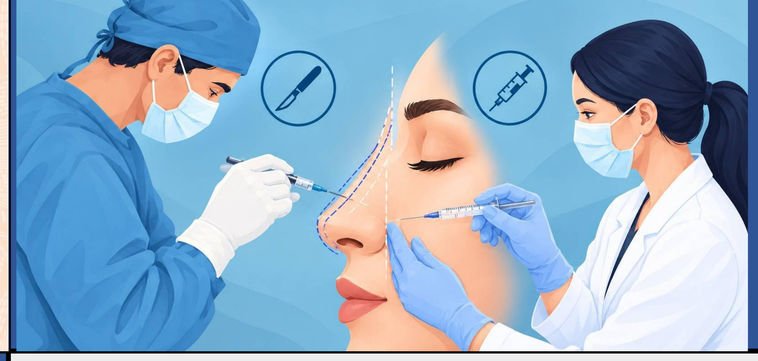
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Clinical Evaluation of Surgical vs Non-Surgical Rhinoplasty Outcomes

Mohsen Naraghi, MD, FARS[1]; Jazmin Kazravan, PhD, DNP, MBA, MSN[2]; Syed Shireen Andrabi, MBBS[3]; Amirhossein Babaei, MD[4]

ABSTRACT

Many individuals are choosing non-surgical rhinoplasty due to the comparable results it offers without the inconvenience of traditional nose surgery. However, there is currently insufficient data to support this claim.

This study compares the outcomes of surgical and non-surgical rhinoplasty procedures by determining specific rhinoplasty parameters.

Out of the 6 patients who underwent non-surgical rhinoplasty, 5 were females (83%) and 1 was male (17%), while out of the 6 patients who underwent surgical rhinoplasty, 4 were females (67%) and 2 were males (33%). After surgical rhinoplasty, the mean nasolabial angle increased from 84 ±14 pre-treatment to 105 ±8 post-treatment, the mean nasofacial angle decreased from 49 ±2 pre-treatment to 37±5 post-treatment, and the mean nasofrontal angle increased from 118 ±7 pre-treatment to 132 ±4 post-treatment. For the non-surgical group, the mean nasolabial angle increased from 72 ±12 pre-treatment to 100 ±9 post-treatment, the mean nasofacial angle decreased from 47 ±3 pre-treatment to 36 ±4 post-treatment, and the mean nasofrontal angle increased from 115 ±3 pre-treatment to 132 ±3 post-treatment.

The outcomes of both types of treatment were similar, indicating that non-surgical rhinoplasty has the potential to be an alternative to surgical rhinoplasty in the future.

Affiliations

1. Orphans Worldwide, Jacksonville
2. Healthcare Corporation of America, Memorial Hospital of Jacksonville
3. Temerty Faculty of Medicine & Dalla Lana School of Public Health, University of Toronto
5. Rhinology Research Society

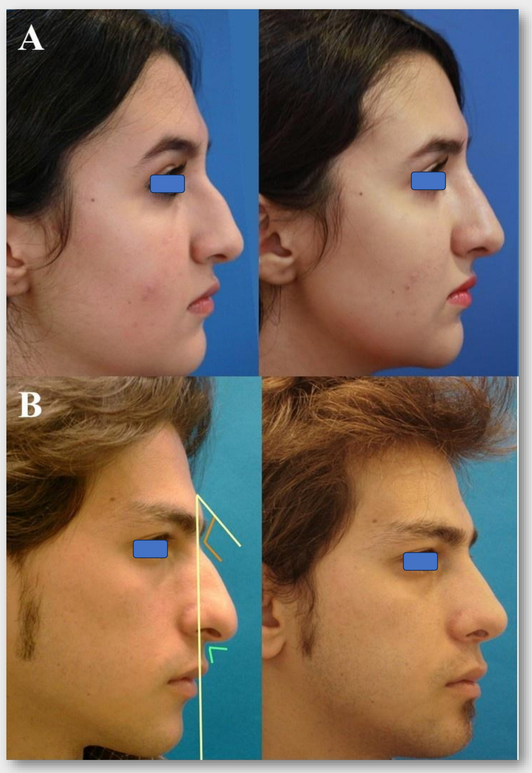
INTRODUCTION

Rhinoplasty remains one of the most technically demanding aesthetic procedures. In recent years, non-surgical rhinoplasty using hyaluronic acid (HA) fillers has gained popularity as a minimally invasive alternative; however, objective comparative data on the two approaches remain limited.

To compare the outcomes of surgical and non-surgical rhinoplasty using standardized anthropometric measurements.

METHODS AND MATERIALS

This retrospective comparative study included 12 patients undergoing aesthetic rhinoplasty, divided equally into surgical (n=6) and non-surgical (n=6) groups. We performed surgical rhinoplasty using an open approach, while non-surgical rhinoplasty used hyaluronic acid filler injections in the supraperiosteal plane. We analyzed standardized pre- and post-procedure photographs to measure nasolabial, nasofacial, and nasofrontal angles. Patients were followed for a minimum of 12 months. Within-group changes were assessed with paired t-tests, and between-group differences in the magnitude of change (delta values) with Welch two-sample t-tests.



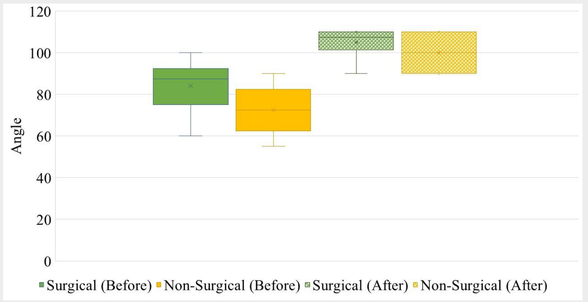
Representative cases and the method used to measure the anthropometric angles. (A) A patient treated with non-surgical rhinoplasty using hyaluronic acid filler, before (left) and after (right) the procedure. (B) A patient treated with surgical rhinoplasty, before (left) and after (right) the operation. The lines overlaid on the pre-operative image show how each angle was measured: the orange lines mark the nasofrontal angle, the green lines the nasolabial angle, and the yellow line indicates the facial plane (glabella–pogonion) from which the nasofacial angle was derived.

