

# Male Rhinoplasty

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**Learning Objectives:** After studying this article, the participant should be able to: 1. Discuss the differences between the aesthetic male and female noses. 2. Describe the most common deformities observed among male patients. 3. Discuss the warning signs that suggest to the physician that the patient is less than ideal for operative intervention.

Rhinoplasty is one of the most complex and challenging operations in plastic surgery. This complexity is increased among male patients, because male patients tend to have relatively nonspecific complaints, are typically more demanding, and are regarded as being much less attentive during consultations. It is critical for the surgeon to verify that the male patient has realistic goals before he undergoes an operation, and the surgeon must confirm that the male patient has heard and understood all of the risks, benefits, and options. It is essential that masculine features be preserved for male rhinoplasty patients. Excessive dorsal reduction or tip refinement produces unsatisfactory results. A comprehensive discussion of proper evaluation of the male nose, surgical planning, intraoperative techniques, and postoperative treatment is presented. These tools should allow plastic surgeons to produce a balanced harmonious nose in relation to the rest of the face. (*Plast. Reconstr. Surg.* 112: 1071, 2003.)

As true for all patients desiring plastic surgical treatment, it is crucial to preoperatively identify patients with potentially unrealistic expectations that may pose problems. Gunter<sup>1</sup> identified the following 13 signs that may indicate that the patient has underlying psychological issues (Fig. 1): (1) minimal disfigurement, (2) delusional distortion of body image, (3) an identity problem or sexual ambivalence, (4) confused or vague motives for wanting surgical treatment, (5) unrealistic expectations of changes in life situations as a result of surgical treatment, (6) a history of poorly established social and emotional relationships, (7) unresolved grief or a crisis situation, (8) blaming of present misfortunes on physical appearance, (9) excessive concern about aging (for an

older neurotic man), (10) a sudden anatomical dislike (especially among older men), (11) a hostile, blaming attitude toward authority, (12) a history of consulting physicians and being dissatisfied with them, and (13) indications of paranoid thoughts. Gorney<sup>2</sup> used the acronym SIMON (single, immature, male, overly expectant, and narcissistic) to describe potential problem patients.

In general, men tend to have a poorer understanding of their deformity than do women. Furthermore, they tend to have a more difficult time describing the changes they think are needed.<sup>1,3</sup> This tendency, combined with a tendency toward selective hearing among male patients, makes it even more important that the physician determine the patient's goals and establish whether they are realistic during the initial consultation. A second follow-up consultation is recommended for these patients, to review the patient's desires, develop a realistic operative plan, and confirm the patient's understanding of the anticipated procedure.

A combination of standardized anterior, lateral, oblique, and basal photographs and computer imaging is vital for preoperative surgical planning. Computer imaging allows the patient to gain a better understanding of what outcomes can realistically be expected, which helps alleviate anxiety.<sup>4</sup> It also emphasizes the importance of facial harmony and allows the patient to become an active participant in the determination of the final surgical outcome. This tool is especially important for male rhi-

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FIG. 1. "Danger signs" that may indicate the patient has underlying psychological issues.

noplasty patients. However, it must be stressed that computer images are not to be used to indicate or guarantee surgical results. Computer imaging is only an educational tool, and each patient must sign an informed consent form acknowledging that fact.

#### FACIAL ANALYSIS

It is crucial to analyze the face systematically and meticulously, to diagnose the problem and determine the best course of action. There are established proportions and relationships for facial structures that constitute the aesthetically pleasing face. We briefly describe these relationships for Caucasian female patients and point out when the proportions differ between men and women.<sup>5,6</sup>

1. Horizontal lines adjacent to the menton, nasal base, brow (at the level of the sub-orbital notch), and hairline divide the face into thirds. The upper one-third of the face is the least important for the purposes of nasofacial diagnosis, because the upper line varies with hairstyle. The lower one-third of the face is split into an upper one-third and lower two-

thirds, with the upper line being a horizontal line between the oral commissures, the middle line being a transverse line through the labial-mental groove, and the lower line being at the menton. The middle line divides the distance from the stomion to the menton in a 1:2 ratio (Fig. 2). Byrd and Hobar<sup>5</sup> calculated nasal length as being equal to the distance between the stomion and the menton, which equals 1.6 times the distance between the tip of the nose and the stomion. Ideally, nasal tip projection equals 0.67 times the nasal length.

2. A natural horizontal facial plane is determined by drawing a line perpendicular to a plumb line superimposed over the head in repose, with the eyes in straight-forward gaze. This may not correspond to Frankfort's line.
3. For the nose itself, any sign of nasal deviation should be noted. A line drawn from the midglabellar area to the menton should bisect the nasal bridge, upper lip, and Cupid's bow. For patients with normal occlusion, the midline is the ver-

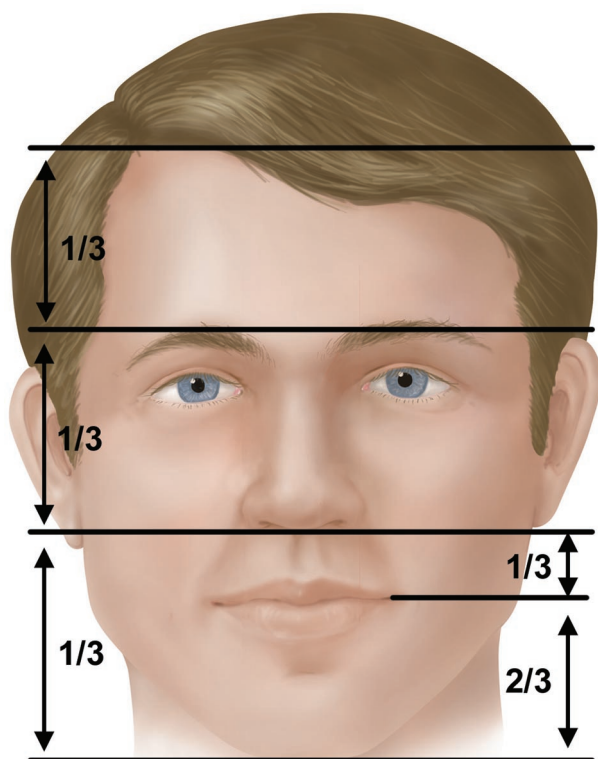


FIG. 2. The face is divided into thirds, with the upper third being the most variable due to varying hairlines. The lower third is subdivided as well.

tical line that passes between the two central incisors.

4. The nasal dorsum is outlined by two slightly curved, divergent, aesthetic lines extending from the medial superciliary ridges to the tip-defining points. Among men, the nasal dorsum tends to be wide and straight, with less concavity at the superciliary ridges.
5. The width of the bony base should be 70 to 80 percent of the normal alar base, which typically is equal to the intercanthal distance. If the bony base is wide, however, then mobilization of the bones may be necessary to narrow the dorsum. Male subjects tend to have a wider bony base but it is important not to narrow the dorsum excessively, because this could lead to feminization of the nose.
6. The width of the alar base should be essentially equal to the intercanthal distance. If the interalar width is greater than the intercanthal width, then it must be determined whether this is the result of increased interalar width or alar flaring. Normal flaring among Caucasian male

subjects is 3 mm outside the alar base. An alar base resection should be considered if flaring is more than 3 mm outside the alar base. This finding should be distinguished from excessive interalar width. If the interalar width is excessive, then nostril sill resection may be indicated. The alar rims should be assessed for symmetry and should flare slightly outward in the inferolateral direction.

