



## The Tip Nose

De Arruda FCF\* and Gordo Ferreira LL

Department of Plastic Surgery, Arruda Aesthetic Plastic Surgery, Brazil

\*Corresponding author: Fabiano Calixto Fortes de Arruda, Department of Plastic Surgery, Arruda Aesthetic Plastic Surgery, Brazil, Tel: +5562981119129; Email: dr.fabianoarruda@gmail.com

Conceptual Paper

Volume 8 Issue 1

Received Date: January 01, 2024

Published Date: January 19, 2024

DOI: 10.23880/ijtps-16000180

### 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).

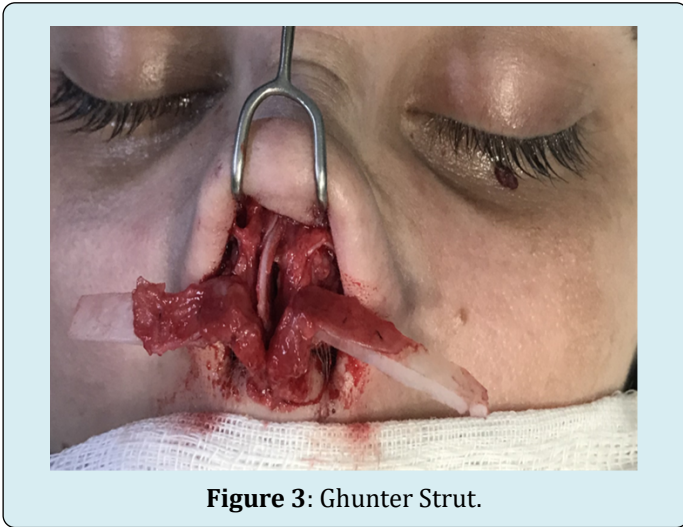
### Alar Rim Grafts

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.

### References

1. (ISAPS) International Society of Aesthetic Plastic Surgery.
2. Yeolekar A, Qadri H (2018) The learning curve in surgical practice and its applicability to rhinoplasty. *Indian J Otolaryngol Head Neck Surg* 70(1): 38-42.
3. Crosara PF, Nunes FB, Rodrigues DS, Figueiredo ARP, Becker HMG, et al. (2017) Rhinoplasty complications and reoperations: Systematic review. *Int Arch Otorhinolaryngol* 21(1): 97-101.
4. Sieber DA, Rohrich RJ (2017) Finesse in Nasal Tip Refinement. *Plastic and Reconstructive Surgery* 140(2): 277e-286e.
5. Murakami CS, Barrera JE, Most SP (2009) Preserving structural integrity of the alar cartilage in aesthetic rhinoplasty using a cephalic turn-in flap. *Arch Facial Plast Surg* 11(2): 126-128.
6. Gruber RP, Chang E, Buchanan E (2010) Suture techniques in rhinoplasty. *Clin Plast Surg* 37(2): 231-243.
7. Duron JB, Noel W, Nguyen PS, Jallut Y, Aiach G (2014) Tip sutures. *Ann Chir Plast Esthet* 59(6): 461-466.
8. Vuyk HD (1995) Suture tip plasty. *Rhinology* 33(1): 30-38.
9. Rohrich RJ, Chamata ES, Alleyne B, Bellamy JL (2022) Versatility of the Fixed-Mobile Septal Extension Graft for Nasal Tip Reshaping. *Plast Reconstr Surg* 149(6): 1350-1356.
10. Rohrich RJ, Savetsky IL, Avashia YJ (2020) The Role of the Septal Extension Graft. *Plast Reconstr Surg Glob Open* 8(5): e2710.
11. Bottini DJ, Gentile P, Donfrancesco A, Fiumara L, Cervelli V (2008) Augmentation rhinoplasty with autologous grafts. *Aesthetic Plast Surg* 32(1): 136-142.
12. Peck GC (1983) The onlay graft for nasal tip projection. *Plast Reconstr Surg* 71(1): 27-39.
13. Sheen JH (1993) Tip graft: a 20-year retrospective. *Plast Reconstr Surg* 91(1): 48-63.
14. Eitner E (1932) In: *Kosmetische O* (Ed.), Springer J,

Vienna, Austria, Europe.

15. Martino C, Salzano FA, Martino D, Ralli M, Salzano G, et al. (2023) Y-Columellar Strut Graft: A Method for Reconstructing the Nasal Tip in Primary and Revision Rhinoplasty. *Plast Reconstr Surg* 151(4): 609e-613e.
16. Toriumi DM (2006) New concepts in nasal tip contouring. *Arch Facial Plast Surg* 8(3): 156-185.
17. Goodrich JL, Wong BJF (2016) Optimizing the soft tissue triangle, alar margin furrow, and alar ridge aesthetics: analysis and use of the articulate alar rim graft. *Facial Plast Surg* 32(6): 646-655.
18. Rohrich RJ, Raniere J Jr, Ha RY (2002) The alar contour graft: correction and prevention of alar rim deformities in rhinoplasty. *Plast Reconstr Surg* 109(7): 2495-2505.
19. Gunter JP, Friedman RM (1997) Lateral crural strut graft: technique and clinical applications in rhinoplasty. *Plast Reconstr Surg* 99(4): 943-952.
20. Ansari K, Asaria J, Hilger P, Adamson PA (2008) Grafts and implants in rhinoplasty— techniques and long-term results. *Oper Tech Otolaryngol* 19: 42-58.
21. Daniel RK, Kosins AM (2020) Current Trends in Preservation Rhinoplasty. *Aesthet Surg J Open Forum* 2(1): ojaa003.
22. Bellamy JL, Rohrich RJ (2023) Superiority of the Septal Extension Graft over the Columellar Strut Graft in Primary Rhinoplasty: Improved Long-Term Tip Stability. *Plastic and Reconstructive Surgery* 152(2): 332-339.

