

To day's topic

Ear Surgery

Common Ear surgery:

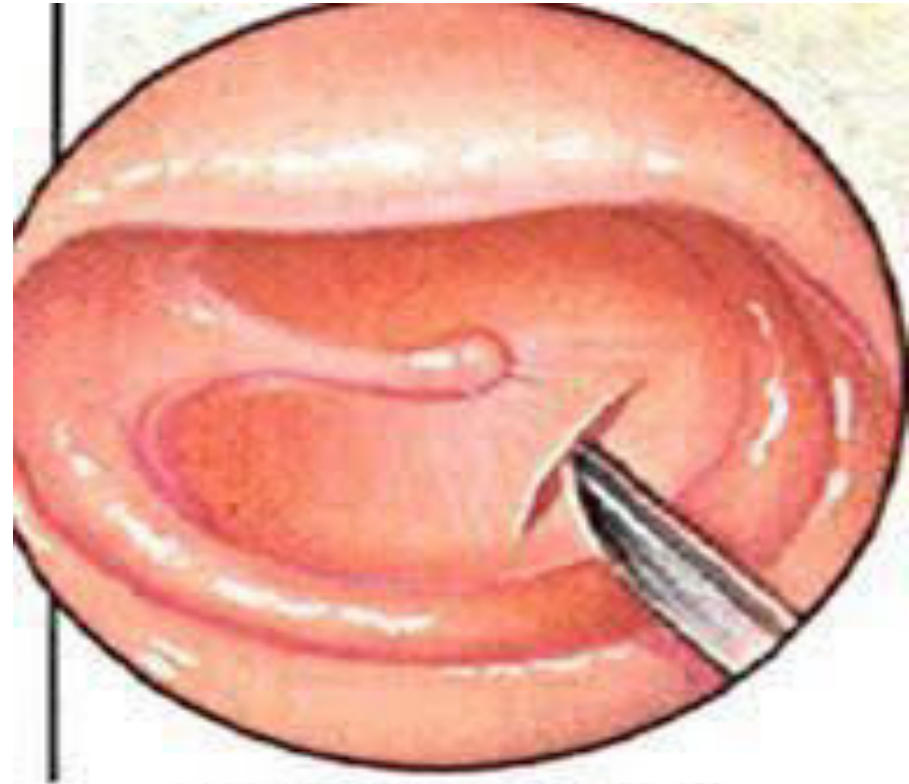
- Myringotomy
- Myringoplasty
- Tympanoplasty
- Mastoid surgery:
 - Cortical mastoidectomy
 - modified radical mastoidectomy
 - radical mastoidectomy



Myringotomy :

Definition:

Myringotomy means making an incision of the tympanic membrane to drain or to provide aeration of the middle ear.



A small incision
is made in
the eardrum

Indications:

A) In Acute suppurative otitis media.

- Severe earache with bulging of TM with impending rupture.
- Not responding to medical treatment
- Incomplete resolution with opaque drum and persistent conductive deafness.
- with extracranial or intracranial complications e,g, facial paralysis, labyrinthitis, meningitis.

Indications (cont.)

- B) In secretory otitis media.
- C) Grossly retracted TM /atelectatic ear secondary to Eustachian tube dysfunction.
- D) **Barotraumatic otitis media** with unresolved fluid in middle ear or recurrent barotraumatic otitis media.

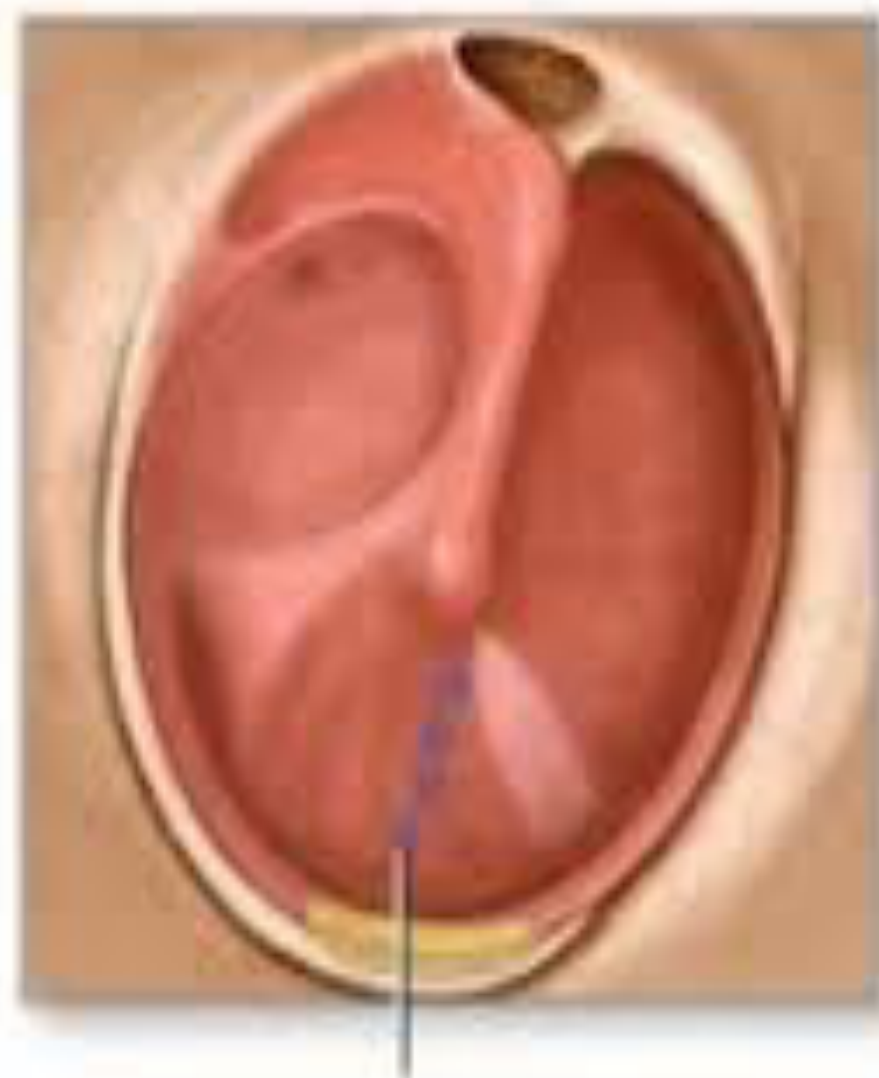
Incision into
tympanic membrane



Placement
of tube with
forceps



Tube in place



A small incision is made
in the ear drum



Tube inserted
to drain fluid

Myringotomy (cont.)