7. The outline of the rims and the columella should resemble a seagull in gentle flight, with the columella lying just inferior to the alar rims on the frontal view.
8. The outline of the nasal base on the basal view should represent an equilateral triangle. The lobule-to-nostril ratio should be 1:2. The nostril should have a slight teardrop shape, with the long axis from the base to the apex positioned in a slightly medial direction.
9. The position and depth of the nasofrontal angle (radix) should be noted on the lateral view. The radix should be located between the upper eyelash line and the supratarsal fold with the eyes in a natural horizontal gaze. The aesthetic nasal dorsum should lie approximately 2 mm behind and parallel to a line from the radix to the tip-defining points for women, but it should be slightly higher for men.
10. For assessment of tip projection among patients with normal upper lip projection, a line is drawn from the alar-cheek junction to the tip of the nose. If 50 to 60 percent of the tip lies anterior to the vertical line adjacent to the most projecting part of the upper lip, then tip projection is normal. If the proportion is more than 60 percent, then the tip may be overprojecting and may require reduction (Fig. 3, *left*). The ideal nasal length is assessed as a ratio of nasal length to tip projection, with tip projection equalling 0.67 times the nasal length, according to the analysis by Byrd and Hobar (Fig. 3, *right*).<sup>5</sup>
11. The degree of supratip break is assessed when the nasal tip projection and dorsum are evaluated. A slight supratip break is preferred for women but not for men. This gives the nose more definition and distinguishes the dorsum from the tip.
12. The degree of tip rotation is assessed by measuring the nasolabial angle. This angle

is formed by a straight line through the most anterior and posterior edges of the nostril, transecting the plumb line. Among women, this angle is between 95 and 105 degrees; among men, it is between 90 and 95 degrees. This is in contrast to the columellar-labial angle, which is formed at the junction of the columella with the upper lip. Increased fullness in this area usually is caused by a prominent caudal septum and gives the illusion of increased rotation, although the nasolabial angle is normal.

13. The columellar-lobular angle is normally 45 degrees.
14. The aesthetic relationships of the lip and chin are assessed. The upper lip should project approximately 2 mm anterior to the lower lip. Byrd and Hobar<sup>5</sup> determined ideal chin projection by drawing a vertical line from a point at one-half the ideal nasal length, tangential to the vermilion of the upper lip. For women, the chin should be 2 to 3 mm posterior to this line. For men, the chin should project to this line.

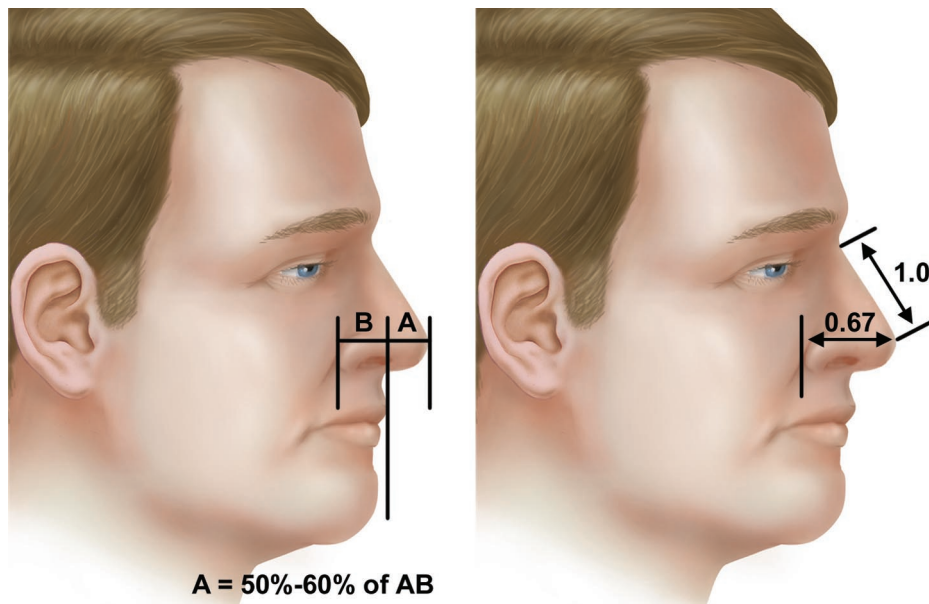


FIG. 3. (Left) Normal tip projection is when 50 to 60 percent of the tip lies anterior to the vertical line adjacent to the most projecting part of the upper lip. (Right) The ideal ratio of nasal length to tip projection should be 1.0:0.67.

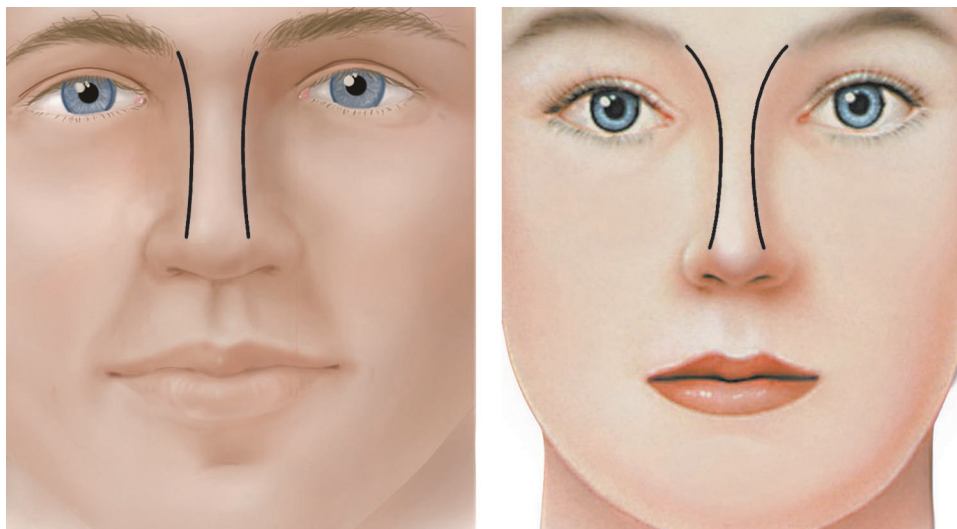


FIG. 4. Wider, straighter, and less concave dorsal aesthetic lines for men.

In general, the male face tends to be heavier, squarer, and more pronounced than the female face.<sup>1,5</sup> The key differences are as follows. (1) The male dorsum tends to be wider and straighter, with less concavity at the superciliary ridges (Fig. 4).<sup>1,7</sup> (2) The male nasal dorsum should lie along a line drawn from the radix to the tip-defining points (compared with 2 mm behind and parallel to this line for women) (Fig. 5).<sup>6</sup> (3) There should be no supratip break (Fig. 6).<sup>7</sup> (4) There should be slightly less tip rotation for men (90 to 95 degrees, compared with 95 to 105 degrees for women), because the nasal dorsum is longer, which results in less nostril show (Fig. 7).<sup>1,7</sup> (5) The chin is more prominent, projecting to a plumb line drawn from a point at one-half the

ideal nasal length, tangential to the vermilion of the upper lip (compared with 2 to 3 mm posterior to this line for women) (Fig. 8).<sup>5,6</sup> (6) The nasal tip is broader and more bulbous (Fig. 9).<sup>4</sup> (7) The skin of male subjects tends to be thicker, limiting the amount of change that can be achieved.<sup>8</sup>

#### OPERATIVE GOALS AND TECHNIQUES

The main objective in male rhinoplasty is to produce subtle changes that make the nose appear natural, with preservation of facial harmony. In general, a small nose on a male face is inappropriate.

