

I. BACKGROUND

Nasal surgery is defined as any procedure performed on the external or internal structures of the nose, septum or turbinates. It generally involves rearrangement or excision of the supporting bony and cartilaginous structures, and incision or excision of the overlying skin of the nose. Rhinoplasty is a surgical procedure to change the appearance of the nose, alter the width of the nostrils and/or change the angle between the nose and the upper lip. It is performed alone or in combination with other procedures, such as septoplasty and turbinateplasty, to correct deformities that result from nasal trauma, either acquired or iatrogenic, airway obstruction related to septal and bony deviations, turbinate hypertrophy or congenital defects. Timing of surgery is dependent on the occurrence of injury and the patient's preference.

II. ANATOMY

The nose is made up of two main structural layers: the outer layer which contains the nasal soft tissues, lower lateral (alar) cartilages (lateral, middle and medial crura), and associated linings; and the inner layer which contains the bony and upper cartilaginous vaults, the nasal septum, and their associated linings.¹ The nasal region contains several nasal muscles, two of which are clinically significant: the *levator labii alaeque nasi*, which keeps the nasal valve open; and the *depressor septi nasi*, which shortens the upper lip and decreases tip projection. Blood is supplied to the nasal region by a dual system consisting of the ophthalmic and facial arteries and their respective branches. The external anatomy of the nose consists of several anatomic landmarks described as the radix, dorsum, supratip, tip, columella, nostrils, and alar rims.²

III. DEFINITIONS

Rhinoplasty is a surgical procedure that is performed to change the shape and/or size of the nose or to correct a broad range of nasal defects. Cosmetic rhinoplasty can transform normal nasal structures to a more satisfactory appearance. Reconstructive rhinoplasty transforms nasal abnormalities or damaged nasal structures to a more normal state.

Open Rhinoplasty is a rhinoplasty technique in which a transcolumellar incision is made in the columella and is connected to a rim incision that follows the caudal edge of the lateral crus.

Closed Rhinoplasty is a rhinoplasty technique in which an intercartilaginous incision is made between the ala and lateral cartilages or an intracartilaginous incision is made about the middle section of the alar cartilage. A transfixion incision is made at the caudal end of the septum to obtain exposure to the septum and the columella.

Septoplasty is a surgical procedure that corrects nasal septum defects or deformities by alteration, splinting, or removal of obstructing supporting structures.

Turbinateplasty is a surgical procedure that corrects nasal obstruction caused by inferior turbinate hypertrophy. The procedure can involve injections; mechanical manipulation by turbinate outfracture; destruction of turbinate tissue; partial, total, or submucous turbinate resection; and nerve resection.

IV. DIAGNOSTIC CRITERIA

PREOPERATIVE CONSULTATION

The surgeon should evaluate the patient's reasons for considering nasal surgery. The patient may wish to correct functional deformities, aesthetic deformities, or secondary deformities resulting from previous rhinoplasty procedures.

The nature and duration of the functional problem should be assessed before aesthetic deformities are discussed. The surgeon should inquire about periodic and

cyclic airway obstruction; previous nasal trauma; allergies; hay fever; vasomotor rhinitis; comorbidities (asthma, COPD, sinusitis, bronchitis); use and effectiveness of medications and other remedies; previous surgeries (rhinoplasties, sinus surgery, septal reconstruction); and use of tobacco, alcohol and drugs. Careful questioning allows the surgeon to determine if the patient's condition can be treated medically rather than surgically (e.g., in some patients, nasal obstruction is due to medical or environmental factors, rather than deformities in nasal architecture).^{1, 3, 5}

While patient selection is an important element of every surgical procedure, it is especially significant in nasal surgery, as underlying psychological issues may be influencing a patient's decision to seek surgery. Some patients may magnify a minimal or nonexistent deformity or even relate their facial asymmetry to their nose. In addition, patients may be experiencing personal difficulties (family conflicts, depression, inadequate feelings, major losses, divorce, immaturity, and unrealistic expectations)³ and may equate a change in their physical appearance to resolution of these problems. If there is uncertainty regarding the psychological health of the patient, the surgeon may need to obtain a psychological consult.

