

# Ethnic Rhinoplasty

Jeffrey Wu and George J. Bitar

## Abstract

With mass migration, surgical tourism, and more acceptance of aesthetic surgery, there are an increasing number of non-Caucasian patients seeking rhinoplasty. There is significant variation in the nasal anatomy and morphology and lack of ideal standards in non-Caucasian patients. This article describes common characteristics seen in different racial populations and surgical strategies to obtain ethnically congruent, aesthetically pleasing results.

**Keywords:** ethnic rhinoplasty, rhinoplasty, nose job, nasal surgery, leptorrhine, platyrrhine, mesorrhine, Latino, Asian, African, Middle Eastern

## Case Presentation

32-year-old female patient with no reported medical history requesting improvement to her nasal appearance. She had trouble breathing from her nose. On her examination, she had a small dorsal hump with an over projected nasal tip. She had leftward septal deviation with bilateral inferior turbinate hypertrophy. She underwent open rhinoplasty (transcolumellar incision) with dorsal hump reduction, septoplasty, caudal septal repositioning to the midline, right spreader graft placement, bilateral cephalic trim excision, tip suturing, and medial and lateral osteotomies.



Figure 88.1 Frontal, lateral, and basal views of a Hispanic woman preoperatively (top) and postoperatively (bottom) after rhinoplasty

### 88.1 What is ethnic rhinoplasty?

1. Rhinoplasty in the non-Caucasian population. The goal is to reshape the nose to improve the symmetry and proportions of the nose to enhance facial beauty while maintaining nasal features that are ethnically sensitivity and culturally congruent.
2. **Key concept:** The neoclassical, canons for the ideal Caucasian nose may not be harmonious with the ideal aesthetic of each race

### 88.2 Anatomic classification by nasal structure

1. There are three main groups, which encompasses the majority of different nasal phenotypes
2. Although it allows for global understanding and categorization of different noses, it does not appreciate the distinctive nasal features for each race

Table 88.1	Anatomic Classification By Nasal Structures		
Characteristics	Leptorrhine	Platyrrhine	Mesorrhine
Related Ethnicity	Caucasian, Mediterranean	African	Latino, Asian
Skin-Soft Tissue Envelope	Thin	Thick	Intermediate
Nasal Bones	Normal to long	Short	Normal to short
Nasal Dorsum	Narrow and high with dorsal hump	Wide and flat	Wide and low
Nasal Radix	High	Low	Normal to low
Nasal Tip	Well projected, well defined	Decreased projection, poor support, bulbous	Decreased projection, poor support, bulbous
Nasolabial Angle	Obtuse	Acute	Acute
Nostril Shape	Oval	Horizontal	Normal to horizontal
Alar Width	Normal to narrow	Wide	Normal to wide

### 88.3 What are the characteristic nasal features for each race?

Table 88.2	Nasal Features Associated with Asian, Latino, African, and Middle Eastern Races			
Characteristics	Asian	Latino	African	Middle Eastern
Skin-Soft Tissue Envelope	Thick, abundant fibrofatty tissue	Moderate to thick, sebaceous	Thick, sebaceous, abundant fibrofatty tissue	Thick, sebaceous
Nasal Bones	Small, short, wide	Small, short, wide	Small, short with obtuse angle	Wide, Broad
Nasal Length	Short	Normal	Short	Long
Nasal Dorsum	Wide and low	Wide, small hump	Wide and low	Wide, asymmetric significant hump
Nasal Radix	Low, depressed	Low, depressed	Low, deep, and wide	High, overprojected
Nasal Tip	Under-projected, broad, bulbous	Under-projected, underrotated, bulbous	Under-projected, underrotated, bulbous, broad	Under-projected, underrotated, bulbous, drooping
Nasolabial Angle	Acute	Normal to acute	Acute	Acute
Columella	Short and retracted	Short	Short	Hanging
Nostril Shape	Horizontal	Horizontal	Horizontal	Asymmetric
Alar Width	Increased	Increased with flaring	Increased with flaring	Increased with flaring
Lower Lateral Cartilage	Weak	Wide, weak	Normal strength, rounded and convex	Weak, asymmetric, cephalic orientation of lateral crura
Nasal Septum	Short and thin	Short and weak	Short	Normal to long, deviated
Other	Often have premaxillary hypoplasia		Intercaruncular distance better indicator for ideal nasal width	Overactive depressor septi nasi muscle

#### 88.4 What are the key characteristics of an Asian nose?

1. Thick skin with abundant fibrofatty tissue, short nasal length, broad and low dorsum, wide and under-projected tip, short and retracted columella, and weak alar cartilages.