Deformities of the nose can be classified as either aesthetic or traumatic, with traumatic

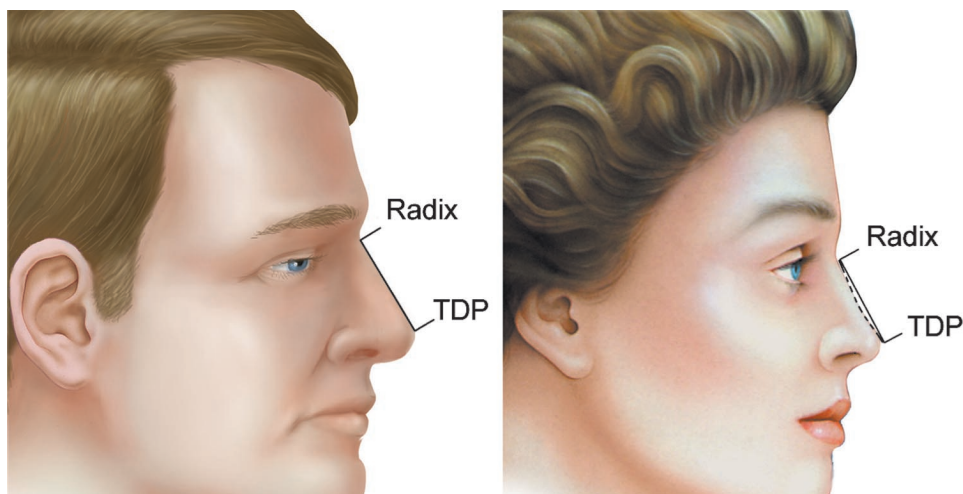


FIG. 5. Position of the male dorsum along a line drawn from the radix to the tip-defining points (TDP), compared with 2 mm behind and parallel to that line for women.

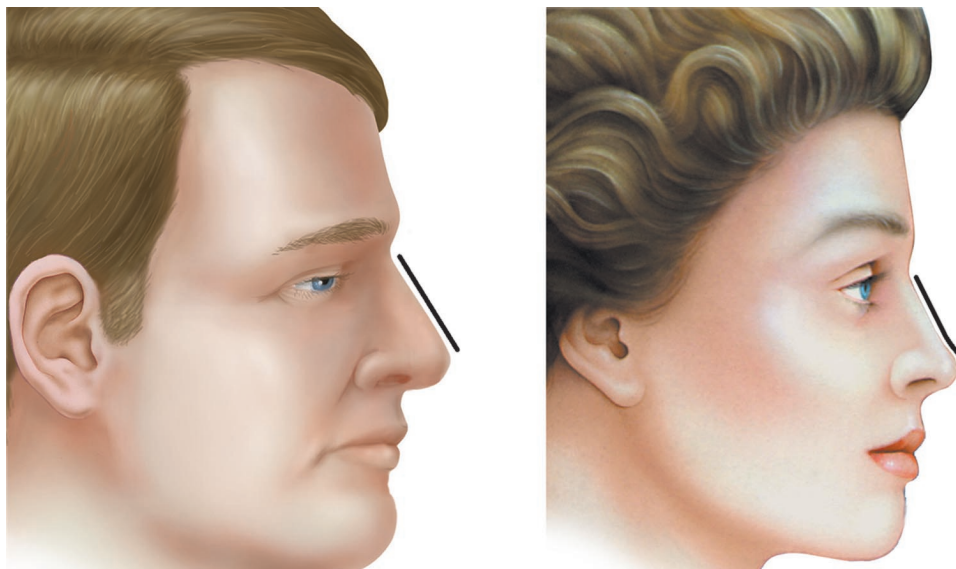


FIG. 6. No supratip break for men.

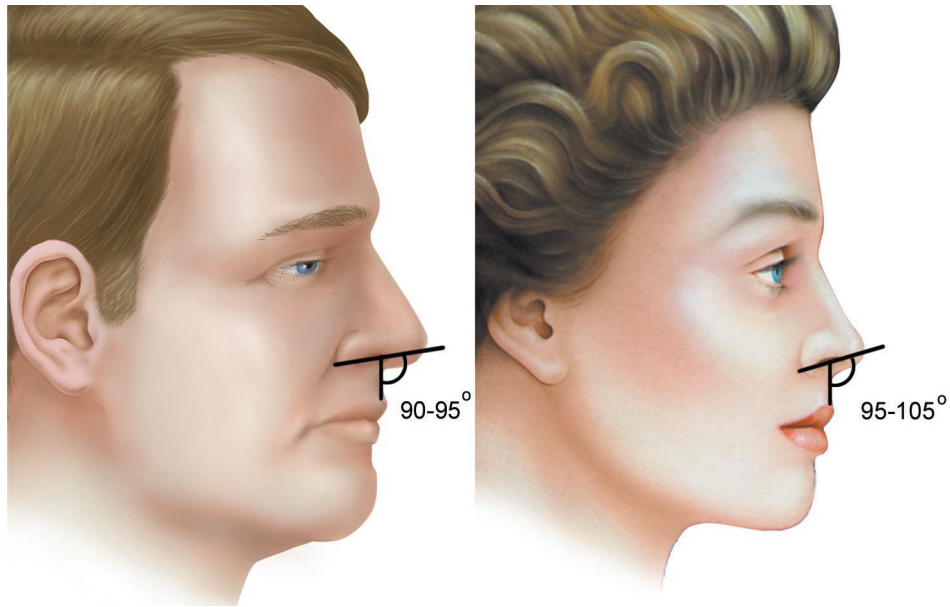


FIG. 7. The nasolabial angle is formed by a straight line through the most anterior and posterior edges of the nostril that transects the plumb line. Note the decreased tip rotation in men.

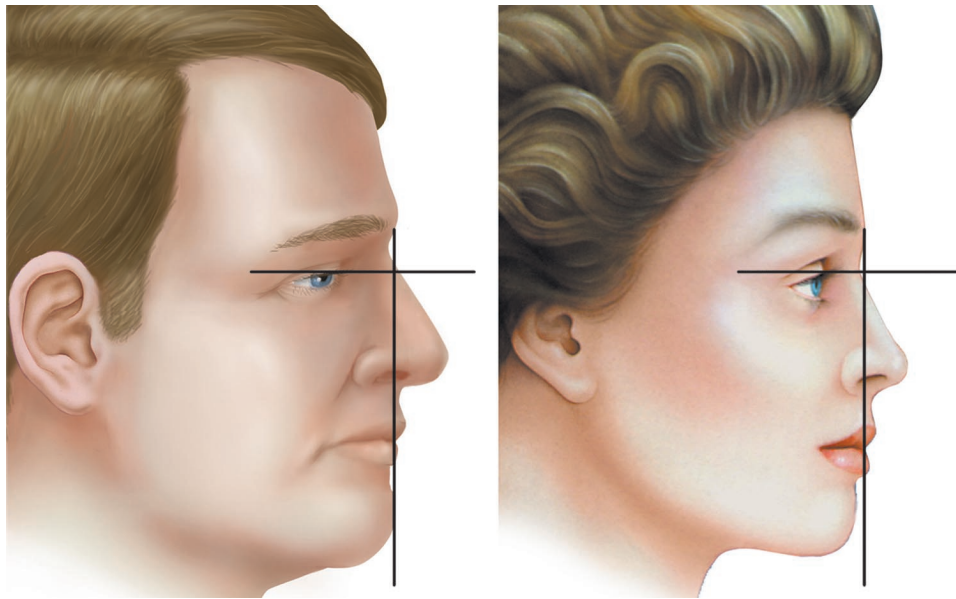


FIG. 8. More prominent chin for men.

deformities being subdivided into acquired or iatrogenic.<sup>1</sup> Corrections of deformities can include reduction of a prominent dorsal hump, narrowing of the nasal base, refinement of the tip complex, and correction of the aging nose and ethnic nose.<sup>9</sup> Male patients frequently benefit from dorsal hump reduction, tip modification, and osteotomies. Septal reconstruction, cartilage graft harvesting, and inferior turbino-plasty may also be indicated in selected cases.

