Aesthetic rhinoplasty in patients of Middle Eastern extraction poses a specific set of challenges for the rhinoplasty surgeon. As is true in other geoethnic groups, several unique anatomic features define the appearance of the “Middle Eastern nose” and require a tailored approach to achieve aesthetic refinement. Implicit in the surgical methodology for this group is the prevention of “Westernization rhinoplasty” and preservation of the native ethnic look (the word “ethnic” is used loosely throughout text and refers to all ethnicities of the Middle East). Middle Eastern rhinoplasty also highlights the fundamental surgical tenets of cartilage sparing and structural grafting. These are particularly applicable to this group of patients, who consistently demonstrate inherent cartilaginous weakness as well as thick overlying nasal skin. This chapter explores the common nasal characteristics shared by people of the Middle Eastern origin and reviews the essential elements of a rhinoplasty consultation. Various surgical techniques that have been found effective by authors in the aesthetic refinement of the Middle Eastern nose are discussed in detail.

BACKGROUND AND DEMOGRAPHICS

While the term “Middle East” refers to a geographic region, its precise borders have been poorly defined and blurred over the centuries by migration and intermixing of various populations. The phrase “Middle East” has its origins in the United Kingdom at the turn of the twentieth century and refers to regions of Western Asia and North Africa. Numerous modern nations presently comprise this subcontinent and are home to almost a billion people (Table 31-1). Some historians argue that several large adjacent countries, such as Armenia, Afghanistan, Pakistan, and India, also belong in the Middle Eastern category. While this discussion is beyond the scope of the present chapter, it is not surprising that people inhabiting these neighboring countries certainly share many of the nasal characteristics reviewed in detail here.

The Middle East is also home to a wide range of ethnic and religious diversity. This may partially explain variations in the aesthetic desires for rhinoplasty between various geographic areas within Middle East. For instance, it has been suggested that people living outside of the Arabian Peninsula and Gulf regions (Saudi Arabia, Kuwait, Qatar, UAE, Oman, and Iran) desire more significant changes from rhinoplasty, such as greater dorsal reduction and tip projection.

In the United States, the estimated size of the Middle Eastern diaspora varies according to the source, but nevertheless provides a sense of its demographic impact. According to a recent population census, more than 1.2 million people of strictly Middle Eastern origins reside in United States. This number expands to “at least 3.5 million” as per the Arab American Institute. While the residence of this ethnic group has been documented in all 50 states, an overwhelming 94% reside in large metropolitan areas (Los Angeles, Detroit, and New York are the top three cities).

VISUAL AND ANATOMIC CHARACTERISTICS OF THE “MIDDLE EASTERN” NOSE

Several unique features define the ethnic appearance of a Middle Eastern nose (Table 31-2, Figure 31-1). These can be readily appreciated in some of the well-known political figures from the Middle East (Figure 31-2).

One of the chief distinguishing characteristics of a Middle Eastern nose is its relatively thick overlying skin–soft tissue envelope (SSTE). Numerous pilosebaceous units dotting its surface produce an oily texture and further contribute to skin thickness. These anatomic properties of SSTE significantly influence the appearance of the lower third of the nose by effectively blunting the configuration of the underlying cartilaginous framework. Specific findings include an effacement of the supratip region and concealment of tip definition. This results in an overall amorphous appearance of the nasal tip. In the postoperative period, the above-mentioned features of SSTE promote scarring, which in turn predisposes to contracture forces and formation of a pollybeak deformity.
Weak structural integrity of the lower lateral cartilages represents an additional defining property of the nasal tip. Medial crura are typically thin and contribute minimal support to the tip. The lateral crura are commonly rotated in a cephalic orientation and variably contribute to tip fullness. Overactive depressor septi nasi muscle and alar flaring are also frequently seen, especially in people from the West African regions of the Middle East.

