

# Open Cavity Tympanomastoidectomy

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## Definitions

- Mastoidectomy:
  - Removal of the mastoid air cells
- Antrotomy:
  - Entry into the mastoid antrum, usually via mastoid cortex
- Atticotomy:
  - Entry into the epitympanum, usually via the EAC
- Tympanotomy:
  - Entry into middle ear space
- Tympanoplasty:
  - Repair of middle ear structures

# Open Cavity Techniques

The posterior canal wall of the EAC has been removed, thereby transforming the EAC and the mastoid bowl into a single common cavity

- Radical mastoidectomy
- Modified radical mastoidectomy
- “Bondy” mastoidectomy

Open techniques exteriorize disease and eliminate the potential for ongoing bone erosion and destruction

## Definitions

- Radical Mastoidectomy
  - Tympanomastoidectomy
  - Removal of mastoid air cells, TM, malleus & incus
  - Removal of posterior canal wall
  - Closure of the Eustachian Tube

# Radical Mastoidectomy

- Infection of peritubal &/or labyrinthine air cells
- Cholesteatoma that can not be removed from protympanum or Eustachian tube.

## Definitions

- Modified Radical Mastoidectomy
  - Tympanomastoidectomy
  - Complete exoneration of the mastoid air cells with reconstruction of TM & ME.
  - Removal of posterior canal wall
  - May include Tympanoplasty types I-IV w/wo ossiculoplasty
  - Cortical or subcortical dissection

# Mod Radical Mastoidectomy



## Definitions

- Cortical Mastoidectomy
  - Approach through lateral mastoid cortex
  - Usually, but not necessarily, via post auricular incision
- Subcortical Mastoidectomy
  - The lateral mastoid cortex is left intact (at least initially)
  - Starts @ scutum (I.e. medially) and moves laterally
  - Usually, but not necessarily, via endaural approach
  - “Inside Out” mastoidectomy

# Definitions

- **“Bondy” mastoidectomy:**
  - Complete exneration of mastoid air cells without a tympanoplasty or tympanotomy
  - Removal of posterior canal wall
  - Performed by subcortical dissection

# Bondy Mastoidectomy



## Goals: safe & dry

- A smooth, featureless exteriorized cavity that can be easily visualized & cleaned in an office setting.
- A cavity lined with normal skin that remains dry and problem free with a minimal amount of care and that tolerates the usual activities of daily living, even swimming!

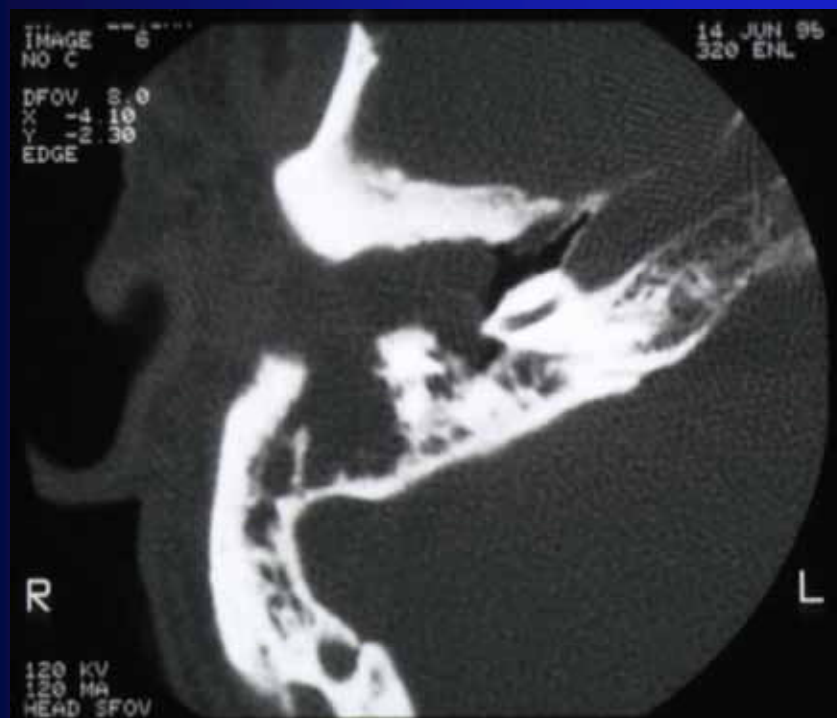
## Goals: hearing & looks

- Conservation of residual hearing
- Improved hearing
- An acceptable cosmetic appearance.

