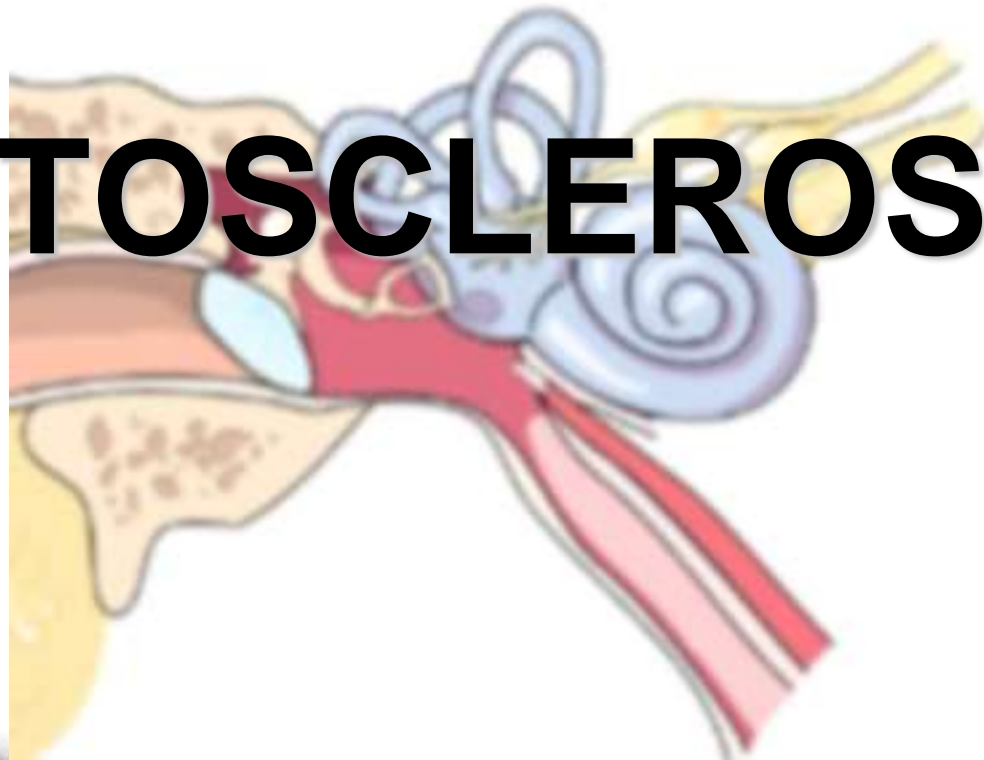
