Preoperative Evaluation of the Rhinoplasty Patient

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KEYWORDS

• Rhinoplasty • Rhinoplasty consultation • Preoperative evaluation • Facial proportions
• Nasal surgery • Cosmetic surgery

KEY POINTS

- The goals of the preoperative consultation for rhinoplasty are to obtain a medical and nasal history, understand the patient's areas of concern, conduct a nasal analysis, and evaluate patient candidacy for surgery.
- The nasal analysis is conducted from the frontal, lateral, and basal views, and should also include dynamic assessments.
- Overall facial proportions and facial features surrounding the nose should be taken into account when conducting a nasal analysis to ensure that the nose is well-balanced and suits the patient.
- Ideal nasal characteristics and proportions may differ substantially depending on the patient's ethnicity, gender, and age.
- An ideal patient is emotionally stable, well-informed, secure, and understanding of the limitations of rhinoplasty surgery. Physicians are cautioned against operating on patients who hold unrealistic expectations, severe insecurities, and excessive concerns about minor deformities, as they are likely to be unsatisfied with the outcome of the surgery.

INTRODUCTION

According to the American Society of Plastic Surgeons, more than 200,000 rhinoplasties are performed each year in the United States.[1] Requiring both high-level technical skills and artistic sense, rhinoplasty continues to be one of the most challenging procedures in plastic surgery despite its popularity. Ensuring the best possible functional and esthetic outcome for this challenging procedure begins with conducting a thorough preoperative evaluation of the patient.[2] The goals of the preoperative assessment are to (1) obtain a medical and nasal history, (2) understand the patient's areas of concern, (3) conduct a nasal analysis, and (4) evaluate patient candidacy for rhinoplasty surgery. This article will review the key functional, esthetic, and psychological considerations to take into account during the preoperative consultation.

PREOPERATIVE CONSULTATION

Nasal History

The preoperative assessment is an important opportunity for the surgeon to learn about the patient's concerns and motivations for undergoing rhinoplasty and to conduct a thorough nasal examination that will inform subsequent surgical planning. First, a comprehensive nasal history is obtained, in addition to a standard medical history. The surgeon should seek to understand the esthetic and functional concerns that a patient has regarding their nose and note the associated duration, frequency, laterality, and timing (ie, only occurs at work or seasonally) of any symptoms

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mentioned.[3] Any allergies, prior nasal trauma, previous nasal surgery, medications, and use of dietary supplements should be documented.[4,5] Factors that are associated with poor wound healing such as metabolic disorders, smoking, alcohol, and illicit drug use should also be recorded.[6]

Nasal Airway Examination

Nasal airway obstruction is a common symptom presented by rhinoplasty patients. Nasal airway examination is conducted with the patient seated in a chair with his or her head at eye level with the examiner. It involves an evaluation of the external and internal nasal valves, the inferior turbinate, and the septum.[3,7,8]

A collapse of the external nasal valves on deep inspiration can indicate inadequate airway. In addition, the Cottle maneuver can be used to examine the integrity of the internal nasal valves. If the patient's breathing is improved upon retraction of the cheek, the nasal valves may be compromised.[9,10]

The physician conducts anterior rhinoscopy using a nasal speculum and bright light to reveal abnormal narrowing or collapse of internal valves with inspiration. If mucosal edema is present, one can use oxymetazoline nasal spray to alleviate mucosal constriction. In addition, the septum is examined for deformities (ie, deviation, tilt, spurs, and perforations). Any signs of septal deviation are noted along with inferior turbinate hypertrophy on the side opposite of the septum deviation.[10] The septal cartilage is also assessed for the availability of cartilage to assess its candidacy as a source of graft material.[3,10] If nasal polyps or tumors are discovered, further investigation may be necessary. (Readers may refer to Sami P. Moubayed and Sam P. Most's article, "Evaluation and Management of the Nasal Airway," in this issue for a full discussion on the topic of nasal airway examination.)

Dynamic View Assessment

The nasal examination should also include a dynamic view assessment. Often, actions such as smiling or breathing can reveal features involving the collapse of the nasal valves, nasal tip ptosis, and shortening of the upper lip that are not evident when the patient is still.[10,11] In cases involving nasal airway obstruction, the surgeon should also differentiate whether it occurs during quiet and/or heavy inspiration; obstruction that only occurs during heavy inspiration may signal an incompetent valve rather than a fixed obstruction like a septal deviation or mass.[3,12]

Paying attention to these subtleties will help ensure the best functional and esthetic outcomes.

Photographs

Photographs of the patient should be taken during the preoperative examination. Frontal, lateral, oblique, and basal views should be captured, in addition to animated and inspiratory views that expose features only evident upon muscle activation.[11,13] These photographs can be used as a visual tool for the patient and surgeon to communicate concerns and determine the surgical plan. They can also be morphed using modern digital imaging tools to aid surgical planning and to discuss surgical goals with the patient.[14–16] The patient should understand, however, that the edited images are not representative of the guaranteed outcome.[13]

Nasal Analysis

The nasal analysis is one of the most important parts of the preoperative assessment and must be conducted from several angles. Here, we describe the general principles of facial and nasal esthetics that may serve as a starting point for the nasal analysis. The surgeon must recognize, however, that there is no universal standard that applies to every patient. We cannot understate the importance of taking an individualized approach to understanding each patient's unique anatomy and goals for rhinoplasty surgery. **Fig. 1** summarizes the nasal analysis.