Patients who have any of the following psychological conditions may not be appropriate candidates for rhinoplasty and may benefit from psychological counsel.^{4, 5}

- Single, Immature, Male, Overly expectant, Narcissistic (SIMON)
- Delusional distortion of the body image
- Excessive concern about aging
- Sudden anatomical dislike
- Confused or vague motives for desiring surgery
- An identity problem or sexual ambivalence
- Poor established social and emotional relationships
- Unrealistic expectation of changes in life as a result of surgery
- Unresolved grief or crisis
- Blaming misfortunes on physical appearance
- Hostile, blaming attitude
- Consultations and dissatisfaction with multiple surgeons
- Paranoid ideation

The degree of deformity and the patient's attitudes toward the deformity must also be considered. Patients who have major deformities, but are not highly concerned with the deformity, may be good candidates for rhinoplasty because they are more likely to be satisfied with any level of improvement. Conversely, patients who are overly concerned about a minimal deformity will likely be dissatisfied with the results.⁴ Secondary or multiple rhinoplasty patients present additional anatomical challenges. These patients often have scarred, contracted soft tissues that are not easy to manipulate during additional surgical procedures. In addition, autologous graft donor sites may have already been harvested. Secondary or multiple rhinoplasty patients may also be more psychologically fragile due to repeated dissatisfaction with previous procedures.^{1, 6, 7}

INTERNAL EXAMINATION

In order to avoid focusing on the patient's aesthetic concerns, the examination should begin with intranasal examination of the nasal valves, nasal septum and turbinates.¹ The integrity of the nasal valve should be assessed by having the patient tilt his/her head and breathe with the mouth closed. The condition of the nasal mucosa and the shape and position of the septum can be observed. With a nasal speculum, internal nasal structures can be assessed. The location and severity of septal deviations; color, size and symmetry of the turbinates; and any other conditions such as fistula, polyps and crusting should be noted.

EXTERNAL EXAMINATION

The nose is examined in relationship to facial asymmetry at rest and with movement. The face is divided in half by an imaginary line which extends from the hairline to the menton and a horizontal line at the level of the medial canthi. Thus, each of these four quadrants can be assessed separately. Next, the face is divided into thirds. The upper portion extends from the brows to the hairline, the middle



AMERICAN SOCIETY OF
PLASTIC SURGEONS

section is between the brows and the nasal base, and the lower third extends from the nasal base to the menton. Any alteration of the middle third affects the anteroposterior maxillary position as well as the nose.

The nose is examined in a full face view, basal view and the two profiles. In frontal view, the nasal bridge, middle vault, and nasal tip are analyzed. Any depressions or prominences are noted. Laterally, the height of the dorsum and supratip, and the length of the nose are noted. The basal view assesses any alar rim or base deformities, columella position, medial crura problems, and septal deviation.

Finally, the skin is evaluated for thickness, texture, sebaceous quality, presence of acne, telangiectasia, rhinophyma or lesions. It is important to note that there is generally more postoperative edema and scar formation in patients with thick sebaceous skin compared to those with thin skin.³ The surgeon should take into consideration the patient's ethnicity, as the variable nasal architecture and skin characteristics may influence the treatment plan.⁸⁻¹¹

PHOTOGRAPHY AND COMPUTER IMAGING

Photographs can be used to assess aesthetic facial proportions and their relationship to the nose, and can help determine whether airway changes are feasible. They can also be useful in identifying the patient's concerns and expectations and explaining what can and cannot be accomplished by surgery.^{1,3} The following standardized views may be obtained: anterior, lateral (right and left), oblique (right and left), and basal (high and low).⁵

Computer imaging can be a beneficial assessment tool because it provides a photographic image of the patient, rather than the standard mirror image provided by photographs. By using a computer, the surgeon can alter the image to demonstrate changes that can be achieved with surgery. However, it is important for the patient to understand that images seen on the computer are not real and that surgery may not result in exact reproductions of the images.^{5,7} The surgeon must also be fully aware that even with a disclaimer these images can be used as part of the permanent record in subsequent disputes over the final outcome and each surgeon must decide for him or herself how useful these techniques are weighed against their potential liabilities.

LABORATORY TESTS

Depending on the findings from history and examination, laboratory tests may be ordered. Standard PA and lateral skull x-rays provide information regarding the nasal bones and sinuses. A CT scan of the nose and sinuses, particularly the sagittal view, can demonstrate a posterior septal deformity, turbinate hypertrophy and sinusitis.¹² Rhinomanometry can provide an objective measurement of nasal resistance at a specific time. It may provide a functional assessment of the nasal airway when it is used in conjunction with the history and physical.¹³

V. MANAGEMENT

NONOPERATIVE

Surgery may not be appropriate if (1) the patient's expectations regarding correction of nasal deformities cannot be met, (2) the patient's psychological status does not permit treatment, or (3) the patient can be treated medically (e.g., for nasal obstruction triggered by allergies).

