

Treatment →

1. Anticonvulsant -
  - Carbamazepine (200mg) TID
  - phenytoin (100mg) TID
  - clonazepam
  - Pregabalin.
2. glycerol Injection
3. Rhizotomy

Migrane

It is one type of periodic headache ~~at~~ which ~~is associated~~ is unilateral and associated is visual disturbance and vomiting. The attacks occurs at the interval of few days to several month.

It is neurovascular disorder. It is believed that this is due to disturbance in the carotid or vertebro-basilar vascular tree by sudden contraction and dilatation of the vessels. First vasoconstriction followed by vasodilatation which causes throbbing throbbing pain in the head

② Aura - experience by the patient is complicated migraine. The patient experiences sudden flash of light, distorted dots, wavy lines or zig zag line.

Migrane may presenting is Aura or without Aura.

Migraine attacks can be triggered by some factors like

- stress, depression, ~~and~~ anxiety
- foods - like cheese, alcohol, Caffeine, chocolates, tyramine.
- changes in weather - cold exposure or changes in the altitude
- ~~menstruation~~ menstruation.
- Habbits -
  - changes in sleep
  - skipping meals.
- ~~and~~ Family history.

C/F →

- Parasthesia or weakness of one side of the body.
- head ache which is throbbing in nature.
- Photophobia, blurring of vision
- loss of appetite, vomiting, pain abdomen
- Diarrhoea
- Dizziness, fatigue

most of the migraine headaches last for few hours, but severe one can last for 2-3 days.

Types

- migraine  $\bar{c}$  aura (
- Migraine without aura.

## Treatment →

- Pain killers -  
(NSAIDs)

Naproxen  
Ibuprofen  
Acetaminophen.

Aspirin

- Anti depressants -
- Antianxiety drugs -
- Ergotamines.
- Sedatives - Alprazolam  
Diazepam.  
Zolpidem. etc.

# Anatomy of ear

Ear is divided into three parts.

- ① External ear
- ② Middle ear
- ③ Internal ear or labyrinth

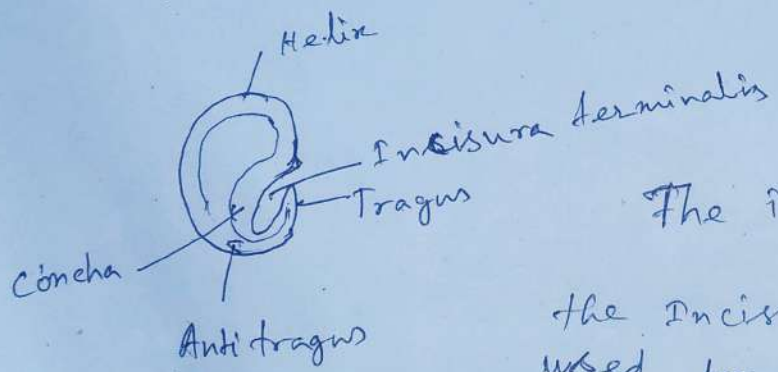
## ① External ear →

External ear consist of three parts

- a) auricle or pinna
- b) external acoustic canal
- c) Tympanic membrane

## a) Auricle or pinna →

Entire pinna except its lobule and outer part of acoustic canal are made up of yellow elastic cartilage which is covered by skin.



The incision through

the Incisura terminalis is used for endural approach in surgery of the external auditory canal or mastoid.

Pinna is the source of several graft material for reconstructive surgery of the middle ear.

~~Concha~~ Conchal cartilage used to correct depressed nasal bridge.

⑥ External acoustic canal →

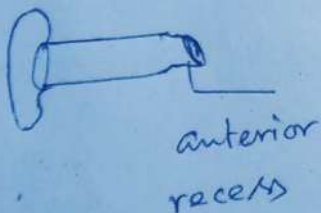
- bottom of concha to tympanic membrane
- 24 mm
- ~~outer part - downward, backward, medially.~~  
~~downward, forward, medially.~~
- outer part - upward, backward, medially
- inner part - downward, forward, medially.
- canal divided into two parts
  - (i) Cartilaginous part
  - (ii) bony part,

(i) cartilaginous part —

- outer 8 mm. of the canal.
- Fissure of Santorini — through them (2 in number) infection of from parotid and mastoid can affect the canal or vice versa.
- skin in the cartilaginous canal is thick and contains ceruminous and pilosebaceous gland.
- furuncles are ~~are~~ originates from ~~here~~ here.