RESULTS

Both groups demonstrated favorable directional changes in nasal angles. In the surgical group, the nasolabial angle increased from 84° to 105°, the nasofacial angle decreased from 49° to 37°, and the nasofrontal angle increased from 118° to 132° (all p≤0.010). In the non-surgical group, corresponding changes were from 72° to 100°, 47° to 36°, and 115° to 132°, respectively (all p<0.001). The magnitude of change did not differ significantly between the groups for any angle (p=0.12, 0.30, and 0.50 for the nasolabial, nasofacial, and nasofrontal angles, respectively). No major complications were observed during the follow-up period.

Variable	Overall[1]	Group		p-value[2]
		Non-surgical[1]	Surgical[1]	
Female	9 (75%)	5 (83%)	4 (67%)	> 0.9
Male	3 (25%)	1 (17%)	2 (33%)	
Age	26 (11)	31 (13)	21 (5)	0.10
[1] n (%); Mean (SD)				
[2] Fisher's exact test				

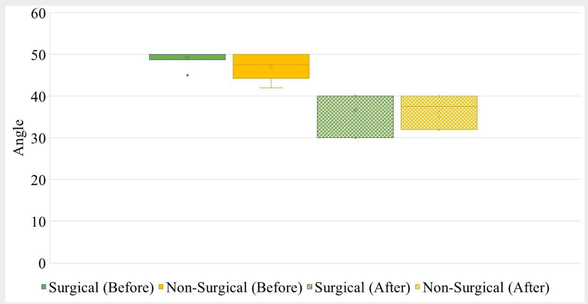
Baseline demographic characteristics of patients in surgical and non-surgical rhinoplasty groups.



Changes in nasolabial angle before and after surgical and non-surgical rhinoplasty.

Variable	Overall[1]	Time Point		p-value[2]
		Before[1]	After[1]	
Nasolabial	95 (15)	84 (14)	105 (8)	0.001
Nasofacial	43 (8)	49 (2)	37 (5)	<0.001
Nasofrontal	125 (9)	118 (7)	132 (4)	0.010
[1] Mean (SD)				
[2] Paired t-test				

Changes in nasal anthropometric angles before and after surgical rhinoplasty.



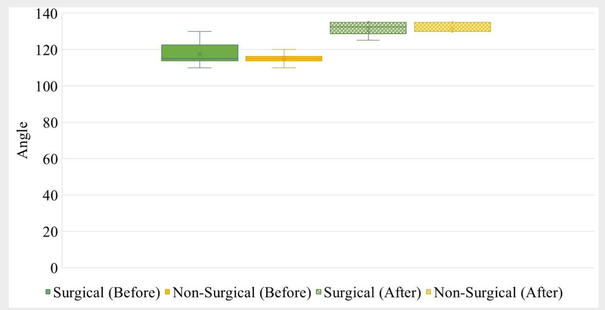
Changes in nasofacial angle before and after surgical and non-surgical rhinoplasty.

Variable	Overall[1]	Time Point		p-value[2]
		Before[1]	After[1]	
Nasolabial	86 (18)	72 (12)	100 (9)	<0.001
Nasofacial	42 (7)	47 (3)	36 (4)	<0.001
Nasofrontal	123 (9)	115 (3)	132 (3)	<0.001
[1] Mean (SD)				
[2] Paired t-test				

Changes in nasal anthropometric angles before and after non-surgical rhinoplasty.

Variable	Overall	Group		p-value[1]
		Non-surgical	Surgical	
Delta Nasolabial angle	24 (7)	28 (5)	21 (9)	0.12
Delta Nasofacial angle	-12 (3)	-10 (1)	-12 (4)	0.3
Delta Nasofrontal angle	15 (7)	17 (4)	14 (9)	0.5
[1] Welch Two Sample t-test				

Comparison of mean changes (delta values) in nasal angles between surgical and non-surgical rhinoplasty groups.



Changes in nasofrontal angle before and after surgical and non-surgical rhinoplasty.

CONCLUSIONS

Both surgical and non-surgical rhinoplasty resulted in measurable improvements in nasal anthropometric parameters. Non-surgical rhinoplasty may serve as an effective minimally invasive option in selected patients, although it cannot replace surgical intervention in cases requiring structural modification. Given the small sample size, the absence of a significant between-group difference should be regarded as hypothesis-generating rather than as evidence of equivalence.

REFERENCES

1. Triana L, Palacios Huatuco RM, Campilgio G, Liscano E. Trends in surgical and nonsurgical aesthetic procedures: a 14-year analysis of the International Society of Aesthetic Plastic Surgery-ISAPS. Aesthetic Plast Surg. 2024;48(20):4217–4227. doi: 10.1007/s00266-024-04260-2.
2. Giammarioli G, Liberti A. Non-surgical rhinoplasty technique: an innovative approach for nasal reshaping with hyaluronic acid fillers. J Cosmet Dermatol. 2023;22(7):2054–2062. doi: 10.1111/jocd.15669.
3. Rohrich RJ, Novak M, Alleyne B, Bellamy J. Five-principle and five-step liquid rhinoplasty. Plast Reconstr Surg. 2023;152(4):633e–636e. doi: 10.1097/PRS.0000000000010162.

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