

PVM03CHEATSHEET

**Vestibular Migraine in Children**

The leading cause of recurrent vertigo in school-age children and adolescents

**WHY IT MATTERS**

Vestibular migraine (VM) is the most common cause of recurrent episodic vertigo in children over 5 and the most common vestibular diagnosis in adolescents. It is severely underdiagnosed — headache may be absent or mild in 30–40% of episodes. Diagnostic delay averages 4–6 years. Early recognition allows preventive therapy, reduces school absenteeism, and prevents the development of interictal PPPD as a complication.

**ICHD-3 DIAGNOSTIC CRITERIA — VESTIBULAR MIGRAINE**

Criterion	Requirement
A — Episodes	At least 5 episodes with vestibular symptoms (B) of moderate-severe intensity
B — Duration	5 minutes to 72 hours
C — Migraine history	Current or previous migraine with or without aura
D — Migraine features	≥1 of: headache with ≥2 migraine qualities; photophobia AND phonophobia; visual aura
E — Not attributed	Not better accounted for by another vestibular or ICHD-3 diagnosis
Probable VM	Criteria A+B+E met; EITHER C or D (not both)
Paediatric notes	Headache may be absent; episodes shorter than in adults; motion sickness universal
Family history	Migraine in mother or maternal relatives in >60% — diagnostically useful

**CLINICAL FEATURES — PAEDIATRIC VM**

Feature	Detail
Vertigo type	Spontaneous rotatory or linear; positional component in 30%; may be ataxia-predominant
Duration	5 min – 72 hours; typically 20 min – 6 hours in children
Headache	Present in 50–70% during vestibular episodes; migraine-quality (throbbing, unilateral, pulsatile)
Phonophobia/photophobia	Almost universal during acute episodes; major diagnostic clue
Nausea/vomiting	Present in 80%; motion sickness history ubiquitous in VM children
Visual symptoms	Scintillating scotoma; photopsia; visual snow; fortification spectra
Triggers	Sleep change, hunger, dehydration, bright light, screen time, stress, menstruation (adolescent)
Interictal examination	Normal vestibular exam between attacks; mild static imbalance possible

**DIFFERENTIAL DIAGNOSIS**

Diagnosis	Key distinguishing feature
BPVC	Age under 6; duration seconds to 5 minutes; no headache; resolves by school age
BPPV	Position-triggered; Dix-Hallpike positive; seconds to <1 minute; no migraine features
Posterior fossa tumour	Constant symptoms; progressive; ataxia; MRI urgently
Menière-equivalent in children	SNHL; aural fullness; low-frequency audiometric dip; rare under 16
Vestibular neuritis	Acute onset; days duration; spontaneous nystagmus; vHIT abnormal
PPPD	Persistent daily; non-episodic; worsened by visual environments; follows trigger
Anxiety/panic	No vertigo; presyncope character; hyperventilation; no vestibular findings

**PREVENTIVE THERAPY — FIRST-LINE OPTIONS**

Agent	Dose (paediatric)	Evidence/Notes
Topiramate	1–3 mg/kg/day in 2 divided doses (max 100 mg/day)	RCT evidence in paediatric migraine; teratogenic — contraception in adolescent females
Amitriptyline	0.1–1 mg/kg at night (start 10 mg; titrate)	Good evidence in paediatric migraine + VM; sedation; monitor ECG at higher doses
Propranolol	1–4 mg/kg/day in 2–3 divided doses	Contraindicated in asthma; use in normal-weight children; not obese adolescents
Flunarizine (where available)	5 mg at night (5–10 years); 10 mg (>10 years)	Strong evidence for paediatric migraine; not available in all countries; weight gain
Magnesium	9 mg/kg/day elemental (max 400 mg)	Mild evidence; excellent safety profile; good add-on or first-line in mild VM
Riboflavin (B2)	200–400 mg/day	Low evidence; very safe; may be used alongside first-line agents
Lifestyle optimisation	Sleep schedule; regular meals; hydration; screen limits; stress management	Before or concurrent with all pharmacological approaches

**ACUTE MANAGEMENT**

Intervention	Dose/Detail
Ibuprofen	10 mg/kg (max 400 mg); effective in paediatric migraine; give early in attack
Paracetamol	15 mg/kg; less effective than ibuprofen; use if ibuprofen contraindicated
Ondansetron	0.15 mg/kg (max 8 mg); for vomiting; does not abort vestibular symptoms
Sumatriptan nasal spray	10–20 mg (approved ≥12 years in some countries); discuss with neurologist
Rest in dark quiet environment	Standard first-line; sleep often terminates attack in children
Vestibular suppressants	Avoid — no evidence in VM; impair compensation; may worsen PPPD risk

**MONITORING AND OUTCOME**

- Attack frequency diary is essential — document date, duration, triggers, severity, school impact.
- Review preventive therapy at 3 months: aim for ≥50% reduction in attack frequency as success criterion.
- DHI-PC (Dizziness Handicap Inventory — Paediatric) at baseline and 3-monthly to track functional impact.
- VM + untreated anxiety is the strongest risk factor for PPPD — screen with SCARED or GAD-7 in adolescents.
- Co-existing BPPV occurs in 10% of VM patients — check with Dix-Hallpike at each review.
- Hormonal triggering in adolescent females: combined OCP may worsen VM; consider alternative contraception.

**MONITORING AND TREATMENT REVIEW**

Timepoint	Assessment	Action
Baseline	Attack diary; DHI-PC; GAD-7; SCARED (anxiety screen)	Establish frequency; severity; functional impact; anxiety burden
4 weeks (preventive trial)	Diary review; side-effect assessment	Dose adjustment if tolerated; no efficacy assessment yet — too early
3 months (preventive trial)	Diary review; DHI-PC; 50% reduction threshold	Success = ≥50% reduction; if inadequate: increase dose or switch agent
6 months (ongoing)	Diary; school attendance; quality of life	Consider weaning if >6 months attack-free
Annual review	Diary; exam; PPPD screen; co-existing anxiety	Ongoing preventive need; transition to adult care in late adolescence
Diary non-compliance	Very common in children/teens	Involve parent; app-based diary (Migraine Buddy, N1-Headache) improves adherence

**WHEN TO REFER**

- ▶ VM with ≥4 episodes/month despite lifestyle modification — vestibular physician for preventive therapy initiation
- ▶ Significant school absence (>5 days/term) due to VM — vestibular physician + school support plan
- ▶ Suspected VM but atypical features (abnormal exam, progressive symptoms) — neurology + MRI
- ▶ PPPD developing between VM episodes — vestibular physician; combined VM prevention + VRT programme
- ▶ Adolescent VM with contraception needs — gynaecology awareness; hormonal migraine counselling

♦ *The diagnostic trap in paediatric VM: waiting for the headache that may never come. In 30–40% of vestibular migraine episodes in children, the headache is absent or mild. If a child has recurrent episodes of dizziness with photophobia and phonophobia, a family history of migraine, and a normal examination — that is vestibular migraine until proven otherwise. The diagnosis does not require headache.*

♦ *Starting preventive therapy for VM is a commitment — a trial should run for at least 3 months at an adequate dose before declaring failure. The most common reason preventive therapy "doesn't work" is stopping too soon. Set this expectation with the family at the outset: "We need 3 months to know if this is working. In the meantime, keep the diary."*