GUIDELINE
Improving Form and Function after Rhinoplasty

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Learner Objectives

• After this presentation you should:
  – 1) understand peri-operative considerations for rhinoplasty
  – 2) understand which interventions not to do after rhinoplasty
  – 3) understand the evidence regarding obstructive sleep apnea and rhinoplasty

Guideline

Clinical Practice Guideline: Improving Nasal Form and Function after Rhinoplasty
Ishii, Tollefson, Basura, et al.
Otolaryngology - Head and Neck Surgery
156:S1-30, 2017
Definitions

- **Rhinoplasty**
  - Surgical procedure that alters the shape or appearance of the nose while preserving or enhancing the nasal airway. The primary reason for surgery can be aesthetic, functional, or both and may include adjunctive procedures on the septum, turbinate or paranasal sinuses. (When these adjunctive procedures, however, are performed without an impact on nasal shape or appearance, they do not meet the definition of rhinoplasty used in this guideline.)

Overview of Guideline

- **10 Guideline Action Statements**
  - 0 Strong Recommendation
  - 7 Recommendations
  - 1 Option
  - 2 Recommendations Against
  - 0 Strong Recommendation Against

  *one statement has 2 parts

Guideline Action Statements

1. Communicating expectations
2. *Comorbid conditions
3. *Nasal airway obstruction
4. Perioperative education
5. *Counseling for OSA patients
6. *Managing pain and discomfort
7. *Postoperative antibiotics
8. Perioperative steroids
9. *Nasal packing
10. *Outcome assessment

Yellow=recommended for; Blue=recommended against; White=option/neutral
Comorbid Conditions

- Clinicians should assess rhinoplasty candidates for comorbid conditions that could modify or contraindicate surgery, including OSA, BDD, bleeding disorders, or chronic use of topical intranasal drugs.

Comorbid Conditions

- **OSA**
  - STOP-Bang questionnaire
- **Body Dysmorphic Disorder**
  - Body Dysmorphic Disorder questionnaire
- **Bleeding disorder**
  - Routine preoperative tests not indicated
- **Topical nasal medications**
  - Nasal decongestant vs. recreational drugs
Recommendation

STATEMENT 3. NASAL AIRWAY OBSTRUCTION

Anatomic Nasal Obstruction

**Internal Nasal Valve**
- Dorsal septum
- Upper lateral cartilage
- Head of the inferior turbinate

**External Nasal Valve**
- Caudal septum
- Medial crura of the alar cartilages
- Alar rim
- Nasal sill

Table 6. Structures to Assess in Rhinoplasty.

<table>
<thead>
<tr>
<th>Structure</th>
<th>Diagnostic Method</th>
<th>Example of Abnormality or Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenoids</td>
<td>Nasal endoscopy</td>
<td>Adenoidal hypertrophy</td>
</tr>
<tr>
<td>Anterior septum</td>
<td>Anterior rhinoscopy, nasal endoscopy</td>
<td>Caudal septal deviation</td>
</tr>
<tr>
<td>Inferior turbinate</td>
<td>Anterior rhinoscopy, nasal endoscopy</td>
<td>Inferior turbinate hypertrophy</td>
</tr>
<tr>
<td>Nasal septum</td>
<td>Anterior rhinoscopy, nasal endoscopy</td>
<td>Deviated septum</td>
</tr>
<tr>
<td>Nasal valve</td>
<td>Cartil maneuver, modified Cartil maneuver</td>
<td>Nasal valve collapse</td>
</tr>
<tr>
<td>Posterior septum</td>
<td>Nasal endoscopy</td>
<td>Posterior septal spur</td>
</tr>
<tr>
<td>Sinus ostia</td>
<td>Nasal endoscopy</td>
<td>Chronic sinusitis, polyps, pus</td>
</tr>
</tbody>
</table>
Clinical Consensus Statement: Diagnosis and management of nasal valve compromise

John S. Rhode, MD, MPH, Edward M. Weaver, MD, MPH, Stephen S. Park, MD, Stuart R. Baker, MD, Peter A. Hilger, MD, J. David Kilic, MD, Dsuguk Namkung, MD, David A. Eustace, MD, Richard M. Rosenfeld, MD, MPH, and Danielle D'Vittoria, MD, MPH. Seattle, WA; Charlottesville, VA; Live Oak, MN; Minneapolis, MN; Kansas City, KS; Chapel Hill, NC; Brooklyn, NY; and Alexandria, VA.

