

# **Chronic Ear Disease**

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# Contemporary Approach

**Dipolar restriction: largely historic**

**Contemporary approach**

**Unrestricted by dipolar concept**

**Modify approach based on extent of disease and clinical circumstances**

# Treatment Objectives

1. Infection control
2. Closure of ear with air-containing middle ear by grafting
3. Hearing rehabilitation

# Definition of Problems

## 1. Hostile surgical circumstance

Degree of ear aeration

Infection

## 2. Extent of tympanic membrane pathology

## 3. Extent of middle ear ossicle pathology

Myriad of possible permutations present

# Preoperative Planning

1. Thorough examination is needed
2. Status of sinonasal disease
3. Status of contralateral ear is important

**No clinically useful Eustachian tube function test exists**

# **Control of Contributing Factors**

## **1. Nasal/sinus disease**

**Wait 6 weeks for ear surgery after sinus surgery**

## **2. Adenoid disease**

**Wait 6 weeks**

## **3. Allergy**

**No need to delay treatment**

# Preparation for Surgery

## Control of otorrhea

Try to control otorrhea preoperatively

Sometimes surgery is needed to control it

Postoperative infection correlates with graft failure but not with preoperative infection

## Preoperative radiology

In only hearing ear

Long standing disease is present

Use contrast if complications are suspected

# Complications

**Early recognition is key**

**Traditional presentations of complications may not be reliable due to antibiotics use**

**Red-flags**

**Otorrhea > 3 weeks despite treatment**

**Recurrent ear infections < 2 weeks of tx**

**Foul smelling discharge**

**Decreased otorrhea with otalgia**

**Granulation tissue with pulsating otorrhea**

# **Patient Information**

**Provide details of surgery**

**Potential risks**

**Complications**

**Reasonable expectations**

**Informed consent**

**Make sure your patients understand  
what you are planning to do**

# **Surgical Technique**

**Basic principles**

**Infection control**

**Exposure**

**Hemostasis**

**Grafting technique**

**Mastoidectomy**

**Staging**

**Ossicular reconstruction**

**Tympanosclerosis**

**Atelectatic ear**

# **Infection Control**

- 1. Adhere to sterile technique**
- 2. Irrigate the ear with Betadine**  
**Harmless for 10-15 minutes**  
**Copious saline irrigation**
- 3. Use of prophylactic antibiotics**  
**Controversial**

# **Exposure**

**Postauricular approach**

**Better illumination**

**Better access to all regions of TM  
and middle ear**

**Graft placement success**

**Most effective when you can clearly  
see where the graft is**

**Complete mastoidectomy**

**Infection control technique**

**Exposure device**

# Hemostasis

**Meticulous hemostasis is critical for successful surgery**

**Postauricular injection**

**Canal injection at the beginning**

**Small syringe and a 27G needle**

**Intraoperative hemostasis**

**Bone wax**

**Epinephrine 1:1000 soaked Gelfoam**

**Bipolar cautery**

# Grafting Technique

**Whatever works for you is fine**

**Superficial temporal areolar fascia**

**Temporalis fascia**

**Tragal perichondrium**

**Periosteum**

**Vein**

# **Mastoidectomy**

## **Relative indications for mastoidectomy**

- 1. Revision surgery after failed multiple tympanoplasties**
- 2. In some children where aeration is a problem**
- 3. Recent and prolonged otorrhea recurrent after, or unresponsive to tx**
- 4. Extreme epitympanic ossicular fixation pathologies**

# Staging

**Staging is still valuable**

**When to consider staging**

- 1. TM pathologies coexist with ossicular problems**
- 2. Very poor mucosal status in the middle ear**
- 3. High chance of recurrent cholesteatoma**
- 4. Disease on the stapes suprastructure and footplate**

# Ossicular Reconstructions

**Points to consider**

**Know your prosthesis well**

**Use cartilage/tissue graft**

**Stage less optimal ears**

**Place the prosthesis vertical**

# Tympanosclerosis

**Immunobiological nature and consequences  
poorly understood**

**Limited tympanosclerosis should be removed**

**Stapes fixation is very problematic**

**Minor oval window tympanosclerosis can be  
repaired with stapedectomy**

**Extensive disease: use hearing aids**

# **Atelectatic Ear**

**Adynamic monomeric TM**

**Choleateatoma, ossicular erosion**

**Atelectatic ear looks terrible but functions well**

**Better to fix it**

**It will progress and better to fix early**

**Rule out nasopharyngeal pathology**

# **Problem Cavity**

**Poor prior CWD technique**

**Otorrhea with odor**

**Debris accumulation**

**Hearing loss**

**Requires constant medical attention**

**Patient is a water cripple**

# **Problem Cavity**

## **Morphologic findings**

**A small meatus**

**A high facial ridge**

**Incomplete degrees of EAC wall removal**

**A deep, dependent mastoid tip cavity**

**A TM perforation with weeping, diseased  
mucosa**

**Impacted debris**

**Mucopurulent otorrhea**

# **Absolute Indications for CWD**

**Unresectable disease**

**Definition of unresectability varies**

**Impossibility of follow up surveillance**

**Unwillingness of patients**

**Inability of compliance**

**Posterior canal wall eroded by the prior surgery or disease process**

## **Relative Indications for CWD**

- 1. Disease in the only hearing ear**
- 2. Disease in the dead ear**
- 3. When disease in the medically informed precludes staging or multiple anesthetics**
- 4. Disease complicated by intracranial or intratemporal problems.**
- 5. When neoplasms such as glomus tumors or primary adenomas require CWD exposure**