#### *Dorsal Hump Reduction*

An open approach with a component nasal dorsum surgical technique is used. After skeletonization, the periosteal attachments of the bony sidewalls are preserved, to help provide needed external support for the nasal pyramid after osteotomy. Internal nasal valve dysfunction is avoided by keeping the hump excision extramucosal, thus minimizing late scarring. This extramu-

cosal dissection also provides a closed space for the safe placement of dorsal or spreader grafts.

Smaller dorsal hump reductions (<3 mm) can be accomplished with simple rasping. Trimming of the upper lateral cartilages may also be necessary, to avoid lateral fullness. Larger reductions (>3 mm) require submucous tunneling, as well as sharp release of the upper lateral cartilages from the septum; this helps avoid injury to the cartilages and mucoperichondrium. Open roof deformities associated with large hump reductions can be corrected with either dorsal onlay grafts or lateral percutaneous osteotomies.

Failure to preserve the middle vault can result in deformities and internal nasal valve dys-

function. Spreader grafts can be used to help maintain the internal valve, stabilize the septum (to prevent an inverted-V or saddlenose deformity), and preserve the dorsal aesthetic lines (Fig. 10).<sup>10-12</sup> These grafts are usually obtained from septal cartilage and are designed to measure approximately 25 to 30 mm × 3 mm. Their caudal ends are placed either at the septal angle (if lengthening of the nose is not desired) or extending past it (if lengthening is desired).

#### *Tip Modification*

Tip modification and definition are more challenging for male patients because of the

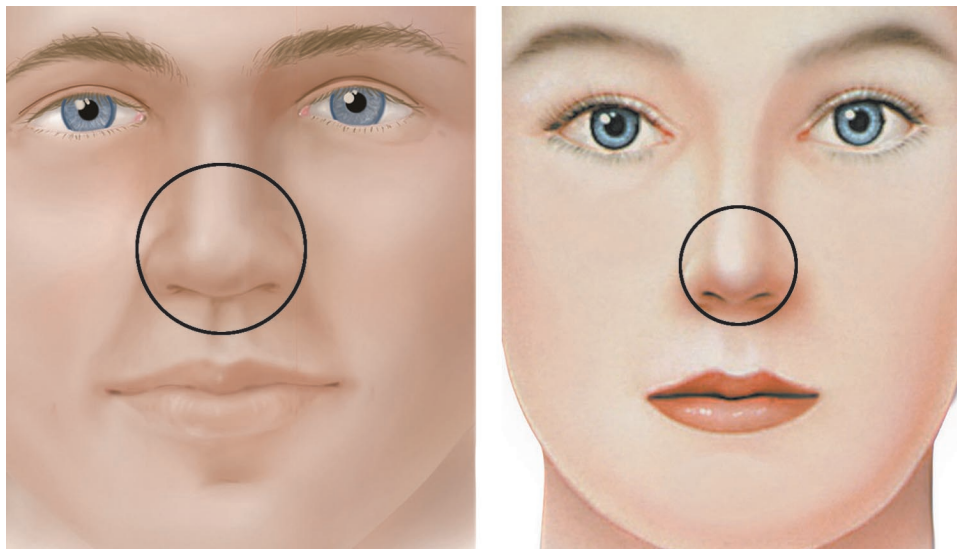


FIG. 9. Broader and less refined nasal tip for men.

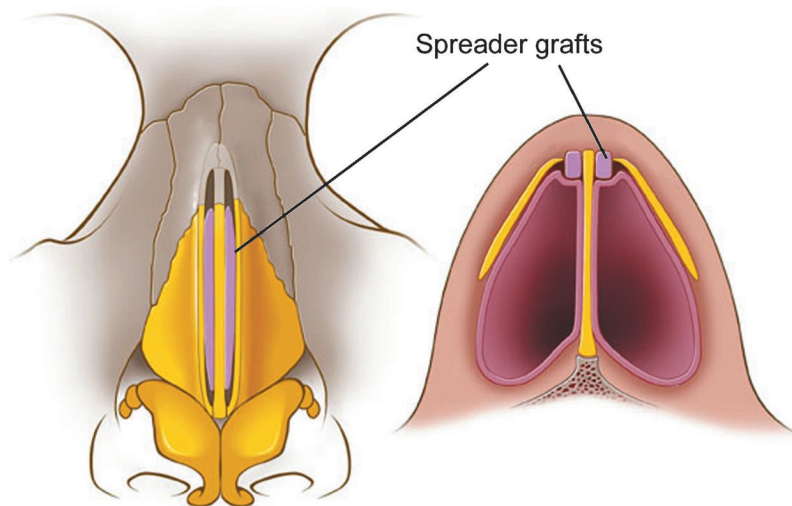


FIG. 10. Spreader grafts used to maintain the internal nasal valve, stabilize the septum, and preserve the dorsal aesthetic lines.

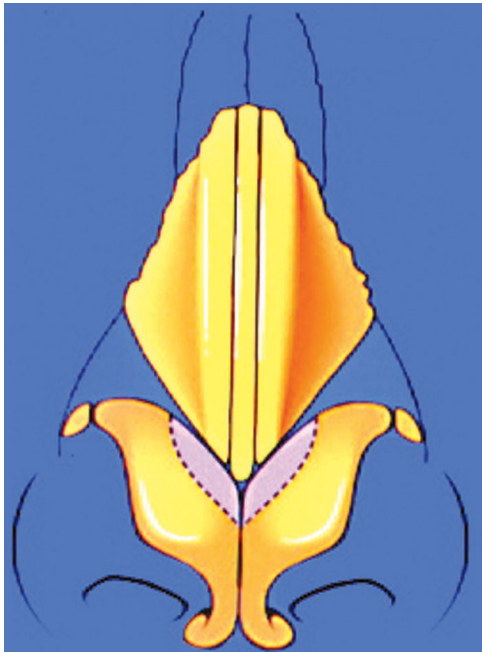


FIG. 11. Cephalic trimming, permitting tip modification.

thicker overlying skin, which limits the amount of change that can be produced. A graduated approach, involving columellar struts, suture techniques, and tip grafts, is used.<sup>13</sup>

Resection of the cephalic margins of the lower lateral cartilages permits medialization of the tip-defining points (Fig. 11). If tip pro-

jection requires further modification, then columellar struts can be used. Two types of struts are described, namely, the floating strut and the fixed strut. The floating strut is placed between the medial crura, approximately 2 to 3 mm in front of the nasal spine (Fig. 12, *left*), whereas the fixed strut rests on the nasal spine itself (Fig. 12, *right*). Both types of struts are secured at the junction of the medial and middle crura. Floating struts are most often fashioned from septal cartilage, whereas rib grafts are usually used for fixed struts. These struts are designed to measure approximately 25 mm  $\times$  3 mm.

