



Many noses today need more volume, not less—hence the use of fillers and botulinum toxin Type A

by Steven H. Dayan, MD, FACS

The nose is the leading feature of the face, and it is often its characterizing or defining element. A large, unbalanced, or crooked nose draws attention and detracts from what otherwise may be an attractive face.

On the other hand, a nose in balance with the other facial features can be easily overlooked. Impressions will be based on revealing features such as luminous eyes or captivating lips. My practice's goal for nasal reshaping is to create an attractive nose that is in harmony with the rest of the facial features, diverting attention away from the nose and directing it elsewhere.

In the past 10 years, there has been a large shift in the way the nose is appreciated, by both the rhinoplasty physician and the patient. Much of this stems from the evolving definition of what makes a nose appear attractive. In today's multi-ethnic, one-world society, a nose that is a blend of all cultures is more appealing.

No longer does a small, pinched, turned-up nose grace the covers of the fashion magazines, nor is it displayed by pop divas. Like our cross-cultural fashion icons, our patients are now requesting a more full-bodied nose with a strong profile and a defining tip. I am now even receiving not-so-infrequent requests to place a small dorsal convexity or hump onto what would be a seemingly beautiful straight profile.

Patients furnish pictures of famous Eurasian models with long, strong, elegant ethnic noses and a tiny bump on the bridge, and ask for the same. The changing aesthetic, along with lessons learned from the past, is resulting in new surgical

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approaches and philosophies by rhinoplasty physicians.

In addition, my nasal-reshaping patients, like all of today's aesthetic patients, are looking for quality results, but they also want them to be achieved quickly. The rhinoplasty surgeon is not immune from the "no-downtime—minimally invasive" tidal wave enveloping aesthetic medicine. Rhinoplasty surgeons have responded to the demands. From fillers and botulinum toxin Type A (BTXA) to new surgical grafting techniques, there are a few new ideas for altering nasal appearance.

Rhinoplasty remains one of the most difficult procedures to do well in plastic surgery. There are multiple dependent anatomic components, factors, and nuisances to negotiate and manage during surgery. Seemingly minor adjustments made at the time of surgery can result in dramatic changes years later—hence, the apparent increase in rhinoplasty revisions.

The revision rate for rhinoplasties performed by experts has been reported to be as low as 4%¹; however, on the whole, it is likely underreported. Few physicians report the rate of their own revisions, and many poor outcomes do not reveal themselves until decades after the procedure.

Unfortunately, too often these aesthetically bad outcomes are also associated with nasal breathing problems. These patients often seek attention for breathing problems as much as for appearance issues.

Grafting techniques used in revision procedures have led to new ways of thinking in primary rhinoplasty. In the attempt to reduce bad outcomes and nasal cripples, newer surgical techniques have been devised to build a stronger nose that is still aesthetically appealing.

A better nose is achieved through more structurally stabilizing grafting and fixation of the nasal cartilage components. Aesthetic impact factors long appreciated by our artistic colleagues, such as light reflections and shadows, are now better appreciated and more heavily emphasized by surgeons. The tools for creating such an outcome are largely based on what we have learned from the external rhinoplasty approach.

External or Internal Rhinoplasty?

Rhinoplasty that used to be commonly performed using an internal (or endonasal, or closed) approach—meaning no external incision—was the standard for a generation. These rhinoplasties were mostly reductive in nature, and were

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accompanied by sweeping excisions of cartilage and bone. However, too many rhinoplasty patients ended up with distorted cartilages, asymmetric sidewalls, loss of tip projection, and difficulty breathing years later.

Learning from earlier experiences, rhinoplasty surgeons of the 1990s popularized the open approach—entering through an external columellar incision—with significant cartilage grafting. This resulted in a stronger, more solid nose that was better built and able to withstand aging changes. However, post-operative recovery can be longer with this method, and noses appear larger for longer time periods. Many months may be required before an attractive nose becomes evident.

This is out of character for most of today's aesthetic-seeking patients. Thus, a middle ground evolved, in which grafting techniques used in the open approach can be translated to the closed approach, resulting in a well-supported structural nose that does not take as long to heal and does not look as big for as long.

Following surgery, patients appreciate the quicker recovery, along with rare and minimal periorbital edema and bruising.

Before & After



Figure 1. This 34-year-old patient is shown before and 12 days after botulinum toxin Type A injection.

But in most hands, a healing period is still required before the nose reveals itself. This can take anywhere from a few weeks to months.

So, despite the appeal for a permanent change to the nose, many of my patients are still requesting a quicker fix. They have become comfortable with and accustomed to the high satisfaction and reliability of the injectables, and they want to know if injectables are an honest alternative for making their noses more appealing.

Fillers and Botulinum Toxin Type A

Noninvasive methods for the nose, including fillers and BTTA, have a limited but established role in improving nasal appearance. BTTA and fillers can be used

to subtly but quickly change the appearance of the nose, allowing a person the option of improving his or her appearance for an upcoming event.

For the patient with a dependent or ptotic tip and a snarled upper lip, BTTA can provide no-downtime help. BTTA can rotate the tip of the nose 10° upward, resulting in a gentle curve of the tip and nostrils. A subtle relaxation of the

upper lip is also appreciated.

