

**PRESBYSTASIS
CHEAT SHEET**
**Age-Related Balance Decline (Presbystasis) — Cheat Sheet for
Vestibular Physicians**

Anchor on chronic imbalance plus mild bilateral hypofunction (vHIT 0.6–0.8). Treat coexisting BPPV first, then rehabilitate and prevent falls.

► Why presbystasis matters

The commonest cause of chronic imbalance in older adults and a leading driver of falls. Dizziness affects ~30% of over-65s and over 50% of over-85s; vestibular function declines ~3% per decade after 40. Presbyvestibulopathy is its defined, measurable vestibular component (Bárány 2019) — a treatable diagnosis, not inevitable ageing. Vestibular loss roughly triples falls risk; early recognition and rehabilitation change the trajectory.

Indications — when this pathway fits
► When to apply this work-up

- Chronic unsteadiness, gait disturbance, dizziness or recurrent falls for ≥3 months in an adult ≥60.
- Worse in low light, on uneven/soft ground, on stairs, and in busy visual environments.
- Insidious onset; not discrete episodic vertigo — but actively screen for and treat coexisting BPPV.

Mechanism — the multisensory triad

Channel	Age-related change	Clinical relevance
Vestibular	Hair-cell (type I>II), otoconia & Scarpa's neuron loss; ↓VOR gain	Reduced gaze stability; the defining bilateral hypofunction
Visual	↓Acuity & contrast, depth perception; cataract/glaucoma	Removes the visual substitute — worst in low light
Proprioceptive	Large-fibre neuropathy; ↓mechanoreceptors & conduction	Unsteady on uneven and soft ground
Central	White-matter change; impaired reweighting; ↓neuroplasticity	Cannot compensate — loss of redundancy is the core lesion

Pearl — *The defining problem is loss of redundancy, not failure of any one organ. Sarcopenia, polypharmacy, cognitive decline and inactivity amplify it.*

Diagnostic criteria — Bárány Society 2019 presbyvestibulopathy

Component	Requirement
Symptoms (≥2, for ≥3 months)	Postural imbalance · gait disturbance · chronic dizziness · recurrent falls
Mild bilateral hypofunction	vHIT VOR gain 0.6–0.8; OR caloric sum 6–25°/s; OR rotational-chair gain 0.1–0.3
Age & exclusion	Age ≥60; not better accounted for by another disease

Pearl — *The gain band is decisive: <0.6 = bilateral vestibulopathy; 0.6–0.8 = presbyvestibulopathy; >0.8 = normal ageing.*

Investigations — confirming bilateral hypofunction

Test	Purpose	When to order
vHIT	Quantify VOR gain; confirm the bilateral pattern	The defining test — every case
Caloric / rotational chair	Corroborate hypofunction across frequencies	Confirmatory or discordant cases
VEMP; dynamic visual acuity	Otolith function; functional gaze stability	Useful adjuncts
Posturography	Characterise the sensory-reweighting deficit	Guides rehabilitation
Audiogram	Detect coexisting presbycusis	Common comorbidity
MRI	Exclude central pathology	Only if asymmetry, focal signs or central pattern

Pearl — *Actively seek and treat coexisting BPPV first — common, reversible, and it undermines every other balance exercise.*

Differential diagnosis — high-yield mimics

Mimic	Key distinguishing features
BPPV	Brief positional vertigo; Dix-Hallpike / supine-roll positive — treat first
Vestibular migraine	Episodic; migraine features; normal interictal examination
Central (cerebellar, NPH, stroke)	Focal signs, ataxia, gait apraxia, urinary/cognitive change — image
Orthostatic hypotension / medications	Postural BP drop; sedating or vestibulotoxic drugs — quick to treat
Peripheral neuropathy	Distal sensory loss; Romberg positive; reduced ankle reflexes
PPPD / anxiety	Persistent, visually-induced dizziness — treat in parallel

► **Red flags** — Acute or rapidly progressive onset · focal neurological signs · marked asymmetry on vHIT/calorics · gain <0.6 (bilateral vestibulopathy) · new headache or visual loss. Each warrants imaging or escalation before labelling presbystasis.

Management — falls prevention & rehabilitation

Domain	Intervention	Practice principles
Vestibular physiotherapy	Gaze stabilisation (VOR x1/x2); progressive balance & gait	Treat BPPV first; progressive and individualised
Exercise	Strength training + Tai Chi	Reduces falls ~20% — the highest-yield component
Medications	Review / deprescribe vestibulotoxic & sedating agents	Quick and high-yield
Environment	OT home assessment; remove hazards; lighting, rails	Reduces in-home falls
Sensory	Optimise vision & hearing; supportive footwear	Restores the substitute channels
Psychology	Address fear of falling; CBT where indicated	Prevents activity restriction and deconditioning

Pearl — No single measure prevents falls — multifactorial programmes with a balance-exercise core work best. Older adults improve more slowly but meaningfully.

Risk stratification — match intensity to the tier

Risk tier	Action
Low (annual review)	TUG under 12 s and fewer than 2 falls — reassess annually; maintain activity
Moderate (1 domain)	Falls-clinic referral; basic vestibular rehab + strength
High (2–3 domains)	Multidisciplinary assessment; intensive vestibular rehab + occupational therapy
Very high (≥4 domains)	Geriatrics referral; hip protectors; personal alarm; home modification

Pearl — Stratify by Timed Up and Go and the number of risk domains, then match intervention intensity to the tier.

Counselling and follow-up

- Frame as a common, treatable condition — not inevitable ageing; staying active is protective.
- Maintenance practice is essential — gains fade without it; a little and often beats occasional bursts.
- Re-assess at 3 months (repeat TUG & FGA), revise the risk tier, then annual structured review.
- Formal falls assessment after any fall; refer to a falls clinic for moderate-or-higher risk.

Prognosis — and key references

Older adults respond to vestibular rehabilitation — more slowly but meaningfully — and most stay active and independent with sustained multidomain care. Recurrent falls, very-high-risk tiers, and diagnostic uncertainty warrant specialist or geriatric referral.

Key references — Agrawal Y et al. Presbyvestibulopathy: Bárány Society diagnostic criteria. *J Vestib Res* 2019;29:161–170. · Whitney SL et al. *Vestibular rehabilitation in the older adult*. · NICE / WHO Falls in older people guidelines.