

Assessing Patient-Reported Satisfaction with Appearance and Quality of Life following Rhinoplasty Using the FACE-Q Appraisal Scales

Jonathan A. Schwitzer, B.A.
 Sarah R. Sher, M.D.
 Kenneth L. Fan, M.D.
 Amie M. Scott, M.P.H.
 Laurie Gamble, B.A.
 Stephen B. Baker, M.D.,
 D.D.S.

New York, N.Y.; and Washington, D.C.



Background: Patient satisfaction with appearance and improved quality of life are primary outcomes in cosmetic surgery. The purpose of this study was to assess changes in patient satisfaction with facial and nose appearance, and quality of life following rhinoplasty.

Methods: Patients presenting for rhinoplasty completed the FACE-Q, a new patient-reported outcome instrument composed of scales that measure outcomes in patients undergoing facial cosmetic procedures. The following FACE-Q scales were used: satisfaction with facial appearance overall, satisfaction with nose, psychological well-being, and social function.

Results: Fifty-six patients completed the FACE-Q at the time of their preoperative consultation and/or at postoperative follow-up visits. Among all patients presenting for rhinoplasty, FACE-Q scores (range, 0 to 100) increased following the procedure in satisfaction with facial appearance (+26.5; $p < 0.01$), psychological well-being (+15.7; $p < 0.01$), and social function (+13.7; $p = 0.03$). Satisfaction with nose item scores (range, 1 to 4) all increased significantly from before to after rhinoplasty, including in satisfaction with nose appearance in the mirror (+1.4; $p < 0.01$), size (+1.1; $p < 0.01$), shape (+1.5; $p < 0.01$), profile (+1.6; $p < 0.01$), and in photographs (+1.6; $p < 0.01$). Similar results were seen among a subgroup of patients who completed the FACE-Q scales both before and after rhinoplasty.

Conclusions: In an objective study using a validated patient-reported outcome instrument, improvements in satisfaction with facial and nose appearance and quality of life were demonstrated among rhinoplasty patients. This model supports the successful outcomes possible in rhinoplasty. (*Plast. Reconstr. Surg.* 135: 830e, 2015.)

CLINICAL QUESTION/LEVEL OF EVIDENCE: Therapeutic, IV.

The primary desired outcomes for patients undergoing cosmetic interventions, including rhinoplasty, include improved satisfaction with appearance and enhanced quality of life. Therefore, in contrast to other fields of medicine and surgery, objective measures of outcome (e.g., physical function and health status) are not

as important when evaluating aesthetic procedures.¹⁻³ Rather, the primary outcomes for assessing success include satisfaction with appearance and quality of life, including psychological well-being and social confidence, both of which are relevant in the setting of cosmetic surgery.⁴

Rhinoplasty was the second most common cosmetic surgical procedure performed in the United States in 2013, with over 220,000 procedures performed.⁵ Given the popularity of this procedure, it is essential that the plastic surgery community collect information about procedural outcomes. In measuring rhinoplasty outcomes,

From the Department of Plastic and Reconstructive Surgery, Memorial Sloan Kettering Cancer Center; and the Department of Plastic Surgery, Georgetown University Hospital. Received for publication July 29, 2014; accepted October 23, 2014.

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and specifically satisfaction with the result of the procedure, two perspectives must be considered: the patient's and the physician's. Should one have primary importance? Historically, the research community has generally favored the opinions of the provider. However, in the setting of aesthetic procedures, which are elective in nature, this balance shifts to include patient perception and satisfaction.⁴

