DISCUSSION

The Two Essential Elements for Planning Tip Surgery in Primary and Secondary Rhinoplasty: Observations Based on Review of 100 Consecutive Patients

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Dr. Constantian continues to write about the linkage of nasal anatomy, operative planning, and respiratory function. In 2000, he published an extremely important article dealing with four common anatomical configurations that influence the result of a rhinoplasty operation. With this current article, he returns to the same issue but focuses in depth on two of the four anatomical traits: tip projection and alar malposition. Three areas of discussion appear relevant. How does this article fit within the context of Dr. Constantian’s previous publications? How would the average plastic surgeon implement the recommended diagnostic and surgical strategies for both tip definition and alar malposition?

With regard to tip projection, Dr. Constantian feels that tip projection can be reliably assessed by the relationship of the tip lobule to the septal angle, whereas virtually all other authors utilize projection off the facial plane. These classic techniques allow tip projection to be defined irrespective of the septal angle. As shown in Figure 1, the patient’s entire nasal lobule is below the septal angle, yet tip projection is normal. The problem is the excess dorsal height including the septal angle, and not inadequate tip projection. Is this a significant critical difference or merely personal preference? Utilization of classic reference points off the facial plane allows tip projection to be defined as a specific entity independent of other nasal components, which can be abnormal. In contrast, Dr. Constantian believes that if “the septal angle lies above the tip lobule preoperatively, tip augmentation will be necessary,” and “if the septal angle lies below the tip lobule . . ., dorsal augmentation may be necessary.” Thus Dr. Constantian’s preferred method of analysis leads directly to tip grafting and dorsal augmentation in the majority of his primary rhinoplasties. Given the significant technical demands of dorsal grafting and multilayer tip grafting, the majority of plastic surgeons would be better off using the classic methods of nasal analysis and operative planning.

Alar malposition was originally defined by Sheen as cephalic displacement of the alar cartilage toward the medial canthus at the midpoint of the alar rim. Dr. Constantian considers the alar cartilages to be orthotopic when the lateral crura axis runs toward the lateral canthus and cephalically rotated (malpositioned) when the axis runs toward the medial canthus of the ipsilateral eye. He found that 46 percent of 100 consecutive primary rhinoplasty patients had malposition. This finding is in striking contrast to his own previously reported data. Alar malposition has suddenly gone from 18 percent to now 46 percent of cases? Is this dramatic increase due to an epidemic of alar malposition, different criteria for diagnosis, or a change in practice profile? Which brings us to the problem of diagnosing alar malposition—it is a subjective judgment call based on inspection of the perceived surface expression of the alar cartilages through the external nasal skin. It would be interesting to know whether several experienced surgeons would make the same diagnosis on examining a significant number of patients. As noted in Figure 2, one would expect the patient on the left to have alar malposition given the tip configuration and lack of alar rim support. Her alar cartilages, however, were orthotopically aligned. The lateral cartilages were concave and somewhat flimsy, thereby providing limited support despite alignment toward the lateral canthus. In contrast, the patient on the right with her broad tip and well-supported alar rims had severe alar malposition. The ultimate problem with Dr. Constantian’s diagnosis of alar malposition is that it leads to his preferred method of treatment—excision of the entire lateral crura through the lateral genu (dome) and reinsertion as an external valvular support graft, with tip augmentation using a multilayer tip graft a frequent requirement. Many surgeons would
consider this approach to be extremely aggressive and excessive. It is a procedure that Dr. Constantian often refers to as “flying without a net.”

What are my recommendations for the average rhinoplasty surgeon who does fewer than 25 rhinoplasties a year? First, do a complete analysis of the characteristics of the intrinsic tip factors (volume, width, definition), then the extrinsically influenced factors (projection, rotation), plus the skin sleeve and nasal function (septum, turbinates, valves). In general, I give equal weight to tip definition and tip projection, whereas most patients see tip definition as the critical determinant of a successful rhinoplasty. I consider alar malposition to be a functional component of the external valve, with support essential. With widespread availability of digital photography and inexpensive color printers, photographic analysis and operative planning should be the rule rather than the exception. I certainly favor the combination of angles and lines published by Byrd and Hobar, Guyuron, and Daniel.

How should one diagnose and treat alar malposition? I agree with Dr. Constantian’s subjective definition of alar malposition. I supplement it, however, with a simple objective clinical measurement to diagnose alar malposition in primary rhinoplasties. The measurement is done as follows: the midpoint of the nostril is marked along the alar rim, the nostril is everted, and the perpendicular distance from the midpoint of the vestibular alar rim to the caudal border of the alar cartilage is measured with calipers (Fig. 3). Based on 50 consecutive primary rhinoplasty cases, the results are as follows: 0 to 6 mm is normal, 7 mm is the transition point with half being malpositioned, and 8 mm and greater is definite alar malposition. How should alar malposition be treated, especially by surgeons using an open approach? First, I deal with the tip in the appropriate fashion as dictated by the aesthetics, often utilizing a columellar strut and sutures. Once the desired tip shape is achieved, then the external valvular implications of the alar malposition are corrected. Clinically, I use a minor, moderate, or major approach. For minor alar malposition, I prefer a simple alar rim graft slipped into a subcutaneous pocket caudal to the lateral crura (Fig. 4, above). For moderate cases, I will make a true rim incision at the critical area of alar weakness and connect it to the infracartilaginous incision. The alar rim graft is carefully tailored and then sutured in as an alar rim support graft (Fig. 4, below). For major cases, such as a boxy tip with collapsed alar side walls, I will make a marginal rim incision instead of an infracartilaginous incision as part of the initial open approach. The location of this incision is probably the same as that of Constantian’s incision and totally ignores the caudal border of the alar cartilages. The tip is exposed, the desired shape is achieved, and then the alar rim support graft is sutured into place. Although I use lateral crural...
transposition with alar extender grafts in secondary cases, I agree with Constantian that alar rim support grafts are sufficient in primary cases. In conclusion, rhinoplasty remains a complex and challenging operation. Of the numerous factors that must be diagnosed before surgery, tip projection and alar malposition are indeed two of the most important. The reader must be aware, however, that Dr. Constantian’s reason for selecting these two characteristics above all others is their critical role in his sequential progression from diagnosis to operative planning to surgery, which will result in a 50 percent rate of excising the entire lateral crura. Most rhinoplasty surgeons,

Fig. 2. Which patient has alar malposition? See text for the answer.

Fig. 3. Objective method of determining alar malposition. (Left) The midnostril point is marked on the alar rim. (Center) The distance from the vestibular alar rim to the caudal border of the alar cartilage is measured with a caliper. (Right) Patients with distances of 7 mm or more are considered to have alar malposition.
and certainly those doing open rhinoplasty, should extract the valuable functional implications of this article while leaving the lateral crura intact—do the tip the way you desire and simply add an alar rim graft or an alar rim support graft as you close. The simplest and safest operation that achieves tip projection and maintains nasal function is often the best.

Fig. 4. Treatment of alar malposition. (Above) An alar rim graft being placed in a subcutaneous pocket during a closed rhinoplasty. (Below) An alar rim support graft being sutured into a marginal rim incision during closure of an open rhinoplasty.

REFERENCES