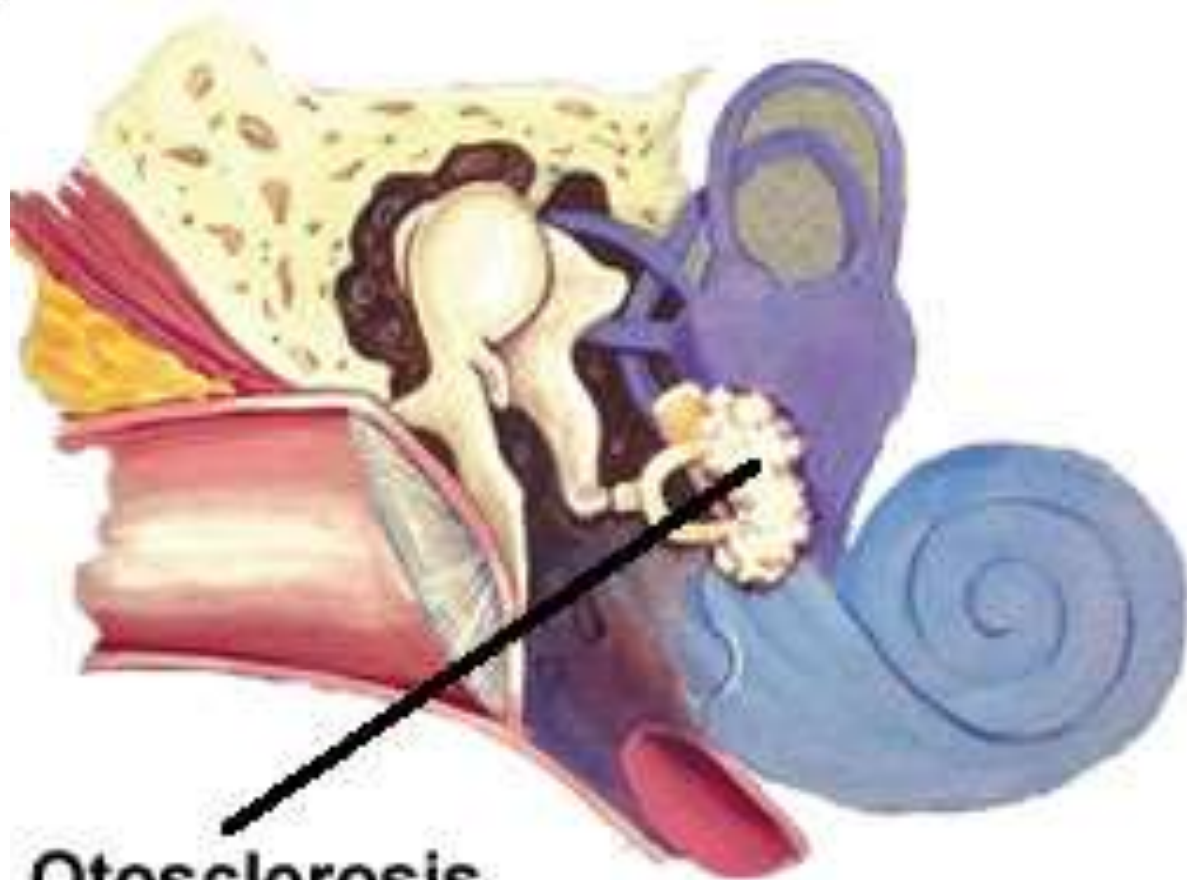