OPERATIVE

Goals

A treatment plan should be designed according to findings from a comprehensive nasal history and anatomic examination. Photographs and computer images can aid in the development of the treatment plan. The final treatment plan and anticipated results should be discussed with the patient to ensure that they are in agreement with the patient's expectations.

Preoperative Instructions

Patients may need to avoid certain drugs prior to surgery, especially those that affect bleeding, bruising and anesthesia. Patients should stop smoking at least 4 weeks before the surgery.⁵

Anesthesia

The surgeon along with the anesthesia provider will determine the appropriate anesthesia method depending on the rhinoplasty technique and the individual patient's needs. Anesthesia may be administered through intravenous sedation or general anesthesia.

OPERATIVE TECHNIQUES

There are two main operative techniques for correction of nasal deformities: open and closed rhinoplasty. The decision to select open or closed rhinoplasty depends on the patient's diagnosis, the advantages and disadvantages of each procedure, and the surgeon's preference.

Closed (Endonasal) Rhinoplasty

Closed rhinoplasty has many advantages, including absence of the columellar scar, minimal unnecessary disruption of soft tissue, reduced degree of postoperative edema, and the potential for faster recovery. While closed rhinoplasty has many advantages and requires less operative time than open rhinoplasty, there are restraints that should be considered before deciding on the procedure. Closed rhinoplasty does not allow for a complete and undistorted view of the nasal framework, which limits the accuracy of intraoperative diagnosis. Because of the obscured view, suture, placement and fixation are more challenging.³ Patients who previously underwent closed rhinoplasty more frequently complained about excessively long nose rather than other problems such as airway obstruction, bridge and tip deformities, and alar distortion.¹⁴

Closed rhinoplasty may be appropriate for patients having less complex procedures. The procedure allows for hump reduction by various techniques; nasal tip refinement; septoplasty; trimming of the caudal edge of the septum; lateral and/or medial osteotomies to narrow the nose; placement of grafts to dorsum, tip and columella; and refinement of the alar base with modified Weir excisions.

Open (External) Rhinoplasty

There are many procedural advantages of open rhinoplasty. The technique allows for accurate identification of small anatomic deviations which may not be visible from the surface and precise correction of that deformity. Additionally, the procedure provides more direct control of bleeding with electrocautery, and easier suture stabilization of grafts. While there are many procedural benefits, the open technique presents challenges for the patient. The procedure takes longer than closed rhinoplasty and patients are left with a transcollellar scar. Although rare, patients can also experience prolonged tip edema, separation of the columellar incision, and delayed healing.^{3,14,15} The most common complaints of open rhinoplasty patients were airway obstruction at the internal valve, a bridge that was too low, a tip that was too blunt, alar distortion, and airway obstruction at the external valve.¹⁴

Open rhinoplasty may be appropriate for patients who are undergoing primary rhinoplasty, secondary rhinoplasty or complex procedures that cannot be achieved with the closed technique. Open rhinoplasty may not be appropriate for patients who have large noses and thick skin and are undergoing nasal reduction, as the thick skin does not adapt well to the smaller nasal architecture; however, it may be acceptable for those with thick skin who are seeking augmentation, as the skin readily stretches over the larger nasal framework.¹⁶

ADJUNCTIVE TECHNIQUES

Grafts

Grafts may be used as spreader grafts and for augmentation of the dorsum, tip, radix and columella. Autologous grafts are preferable over other options, such as homologous grafts and alloplastic materials, because the use of the patient's own tissue generally results in fewer complications. Cartilage grafts can be harvested from the septum (preferably), ear, or rib; bone grafts from the cranium, rib, and iliac crest; and fascial grafts from the temporoparietal fascia or cadavers.^{3,17} If autologous grafts are not available, other options include alloplastic materials such as medpor, silicone, and siliastic.

