

Assessment of Balance and Gait

Clinician Quick Reference • Australian Dizziness Clinics • 2026

BEDSIDE BALANCE EXAMINATION BATTERY

Test	Method	Abnormal / Positive	Implication
Romberg — Eyes Open	Feet together, arms crossed, 30 s EO	Sway or fall with eyes open	Motor or orthopaedic deficit; rarely vestibular alone
Romberg — Eyes Closed	Same stance, eyes closed, 30 s	Sway ↑ or fall EC vs EO (Romberg sign +ve)	Vestibular or proprioceptive dysfunction
Foam Romberg	Feet together on foam pad, eyes closed, 30 s	Increased sway or fall on foam	Removes proprioception; isolates vestibular function
Tandem Romberg	Heel-to-toe, arms crossed, eyes closed, 30 s	Step-off, sway, or fall	Detects subtle vestibular or cerebellar loss
Gait (free-walk 6 m)	Observe stride, cadence, arm swing, turns	Deviation, ataxic, cautious, parkinsonian	Distinguishes gait syndrome — see table right
Tandem Gait	Heel-to-toe along a line for 6 m	≥ 2 step-offs or consistent deviation	Cerebellar, vestibular, or sensory ataxia
Fukuda Step Test	50 steps in place, eyes closed, arms out	Rotation ≥ 30° or displacement ≥ 0.5 m	UVH — deviation to lesion side
Retropulsion (Pull Test)	2–3 rapid posterior shoulder tugs	> 1 compensatory step back or falls	Postural reflex failure; Parkinsonism or central

GAIT PATTERN RECOGNITION

Pattern	Key Features	Aetiology
Cerebellar ataxic	Wide-based, irregular, lurching; cannot tandem	Cerebellar/brainstem — urgent imaging if acute
Vestibular ataxic	Deviates to lesion side; Fukuda spin; worse EC	Unilateral vestibular hypofunction
Sensory ataxic	High-stepping; Romberg ++ EC, near-normal EO	Peripheral neuropathy, dorsal column, B12
Cautious (fear)	Small steps, en bloc turns; near-normal power	Fear of falling; deconditioning; psychogenic
Parkinsonian	Shuffling, festination, reduced arm swing	Parkinsonism — refer neurology
Functional	Variable, inconsistent, distractible; entrainment +	Functional neurological disorder

♦ *Dual-task testing (cognitive + gait) unmasks compensated deficits — include dual-task TUG when fall risk is suspected.*

Feature	Peripheral	Central — Refer
Romberg	Positive EC; brief sway, self-corrects	Positive EO or unable to sit unsupported
Tandem gait	Mildly unsteady; occasional step-offs	Impossible; falls immediately
Fukuda	Consistent rotation to lesion side	Erratic or inconsistent deviation
Gait base	Narrow to normal	Wide-based with truncal sway
Retropulsion	Negative or mild (1–2 steps)	Positive — multiple steps or falls
Associated signs	Tinnitus, hearing loss, UVH	Diplopia, dysarthria, dysphagia, Horner

RED FLAGS — URGENT REFERRAL / IMAGING

- **Sudden-onset severe ataxia:** unable to walk unaided — posterior fossa stroke; immediate ED
- **Truncal ataxia:** sway or fall while sitting unsupported — vermis or brainstem
- **Positive retropulsion + rigidity / bradykinesia:** Parkinsonism or PSP
- **Acute ataxia + severe headache or vomiting:** cerebellar haemorrhage — emergency
- **Progressive over weeks:** NPH, cerebellar degeneration, malignancy, new medication
- **Oscillopsia + ataxia:** bilateral vestibular failure or cerebellar disease — VFT urgently

VALIDATED OUTCOME MEASURES

Tool	Format	Threshold
Berg Balance Scale (BBS)	14 tasks, 0–4 each (0–56 total)	< 45 = ↑ fall risk; < 36 = high risk
Timed Up and Go (TUG)	Stand, walk 3 m, turn, return; timed	> 12 s = fall risk; > 20 s = mobility aid
Dynamic Gait Index (DGI)	8 gait tasks, 0–3 each (0–24 total)	< 19 = fall risk; preferred in vestibular
Functional Gait Assessment (FGA)	10 tasks, 0–3 each (0–30 total)	< 22 = fall risk; more challenging than DGI
ABC Scale	16 daily activities rated 0–100%	Mean < 67% = low confidence; predicts falls

VESTIBULAR REHAB — WHEN TO REFER

- **Unilateral vestibular hypofunction:** gaze stability + habituation; refer VR physiotherapy
- **BPPV post-CRM residual unsteadiness:** balance retraining if unsteadiness persists > 2 weeks
- **BBS < 45 or TUG > 12 s:** structured falls prevention alongside vestibular treatment
- **Bilateral vestibular failure:** VFT + balance rehab; realistic prognosis counselling essential

♦ *Document: Romberg (EO + EC), foam Romberg, tandem, Fukuda rotation degrees, gait pattern, retropulsion, and scale score (BBS / TUG / DGI / FGA). Undocumented balance assessment in a patient who falls carries preventable medico-legal risk.*