OTOSCLEROSIS



DEFINITION

- Hereditary localized disease of otic capsule
- Alternate bone resorption and formation
- Mature lamellar bone replaced by spongy bone



Otosclerosis

EPIDEMIOLOGY

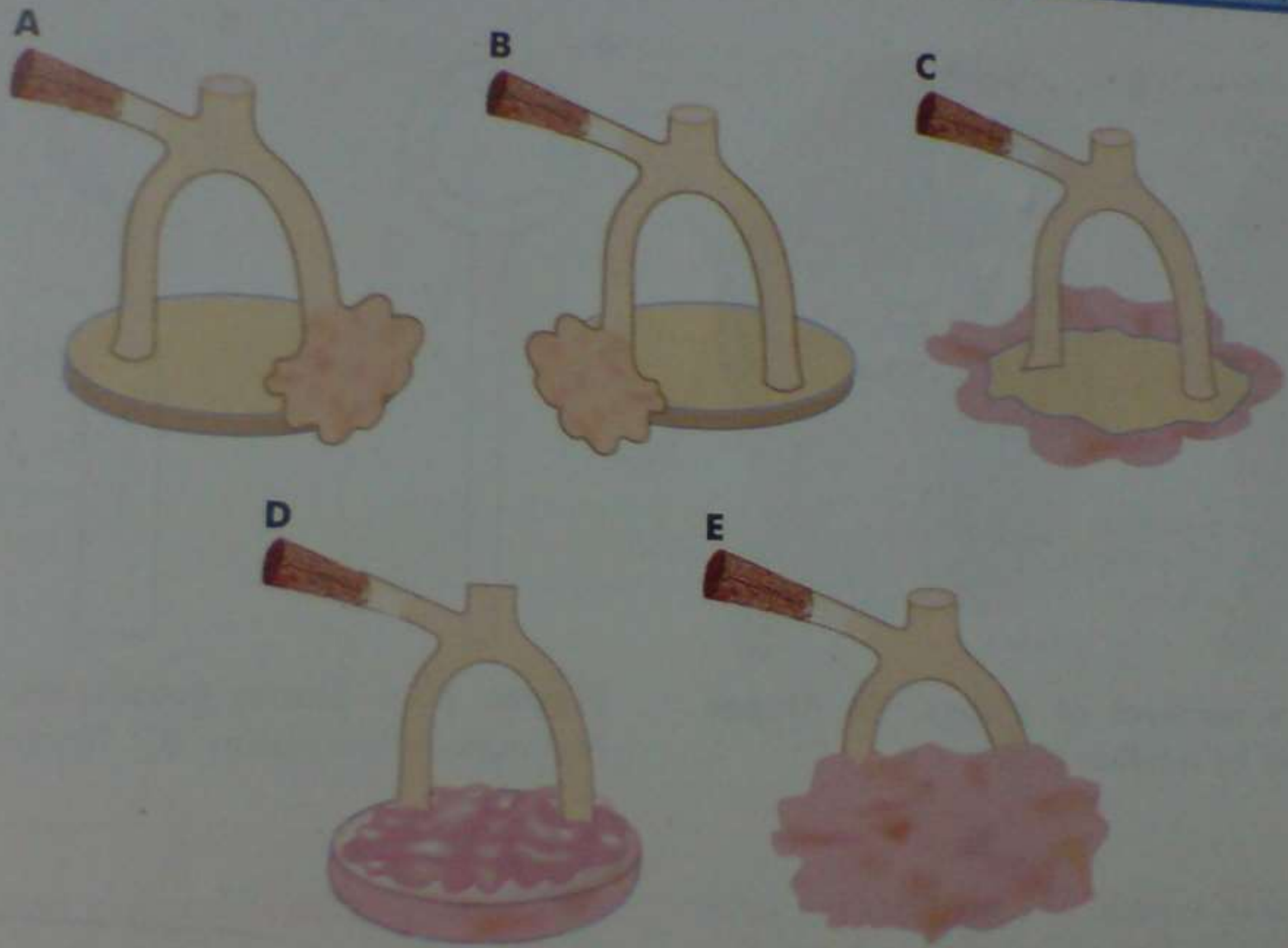
- Autosomal-dominant hereditary
- Caucasians
- Family history
- Female : male 2:1
- Between 15-45 yr

AETIOLOGY

- Hereditary
- Endocrine
- Biochemical
- Metabolic
- Infectious (eg. Measles)
- Traumatic
- Vascular
- Autoimmune

SITES OF OTOSCLEROSIS

- Oval window (85%)
 - Anterior footplate
 - Biscuit type
 - Obliterative
- Round window (50%)
- Both temporal bones (70-80%)



stapes of stapedial otosclerosis. (A) Anterior focus. (B) Posterior focus. (C) Circumferential. (D) Bony fixation. (E) Obliterative.

HISTOPATHOLOGY

- **Active phase-spongiotic phase (otospongiosis)**
 - Multiple active cell groups including osteocytes, osteoblasts, and histiocytes
 - Red hue behind the tympanic membrane termed **“Schwartz's sign”**



HISTOPATHOLOGY

- **Intermediate - phase**
- **A late or sclerotic phase**
 - dense sclerotic bone formation in the areas of previous resorption.

CLINICAL FEATURES

- Deafness (80%)
 - Bilateral
 - Conductive
 - Gradual
 - Paracusis willisi
- Tinnitus (75%)
 - Unilater/bilateral
 - Hissing, pulsatile
- Vertigo (25%)