Purpose: To review the clinical consensus statement on the diagnosis and management of nasal valve compromise (NVC) and to discuss the impact of NVC on quality of life.

ABSTRACT

The clinical consensus statement on the diagnosis and management of nasal valve compromise (NVC) has been updated and revised. The updated consensus statement highlights the importance of identifying and managing NVC as an independent clinical entity.

Cottle / Modified Cottle Maneuver

Combination of audible and subjective improvement

OR

Subjective improvement alone

*Near consensus - Audible improvement alone is consistent with NVC.
The Nasal Valve Dilemma

- Surgical procedure targeted to support the lateral nasal wall/alar rim is a distinct entity from procedures that correct a deviated nasal septum or hypertrophied turbinate.
- In some cases, septoplasty and/or turbinate surgery can treat NVC without surgery to support the lateral nasal wall/alar rim.


How Would You Manage?

<table>
<thead>
<tr>
<th>Basting</th>
<th>Inspiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Septoplasty</td>
<td></td>
</tr>
<tr>
<td>B. Septoplasty + Inferior Turbinate Reduction</td>
<td></td>
</tr>
<tr>
<td>C. Septoplasty + Nasal Valve Surgery (lateral nasal wall surgery)</td>
<td></td>
</tr>
</tbody>
</table>

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Documentation Tips for Insurance Preauthorization

- Medical trials – nasal steroids, OTC meds
- Use of nasal stents/dilators
- Cottle maneuver
- Photo documentation of deformity
- Assertion of optimal or minimum threshold to achieve functional outcome – e.g. “septoplasty is not sufficient…”

Recommendation

STATEMENT 5. COUNSELING FOR OSA PATIENTS

OSA and Rhinoplasty

- Aggregate evidence quality: Grade B
- Positive impact on OSA
  - Reduced CPAP pressures
  - Lower hypopnea index
  - Enhanced CPAP compliance
OSA and Rhinoplasty

• Avoid nasal packing!
  – AHI increased with nasal packing
• Is use of CPAP masks OK – nasal pillows, nasal masks, full-face masks?
  – Nuanced decision-making
    • How stable is the nose?
    • Alternative OSA treatment – e.g. oral appliance?

OSA and Rhinoplasty

• What about the immediate postoperative period?
  – Severe OSA (e.g. AHI>15) may warrant continuous pulse oximetry monitoring
  – Use or need for opioid medication
  – Ability to use CPAP mask?
  – Evidence is unclear and thus no clear recommendation
Pain Management

- Corticosteroid efficacy is disputed – Option (action statement #8)
- Ice to nose with HOB elevation
- Nasal irrigation with nasal saline
- No packing!
- NSAID use as supplement or replacement for narcotic analgesics
  – I really like IV ketorolac tromethamine post-op x1 in the PACU

Recommendation Against

STATEMENT 7. POSTOPERATIVE ANTIBIOTICS
Postoperative Antibiotics

• Should not routinely prescribe antibiotics beyond 24 hours after surgery
• Exceptions:
  – Revision surgery, complicated cases, implant usage, nasal packing, MRSA, extensive cartilage grafting, immunocompromised patients, concurrent medical conditions requiring antibiotics

Recommendation Against

STATEMENT 9. NASAL PACKING
Nasal Packing

- Nasal packing is material, either removable or absorbable, placed inside nose to promote hemostasis, structural support, and reduction of scar formation
  - Silastic stents or nasal splints are not considered packing
  - Reasons: OSA, bleeding risk is low, toxic shock syndrome, discomfort/pain, need for abx

Recommendation

STATEMENT 10. OUTCOME ASSESSMENT
Outcome Assessment

- Document form and function at a minimum of 12 months after rhinoplasty
  - Use validated patient-reported QOL scales
    - NOSE, ROE, FACE-Q, etc.
  - Is 12 months realistic and feasible for most?
- Other outcomes (not in guideline)
  - Photo documentation
  - Procedure documentation
    - Use standardized diagrams, videos – going beyond the op report


**Summary of Guideline**
Summary

• Do:
  – Communicate expectations
  – Assess comorbid conditions
  – Assess nasal airway
  – Carefully manage OSA
  – Manage pain and discomfort
  – Assess outcomes in a standardized way

Summary

• Do not:
  – Routinely order postoperative antibiotics
  – Pack the nose