Special Considerations in Rhinoplasty

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Introduction

- Alar base
- Crooked/Twisted nose
- Saddle nose
- Non-Caucasian nose
- Aging and rhinoplasty
Alar Base

- Frontal, lateral, and basal views
- Overall facial symmetry
Alar Base Frontal View

- Inner canthus
- Vertical 5ths
- Horizontal 3rds
Alar Base Lateral View

- Alar Facial Junction
- 2-3 mm show
Alar Base Lateral View

- Alar Facial Junction
- 2-3 mm show
- Cephalic location
Alar Base Lateral View

- Alar Facial Junction
- 2-3 mm show
- Cephalic location
- Alar hooding
Alar Base Basal View

- Isosceles triangle
- Columellar-lobule relationship 2:1
- Medal crural footplates 1:1
- Significant ethnic differences
Alar Base Ethnicity

Caucasian

Asian

African
Alar Modification

- Caucasian rhinoplasty
- Black and Oriental

Indications
- Alar flaring
- Bulbosity
- Excess width
- Wide nostril floor
- Imbalance after tip narrowing
Alar Modification

- Conservatism
- Anatomic factors
  - Internal (medial) length
  - External (lateral) length, shape, thickness, flare of alar margin
  - Width, shape nostril floor/sill
  - Shape of nostril aperture
  - Length of lateral sidewalls of nose
Alar Modification Techniques

General guidelines
- Graduated fashion
- 1-2 mm above alar-facial crease
- Precise repair, buried interrupted suture, 5-0 mild catgut if needed
Alar modification

- Decrease flare, elongate
- Decrease width
- Sill intact
Alar Reduction
Alar Reduction
Alar Reduction
Alar Reduction
Crooked Nose

- Difficult problem
- Contributions
  - Septum, bony and cartilaginous dorsum, tip
- Manipulations must not compromise support
Crooked Nose
Crooked Nose
Crooked Nose
Crooked Nose

- Lower 3\textsuperscript{rd} support mechanisms
  - Structural integrity of lower lateral cartilages
  - Fibrous attachment cephalic lateral crura and caudal upper lateral
  - Soft tissue attachment cephalic margin medial crura and caudal nasal septum
  - Interdomal ligament attachment to anterior septal angle
Crooked Nose
Crooked Nose Diagnosis

- Facial symmetry
- Lower 2/3 deviation
Crooked Nose Diagnosis

- Facial symmetry
- Lower 2/3 deviation
- Palpation
- Tip recoil
Crooked Nose Correction

- Pitfalls
  - Deviations of the caudal, dorsal septum
  - Irregularities upper lateral catilages
Crooked Nose Dorsum

- Hump removal
- Less from vertically oriented
Crooked Nose Dorsum

- Hump removal
- Less from vertically oriented
- Intermediate osteotomies
- Don’t elevate periosteum
Crooked Nose Lower 2/3

- Free upper lats
- Prevent collapse
  - Mucosa intact
  - Suture into position
- Open approach
  - Visualize deviated portions dorsal septum
Crooked Nose Lower 2/3

- Dorsal septal deviation
Crooked Nose Lower 2/3

- Dorsal septal deviation
- Shave convex, unilateral spreader graft
- Further correction, on-lay grafts
- Airway Obstruction
Crooked Nose Lower 2/3

- Ethmoid bone stenting
- Cartilage crosshatching
Crooked Nose Lower 2/3

- Caudal septal deviation
Crooked Nose Lower 2/3

- Caudal septal deviation
- Cartilage manipulation and suture
- Triangular wedge
- Replacement
- Columellar strut
Crooked Nose Post-op

- Abx for 7 days
- External cast 5-7 days
- Suture removal 5 days
- Nasal bone massage
Saddle Nose

- Loss of profile, bony and cartilaginous dorsum
- Ethnic, trauma, infection, hematoma, overzealous profile reduction
Saddle Nose Repair