DIAGNOSIS

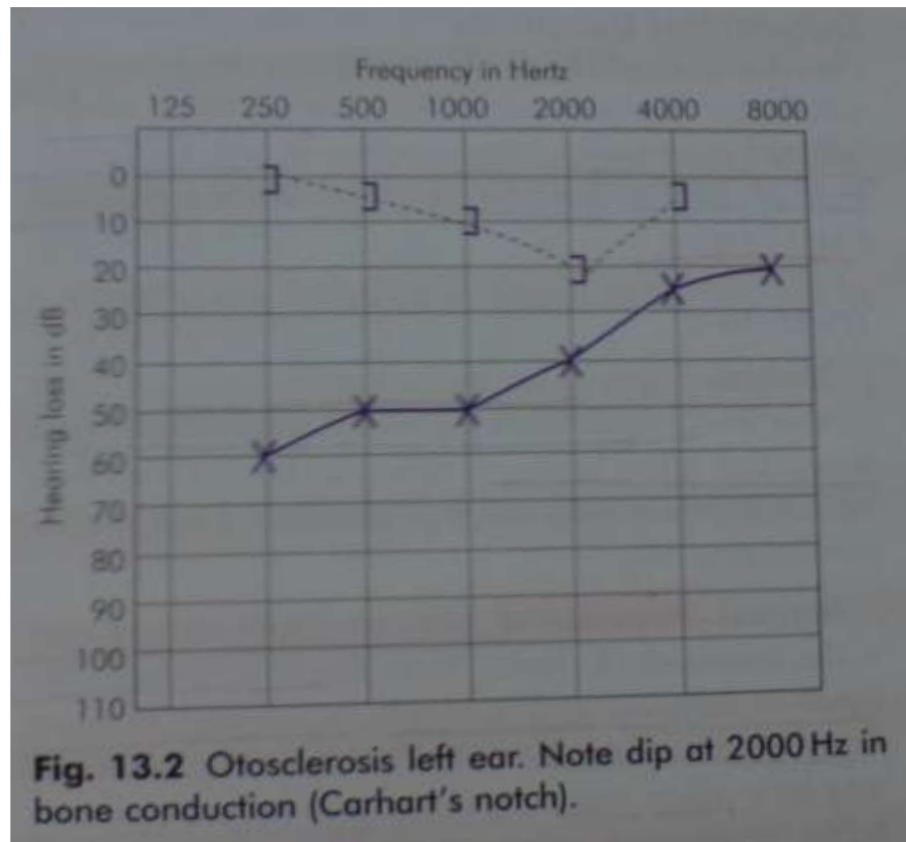
- Examination
 - TM (atrophic, thickened, rigid)
 - Schwartze sign

HEARING ASSESSMENT

- Speech test
- Rinne test
 - Negative
- Weber test
 - Lateralized to poor ear
- Schwabach test
 - Prolonged bone conduction

