

# A Questionnaire about Revision Rhinoplasty Among Surgeons

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## ABSTRACT

**Objective:** Rhinoplasty is one of the most challenging facial aesthetics operations. Failure to meet patient expectations and the emergence of new deformities lead to the need for revision. This article presents the current revision surgery experiences of surgeons specialising in rhinoplasty. **Material and Methods:** A questionnaire was used to obtain the experiences with revision rhinoplasty of 130 surgeons specialising in rhinoplasty. The demographic characteristics of the surgeons and data regarding revision rhinoplasty were recorded. Statistical analyses were performed, and the results obtained were compared with the literature data.

**Results:** Although 59% (n=77) of the surgeons stated that the revision rates after primary rhinoplasty were between 2% and 5%, the revision rate of 83% (n=108) of the surgeons was between 2% and 10%. The three most common reasons for revision were loss of nasal tip rotation (83%), inadequate hump resection (74%) and nasal axis deviation (71%). Rocker deformity (19.2%), step deformity (20%), skin problems (25%) and radix problems (27%) were less common. Concerning the timing of revision, most surgeons thought that at least one year should elapse after the first operation, and this did not vary according to the localisation of the deformity.

**Conclusion:** The participants of this study reported revision rates between 2% and 10%. The most common reasons for revision were loss of nasal tip rotation, residual dorsal hump, and nasal axis deviation. Both surgeons and patients should accept that the need for revision may arise due to the unpredictability of recovery.

**Keywords:** Revision, rhinoplasty, nasal, deformity, surgeon

## INTRODUCTION

Rhinoplasty is one of the most challenging surgical operations in facial aesthetics, considering the three-dimensional structure of the bone, cartilage, and soft tissue of the nose; functional and aesthetic expectations; and the psychological state of the patient (1). This procedure can be seen as a combination of controlled nasal traumas and their repair. Complete patient satisfaction can only be achieved when functional problems and aesthetic expectations are addressed in detail. However, as in many aesthetic surgeries, dissatisfaction, complications and the need for revision may occur (2). Surgeons and patients should be prepared from the very beginning of the rhinoplasty journey for the possibility of revision surgery and accept that it is a part of this process.

Skin problems, contour irregularities, inadequate or excessive resection of tissues, nasal obstruction, and asymmetry may

require revision surgery (2-5). Revision rhinoplasty rates reported in the literature vary between 5% and 15.5% (3, 6-8). The risk factors include inadequate intraoperative nasal tip treatment, history of nasal fracture, and any postoperative complication (3, 7).

The first and most important step in revision procedures is identifying patient concerns and accurately describing the deformity (1). Successful communication with patients in revision rhinoplasty is the key to more satisfactory results (1). Groups of patients with various psychological pathologies, such as body dysmorphic disorder, will seek revision for non-existent or insignificant features and will never be satisfied with the results. Surgical options should be avoided as much as possible in such patients with unrealistic expectations (6).

The maturation of the soft tissues and optimal healing takes approximately one year. Therefore, we recommend

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waiting one year for the re-evaluation of deformities and revision interventions (1, 6, 9). However, some exceptional postoperative problems require revision intervention within weeks or months (9, 10). Applications in revision surgery range from minimal filling applications for small depressions to larger reconstruction procedures with autologous costal grafts (1, 11). The septal cartilage is still the main graft material for revision rhinoplasty. In cases of insufficient septal cartilage, ear

cartilage, autologous costal cartilage, irradiated costal cartilage, and alloplastic silicone implants can be used as graft material (10, 11).

Although the surgical techniques used in revision rhinoplasty are not very different from those used in primary rhinoplasty, revision surgery is often more complex and challenging due to the presence of scar tissue, inadequate osseocartilaginous