#### 88.5 Are there regional differences in the Asian nose?

1. Chinese and Korean noses generally follow the classical description of the Asian nose
2. Japanese noses tend to be narrower with a higher dorsum
3. **Key concept:** Despite identification of common nasal features in each race, there is still significant regional differences. The plan for rhinoplasty should be tailored to each patient's anatomy and aesthetic concerns.

#### 88.6 What is the surgical plan during Asian rhinoplasty?

1. Surgical plan should include: dorsal augmentation, columellar strut to support weak alar cartilages for tip projection, tip defatting and refinement with suture techniques and tip grafts.

#### 88.7 What are the recommendations for dorsal augmentation?

1. Minimal augmentation (2-3 millimeters): septal or ear cartilage, diced cartilage, rib perichondrium, or fascia
2. Moderate augmentation (3-5 millimeters): diced cartilage in fascia, costal cartilage, or alloplast

3. Significant augmentation (>5 millimeters): autografts or alloplast
4. **Author tip:** The ideal technique and material for improving the height of the nasal dorsum depends on the amount of augmentation, availability of autografts, and surgeon's expertise

#### 88.8 What are the considerations for choosing autografts or alloplast?

1. Septal cartilage:
  - a. Pros: easy to access, structural stability, minimal warping and resorption
  - b. Cons: limited availability
2. Auricular cartilage:
  - a. Pros: softer and more pliable
  - b. Cons: no structural support, more brittle, more warping due to curved shape
3. Costal cartilage:
  - a. Pros: abundantly available, rigid for structural support
  - b. Cons: warping and resorption, donor site morbidity (pain, scarring, pneumothorax)
4. Diced cartilage:
  - a. Pros: moldable
  - b. Cons: no structural support, high resorption
5. Irradiated homograft costal cartilage:
  - a. Pros: no additional donor site, easily carved, minimal immunogenicity
  - b. Cons: unpredictable resorption due to decreased collagen and chondrocyte viability



Figure 88.2 Frontal, lateral, and basal views of an Asian woman preoperatively (top) and postoperatively (bottom) after non-surgical augmentation of nasal dorsum and tip with Radiesse

6. Fresh homograft costal cartilage:
  - a. Pros: no additional donor site, less resorption
  - b. Cons: potentially more immunogenic, learning curve (older donors: more stiff, less warping; younger donors: more pliable, more warping), unknown long term outcomes
7. Expanded polytetrafluoroethylene:
  - a. Pros: easy to carve or stack, relatively soft, allows ingrowth to prevent migration
  - b. Cons: no structural support, higher rate of infection than silicone, difficult to remove
8. Silicone:
  - a. Pros: easy to carve, more firm, most commonly used implant in Asia
  - b. Cons: capsular contracture and calcifications, more thinning of the soft tissue envelope, high rates of extrusion and displacement, highest complication rate of alloplastic options
9. High density polyethylene:
  - a. Pros: easy to carve, allows ingrowth to prevent migration
  - b. Cons: stiff with unnatural feel, lowest morbidity of alloplastic options, difficult to remove

### 88.9 What are the key characteristics of a Latino nose?

1. Thick and sebaceous skin, wide dorsum with dorsal hump, small osseocartilaginous vault, low radix, bulbous and undefined tip, weak caudal septum and alar cartilages, and large alar base.