As the plastic surgery community moves toward greater implementation of evidence-based medicine, and to increase available outcomes data in cosmetic surgery with the goal of enhancing procedural transparency, reliable information on procedural outcomes, and specifically surgical success, must be available. To achieve this goal, clinically meaningful and scientifically sound patient-reported outcome instruments can and should be used to measure procedural outcomes.⁶ Patient-reported outcome instruments are questionnaires that measure concepts, such as satisfaction, health-related quality of life, and adverse effects of treatment by asking patients directly, without clinician interpretation, providing data from the patient perspective.⁷ These instruments can provide patients with the opportunity to report their concerns directly to their health provider, who can use the results in clinical decision-making, which is especially critical in the setting of rhinoplasty, in which understanding patient expectations, concerns, and questions is critical to achieving successful outcomes. Thus, it is crucial for plastic surgeons to accurately measure and report patient satisfaction and quality of life following cosmetic rhinoplasty. However, few if any studies have thoroughly examined patient perceptions of outcome following rhinoplasty using validated, reliable, and responsive rhinoplasty-specific patient-reported outcome instruments. This is perhaps because of a shortage of these instruments. A recent review of patient-reported cosmetic surgery outcome instruments⁸ identified only one rhinoplasty-specific validated instrument, the Rhinoplasty Outcomes Evaluation.^{9,10} However, the authors of the study argue that the lack of published information on the development of the Rhinoplasty Outcomes Evaluation hinders full evaluation of this instrument. In addition, the authors were troubled by the lack of patient input into the Rhinoplasty Outcomes Evaluation's development, which is problematic, as patient-reported outcome instruments are intended to measure outcomes from the patient's perspective.

To address the need for cosmetic patient-reported outcome instruments, Klassen et al.

recently developed the FACE-Q, a new patient-reported outcome instrument made up of numerous independently functioning scales, many procedural-specific, including rhinoplasty. The FACE-Q measures concepts important to facial aesthetic patients, including appearance, health-related quality of life, and process of care.¹¹

The purpose of this study was to measure changes in patient satisfaction with facial appearance overall, appearance of the nose, and changes in quality of life among patients undergoing rhinoplasty, to assess potential perceived benefit from this surgical procedure. This study is the first of its kind to use the FACE-Q to evaluate outcomes in the rhinoplasty patient population.

PATIENTS AND METHODS

Institutional review board approval was obtained before study initiation. This study was conducted using the FACE-Q, which, as mentioned above, is a new patient-reported outcome instrument composed of over 40 independently functioning scales that measure outcomes important to patients undergoing facial aesthetic procedures, both surgical and nonsurgical.^{3,11-14} As part of the larger FACE-Q validation study, patients presenting for rhinoplasty from 2010 to 2013 from a single center in Washington, D.C., were asked to complete the following FACE-Q scales:

1. Satisfaction with facial appearance: This scale measures patient satisfaction with the overall appearance of their face using items that ask, for example, about facial symmetry and profile. Four response options are provided (i.e., very dissatisfied, somewhat dissatisfied, somewhat satisfied, very satisfied).
2. Social function: This scale has a series of positively worded statements (e.g., I am comfortable meeting new people) that measure social confidence. Instructions ask that respondents answer with facial appearance in mind. Four response options are provided (i.e., definitely agree, somewhat agree, somewhat disagree, definitely disagree).
3. Psychological well-being: This scale measures psychological well-being in terms of a series of positively worded statements (e.g., I feel happy). Instructions ask that respondents answer with facial appearance in mind. Four response options are provided (i.e., definitely agree, somewhat agree, somewhat disagree, definitely disagree).

4. Satisfaction with nose: This scale measure patient satisfaction with the appearance of their nose using items that ask, for example, about nose size and shape. Four response options are provided (i.e., very dissatisfied, somewhat dissatisfied, somewhat satisfied, very satisfied).

Patients completed the scales either at the time of their preoperative consultation and/or at postoperative follow-up visits while in the office. For patients who completed the FACE-Q scales at multiple postoperative visits, only the most recent FACE-Q scale completion was used for data analysis. As not all of the patients completed the FACE-Q both before and after rhinoplasty, relevant demographic variables, including sex, age, race, and marital status, were compared between the prerhinoplasty and postrhinoplasty groups to determine the level of similarity and comparability between the two groups of patients.