**Table 1: Professional Experience of the Rhinoplasty Surgeons**

	<b>Participants</b>
	<b>No (%)</b>
<b>Surgeons' experience in rhinoplasty (in years)</b>	
1-3 years	10 (7.7)
4-7 years	30 (23)
8-10 years	30 (23)
11 years and over	60 (46.3)
<b>Surgeons' total amounts of rhinoplasty</b>	
1-100	4 (3)
101-200	10 (7.7)
201-500	18 (14)
501-1000	27 (21)
1001 and over	71 (54.3)
<b>Revision rates of surgeons after primary rhinoplasty</b>	
≤1%	17 (13)
2-5%	77 (59)
6-10%	31 (24)
≤11%	5 (4)
<b>Revision rhinoplasty rates among all rhinoplasty operations of surgeons</b>	
≤1%	19 (14.6)
2-5%	37 (28.5)
6-10%	45 (34.6)
≤11%	29 (22.3)
<b>Surgeons' total amounts of revision rhinoplasty</b>	
1-50	52 (40)
51-100	28 (21.5)
101-200	26 (20)
201-500	7 (5.5)
501 and over	17 (13)
<b>Technique preferred by surgeons in primary rhinoplasty</b>	
Open technique	100 (77)
Closed technique	5 (4)
Both of them	25 (19)
<b>Technique preferred by surgeons in revision rhinoplasty</b>	
Open technique	96 (74)
Closed technique	2 (1.5)
Both of them	32 (24.5)

skeleton, and the disruption of nasal structures (1, 2). Patients have higher expectations for secondary surgery. Therefore, it requires better preoperative planning and greater surgical experience than primary surgery (6). Although surgical experience in rhinoplasty reduces the need for revision, secondary surgery remains a part of rhinoplasty because of the unpredictability of postoperative recovery. This article presents the current revision surgery experiences of surgeons specialising in rhinoplasty.

**MATERIALS AND METHODS**

Our study was conducted according to the guidelines stated in the Declaration of Helsinki and the ethical approval received from the Clinical Research Ethics Committee of Ankara Bilkent City Hospital (Date: 06.03.2024, No: TABED 2-24-36). In February and March 2024, performing surgery in Turkey, 130 surgeons specialising in rhinoplasty completed a detailed online questionnaire on revision rhinoplasty. All participants signed the informed consent. Rhinoplasty surgeons who did not perform revision rhinoplasty were excluded from the study.

All participants completed the questionnaire. Information about the surgeons’ demographics and professional experience was obtained through this. Rhinoplasty and secondary surgery rates were determined, and the preferred surgical technique

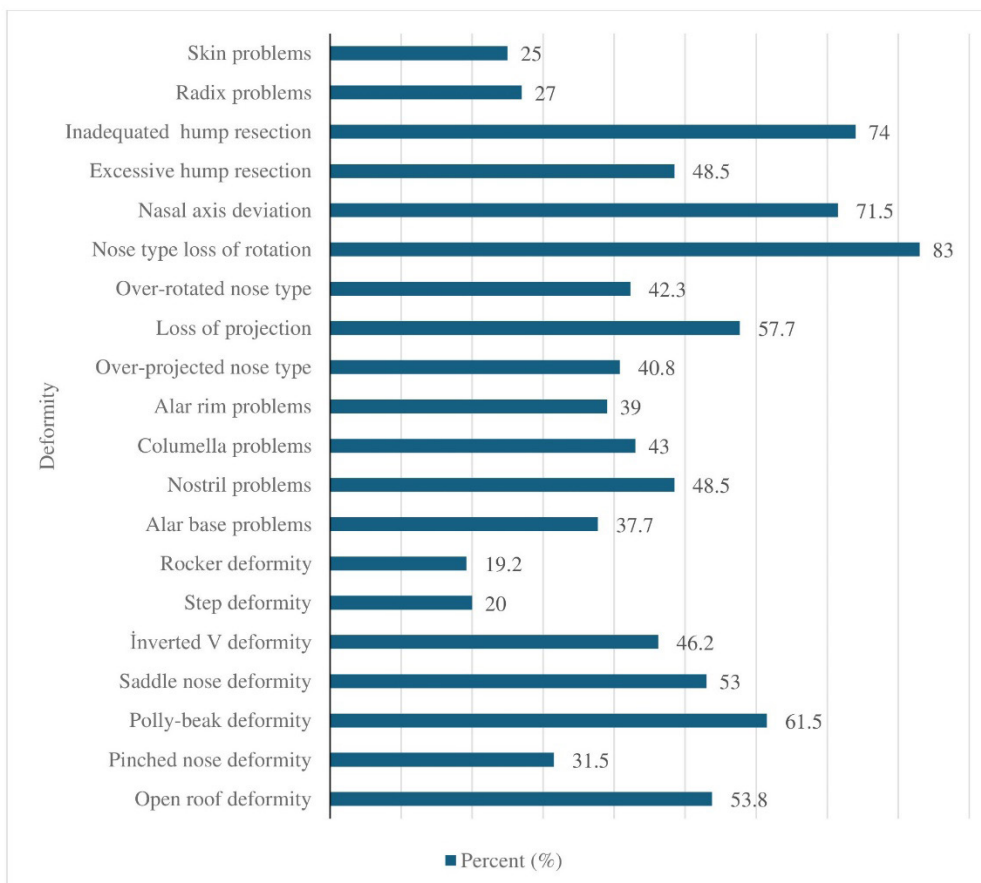
and indications for revision surgery were recorded. Finally, revision timings were shown according to the localisation of the deformity.