- **Anesthesia:**
- GA- in infant and children.
- LA- in adult.
- In ASOM, a circumferential incision is made in the **posteroinferior quadrant of TM**, midway between handle of malleus and tympanic annulus.
- In serous OM, a small radial incision is given in the **anteroinferior quadrant** and all the effusion sucked out.

Complications:

- Injury to incudostapedial joint or stapes.
- Injury to jugular bulb with profuse bleeding.
- Middle ear infection.

Myringoplasty:

Definition: defined as operation to repair or reconstruct the TM defect.

Indications:

- CSOM (TT) type, dry
- Unhealed perforated TM .

Graft tissue
is taken from
temporalis fascia



Graft patch in place
over defect



Eardrum



Hole in
eardrum

Eardrum



Graft

Tympanoplasty:

- An operation to eradicate disease in the middle ear and to reconstruct the hearing mechanism with or without eardrum grafting.
- Tympanoplasty may be combined with mastioidectomy.

Myringoplasty / Tympanoplasty



TYMPANOPLASTY

BEFORE



AFTER



Is the surgery to fix the
RUPTURED EARDRUM

Ossiculoplasty

Definition :

defined as reconstruction of ossicular chain to improve hearing.



Mastoidectomy

Definition : defined as exploration of the mastoid antrum and mastoid air cells .

Types :

- Cortical mastoidectomy.
- Modified radical mastoidectomy.
- Radical mastoidectomy.

Cortical mastoidectomy:

Synonym : simple mastoidectomy, Schwartze operation

- Defined as exploration of the mastoid antrum and the mastoid air cells, complete exenteration of all accessible mastoid air cells without disturbing the middle ear and without lowering down the posterior bony meatal wall or facial ridge.

Simple mastoidectomy

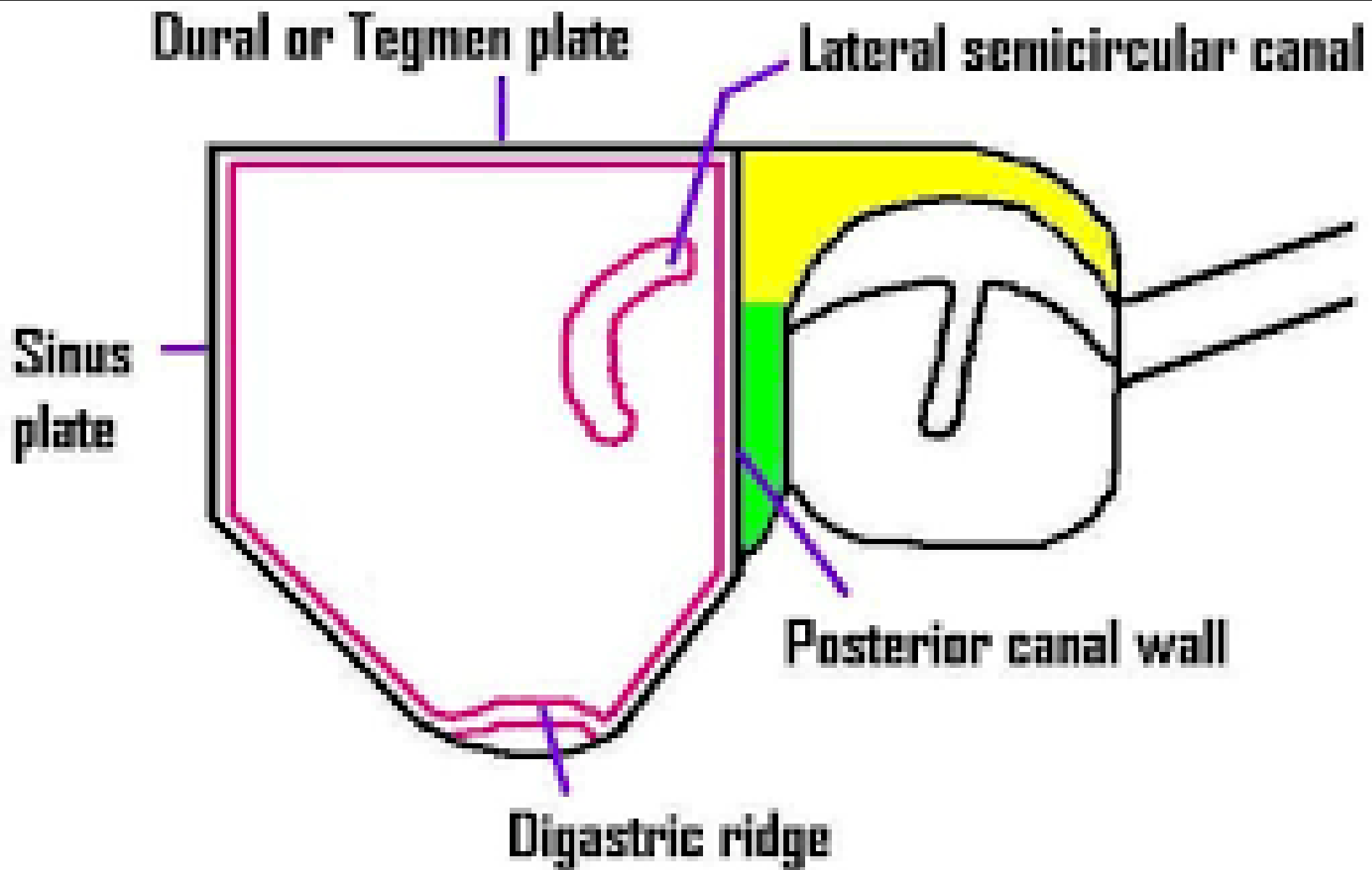
Indication:

