

Otospongiosis (Otosclerosis)

- Otospongiosis
- Types:
 - Fenestral otosclerosis (Most common)
 - cochlear otosclerosis (Retro Fenestral)
- Pathologic appearance of lytic spongy bone foci in bony labyrinth of unknown cause
- Starts perifenestral (FOto), progresses to surround cochlea (FOto + COto)
- Fissula ante fenestram: Cleft of fibrocartilaginous tissue between inner & middle ears just anterior to oval window

Imaging

- Lytic (otospongiotic) foci involving bony labyrinth
- FOto: Starts at anterior margin of oval window (fissula ante fenestram)
- COto: Affects pericochlear bony labyrinth
- Progressive disease may involve any portion of bony labyrinth, including internal auditory canal lateral walls.
- MR shows enhancing foci in active phase of otosclerosis. *May miss on MR!*

Fenestral otosclerosis



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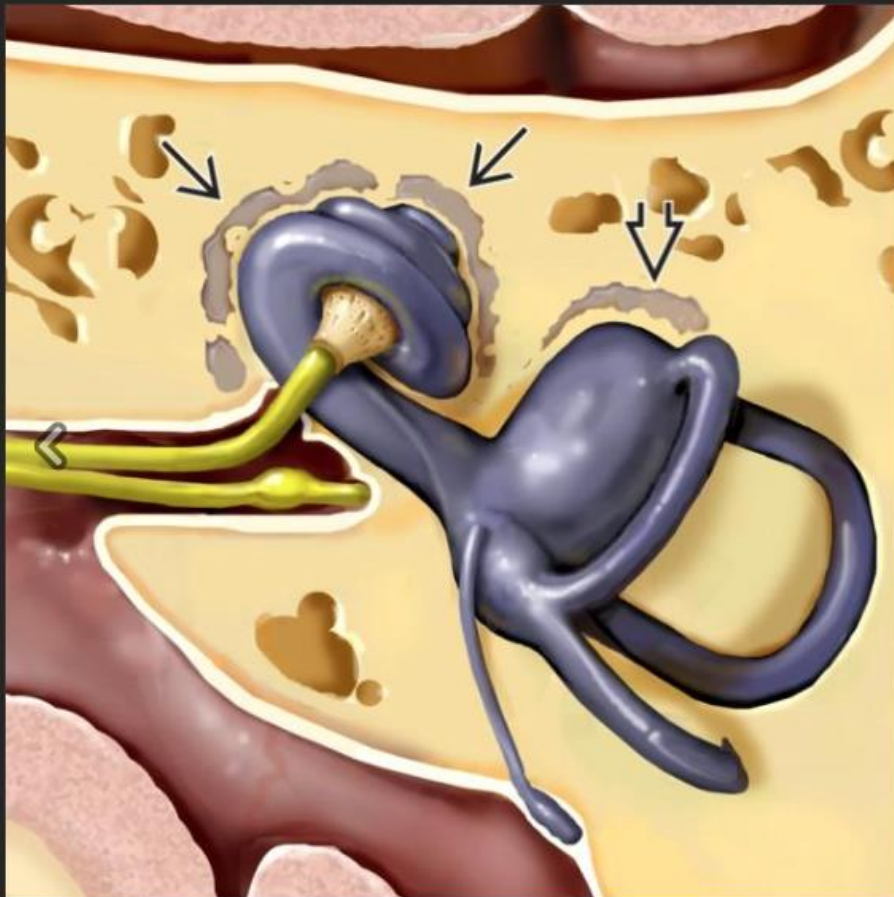
Coronal graphic illustrates findings of fenestral otosclerosis, with a "donut" otospongiotic plaque → surrounding the stapes footplate in the oval window. The crisp margins of the oval window are obscured by plaque.



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Coronal right T-bone CT shows a lytic focus anterior to the oval window →, the typical appearance and location of an otospongiotic plaque of fenestral otosclerosis.

Cochlear otosclerosis



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Axial graphic demonstrates a classic example of **cochlear otosclerosis**. Note otospongiotic plaques in halo around cochlea ➡, with concurrent fenestral otosclerosis ➡.



