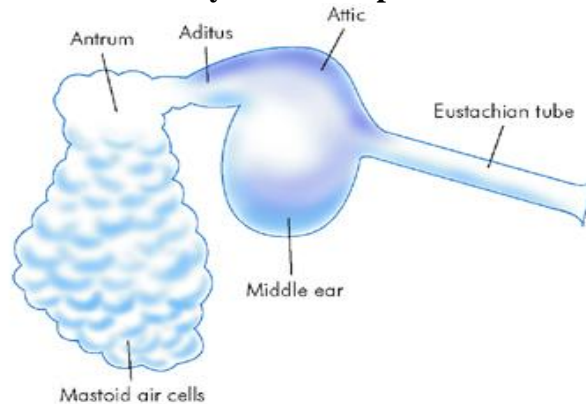


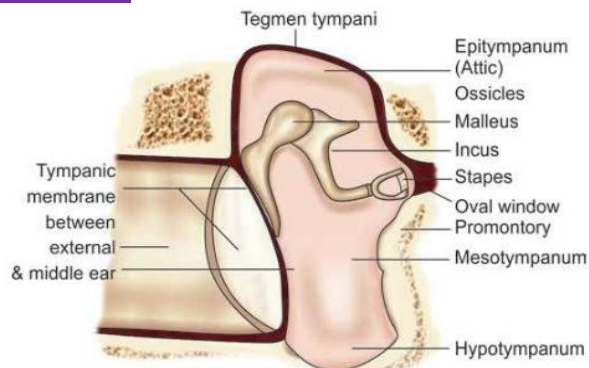


- Define middle ear cleft.

- Eustachian tube + middle ear cavity + mastoid process.



- When you examine the ear with an otoscope, you will be unable to visualize the head and neck of malleus because it is covered by the attic bone (epitympanum and hypotympanum are not seen).



- The lining of ear pinna and external auditory canal is: keratinized squamous epithelium which becomes attenuated when reaching the tympanic membrane.
- The self-cleaning mechanism of the ear pushes wax and debris at a rate of 1 mm/day.
- There are 3 types of epithelium found in middle ear cavity:
  - Squamous epithelium.
  - Cuboidal epithelium.
  - Stratified columnar epithelium with goblet cells.
- When Eustachian tube is blocked → negative pressure will be created → tympanic membrane is sucked-in → thus squamous epithelium enters middle ear cavity (abnormal place) → resulting in defective cleaning mechanism and accumulation of keratin.
- Cholesteatoma:
  - **Definition:** a cyst composed of keratinized squamous epithelium in middle ear cavity.
  - **Types:**
    - ✓ Congenital: persistent ectoderm in the abnormal place. It is describes as a small white pearl behind an intact tympanic membrane.





✓ Acquired (more common):

❖ *Primary cholesteatoma*: due to retraction pocket.



Primary acquired cholesteatoma

❖ *Secondary cholesteatoma*: due to presence of marginal perforation.



- Notice that cholesteatoma erodes the bones because the sac produces osteolytic enzymes in addition to the effect of pressure by the mass.
- What are the clinical features of cholesteatoma?
  - ✓ Patient complaining mainly of malodorous discharge for long duration.
  - ✓ Notice that hearing is not much affected even when cholesteatoma grows over the ossicles because vibrations still be transmitted from tympanic membrane by the effect of the mass. When cholesteatoma is removed, patient will state that hearing has been reduced since surgery!
- What are the complications of cholesteatoma?

Local	Intracranial
Ossicular erosion: conductive hearing loss	Meningitis
Inner ear erosion: SNHL, dizziness, and/or labyrinthitis	Sigmoid sinus thrombosis
Temporal bone infection: mastoiditis, petrositis	Intracranial abscess (subdural, epidural, cerebellar)
Facial paralysis	

- **Diagnosis:** audiogram + CT-scan.
- **Treatment:** mastoidectomy ± tympanoplasty ± ossicular reconstruction.

