FREQUENT FALLS CHEAT SHEET

Frequent Falls in the Elderly — Cheat Sheet for Vestibular Physicians

Falls are multifactorial. Find and treat the dominant driver — vestibular contributors are common, missed, and specifically treatable.

► Why frequent falls matter

One in three adults over 65 falls each year, rising to 50–60% in residential care; falls are the leading cause of injury death and hospital admission in older people. Vestibular dysfunction is a common, frequently overlooked, and specifically treatable contributor.

Indications — when this pathway fits

► When to apply this work-up

► **Two or more falls in 12 months, or any single fall with injury or loss of consciousness.**

► **Unexplained falls (no clear mechanical trigger, amnesia for the event) — over-represented for syncope, arrhythmia, and vestibular causes.**

► **Any older faller reporting dizziness, unsteadiness, or balance complaints — screen the vestibular system.**

Mechanism — the multifactorial model

Domain	Contribution to instability	Clinical relevance
Sensory reserve	Vestibular, visual and proprioceptive channels each decline with age (presbyastasis, cataract, neuropathy).	Falls occur when combined deficit exceeds remaining reserve — quantify reserve, not single diagnoses.
Motor / MSK	Sarcopenia and reduced quadriceps strength weaken protective stepping and catching reactions.	Quadriceps weakness is a top single fall predictor; targetable by strength training.
Systemic / drugs	Orthostatic hypotension, arrhythmia, FRIDs and polypharmacy add cardiovascular and pharmacological hits.	The most modifiable contributors — measure lying-standing BP and review every drug.

Pearl — The key concept is sensory redundancy failure, not any single impairment: mild vestibular hypofunction + mild neuropathy + mild cataract together cause falls even when each deficit is individually trivial.

Diagnostic approach — structured falls assessment

Measure	High-risk threshold and use
Timed Up and Go (TUG)	More than 12 s = high risk (add dual-task for executive-motor coupling). Berg below 45/56 and SPPB 9 or below also flag risk; recurrent falls = 2 or more in 12 months.
Core examination	Lying-standing BP at 1 and 3 min (mandatory); Dix-Hallpike and clinical HIT/vHIT; Romberg on firm and foam; ankle vibration sense; quadriceps strength; cognition (MoCA); near vision.

Pearl — Romberg on foam separates vestibular from somatosensory falls: neuropathy patients fall on firm and foam eyes-closed; isolated vestibular loss is worst on foam — this targets rehabilitation.

Investigations — directed, not universal

Test	Purpose	When to order
Lying-standing BP	Detect orthostatic hypotension (drop 20/10 mmHg).	All fallers — most commonly omitted test.
12-lead ECG ± Holter	Arrhythmia, heart block, long QT.	Unexplained falls, LOC, palpitations.
Bloods: FBC, U&E, glucose, B12, vit D, TFTs	Anaemia, electrolytes, neuropathy, deficiency.	All recurrent fallers; B12 if neuropathy.
Vestibular testing: vHIT, calorics, VEMP, CDP	Quantify canal/otolith function; sensory weighting.	Dizziness, suspected BVP, atypical/refractory.
DEXA · MRI/CT brain	Fracture risk; stroke, NPH, cerebellar disease, head injury.	DEXA in recurrent fallers; imaging if focal signs, posterior fossa Sx, LOC, or anticoagulant.

Pearl — Orthostatic BP is the most frequently omitted test in older fallers. A 20 mmHg systolic drop on standing is significant even without symptoms; measure at 1 and 3 min (and post-meal if postprandial OH suspected).

Differential — identify the dominant driver

Dominant driver	Key distinguishing features
BPPV	Falls triggered by head position change (rolling in bed, looking up); brief rotational vertigo; positive Dix-Hallpike. Often described as 'losing balance', not vertigo, in the elderly.
Bilateral vestibulopathy	Disequilibrium on uneven ground and in the dark; oscillopsia on walking; no true vertigo. vHIT below 0.6 bilaterally; Romberg-positive.
Orthostatic hypotension	Falls within 1–3 min of standing; morning / post-meal; lightheadedness, greying of vision. Often misread as a mechanical trip.
Cardiac syncope / CSH	Sudden LOC, no prodrome, amnesia for the fall; carotid sinus hypersensitivity in older men. ECG, Holter, carotid sinus massage.
Neuropathy / PD / drugs	Neuropathy: foot-drag, trips, worse in dark. PD: retropulsion, freezing. FRIDs: new falls after starting/increasing a sedating or antihypertensive drug.