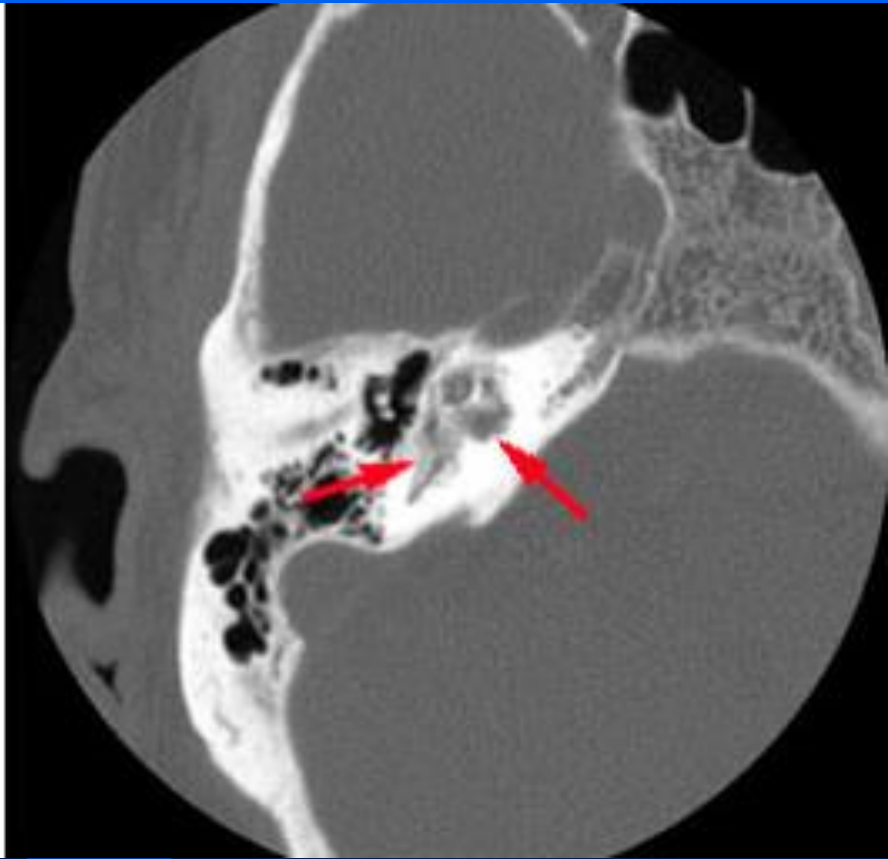
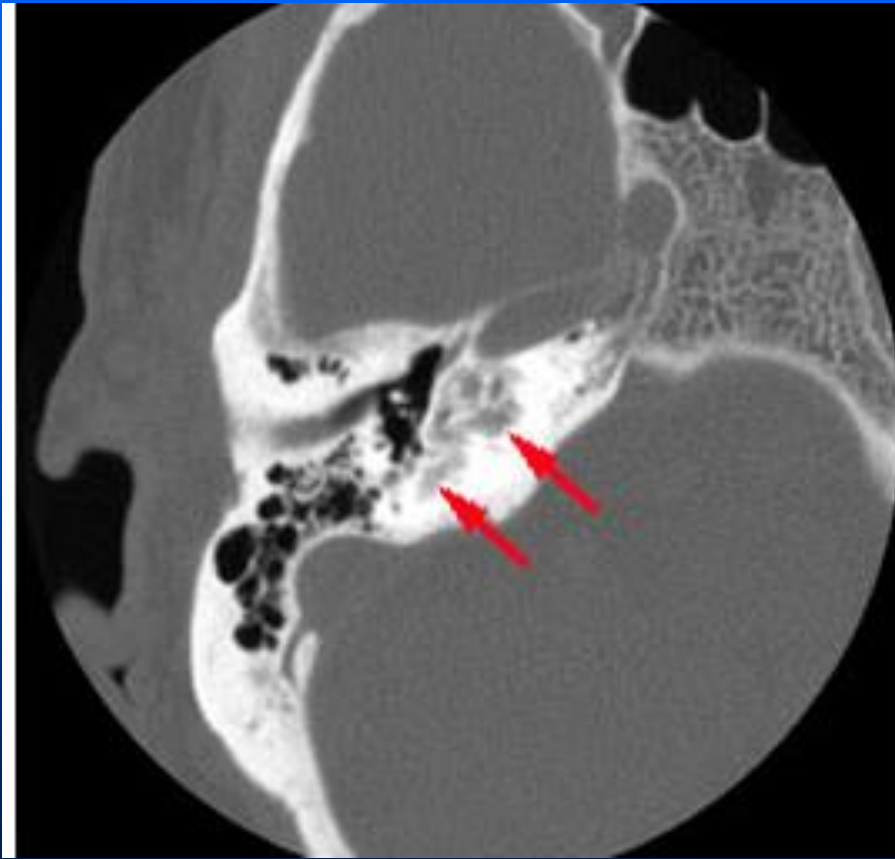
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Axial left T-bone CT shows cochlear otosclerosis as osteolytic foci surrounding the cochlea ➡. Concurrent fenestral otosclerosis is noted as bony lucency along cochlear promontory extending from fissula ante fenestram ➡.

Cochlear Otosclerosis



Otosclerosis



Otosclerosis