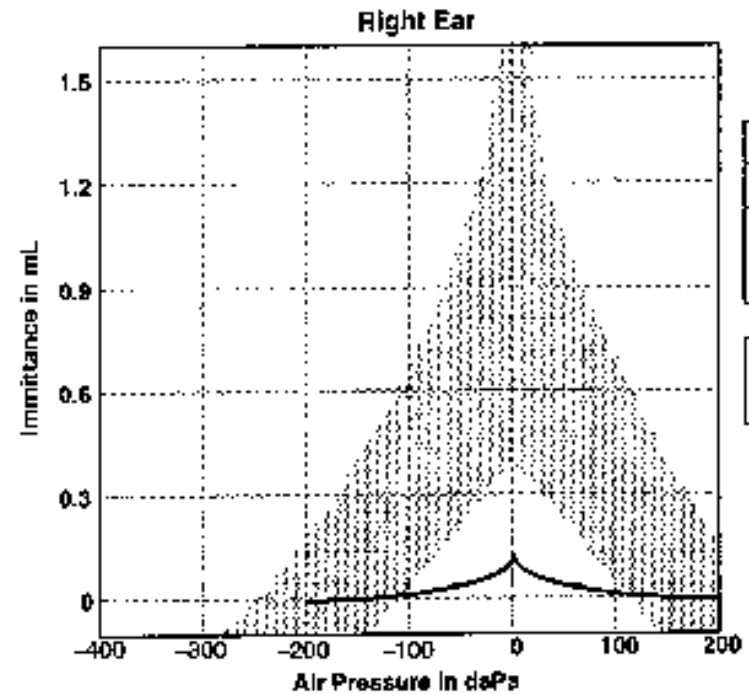
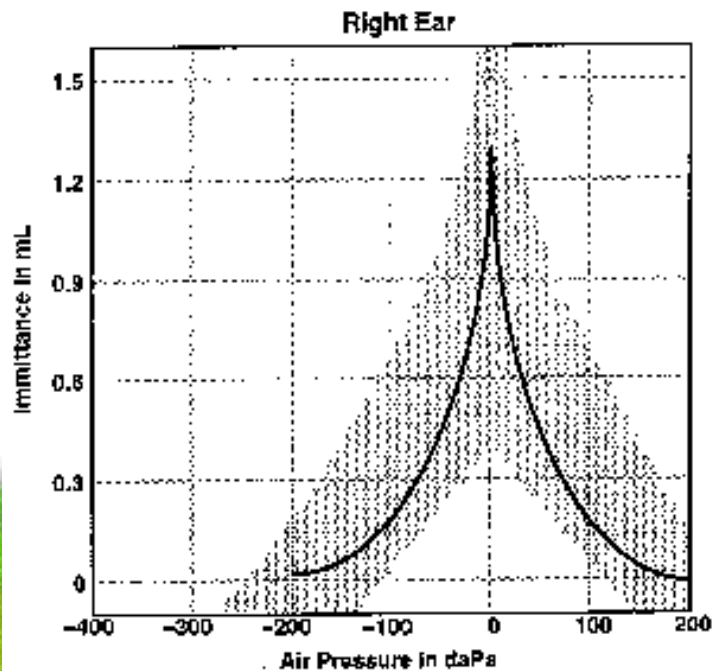
HEARING ASSESSMENT