Further refinement can be accomplished with intercrural, interdomal, and transdomal suturing (Fig. 13).<sup>13,14</sup> Intercrural septal sutures extend from the lateral crura to the medial crura. This suture technique is the only one to use permanent 5-0 clear nylon sutures. Interdomal 5-0 polydioxanone sutures can be used to increase tip projection or to increase infratip columellar projection and definition. These sutures are placed through the medial walls of the domes and then tied together to decrease the interdomal distance. The transdomal suture technique involves a 5-0 polydioxanone suture placed from the medial surface of the dome to the lateral surface and then back again, in horizontal mattress manner. This tech-

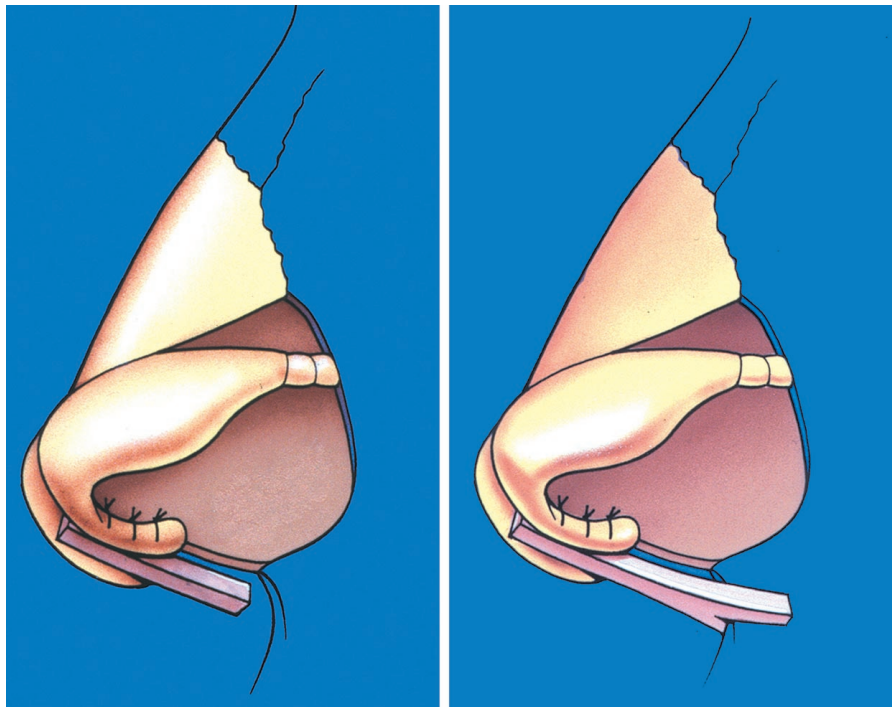


FIG. 12. (*Left*) Floating columellar strut. (*Right*) Fixed columellar strut.



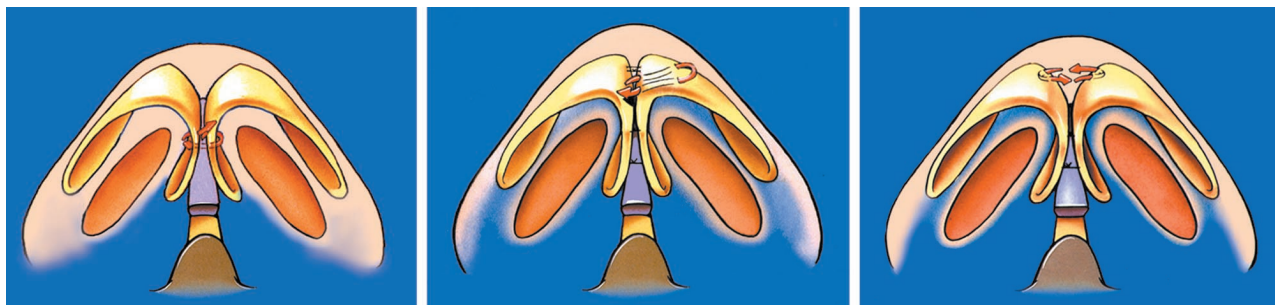


FIG. 13. (Left) Medial crural septal suture. (Center) Transdomal suture. (Right) Interdomal suture.

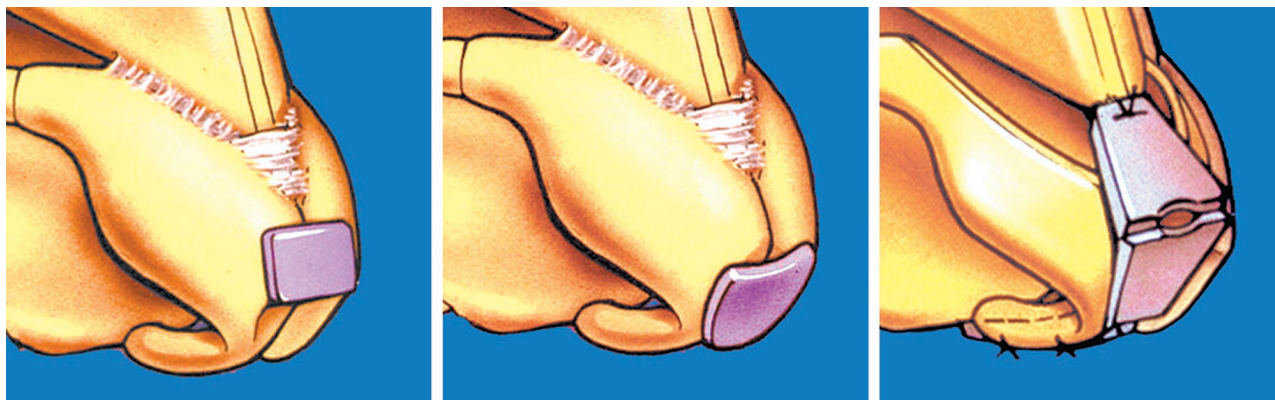


FIG. 14. (Left) Tip onlay graft. (Center) Infratip lobular graft. (Right) Combination graft.

nique is used to correct dome asymmetry. The suture can be duplicated on the opposite lower cartilage and the sutures tied together to narrow the tip-defining points and prevent alar notching, especially for thick-skinned patients.

Finally, if necessary, tip grafts can be used to accentuate the tip-defining points and enhance projection for male patients with especially thick skin. Several different grafts have been described, including the infralobular graft, the onlay graft,<sup>15</sup> and the combination graft (Fig. 14).<sup>16</sup> However, caution must be used to avoid an over-refined tip that would feminize the nose.