**Rhinoplasty Consultation**

The initial consultation for a Middle Eastern rhinoplasty allows the surgeon to form a fertile ground for understanding patient concerns, goals, and motivations for surgery. The concept of maintaining ethnic identity should be clearly communicated on both sides of the table. A surgeon should be wary of patients requesting a drastic change in their appearance, which may cause an unnatural result (or “Westernization”) down the line and result in an unsatisfied patient.

It is generally a good idea to include a family member in the consultation process. His or her opinion may represent important feedback and help avert a potential misunderstanding within a family. Digital photography and morphing can greatly assist in conveying the proposed changes and help communicate more effectively. These should be used as a point of reference, without implicit guarantees as to the result. Various points discussed in the previous and later sections should be kept in mind when altering patient images (Table 31-3). If requested, “before and after” photographs of previously operated patients can be used as well. This may also help in clarifying the
Figure 31-1 Unique features define the ethnic appearance of a Middle Eastern nose.

Figure 31-2 Nasal features in some of the well-known Middle Eastern political figures, exemplifying typical visual attributes of a Middle Eastern nose. A, Benazir Bhutto. B, Prince Abdullah of Saudi Arabia.

Table 31-3 Surgical Concepts and Techniques Commonly Used for Aesthetic Refinement of the Middle Eastern Nose

<table>
<thead>
<tr>
<th>Component</th>
<th>Concept</th>
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<tbody>
<tr>
<td>Skin–soft tissue</td>
<td>Defatting into the subdermal plane, especially in the supratip region;</td>
</tr>
<tr>
<td>envelope</td>
<td>postoperative observation and conservative Kenalog (triamcinolone acetonide) injections to prevent pollybeak formation.</td>
</tr>
<tr>
<td>Upper third</td>
<td>Maintenance of high radix during dorsal hump reduction; elevation of the tip to create a harmonious dorsum–tip relationship, rather than aggressive reduction of the dorsum.</td>
</tr>
<tr>
<td>Middle third</td>
<td>Medial and lateral osteotomies; placement of spreader grafts to avoid internal valve narrowing and an inverted-V deformity.</td>
</tr>
<tr>
<td>Nasal tip</td>
<td>Cartilage-sparing maneuvers with preferential use of suture techniques for the dome region; placement of strong supporting grafts (columellar strut or septal extension graft, shield or cap grafts); possible placement of lateral crural batten grafts and alar rim grafts.</td>
</tr>
<tr>
<td>Nostrils</td>
<td>Alar base modification as needed</td>
</tr>
</tbody>
</table>

differences in rhinoplasty goals for Caucasian and Middle Eastern noses.

**MIDDLE EASTERN RHINOPLASTY**

The basic tenets of Middle Eastern rhinoplasty include the avoidance of overresection and preservation of ethnic appearance. Westernization, through application of standards suitable for a Caucasian nose, should be avoided in this patient group. Not adhering to this concept carries a risk of establishing a disharmonious and unnatural nasal–facial relationship. General concepts, discussed in detail later, include a very conservative lowering of the radix and dorsum, providing adequate tip projection, and rotating the nasal tip while maintaining a hint of an acute nasolabial angle (less than 95 degrees). These and other goals for the Middle Eastern rhinoplasty are summarized in Table 31-3.

The authors prefer an external rhinoplasty approach in this patient group, as it affords superior visualization of internal structures and allows precise modification of the tip and osseocartilaginous framework. An endonasal approach is used only when patients have natural tip aesthetics with good tip support requiring only dorsal modification. In the authors’ experience, the columellar scar from an external approach heals exceptionally well in this patient group, making an open incision not an issue. This observation has been corroborated by Foda, who performed a columellar scar analysis on 600 patients of Arabic extraction. In his series, only 1.5% of patients found the columellar scar to be unacceptable (cited reasons were scar widening, hyperpigmentation, and columellar rim notching).