(ii) Bony part —

- Inner 16 mm of the canal.
- skin lining on this bony canal is thin and continuous over ~~bony~~ tympanic membrane.



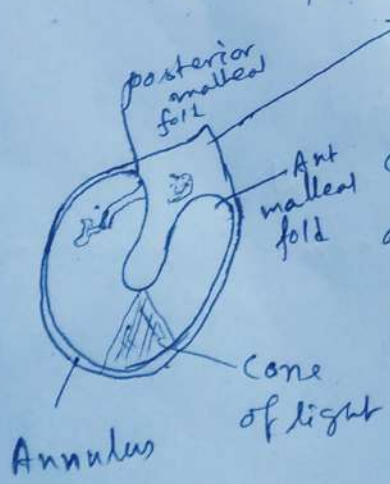
(c) Tympanic membrane →

- It is the partition between external acoustic canal and middle ear.
- 9-10mm tall and 8-9mm wide 0.1mm thick.
- two parts.
  - (i) pars tensa
  - (ii) pars flaccida

(i) pars tensa —

- forms most of the tympanic membrane
- peripherally it is thick and forms fibrocartilaginous ring called annulus tympanicus which fits in the tympanic sulcus.
- central part is ~~concave~~ tented inward at the level of tip of malleus is called Umbo.
- A bright cone of light seen radiating from the tip of the malleus to the periphery in antero inferior quadrant.

(ii) pars flaccida (Shrapnell's membrane) —



- situated above the lateral process of malleus between notch of Rivinus and anterior malleal fold, posterior malleal fold.

• Layers of tympanic membrane —

- outer epithelial layer
- Middle fibrous layer
- Inner mucosal layer.

Nerve supply of external ear

1. Pinna —

greater auricular nerve (C<sub>2,3</sub>)

- supplies medial surface
- posterior part of lateral surface

Lesser occipital (C<sub>2</sub>) —

upper part of medial surface

Auriculotemporal nv. —

tragus, crus of helix

Auricular branch of vagus —

Concha

2. External auditory canal —

Anterior wall and roof —

Auriculotemporal

posterior wall and floor —

Auricular branch of vagus

posterior wall —

Cr. nv - VII.

3. Tympanic membrane —

- Anterior half of lateral surface —  
Auriculotemporal

- posterior half of lateral surface —  
Auricular branch of vagus

Medial surface -  
Tympanic branch of Cr. nr - IX

Middle Ear

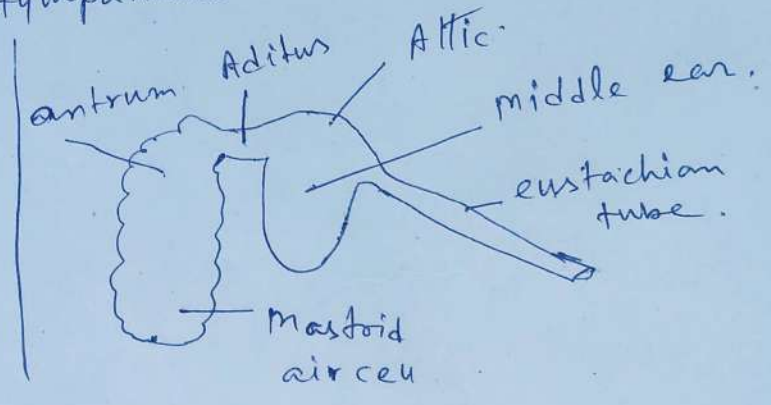
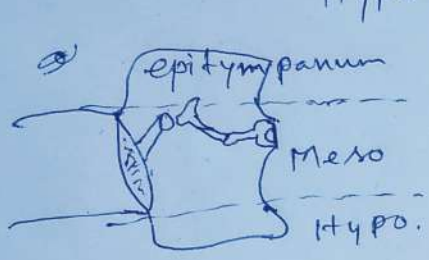
It consist of eustachian tube, aditus antrum, and mastoid air cell, and it is lined by mucus membrane and filled with air.

divisions -

Mesotympanum -

Epitympanum - (attic)