Frontal View Assessment

The frontal view is crucial for assessing the patient's nose within the context of overall facial proportions.[9] The nose is the central feature of the face so it must be balanced with the surrounding facial features as well as the stature of the patient.

The face is divided into horizontal thirds by 4 lines that cross the mentum, subnasale, brow at the supraorbital notch, and hairline (**Fig. 2**).[17] The bottom third is further divided into an upper third and lower two-third section by a horizontal line that goes across the oral commissures.[17] Vertically, the face is divided into 5 planes by lines crossing the most lateral portion of the head, the lateral canthi, and the medial canthi (**Fig. 3**).[18] Although there are significant individual differences and variations in facial harmony, this principle of dividing the face into sections can help identify areas of the face that deviate from ideal proportions and may influence the outcome of the surgery. Areas of incongruence should be discussed with the patient before surgery when considering the possibilities and limitations of the operation—often, patients are unaware of existing subtle deviations that may influence their perception of the outcome of the surgery.[10] If a patient

Nasal Analysis Worksheet

FRONTAL VIEW

Skin Type:

Fitzpatrick Skin Type: ☐I ☐II ☐III ☐IV ☐V ☐VI

Thickness: ☐Thick ☐Normal ☐Thin

Sebaceous: ☐Yes ☐No

Nasal Symmetry:

Symmetric Bony Vault: ☐Yes ☐No

Mid-Vault Symmetry: ☐Yes ☐No

Symmetric Dorsal Aesthetic Lines (DAL): ☐Yes ☐No

Septal Deviation:

Type: ☐C-Shaped ☐Reverse C-Shaped ☐S-Shaped

Notes:

Nasal Length:

☐Normal (Equal to distance from stomion to menton)

☐Short

☐Long

Nasal Width

☐Alar base width equal to intercanthal distance

☐Bony base width equal to 75%–80% of alar base width

Notes:

Nasal Tip:

Alar Rims in shape of seagull wings: ☐Yes ☐No

Shape: ☐Boxy ☐Bulbous ☐Pinched

Length of Upper Lip:

☐Adequate (11 mm–13 mm)

☐Excessive (>13 mm)

☐Insufficient

LATERAL VIEW

Dorsal Profile: ☐Smooth ☐Concave ☐Convex ☐Saddle Nose Deformity ☐Pollybeak Deformity

Nasofrontal Angle: ☐Adequate (115˚–130˚) ☐Small(<115˚) ☐Large (>130˚)

Radix Height: ☐Normal ☐High ☐Low

Tip Projection : ☐Adequate (50%–60% of in front of upper lip)

☐Over-projected (>60% of in front of upper lip)

☐Under-projected(<50% of in front of upper lip)

Tip Rotation

Nasolabial Angle:

☐Adequate (90˚–120˚)

☐Small (<90˚)

☐Large (>120˚)

Columellar Show: ☐Adequate (2-4 mm) ☐Excessive (>4 mm) ☐Lacking (<2 mm)

Lip-Chin Relationship: _____

Notes:

BASAL / INTERNAL VIEW

☐Symmetry of Alar Base

☐Symmetry of Nostrils

Lobule to Columella Ratio: ☐Appropriate (1:2) ☐Excessive Columella ☐Excessive Lobule

Note Signs of Buckling: _____

Angle of Divergence ☐Appropriate (30˚) ☐Small(<30˚) ☐Large (>30˚)

If increased alar base width is observed, it is caused by:

☐Alar flaring

☐Horizontal Position of Alar Insertions

Fig. 1. Nasal analysis worksheet for use during the preoperative rhinoplasty consultation.

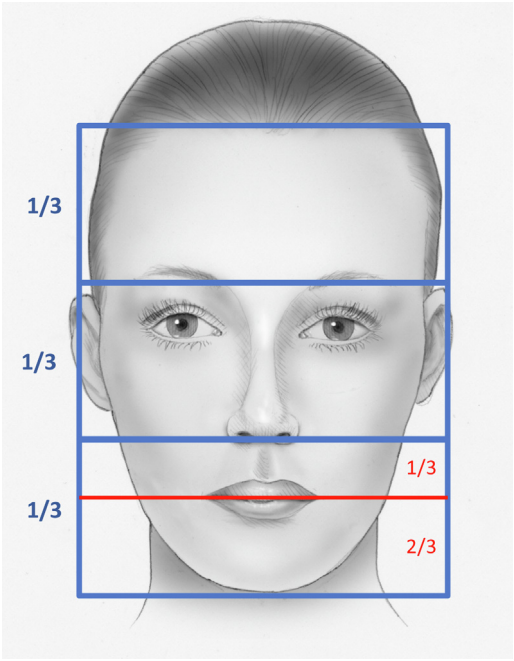

Fig. 2. Ideal facial proportions demonstrated from a frontal view. Lines crossing the mentum, subnasale, brow at the supraorbital notch, and hairline divide the face into horizontal thirds. The bottom third is further divided into an upper third and lower two-third section by a line that goes through the oral commissures. (*Courtesy of* Molly Borman, Fort Collins, CO.)

