Refinement of the Nasal Tip

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Grand Rounds Presentation
March 3, 2004
Introduction

- Discussion with patient
- Facial analysis
- Surgical Anatomy
- Techniques
Patient Discussion

- What does the patient want?
- Are the goals realistic?
- Does the patient want to preserve certain nasal features?
- Examination with pictures, three-way mirror, computer modeling
Facial Analysis

- Facial Proportions
- Aesthetic Subunits
- Frontal View
- Profile View
- Base View
- Quality of Skin and Tip Support
Facial Proportions

- The face is divided into horizontal thirds and vertical fifths.
- Width of alar base should be approximately the same width as intercanthal distance.
Aesthetic Subunits

- Nose is most prominent subunit of face
- Nose is divided into subunits: dorsum, sides, tip, alae, soft triangles
Frontal View

- Symmetry
- Width of bony nasal sidewalls should be 75-80% normal alar base
- Columella
- Nasal tip
Profile View

- Tip projection
- Tip rotation
- Nasofrontal angle
- Bony dorsum
- Nasal length
Nasofrontal Angle

Glabella

Nasion

115°-130°
Tip Projection

- Goode Method
- Powell and Humphries
Tip Rotation

- Ideal is 90-100 degrees in men and 100-110 degrees in women
Base View

Lobule 1/3

Columella 2/3
Quality of Skin and Tip Support

- Thin skin vs. thick skin
  - Thick skin with tendency to more post-op edema and scarring
  - Thin skin heals more predictably however even minor deformities visible
- Palpation
  - Determine tip support
  - Visualize cartilages and septal character
Surgical Anatomy

- Skin and subcutaneous tissue
- Lower lateral cartilages
- Tip support mechanisms
Skin and Subcutaneous Tissues

- Thick vs thin skin
- SMAS-violation leads to bleeding and post-operative scarring
- Supraperichondrial plane-bloodless

FIG. 175-11. Illustration of the proper plane for elevation of the nasal soft tissues, intimate to the underlying nasal skeletal framework. The superficial musculoaponeurotic system (SMAS) layer has been elevated to reveal this desirable tissue dissection plane. (From ref. 1, with permission.) (See Color Plate 175-11.)
Lower Lateral Cartilage

- Medial Crus
- Dome
- Lateral Crus
- Tip Defining Point
Lower Lateral Cartilage

- Scroll area
- Medial Crural Footplates
Surgical Anatomy

- Levator labii superioris
- Depressor Septi Nasi
Tip Support Mechanisms

Fig. 6.21b
1 Dorsal cartilaginous septum
2 Interdomal ligament
3 Membranous septum (reverse out)
4 Nasal spine
5 Investing skin and soft tissues
6 Alar sidewalls

Fig. 6.21a
1 Alar cartilage
2 Alar cartilage–upper lateral cartilage attachment
3 Medial crural footplate attachment to septum (reverse out)
Surgical Approaches

- Septum
  - Transfixion/Hemitransfixion
  - Killian
- Tip
  - Delivery vs. Nondelivery
  - Open
Access to Septum

- Transfixion Incision: sacrifices major tip support
- Hemitransfixion
- Killian
Access to Tip--Nondelivery

- Nondelivery
  - Intercartilaginous incision
  - Transcartilaginous incision
Access to Tip--Delivery

Intercartilaginous combined with marginal incision to deliver alar cartilage
Open Nose

- Best visualization of cartilaginous skeleton
- Does not disrupt scroll area
- Columellar incision has potential for scarring, but rarely does so when closure is meticulous
- Tip edema is significant, making intraoperative assessment more difficult
- Greater potential for scarring
- Ideal when extensive tip work is required
Techniques of Alar Cartilage Modification

- Cephalic Volume Reduction - basic maneuver in nearly all tip procedures
  - Complete Strip
  - Weakened Complete Strip
  - Incomplete Strip
Techniques: Modifications of Alar Cartilages

- Complete Strip
  - Volume reduction of complete strip results in tip refinement and increased tip rotation
Techniques: Modifications of Alar Cartilages

- Weakened Strip
  - Medial triangle excision
- Alternating incomplete incisions
- Cross-hatching
- Gentle morselization
- Transdomal Suture Narrowing
Techniques: Modification of Alar Cartilages

- Interrupted Strip
  - Weakens tip support
  - May reduce tip projection
  - Induces cephalic rotation
  - Less predictable healing
Interrupted Strip: Lateral Crural Recruitment

- Vertical division of the complete strip made lateral to dome and a portion of the lateral crus is recruited to increase tip projection
Tip Projection

- Increase/Augmentation
  - Cartilage graft struts
  - Tip grafts
  - Illusory Enhancement

- Reduction
  - Incremental sacrifice of tip supports
Tip Projection: Struts and Tip Grafts

Must create precise soft tissue pockets for grafts

May increase projection, accentuate tip-defining points
Illusory Enhancement of Projection

- Incremental reduction of dorsum redefines tip-supratip relationship allowing tip to project 2 to 3 mm forward of supratip dorsum
- Plumping grafts introduced into the lower columella can produce cephalic rotation and illusory increased tip projection
Tip Rotation

- Volume Reduction of Alar Cartilages
  - Complete Strip
  - Incomplete Strip
- Adjunctive Procedures
  - Major: caudal septal shortening, upper lateral cartilage shortening, high septal transfixion with septal shortening, reduction convex caudal medial crura
  - Minor: complete transfixion incision, wide skin sleeve undermining, excision of excess vestibular skin, proper tip taping, division of the septi depressor muscle
  - Illusory: autogenous cartilage grafts, reduction of cartilaginous profile
Tip Rotation: Volume Reduction of Alar Cartilages

- Maintaining complete strip will result in minimal tip rotation, preserves normal anatomy, maintains more stable and better supported nasal tip, avoids complications of alar retraction and notching, and healing is more predictable—may require adjunctive techniques to achieve increased tip rotation.

- Interrupted strip techniques result in more substantial tip rotation but results in a relative instability of the nasal tip.
Tip Rotation: Adjunctive Procedures

- Caudal septal shortening,
- Reduction of excess caudal upper lateral cartilage,
- High septal transfixion with septal wedge excision,
- Reduction of overly convex medial crura,
- Cartilage struts,
- Cartilage plumping grafts.
Conclusions

- Discussion with patient
- Facial Analysis
- Surgical Anatomy
- Techniques
References:


Tardy, Eugene, M. *Rhinoplasty, the Art and Science*, pgs 375-571; W.B. Saunders Company, Philadelphia 1997