## Selection of technique:CWD

- Can patient accept the appearance of a meatoplasty?
- How important are water sports?
- What is the likelihood that a hearing aid will be needed in that ear?
- Is the canal wall destroyed by disease?

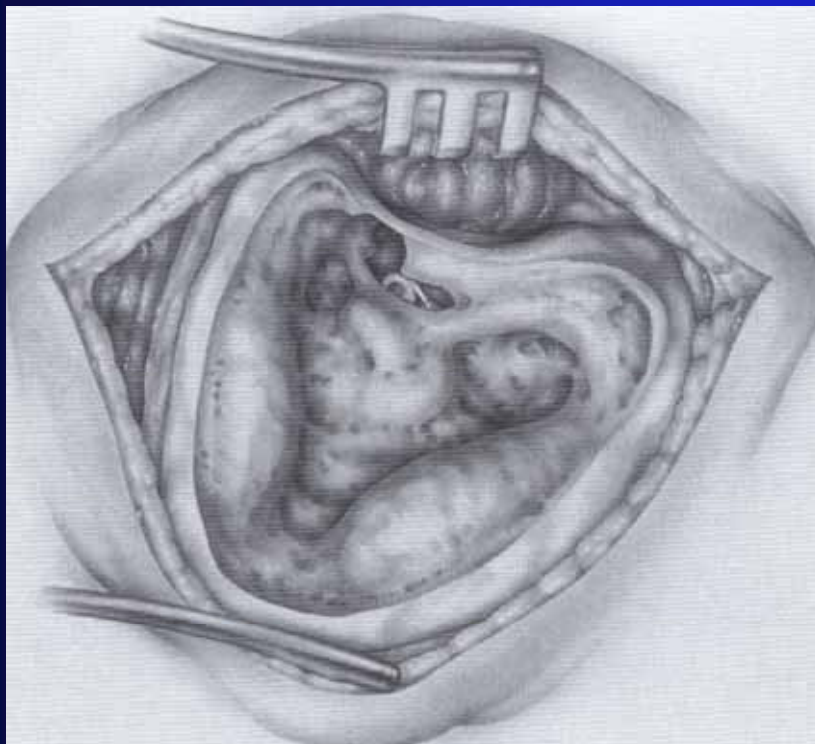
## Canal Wall Already Down



## Selection of technique: CWU

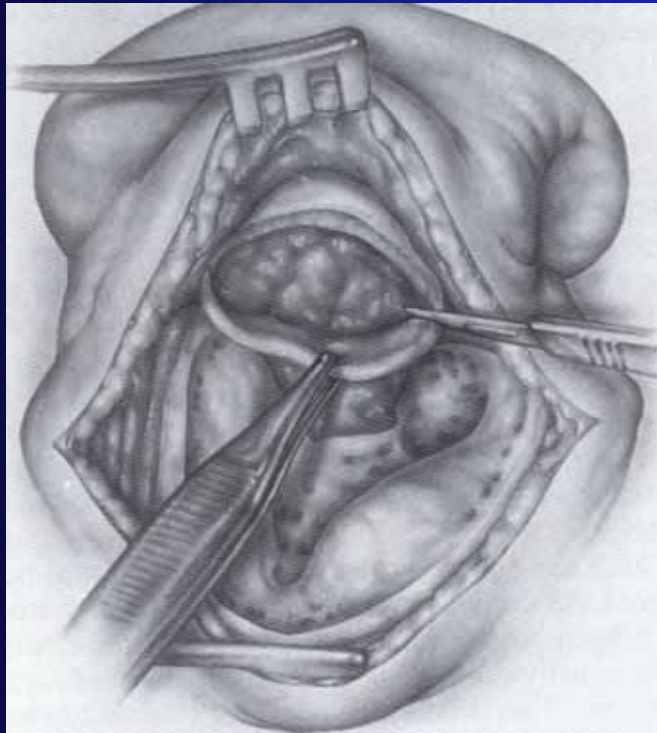
- Is patient willing & able to have “second look”?
- Does the patient understand the high recurrence rate with closed techniques?
- Does the patient understand the greater potential for complications?

