# CERVICOGENIC DIZZINESS — CHEAT SHEET

*For Vestibular Clinicians · Australian Dizziness Clinics*

Australian Dizziness Clinics

**Anchor:** non-vertiginous unsteadiness that tracks with neck pain — a diagnosis of exclusion plus positive cervical signs and a response to cervically directed treatment. Co-occurrence of neck pain and dizziness never proves causation; grade the cervical contribution (nil / minor / major / compensatory).

## ► When this pathway fits

- Unsteadiness, floating or disorientation **coupled to neck pain or movement**, not true spinning.
- Worse with sustained postures (screen work); episodes last minutes to hours; eases as the neck settles.
- Often follows whiplash or concussion; commonly part of a mixed (multifactorial) dizziness picture.

## ► Mechanism

| Layer | Mechanism | Clinical relevance |
|---|---|---|
| Cervical afferents | Dense upper-cervical (C1–C3) spindles signal head-on-trunk position | Target the suboccipital / upper-cervical region in exam and treatment |
| Sensory mismatch | Distorted cervical input conflicts with vestibular and visual signals | Brain reads the mismatch as unsteadiness; amplified by fatigue and visual demand |
| Central reweighting | Maladaptive reliance on visual/vestibular input persists | Explains symptoms persisting after the neck settles; needs central-aware rehab |

## ► Diagnosis — exclusion + positive cervical signs

| Step | What to do |
|---|---|
| 1. Exclude vestibular | vHIT, caloric, VEMP normal; head-impulse normal |
| 2. Exclude central / vascular | MRI and neuro exam clear; image before manual therapy if sustained rotation provokes posterior-circulation symptoms |
| 3. Confirm cervical | Positive cervical sensorimotor signs + improvement with cervically directed treatment |

## ► Bedside tests (interpret as a cluster)

| Test | Probes | Positive finding |
|---|---|---|
| Smooth-pursuit neck torsion | Neck-afferent eye-movement control | Reduced pursuit gain in torsion vs neutral (most specific single test) |
| Joint position error | Head-repositioning accuracy | Relocation error beyond ~4.5–5° (weak in isolation) |
| Romberg neck torsion | Cervically provoked instability | Increased sway in the neck-torsion position |
| Cervical ROM + palpation | Musculoskeletal dysfunction | Restricted, painful, symptomatic upper-cervical joints |
| Craniocervical flexion | Deep cervical flexor control | Poor activation / endurance of the deep flexors |

## ► Differential diagnosis

| Condition | Discriminator |
|---|---|
| Peripheral vestibulopathy | Spinning vertigo, abnormal head-impulse test, spontaneous nystagmus |

| | |
|---|---|
| Vestibular migraine | Episodic, migrainous features; meets Bárány criteria — commonest mimic, often comorbid |
| BPPV | Seconds-long positional vertigo with characteristic Dix–Hallpike nystagmus |
| Cervicogenic headache | Unilateral pain with trigeminal referral and cervical provocation |
| Rotational vertebral artery / vascular | Dizziness on sustained head rotation — image before manual therapy |

## ► Management

► **First-line:** manual therapy (mobilisation / SNAGs) **plus** sensorimotor retraining (JPE, oculomotor, balance) and education — moderate evidence, benefits maintained to 12 months.

► **No drug** treats the condition itself; reserve medication for comorbid neck pain, migraine or anxiety.

► **Stepped care:** confirm → treat → review at 6–8 weeks → maintain or reassess. Treatment failure should trigger a diagnostic rethink.

## ► Pearls

**Pearl —** It rarely spins. A true rotatory vertigo illusion points away from a cervical cause.

**Pearl —** Co-occurrence is not causation — earn the diagnosis by exclusion, cervical signs, and treatment response.

**Pearl —** The smooth-pursuit neck-torsion test is the most specific single bedside test of cervical afferent dysfunction.

**Pearl —** Screen for vascular contraindications before any end-range or sustained-rotation manual therapy.

## ► Prognosis & follow-up

► Generally favourable for genuine cervicogenic contributions; review response at 6–8 weeks.

► Maintain gains with a brief home programme; warn that occasional recurrence with neck-pain flares is expected.

► Persistent non-response → re-screen for an unrecognised vestibular, central or vascular contributor.

Key references — Wrisley DM et al. JOSPT 2000 · Reiley AS et al. Arch Physiother 2017 · Li Y et al. J Clin Med 2022 · Treleaven J. J Neurol Phys Ther 2024 · Reid SA et al. Man Ther 2015 · De Vestel C et al. J Man Manip Ther 2022.