

**LR 06  
CHEAT  
SHEET**

**Vestibular Neuritis & Labyrinthitis**

Recognising and managing acute peripheral vestibular syndromes

**WHY IT MATTERS**

Leading peripheral cause of acute vestibular syndrome (AVS — continuous vertigo over days). 10–20% of AVS is posterior-circulation stroke — clinically indistinguishable without HINTS. Three wins: HINTS-plus to triage, steroids <72 h, stop suppressants at 72 h.

**BÁRÁNY CRITERIA — ACUTE UNILATERAL VESTIBULOPATHY**

- ▶ Sustained vertigo ≥24 h (spinning or non-spinning).
- ▶ Spontaneous peripheral nystagmus — horizontal-torsional, beats away from affected side, suppressed by fixation.
- ▶ Unambiguous reduced VOR on affected side (abnormal head impulse, caloric paresis, or low vHIT gain).
- ▶ No acute central neurological signs (other than cochlear symptoms → labyrinthitis). Not explained by another diagnosis.

♦ In any patient with AVS plus acute hearing change — particularly age >50 or vascular risk — consider AICA infarction (mimics labyrinthitis exactly). Have a low threshold for MRI-DWI. Bacterial labyrinthitis (fever, otorrhoea, meningism) is an otological + medical emergency [15].

**NEURITIS vs LABYRINTHITIS — THE CRITICAL DISTINCTION**

Feature	Neuritis   Labyrinthitis (AICA mimic if vascular risk)
Hearing	Normal   New sensorineural loss or tinnitus on affected side
Nerve involved	Vestibular nerve only (usually superior division)   Vestibular + cochlear
Onset	Hours, peaks within 24 h, plateau days   Same time-course
Audiometry	Not required routinely   URGENT — document loss, guide steroids
Steroids	Oral prednisolone <72 h   Oral + consider intratympanic via ENT <72 h
Prognosis	40–60% full caloric recovery; symptoms over 2–3 months   Hearing: variable, worse with delayed treatment
Long-term	PPPD (20–30%), BPPV (10–15%)   Same + residual SNHL risk

**HINTS-PLUS — PERIPHERAL vs CENTRAL PATTERN**

Component	Peripheral   Central
Head Impulse	Abnormal (corrective saccade), affected side   Normal both sides
Nystagmus	Unidirectional horizontal+torsional, suppressed by fixation   Direction-changing / vertical / torsional; not suppressed
Test of Skew	Absent   Present (vertical skew)
Hearing	Normal (neuritis) or reduced (labyrinthitis)   Usually normal — new loss → consider AICA
Gait	Leans toward affected ear, unsteady   Frankly ataxic, may not stand

**DIFFERENTIAL DIAGNOSIS — QUICK TRIAGE**

Condition	Distinguishing feature
Vestibular migraine	Recurrent episodic vertigo (mins–hours), often photo-/phonophobia, normal interictal exam.
Ménière disease	Recurrent episodes + fluctuating low-frequency SNHL on audiometry (decisive).
BPPV	Brief seconds-long positional vertigo, +Dix-Hallpike with stereotyped torsional nystagmus.
AICA stroke	Hearing loss + age >50 / vascular risk → MIMICS labyrinthitis. MRI-DWI mandatory.

♦ Diagnostic pearls — Episodic vertigo ≠ neuritis (consider VM/Ménière/BPPV). Recurrent "labyrinthitis" almost always = VM/Ménière — reopen the diagnosis. Normal head impulse with continuous AVS = stroke until proven otherwise. Hearing loss + age >50 = AICA pathway, MRI-DWI mandatory.

### INVESTIGATIONS — CLINICAL DIAGNOSIS, SELECTIVE IMAGING

- ▶ MRI-DWI — only if central pattern or any focal neuro sign. CT is useless for posterior fossa. HINTS > early MRI (MRI false-neg up to 20% in first 48 h) [2,9].
- ▶ Audiometry — any acute hearing change. Sudden SNHL ( $\geq 30$  dB over 3 frequencies) = otological emergency, steroids <72 h [7].
- ▶ Vestibular function tests (vHIT, VEMP, caloric) — NOT needed acutely. Role: incomplete recovery, diagnostic uncertainty, residual deficit mapping.
- ▶ Bloods — targeted only: glucose, HbA1c, lipids, ESR/CRP in older patients with vascular risk.

### ACUTE MANAGEMENT — THE EVIDENCE-BASED PACKAGE

Start within 72 h. Steroids improve caloric recovery (Strupp 2004) [10]; rehab improves symptomatic recovery (Cochrane 2015) [13]. Prolonged suppressants delay compensation — the commonest management error [12].

Intervention	Regimen / principle
Oral corticosteroids	Prednisolone 1 mg/kg (max 60 mg) daily $\times$ 5 d, taper 10–15 d. Start <72 h.
Sudden SNHL	Urgent ENT — intratympanic or oral high-dose steroids <72 h. Audiogram pre/post.
Antiemetic / suppressant	Prochlorperazine or promethazine — 24–72 h ONLY. Stop as tolerated.
Hydration	Oral or IV. Admit if intractable vomiting.
Early mobilisation	Out of bed day 2–3 with supervision.
Vestibular rehab	Begin <1 week. Vestibular physiotherapist ideal.
Antivirals	No benefit — do not prescribe.

♦ **DO NOT** prescribe prochlorperazine or promethazine beyond 48–72 hours. Prolonged suppressants delay central compensation, prolong symptoms by weeks–months, and are strongly associated with chronic dizziness and PPPD [12]. The single most important error.

### VESTIBULAR REHAB — PROGRESSION

Phase	Timing	Exercises / milestones
Acute	Day 0–3	Antiemetic <72 h; steroids if <72 h; gentle eye/head movements
Early rehab	Week 1–2	STOP suppressants; VOR x1 gaze stab 3–5 $\times$ daily; supervised walking
Progression	Week 3–8	VOR x2; habituation drills; soft-surface balance; tandem stance
Community	Week 8–12+	Busy visual environments; driving; return to work; re-examine BPPV/PPPD

Most recover substantially in 4–8 weeks; programs run 6–12 weeks. Symptoms beyond 12 weeks → review for incomplete compensation, BPPV (10–15%), or PPPD (20–30%).

♦ **Reframe patient expectation** — "Dizziness during exercise is expected and necessary. A dizzy session is a productive session." Avoidance prolongs symptoms; deliberate exposure drives central compensation.

### WHEN TO REFER + RED FLAGS

- ▶ Normal head impulse test with continuous AVS — **STROKE** until proven otherwise.
- ▶ Direction-changing / vertical / torsional nystagmus; skew deviation; any focal neuro sign.
- ▶ Acute hearing loss with vertigo, age >50, or vascular risk — consider AICA infarction; urgent ENT + MRI-DWI.
- ▶ Age over 50 with vascular risk; occipital headache; trauma (consider VA dissection).
- ▶ Persistent symptoms beyond 12 weeks despite rehab — vestibular physician review.
- ▶ Recurrent "labyrinthitis" — almost always vestibular migraine or Ménière — reopen the diagnosis.

♦ **Outlook** — Asymptomatic at rest in 2–4 weeks; during normal activity by 2–3 months. 40–60% regain full caloric function; others compensate centrally. Modifiable outcome levers: early rehab, short suppressant course, active mobilisation.