- Mastoiditis
- Acute otitis

Steps of operation

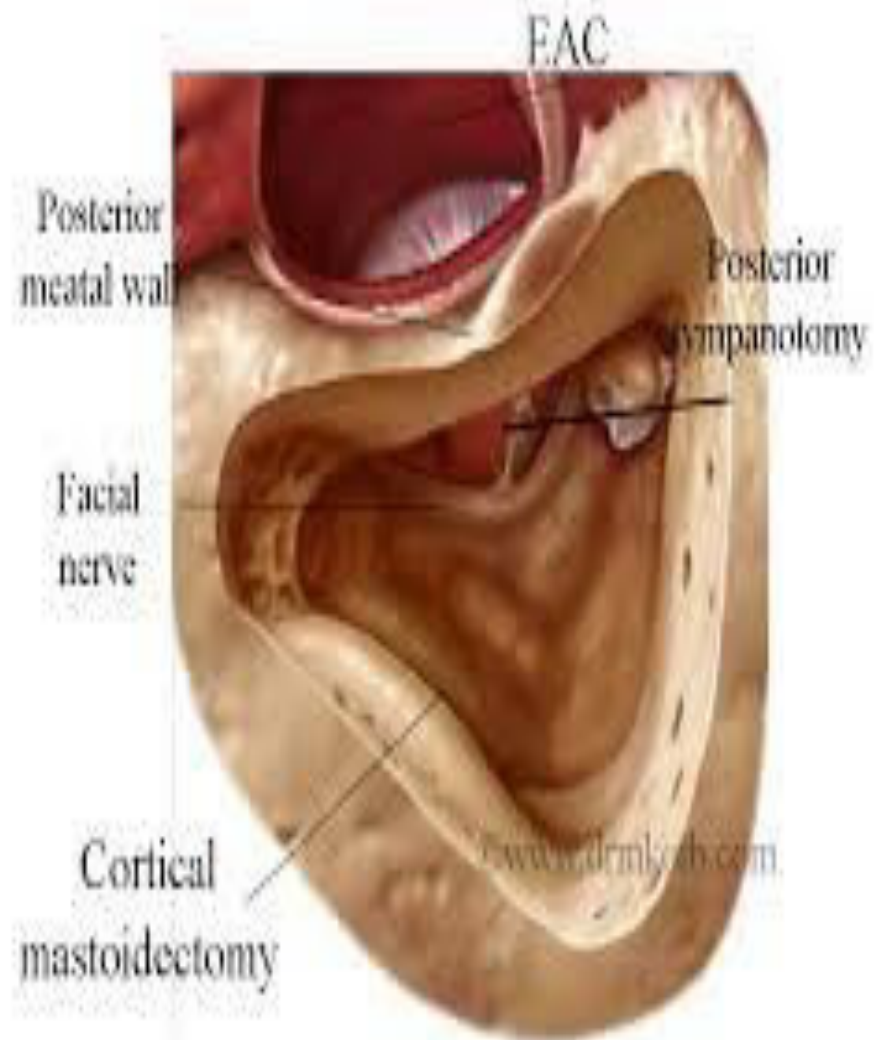
- Incision
- Exposure of lateral surface of mastoid and MacEwens triangle
- Removal of mastoid process and exposure of antrum
- Removal of mastoid air cell
- Removal of mastoid tip and finishing the cavity.
- Closure of wound

Cortical Mastoidectomy



Indications:

- Acute mastoiditis not responding to medical treatment.
- CSOM, tubotympanic type to get dry ear for tympanoplasty.
- Masked mastoiditis.
- As a route to other operations like cochlear implant, facial nerve decompression, endolymphatic sac decompression, transmastoid labyrinthectomy.



Complications :

- Facial nerve injury.
- Injury to sigmoid sinus > profuse bleeding.
- Injury to dura of middle cranial fossa.
- Injury to labyrinth > sensorineural hearing loss.
- Injury to lateral semicircular canal > vomiting, vertigo.
- Dislocation of incus.
- Wound infection.



Mastoidectomy Procedure



Mastoidectomy incision site



Mastoidectomy incision site

Modified radical mastoidectomy

- Defined as exploration of the mastoid antrum, mastoid ear cells, attic and middle ear, removal of disease from these areas, making a common cavity between the mastoid and middle ear by lowering down the posterior bony meatal wall or facial ridge and preservation of hearing as far as practicable.
- Here TM remnants and ossicular chain are preserved.

MRRM (cont.)

Indications :