presents proportions that dramatically differ from the average range, orthodontics, and orthognathic interventions may also be necessary.[17]

During the facial analysis, the surgeon should also note the thickness and quality of the skin and underlying subcutaneous tissue.[19] These factors can influence surgical plans and pose limitations on the outcome of the procedure; patients with thicker skin have a higher risk for prolonged postoperative edema and scar formation and may require a longer recovery. In addition, patients with thicker skin may require greater intraoperative manipulations compared to patients with thinner skin, as subtle changes may be less visible.[9,20]

After a broad facial analysis is conducted, the surgeon may focus on subtleties involving the nose. The nasal length, defined as the distance from the nasal root to tip, should be equal to the vertical distance from the stomion to the menton.[9]

The nasal dorsum should be contoured by 2 slightly curved lines referred to as the dorsal esthetic lines (DALs), which extend from the medial superciliary ridges, travel down the radix, and terminate at the tip-defining points (**Fig. 4**).[17] The DALs should be smooth, symmetric, and continuous. Any asymmetries and deformities on the bony vault and the midvault should be documented and further investigated.[6] Patients seeking revision rhinoplasty sometimes present an inverted-V deformity, where a visible and palpable indentation between the nasal bones and the start

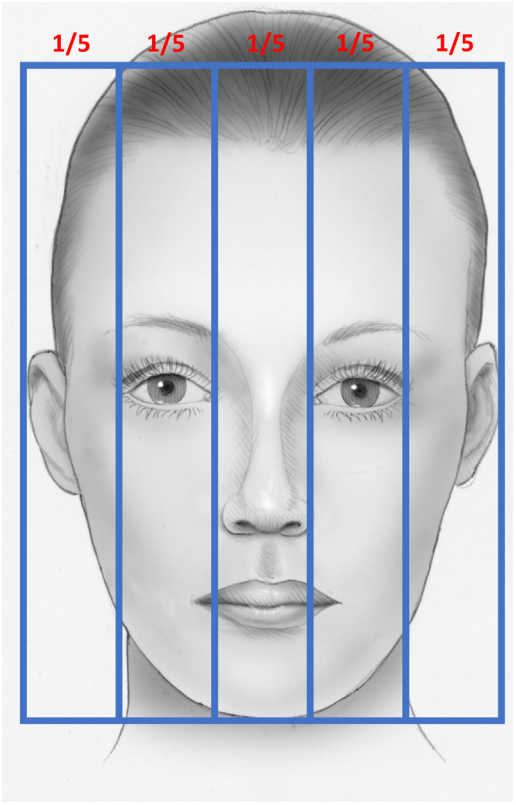

Fig. 3. Ideal facial proportions demonstrated using vertical fifths from a frontal view. Vertical lines cross the most lateral portion of the head, the lateral canthi, and the medial canthi. (*Courtesy of* Molly Borman, Fort Collins, CO.)

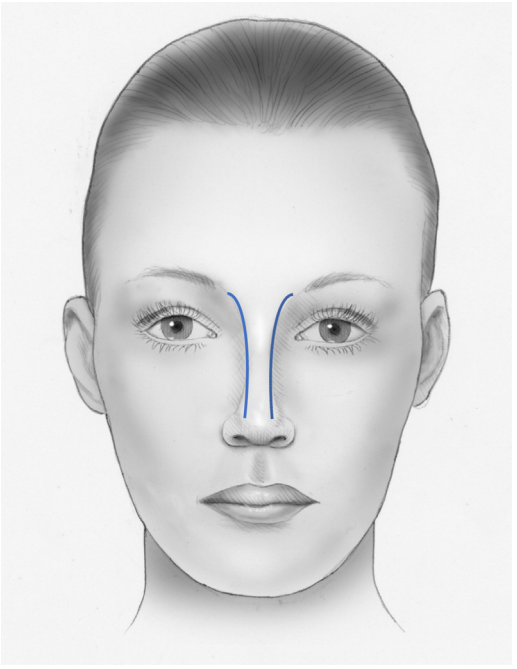

Fig. 4. DALs extend from medial superciliary ridges, travel down the radix, and terminate at the tip-defining points. DALs are smooth and symmetric. (*Courtesy of* Molly Borman, Fort Collins, CO.)

of the upper lateral cartilages disrupts the DALs.[21] The inverted-V deformity is often a result of a previous hump removal procedure and can also affect the patient's airway by narrowing the internal nasal valves.[21]

A vertical line drawn from the midglabellar area to the menton can also be used to determine any form of septal deviation and to assess overall symmetry (**Fig. 5**). This line should pass through the nasal ridge, upper lip, and Cupid's bow, and the nasal bones and septum should be symmetric. A C-shaped, reversed-C-shaped, or S-shaped curvature may indicate a deviated septum.[4,9]

The width of the bony base should be 75% to 80% of the alar base width (**Fig. 6**).[17] If the bony base is wider, mobilization of the bones may be required to narrow the dorsum. It should be noted that a dorsal hump may give the illusion of a narrow dorsum and decreased projection, while the presence of a saddle deformity in the bony or cartilaginous dorsum can cause the dorsum to appear wide in the frontal view.[19] Likewise, a bony dorsum may make the upper third of the nose seem wide and contribute to pseudohypertelorism.[19]