#### *Osteotomies*

Wide bony vaults, open roof defects, and deviated nasal bones can be corrected with percutaneous osteotomies (Fig. 15). Our preference is to perform osteotomies with a transcutaneous discontinuous technique, using a sharp, 2-mm, straight osteotome.<sup>17,18</sup> The incision is placed in the nasofacial groove at the level of the orbital rim, paralleling the face of the maxilla. It is important to place the osteotome against the periosteum and sweep it laterally before performing the actual osteotomies, to avoid injury to the

angular vessels. Low-to-low osteotomies are generally performed. Occasionally, it may be necessary to perform medial osteotomies, by placing a 7-mm osteotome at the nasoseptal bony junction and carrying the osteotomy to the level of the medial canthus.

In general, osteotomies should be planned so that the bony base is proportional (75 percent) to the alar base. Greenstick osteotomies are avoided because they are less precise than complete osteotomies. Traumatic injuries to the nose may necessitate osteotomies to reposition the nasal bones, with the periosteum left over the lateral nasal bones to control and prevent comminution.

#### *Septal Reconstruction and Cartilage Graft Harvest*

The septum is ideal for cartilage graft harvesting in rhinoplasty because of its close proximity to the operative field and its minimal donor-site morbidity. In graft harvesting, it is necessary to preserve an L-strut, with 10 mm of dorsal septum and 10 mm of caudal septum being retained to support the lower nasal vault. It is important to note that dissection of the septum is performed in a subperichondrial plane.

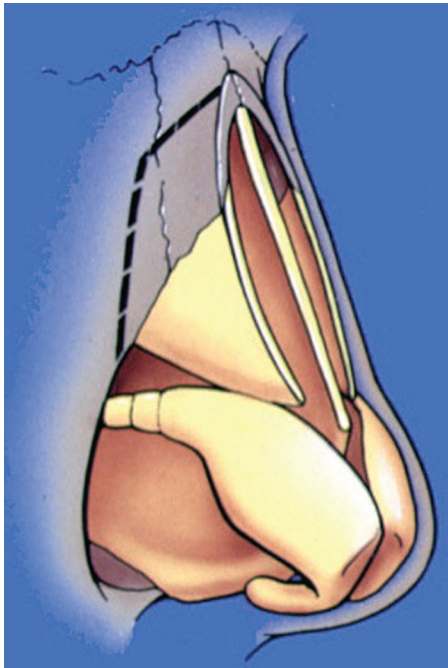


FIG. 15. Lateral osteotomy.

#### *Inferior Turbinoplasty*

Submucous resection of the anterior one-third to one-half of the inferior turbinate is performed for patients with symptomatic nasal airway obstruction secondary to inferior turbinate hypertrophy that is resistant to medical treatment.<sup>19,20</sup> Resection is performed by developing mucoperiosteal flaps, exposing the conchal bone, and sharply resecting the proper amount. The flaps are replaced after resection. It is important to note that conchal bone resection is limited to the anterior portion, primarily to avoid bleeding complications.

#### POSTOPERATIVE TREATMENT

The generally anticipated postoperative course and specific preoperative and postoperative instructions are reviewed with the patient in the initial consultation. All patients are given the following prescriptions: (1) cephalexin (500 mg, administered orally every 8 hours for 3 days), (2) Medrol Dosepak (Pharmacia and UpJohn, Kalamazoo, Mich.; administered for 7 days, to minimize postoperative edema), (3) hydrocodone or propoxyphene (administered every 4 to 6 hours as needed, to treat postoperative pain), and (4) normal saline nasal spray (to treat postoperative nasal congestion).

Immediately after surgical treatment, patients are instructed to elevate their heads on at least two pillows or keep the head of the bed at an

angle of approximately 45 degrees, to help minimize postoperative swelling. Patients are also told to apply ice bags to their eyes during the day for the first 48 hours. They are told that swelling is normal after surgical treatment and peaks between 48 and 72 hours. Prolonged swelling is more common among male patients, and Steri-Strips (3M, St. Paul, Minn.) are used for 2 weeks postoperatively to help minimize edema. The surgeon must reassure the patient during the postoperative visits that this swelling, and the concomitant discoloration, will resolve. Although some noses have an excellent appearance within 6 to 8 weeks, some may remain swollen for up to 1 year; after 2 to 3 weeks, however, the swelling is generally not obvious to anyone but the patient.

The patient is advised to change the drip pad under the nose as necessary until the drainage stops, at which time the drip pad and tape can be discarded. Rubbing or blotting of the nose is discouraged, and the patient is instructed to avoid sniffing or blowing his nose for the first 3 weeks postoperatively. Sneezing should be performed through the mouth during this period. The nasal splint should be kept dry, and hair should be washed with the patient leaning his head backward over the sink, as in a beauty salon.

A liquid diet is preferred on the day of surgical treatment, with advancement to a soft regular diet on the following day. The patient should avoid foods such as apples and corn on the cob (which require excess lip movements) for 2 weeks postoperatively.

A normal saline nasal spray and over-the-counter oxymetazoline nasal spray may be used to minimize nasal congestion for the first 2 weeks. Patients are encouraged to breathe through the mouth if they are unable to obtain air through the splints. If the patient experiences significant congestion, then office suctioning may be warranted.

The patient is initially examined at some time within postoperative days 5 to 7, at which time the nasal splints and sutures are removed in the office. At this visit, the nose (especially the tip) may appear swollen and turned up, and the tip may feel numb. Both conditions are expected and resolve with time, with normal sensation returning within 3 to 6 months. The patient cannot allow anything, including eyeglasses, to rest on the nose for at least 4 weeks. Glasses should be taped to the forehead. Contact lenses can be worn as soon as the swelling has decreased enough to allow easy insertion (usually less than 5 to 7 days postoperatively).