- Pure Tone Audiometry
 - Carhart's notch



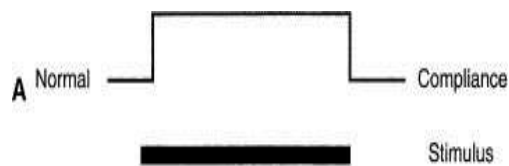
HEARING ASSESSMENT

- Tympanogram : type A ,As



HEARING ASSESSMENT

Stepedial reflexes : abn or norm depending degree of fixation



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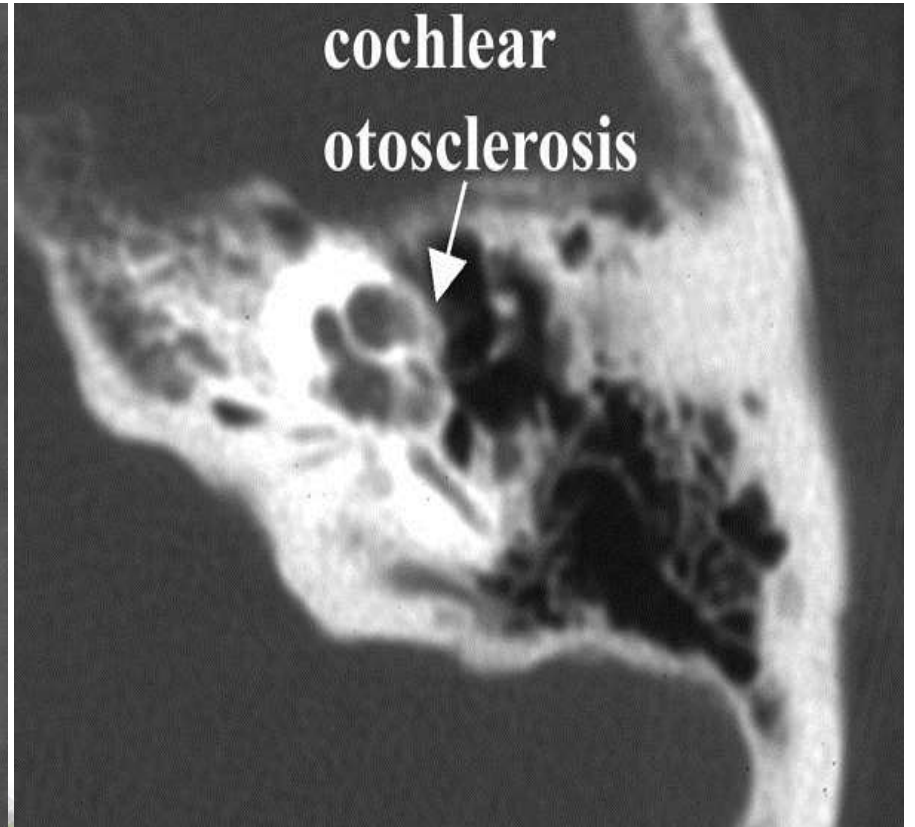
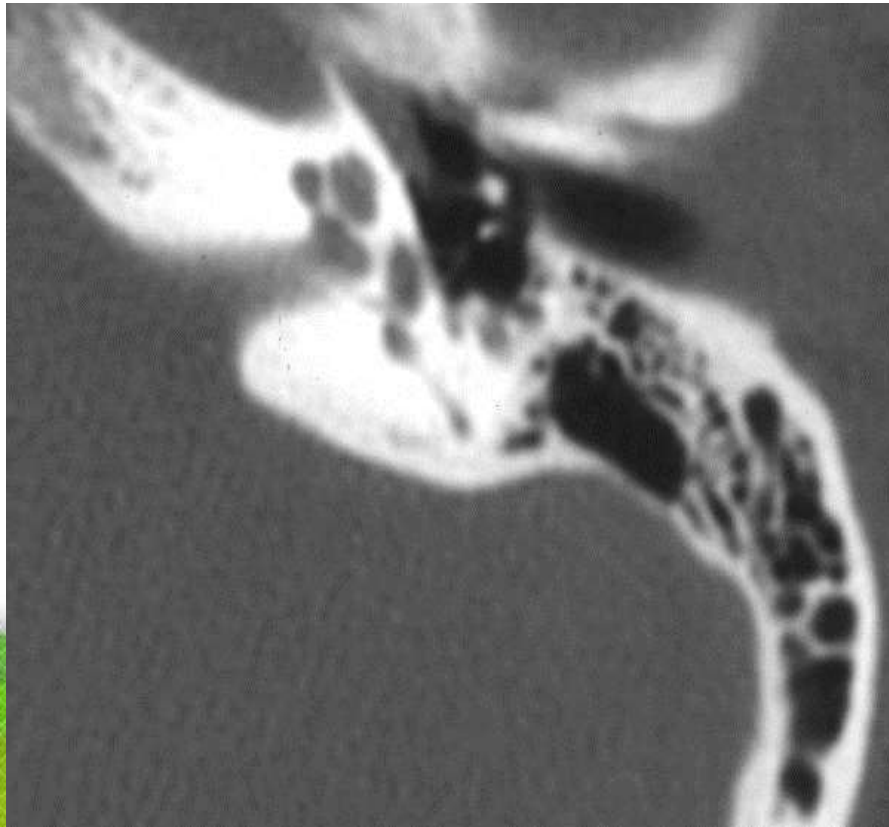
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RADIOLOGY

- CT-scan temporal bone



DIFFERENTIAL DIAGNOSIS

- Secretory otitis media
- Adhesive otitis media
- Tympanosclerosis
- Congenital footplate fixation
- Ossicular discontinuity
- Malleus incus lesions
- Congenital cholesteatoma
- Persistent stapedial artery
- Paget's disease
- Osteogenesis imperfecta



