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Hyaluronic Acid Filler Injection Technique in Multiple Layers of the Nasolabial Fold

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The nasolabial fold (NLF) is a natural wrinkle in the face, observed during smiling. The NLF is caused by the continuous movement of the lip elevator muscles and attachment of the muscle fiber to the skin.[1] There is a difference in tissue density inside and outside the fold, with the fat layer on the upper part of the fold being relatively loose, while the inner layer is dense and tight.[2] Methods to resolve the NLF include pyriform aperture implantation, midface lifting, and filler injection. The simplest method of filler injection is most commonly used. However, inside the NLF, there is a dense fascia with a thin superficial fatty layer, and due to the presence of a malar fat pad on the outer layer, the superficial fatty layer is thick. Injection is typically performed on the inner layer of the NLF, and the shape is not well maintained in the case of fillers.[2,3] Moreover, bolus injection has the disadvantage of rapid spreading because the filler is in a gel form. Therefore, to address this disadvantage, the author introduces a multilayered injection technique.

First, the entry point was anesthetized with an infraorbital nerve block. The line between the alar base (which becomes the base of the triangle) and the oral commissure (which becomes the vertex of a triangle) was connected. The vertex of the triangle was punctured using a 25-gauge needle. Next, a high-particle-elasticity (which is a characteristic of biphasic fillers) and high-cohesiveness filler (YVOIRE Y Solution 720°, LG Chem, Republic of Korea) was injected into the deep pyriform space, immediately above the periosteum, with the retrograde linear threading technique using a blunt cannula and then into the supraperiosteal layer. Deep pyriform space was filled, and the deep fat layer was also injected into the filler (YVOIRE Y Solution 720°) using linear threading and fanning techniques. Subsequently, a low-particle-elasticity and high-cohesiveness filler (YVOIRE Y Solution 540°) was injected into the superficial fatty and subdermal layers using linear threading and fanning techniques. A small amount of filler (about 0.03–0.05 mL) was injected during the application of each linear threading technique. The total injected amount was 1.0–1.5 mL per side. When the muscle was strong, botulinum toxin type A was injected into the levator labii superioris alaeque nasi, with 2 units each on both sides, to reduce the duration of upward migration of the filler (Fig. 1). It was performed in 20 patients, and there were no complications. There may be slightly more swelling, but it goes away within a week. It was confirmed that at 6 months, it was well maintained. However, there may be a higher risk of embolization. Therefore, it is safest to inject fillers carefully and slowly.

The author attempted to inject the filler bolus into multiple layers so that the fillers would not mix with each other. The filler has been able to support a more depressed NLF for a longer time.

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REFERENCES

1. Rubin LR, Mishriki Y, Lee G. Anatomy of the nasolabial fold: the keystone of the smiling mechanism. *Plast Reconstr Surg.* 1989;83:1–10.
2. Snider CC, Amalfi AN, Hutchinson LE, et al. New insights into the anatomy of the midface musculature and its implications on the nasolabial fold. *Aesthetic Plast Surg.* 2017;41:1083–1090.
3. Mowlds DS, Lambros V. Cheek volumization and the nasolabial fold. *Plast Reconstr Surg.* 2018;141:1124–1129.

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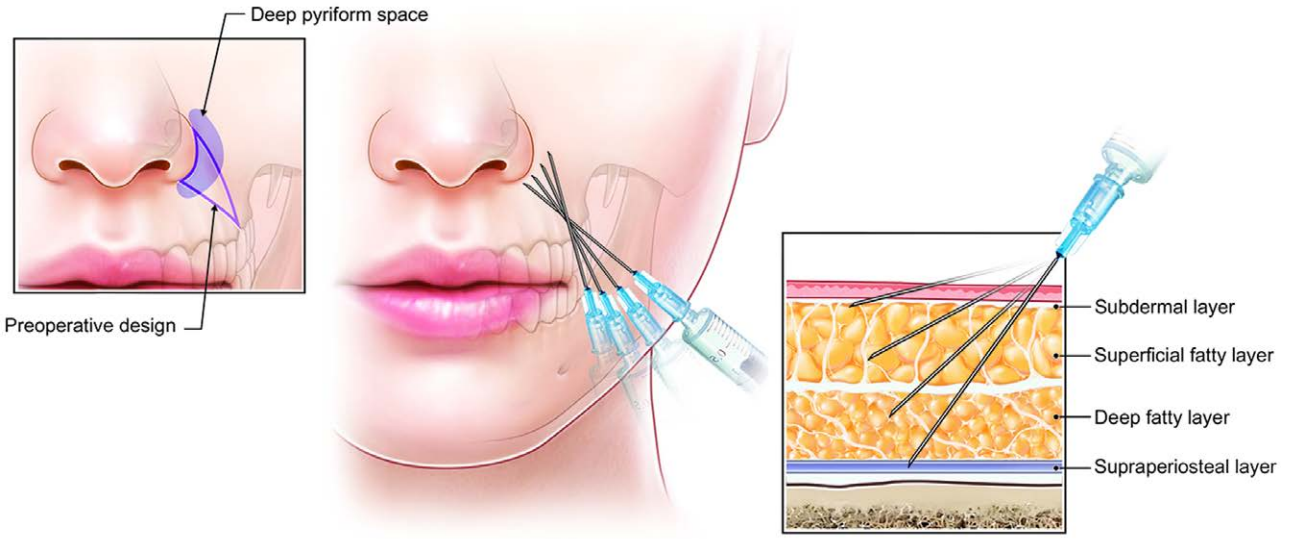

Fig. 1. Schematic illustration of the multiple layer injection technique with the linear threading and fanning techniques.