Medical Management
- Preoperative maxillary orthopedics
- Surgical management

Preop maxillary Orthopedics
Purpose: to put abnormal structures in normal positions
- Makes repair easier
- Get better outcome
- balanced condition for growth and development

Types and approaches
- Manipulation of the maxilla – maxillary expansion device
  - Performed neonatally
  - Done prohalatically to prevent maxillary collapse
  - Done correctively

Prophylactically - passive
- Intraoral appliance
  - Appliance covers cleft, alters position of maxillary segments
  - Held in place with dental adhesive or elastic straps

Corrective
- Appliance designed to expand or retract palate
  - Spring or jackscrew
  - Force applied

Re-positioning
- Use appliance to expand arches
- Use elastic band to retroposition protruding premaxilla
- Takes about 3 weeks, then lip closure.

Examples

Alveolar Bone grafting
- Involves placing bone in alveolar cleft area (from rib)
  - Stabilizes premaxilla
  - Provides stable dental arch
  - Supports teeth adjacent to graft
  - Fills out contour of alveolar ridge

Surgical Management

Issues
- Type of cleft
- Timing
12  □ Prepalatal Repair
Goal: reconstruct the lip as close to its normal anatomical and functional features as possible and correct nasal deformity to minimize the effect of secondary deformity

13  □ Desired Outcome
- accurate skin, muscle, mucous membrane use
- symmetrical nostril floor
- symmetrical vermillion border--as author notes, one of toughest to achieve
- slight eversion of lips
- minimal scar
- cupid's bow
- buccal sulcus
- minimize nasal deformity

14  □ Things stacked against you
- scarring
- hypoplastic tissue
- dynamics of facial growth and development
- healing forces
- size of structures

15  □ Timing
- varies from surgeon to surgeon
- in some places, lip closure in 48 hours
- others, rule of 10: 10 lbs, 10 hemoglobin, 10 weeks

16  □ Straight Line Repair
- paring and coaptation of lip margins
- cleft margins are trimmed, curving incisions which when closed, lengthen the lip slightly
- closure line falls along philtral ridge and crossed vermillion at peak of cupids bow

17  □ Z-Plasty
- principle widely used in plastic surgery--a way to lengthen short sides of cleft
- involves transportation or interposition of small pedicles which create z type scars
- biggest advantage: not a tight contraction line from point of nostril floor to lip edge

18 Palatal Repair

Primary goals:

1. provide mechanism for normal speech, hearing, dental occlusion, swallowing and feeding
2. without interfering with facial bone growth

19 Timing

Majority: between 1 to 2 years
18 months often quoted
18 mos is:
- reasonable anesthesia risk
- large enough structures
- early enough to provide for speech development
result of study of 3743 kids with average of 71-75% normal speech

20 Two Approaches

two step- close sp at 6 months, then hp ranging from months to years later--even 12 to 16 years later (use prosthesis to cover palatal cleft

one step- 2 layer closer of hp - close nasal and oral surface; 3 layer close in sp; must close on nasal surface, re-anastomose muscle of the soft palate and then cover oral surface.

21 Palatal Repair

- use of mucoperiosteal flaps
- incision on free margins
- resection of muscles of sp
- closure of nasal mucosa
- closure of oral mucosa