Alar Resection

Alar resection is a technique that involves resection of full-thickness alar wedges to narrow the cutaneous alar lobule and/or nostril size. The procedure can result in asymmetry of the nasal vestibule.³

Septoplasty

If the patient has septal deviation and airway obstruction, nasal airflow can usually be restored through surgical intervention. The operative technique will depend on the type of septal deviation. Six classes of deviations have been identified: septal tilt, C-shaped (either anteroposterior or cephalocaudal), S-shaped (either anteroposterior or cephalocaudal), and localized deviation. The general procedure is performed by making an incision near the septum and detaching the nasal mucosa from the septal cartilage and bone to gain access to the deviation. Depending on the type of deviation, the procedure may involve osteotomy of the

septal bones, scoring or removal of the septal cartilage, application of grafts and/or stents, and reduction of turbinates. After the deviation is corrected, the mucosal lining is repositioned and held in place with sutures.¹⁸

Septoplasty may also be performed during rhinoplasty to harvest cartilage and bone grafts for reconstruction, even if the patient has no deviations in the septum.¹

Sinus Surgery

Patients who present with nasal sinusitis may need to be referred to an otorhinolaryngologist prior to rhinoplasty.

Turbinate Surgery

The turbinates help warm, humidify, and filter inspired air. By alternating swelling and shrinking, the turbinates also regulate airflow through the nasal cavity. In some patients, the turbinates are hypertrophic and can contribute to nasal obstruction. Turbinate hypertrophy can be managed with pharmacologic and nonpharmacologic therapies; however, if nasal obstruction persists, surgical management may be necessary.

There has been much controversy over the issue of inferior turbinate surgery. While there is no consensus on an optimal technique, there are several options for surgical management, each having variable efficacy and possible complications. These include injection of corticosteroids or sclerosing solution; mechanical manipulation by turbinate outfracture; destruction of turbinate tissue by electrocautery, cryosurgery, or laser reduction; partial, total, or submucous turbinate resection; and nerve resection. The surgeon should consider the reported efficacy, advantages and disadvantages of each technique, along with the diagnosis to determine which operative method is most appropriate.^{9, 19}

Other facial procedures that may be commonly performed at the same time as rhinoplasty:

- Chin augmentation or reduction
- Orthognathic surgery
- Cheek augmentation

COMPLEX RHINOPLASTY

Cleft Lip Deformity

Nasal correction of an infant can be performed in conjunction with lip closure. Restoration of the lip and establishment of the skeletal base through orthodontia and orthognathic surgery will improve the deformity of the nose.

Posttraumatic Deformity

The surgical repair of nasal trauma and congenital defects often involves complex, staged procedures. Because of the disordered growth potential of nasal birth defects and childhood trauma, secondary surgery may be required after the child reaches adulthood to compensate for growth of the surrounding normal tissues. Deformities may be associated with other skeletal alterations which contribute to facial asymmetry. Grafts and/or flaps are often used to correct deficiencies.

Revision Rhinoplasty

Functional and aesthetic expectations should be clearly established prior to rhinoplasty, and the patient should be informed of the potential need for postoperative revisions. Major revisions should not be performed until swelling has completely resolved and the nasal appearance has been stabilized. This can take up to a year after primary rhinoplasty and even longer after secondary rhinoplasty.¹ Open rhinoplasty may be appropriate for revisions, as it allows for a more accurate assessment of complex underlying problems and provides optimal access for correction; however, it is often difficult to perform because of the distorted anatomy and presence of extensive adhesions. Careful planning of columellar incision is necessary, especially when the original procedure was performed with the open approach; it is typically recommended that the new incision follow the line of preexisting scar.

POSTOPERATIVE MANAGEMENT

Antibiotics and steroids may be administered to control infection and inflammation. Options for retaining nasal stability include nasal packing, septal splints, and dorsal splints. Nasal packing can be used to support grafts or to suppress uncontrolled bleeding; however, patients generally find packing uncomfortable. If packing is used, it is usually removed within 24 hours. Splints are usually removed after 7-10 days. Patients may be instructed to elevate the head and apply ice to the eyes for at least 48 hours after surgery to suppress postoperative edema. Patients should refrain from sniffing and blowing the nose for 3-4 weeks. A drip pad may be

applied to absorb nasal discharge and can be changed as needed for 2-5 days. The patient should also refrain from strenuous activity for one month.⁵

VI. POSSIBLE SEQUELAE AND COMPLICATIONS

POSSIBLE SEQUELAE

- Numbness within the nasal skin
- Asymmetry
- Airway obstruction
- Skin atrophy
- Residual deformity
- Synechiae
- Hypertrophic scarring of the columella can result in distortion

COMPLICATIONS

- Bleeding can be controlled with head elevation and gentle pressure; Afrin nasal spray may be used to induce vasoconstriction; moderate bleeding may require anterior packing; serious bleeding may require surgical exploration and cauterization or, if not resolved, angiographic embolization
- Infection may be treated with the use of antibiotics, incision and drainage, or removal of foreign material
- Nasal septal perforation may be represented by whistling, crusting, epistaxis, and rhinitis; often times, asymptomatic; if symptomatic, surgical correction may be needed
- Nasal airway alteration may result in difficulty breathing through the nose

VII. PROVIDER QUALIFICATIONS

The individual performing this procedure, regardless of the location of the surgical facility, should have fully approved hospital privileges for this procedure and be qualified for examination or be certified by a surgical Board recognized by the American Board of Medical Specialties, such as the American Board of Plastic Surgery.

