

The Crooked Nose



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KEYWORDS

• Crooked nose • Deviated nose • Twisted nose • Septal deviation

KEY POINTS

- Both esthetic and functional issues are typically present in patients with this deformity.
- A major septal deformity is almost always a component of severely deviated noses.
- The crooked nose results from extrinsic and intrinsic forces that produce distortion of the nasal structures and nasal deviation.
- The exposure afforded by the open approach allows maximal accuracy in diagnosis and control in achieving optimal repair of the crooked nose.
- The osteocartilaginous framework can be modified and reconstituted under direct visualization through the open approach, resulting in more predictable correction of the crooked nose.

INTRODUCTION

Correction of a crooked nose is one of the most common requests from patients presenting for rhinoplasty. The crooked nose is also referred to as the deviated or the twisted nose. The nose can appear crooked for several reasons (**Fig. 1**):

1. The nose or parts thereof deviate from the vertical midline of the face
2. The nose has asymmetries and irregularities that create an unbalanced and crooked appearance.

The crooked nose may be congenital or acquired secondary to trauma or previous surgery. Both esthetic and functional issues are typically present in patients with this deformity. Severely crooked noses are particularly challenging because multiple nasal structures, both external and internal, are commonly involved.^{1–9} A major septal deformity is almost always a component of severely deviated noses.^{1–4,9}

The crooked nose results from extrinsic and intrinsic forces that produce distortion of the nasal

structures and nasal deviation.^{1–3} Extrinsic forces include congenitally asymmetrical attachments of the osteocartilaginous skeleton, including attachments between the bony pyramid, the upper lateral cartilages, the lower lateral cartilages, and the septum, and can also be secondary to scar contracture following trauma or surgery. Intrinsic forces are those inherent to the septal cartilage as well as the upper and lower lateral cartilages.

Given the underlying structural deformities that are commonly observed in the crooked nose, the open approach is particularly useful and is the focus of this article.^{1–11} Outlined are principles for treating the crooked nose to improve predictability and reliability of rhinoplasty for this challenging problem.

TREATMENT GOALS AND PLANNED OUTCOMES

Attaining consistently good esthetic and functional results when correcting the crooked nose requires a thorough understanding of nasal anatomy and physiology, accurate preoperative clinical analysis

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Fig. 1. On the frontal view, this patient has deviation of the bony vault, midvault, and nasal tip from the vertical midline of the face (*black vertical line*). In addition, she has irregular dorsal esthetic lines (*black arrow*) and an asymmetric nasal tip (*black arrow*) that contribute to the crooked appearance of her nose.

and intraoperative diagnosis, and the knowledge and skill to precisely execute a variety of surgical techniques required to predictably create an attractive and straight nose with a patent and functional nasal airway.¹⁻¹² When performing rhinoplasty for the crooked nose, the goal should be to achieve both esthetic and functional goals in one surgery because the external deformity is often intimately related to the functional problems with nasal airflow.

PREOPERATIVE PLANNING AND PREPARATION

The preoperative consultation serves as an opportunity to understand the patient's concerns and expectations for surgery and to identify the nasal deformities and disproportions and formulate the goals of surgery.¹⁰⁻¹² Critical components of the history include age, history of trauma, nasal airway complaints, previous nasal surgery, smoking history, and any other medical comorbidities.

Clinical analysis is a key factor to successful outcomes in rhinoplasty. Evaluating nasofacial proportions and using a systematic nasal analysis

will allow for thorough and accurate identification of all structural abnormalities and deformities contributing to the crooked nose.¹⁰⁻¹³ The external examination should include a systematic nasal analysis from frontal, lateral, and basal views. Particular emphasis is placed on identifying the abnormalities that contribute to the crooked nose. Asymmetries and irregularities of the bony vault, dorsal esthetic lines, nasal tip, and nostrils, as well as deviation of these structures from the facial midline, should be noted.

Standardized photography with frontal, oblique, lateral, and basal views should be obtained for all patients. Careful evaluation of these photographs will often reveal subtle deformities that were not appreciated during physical examination. Reviewing these photographs with the patient can facilitate communication and help the patient to fully understand the deformities that are present and the goals of surgery. In addition, photographs are a key component of the medical record and can be used as a reference postoperatively.

The frontal view allows evaluation of the nasal asymmetries and its relationship to facial asymmetries. In some instances, nasal asymmetries are secondary to asymmetries of the facial skeleton, and rhinoplasty will have a limited effect on full correction of these. The basal view is especially important for assessing caudal septal deviation, tip deviation, and asymmetries of the nostrils related to the columella and alar rims.

There are 3 basic types of nasal deviation, 2 of which have subtypes¹⁻³:

1. Caudal septal deviation
 - Straight septal tilt
 - S-shaped septal tilt
2. Concave deformity
 - C-shaped dorsal deformity
 - Reverse C-shaped deformity
3. Concave/convex dorsal deformity.

The internal examination is performed to evaluate for anterior septal deviations and the status of inferior turbinates.^{4,9-12,14-16}

After evaluating the patient, the goals of surgery should be reviewed with the patient. The patient should understand the esthetic goals of surgery and if there will be any improvement in nasal airflow. There should be a frank discussion about what can be realistically achieved when performing rhinoplasty for the crooked nose: it is impossible to create a perfectly straight and symmetric nose. Setting the patient's expectations preoperatively is critical to avoid dissatisfaction postoperatively.¹⁰⁻¹²

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