Data analysis was performed using SPSS software version 22 (IBM Corp., Armonk, NY, USA). Categorical variables are shown as number (n) and percentage (%), and continuous variables are shown as mean ± standard deviation.

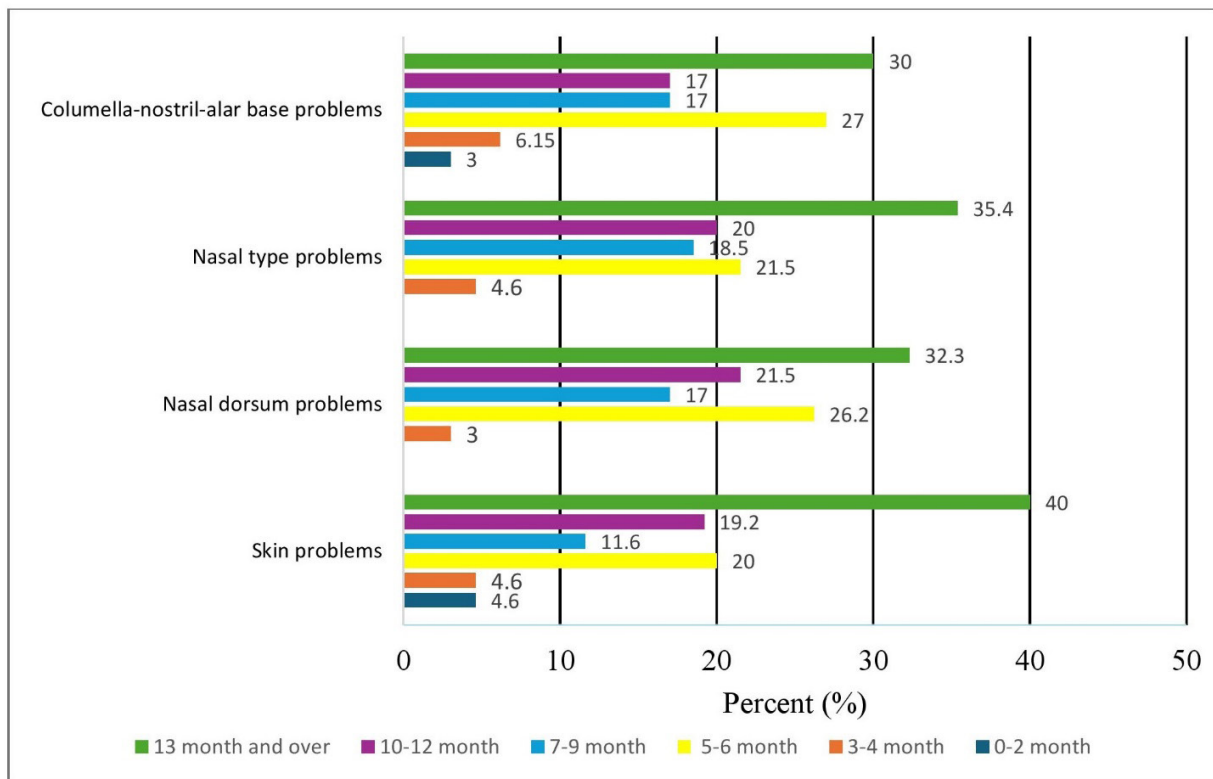
**RESULTS**

Of the 130 participants comprising our study population, 88.5% (n=115) were male, 11.5% (n=15) were female, and the average age was 42.94 (±8.16, range 30-68) years.