### 88.10 Are there subclassifications of the Latino nose?

1. Type I (Castilian): normal radix height, high nasal bridge, wider tip with normal projection
2. Type II (Mexican-American): low radix, normal nasal bridge, dependent tip
3. Type III (Mestizo): broad base, thick skin, very wide tip
4. Type IV (Creole): wide dorsum and base, bulbous tip, low radix

### 88.11 What is the surgical plan during Latino rhinoplasty?

1. Surgical plan should include: Augmentation of radix or entire dorsum, narrowing of the dorsum with osteotomy, spreader grafts to prevent internal valve collapse and support weak upper lateral cartilages, tip support with columellar strut and refinement with suture techniques and grafts, and alar and nostril reshaping if wider than intercanthal distance.

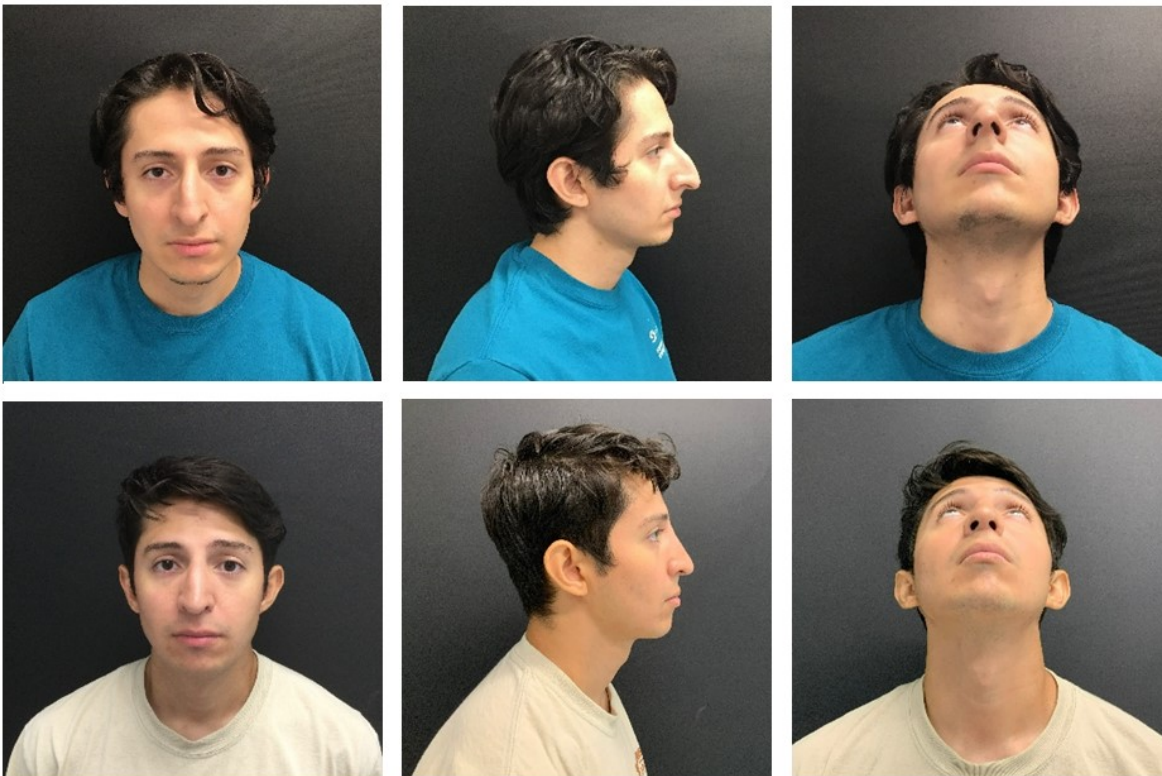


Figure 88.3 Frontal, lateral, and basal views of a Hispanic man preoperatively (top) and postoperatively (bottom) after rhinoplasty. He underwent open rhinoplasty (transcolumellar incision) with dorsal hump reduction, septoplasty, caudal septal repositioning to the midline, bilateral spreader graft placement, bilateral cephalic trim excision, tip suturing, columellar strut, crushed cartilage to the nasal dorsum and tip, medial and lateral osteotomies, and bilateral alar base excision.



