

Safety in the Use of Fillers in Nasal Augmentation—the Liquid Rhinoplasty

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Patients are constantly searching for more ways to achieve their aesthetic concerns without considering the high cost or down time of surgery, and rhinoplasty is no different. Food and Drug Administration–approved hyaluronic acid (HA) soft-tissue fillers can be used to augment or refine nasal irregularities, and use of this implant has broadened the rhinoplasty surgeon's armamentarium.¹ Fillers can also be used to correct small asymmetries following rhinoplasty.

Using photographs and a mirror during and immediately after the procedure can help the surgeons to make sure that the patients' concerns are being met. It is important to discuss with the patients what can and cannot be achieved with soft-tissue fillers. The patient should know that rhinoplasty using a filler liquid is temporary and that the patient's nose will become bigger after the injection.¹

The level of injection must be deep and midline to maximize safety and to avoid both skin loss and potential blindness.² To minimize the risk of intravascular injection, one must take into consideration the subcutaneous location of the nasal vessels superficial to the nasal muscles along with the rich plexus of vessels, with contributions from the angular, supraorbital, and supratrochlear arteries. (See Video 1 [online], which displays the arterial anatomy around the nose as well as a patient who is receiving nonsurgical nasal augmentation, including a neuromodulator injection into the depressor septi nasi.)

To stay safe, the surgeons need to inject the filler intermittently, and not overcorrect. It is important to avoid high-pressure injection, as this has been associated with intravascular injection and emboli to the ocular vessels. Using cannula can theoretically protect against intravascular injection; however, it has been found to be associated with the same complications if safe injection techniques are not used.^{3,4}

The nasal dorsal is best approached using small aliquots of HA midline and deep. Restylane (Galderma Laboratories LP, Fort Worth, Tex.) or similar HA fillers are

preferred to be used in this area because of their higher levels of cross-linking and lower hydrophilicity. A dorsal hump can be easily camouflaged with the use of HA below and above the hump. A threading technique along the long axis of the nasal dorsum should be used to maintain proper nasal shape while staying safe.⁵

The sidewall is best addressed using small amounts of HA. Restylane is the preferred product to use under the thin skin of the nasal sidewall. Injection is best performed using a crosshatching technique to achieve a uniform volume expansion along the flat plane of the nasal sidewall.¹

Small amounts of HA injected deep into the dermis can help contour the nasal tip. The nasal tip skin must be treated with conservative volumes and constant assessment of skin perfusion to avoid potentially disastrous sequelae of nasal tip skin compromise. Considering the sensitive contours of the nasal tip and ala, the ability to mold Juvederm (AbbVie; North Chicago, Ill.) for a couple of days after injection proves to be a benefit for the patient and the surgeon. One should inject via serial puncture technique to maximize precision along this area. Small volumes of HA in the range of 0.1–0.2ml can result in significant contour improvement. (See Video 2 [online], which displays the safe use of fillers for nasal augmentation by staying deep and midline in a young patient.)

To correct an underrotated tip with dynamic effects on smiling, 2 units of Botox can be injected into each depressor septi nasi muscle.^{2,5}

After injection, filler should be gently massaged to help with even distribution, thus avoiding contour irregularities. The surgeon should wait for 10 minutes to give the soft tissues time to adjust and the product to fully diffuse, which allows for a more accurate assessment of effect before further injection. The patient should be seen 4 weeks after the procedure to reassess and inject any left-over filler to obtain an optimal result.¹

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Received for publication January 24, 2020; accepted March 17, 2020.

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Plast Reconstr Surg Glob Open 2020;8:e2820; doi: [10.1097/GOX.0000000000002820](https://doi.org/10.1097/GOX.0000000000002820); Published online 18 August 2020.)

Disclosure: Dr. Rohrich receives instrument royalties from Eriem Surgical, Inc., and book royalties from Thieme Medical Publishing. Drs. Agrawal, Avashia, and Savetsky have no financial interests to declare in relation to the content of this article. No funds were received or utilized for the research reported in this article.

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PATIENT CONSENT

The patient provided written consent for the use of her image.

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