Rasch-transformed scores¹⁵ (range, 0 to 100) were calculated for each patient for each scale. The scores for the validated FACE-Q scales (satisfaction with facial appearance, social function, and psychological well-being) were compared from before to after rhinoplasty for the overall sample using a mixed linear regression model, with the dependent variable the FACE-Q scale score, and which adjusted for the following relevant covariates: age, sex, race, and marital status. As the satisfaction with nose scale has not yet been validated, we analyzed mean scale item responses (scale of 1 to 4) before to after rhinoplasty in the mixed linear regression model. FACE-Q scores were also compared among the cluster of “matching” patients (i.e., those patients who completed the FACE-Q scales both preoperatively and postoperatively) using paired-sample *t* tests. Higher FACE-Q scores (either Rasch-transformed or item responses) indicate greater satisfaction with facial appearance or nose, or superior social confidence or psychological well-being. Values of $p < 0.05$ were considered significant. In addition, the effect size¹⁶ was calculated for each of the FACE-Q scale scores. Larger effect sizes indicate greater responsiveness, and it is standard practice to interpret the magnitude using Cohen’s arbitrary criteria (0.2, small; 0.5, medium; and 0.8, large).^{17,18} Data analysis was conducted using IBM SPSS Version 21.0 software (IBM Corp., Armonk, N.Y.).¹⁹

RESULTS

Fifty-six of 60 patients presenting for rhinoplasty completed the FACE-Q scales, for a

response rate of 93 percent (Table 1). The scales were completed a total of 88 times, 48 before the procedure and 40 after the procedure. Fourteen patients completed the FACE-Q both before and after rhinoplasty. Among patients completing the scales after rhinoplasty, the mean postoperative follow-up period was approximately 1 year. Patients ranged in age from 16 to 61 years (mean, 29.4 years; SD, 11.1 years), tended to be female [$n = 40$ (71.4 percent)], white non-Hispanic [$n = 39$ (69.6 percent)], and single/never married [$n = 38$ (67.9 percent)]. Notably, the two groups of patients, before and after rhinoplasty, were very similar and thus comparable with regard to sex, age, race, and marital status, with no differences reaching or approaching statistical significance (Table 2).

FACE-Q Scores: Prerhinoplasty versus Postrhinoplasty

Among all patients undergoing rhinoplasty (Table 3), FACE-Q scores increased significantly from before to after rhinoplasty in satisfaction

Table 1. Rhinoplasty Patient Demographics Overall

Characteristic	Value (%)
No. of patients	56
FACE-Q completions	
Total	88
Preoperatively	48
Postoperatively	40
Time from rhinoplasty to FACE-Q completion, mo	
Mean	6.8
Median	4.0
Range	1–33
SD	6.6
Matching preoperatively and postoperatively completed (by same patient)	14
Time from rhinoplasty to FACE-Q completion, mo	
Mean	5.0
Median	4.0
Range	1–13
SD	3.8
Sex	
Female	40 (71.4)
Male	13 (23.2)
Missing	3 (5.4)
Age, yr	
Mean	29.4
Range	16–61
SD	11.1
Missing	3 (5.4)
Race	
White non-Hispanic	39 (69.6)
Other	12 (21.4)
Missing	5 (8.9)
Marital status	
Married or living with significant other	13 (23.2)
Single/other	38 (67.9)
Missing	5 (8.9)

Table 2. Prerhinoplasty versus Postrhinoplasty Patient Demographics

Characteristic	Prerhinoplasty (%)	Postrhinoplasty (%)	<i>p</i>
Sex			
Female	32 (71.1)	21 (77.8)	0.88
Male	10 (22.2)	6 (22.2)	
Missing	3 (6.7)	—	
Age, yr			
Mean	29.4	29.3	0.97
SD	10.8	12.0	
Missing	3	—	
Race			
White non-Hispanic	29 (64.4)	23 (85.2)	0.29
Other	10 (22.2)	4 (14.8)	
Missing	6 (13.3)	—	
Marital status			
Married or living with significant other	9 (20.0)	6 (22.2)	0.98
Single/other	31 (68.9)	21 (77.8)	
Missing	5 (11.1)	—	