Figure 88.4 Frontal, lateral, and basal views of a Hispanic woman preoperatively (top) and postoperatively (bottom) after rhinoplasty. She underwent open rhinoplasty (transcolumellar incision) with dorsal hump reduction, bilateral cephalic trim excision, tip suturing, and medial and lateral osteotomies.

### 88.12 How do suturing techniques affect the tip?

Table 88.3	Effect of Tip Altering Techniques		
	Tip Projection	Tip Support	Tip Rotation
Columellar strut		+	
Caudal septal extension		+	+ if wider at bottom - if wider at top
Intercrural suture	+	+	
Transdomal sutures	+	+	
Interdomal sutures	+		
Lateral crura steal	+	+	+
Dome-defining sutures	+		
Alar-spanning suture	+		+
Septocolumellar suture	+		+
Lateral crural overlay	-		+
Medial crural overlay	-		-

**88.13 What are the key characteristics of an African nose?**

1. Thick and sebaceous skin with abundant fibrofatty tissue, short nasal length, wide, low, and concave dorsum, increased interalar width with alar flaring, and bulbous and under-projected tip

**88.14 What is the surgical plan during African rhinoplasty?**

1. Surgical plan should include: dorsal augmentation, columellar strut or septal extension grafts to add tip support, tip defatting and refinement with suture techniques and tip grafts, and alar and nostril reshaping if wider than intercaruncular width.

**88.15 What are the considerations for alar and nostril reshaping?**

1. Alar flaring is improved with increased tip projection
  - a. Addition of lateral crural steal or lateral crural tension sutures can decrease the alar flaring while increasing tip projection
  - b. Addition of rigid alar rim grafts can address alar flaring and external valve collapse
2. **Author tip:** More commonly, there is residual alar flaring and correction requires excision of alar soft tissue based on the shape, orientation, and size of the nostrils: If nostrils are satisfactory but has alar flaring, alar base excision. If nostrils are large but alar flaring is satisfactory, nasal sill excision. If nostrils are large with alar flaring, alar and sill resection.



Figure 88.5 Frontal, lateral, and basal views of an African man preoperatively (top) and postoperatively (bottom) after rhinoplasty. He underwent open rhinoplasty (transcolumellar incision) with dorsal hump reduction, septoplasty, bilateral cephalic trim excision, tip suturing, columellar strut, medial and lateral osteotomies, and bilateral alar base excision.