The width of the alar base should be equivalent to the intercanthal distance (see **Fig. 6**).[9,17] If the alar base width is greater, the surgeon must determine whether it is caused by increased interalar width or excess alar flaring.[17] If interalar width is the culprit, a nostril resection may be considered.[17] If the flaring extends beyond 2 mm from the alar base, an alar base resection may be considered. Further exploration from the basal view may help in making this determination.[17]

The alar rims are then assessed for symmetry. They should have a slight outward flare in the inferior lateral direction.[18,19] The outline of the alar rims and the columella is also assessed from the frontal view and should take on the shape of seagull wings with a gentle curve—often referred to as a gull-shaped outline (**Fig. 7**).[18] A more dramatic curve may indicate alar retraction and/or a dependent infratip lobule. Contrastingly, if the columella is not visible, this may be an indication of a hidden or retracted columella.[19] The surgeon should also make note of alar rims and bases that are boxy, bulbous, pinched, or drooping.[11]

From the frontal view, the tip of the nose can be outlined using 4 landmarks: 1 at the supratip break, 1 at the columellar-lobule angle, and

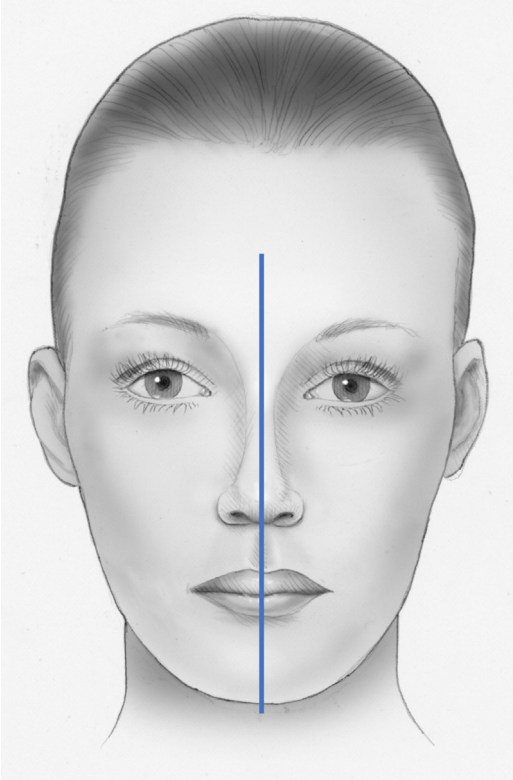

Fig. 5. Vertical line drawn from the midglabellar area to the menton to assess symmetry. (*Courtesy of* Molly Borman, Fort Collins, CO.)

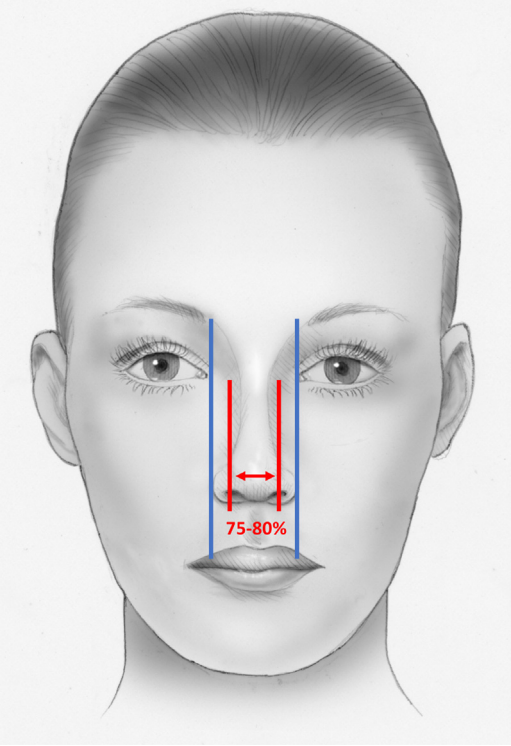

Fig. 6. The width of the alar base should be equivalent to the intercanthal distance. The width of the bony base should be 75% to 80% the width of the alar base. (*Courtesy of* Molly Borman, Fort Collins, CO.)

2 on either side of the tip (**Fig. 8**).[17] Straight lines that connect these 4 points should resemble 2 equilateral triangles that face opposite directions. Distortion of these triangles should be further investigated. The tip is also assessed for bulbosity. In cases where an increased distance between the domes is causing the bulbosity, the surgeon may consider bringing them in closer together, while in cases where thick skin is the cause of bulbosity, debulking may help. Otherwise, a bulbous tip may need to be addressed by modifying the lower cartilages.[19] Cephalically oriented (vertically malpositioned) lateral crura results in a parenthesis-shaped tip deformity. Furthermore, the cranial and caudal edges of the lateral crus should be level with each other; a higher cephalic edge can lead to supratip fullness. As such, the lower lateral cartilage should have the cephalic margin down and the caudal margin up.[19]

The upper lip should be assessed to ensure that it adequately counterbalances the nose. Some patients may present insufficient or excessive length of the upper lip.[9] The surgeon should also make sure to conduct a dynamic view assessment; activation of the depressor septi nasi muscle, which runs from the upper lip to the inserts on the septum and alae, can distort the appearance of the nasal tip, columella, and alae and reveal key insights.[9,10,14]

Lateral View Assessment

The lateral view provides the opportunity to focus on the nasal profile and to investigate features such as the nasofrontal angle, tip projection, nasal length, dorsal profile, and the alar-columellar relationship.