The philosophy of open structure rhinoplasty underlies the surgical approach to the Middle Eastern nose. It is imperative to add sufficient structure to the cartilaginous framework, in light of the weak inherent cartilage strength and thick overlying SSTE. The latter structure becomes a significant risk factor in the postoperative period for soft tissue contracture, which can easily overwhelm any unaltered native cartilage.

Following an open rhinoplasty exposure, the upper two thirds of the nose are addressed with a conservative dorsal hump and radix modification (Figure 31-3). Maintenance of sufficient dorsal height, in harmony with a high radix, is critical in preserving an ethnic appearance in a Middle Eastern nose. These structures must be conserved to a greater extent than in a Caucasian nose. Gender differences in the height of the radix must also be carefully considered with male patients requiring a higher radix than their female counterparts. Overall, a low radix can accentuate the dorsal height. Correction of the radix-dorsum disproportion improves the overall dorsal balance and reduces its prominence. A crushed cartilage graft is an effective means of filling the radix bed and can be guided into position with a 6-0 chromic suture on a Keith needle. A knot is then tied over the skin at the site of the transcutaneous suture placement, further securing the graft in the postoperative period. This suture can be removed in approximately 1 week.

In most cases where patients have dorsal hump reduction, the authors place spreader grafts to avoid internal valve narrowing and an inverted-V deformity.

As previously discussed, a dependent position of the nasal tip partially contributes to the appearance of excessive dorsal height. Judicious tip projection and rotation, in turn, create an illusion of a lowered dorsum. Tip modification is almost always necessary in a Middle Eastern rhinoplasty, allowing for a more conservative reduction of the nasal dorsum.

After dorsal hump modification and middle nasal vault reconstruction, the lower lateral cartilages are examined for inherent weakness. Nasal tip reconstruction begins by placing a columellar strut and securing it to both medial crura. Kridel’s tongue-in-groove technique or septal extension graft can be used in place of strut as deemed appropriate for the nose. When projecting the tip, it should be kept in mind that the supratip break should never be as prominent as in the ideal Caucasian nose. In male patients, it is especially desirable to only have a minimally visible break in the supratip region. Cartilage suturing techniques (intradomal sutures, lateral crural steal dome sutures, etc.) and additional grafting as necessary (shield or cap grafts) are used to improve tip projection and definition. Judicious nasal skin de-fatting may be performed at this point, in the subdermal plane (Figure 31-4).

Minimal resection of the cephalic margin of the lower lateral cartilages should be performed. Lower lateral cartilages are typically weak structures and minimally contribute to tip fullness. The authors prefer to reinforce the
tip cartilages with lateral crural strut grafts and place rim
grafts along the alar margin. These maneuvers provide
an additional layer of protection against postoperative
collapse of the vestibule, as well as against alar rim notching
and retraction. The key factor is to create a straight
structurally sound lateral crura avoiding excessive convex-
ity or concavity. Figure 31-5 highlights structural tech-
iques commonly used in Middle Eastern rhinoplasty.

Tip rotation should be conservative and aim to create
a nasolabial angle of approximately 95 degrees or less.
This can be achieved in most instances with a combina-
tion of strut placement, dome suturing, and a conservative
triangular caudal septal excision with the base at the
anterior septal angle. Vertically oriented lateral crura may
prevent cephalic rotation of the tip tripod, necessitating
an additional lateral crural overlay or caudal reposition-
ing of the lateral crura. If either scenario is used, lateral
crural strut grafts are used for reinforcement.

At the conclusion of the procedure, medial and
lateral osteotomies are performed. Medial osteotomies

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Figure 31-4 Excessive subcutaneous soft tissue found during rhino-
plasty in patients of Middle Eastern extraction. Endonasal approach is shown
with the delivery of lower lateral cartilages. Soft tissue overlying the cartilage
is elevated to depict its thickness.