TREATMENT

MEDICAL TREATMENT

- Sodium fluoride
 - 20-120mg of fluoride a day
- Vitamin D
- Calcium carbonate

SURGICAL TREATMENT

- Total Stapedectomy
- Partial Stapedectomy
- Anterior crurotomy
- Stapedotomy

STAPEDECTOMY

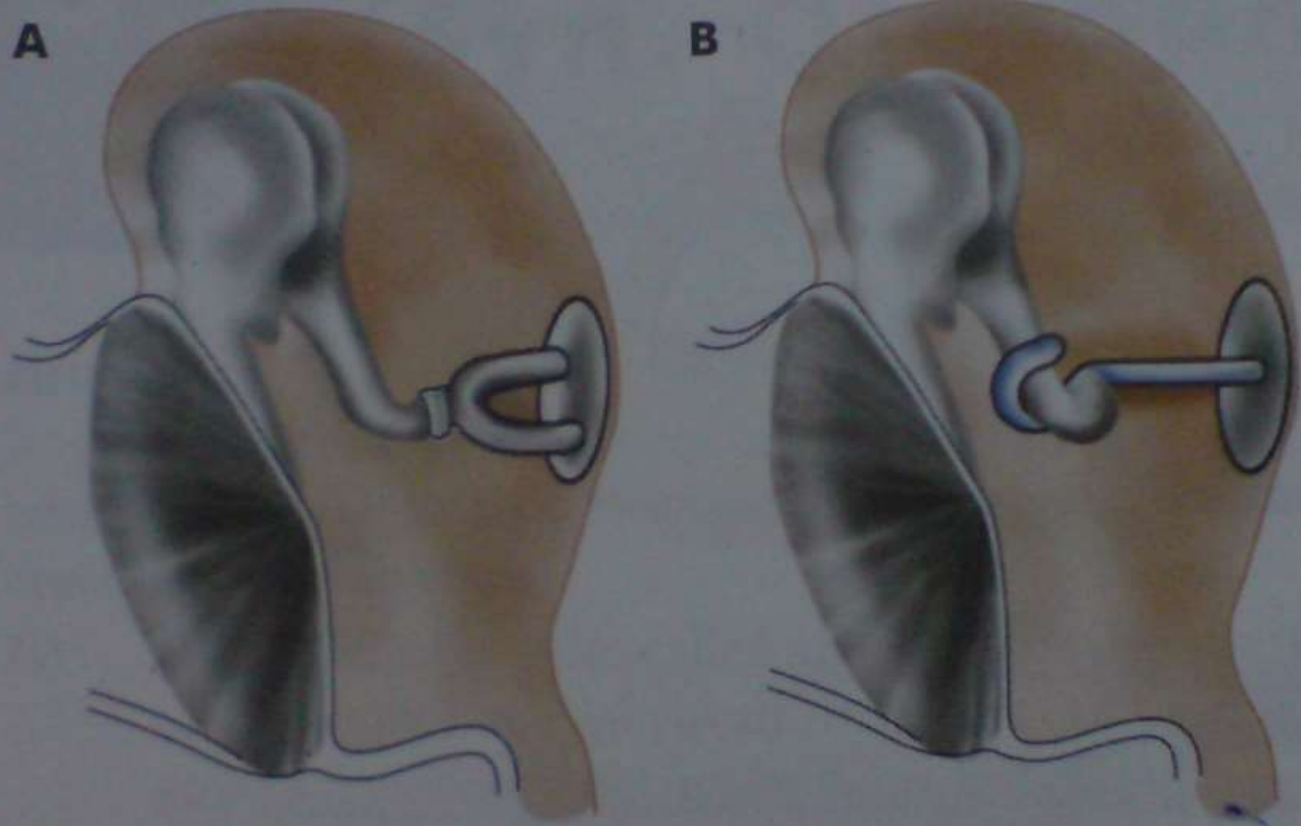
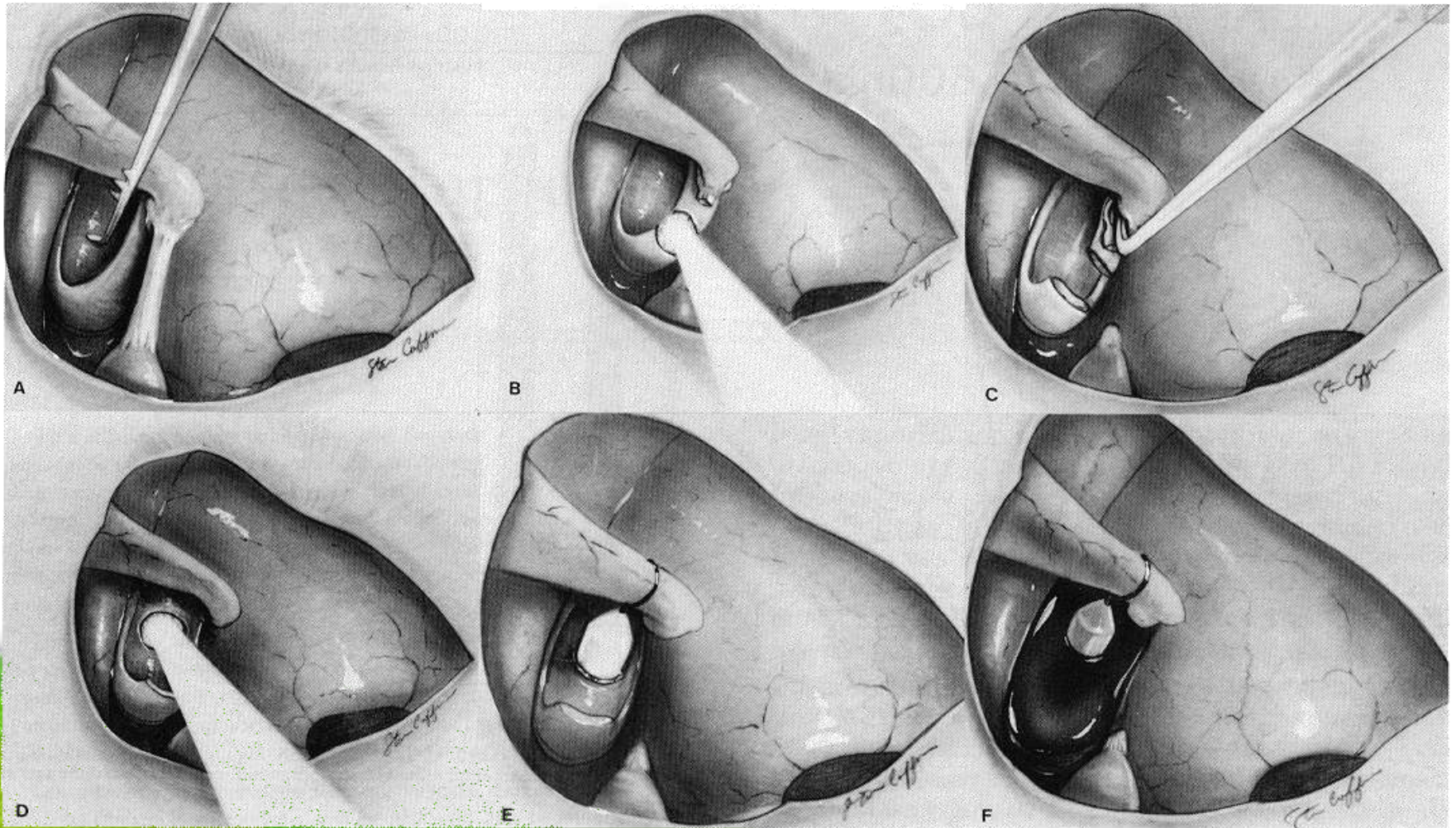


Fig. 13.3 (A) Before removal of stapes. (B) Stapes removed and replaced by a teflon piston.

STAPEDOTOMY



POSTOPERATIVE

- Water precautions
- No valsalva
- Postop audiogram

COMPLICATIONS

- Perilymph fistula
- Immediate sensorineural deafness
- Delayed sensorineural deafness
- Facial paralysis



THANK YOU