First, the position and depth of the nasofrontal angle are determined. This angle is defined as the juncture where the line from the glabella to the nasion intersects with a line drawn from the nasion to the tip (**Fig. 9**).[19] The deepest portion of the nasofrontal angle should lie between the upper eyelash line and the supratarsal fold when the eyes are in a relaxed horizontal gaze.[17] The ideal esthetic nasal dorsum is characterized by a nasofrontal angle between 115° and 130° and is greater in women than in men.[19] The nasal length can be assessed from the lateral view as well, with the

Fig. 7. Alar rims should take on the shape of seagull wings with a gentle curve. (*Courtesy of* Molly Borman, Fort Collins, CO.)

ideal length being equal to the vertical distance from the stomion to the menton. It is important to realize that a large nasofrontal angle can give an illusion of a long nose, whereas a small nasofrontal angle may create the illusion of a short nose.[19]

The dorsal profile should be described as smooth, convex, or concave.[9] Cases involving a saddle-nose deformity may implicate inadequate bony and cartilaginous support of the nasal vault caused by previous nasal surgery, trauma, vascular compromise, neoplasms, or systemic abnormalities.[9,22] In addition, in women, a slight concavity at the rhinion is often preferred, whereas in men, a minor dorsal hump may be acceptable or even desirable. When considering a dorsal hump reduction or dorsal augmentation, it is important to remember that the skin at the rhinion is typically thinner than the skin at the nasion, making it particularly susceptible to even the slightest visible and palpable irregularities.[19]

The ideal nasal starting point for the dorsum is at the level of the superior palpebral fold, and the ideal position for the nasion is between the supratarsal fold and the lash line of the upper eyelid.[20] It should be noted, however, that the average radix height differs substantially with the ethnicity of the patient.[9]

The degree of supratip break should also be assessed. A slight supratip break enhances nasal definition and distinguishes the dorsum from the tip and is preferred in women but not in men.[9,17]

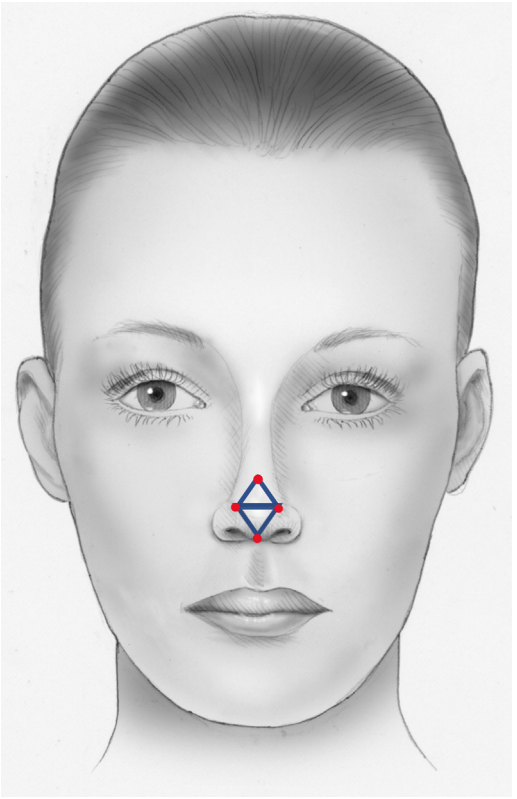

Fig. 8. The tip of the nose can be outlined using 4 points—1 at the supratip break, 1 at the columellar-lobule angle, and 2 on either side of the tip. When connected, the lines should form 2 equilateral triangles oriented in opposite directions. (*Courtesy of* Molly Borman, Fort Collins, CO.)

To assess nasal tip projection, a line is drawn from the alar-cheek junction to the tip of the nose (**Fig. 10**). Tip projection is considered adequate when 50% to 60% of the nasal projection is in front of the most projected part of the upper lip.[9] If it is greater than 50% to 60%, the tip may be over-projected and require reduction. Some patients may also present a Pollybeak deformity, in which the nasal tip hangs over excessively, resembling a parrot's beak.[23] This deformity can be caused by excessive dorsal prominence, scar tissue in the supratip region, lack of tip support, and/or excess of soft tissue in the region (periapical hypoplasia).[14,21,23] If the nose has less than 50% of the tip in front of the upper lip, augmentation may be necessary. According to Byrd and Burt's analysis, the ideal nasal length can also be described as a ratio of nasal length to tip projection of 1:0.67.[24]

The nasolabial angle is measured at the juncture between the columella and the upper lip and can be used to assess tip rotation (**Fig. 11**).[19] The ideal nasolabial angle is between 90° and 120°. A more