## Canal Wall Down

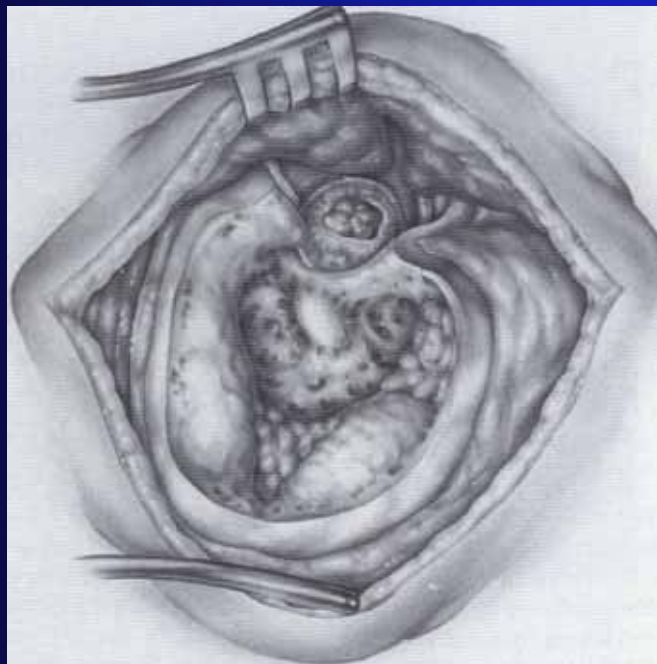




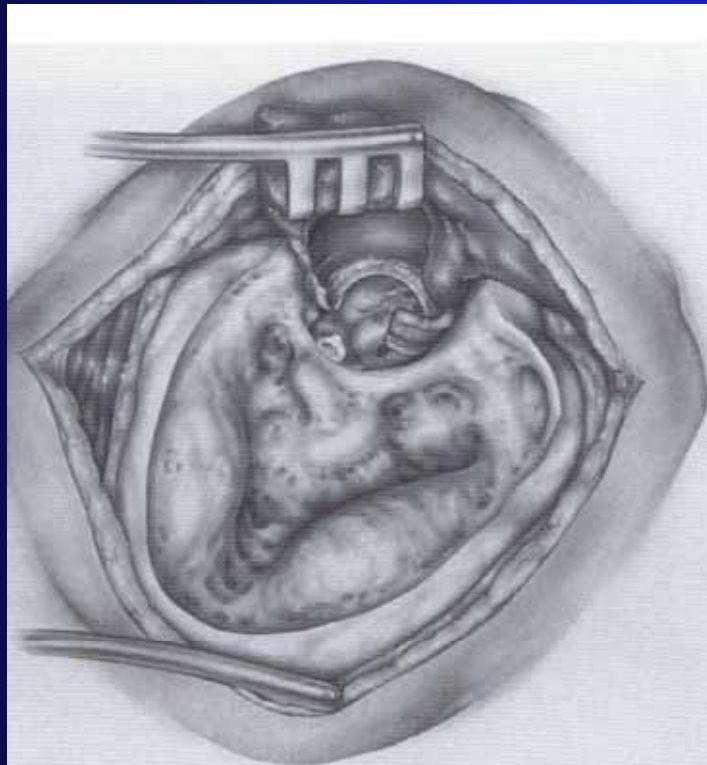
# Canal Wall Down



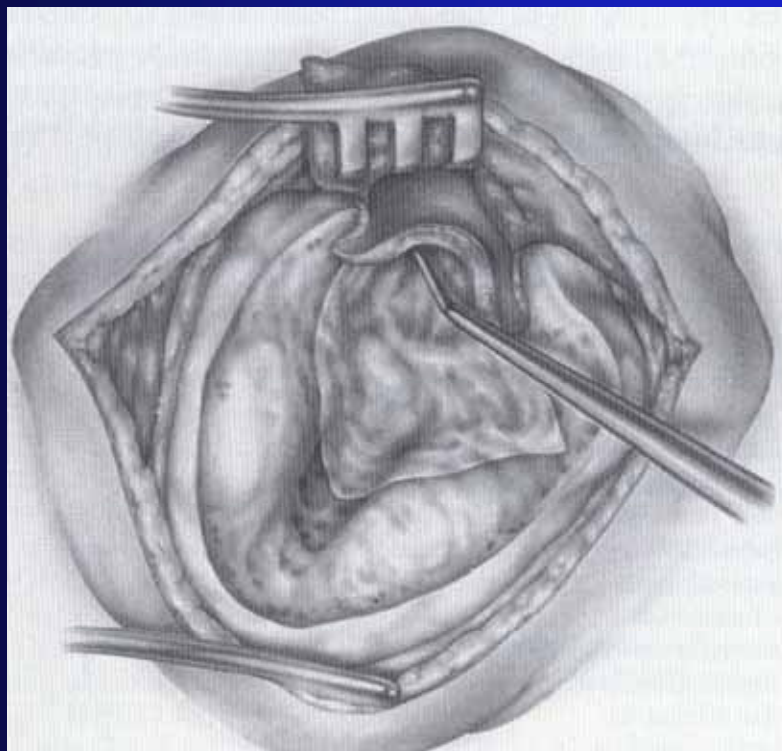
# Canal Wall Down



# Canal Wall Down



# Canal Wall Down



# Open Cavity Mastoidectomy



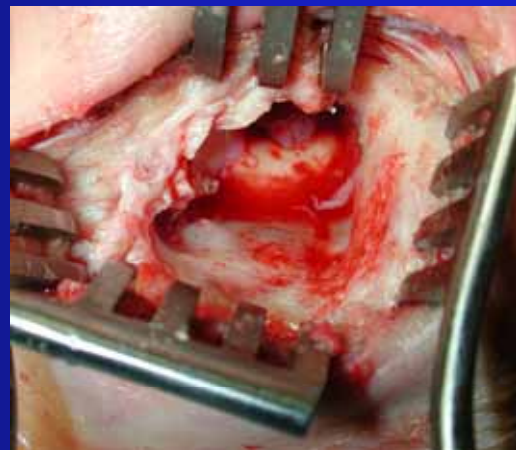
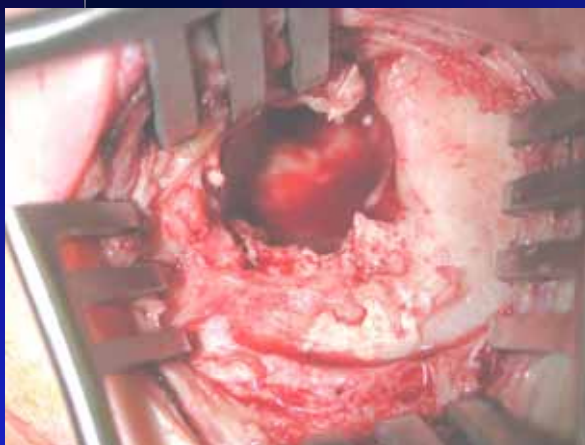
