

The Utility of Alar Rim Grafts in Bilobed Flap Nasal Reconstruction

Elizabeth Berggren MD¹, Rhys Richmond BS², Yan Ho Lee MD², Jonathan Y. Lee MD, MPH¹

¹UMass Chan Medical School – Baystate, Springfield, MA

²Yale Medical School, New Haven, CT

Introduction

- Bilobed flaps for nasal alar defects can be associated with changes in nasal shape and symmetry, such as tip deviation and alar retraction
- Alar rim and subalar cartilage grafts have been shown to improve nasal symmetry in rhinoplasty

Objective

- Investigate whether use of an alar rim graft in conjunction with a bilobed flap improves nasal symmetry after reconstruction

Methods

- Retrospective review of patients at a single institution from April 2018-March 2023 presenting for unilateral nasal alar reconstruction after Mohs resection
- Final analysis included 27 patients with pre- and post-op photos (10 with bilobed flap, 17 with flap + alar rim graft)
- Two measurement methods were used to assess alar shape and nasal tip symmetry
- Analysis performed with Wilcoxon Signed-Rank and Mann Whitney-U tests

Results

Table 1:

Standard Bilobed Flap	Mean Pre-op SNAS Score	Mean Difference Between Pre and Post-op Scores	P value
Nasal Outline Symmetry	1.4	1.1	0.008
Alar Base Position Symmetry	1.7	0.7	0.125
Nostril Outline Symmetry	1.7	1.2	0.016
Nostril Axis Symmetry	1.3	0.5	0.125
Columellar Angle Symmetry	2	0.4	0.219

Table 2:

Flap with Cartilage Graft	Mean Pre-op SNAS Score	Mean Difference Between Pre and Post-op Scores	P value
Nasal Outline Symmetry	1.9	0.29	0.447
Alar Base Position Symmetry	1.5	0.529	0.27
Nostril Outline Symmetry	1.9	0.411	0.264
Nostril Axis Symmetry	1.4	0	1
Columellar Angle Symmetry	1.8	-0.118	0.774



Conclusion

- Alar rim grafts can improve nasal and nostril outline symmetry, without affecting tip symmetry
- Alar rim grafts can be used to mitigate the deformities seen with bilobed flaps, creating a better aesthetic outcome after nasal reconstruction

References

1. Rohrich RJ, Raniere J Jr, Ha RY. The Alar Contour Graft: correction and prevention of alar rim deformities in rhinoplasty. *Plast Reconstr Surg*. 2002 Jun;109(7):2495-505; discussion 2506-8.
2. Lee YH, Lee JY, Luo J, Lawson W, Westreich R. The Utility of the Subalar Graft in Nostril Symmetry in Rhinoplasty. *Plast Reconstr Surg* 2021;147: 1063-1069.
3. Tan RA, Isaac KV, Ganske IM, Mosmuller DGM, de Vet HCW, Don Griot JPW, Mulliken JB. Development of the Submental Nasal Appearance Scale for the Assessment of Repaired Unilateral Complete Cleft Lip: A Pilot Study. *Cleft Palate Craniofac J* 2019 Jul; 56(6):791-798.