

Bryan Radiology Associates
CT temporal bones W

Last update 2021-01-03

Setup:

- Supine, lateral scout from below the maxillary sinuses through the frontal sinuses
- Face tilted down about 15 degrees compared to brain CT (fig 2)
- Use bismuth lens shield after the scout has been obtained
- Vitamin E pill placed on Right Ear

Scan parameters:

- Supine helical scan parallel to hard palate (fig 1)
- Range: from hard palate to top of sella (fig 1 & 2)
- DFOV bilateral: 15 x 15 cm for axial and 15 cm width for coronal is preferred (fig 3 & 4)
- DFOV right & left: 8 x 8 cm for axial and 8 cm width for coronal is preferred (fig 5 & 6)

Contrast:

Inject 100 ml of 350 mg iodine/ml non-ionic contrast @ 2 ml/sec with a 50 second delay

PACS Series:

- Topogram/Scout
- 0.5 x 0.5 mm Bilateral Axial Bone **kernel** (fig3)
- 1.0 x 1.0 mm Bilateral Axial Soft Tissue
- 0.5 x 0.5 mm Right Axial Bone **kernel** (fig5)
- 0.5 x 0.5 mm Left Axial Bone **kernel**
- 0.5 x 0.5 mm Bilateral Coronal Bone **kernel** (fig4)
- 1.0 x 1.0 mm Coronal Soft Tissue
- 0.5 x 0.5 mm Right Coronal Bone **kernel** (fig6)
- 0.5 x 0.5 mm Left Coronal Bone **kernel**
- 0.5 x 0.5 mm Right Poschl plane Bone **kernel**
- 0.5 x 0.5 mm Right Stenvers Bone **kernel**
- 0.5 x 0.5 mm Left Poschl plane Bone **kernel** (fig10)

- 0.5 x 0.5 mm Left Stenvers plane Bone **kernel** (fig11)

(0.5 mm: use closest available sub-centimeter available on machine, 0.4 mm – 0.75 mm)

(1.0 mm: if not available, use 1.25 mm)

Caution: For some reason, the default setting for most CT scanner software, is for all coronal and oblique reformats to have slice thickness and/or gap to be about 2 mm. So double check the slice thickness and gap on each reformat when first setting up a temporal bone CT !

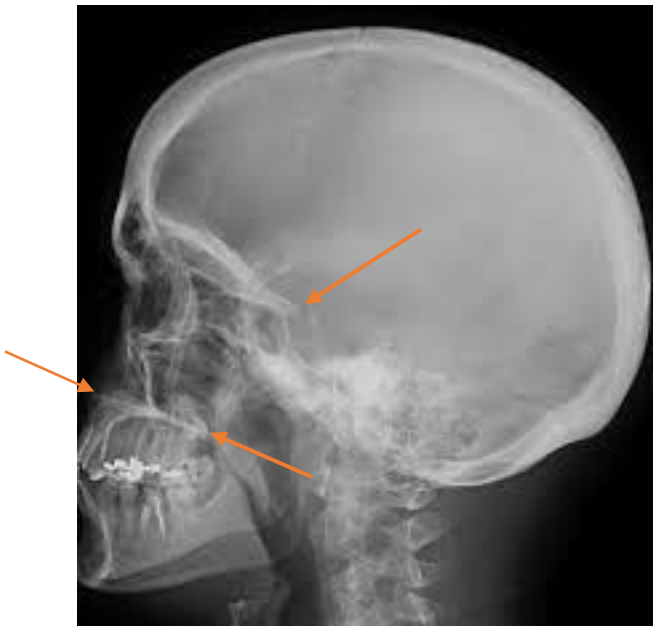


Fig 1: hard palate and top of sella (anterior clinoid processes)



Fig 2 (source: ARA)



Fig 3 Axial bilateral bone kernel (source: Nam)

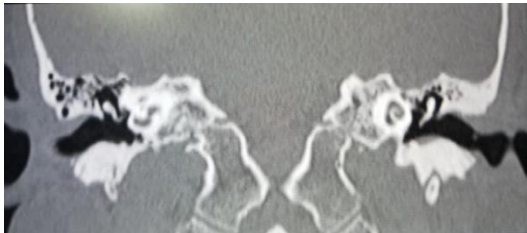


Fig 4 Coronal bilateral bone kernel (source: Nam)



Fig 5 Right axial bone kernel (source: Nam)



Fig 6 Right coronal bone kernel (source: Nam)