**p* value is significant ($p < 0.05$).

Table 3. FACE-Q Scale Scores before versus after Rhinoplasty in All Patients

FACE-Q Scale (range, 0–100)	No.	Mean (SD) (Unadjusted)	Mean (Adjusted)*	Δ	95% CI	<i>p</i>	Effect Size†
Satisfaction with facial appearance overall							
Prerhinoplasty	45	47.2 (14.4)	47.3	26.5	41.7–52.9	<0.01‡	1.5
Postrhinoplasty	27	73.7 (21.1)	74.0				
Social function							
Prerhinoplasty	40	64.2 (27.9)	62.6	13.7	54.5–70.6	0.03‡	0.5
Postrhinoplasty	27	75.6 (21.3)	76.3				
Psychological well-being							
Prerhinoplasty	40	64.3 (19.5)	63.7	15.7	57.3–70.1	<0.01‡	0.8
Postrhinoplasty	27	80.0 (20.8)	80.5				
Satisfaction with nose (items) (range, 1–4)							
Size							
Prerhinoplasty	40	2.1 (0.9)	2.1	1.1	1.8–2.4	<0.01‡	1.2
Postrhinoplasty	27	3.2 (0.9)	3.2				
Shape							
Prerhinoplasty	39	1.7 (0.8)	1.8	1.5	1.5–2.1	<0.01‡	1.9
Postrhinoplasty	27	3.3 (0.9)	3.3				
Profile							
Prerhinoplasty	40	1.7 (1.0)	1.7	1.7	1.4–2.0	<0.01‡	1.8
Postrhinoplasty	27	3.3 (0.8)	3.4				
In the mirror							
Prerhinoplasty	40	1.8 (0.8)	1.9	1.4	1.6–2.1	<0.01‡	1.9
Postrhinoplasty	27	3.3 (0.8)	3.3				
In photographs							
Prerhinoplasty	40	1.7 (0.7)	1.6	1.6	1.4–1.9	<0.01‡	2.0
Postrhinoplasty	27	3.2 (0.8)	3.2				

Δ , difference between the prerhinoplasty and postrhinoplasty mean (adjusted) scores.

*Adjusted mean scores were calculated using a mixed linear regression model adjusting for the following covariates: sex, age, race, and marital status.

†Effect size (Kazis): mean change/SD (Cohen's criteria: 0.8, large; 0.5, medium; and 0.2, small).

‡Statistically significant ($p < 0.05$).

with facial appearance (26.5; $p < 0.01$); social function (13.7; $p = 0.03$), which as mentioned above is an indication of social confidence; and psychological well-being (15.7; $p < 0.01$). These improvements following rhinoplasty reflect an increase in patient satisfaction with the overall facial appearance and enhanced quality of life. Satisfaction with nose item scores also increased significantly

from before to after rhinoplasty, in satisfaction with size (1.1; $p < 0.01$), shape (1.5; $p < 0.01$), profile (1.7; $p < 0.01$), in the mirror (1.4; $p < 0.01$), and in photographs (1.6; $p < 0.01$), all of which indicate improved patient satisfaction with nasal appearance. All of the above change scores were associated with large effect sizes (≥ 0.8), indicating a significant difference in prerhinoplasty to

postrhinoplasty scores. The one exception was the social function change score, which was associated with a medium effect size (0.5).

FACE-Q Scores: Matching Patients

Among patients completing the FACE-Q scales both before and after rhinoplasty (Table 4), FACE-Q scores increased in all scales. This difference reached statistical significance in satisfaction with facial appearance ($n = 14$; 34.8; $p < 0.01$), social function ($n = 13$; 20.9; $p = 0.01$), and psychological well-being ($n = 13$; 15.6; $p = 0.03$) (Table 3). Satisfaction with nose item scores all increased significantly from before to after rhinoplasty ($n = 12$), including satisfaction with size (1.2; $p < 0.01$), shape (1.6; $p < 0.01$), profile (1.5; $p < 0.01$), in the mirror (1.5; $p < 0.01$), and in photographs (1.7; $p < 0.01$). These results again reflect increased patient satisfaction with facial appearance overall, appearance of the nose, social confidence, and psychological well-being following rhinoplasty. In addition, all change scores were associated with large effect sizes (≥ 0.8), indicating a significant difference in pre-rhinoplasty to postrhinoplasty scores.

