



The Tip Nose

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Abstract

Introduction: Rhinoplasty is a widely performed surgical procedure in plastic surgery. The development of knowledge regarding the anatomy of the nose represents one of the most refined aspects of plastic surgery education. A thorough understanding of each patient's nasal anatomy is crucial for achieving longer-lasting results. Therefore, knowledge of the nasal tip and its treatment is essential for the successful execution of rhinoplasty. The objective of this study is to describe the techniques used to treat the nasal tip.

Discussion: The approach to the nasal tip is complex, involving both structural and aesthetic considerations. Various techniques are employed in the treatment of this region, including cartilage reduction, cartilage preservation, the use of specific sutures to shape the tip, and the use of cartilage to provide support. These techniques aim to improve function, prevent retraction, and enhance the definition of the nasal tip.

Conclusion: This study outlines some of the most commonly used techniques in contemporary rhinoplasty, whether utilizing an open, closed, or hybrid approach. It is imperative for surgeons to be acquainted with these techniques and apply them based on individual indications for treating the nasal tip.

Keywords: Rhinoplasty; Cartilage; Plastic Surgery; Nasal; Ligaments

Abbreviations: SEG: Septal Extension Graft; AARG: Alar Articulated Rim Graft; GS: Ghunter Strut.

Introduction

Rhinoplasty is a surgical procedure widely performed in plastic surgery. In 2017 alone, according to ISAPS, around 877,254 rhinoplasties were performed worldwide [1], marking an 11% increase in reported surgeries compared to the previous year.

The development of knowledge of nasal anatomy is a highly refined aspect of plastic surgery, demanding dedication, studies, and visual technical experience for an

adequate understanding of the structures and ligaments providing support and ensuring good physiology for respiratory function [2,3].

Considered by some as a technical and intellectual challenge, nasal surgery presents a continuous learning curve, from the early stages of development to the most experienced surgeons. Knowledge of each patient's nasal anatomy is crucial for achieving lasting results, emphasizing the significance of understanding the nasal tip and its treatment in successful rhinoplasty.

The objective of this study is to describe the techniques used to treat the nasal tip.

Alar Cartilages

Trim

Cephalic trim reduces the width of the cartilaginous frameworks, facilitating cephalic rotation of the lower lateral cartilage. It involves separating the lower lateral cartilages from the upper lateral cartilages and trimming them [4]. The piece of cartilage can be used to reinforce the lower cartilage using a turn alar flap [5].

Suture

The treatment of the shape and projection of the lower cartilage is significantly reinforced with sutures. Techniques such as reducing the flare of lateral crura and decreasing tip fullness with transdomal sutures, medial crural sutures, and interdomal sutures are employed by Gruber, et al. [6-8]. The transdomal suture is a horizontal mattress suture placed through the lateral and medial aspects of the domes. The medial crural suture corrects medial crura asymmetries, reduces flaring, and narrows the width of the columella. The interdomal suture is a horizontal mattress suture between domal segments.

Grafts

Septal Extension

Graft This graft precisely controls tip rotation and projection [9,10]. Projection is determined by the height of the graft, and rotation is designed to define the tip. Understanding this graft and its fixation requires using a four-point suture technique to control tip rotation. In this technique, a piece of cartilage can be used to fill the external space and straighten the columella (Figure 1) (Septal Extension Graft).



Figure 1: Septal Extension Graft.

Floating Graft

(Goldman Graft) Described by Goldman, this graft is used to improve the columellar profile or correct the hidden columella [11].

Onlay Graft

The Pech tip onlay graft is used to increase tip projection and adjust tip rotation [12].

Shield Graft Used to define the columellar profile or correct the hidden columella, it is known as the Sheen Shield [13].

Columellar Graft

Described in 1932 by Eitner, et al. [14] this graft is inserted between the middle crura to support the tip [14,15].

Alar Articulated Rim Graft (AARG)

This articulated graft is used to provide support and definition to the tip, improving nasal function [16,17] (Figure 2).



Figure: 2 Alar Articulated Rim Graft (AARG).

Alar Rim Grafts

The alar rim graft is useful for preventing alar retraction, creating a smooth transition of the alar rim [18].

Lateral Strut Grafts

This lateral crural strut, known as the Gunther graft, is used to provide support, correct alar retraction, and reorient

the flattening of lateral crural cartilages [19] (Figure 3) (Ghunter Strut).

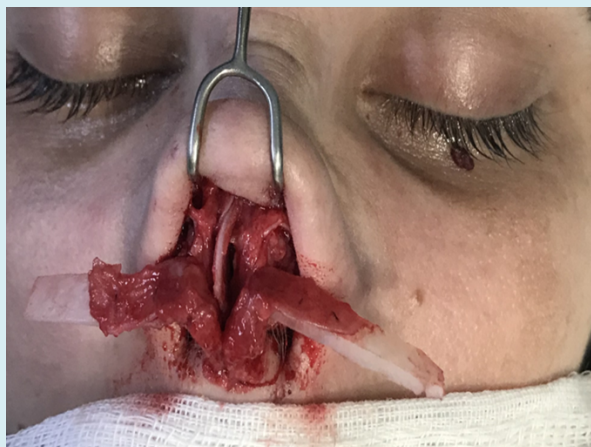


Figure 3: Ghunter Strut.

Alar Batten Onlay Graft

This graft is used to fill the point of maximal lateral wall collapse or supra-alar pinching [20].

Discussion

The nasal tip is a functional and aesthetic structure playing a crucial role in rhinoplasty. Its delicacy and definition contribute to elegance and beauty, making it a significant factor in forming a first impression due to the central location of the nose on the face. The approach to alar cartilage has evolved over the years, emphasizing preservation. Contemporary techniques aim to conserve as much cartilage as possible, using minimal portions and relying on the cartilage itself for reinforcement while preserving connections with the upper lateral cartilage [21]. Sutures play a fundamental role in defining the tip and preserving structures, improving the overall shape and support of the nasal tip. They are adaptable for use in both open and closed rhinoplasty techniques. Tip support grafts increasingly favor the use of the septal extension graft, which has demonstrated superiority in terms of tip control and rotation compared to the columellar strut [22]. Tip grafts located more superficially are suitable for thinner skin, whereas in thick skin, they preserve the natural structure of the nose. Alar region grafts contribute to improved support, definition, and prevention of alar retractions, making them a good practice in modern rhinoplasty.

Conclusion

This study highlights some of the most commonly used techniques in contemporary rhinoplasty, encompassing

open, closed, or hybrid approaches. Surgeons must be well-versed in these techniques and tailor their use based on individual indications for nasal tip treatment.

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