascularized areas, external shaving is a bloody, messy procedure. Third, it is very difficult, if not impossible, for the surgeon to consistently shave at the same level of skin thickness. Irregularities in the nasal tip skin may develop.

Rather than a blade, the answer lies in the newest technology—the CO₂ pulsed laser. The CO₂ laser is a virtually bloodless technique allowing precise control of depths and producing very even dermal tightening. The surgeon can safely perform as many or as few passes as necessary to achieve the desired result. Obviously, some judgment must be exercised to avoid causing a full-thickness skin loss.

I use the Luxar Novapulse®, a superpulsed CO₂ laser, with a Surescan® computer-directed handpiece. The laser is controlled by the surgeon, who sets the wattage, the pattern size, and the density. The Novapulse® microprocessor sets a safe pulse width that is less than the thermal relaxation time of the skin and forces an interpulse duration that is long enough to allow for necessary tissue cooling. I use the laser in primary or secondary rhinoplasties when adequate nasal tip definition is not achieved with the standard sculpting technique, a situation often seen in the patient with thick sebaceous skin.

The laser-treated nasal tip and supratip is dressed similarly to any laser-treated area of the face. I prefer to use a petroleum-based ointment, reapplied as often as necessary to keep a sheen to the nasal tip skin. Reepithelialization usually takes place in 7 to 10 days, and the resulting erythema can be covered with cosmetics. Most patients treated with laser do not require cover-up cosmetics after 1 month. Although the technique is relatively new, in selected patients, CO₂ pulsed laser treatment of the nasal tip and supratip is a safe, reliable, and reproducible technique with minimal complications.

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