- CSOM with cholesteatoma



Modified radical mastoidectomy

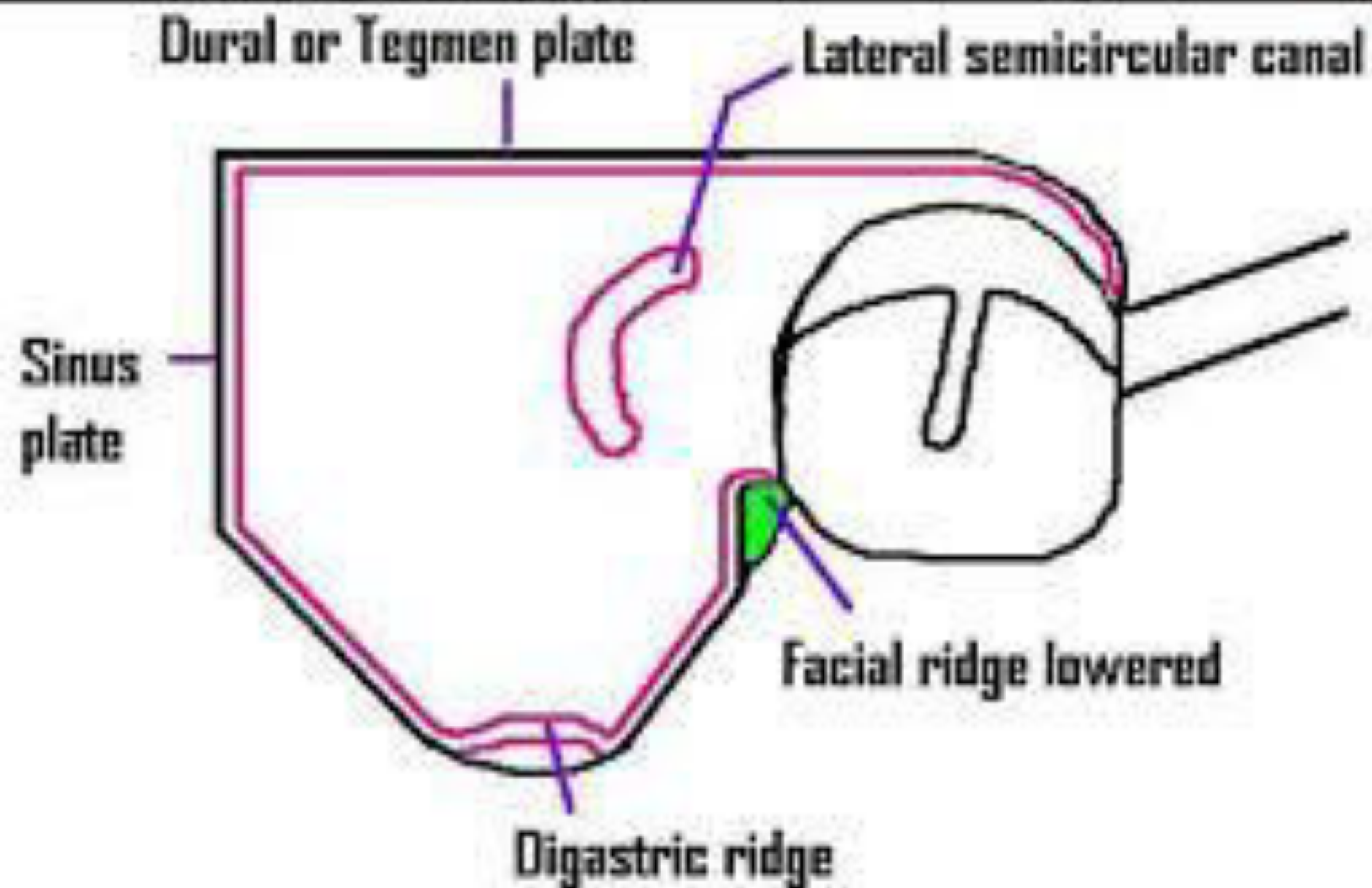
Indication

- Cholesteatoma confined to attic and antrum
- Localizes chronic otitis media

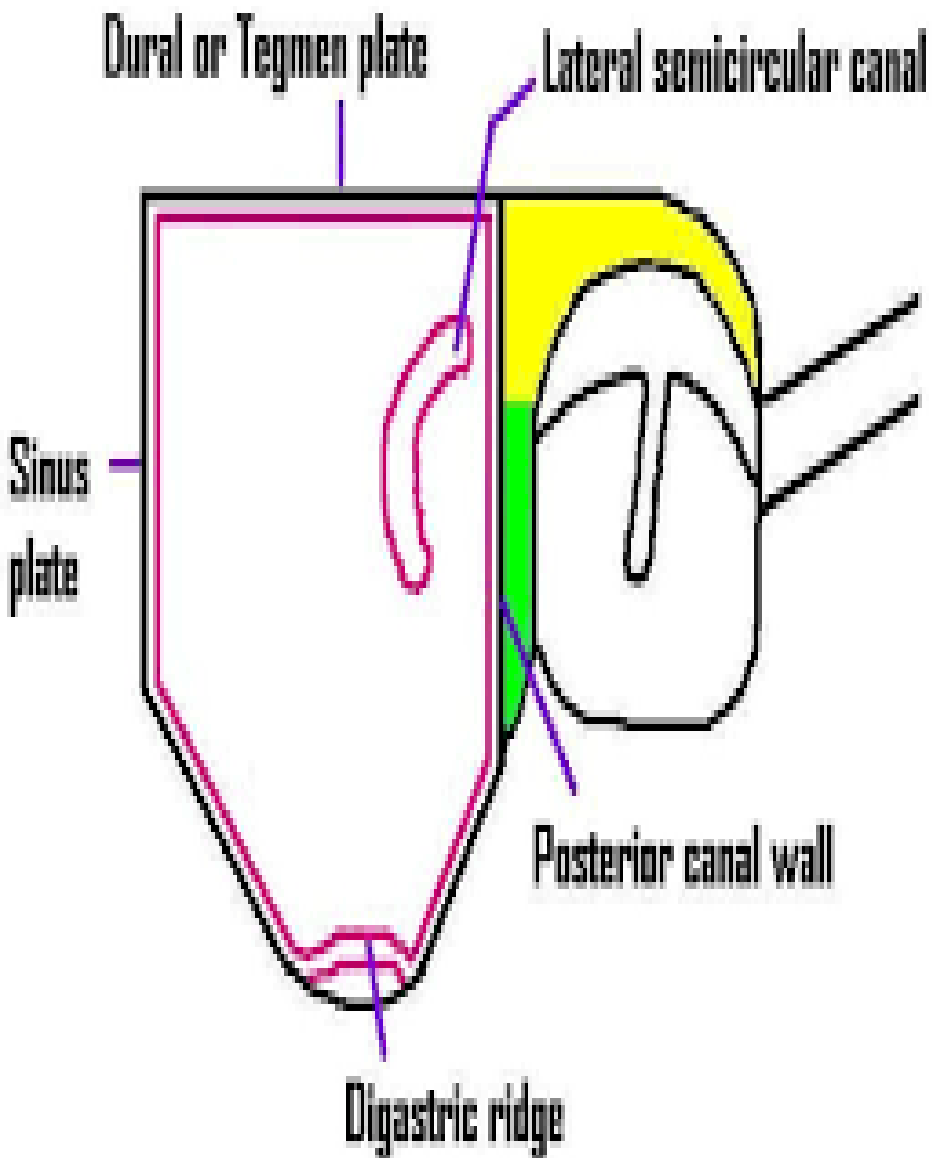
Steps of operation

- Incision
- Retraction of soft tissue and exposure of mastoid area
- Removal of cortical bone and exposure of antrum and attic
- Removal of diseased tissue
- Facial ridges is lowered
- Mastoid cavity is smoothed with polishing burr
- Reconstruction of hearing mechanism
- Meatoplasty
- Closure of wound