## Cholesteatoma removal

- Removal all cholestatoma unless:
  - Attached inextricably to
    - Facial Nerve
    - Dura Mater
    - Labyrinthine Fistula?

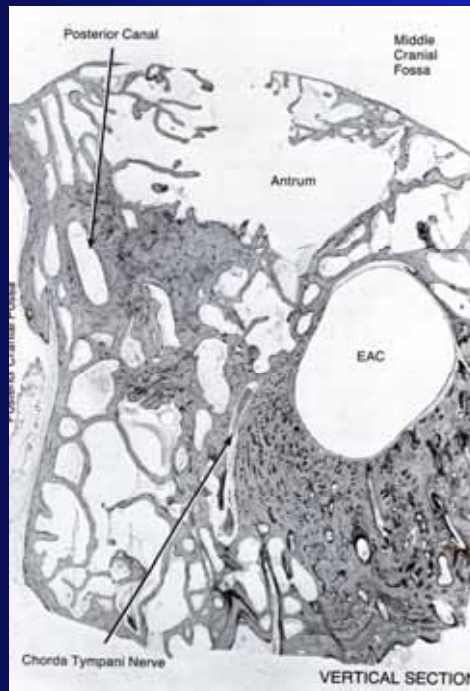
## Critical Features

- Saucerize well
- Amputate mastoid tip
- Create a smooth, flat transition from tegmen mastoideum to tegmen tympani
- Remove all air cells
- Remove posterior wall of EAC to facial ridge