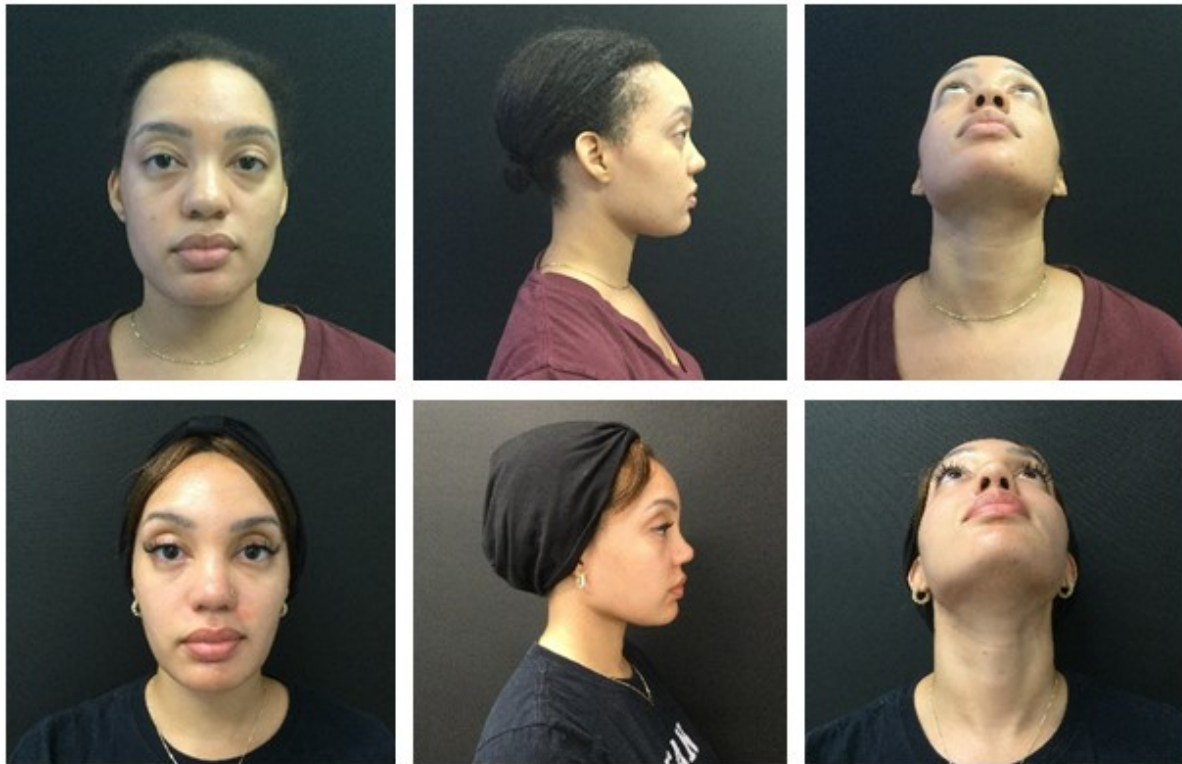


Figure 88.6 Frontal, lateral, and basal views of an African woman preoperatively (top) and postoperatively (bottom) after rhinoplasty. She underwent open rhinoplasty (transcolumellar incision) with dorsal hump reduction, septoplasty, bilateral spreader grafts, bilateral cephalic trim excision, tip suturing, columellar strut, medial and lateral osteotomies, and bilateral alar base excision.

**88.16 What are the key characteristics of a Middle Eastern nose?**

1. Asymmetric and deviated nose, thick skin, high radix, high arching dorsum with long contour, dependent tip with inadequate projection and weak lower lateral cartilages.

**88.17 What is the surgical plan during Middle Eastern rhinoplasty?**

1. Surgical plan should include: Conservative reduction of the dorsum, narrowing of the dorsum with osteotomy, spreader grafts to prevent internal valve collapse and correct mid-vault asymmetry, tip support with columellar strut, tip defatting and refinement with suture techniques and tip grafts

**88.18 How do you address a hyperdynamic tip?**

1. Overactive depressor septi nasi muscles cause a drooping tip with loss of projection, decreased upper lip height, and a transverse crease
2. **Key concept:** The depressor septi nasi muscles can be resected or transposed to reduce the effects of the muscle with no difference between the techniques



Figure 88.7 Frontal, lateral, and basal views of a Middle Eastern man preoperatively (top) and postoperatively (bottom) after rhinoplasty. He underwent open rhinoplasty (transcolumellar incision) with dorsal hump reduction, septoplasty, bilateral spreader grafts, bilateral cephalic trim excision, tip suturing, columellar strut, medial and lateral osteotomies, and bilateral alar base excision.



Figure 88.8. Frontal, lateral, and basal views of a Middle Eastern woman preoperatively (top) and postoperatively (bottom) after rhinoplasty. She underwent open rhinoplasty (transcolumellar incision) with dorsal hump reduction, septoplasty, bilateral cephalic trim excision, tip suturing, columellar strut, and medial and lateral osteotomies.



