

# Vestibular schwannoma CT scan

CT with IV contrast is the second choice for imaging modality. If MRI is contraindicated and clinical suspicion of VS is strong but the CT is negative, small lesions may be visualized by introducing 3–4 ml of subarachnoid air via lumbar puncture, and scanning the patient with the affected side up (to trap air in region of IAC), non-filling of the IAC is indicative of an intracanalicular mass. Even with air contrast, CT was normal in 6% in Mayo series <sup>1)</sup>.

Many VSs enlarge the ostium of the IAC (called trumpeting). The normal diameter of the IAC: 5–8 mm. 3–5% of VSs do not enlarge the IAC on CT (the percentage is likely higher in small VSs vs. large ones).

Thin-cut temporal bone CT should be obtained for operative planning. Important features to identify:

- for middle fossa approach: bony coverage to identify geniculate ganglion dehiscence.
- for translab approach:
  - extent of pneumatization of the mastoid and position of the sigmoid sinus. An anterior sinus with poorly pneumatized mastoids can indicate a tight space for this approach
  - position of the jugular bulb. If high riding, can indicate a tight space in translab approach
- for retrosigmoid transmeatal approach: location and thickness of bone coverage over the posterior semicircular canal and vestibular aqueduct. The extent of peritubular air cells and retro facial air cells needs to be assessed in planning the approach and preventing CSF leaks.

May show erosion and widening of the internal acoustic meatus. The density of these tumours on non-contrast imaging is variable, and often they are hard to see, especially on account of beam hardening and streak artefact from the adjacent petrous temporal bone.

Contrast enhancement is present but can be underwhelming, especially in larger lesions with cystic components.

<sup>1)</sup>

Harner SG, Laws ER. Clinical Findings in Patients with Acoustic Neuromas. Mayo Clin Proc. 1983; 58: 721–728

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