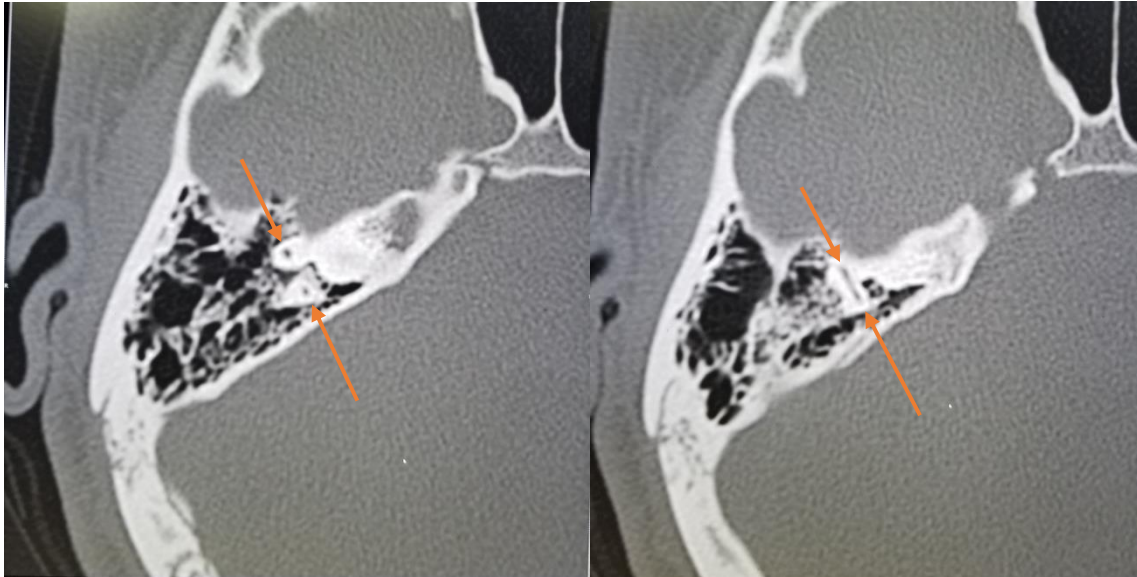


Fig 7 & 8: superior semicircular canal “snake eyes” and “short line” (source: Nam)

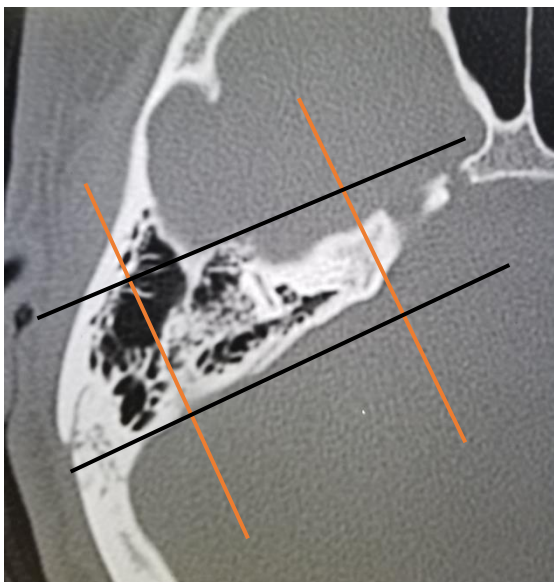


Fig 9: Poschl plane: parallel to superior semicircular canal (orange lines).
Stenvers plane: perpendicular to superior semicircular canal (black lines).

Poschl plane images: fig 7-10

- 1) Identify superior semicircular canal on axial images (snake eyes or short line).
- 2) Draw a line connecting the 2 dots of snake eyes or along short line.
- 3) Reformat images along the plane of that line in covering a rectangle as in fig 9 & 10.

Stenvers plane images: fig 7-9, & 11)

- 1) Draw a line perpendicular to Poschl plane (perpendicular to snake eyes or short line)
- 2) Reformat images along the plane of that line in covering a rectangle as in fig 9 & 11.