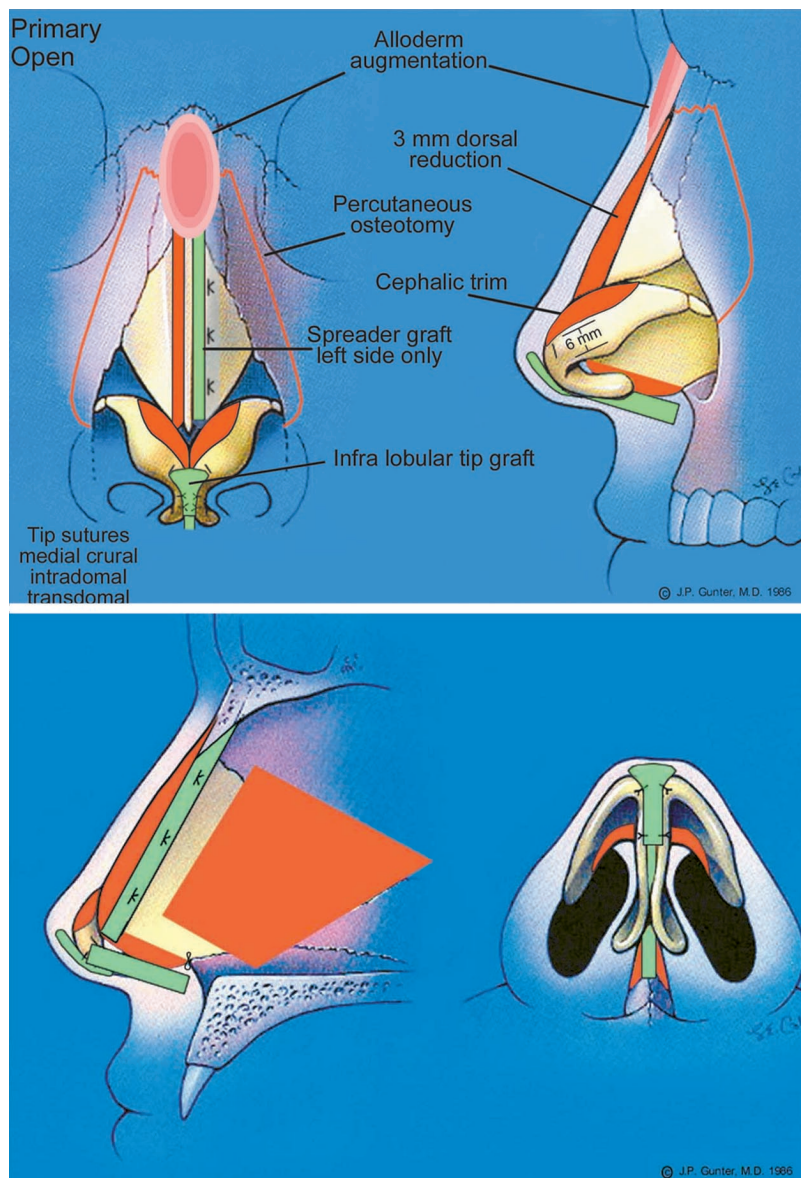


FIG. 16. Case 1. Gunter graphical diagrams of the operative plan.

When the nasal splint is removed, the nose is washed gently with soap and local skin care is instituted as necessary. Patients are advised to protect their noses from direct sunlight by wearing a wide-brimmed hat and sunscreen (skin protection factor 15 or greater) if they are in the sun for long periods.

Finally, the patients are instructed to restrict strenuous activity (that increases the heart rate to  $>100$  beats/minute) for 3 weeks postoperatively. They are allowed to slowly increase their activity levels 2 weeks postoperatively, achieving normal preoperative activity levels by the end of the third week. The patient should avoid hitting the nose for at least 4 weeks postoperatively.

Our follow-up schedule begins with a call to the patient the evening of surgical treatment. We then examine the patient in the office 5 to 7 days later and again 3 and 8 weeks after surgical treatment. We continue to monitor the patient at 3, 6, and 12 months postoperatively and annually thereafter.

#### CASE REPORTS

##### Case 1

This 38-year-old white male patient complained of a small dorsal hump, an ill-defined tip, and septal deviation causing nasal airway obstruction (left greater than right). Nasal analysis demonstrated a dorsal hump, an indistinct radix, right caudal septal deviation, left posterior septal deviation, com-



FIG. 17. Case 1. Preoperative (*left*) and 6-month postoperative (*right*) photographs.

pensatory inferior turbinate hypertrophy (right greater than left), a wide bony base (right greater than left), slight over-rotation, and a bulbous tip.

The operative goals were incremental component dorsal

hump reduction, radix augmentation (allograft), septal reconstruction with correction of the caudal septal deviation, bilateral (right greater than left) anterior inferior turbinate submucosal resection, percutaneous external perforated lat-

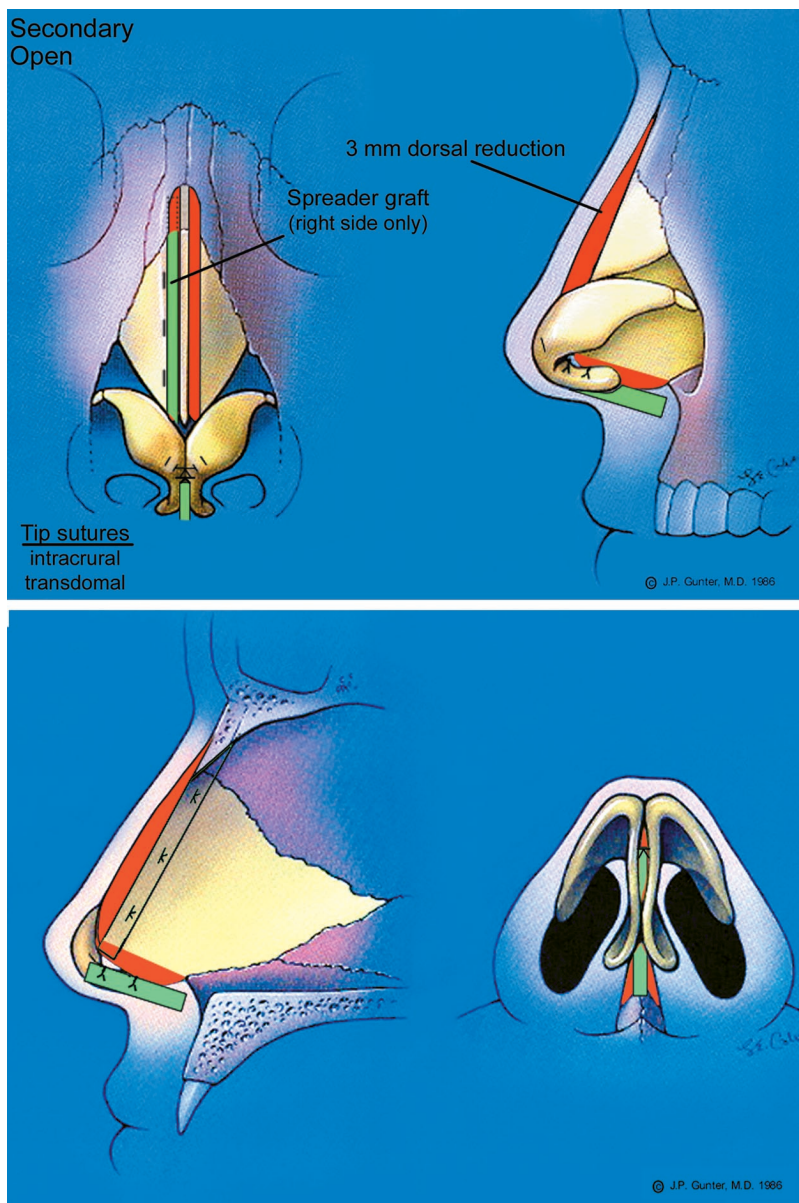


FIG. 18. Case 2. Gunter graphical diagrams of the operative plan.

eral osteotomies, and cephalic trimming, with a graduated approach to tip suturing for derotation and refinement (Fig. 16). The operative sequence was as follows: (1) open approach with a stairstep transcolumellar incision connected to bilateral infracartilaginous incisions; (2) a left hemitransfixion incision to approach the septum (correction of caudal deviation), with a 5-0 polydioxanone suture to secure the caudal septum to the anterior nasal spine; (3) incremental (3-mm) component dorsal hump reduction (bony/cartilaginous) and radix allograft; (4) left spreader graft; (5) bilateral inferior turbinate submucosal resection (anterior); (6) cephalic trimming of the lower lateral cartilages, leaving a 6-mm rim strip; (7) medial crural, interdomal, and transdomal sutures (5-0 polydioxanone sutures) to refine the tip; (8) infralobular tip graft for tip definition and length; (9) lateral osteotomies; and (10) closure, application of Silastic septal splints, and application of a contouring splint. Six-month postoperative results are presented (Fig. 17).

### Case 2

This 40-year-old white male patient presented with concerns regarding a persistent dorsal hump and right nasal airway obstruction, despite undergoing a remote rhinoplasty several years earlier. Nasal analysis demonstrated a dorsal hump, weakly defined dorsal aesthetic lines, a prominent caudal septum, an underprojecting tip complex, and a narrowed right internal nasal valve.