VIII. DISCLAIMER

Practice parameters are strategies for patient management, developed to assist physicians in clinical decision making. This practice parameter, based on a thorough evaluation of the scientific literature and relevant clinical experience, describes a range of generally acceptable approaches to diagnosis, management, or prevent specific diseases or conditions. This practice parameter attempts to define principles of practice that should generally meet the needs of most patients in most circumstances.

However, this practice parameter should not be construed as a rule, nor should it be deemed inclusive of all proper methods of care or exclusive of other methods of care reasonably directed at obtaining the appropriate results. It is anticipated that it will be necessary to approach some patients' needs in different ways. The ultimate judgment regarding the care of a particular patient must be made by the physician in light of all the circumstances presented by the patient, the diagnostic and treatment options available, and available resources.

This practice parameter is not intended to define or serve as the standard of medical care. Standards of medical care are determined on the basis of all the facts or circumstances involved in an individual case and are subject to change as scientific knowledge and technology advance, and as practice patterns evolve. This practice parameter reflects the state of knowledge current at the time of publication. Given the inevitable changes in the state of scientific information and technology, periodic review, updating and revision will be done.

IX. CODING

DIAGNOSIS	ICD-9 CODE
Cosmetic:	
Plastic surgery for unacceptable cosmetic appearance	V50.1
Functional:	
Saddle nasal deformity	095.5
Deviated nasal septum (acquired)	470.0
Hypertrophy of nasal turbinates	478.0
Nasal airway obstruction	478.1
Malunion of nasal/septal fracture	733.81
Acquired nasal deformity	738.0

Choanal atresia	748.0
Congenital nasal deformity	748.1
Congenital nasal/septal deformity	754.0
Late effect of fracture of skull or facial bones	905.0

PROCEDURE

CPT CODE

Rhinoplasty, primary	
Lateral and alar cartilages and/or tip	30400
Bony pyramid, lateral and alar cartilages and/or tip	30410
Bony pyramid, lateral and alar cartilages and/or tip, including major septal repair	30420
Rhinoplasty, secondary	
Minor revision (nasal tip)	30430
Intermediate revision (bony work with osteotomies)	30435
Major revision (nasal tip and osteotomies)	30450
Cleft lip rhinoplasty, including columellar lengthening	
Tip only	30460
Tip, septum, osteotomies	30462
Repair of nasal vestibular stenosis (e.g., spreader grafting, lateral nasal wall reconstruction)	30465
Septoplasty or submucous resection, with or without cartilage scoring, contouring or replacement with graft	30520
Grafts:	
Split graft face; 100 sq cm or less, or each one percent of body area of infants and children	15120
Each additional 100 sq cm, or each one percent of body area of infants and children	*15121
Full thickness graft, free, including direct closure of donor site, nose, ears, eyelids and/or lips; 20 sq cm or less	15260
Each additional 20 sq cm	*15261
Flap; island pedicle	15740
Graft; composite	15760
Septal cartilage graft (septal donor site) (Do not use in conjunction with 30420, 30462 or 30520)	*20912
Bone graft to nose (includes obtaining graft)	21210
Rib cartilage graft to nose	21230
Ear cartilage graft to nose	21235

*The marked code is either an add-on code or modifier -51 exempt. These codes are always performed along with another procedure and are not normally reported by themselves. Automatic payment reductions for multiple procedures should not apply in these codes because the RVUs have already been reduced to reflect this distinction.

