

**VP 04  
CHEAT  
SHEET**

**Balance and Gait Rehabilitation — Cheat Sheet**

*Sensory weighting, assessment battery, progressive prescription, falls prevention.*

► **Why balance and gait rehab matters**

*Falls prevention lever in vestibular populations — Otago programme cuts falls 35% in older adults. Sensory weighting is learnable; deficit-matched progression is the prescription that drives a defensible six-week result.*

**Indications — who benefits**

► **Strong indications**

- Vestibular hypofunction with imbalance — UVH, BVH, post-labyrinthitis recovery.
- Older adults with falls + dizziness; community-dwelling adults with mobility avoidance.
- Post-concussion vestibular sub-type with balance deficit; central compensation deficits.
- Sensory mismatch / visual vertigo; PPPD with balance avoidance; deconditioning post-illness.

**Sensory weighting cheat list**

Stream	Stable conditions	Fails when...
Visual (70%)	Foveal + peripheral motion	Moving environment, low light
Somatosensory (20%)	Ankles, feet, joints	Foam, uneven surfaces, neuropathy
Vestibular (10%)	Canal + otolith	Hypofunction, BPPV, central

► **Pearl: reweighting is learnable**

*Treatment drives reweighting through graded sensory challenge — stance, surface, vision and head movement layered progressively. Match the dominant unreliable stream to the prescription axis at session one.*

**Assessment battery**

Tool	Threshold	Best for
Mini-BESTest	<19/28 falls risk	Vestibular, central, frail older adults
FGA	<22/30 falls risk	Vestibular populations, dynamic gait
ABC scale	<67% avoidance / falls risk	Patient-reported confidence
TUG (+ dual-task)	>13.5 s falls risk	Mobility + cognitive interference
Berg Balance Scale	<45/56 = high falls risk	Frail older adults; gold-standard outcome
mCTSIB	composite >0.85 = balanced	Identifies sensory-weighting pattern

► **Prescription cheat list**

- Static — stance × surface × vision grid; pick level just above stable.
- Reactive — perturbations train ankle / hip / stepping strategies.
- Dynamic — head turns, dual-task, terrain progression; community walking.
- Dose: 30 s × 3–5 reps daily; progress when 90% stable across 3 sessions.

► **Red flags — pause and refer**

*New focal neurology; gait ataxia disproportionate to vestibular deficit; rapidly progressive imbalance; falls with loss of consciousness; severe orthostatic drop → urgent medical / vestibular physician review.*

**Outcome measures — re-test every 4–6 weeks**

Tool	MCID / meaningful change
Mini-BESTest	≥4-point gain clinically meaningful
FGA	≥4-point gain meaningful
ABC scale	10-point gain meaningful
TUG	1-second improvement; dual-task TUG also re-test
DHI	≥18-point drop = clinically meaningful
VVAS	50% reduction = visual-vertigo response

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► **Compliance — what helps adherence**

*Open with sensory weighting rationale; written + video home program with safety photos; symptom and instability diary; engineer one early functional win; family member as exercise partner where possible.*

► **Multifactorial falls prevention**

- Otago Exercise Programme — strength + balance, 3x/week, 12 weeks; cuts falls 35%.
- STEADI bundle — home, medication and vision review for older adults.
- Vitamin D supplementation in deficient older adults reduces falls modestly.
- Refer OT for home environment hazards; review footwear and orthostatics.
- Address vision — cataract review; up-to-date single-vision distance glasses for community walking.
- Cognitive screen (MoCA) — cognitive impairment doubles falls risk; pace dual-task progression.

► **When to refer onward**

*Plateau at 6–8 weeks → vestibular physician for vHIT/central testing. Severe falls anxiety → psychology + CBT. Recurrent falls with cardiovascular triggers → cardiology / falls clinic. Cognitive interference high → neuropsychology.*

► **Twelve-second tips**

*Match prescription to dominant unreliable stream. Document Mini-BESTest, FGA, ABC, TUG at session 1. Real-world carryover defines the result — practise the actual environment when safe.*

► **Common pitfalls**

- Standardising the same routine for everyone — match to dominant unreliable stream.
- Skipping dual-task — community independence requires cognitive-motor capacity.
- Forgetting terrain progression — clinic-only training does not transfer to outdoors.
- No real-world supervised walks — clinic gains do not equal community confidence.
- Skipping multifactorial review — vision, medications, home, footwear all matter.

► **Special populations**

- Older adults — Otago + STEADI + vitamin D; OT home review.
- Post-concussion — pace by symptom-provocation; integrate cervical and oculomotor.
- Parkinsonian syndromes — cueing strategies, big steps, dual-task graded carefully.
- Frail older adults — Mini-BESTest + sit-to-stand; safety equipment compulsory.
- Post-stroke balance — start low and supervised; obtain cardiovascular clearance and tighten the falls plan.
- Bilateral vestibulopathy — substitute with vision and somatosensation; expect slow gain over months, not weeks.

► **Patient communication**

*"Your brain is reweighting which input it trusts — uneven surfaces and dim light teach it." | "Mild instability that resolves in minutes is the right zone — severe past session is too much." | "The Mini-BESTest gain at six weeks is a real number you can defend to family and referrers."*

*"Document the six-week numbers — Mini-BESTest, FGA, ABC and TUG — that's what defends rehab decisions to GPs and family."*

► **References**

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