CHEILOPLASTY & PALATOPLASTY

P. 758
Cheiloplasty
Rotation Advancement Technique
Anatomy & Physiology

- Vermillion border
- Colummella
• Cheiloschisis
• Also called hare lip
• Four categories
  ○ Unilateral incomplete cleft & nasal deformity
  ○ Unilateral complete cleft & nasal deformity
  ○ Bilateral incomplete cleft
  ○ Bilateral complete cleft on one side & incomplete on the other
• Infant will have trouble sucking, swallowing, & forming sounds
Diagnostics

- H&P
- Direct Examination
Surgical Intervention

Repair the cleft lip to restore cosmetic and normal function
Position

- Supine with headrest & arms tucked at sides
Anesthesia

- General; local with epi for hemostasis
Skin Prep

- Upper lip, entire face, neck, & shoulders as bilaterally as possible
Draping

- Headwrap/turban; bar drapes; U-drapes; split sheet
EQUIPMENT, INSTRUMENTATION, & SUPPLIES

- Headrest
- Hyper/Hypothermia blanket
- Bipolar ESU w/ bayonet forceps
- Plastic instrument set
- Beaver handle w/ #64 & #65 blades
- Foment retractor
- Brown lip clamps
- Calipers
- #11 & #15 blades
- Logan’s bow
Special considerations

- Patient usually 3-18 months
- Two methods: Rotation advancement & triangle flap
- OR table turned
- Temperature is increased when patient enters
- STSR must remain quiet
Incision

Z incision

A = advancement flap  C = C flap  R = rotation flap
Procedural Steps (Lip)

1. Incision from superior vermillion border to midline of cleft
2. Retract with skin hooks, mucosa dissected off orbicularis oris with tenotomy
3. Second incision to extend & dissect medial lip free from maxilla
4. Z-plasty incision to create 3 flaps
   a. 1st flap: Rotated down to form cupid’s bow & philtrum groove
   b. 3rd flap: Rotated into collumella & lower portion of nostril
   c. 2nd flap: Forms cupid’s bow
5. Closure
   a. Mucous membrane of upper lip closed with absorbable, interrupted suture
   b. Orbicularis oris closed with absorbable suture
   c. Skin is closed & cupid’s bow is formed with absorbable suture

https://www.youtube.com/watch?v=vLL-ruuiYMw  Z-plasty 0:40
https://www.youtube.com/watch?v=lX6ID9JN6dw Animation 0:00-0:30
COUNTS

- Initial
- After closure of mucous membrane
- After closure of Orbicularis oris
- After skin closure
Dressing

- Mustache dressing with 2x2 & tape
No specimen
Post Op

- 1-2 hospital days
- Padded arm restraints
Prognosis & Complications

Need speech therapy, orthodontics, and nasal reconstruction

- SSI
- Hemorrhage
- Scarring
- Edema with or without airway obstruction
Wound

Class II- Clean contaminated
Palatoplasty

V-Y Palatoplasty Technique
ANATOMY & PHYSIOLOGY

- **Palate**
  - Separates nose from mouth
  - Aids in swallowing and speech

- **Hard Palate**
  - Palatine processes of maxilla & palatine bones
  - Covered in mucous membrane

- **Soft Palate**
  - Muscle, fat, & mucous membrane

- [Image of hard palate and soft palate]
• Palatoschisis
• Four categories
  ○ Unilateral incomplete cleft & nasal deformity
  ○ Unilateral complete cleft & nasal deformity
  ○ Bilateral incomplete cleft
  ○ Bilateral complete cleft on one side & incomplete on the other
• Infant will have trouble sucking, swallowing, & forming sounds
Diagnostics

- H&P
- Direct Examination
Surgical Intervention

Restore the hard and possibly soft palate by surgically joining the separated pieces
Position

- Supine with headrest & arms tucked at sides
Anesthesia

- General; local with epi for hemostasis
Skin Prep

- Upper lip, entire face, neck, & shoulders as bilaterally as possible
Draping

- Headwrap/turban; bar drapes; U-drapes; split sheet
EQUIPMENT, INSTRUMENTATION, & SUPPLIES

- Headrest
- Hyper/Hypothermia blanket
- Bipolar ESU w/ bayonet forceps
- Nitrogen tank
- Power drill
- Plastic instrument set
- Beaver handle w/ #64 & #65 blades
- Drill bits
- Dingman mouth gag
- Blair palate hook and elevators
- Freer and cottle elevators
- Fomon lower lateral scissors
- #11 #12 & #15 blades
Special Considerations

- Retractor will be attached to mayo
- Don’t break down until patient leaves
- May be done in conjunction with myringotomy
- Palatal obdurate may be used until surgery is safe
Incision

V incision
1. Insert Dingman mouth gag
2. Insert throat pack
3. Flaps are outlined and local w/ epi is injected
4. V-shaped incision made along the mucosal borders (764)
5. Incision is extended through the mucosa, muscle, and nasal mucosa
6. Nasal mucosa is dissected from muscle
7. Oral mucosa is dissected from muscle
8. Greater palatine vessels are identified and dissected
9. Holes are drilled in the hard palate for suture placement
10. A Y-shaped closure in three layers is achieved to close the palate
   a. Nasal mucosa closed with 4-0 or 5-0 absorbable suture
   b. Muscles is closed with same suture
   c. Palatal mucosa is closed with same suture
11. Irrigate and check for bleeding
12. Remove throat pack and gag, extubate

https://www.youtube.com/watch?v=lX6ID9JN6dw Animation 0:30
Counts

- Initial
- After nasal mucosa
- After muscular layer
- After palatal mucosa
- Final
Dressing

- Mustache dressing with 2x2 & tape
- Occasionally nasal stents
No specimen
Post Op

- 1-2 hospital days
- Padded arm restraints
- No bottles or pacifiers
- Ease into normal diet
Prognosis & Complications

Need speech therapy, orthodontics, and nasal reconstruction

- SSI
- Hemorrhage
- Scarring
- Edema with or without airway obstruction
- Palatal fistulas
- Constricting of incision
Wound

Class II- Clean contaminated
Sources

- https://www.cdc.gov/ncbddd/birthdefects/cleftlip.html