Flaps:

Adjacent tissue transfer or rearrangement, eyelids, nose, ears, and/or lips; defect 10 sq cm or less	14060
Defect 10.1 sq cm to 30 sq cm	14061
Formation of direct or tubed pedicle, with or without transfer; eyelids, nose, ears, lips, or intraoral	15576
Delay of flap or section of flap; at eyelids, nose, ears, or lips	15630

X. REFERENCES

1. Constantian, M.B. Closed rhinoplasty: current techniques, theory, and applications. In: S. J. Mathes and V. R. Hentz, (Eds.), *Plastic Surgery*, Vol. 2(1), 2nd Ed. Philadelphia: Saunders, 2006. Pp. 517-572.
2. Rohrich, R.J., Adams, W.P., and Gunter, J.P., (Eds.). Advanced rhinoplasty anatomy. In: *Dallas Rhinoplasty; Nasal Surgery by the Masters*, Vol. 1, St. Louis: Quality Medical Publishing, Inc., 2002. Pp. 5-19.
3. Rohrich, R.J. and Muzaffar, A.R. Primary rhinoplasty. In: S. J. Mathes and V. R. Hentz, (Eds.), *Plastic Surgery*, Vol. 2(1), 2nd Ed. Philadelphia: Saunders, 2006. Pp. 427-471.
4. Gorney, M. and Martello, J. Patient selection criteria. Medical-legal issues in plastic surgery. *Clin. Plast. Surg.* 26(1): 37, 1999.
5. Rohrich, R.J., Deuber, M.A. and Adams, W.P. Pragmatic planning and postoperative management. In: R.J. Rohrich, W.P. Adams, and J.P. Gunter, (Eds.) *Dallas Rhinoplasty; Nasal Surgery by the Masters*, Vol. 1, St. Louis: Quality Medical Publishing, Inc., 2002. Pp. 72-104.
6. Foda, H.M.T. Rhinoplasty for the multiply revised nose. *Am. J. Otolaryngol.* 26: 28, 2005.
7. Hartley, J.H. Secondary rhinoplasty. In: S. J. Mathes and V. R. Hentz, (Eds.), *Plastic Surgery*, Vol. 2(1), 2nd Ed. Philadelphia: Saunders, 2006. Pp. 764-799.
8. Han, S., Woo, H., and Kim, W. Extended incision in open-approach rhinoplasty for Asians. *Plast. Reconstr. Surg.* 109: 2087, 2002.
9. Hubbard, T.J. Bridge narrowing in ethnic noses. *Ann. Plast. Surg.* 40: 214, 1998.
10. Porter, J. Parker and Olson, K.L. Analysis of the African American female nose. *Plast. Reconstr. Surg.* 111: 620, 2003.
11. Rollin, D. Hispanic rhinoplasty in the United States, with emphasis on the Mexican American nose. *Plast. Reconstr. Surg.* 112: 244, 2003.
12. Hwang, P.H. Surgical rhinology: recent advances and future directions. *Otolaryngol. Clin. N. Am.* 37: 489, 2004.
13. Chand, M.S. and Toriumi, D.M. Nasal physiology and management of the nasal airway. In: R.J. Rohrich, W.P. Adams, and J.P. Gunter, (Eds.) *Dallas Rhinoplasty; Nasal Surgery by the Masters*, Vol. 1, St. Louis: Quality Medical Publishing, Inc., 2002. Pp. 643-661.
14. Constantian, M.B. Differing characteristics in 100 consecutive secondary rhinoplasty patients following closed versus open surgical approaches. *Plast. Reconstr. Surg.* 109(6): 2097, 2002.
15. Constantian, M.B. Four common anatomic variants that predispose to unfavorable rhinoplasty results: a study based on 150 consecutive secondary rhinoplasties. *Plast. Reconstr. Surg.* 105(1): 316, 2000.
16. Gruber, R.P., Wall, S.H. and Kaufman, D. Open rhinoplasty: concepts and techniques. In: S. J. Mathes and V. R. Hentz, (Eds.), *Plastic Surgery*, Vol. 2(1), 2nd Ed. Philadelphia: Saunders, 2006. Pp. 473-515.
17. Watson, D. and Toriumi, D.M. Structural grafting in secondary rhinoplasty. In: R.J. Rohrich, W.P. Adams, and J.P. Gunter, (Eds.) *Dallas Rhinoplasty; Nasal Surgery by the Masters*, Vol. 2, St. Louis: Quality Medical Publishing, Inc., 2002. Pp. 691-709.
18. Guyuron, B., Uzzo, C.D., and Scull, H. A practical classification of septonasal deviation and an effective guide to septal surgery. *Plast. Reconstr. Surg.* 104(7): 2202, 1999.
19. Jackson, L.E., and Koch, R. J. Controversies in the management of inferior turbinate hypertrophy: a comprehensive review. *Plast. Reconstr. Surg.* 103(1): 300, 1999.

Approved by the Executive Committee of the American Society of Plastic Surgeons®, July 2006.