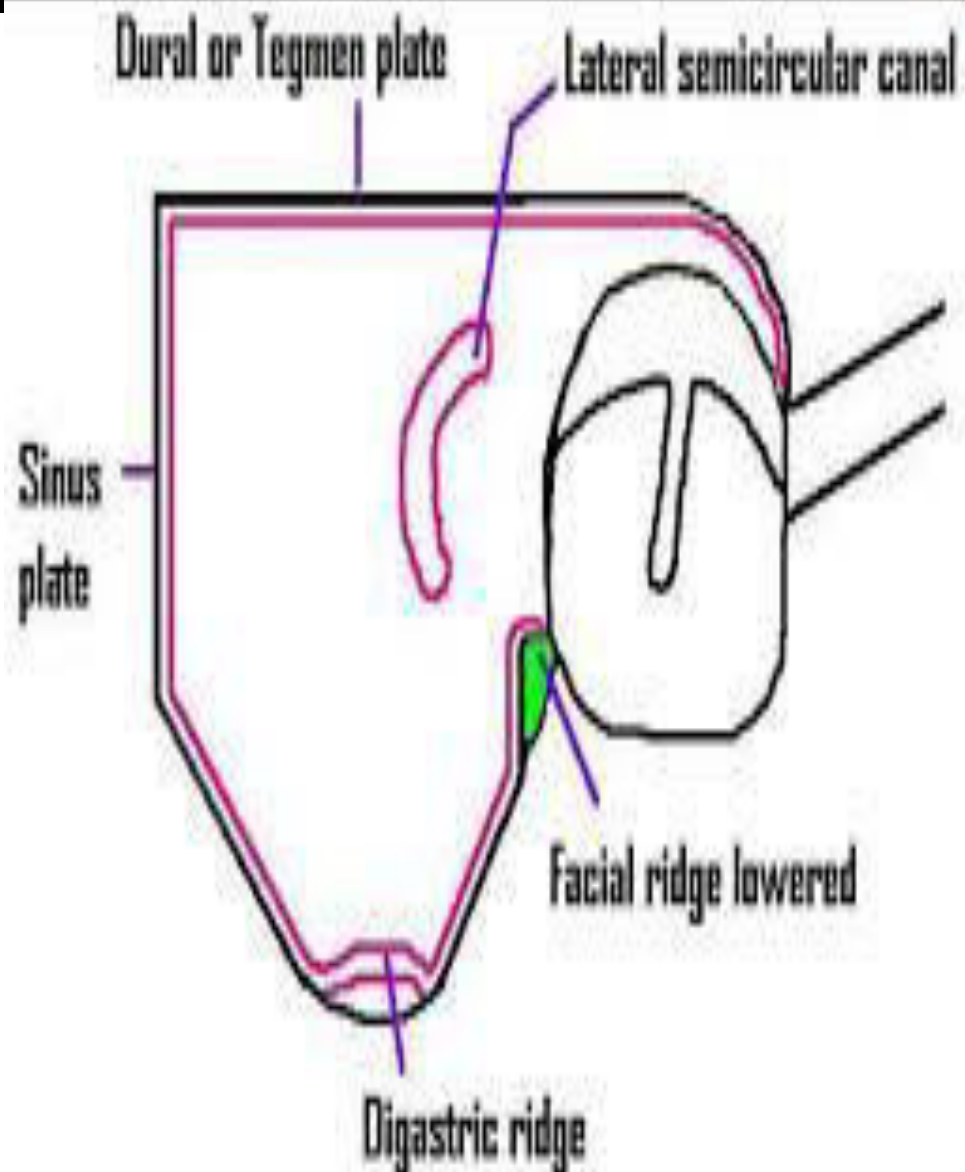
Modified Radical Mastoidectomy



Cortical Mastoidectomy



Modified Radical Mastoidectomy





Radical mastoidectomy :

- Defined as exploration of mastoid antrum, attic, middle ear, eradication of disease from these areas, making common cavity by removing facial ridge and without any attempt to reconstruct hearing.