DISCUSSION

Maintaining a successful cosmetic surgery practice requires a high degree of patient satisfaction,

as cosmetic procedures are elective in nature and the economics of medicine are increasing competition in cosmetic surgery. Based on the results of this study, it is not surprising that rhinoplasty ranks among the most commonly performed cosmetic surgical procedures. Patients undergoing rhinoplasty are overwhelmingly satisfied with the results of their surgery, as it can potentially have a tremendously positive impact on perception of their own appearance and quality of life. Patients in this study experienced significant increases in satisfaction with the appearance of their face and nose, and in psychological well-being and social confidence, indicating improved quality of life. In addition, the fact that satisfaction with facial appearance overall improved significantly as well confirms the widely held notion that satisfaction with facial appearance is heavily dependent on satisfaction with appearance of the nose.

To honestly evaluate an aesthetic result, an objective outcome measure is required. If we assume that the best measure of aesthetic surgical success is a happy patient, we can make the assumption that a patient-reported outcome measure would be the ideal tool with which to gauge surgical success. Although increased patient satisfaction with appearance following cosmetic surgery might seem obvious, previous studies have found no significant change in satisfaction with

Table 4. FACE-Q Scale Scores: Matching Patients, before versus after Rhinoplasty

FACE-Q Scale (range, 0–100)	No.	Mean (SD)	Δ	p	Effect Size*
Satisfaction with facial appearance overall					
Prerhinoplasty	14	41.2 (17.1)			
Postrhinoplasty	14	76.0 (23.8)	34.8	<0.01†	2.1
Social function					
Prerhinoplasty	13	56.5 (27.9)			
Postrhinoplasty	13	77.4 (20.0)	20.9	0.01†	0.8
Psychological well-being					
Prerhinoplasty	13	61.3 (26.3)			
Postrhinoplasty	13	76.8 (22.6)	15.6	0.03†	0.7
Satisfaction with nose (items) (range, 1–4)					
Size					
Prerhinoplasty	12	2.1 (1.0)			
Postrhinoplasty	12	3.3 (1.1)	1.2	<0.01†	0.9
Shape					
Prerhinoplasty	12	1.7 (0.9)			
Postrhinoplasty	12	3.3 (1.1)	1.6	<0.01†	1.8
Profile					
Prerhinoplasty	12	1.8 (1.1)			
Postrhinoplasty	12	3.3 (1.0)	1.5	<0.01†	1.4
In the mirror					
Prerhinoplasty	12	1.9 (1.0)			
Postrhinoplasty	12	3.4 (1.0)	1.5	<0.01†	1.6
In photographs					
Prerhinoplasty	12	1.6 (0.7)			
Postrhinoplasty	12	3.3 (0.9)	1.7	<0.01†	1.3

Δ , difference between the prerhinoplasty and postrhinoplasty mean scores.

*Effect size (Kazis): mean change/SD (Cohen's criteria: 0.8, large; 0.5, medium; and 0.2, small).

†Statistically significant ($p < 0.05$).

appearance in this area. Recently, a study was conducted to evaluate the degree of perceived improvement in attractiveness following blepharoplasty, brow lift, face lift, and/or neck lift.²⁰ The study found no significant increase in perceived attractiveness following the above procedures compared with preoperatively. Thus, the importance of demonstrating patient satisfaction with outcomes of cosmetic surgery continues to be relevant.

In measuring patient-reported outcomes, condition-specific instruments are preferable, as they can provide more meaningful clinical data than generic patient-reported outcome instruments designed for use with any patient.^{4,21,22} Thus, one of the strengths of this study is that it used the FACE-Q scales, which were validated using, and are specific to, facial cosmetic patients. Other studies have recently been conducted using the rhinoplasty-specific Rhinoplasty Outcome Evaluation patient-reported outcome instruments to measure outcomes following rhinoplasty.^{10,23–26} However, as mentioned above, there are issues with the Rhinoplasty Outcomes Evaluation. In addition, these studies did not measure overall satisfaction with facial appearance, which is critical in demonstrating the relationship between satisfaction with appearance of the nose and satisfaction with facial appearance overall.