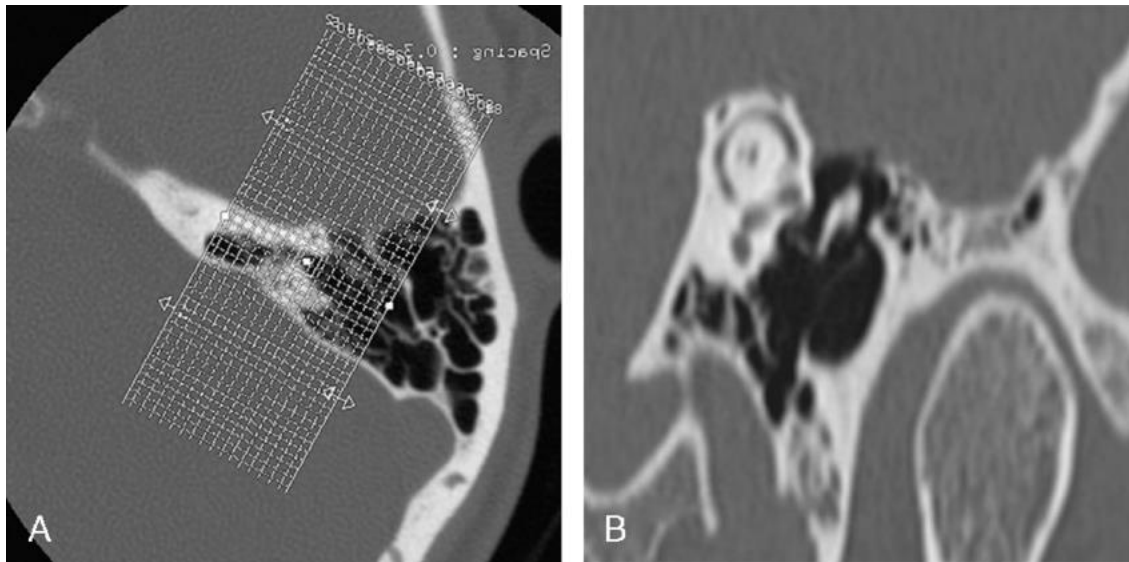


Fig 10: Poschl plane angle setup and example image
 (source: March 2014 [Journal of Computer Assisted Tomography](#) 38(2)
 DOI: [10.1097/RCT.0b013e3182ab2afb](https://doi.org/10.1097/RCT.0b013e3182ab2afb)
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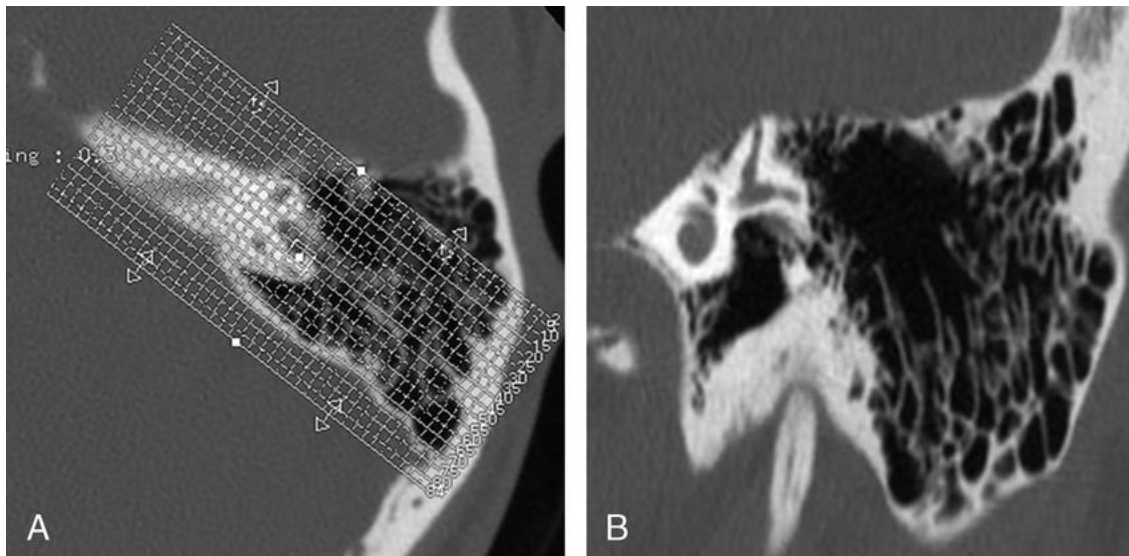


Fig 11: Stenvers plane angle setup and example image
 (source: March 2014 [Journal of Computer Assisted Tomography](#) 38(2)
 DOI: [10.1097/RCT.0b013e3182ab2afb](https://doi.org/10.1097/RCT.0b013e3182ab2afb)
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