

**VP 01
CHEAT
SHEET**

**Vestibular Rehabilitation Therapy — Cheat Sheet for
Physiotherapists**

Mechanism-based VRT principles, indications, prescription, outcome measurement.

► **Why VRT matters**

Gold-standard non-pharmacological intervention for persistent dizziness, imbalance and gaze-stability deficits — Cochrane SMD 0.4–1.2, NNT 3–6; earlier referral ≈ doubles 12-week recovery.

Indications — when VRT is the right tool

► **When to start VRT**

- Acute / chronic UVH (neuritis, post-labyrinthitis, post-surgical); bilateral hypofunction (incl. ototoxic).
- BPPV residual sx; vestibular migraine + balance dysfunction; PPPD (with CBT); post-concussion; central compensation post-schwannoma / posterior-circulation stroke.
- Older adults with falls + dizziness; deconditioned patients with motion-provoked symptoms.

Four plasticity mechanisms — pick the dominant deficit

Mechanism	Trigger / target deficit	Lead exercise
Compensation	Acute UVH — spontaneous nystagmus, vertigo at rest	Symptom-provocative head/eye + early gait
VOR adaptation	Reduced gaze stability with head turn	x1 / x2 viewing — frequency-specific dose
Substitution	Bilateral or severe incomplete UVH	Cervico-ocular, anticipatory saccades, proprioceptive cues
Habituation	Motion sensitivity, visual vertigo, PPPD	Brandt-Daroff, MSQ-driven graded visual-motion

► **Pearl: retinal slip drives adaptation**

VOR adaptation requires retinal slip — if the target stays perfectly clear during head movement, the dose is too low. Push velocity, amplitude or context until the target just blurs.

Core assessment battery (10-minute version)

Domain	Test	Why
VOR / canal paresis	Head impulse test (vHIT if available)	Confirms peripheral hypofunction; identifies side
Gaze stability	Dynamic Visual Acuity	Functional VOR — predicts gaze-stab. response
Static balance	Romberg / tandem Romberg, eyes closed	Sensory weighting
Dynamic balance	FGA / Berg / Mini-BESTest	Outcome + progression marker
BPPV screen	Dix-Hallpike + supine roll	Always rule out before VRT for positional sx
Subjective	DHI + ABC scale	Handicap + balance confidence

Exercise prescription cheat list

Category	Frequency	Duration	Progress when...
VOR x1 / x2	3–5× daily	1–2 min/axis	Target stays clear → ↑ velocity / amplitude
Habituation	2–3× daily	Until 50% sx ↓	Symptom score halves
Static balance	Daily	5–10 min	Reduce BoS, eyes closed, foam
Dynamic gait	Daily	10–15 min	Add head turns, dual-task, terrain
Brandt-Daroff	3× daily	5 reps each side	Residual symptoms gone

► **Pearl: dose to mild provocation**

Target mild-moderate sx that settle in minutes. Severe ≥30 min = back off (don't stop). No sx = no signal — push the dose.

► **Red flags — pause VRT, escalate**

Vertical / direction-changing nystagmus, truncal ataxia, new focal neurology, occipital headache, hearing loss → image + urgent referral.

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Outcome measures — re-test every 4–6 weeks

Domain	Tool	MCID / threshold
Patient-reported handicap	Dizziness Handicap Inventory (DHI)	≥18-pt ↓ = clinically meaningful
Balance confidence	ABC scale	<67% = falls risk; ↑ ≥10 pts
Dynamic gait	Functional Gait Assessment (FGA)	<22/30 falls risk; ≥4-pt ↑
Functional balance	mini-BESTest	≥4-pt ↑ clinically meaningful
Symptom provocation	MSQ / VVAS	Target 50% reduction

▶ **Compliance — what helps adherence**

Open with the neuroplasticity rationale; written + video home program; symptom diary; engineer a small functional win at session 1; telehealth review when in-person attendance lapses.

▶ **When to refer onward**

- ▶ Not improving by 6–8 weeks → vestibular physician (vHIT, VEMP, MRI as indicated).
- ▶ Severe vestibular anxiety / agoraphobia → clinical psychology for CBT.
- ▶ Suspected vestibular migraine / PPPD → co-manage for pharmacological + behavioural input.
- ▶ Sudden / fluctuating hearing loss, pulsatile tinnitus → ENT / neuro-otology urgently.

▶ **Twelve-second tips**

Confirm vestibular substrate before prescribing. Always rule out BPPV first. PPPD = VRT + CBT + (sometimes) SSRI. Document baseline DHI / ABC / FGA at session 1 and re-measure at 4–6 weeks.

▶ **Common pitfalls — and how to avoid them**

- ▶ VOR x1 with a perfectly clear target — no retinal slip, no adaptation; push velocity until target just blurs.
- ▶ Stopping at the first symptom flare — dose too low loses the signal; aim for mild provocation that settles in minutes.
- ▶ Skipping baseline DHI / ABC / FGA — without numbers you can't prove the program is working at week 6.
- ▶ Treating positional vertigo with habituation alone — repeat Dix-Hallpike + supine roll first.
- ▶ Long vestibular suppressant courses — they slow central compensation; wean within days.

▶ **Special populations**

- ▶ Older adults (>65) — pair VRT with strength + dual-task; screen vision, proprioception, orthostatics.
- ▶ Vestibular migraine overlap — start low-stimulus habituation; co-prescribe lifestyle + prophylaxis.
- ▶ Post-concussion — pace by symptom-provocation testing; integrate cervical, oculomotor, exertional sub-types.
- ▶ PPPD — neuroplasticity rationale up front; combine VRT with CBT and graded exposure; expect slower progress.

▶ **Patient communication scripts**

"Your brain is rewiring — that mild dizziness during exercise is the signal it's working." | "We are looking for symptoms you can settle in minutes, not hours — that's the right dose." | "Three weeks of consistent practice will show up on your six-week re-test as a real number, not a feeling."

▶ **References / further reading**

- ▶ Hall CD et al. VRT clinical practice guideline. *J Neurol Phys Ther* 2022;46(2):118–177.
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- ▶ Staab JP et al. Diagnostic criteria for PPPD. *J Vestib Res* 2017;27:191–208.
- ▶ AAO-HNS BPPV CPG (Update). *Otolaryngol Head Neck Surg* 2017;156(3 Suppl).