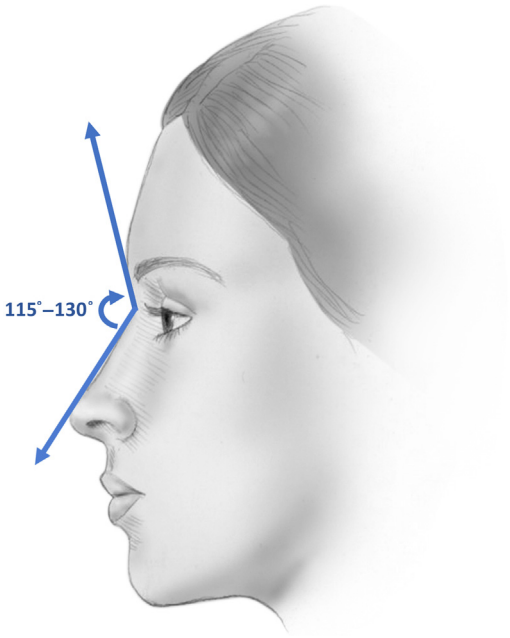

Fig. 9. The nasofrontal angle is defined as the juncture where the line from the glabella to the nasion intersects a line drawn from the nasion to the tip. (*Courtesy of* Molly Borman, Fort Collins, CO.)

obtuse angle within this range is preferred in women, whereas an angle closer to 90° is preferred in men.[19] Similar to the nasofrontal angle, the nasolabial angle can influence the perception of nasal length; a more obtuse

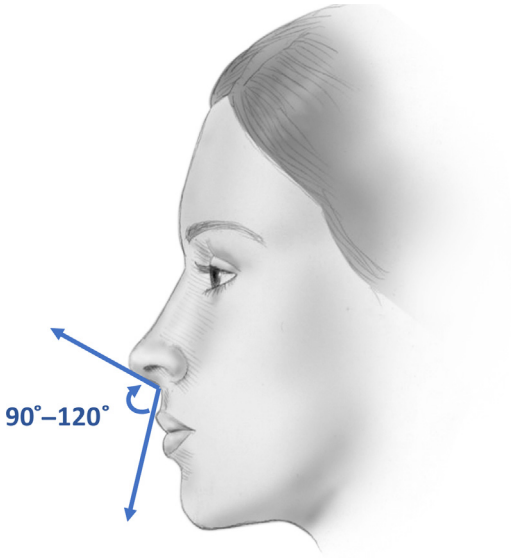

Fig. 11. The ideal nasolabial angle is 90° to 120° and is used to assess tip rotation. A larger angle within this range is preferred in women, whereas a smaller angle within this range is preferred in men. (*Courtesy of* Molly Borman, Fort Collins, CO.)

nasolabial angle can create the illusion of a short nose, whereas a more acute angle can create the illusion of a long nose.[19] A prominent caudal septum can cause increased fullness in this area and contribute to greater tip rotation, even when the nasolabial angle is in the ideal range.[17]

The columellar-lobular angle, which is formed at the juncture between the columella and the infratip lobule, is considered normal at 45° (**Fig. 12**).[17] An

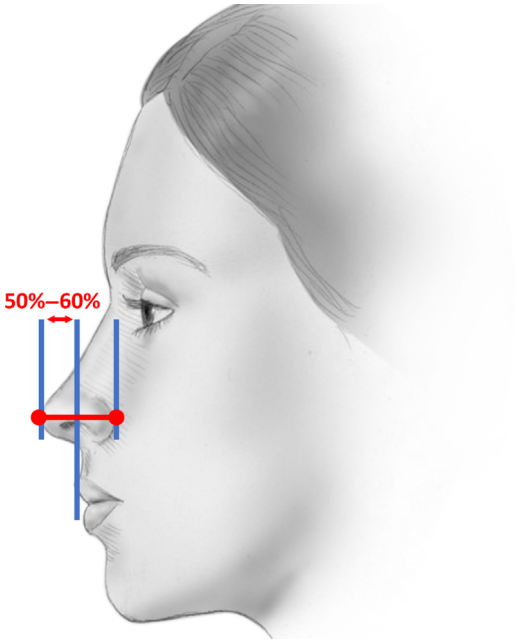

Fig. 10. Nasal tip projection is considered adequate when 50% to 60% of nasal projection is in front of the most projected part of the upper lip. (*Courtesy of* Molly Borman, Fort Collins, CO.)

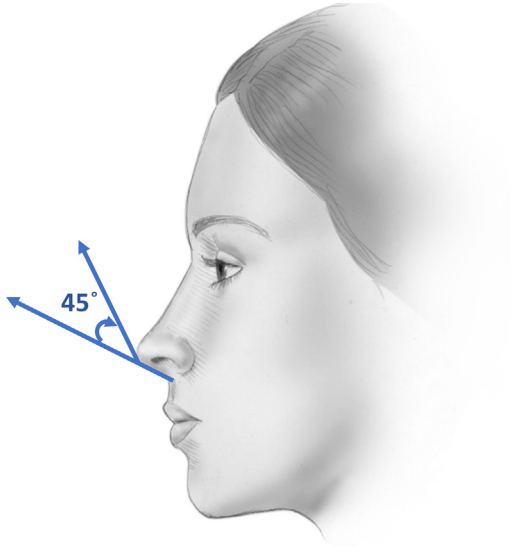

Fig. 12. The columellar-lobule angle is formed at the juncture between the columella and the infratip lobule and is considered normal at 45°. (*Courtesy of* Molly Borman, Fort Collins, CO.)