More than half of the participants (58.3%, n=76) had more than 10 years of surgical experience, and 46.3% (n=60) had been performing rhinoplasty for more than 10 years. Most (54.3%, n=71) reported that they had performed more than a thousand Rhinoplasty. Although 59% (n=77) stated that their revision surgery rates after primary rhinoplasty were between 2% and 5%, the revision rate of 83% (n=108) of the surgeons was between 2% and 10%. An open technique was preferred in both primary rhinoplasty (77%, n=100) and secondary surgery (74%, n=96). The professional experience of the surgeons is shown in Table 1.



**Figure 1:** Revision of rhinoplasty reasons and rates



**Figure 2:** Timing of revision surgery according localisation deformities

While 14% (n=18) of the surgeons performed revision surgery on only their own rhinoplasty patients, the remaining 86% (n=112) performed revision surgery on both their own and colleagues’ rhinoplasty patients.

Loss of nasal tip rotation (83%), inadequate hump resection (74%) and nasal axis deviation (71%) were the three most common reasons for revision surgery. Rocker deformity (19.2%), step deformity (20%), skin problem (25%) and radix problem (27%) were the least common reasons (Figure 1). Most surgeons evaluating the timing of revision thought that at least one year should elapse after the first operation, and this did not vary according to the localisation of the deformity. Additionally, no surgeon recommended surgical intervention for nasal dorsum or tip problems in the first 2 months. The timing of the revision rhinoplasty according to the location of the deformity is shown in Figure 2.

In cases where minor revision was required, 47.7% (n=62) of surgeons stated that they used fillers. The rate of surgeons experiencing medico-legal problems with revision rhinoplasty patients was 26%.

**DISCUSSION**

Rhinoplasty is a challenging journey to achieve results that will satisfy both the surgeon and the patient. If the original goal is not achieved or a new deformity appears and the patient is not satisfied with the result, the need for revision may arise (12). Undoubtedly, the interest in rhinoplasty among both

surgeons and patients is increasing. This inevitably leads to an increase each year in the number of both primary and revision rhinoplasty surgeries. As the number of surgeons performing rhinoplasty increases, the average levels of experience among surgeons potentially decrease (6). Considering the inexperienced surgeons and patients who have been influenced by social media, the increase in revision rhinoplasty rates is not surprising.

We consider waiting at least 1 year before revision surgery prudent because of the impact of long-term healing on rhinoplasty outcomes (1, 6, 9, 13). This period allows soft-tissue oedema to resolve and problematic deformities to be re-evaluated (6, 13). Additionally, given enough time, patients may find that the deformity improves enough to become acceptable to them (14). Similar to the literature, most surgeons in our study recommended waiting one year before revision, regardless of the anatomical localisation of the deformities requiring revision. However, some authors in the literature think that this wait is unnecessary (9, 10); in our study, many surgeons advocated for that idea. However, no surgeon recommended surgical intervention for nasal dorsum or tip problems in the first 2 months. Major postoperative findings such as airway obstruction, loss of nasal tip support and saddle nose deformities will likely worsen within a year due to contracture, and loss of tissue planes will also make revision more difficult. In these exceptional cases, early surgical intervention may yield better results (6). Deformities that require very little soft-tissue dissection, such as inadequate

osteotomy, alar base widening, and alar retraction, can be corrected early and alleviate patient concerns (9).

In our study, most surgeons stated low revision rates, contrary to the literature (3, 6-8). Patients prefer the same surgeon for minor revisions after the primary surgery. However, those who are not very satisfied and have revision surgeries requiring major changes often seek a new surgeon (8, 15). Therefore, assessing their revision rates completely accurately is difficult for surgeons. The revision rates of the surgeons in this study may have been higher than stated. Although revision rates after the first surgery vary between 5% and 15% in the literature, a higher rate of patients need revision after revision rhinoplasty (2, 16). Additionally, patients using extranasal cartilage grafts have a higher rate of need for revision surgery (2). Anatomical features such as thick skin, asymmetrical and wide nose tip, low nasolabial angle and wide bone roof make revision rhinoplasty more likely (3, 7).