The operative goals were incremental component dorsal hump reduction, caudal septal resection, septal reconstruction with placement of a right spreader graft, tip projection increase with a columellar strut, and tip refinement with a graduated approach to tip suturing (Fig. 18). The operative sequence was as follows: (1) open approach with a stairstep transcolumellar incision connected to bilateral infracartilaginous incisions, (2) incremental (3-mm) component dorsal hump reduction (bony/cartilaginous), (3) 2-mm caudal sep-



FIG. 19. Case 2. Preoperative (*left*) and 2-year postoperative (*right*) photographs.

tal resection, (4) right spreader graft, (5) columellar strut, (6) intercrural and transdomal sutures (5-0 polydioxanone sutures) to refine the tip, and (7) closure and placement of an external contouring splint. Two-year postoperative results are presented (Fig. 19).

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#### REFERENCES

- Gunter, J. P. Rhinoplasty. In E. H. Courtiss (Ed.), *Male Aesthetic Surgery*, 2nd Ed. St. Louis, Mo.: Mosby, 1990.
- Gorney, M. Criteria for patient selection: An ounce of prevention. Presented at the Residents and Fellows Forum, Aesthetic Plastic Surgery Annual Meeting, Boston, Mass., May 16, 2003.
- Wright, M. R. The male aesthetic patient. *Arch. Otolaryngol. Head Neck Surg.* 113: 724, 1987.
- Rohrich, R. J., Kenkel, J. M., and Gunter, J. P. Male rhinoplasty. In J. P. Gunter, R. J. Rohrich, and W. P. Adams, Jr. (Eds.), *Dallas Rhinoplasty: Nasal Surgery by the Masters*. St. Louis, Mo.: Quality Medical Publishing, 2002. Pp. 993–1005.
- Byrd, H. S., and Hobar, P. C. Rhinoplasty: A practical guide for surgical planning. *Plast. Reconstr. Surg.* 91: 642, 1993.
- Rohrich, R. J., Gunter, J. P., and Shemshadi, H. Facial analysis for the rhinoplasty patient. In J. P. Gunter (Ed.), *13th Annual Dallas Rhinoplasty Symposium*. Dallas: University of Texas Medical Center, 1996. Pp. 67–82.
- Loomis, A. *Drawing the Head and Hands*. New York: Viking Press, 1956.
- Daniel, R. K. Rhinoplasty and the male patient. *Clin. Plast. Surg.* 18: 751, 1991.
- Gruber, R. P. Male rhinoplasty. *Aesthetic Surg. J.* 14: 12, 1994.
- Daniel, R. K., and Lessard, M. L. Rhinoplasty: A graded aesthetic-anatomical approach. *Ann. Plast. Surg.* 13: 436, 1984.
- Rohrich, R. J., and Hollier, L. H. Use of spreader grafts in the external approach to rhinoplasty. *Clin. Plast. Surg.* 23: 255, 1996.
- Sheen, J. H. Spreader graft: A method of reconstructing the roof of the middle nasal vault following rhinoplasty. *Plast. Reconstr. Surg.* 73: 230, 1984.
- Rohrich, R. J., Gunter, J. P., and Adams, W. P., Jr. Graduated approach to tip projection in rhinoplasty. In J. P. Gunter, R. J. Rohrich, and W. P. Adams, Jr. (Eds.), *Dallas Rhinoplasty: Nasal Surgery by the Masters*. St. Louis, Mo.: Quality Medical Publishing, 2002. Pp. 333–358.
- Tebbetts, J. B. Rethinking the logic and techniques of primary tip rhinoplasty: A perspective of the evolution of surgery of the nasal tip. *Otolaryngol. Clin. North Am.* 32: 741, 1999.
- Peck, G. C. The onlay graft for nasal tip projection. *Plast. Reconstr. Surg.* 71: 27, 1983.
- Sheen, J. H. Tip graft: A 20-year retrospective. *Plast. Reconstr. Surg.* 91: 48, 1993.
- Rohrich, R. J., Krueger, J. K., Adams, W. P., Jr., and Hollier, L. H., Jr. Achieving consistency in the lateral nasal osteotomy during rhinoplasty: An external perforated technique. *Plast. Reconstr. Surg.* 108: 2122, 2001.
- Rohrich, R. J., Janis, J. E., Adams, W. P., Jr., and Krueger, J. K. An update on the lateral nasal osteotomy in rhinoplasty: An anatomic endoscopic comparison of the external versus the internal approach. *Plast. Reconstr. Surg.* 111: 2461, 2003.
- Pollock, R. A., and Rohrich, R. J. Inferior turbinate surgery: An adjunct to successful treatment of nasal obstruction in 408 patients. *Plast. Reconstr. Surg.* 74: 227, 1984.
- Rohrich, R. J., Krueger, J. K., Adams, W. P., Jr., and Marple, B. F. Rationale for submucous resection of hypertrophied inferior turbinates in rhinoplasty: An evolution. *Plast. Reconstr. Surg.* 108: 536, 2001.

**Self-Assessment Examination follows on  
the next page.**

# Self-Assessment Examination

## Male Rhinoplasty

by Rod J. Robrich, M.D., Jeffrey E. Janis, M.D., and Jeffrey M. Kenkel, M.D.

1. WHICH OF THE FOLLOWING STATEMENTS BEST ELUCIDATES THE SEX DIFFERENCES IN COMMUNICATION DURING THE INITIAL CONSULTATION FOR RHINOPLASTY?
  - A) Male patients are more specific.
  - B) Male patients are more attentive.
  - C) Male patients tend to have a better understanding of their deformity.
  - D) Male patients tend to have more difficulty describing the changes they think are needed.
  - E) Male patients have a lesser tendency toward "selective hearing."
2. A KEY DIFFERENCE IN THE AESTHETIC ANALYSIS FOR MALE RHINOPLASTY VERSUS FEMALE RHINOPLASTY IS:
  - A) The male dorsum tends to be narrower, with greater concavity at the superciliary ridges.
  - B) On lateral view, the male nasal dorsum should lie behind a line drawn from the radix to the tip-defining points.
  - C) There should be no supratip break.
  - D) There should be slightly more tip rotation for male patients.
  - E) The nasolabial angle should be greater for male patients.
3. WHICH OF THE FOLLOWING IS THE PRIMARY REASON WHY TIP MODIFICATION AND DEFINITION ARE MORE CHALLENGING IN THE MALE PATIENT?
  - A) Thicker overlying skin
  - B) Increased resorption of cartilage grafts
  - C) Stiffer alar cartilages resistant to traditional tip suturing
  - D) Increased number of accessory alar cartilages
  - E) Greater inferior projection of the inferior border of the upper lateral cartilages
4. A POTENTIAL PITFALL OF TIP MODIFICATION TECHNIQUES IS FEMINIZATION OF THE MALE NOSE:
  - A) True
  - B) False
5. IN THE MAJORITY OF MALE PATIENTS, WHEN PERFORMING INFERIOR TURBINOPLASTY TO INCREASE BREATHING, IT IS NECESSARY TO RESECT WHAT PERCENTAGE OF THE BONY TURBINATE?
  - A) 10 percent
  - B) 20 percent
  - C) 50 percent
  - D) 75 percent
  - E) 100 percent

To complete the examination for CME credit, turn to page 1209 for instructions and the response form.