Pediatrics:
New Perspectives in Endoscopic Myringoplasty and Tympanoplasty

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Conflict of interest

• Aaron Remenschneider
• Adrian James
• Anna Meyer
• Brandon Isaacson
• Daniel Choo
• JoseCarlos Casqueiro
• Kemal Gorur
New perspectives

• Totally endoscopic surgery
  • Case selection
  • Grafting material

• Alternative techniques
Definitions

**Myringoplasty**
Push graft through perforation

**Tympanoplasty**
Raise tympanomeatal flap
Which technique?

Myringoplasty?

Tympanoplasty?
Which technique?

**Myringoplasty (or tympanoplasty?)**

**Factors to consider**

- Size
- Location
- Myringosclerosis
- Graft material?
- Bilateral surgery?
- Success rate?
Cartilage butterfly graft myringoplasty

Any experience or tips?

- Disk of cartilage
- Incise into circumference
Cartilage butterfly graft myringoplasty

Any experience or tips?

- Disk of cartilage
- Incise into circumference
Other techniques for smaller perforations?

Interlay tympanoplasty?
Tympanoplasty technique

How would you approach this perforation?

• Endoscope or microscope?
  • Incision placement
  • Ear drum elevation
    • Annulus / malleus handle
  • Graft material
  • Graft position
  • Adjuncts (eg Tisseal, gelfoam)
Posterior perforation

How would you approach this perforation?

• Endoscope or microscope?
  • Incision placement
  • Ear drum elevation
    • Annulus / malleus handle
  • Graft material
  • Graft position
  • Adjuncts (eg Tisseal, gelfoam)
Tympanoplasty outcome

What would you tell the parents?

• Return to activities?
• Closure rate?
• Hearing?
• Other risks?

• Has TEES altered your outcome?
Overcoming challenges

**Pediatric issues**
1. Narrow ear canal
2. Hemostasis
3. Teaching on children
4. Are adults different?
1. The difficult ear canal

4mm scope  3mm scope  3mm scope + instruments
1. The difficult ear canal

**Options**

- Avoid
- Post-auricular canaplasty
- TEES
  - Bone removal?
  - Soft tissue trauma?
2. Hemostasis

Pediatric issues

• Hypotensive anesthesia
  • Safer than adults?
  • What drugs?

• Topical adrenaline
  • Concentration?
  • Pre-induction?

• Equipment
  • 3-handed surgery?
2. Hemostasis

**Pediatric issues**

- Hypotensive anesthesia
  - Safer than adults?
  - What drugs?
- Topical adrenaline
  - Concentration?
  - Pre-induction?
- Equipment
  - 3-handed surgery?
3. Teaching

Pediatric issues
• Size
  • More difficult than adults?
• Ethics
  • Adults before children?
• Parental expectation
  • “You will be doing the surgery won’t you?”
4. Are adults different?!

- Do you do adult tympanoplasty?
  - Do you use a different technique? Why?

- Are there any differences regarding use of endoscope?
  - Equipment?
  - General endoscopic technique?
  - Grafting technique?
Innovative solutions

• Local anesthesia in children?
• Growth factors?
• The future of TM repair?