acute columellar-lobule angle is often associated with a long upper lip.[25]

The insertion of the alae on the face should be 2 to 3 mm above the columella plane. The outline of the alar rim from the lateral view should resemble a lazy-S shape and should be described if this contour is exaggerated or not present.[19] The alar-lobule size should also be documented. The alae should be at a similar height as the columella, with about 2 to 4 mm of columellar show and any retraction, notching, or collapse of the alae should be documented.[9,26] When viewed laterally, the ideal nostril to tip ratio is 55:45.[27]

Finally, it is important to assess the esthetic relationship of the chin and lips with the nose; retrognathia or micrognathia may create the illusion that a nose is over-projected.[28] The upper lip should project about 2 mm beyond the lower lip and in most women, the chin will be slightly posterior to the lower lip (2-3 mm). In men, the chin may be slightly longer.[17]

Basal and Internal View Assessment

The basal and internal view assessment allows the surgeon to further investigate the lobule-to-columella ratio and the shape, symmetry, width, and insertion of the alar base. The outline of the nasal base should form a triangle with a slightly tapered apex or infratip lobule that is not boxy or bulbous. A lack of a triangular shape or a trapezoidal configuration can indicate a diverged intermediate crura.[19] In addition, the surgeon should pay attention to the length of the columella and its rigidity, as these features can contribute to the nasal tip projection.[26] The ideal tip lobule-to-columella ratio is 1:2 (**Fig. 13**).[17]

If the surgeon can see the lower lateral cartilages that underly the columella and the alar rim, they should look for any signs of asymmetry or buckling. Other details to note include the presence of excessively long or short medial crura, a wide columella, and flaring of the medial crural footplates.[19] Uneven nostrils and protruding medial crural footplates may signal a caudal septum that is protruding into the nostril and obstructing the patient's airway.[19]

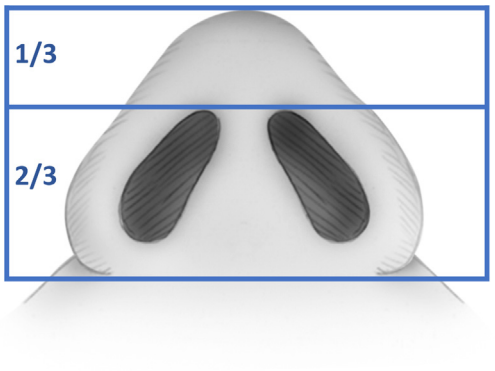

Fig. 13. Basal view of the nose. Ideal lobule-to-columella ratio is 1:2. (*Courtesy of* Molly Borman, Fort Collins, CO.)

The width of the alar base should also be documented and should ideally lie between the 2 lines that extend downwards from the medial canthi. As described in the frontal view assessment section, the surgeon must determine whether the increased alar base width is caused by excess alar flaring or horizontal positioning of the alar insertions.[17]

Nostril size and shape should also be described, with the ideal shape being that of a teardrop with the long axis extending from the base to the apex angled 30° to 45° toward the midline.[17,19] The nasal tip should have an angle of divergence smaller than 30°; tips that exceed these parameters are likely to be bulbous or boxy.[29]

The thickness of the alar walls, as well as the orientation of the base insertions, are also described—with the 2 extremes being straight insertions that run directly into the face and horizontal insertions that run directly into the columella.[19]

Variation with Gender, Race, and Age

Ideal nasal characteristics and proportions may differ substantially depending on the patient's ethnicity, gender, and age. While general principles may be relevant to most rhinoplasty patients, it is important to consider each person's unique nasal and facial characteristics when planning for their surgery.

Gender

There are a few common anatomic and esthetic differences between male and female noses. In comparison to women, men tend to have squarer faces, thicker skin, and a wider nasal dorsum than women.[13,30] In addition, a supratip break of the nasal tip and a slight tip rotation is considered to be esthetically pleasing in women but not in men.[9,13] Women also tend to prefer a smooth linear dorsum, whereas a small dorsal hump may be acceptable or even desired in men.[9] Nevertheless, some studies show that a supratip break and dorsal hump may be undesirable features for both genders, indicating the importance of discussion with the patient.[30] The ideal nasolabial angle also differs between genders with the ideal angle being 110° and 90° to 100° for women and men, respectively.[9,30] Men also tend to have broader nasal tips and weaker medial crura than women. While they

often have wider bony vaults than women, with age, the bony vaults can narrow due to weakening and interfere with the proper functioning of the internal nasal valves.[13]

Age

Aging is associated with weaker lower lateral crura and external nasal valves that are caused by the weakening of the underlying cartilage.[13] Aging-associated changes in skin laxity and resorption of septal cartilage can also lead to nasal tip ptosis and columellar retraction.[13] Furthermore, as a person ages, dorsal skin thins while the nasal tip skin thickens and develops large pores.[13] These factors should be taken into account when evaluating older patients and determining the goals and limitations of rhinoplasty surgery.