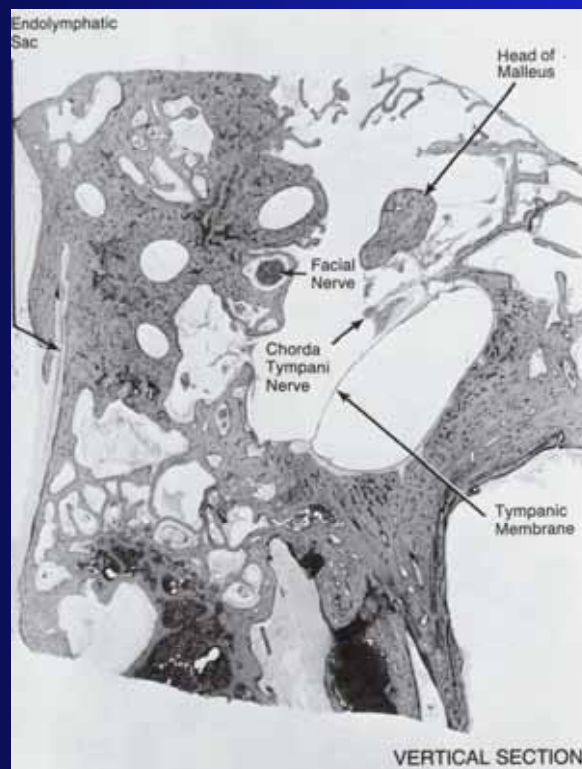
## Saucerization



# Tegmen



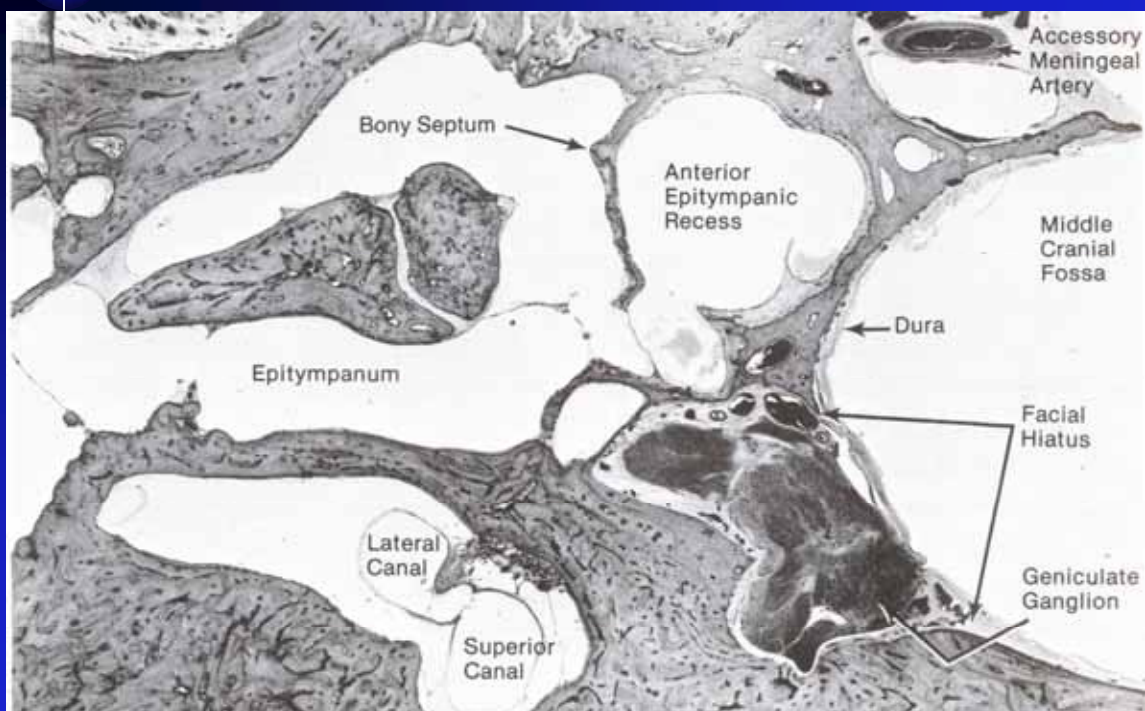
# Tegmen



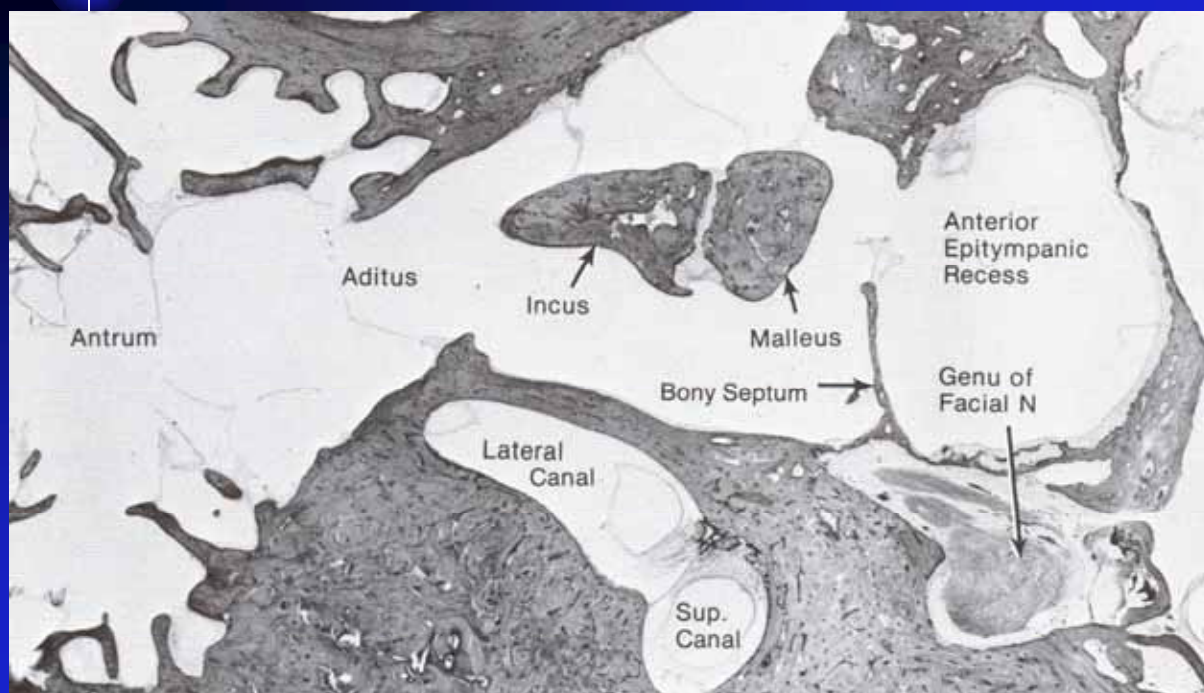
# Critical Features

- Lower floor of medial EAC toward hypotympanum