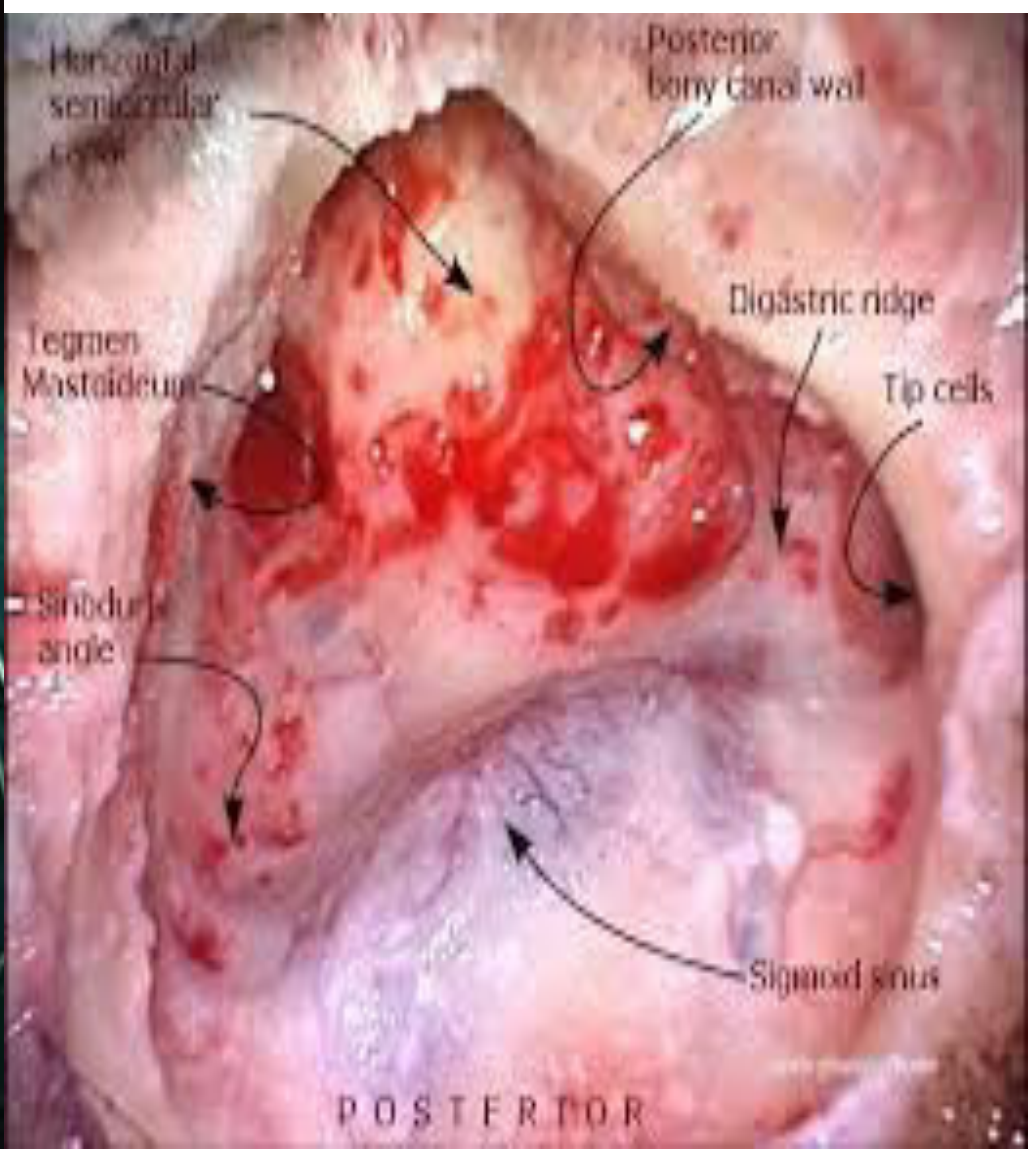
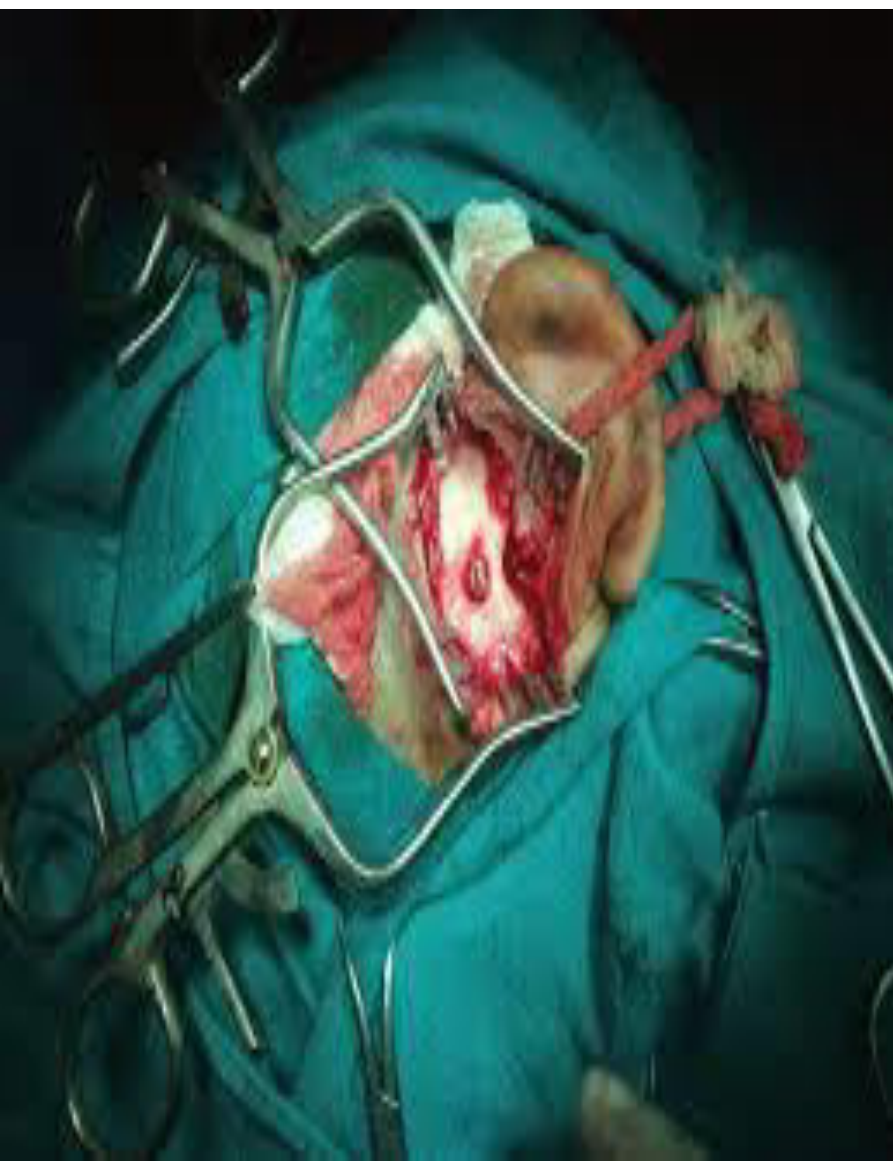
Radical mastoidectomy