FACE-Q results allow surgeons to honestly evaluate their ability to deliver a satisfactory result to the patient. Rhinoplasty is a complex operation, and there are frequently multiple approaches described for the correction of a particular problem. Quantifying patient satisfaction allows the surgeon to compare techniques to see which approach to a problem has the best outcome in the hands of that surgeon. There are frequently debates over procedures: open versus closed incisions, filler versus grafting, among others. The ultimate answer to these questions is not what the surgeon feels is the best treatment but which technique achieves the highest level of patient satisfaction. Providing the surgeon a tool with which to objectively compare techniques and outcomes allows the surgeon to determine the best approach to meet the patient’s goals.

By reviewing patient-reported outcome data, surgeons can see where they are achieving significant improvement and, in contrast, where they are not achieving patient satisfaction. This information is valuable for providing feedback to surgeons that demonstrate where improvement is needed in technique, and it also allows surgeons to set realistic expectations for their patients. As

patient satisfaction scores evolve, so should the surgeon’s consultation. Reviewing one’s own results allows the surgeon to help set realistic patient expectations during the consultation and, as a result, increase the level of patient satisfaction. It would be hoped that as one’s experience increases, one’s ability improves as well, and therefore, patient satisfaction scores should improve, giving the surgeon increased confidence to tackle more challenging cases.

Table 5 includes the individual satisfaction with facial appearance overall scores of the 14 patients who completed the FACE-Q before and after rhinoplasty. This information is useful, as it demonstrates the usefulness of the FACE-Q in

Table 5. Individual Rhinoplasty Satisfaction with Facial Appearance Overall Patient Scores

FACE-Q Scale (range, 0–100)	Satisfaction with Facial Appearance Overall Score	Δ
Patient 1		
Prerhinoplasty	61	
Postrhinoplasty (9 mo)	87	26
Patient 2		
Prerhinoplasty	10	
Postrhinoplasty (6 mo)	19	9
Patient 3		
Prerhinoplasty	19	
Postrhinoplasty (4 mo)	56	37
Patient 4		
Prerhinoplasty	44	
Postrhinoplasty (12 mo)	44	—
Patient 5		
Prerhinoplasty	48	
Postrhinoplasty (4 mo)	100	52
Patient 6		
Prerhinoplasty	35	
Postrhinoplasty (3 mo)	61	26
Patient 7		
Prerhinoplasty	56	
Postrhinoplasty (3 mo)	87	31
Patient 8		
Prerhinoplasty	61	
Postrhinoplasty (3 mo)	87	26
Patient 9		
Prerhinoplasty	35	
Postrhinoplasty (5 mo)	80	45
Patient 10		
Prerhinoplasty	53	
Postrhinoplasty (1 mo)	93	40
Patient 11		
Prerhinoplasty	16	
Postrhinoplasty (1 mo)	70	54
Patient 12		
Prerhinoplasty	37	
Postrhinoplasty (2 mo)	80	43
Patient 13		
Prerhinoplasty	41	
Postrhinoplasty (13 mo)	100	59
Patient 14		
Prerhinoplasty	61	
Postrhinoplasty (4 mo)	100	39

Δ, difference between the prerhinoplasty and postrhinoplasty mean scores.

allowing clinicians to identify and evaluate individual patients who may have enjoyed extremely successful outcomes or, conversely, and possibly more importantly, those who may not have had a positive outcome. For example, one patient's score (patient 4) stayed the same before and after rhinoplasty at 44. This demonstrates to the surgeon that patient 4 has potentially not seen any improvement in his or her facial appearance following rhinoplasty. With this information, the surgeon can review the patient's record to determine what, if any, possible reason there may be for the patient's lack of improvement following rhinoplasty, and the surgeon may be prepared to discuss with the patient during postoperative visits whether the patient's expectations were met, and if not, why they may not have been met. Thus, the FACE-Q provides surgeons a supplementary tool with which to measure and identify surgical success and to also identify patients who might potentially be unhappy with the results of surgery. In addition, we have included a graph (Fig. 1) that demonstrates the satisfaction with facial appearance scores of three patients at three time intervals (i.e., preoperatively, 1 month postoperatively, and 3 months postoperatively), which demonstrates the usefulness of the FACE-Q in tracking patient satisfaction over time.

