

Rhinoplasty in the African American Patient Anatomic Considerations and Technical Pearls



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KEYWORDS

• Ethnic rhinoplasty • African American rhinoplasty • African rhinoplasty • Augmentation rhinoplasty

KEY POINTS

- There are several anatomic considerations as well as variations in patients of African heritage.
- The goal of improvement in aesthetics and functionality must be in balance with racial preservation.
- Preoperative counseling must discuss patient expectations and surgical limitations based on patients' skin and cartilage.
- Dorsal augmentation, increased tip projection, and rotation are often needed.
- Understanding the thick, sebaceous skin often seen in African Americans assists in postoperative management of swelling.

INTRODUCTION

Rhinoplasty in African Americans has become increasingly common; thus, the challenge for facial plastic surgeons is to create a nose that improves functionality and aesthetics while embracing ethnicity. In a 2012 survey by the American Academy of Facial Plastic and Reconstructive Surgery, 27% of surgeons reported an increase in African American patients seeking facial plastic surgery. Of these patients, 80% are interested in rhinoplasty.^{1,2} Currently, African American rhinoplasty presents a unique set of anatomic challenges as well as cultural considerations. As surgeons attempt to better serve patients of African descent, it is important to understand that ethnic rhinoplasty must still be approached as an individualized procedure tailored to the specific goals of each patient.

ANATOMY

In planning an African American rhinoplasty, surgeons must first understand the unique nasal

anatomy. There is also variability, however, within the African American population. Ofodile and James^{3,4} describe 3 groups, the first of which is an African nose—short with a wide, low, concave dorsum; less defined tip with decreased tip projection; and a short columella. There is also an Afro-Caucasian nose, a higher, more narrow nose with better tip definition and less flaring of the ala. Finally, the third group is the Afro-Indian nose, which has a high and wide dorsum and is an overall larger nose. Although there are still flared alae and lack of tip definition, there is slight increase in tip projection when compared with the purely African nose.⁵ This variability requires the physician to carefully evaluate and tailor surgical planning to each patient. This article addresses the first group that represents the most typical African American patient presenting for rhinoplasty.

African American noses are thought to be more broad and flat (platyrrhine) compared with white noses, which are thought to be tall and thin (leptorrhine).

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Clin Plastic Surg 43 (2016) 255–264

<http://dx.doi.org/10.1016/j.cps.2015.09.001>

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The skin–soft tissue envelope is generally thick and inelastic with abundant sebaceous glands and fibrofatty tissue, measuring up to 2 mm to 4 mm thick.⁶ This is often the contributing factor to the bulbosity of the tip. This thick skin makes refining the tip difficult even with cartilage grafting.

The lower lateral cartilages are more horizontally oriented. Historically, it was thought that the lower lateral cartilages were distinctly shorter and thinner than those of whites. Cadaver studies, however, performed by Ofodile and James³ have shown that the lower lateral cartilages of African Americans are similar in size and strength to that of whites. Despite similarities in size, the orientation leads to more flared and horizontal alae and the proportions of the width of the base in relation to the height of the medial crura may cause the appearance of the broader and wider tip.⁷

Under the skin and cartilage, the bony structure is unique as well. The pyriform aperture is described as wider and more oval in shape.⁸ This causes the nasal base to become wider. The septum is often short with an underdeveloped nasal spine. This leads to a decrease in tip projection.^{9,10} Because the maxilla is often retruded and hypoplastic, the combination leads to a more retracted columella, which can lead to under-rotation of the tip and an acute nasolabial angle. The nasal tip is bulbous, poorly projected, and counter-rotated, with abundant fibrous nasal superficial musculoaponeurotic system (SMAS), broad domes, and poor definition.

The nasal bones are generally short and flat.⁹ Due to the lack of height of the bones, the nasofrontal angle is more obtuse (127° – 133°) compared with that in whites (120°).^{11,12} The radix is often deeper and more inferiorly set. Additionally, the dorsum is lower, which not only affects the appearance but also contributes to a lower and broader middle third of the nose, causing collapse of the internal nasal valve.¹³

In African Americans, the intercanthal distance is found proportionally shorter than that of the nasal base. In conjunction with the flared alae, the base view is no longer triangular but flat, with the nostrils horizontally oriented. This then also leads to obtuse soft tissue triangles.

TREATMENT GOALS AND PLANNED OUTCOMES

In a preoperative consultation, a history is performed with emphasis on the patient's nasal airway and the patient's aesthetic concerns. Patients are asked to identify the specific areas they would like to have improved. If a patient is seeking a revision rhinoplasty, the dates of the

previous surgeries and the previous operative reports are obtained and reviewed to better understand the patient's surgical history. Preoperative photographs are taken from the frontal, lateral, and base views in preparation for computer morphing during the consultation with the patient.

Rohrich and Muzaffar⁶ describe the goals of African American rhinoplasty as maintaining harmony and balance; a narrower, straighter dorsum; enhanced tip projection and definition; slight alar flaring; and narrower interalar distance. Although these are often the requests of the patients who come in seeking consultation, it is important to tailor each visit to the patient because the skin quality and cartilage structure as well as facial composition may not allow these to be realistic goals. Regardless of efforts at reconstructing the tip, the thick, sebaceous nature of some patients' skin may prevent a very refined tip. Additionally, due to the inelastic nature of the skin, there may be a limit on the augmentation and tip projection that is feasible for a particular patient. A clear discussion with the patient can help prevent postoperative dissatisfaction and unrealistic expectations.

PREOPERATIVE PLANNING AND PREPARATION

On physical examination, bilateral paramedian vertical light reflexes along the dorsum are analyzed for symmetry. From the frontal view, the middle vault is examined for narrowing and symmetry whereas the nasal bones are analyzed for their length, height, width, and symmetry. Careful palpation also helps determine the strength of the tip support.

The nose must then be analyzed from the lateral view to gauge the nasal starting point, shape of the dorsum, nasal length, nasal projection, nasofrontal angle, nasolabial angle, alar retraction, columellar show, depressor nasi function, and chin projection.

The nasal base is evaluated from the basal view and the frontal view to evaluate the width and shape. The ala is inspected for flaring and for its width compared with the medial canthal distance. The width of the alar base should approximate the intercanthal distance and the extension beyond this point is noted. The caudal septum is evaluated for deflection and deviation.

In a patient with nasal obstruction, its location and alleviating and exacerbating factors are documented. Anterior rhinoscopy may visualize additional sources of nasal obstruction, including the nasal septum, which is characteristically short. Due to its small size, the cartilaginous septum

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