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Figure 31-5 Structural techniques commonly utilized in Middle Eastern rhinoplasty:
A, lateral crural strut grafts; B, alar rim grafts; C, columellar strut
grafts, and D, middle nasal vault reconstruction.
are performed in a lateral fading fashion at the osseocartilaginous junction (Figure 31-6). If the patient has open roof deformity, medial osteotomy is avoided. Lateral osteotomies are performed in a high–low–high fashion.

If necessary, alar base modification is completed following osteotomies, keeping in mind that mild alar flaring is an important feature of the Middle Eastern nose (Figure 31-7). The type of alar base modification will depend on two key factors: alar flaring and interalar–intercanthal distance. If the patient has normal interalar–intercanthal relationship (usually should be 1:1), then “alar wedge resection” is performed. Alar wedge resection avoids sill incision. If the patient’s interalar distance is significantly wider than intercanthal distance, then a sill incision will also be necessary. Sill incisions must be made medial to the nostril axis. Middle Eastern patients can tolerate to keep the alar base slightly wider than the intercanthal distance.16

**COMPLICATIONS AND PITFALLS**

Several undesirable outcomes may complicate the Middle Eastern rhinoplasty. These usually arise from a combination of factors, not the least of which is surgical execution.

In both men and women, overly aggressive resection of the dorsum and/or excessive lowering of the radix can take away an important ethnic characteristic of a Middle Eastern nose. Reestablishing adequate tip projection should avoid the need to significantly lower the dorsum.

Pollybeak deformity represents a real concern in this patient group due to excessive thickness and elevated glandular content of the SST. Avoiding overresection of the dorsum in combination with defatting of the supratip region in the subdermal plane and vigilant observation in the immediate postoperative period can help avoid this dreaded complication. Of particular assistance is triamcinolone acetonide (Kenalog-10; Bristol-Myers Squibb, Princeton, NJ).17 Triamcinolone acetonide can be injected as soon as 1 week postoperatively. Injections can be repeated once every 2 weeks for several cycles until the desired effect is attained. The judicious use of smaller volumes and lighter concentrations of triamcinolone acetonide should reduce complications such as cutaneous
Figure 31-7 Alar base modification is completed following osteotomies, keeping in mind that mild alar flaring is an important feature of the Middle Eastern nose.

Figure 31-8 Preoperative and postoperative photographs of ethnic rhinoplasty in a Middle Eastern patient.
Figure 31-9 Preoperative (A, C, E, G, I) and postoperative (B, D, F, H, J) photographs of ethnic rhinoplasty in a Middle Eastern patient.
atrophy and pigmentary skin changes. We rarely use steroid injections but do reserve it for this purpose.

Tip descent may occur secondary to inadequate structural grafting of the columella and failure to preserve sufficient native cartilage. Placement of a strong columellar strut with concomitant medial crural binding sutures, septal–columellar tongue-in-groove technique, and/or placement of a septal caudal extension graft is essential to counteract forces of scarring and preserve tip projection postoperatively.

Aggressive rotation of the tip, resulting in an obtuse nasolabial angle, can create an unnatural appearance for this patient population. While tenets of Caucasian rhinoplasty dictate an ideal nasolabial angle of 95 to 110 degrees in women, the same angle in a Middle Eastern nose risks overrotation and an incongruous appearance. A practical goal of less than 95 degrees of rotation should be followed to avoid this complication.

Figures 31-8 and 31-9 represent preoperative and postoperative photographs of Middle Eastern individuals who underwent successful ethnic rhinoplasty.

CONCLUSION

Aesthetic rhinoplasty in patients of the Middle Eastern extraction epitomizes primary goals of ethnic nasal surgery, which include avoidance of aggressive maneuvers, preservation and modification of native structures, and addition of supporting grafts capable of withstanding postoperative forces of contracture. These same guidelines, in the framework of a conservative and methodical
surgical approach, underlie the basic tenets of Middle Eastern rhinoplasty. Preservation of native racial features through approaches described in this chapter should help achieve a natural aesthetic refinement in patients undergoing the “Middle Eastern” rhinoplasty.

REFERENCES

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