---

## References

1. Azizzadeh B, Mashkevich G. Middle Eastern rhinoplasty. *Facial Plast Surg Clin North Am.* 2010; 18: 201-206. doi:10.1016/j.fsc.2009.11.013.
2. Boahene KDO. The African rhinoplasty. *Facial Plast Surg.* 2020;36:46-52. doi:10.1055/s-0040-1701628.
3. Chen K, Schultz BD, Mattos D, Reish RG. Optimizing the use of autografts, allografts, and alloplastic materials in rhinoplasty. *Plast Reconstr Surg.* 2022;150:675e-683e. doi:10.1097/PEA.0000000000009372.
4. Cobo R. Ethnic Rhinoplasty. *Facial Plast Surg.* 2019;35:313-321. doi:10.1055/s-0039-1693034.
5. Cobo R. Hispanic/Mestizo rhinoplasty. *Facial Plast Surg Clin North Am.* 2010;18:173-188. doi:10.1016/j.fsc.2009.11.003
6. Daniel RK. Middle Eastern rhinoplasty: Anatomy, aesthetics, and surgical plan. *Facial Plast Surg.* 2010;26:110-118. doi:10.1055/s-0030-1253503.
7. Fisher M, Alba B, Ahmad J, Robotti E, Cerkes N, Gruber RP, Rohrich RJ, Bradley JP, Tanna N. Current practices in dorsal augmentation rhinoplasty. *Plast Reconstr Surg.* 2022;149:1088-1102. doi:10.1097/PRS.0000000000009057.
8. Harris MO. Rhinoplasty in the patient of African descent. *Facial Plast Surg Clin North Am.* 2010;18:189-199. doi:10.1016/j.fsc.2009.11.012.
9. Heiman AJ, Nair L, Kanth A, Baltodano P, Patel A, Ricci JA. Defining regional variation in nasal anatomy to guide ethnic rhinoplasty: A systematic review. *J Plast Reconstr Aesthet Surg.* 2022;75:2784-2795. doi:10.1016/j.bjps.2022.04.058.
10. Ishii CH. Current update in Asian rhinoplasty. *Plast Reconstr Surg Glob Open.* 2014;7:e133-e140. doi:10.1097/GOX.0000000000000081.
11. Kalantar-Hormozi A, Beiraghi-Toosi A. Smile analysis in rhinoplasty: A randomized study for comparing resection and transposition of the depressor septi nasi muscle. *Plast Reconstr Surg.* 2014;133:261-268. doi:10.1097/01.prs.0000436850-86785.24
12. Li Z, Unger JG, Roostaeian J, Constantine F, Rohrich RJ. Individualized Asian rhinoplasty: A systematic approach to facial balance. *Plast Reconstr Surg.* 2014;134:24e-32e. doi:10.1097/PRS.0000000000000294.
13. Nassif PS, Lee KJ. Asian rhinoplasty. *Facial Plast Surg Clin North Am.* 2010;18:153-171. doi:10.1016/j.fsc.2009.11.018.
14. Park J, Suhk JH, Nugyeh AH. Nasal analysis and anatomy: Anthropometric proportional assessment in Asians – aesthetic balance from forehead to chin, part II. *Semin Plast Surg.* 2015;29:226-231. doi:10.1055/s-0035-1564818.
15. Patel PN, Most SP. Concepts of facial aesthetics when considering ethnic rhinoplasty. *Otolaryngol Clin North Am.* 2020;53:195-208. doi:10.1016/j.otc.2019.12.001
16. Patrocinio LG, Patrocinio TG, Patrocinio JA. Approach for rhinoplasty in African descendants. *Facial Plast Surg Clin North Am.* 2021;29:575-588. doi:10.1016/j.fsc.2021.06.008.
17. Peng GL, Nassif PS. Rhinoplasty in the African American patient: Anatomic considerations and technical pearls. *Clin Plast Surg.* 2016;43:255-264. doi:10.1016/j.cps.2015.09.001.
18. Rohrich RJ, Bolden K. Ethnic rhinoplasty. *Clin Plast Surg.* 2010;37:353-370. doi:10.1016/j.cps.2009.11.006.
19. Rohrich RJ, Mohan R. Middle Eastern rhinoplasty: Update. *Plast Reconstr Surg Globe Open.* 2018;18:e1984-e1993.
20. Sajjadian A. Rhinoplasty in Middle Eastern patients. *Clin Plast Surg.* 2016;43:281-294. doi:10.1016/j.cps.2015.03.020.
21. Sinno S, Change JB, Saadeh PB, Lee MR. Anatomy and surgical treatment of the depressor septi nasi muscle: A systematic review. *Plast Reconstr Surg.* 2015;135:838e-848e. doi:10-1097/PRS.0000000000001169
22. Thomas M, D'Silva J. Ethnic rhinoplasty. *Oral Maxillofac Surg Clin North Am.* 2012;24:131-148. doi:10.1016/j.coms.2011.11.003.