Ethnicity

There are several well-documented differences across patients of various ethnicities that can influence surgical goals and planning.[31] The surgeon needs to understand these differences so that they can modify a patient's nose while maintaining facial harmony and respect for cultural differences in esthetics.[32]

First, Caucasians generally have a more prominent and a higher radix compared with patients of Asian or African ethnicities.[9,33,34] Asian skin also tends to be thick with abundant fibrofatty tissue, particularly at the nasal tip which is commonly bulbous and less defined.[33] Thicker skin, however, offers the advantage of being more tolerable to alloplastic or autogenous material than thin skin.[33] In addition, Asian noses often have an overall weak cartilaginous structure and a lack of septal cartilage. These features can present a challenge to the surgeon if the patient desires dorsal augmentation, which is a common concern reported by Asian patients.[20,33]

Middle Eastern patients also commonly have thick, sebaceous skin.[35] However, this patient population often present concerns related to a wide and high nasal dorsum, a pronounced dorsal hump, over-projected tip, and/or nostril-tip imbalance.[31,35,36] African American patients commonly present a wide nasal base, low nasal dorsum, and deepened nasofrontal angle.[31,37] Alar base abnormalities such as increase interalar space and excessive alar flaring are often reported.[31,37]

These variations across age, gender, and ethnicity emphasize the importance of the preoperative evaluation. The success of rhinoplasty rests not only on creating an esthetically pleasing nose, but one that will harmonize with the rest of the patient's appearance and take into account an individual's natural skin quality, cartilage structure, and facial composition.[37] Surgeons must engage in a clear and candid discussion with the patient to prevent postoperative dissatisfaction and unrealistic expectations.

Psychosocial Assessment of the Rhinoplasty Patient

The preoperative consultation is an important opportunity for the surgeon to evaluate patient candidacy for rhinoplasty surgery. An ideal patient is emotionally stable, well-informed, secure, and understanding of the limitations of rhinoplasty surgery.[10,38,39] They are also able to articulate their major concerns and rank them in order of importance when they have multiple points they would like to address.[9,10,17,38,39]

However, physicians are cautioned against operating on patients who hold unrealistic expectations, severe insecurities, and excessive concerns about minor deformities, as they will likely be unsatisfied regardless of the outcome of the surgery.[17,38,40] These characteristics can signal underlying psychiatric conditions as well, such as body dysmorphic disorder in which a patient has an intense preoccupation with a physical trait that is hardly noticeable to others.[9,10,39] Motivation for surgery in these patients stems from a strong sense of flawed self-image and a disturbed state of mind. Surgeons are also cautioned against operating on "surgiholics" or patients who have had multiple rhinoplasties and other esthetic surgeries; not only are these patients likely to be unsatisfied with the postoperative result, operating on a nose that has been subjected to multiple surgeries can make a case extremely difficult and carry a high risk of complications.[17,39] Surgeons may also benefit from using a patient-reported outcome measure to evaluate function, esthetics, and psychosocial parameters as they have been shown to be predictive of outcomes.[40–42]

Other warning signs include patients who have unrealistic expectations that their lives will be drastically changed because of rhinoplasty surgery, who are currently going through a deeply emotional period in their lives (ie, grieving loss of loved one, divorce, etc.) and patients who are manipulative or hostile toward the surgeon and medical staff.[10,13,39,43]

Historically, surgeons have been warned against operating on patients who are described by the acronym SIMON: single, immature, male, overly expectant, and narcissistic and to choose patients who fit the acronym SYLVIA: secure, young, listens, verbal, intelligent, and attractive.[17,38] Although these acronyms may serve as

a reminder of some common signs to look out for, they are at most generalizations—many male patients, for example, make for great rhinoplasty candidates.[13] This point highlights the importance of taking an individualized approach with each patient and to focus on determining their main goals and motivations for surgery. Although techniques and skill level are important from rhinoplasties, bidirectional communication between the physician and the patient is crucial to achieve a postoperative outcome that satisfies both parties.

CLINICS CARE POINTS: EVALUATING PATIENT CANDIDACY

- An ideal rhinoplasty patient is emotionally stable, well-informed, secure, and understanding of the limitations of surgery. They should also be able to articulate and rank their major concerns.
- Patients with unrealistic expectations, severe insecurities, and excessive concerns about minor deformities are likely to be unsatisfied regardless of the outcome of the surgery.
- Operating on a patient who has had multiple rhinoplasties in the past can be difficult and additional surgery may be associated with a high risk of complications.

SUMMARY

In this article, we have highlighted the key components of the preoperative evaluation for rhinoplasty patients. The preoperative consultation should always include a thorough medical and nasal history and nasal analysis conducted from the frontal, lateral, and basal views. The surgeon must also take the time to understand the patient's primary areas of concern, while also assessing the patient's candidacy for rhinoplasty. The ideal facial and nasal proportions presented here should be used as a rough guideline, with the understanding that each individual must be assessed independently and analyzed based on their age, ethnicity, and gender. Doing so will ensure that both the surgeon and the patient are satisfied with the outcome of the operation.

DISCLOSURE

The authors have nothing to disclose.

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