The results of this study and other patient-reported outcome studies are also useful, as they allow one to determine which patients are most likely to benefit from rhinoplasty based on preoperative FACE-Q scores, as it provides insight into a patient's possible expectations for surgery and it establishes a baseline for patient satisfaction with facial appearance. For example, one can screen patients using the FACE-Q scales during the

preoperative consultation to measure satisfaction with facial appearance, nose, and quality of life (psychological well-being and social function) and then compare those preoperative results to the scores of previous patients who have undergone rhinoplasty and experienced significant increases in FACE-Q scores to determine whether new patients are likely to experience similar results. Thus, these scores can be used to screen out patients who are unlikely to benefit from the surgery and to identify patients who have identifiable treatment objectives and realistic expectations.

There are limitations to this study. This study reflects a single surgeon's experience in one surgical practice. Thus, the generalizability of the results of this study cannot be certain. In addition, not every rhinoplasty patient at this practice was asked to complete the FACE-Q. Although most were, some were not asked because of oversight (office assistants were tasked with distributing and collecting the FACE-Q scales), which may have impacted study results. Also, the sample was overwhelmingly composed of women. Although these demographics reflect the nature of cosmetic rhinoplasty consumers in the general population,⁵ it limits our ability to describe outcomes specific to men. Future studies should be directed at this population, as differences might be seen.

CONCLUSIONS

Physicians and facilities are increasingly being evaluated based on patient satisfaction and operative success. The FACE-Q can help provide surgeons with a powerful tool in both clinical practice and research. Measuring patient-reported outcomes can help plastic surgeons tailor their

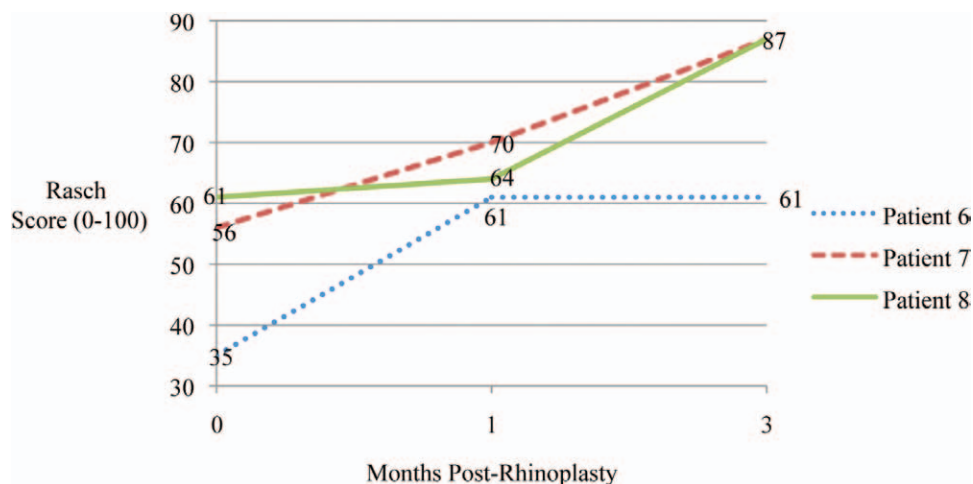


Fig. 1. Satisfaction with facial appearance overall scales scores, showing individual trends over time.

practice and improve aspects within their entire treatment experience. In our series of rhinoplasty patients, we found the FACE-Q to be a reliable and meaningful tool with which to determine patient satisfaction with the procedure. Patient-reported improvements in facial appearance, appearance of the nose, and quality of life provide objective evidence that undergoing cosmetic rhinoplasty can have a positive impact on a patient's overall well-being. This article is the first in a series of articles studying patient-reported outcomes in patients undergoing rhinoplasty.

Stephen B. Baker, M.D., D.D.S.
 Department of Plastic Surgery
 Georgetown University Hospital
 PHC1st 3800 Reservoir Road NW
 Washington, D.C. 20007-2113
 sbb6@gunet.georgetown.edu

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