Indication

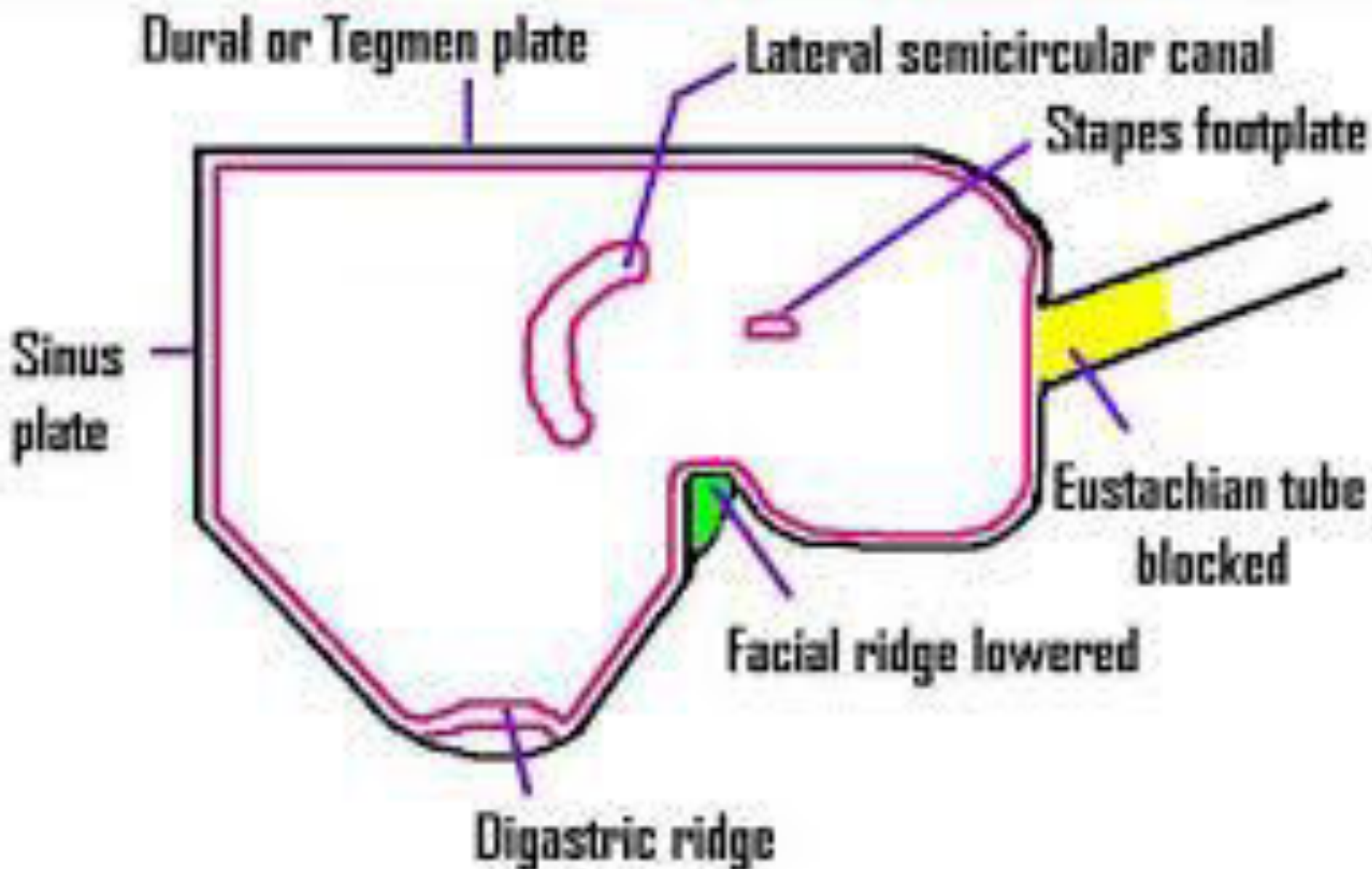
- Cholesteatoma
- Removal of glomus tumour
- Carcinoma of middle ear

Steps of operations

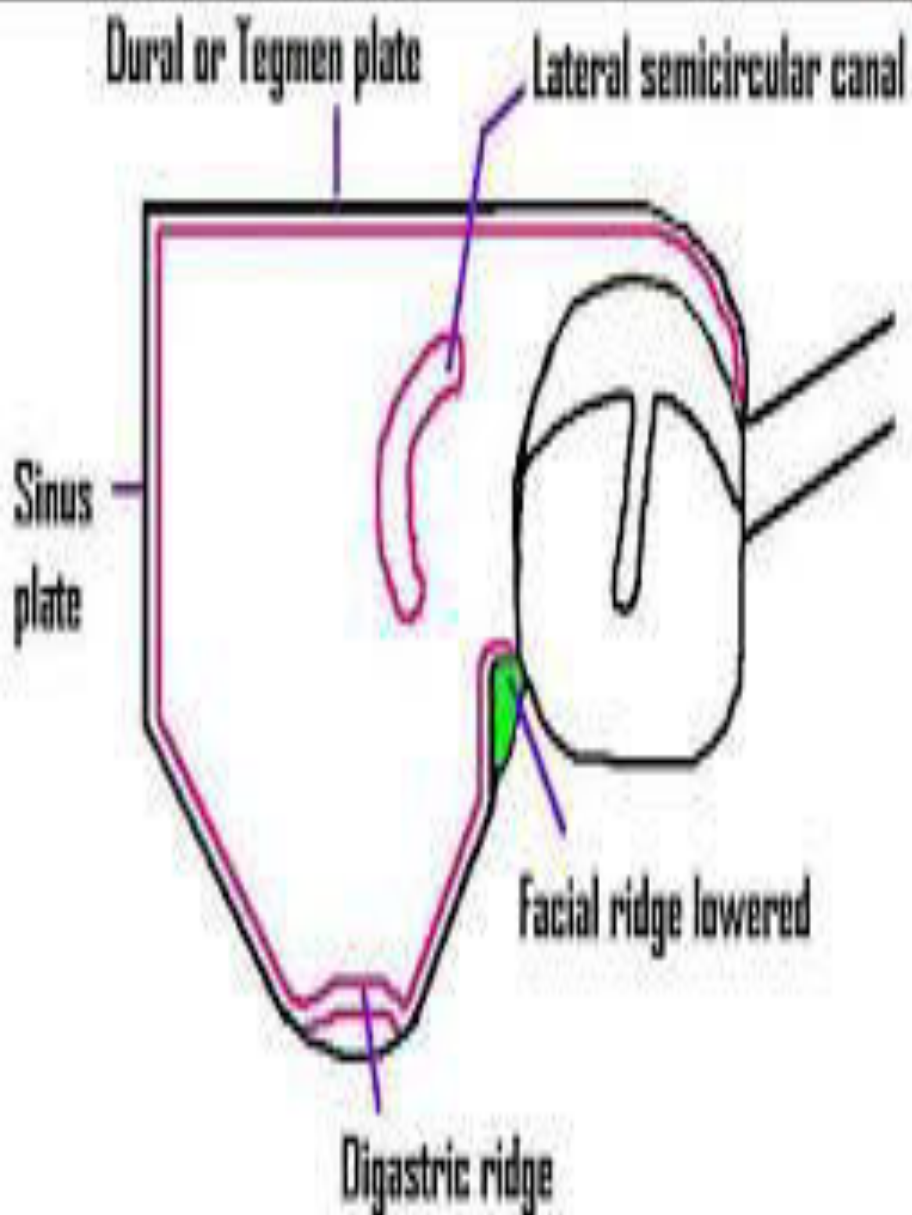
- Incision
- Retraction of soft tissue and exposure of mastoid area
- Removal of bone and exposure of attic and antrum
- Removal of bridge and buttresses
- Lowering the facial ridge
- Removal of remnants from middle ear
- Inspection of cavity and irrigation
- Meatoplasty
- Obliteration of cavity
- Closure of wound