The most common reasons for revision in our study were loss of nasal tip rotation (83%), inadequate hump resection (74%) and nasal axis deviation (71%). Yu et al. determined the most important reasons for revision rhinoplasty as type asymmetry, nasal obstruction and curvature of the middle third of the nose (8). In another study, the most common reasons were residual dorsal hump and extreme tip rotation and/or projection (3). In a study including 252 revision rhinoplasty patients, Sibar et al. found that the most common reasons for revision were inadequate nasal tip rotation, hanging columella, and supra-tip deformity. The same study also reported that being over 40 years of age and using the columellar strut instead of the tongue-in-groove technique increased the risk of revision rhinoplasty (7). These results show that the tip and the middle third of the nose are the points with the highest potential for problems after surgery. Therefore, as rhinoplasty surgeons, we must determine possible risks in advance and better manage the nasal tip and middle third of the nose to avoid revision. Moreover, not only aesthetic reasons cause revision. From a functional perspective, difficulty in breathing and nasal congestion are among the most common reasons for revision (8). The high rate of nasal congestion after rhinoplasty reminds us that the importance of the airway should not be compromised while focusing on the aesthetic appearance of the nose (16, 17).

Another reason for revision was inadequate hump resection. Surgeons now think that removing less is safer than removing more, considering the complications and deformities that may occur in rhinoplasty and the need for revision that may thus arise. This leads to patient dissatisfaction and revision reasons such as residual hump. Generally, some of the reasons for revision rhinoplasty are inadequate surgical techniques applied to not overdo the procedure. Although not included in our study, there are many other reasons for revision that can necessitate revision rhinoplasty, such as excessive columellar show.

In searching for ways to reduce the need for revision rhinoplasty, only surgical techniques and surgeon-focused solutions have been discussed. In this regard, patients should be included in the solutions. We believe that patients should help ensure effective patient–surgeon communication, make them feel confident in their surgeons, and carefully follow all preoperative and postoperative recommendations.

One of the most important treatment alternatives to surgery in revision rhinoplasty is filler application. The use of fillers was common in our study population, with 47.7% (n=62) stating that they used these in cases requiring minor revision. Many patients are hesitant about filling treatment after rhinoplasty because of the thought that they are temporary, whereas surgery is permanent, and complication rates may be high with nasal fillers (18, 19). Supporting patient hesitation, higher complication rates have been reported in patients who have previously undergone rhinoplasty surgery, possibly due to changes in vascular anatomy (18). Filler treatment is recommended for patients without an indication for surgery but who still have concerns after rhinoplasty, in cases such as contour irregularities (19). We think that as surgeon experience and patient awareness increase, the use of fillers in revision rhinoplasty will become more common.

Revision rhinoplasty poses many challenges in itself. One of the most important is the medico-legal problems that may be experienced with patients. Among the surgeons participating in the study, 26% stated that they had medico-legal problems with revision rhinoplasty patients. Patients may file a lawsuit on the grounds of dissatisfaction with the aesthetic results after rhinoplasty, the resulting complications or violation of the standard of care (20). However, most malpractice lawsuits filed after rhinoplasty end in favour of the surgeon (20, 21). Carefully keeping patient records, obtaining detailed and duly informed consent, effective communication with patients, and not exaggerating treatment results are important factors in preventing legal problems.

Many articles exist in the literature about revision rhinoplasty. These generally contain the results of an author's or a clinic's experiences. Our study's unique strength is that it includes data provided by over a hundred surgeons who specialise in rhinoplasty and have extensive rhinoplasty experience. Our study attracts readers' attention to the difficulties of revision rhinoplasty, current reasons for revision, and different points of revision surgery.

## CONCLUSION

The participants of this study reported revision rates between 2% and 10%. The most common reasons for revision were loss of nasal tip rotation, residual dorsal hump, and nasal axis deviation. Minimising revision rates requires good preoperative consultation, correct surgical planning, not exaggerating treatment results, effective surgical techniques and long-term follow-up. Despite all this, both surgeons and patients should accept that the need for revision may arise due to the unpredictability of recovery.

**Ethics Committee Approval:** This study was approved by the Clinical Research Ethics Committee of Ankara Bilkent City Hospital (Number: 2-24-36).

**Informed Consent:** The study group patients gave their informed consent for participation in the study.

**Peer Review:** Externally peer-reviewed.

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