► ***Red flags — Loss of consciousness during the fall (cardiac/syncope) · New focal neurology (stroke/TIA) · Posterior fossa symptoms — occipital headache, diplopia, ataxia (posterior stroke) · Prolonged long lie over 1 h · Rapidly progressive unexplained balance decline · Autonomic features (pallor, diaphoresis, incontinence). Do not accept multifactorial falls while red flags are present.***

Management — multidomain pyramid

Tier	Intervention	Practice principles
Foundation	Strength + balance exercise — Otago programme; Tai Chi.	Otago: 35% fall reduction (RR 0.68), holds over 80; Tai Chi ~25%. Must be structured (3x/week, 12 wks) — advice alone is not enough.
Deprescribe	Review FRIDs (STOPP/START, Beers); reduce/stop benzodiazepines, sedating antidepressants, antipsychotics, antihypertensives.	Psychotropic withdrawal cut falls 66% in an RCT — the largest single-intervention effect; even dose reduction helps.
Vitamin D	800–2000 IU cholecalciferol daily if deficient (25-OH-D below 50 nmol/L); add calcium if dietary intake low.	Benefit confined to the deficient; avoid high-dose bolus. Low-risk, high-yield in residential care.
Vestibular rehab	Epley/Gufoni for BPPV; gaze-stabilisation + sensory re-weighting for hypofunction and presbyastasis.	Epley 80–95% single-session cure; VPT cuts vestibular falls 30–50%. Re-examine after treatment — residual/converted BPPV maintains risk.
Environment / OT	Home hazard assessment: grab bars, lighting, non-slip surfaces, footwear, bed/chair heights.	OT home assessment cuts falls ~21% in high-risk patients; motion-sensor lighting reduces nocturnal falls.
Treat the driver	Target the dominant cause: OH (review drugs, midodrine), arrhythmia (pacemaker), cataract surgery, PD optimisation.	Multifactorial programmes cut fall rates ~23% (Cochrane) — no single therapy matches a well-implemented multidomain programme.

Pearl — *Match the IT agent to the goal — dexamethasone for hearing-preservation, gentamicin for vertigo-priority. Only-hearing-ear status is an absolute contraindication to gentamicin; bilateral disease is a strong relative one.*

Special populations, counselling and follow-up

► **Nursing home residents (highest fall rate 50–60%): supervised group exercise, antipsychotic/sedative review, hip protectors, staff protocols.**
► **Post-stroke (falls 2–4x) and Parkinson's (retropulsion, freezing): task-specific gait/balance training, LSVT BIG; balance dopaminergic benefit against OH.**
► **Post-fall syndrome (fear of falling) affects 40–73% — screen with FES-I (over 22/64); CBT + graded exercise; vestibular rehab also improves it.**
► **Re-measure TUG/Berg and audit fall frequency at review; reinforce exercise adherence — the main real-world barrier to falls reduction.**
► **Driving: advise caution after unexplained falls or syncope until the cause is identified and addressed.**

The vestibular physician's contribution

Vestibular testing is offered in under 20% of falls clinics — yet vestibular dysfunction is present in ~34% of older fallers. The vestibular physician's unique role is to identify and treat BPPV, bilateral vestibulopathy, presbyastasis, and vestibulotoxic drugs that generalist assessments miss.

Key references — World Falls Guidelines. Age Ageing 2022;51:afac205 · Hopewell S et al. Cochrane 2018;7:CD012221 · AGS/BGS Guideline. JAGS 2011;59:148–157 · NICE CG161 2013 · Agrawal Y et al. Arch Intern Med 2009;169:938–944.