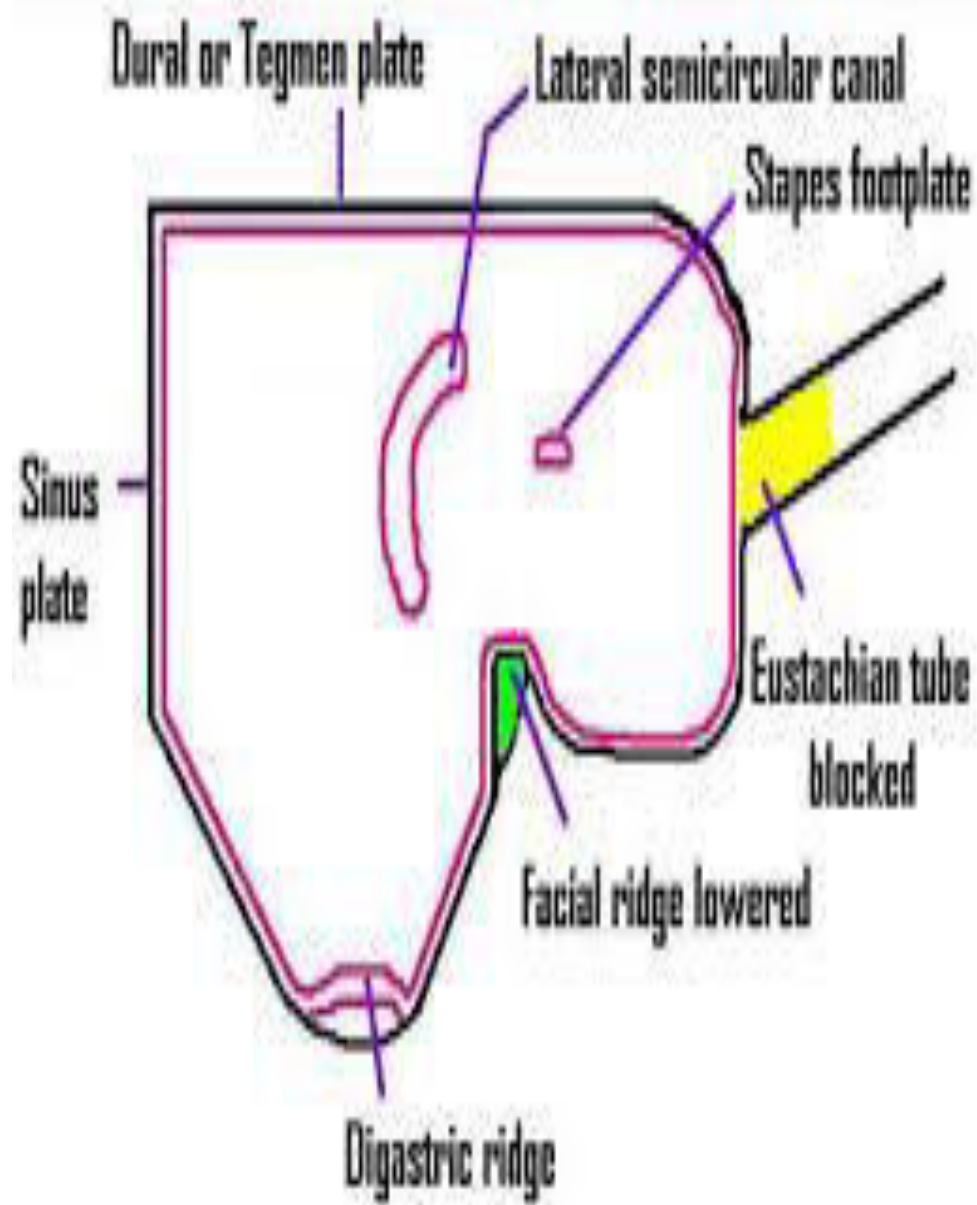
Radical Mastoidectomy



Modified Radical Mastoidectomy



Radical Mastoidectomy



Indications:

- Extensive cholesteatoma disease.
- Cholesteatoma with intracranial complications.
- Malignant otitis externa.
- Carcinoma of the middle ear.
- Removal of glomus tumour.
- As an approach to petrous apex.

Complications:

- Facial nerve paralysis.
- Perichondritis of pinna.
- Labyrinthitis.
- Severe conductive or SN deafness.
- Injury to duramater.
- Injury to sigmoid sinus.
- Discharging mastoid cavity.





Thanks