- Remove “Cog” and air cells from anterior epitympanic recess
- Adequate meatoplasty

## Anterior Epitympanic recess



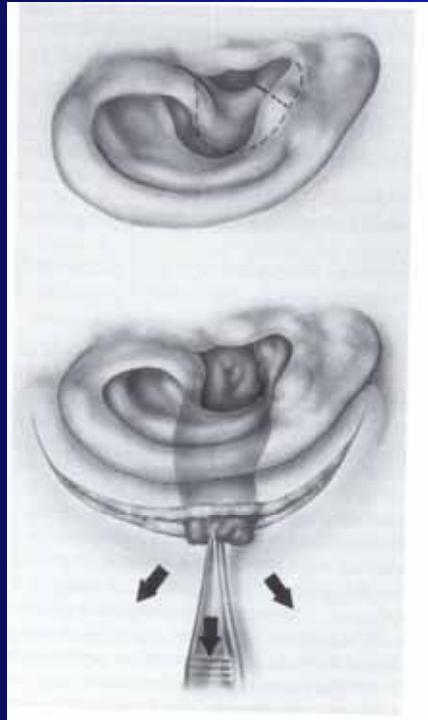
# Anterior Epitympanic recess



# Adequate Meatoplasty



# Adequate Meatoplasty



# Palva Flap





# Palva Flap