- Dorsal augmentation
- Variety of techniques
- Variety of materials
  - Septal, conchal cartilage
  - Autogenous cartilage, bone
  - Synthetic, alloplastic
  - Heterografts, homografts
Saddle Nose Repair

- Resorption, Extrusion
- Precisely sculpted, bevel edges
- Careful preoperative diagnosis and planning
- Constant supratip depression cartilaginous dorsum
- Columellar retraction
Saddle Nose Classification

- Minimal
  - Moderate tip-supratip differential
  - Mildly accentuated bony hump
  - Little columellar retraction
  - Overwide nose
  - Minimal supratip augmentation
  - Contouring hump
Saddle Nose-Minimal
Saddle Nose Classification

**Moderate**
- Significant quadrangular cartilage dorsal height loss
- Significant collumellar retraction acute nasolabial angle
- Blunt trauma, bony pyramid broad and flattened

**Major**
- All stigmata of moderate to greater degree
- Childhood or massive trauma, major nasal twist, septal deformity
Saddle Nose - Moderate
Saddle Nose-Major
Saddle Nose Correction

- Mark supratip depression
- Anesthetic infiltration
- Exacting pocket
- Midline axial intercartilaginous stab
- Blunt pocket dissection 1-2 mm larger than grafts
- Peroxide palpation
Saddle Nose Correction
Example
Non-Caucasian Nose

- Difficult
- Strengthening weak cartilaginous structures
- Preservation major support mechanisms
- Careful S-STE manipulation
Non-Caucasian Nose Characteristics

- Flat, broad, short
- Infantile dorsum, lacking projection
- Tip rounded poorly defined
- Acute nasolabial angle
- Thick, flaring, wide based alae, overhanging columella
- Alar skin thick, fatty, inelastic, sebaceous glands
Non-Caucasian Nose Characteristics

- Nostrils round, horizontally ovoid
- Poorly defined nasofrontal angle
- Anterior septal angle obtuse, cephalic
- Pyriform aperture wide decreased bone to cartilage ratio
- Nasal bones, domes more obtuse angle
Non-Caucasian Nose
Non-Caucasian Nose Tardy
Non-Caucasian Nose Limiting Factors

- Thick, inelastic S-STE
- Thick, short columnella may preclude closure
- Weak thin lateral crura, little support
- Thin, small septum
- Preserve ethnicity
Non-Caucasian Nose

- Many recommend open approach
- Strut graft, maybe doubled
- Most no rotation, no cephalic trim
- Transect domes, no resection, suture at more acute angle
- Dorsal grafting, narrowing
- Multi-layered tip grafts
- Excise fibro-fatty tissue
- Cartilage plumping grafts
- Alar reduction
Non-Caucasian Nose Post-op

- 3-4 weeks for 6 months
- Kenalog 10 mg/dL
Aging and Rhinoplasty

- Special consideration
- Young, purely cosmetic
  - 15 and 17
  - Animal models
  - Conservative alar, septoplasty
Aging and Rhinoplasty

- Consultation
  - Time and money
  - Self image
  - Changes of aging
  - Longstanding recent dissatisfaction
  - Undesired life change
  - Medical problems
Aging and Rhinoplasty

- Tip support weakens
- Descent of nasal tip
- Nasal elongation
- Nasolabial angle changes
Aging and Rhinoplasty

- Cadaveric studies
  - Alar cartilage flattened, fragmented
  - Loss of upper lower attachments
  - Thin nasal bones
  - Skin thinner less elastic
- Skin heals less aggressive, finer scars
Aging and Rhinoplasty

- Changes in surrounding face
- Maintain tip support mechanisms
  - Columellar strut useful
- Care of septal mucosa
- Wide undermining of skin possibly
- Use of external incisions (dorsal)
- Fine 2-3 mm osteotomes
- Extended taping
Aging and Rhinoplasty
Aging and Rhinoplasty
Case
Case
Case
Case

- Keys include correction of underlying septal deformities, release of the upper lateral cartilages with re-suturing to prevent collapse, asymmetric hump removal.
Summary

- Challenging
- Special consideration and technique