👂 HEARING LOSS

🧾 Case Scenario

A 40-year-old male presented to ENT OPD with hearing loss.

🧠 Ten Common Causes of Conductive Hearing Loss

🧬 Congenital Causes

1. Meatal atresia
2. Stapes footplate fixation (congenital stapedial fixation)
3. Fixation of malleus head
4. Ossicular discontinuity
5. Congenital cholesteatoma

🦠 Acquired Causes

👂 External Ear (Sound conduction blocked)

6. Impacted wax
7. Foreign body
8. Furuncle (boil)

🎧 Middle Ear

9. Tympanic membrane perforation
10. Otitis media
    - Acute otitis media
    - Serous otitis media

🧱 Structural / Pathological

11. Middle ear tumor
12. Otosclerosis
13. Tympanosclerosis

🧠 Hearing Pathway

Sound waves → Pinna → External auditory canal → Tympanic membrane vibration → Ossicles (Malleus → Incus → Stapes) → Oval window → Cochlear fluids movement → Organ of Corti hair cell stimulation → Cochlear nerve → Cochlear nuclei (brainstem) → Superior olivary complex → Lateral lemniscus → Inferior colliculus → Medial geniculate body (thalamus) → Auditory cortex (temporal lobe)

🧾 Case Scenario

A 7-year-old boy presents with hearing loss.

Tuning fork tests:

- Rinne's: Negative bilaterally
- Weber: Central
- ABC: Equivocal

🧠 Type of Hearing Loss

➡️ Bilateral Conductive Hearing Loss

🎯 Why?

- Rinne negative both sides → BC > AC
- Weber central → symmetrical loss
- ABC equivocal → supports conductive type

🎵 Interpretation of Tuning Fork Tests

🧪 Rinne's Test (AC vs BC)

Result	Interpretation
AC > BC (Positive)	Normal or SNHL
BC > AC (Negative)	Conductive hearing loss

🧪 Weber's Test (Lateralization)

Finding	Interpretation
Central	Normal or symmetrical loss
Lateralized to affected ear	Conductive hearing loss
Lateralized to normal ear	Sensorineural hearing loss

🧪 Absolute Bone Conduction (ABC)

Result	Interpretation
Normal	Normal hearing
Reduced (same as examiner)	Conductive loss

Reduced (less than examiner)	Sensorineural loss

🗂️ Combined Interpretation Table

Rinne	Weber	ABC	Diagnosis
+	Central	Normal	Normal hearing
–	To affected ear	Normal	Conductive HL
+	To normal ear	Reduced	Sensorineural HL
– (both ears)	Central	Normal	Bilateral Conductive HL
+ (both ears)	Central	Reduced	Bilateral SNHL

🎯 Exam Pearls

⭐ Rinne negative = Conductive loss

⭐ Weber toward bad ear = Conductive loss

⭐ Weber toward good ear = SNHL

⭐ Bilateral symmetric loss → Weber central

⭐ ABC distinguishes conductive vs SNHL

-> The End <-