Three to five units of BTTA placed in each of the depressor septi nasi muscles (which originate on the media crura and interdigitate with the orbicularis oris muscle) and each of the levator labii superioris alaque nasi muscles (which originate on the frontal process of the maxilla and insert in the skin of the ala and upper lip) will provide for this subtle but effective adjustment to the nose.²

BTTA can also be placed in the nasal “bunny lines” that stem from overactive nasalis muscles situated on the proximal lateral nasal sidewall. Although not a frequently requested area of BTTA treatment, relaxing these muscles will result in a reduction in the distracting wrinkles accentuated by squinting, smiling, and laughing.

Fillers also have a role in nasal reshaping, especially in the postrhinoplasty defect. For the patient interested in altering the appearance of his or her nose and improving breathing at the same time, there is no substitute for a well-done surgical procedure. But there is the occasional patient who absolutely refuses to undergo surgery or cannot medically tolerate a surgical procedure, or even perhaps a postrhinoplasty patient who is mostly satisfied with the result but is bothered by a mild defect that does not seem worthy of a surgical revision.

In such situations, filler may be an option. The hyaluronics, along with calcium hydroxyapatite (CAH) and silicone, have been used to fill in minor defects of the nose and provide for a streamlined dorsum or tip that was one small dent away from looking pristine. The hyaluronics, placed deeply along depressed cartilage defects, can camouflage what would otherwise be a shadow-emitting depression.

CAH placed deep along the bony dorsum can make a curved nose look straight

Nonsurgical Rhinoplasty Case 1

A 34-year-old female asked for improvement in her nose but was opposed to surgery. She had no complaints of nasal breathing dysfunction and was only interested in aesthetic improvement. She was planning on attending a friend's wedding the next month and was requesting a quick, reliable procedure that would allow her to look her best but not take her away from her job—she indicated that she could not tolerate even 1 day off from work.

On examination, the frontal view revealed a narrow nose with a ptotic tip. Her dependent tip was confirmed by other views. The lateral view also showed overprojection and a dorsal convexity. On forced smile, her upper lip was noted to curl, revealing the apex of her frontal teeth and resulting in a snarl-like appearance.

She was determined to be an ideal candidate for chemical denervation of her depressor septi nasi (DSN) and levator labii superioris alaque nasi (LLSAN) muscles. She agreed to undergo the procedure, recognizing the unlikely but possible side effect of a temporary asymmetric smile.

Anesthesia was not used in this case, but a topical benzocaine–lidocaine–tetracaine (BLT) anesthetic provided some relief. Five units of botulinum toxin Type A were placed into each of the paired DSN muscles, and three units were placed into each LLSAN muscle. Twelve days later, photographs revealed an elevated nasal tip and a reduction in the curling of her upper lip with smile (Figure 1). She was satisfied with the outcome. Two years later, she underwent a closed rhinoplasty, and today she is very satisfied with her surgical outcome.

Nonsurgical Rhinoplasty Case 2

A 42-year-old female who had undergone functional rhinoplasty 1 year prior to presentation complained of a scooped-out appearance in her nose. She had no breathing difficulties but wanted an improvement in nasal appearance. The risks and benefits of a revision rhinoplasty with ear- or rib-cartilage grafting were discussed with the patient.

Although she recognized the value and permanent nature of undergoing a revision rhinoplasty, she was absolutely opposed to another surgical procedure and wanted a quicker solution that entailed no downtime. She indicated that she was quite sure another surgical procedure was not for her.

On examination, the frontal view revealed a washed-out middle vault with a well-defined appropriate nasal tip. The lateral view showed a saddle-nose deformity. A calcium hydroxyapatite (CAH) filler was recommended to temporarily improve the appearance of her nose. The risks and benefits were discussed, and she decided to undergo the procedure.

Topical anesthetic containing benzocaine–lidocaine–tetracaine was allowed to sit on the nose for 20 minutes, after which 0.7 mL of CAH was placed deep along her bony and cartilage nasal structures and massaged into place. She had mild bruising and swelling, but this was easily camouflaged the next day.

One month later, she returned and was happy with her outcome (Figure 2). Two years later, she continues to return for follow-up injections when the CAH begins to dissipate.

Before & After



Figure 2. A 42-year-old patient before and 1 month after calcium hydroxyapatite filler injection.

or strengthen a saddle-scooped-out nose. The hyaluronics can be expected to last 6 to 9 months, and CAH can be expected to last 10 to 12 months. Silicone, a permanently correcting option, is favored by some; however, although low, the risk of delayed granulomatous formation and permanent scarring that may hinder any future nasal surgeries must be considered.

Initial concerns of many rhinoplasty surgeons are the long-term “squeal” of placing foreign material in the nose and the possibility of jeopardizing any future attempts at surgical nasal revision. However, having operated on multiple patients who have had BTTA, hyaluronics, and CAH placed in the nose, I have seen no evidence of tissue distortion or scarring that negatively affected or altered my surgical approach and ultimate outcome.

As long as the treating physician explains the limited and temporary role that fillers and BTTA place in nasal enhancements, these injectables are a viable option for the patient requesting a quick improvement in nasal appearance and function. **PSP**

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On The Web

See also “Recovery in the Fast Lane” by Zachary E. Gerut, MD, FACS, in the December 2006 issue of *PSP*. Go to PlasticSurgeryProductsOnline.com and click on “Archives.”

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