Hypotympanum -



Middle ear consist of 6 sided box -

Roof - formed by a thin plate of bone called tegmen tympani

separates the tympanic cavity from middle cranial fossa.

floor - it separates tympanic cavity from jugular bulb

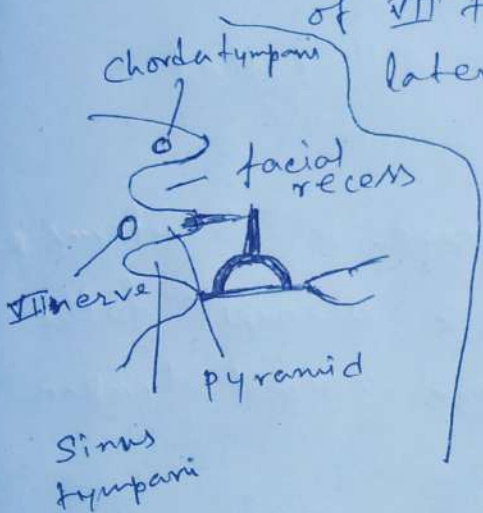
Anterior wall -

- Separates the cavity from internal carotid artery.
- It has two opening lower one is for eustachian tube, upper one is for tensor tympani muscle.

posterior wall -

- It is close to the mastoid air cells.
- Presenting  $\bar{c}$  a bony projection called ~~pyr~~ pyramid; stapedius muscle attached here.
- Aditus is an opening through which attic communicates  $\bar{c}$  antrum.
- Facial nerve runs through just behind the pyramid
- It is bounded medially by vertical part of VII th nerve.

laterally by chorda tympani.



Medial wall -

- formed by labyrinth.
- A bulge is there ~~at~~ due to basal coil of cochlea called promontory
- oval window - fixed  $\bar{c}$  foot plate of stapes.

• round window - fenestra cochleae which is covered by secondary tympanic membrane.

• above oval window there is a canal for facial nerve

• Hook like projection called processus Cochleariformis.

• Tendon tympani take turn here to get attached to the neck of malleus.

• medial to the pyramid, a deep process is called sinus tympani

### Lateral wall —

• tympanic membrane.

• bony outer attic wall called ~~the~~ scutum.

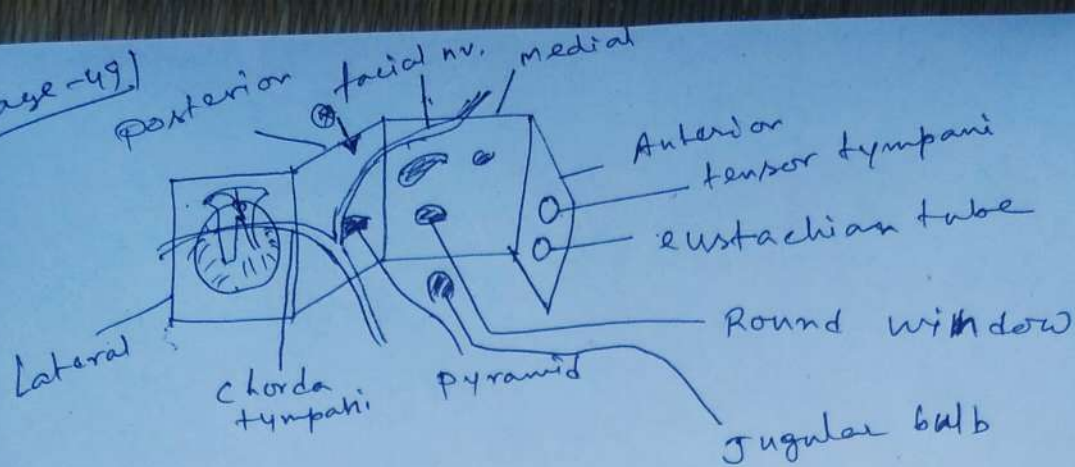
• Tympanic membrane is semitransparent and forms a 'window' to the middle ear. through normal tympanic membrane.

• long process of incus

• incudostapedial joint

• round window

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⊗ Aditus

Mastoid antrum →

Large air containing space in the upper part of mastoid.

Communicates through aditus & attic roof is formed by tegmen antri & which communicates with tegmen tympani