PVM04CHEATSHEET

BPPV in Children

Rare but underdiagnosed — effective canal repositioning at any cooperative age

WHY IT MATTERS

BPPV is uncommon in children (<5% of paediatric vertigo) but frequently misdiagnosed as functional or psychogenic, leading to unnecessary neuroimaging. In children, BPPV almost always has an identifiable precipitant — head trauma, vestibular neuritis, or migraine. Canal repositioning is highly effective but requires age-appropriate technique and cooperation (reliable from ~age 5). Recurrence rates are higher in paediatric BPPV with ongoing precipitants.

DIAGNOSIS — PAEDIATRIC BPPV

Canal	Test	Positive finding	Latency
Posterior canal (90%)	Dix-Hallpike	Upbeat-torsional nystagmus; fatigable; reverses on sitting up	1–5 sec latency
Horizontal canal — canalolithiasis	Supine roll (BBQ)	Direction-changing geotropic nystagmus; beats toward ground	Immediate; stronger to affected side
Horizontal canal — cupulolithiasis	Supine roll	Direction-changing apogeotropic nystagmus; beats away from ground	Immediate; stronger to unaffected side
Anterior canal (rare)	Dix-Hallpike	Downbeat-torsional nystagmus	1–5 sec; no geotropic component
Technique under age 8	Modified Dix-Hallpike	Slower positioning; smaller head-extension angle; support head	Same latency; cooperation variable
Age for reliable testing	≥5 years cooperative	Passive positioning attempt from age 3; cooperation unreliable <5	N/A

PRECIPITANTS AND RISK FACTORS

Precipitant	Frequency	Notes
Head trauma (concussion)	40–50%	Most common in children; BPPV may develop days–weeks post-injury
Vestibular neuritis/labyrinthitis	10–15%	Post-neuritis BPPV develops 4–8 weeks after acute phase
Vestibular migraine	10–15%	Recurrent BPPV in VM; repositioning effective; VM prevention reduces BPPV frequency
Idiopathic	20–25%	Less common than in adults; diagnosis of exclusion — always seek precipitant
EVA/labyrinthine malformation	5–10%	BPPV as part of episodic inner ear dysfunction; investigate for EVA
Otitis media (post-OM)	5–10%	Round window pressure effects; confirm with Dix-Hallpike post-AOM
Ototoxicity	Rare	Post-aminoglycoside partial loss can produce BPPV during compensation phase

DIFFERENTIAL DIAGNOSIS

Diagnosis	Key distinguishing feature
Vestibular migraine	Duration minutes–hours; no latency; headache/photophobia; Dix-Hallpike negative
BPVC	Age <6; seconds duration; spontaneous; no Dix-Hallpike positivity; pallor
Central positional vertigo	No latency; no fatigability; direction-changing in same position; vertical or purely torsional
Orthostatic hypotension	Triggered by standing; BP drop; no nystagmus; presyncope not vertigo
Functional dizziness	Dix-Hallpike triggers symptoms but no nystagmus; PPPD context; prolonged symptoms

REPOSITIONING MANOEUVRES

Canal	Manoeuvre	Steps
Posterior canal	Epley manoeuvre	Dix-Hallpike to affected side → head rotate 90° opposite → roll body → sit up; each position 30–60 sec
Posterior canal (alternative)	Semont liberatory	Rapid positioning to affected side then rapid flip to opposite side; effective; less commonly used
Horizontal — canalolithiasis	Barbecue (360°) roll	Log roll from supine: affected ear down → supine → unaffected ear down → prone; 90° steps; 1 min each
Horizontal — cupulolithiasis	Forced prolonged position	Lie on unaffected side for 12 hours; converts to canalolithiasis variant; then BBQ roll
Success criterion	Negative Dix-Hallpike	Re-test 10 minutes after manoeuvre; single treatment effective in 70%; repeat if needed
Post-manoeuvre restrictions	None required	Evidence does not support post-Epley activity restrictions in children

MANAGEMENT AND FOLLOW-UP

Aspect	Recommendation
First treatment	Epley manoeuvre in clinic; advise expected transient worsening of nausea during manoeuvre
Repeat treatment	If Dix-Hallpike still positive at 1 week: repeat Epley; consider canal conversion or variant BPPV
Vestibular suppressants	NOT recommended — impair central compensation; no role in BPPV management
Home Epley	Can be taught to parent/older child for recurrent BPPV; caution — must confirm canal variant first
Recurrence monitoring	10–15% recur within 1 year; re-treat same protocol; ≥3 recurrences → vestibular physician review
Underlying cause treatment	Treat precipitant (VM prevention; VRT post-neuritis) — reduces BPPV recurrence frequency

MONITORING AND OUTCOME

Aspect	Detail
Response to Epley	Negative Dix-Hallpike at 1 week = success; re-test 10 min post-manoeuvre in clinic
Recurrence rate	10–15% at 1 year in children; higher with ongoing precipitant (VM, head trauma, EVA)
Canal conversion post-Epley	Horizontal nystagmus post-repositioning = HC BPPV; treat immediately with BBQ roll
BPPV + VM co-management	VM preventive therapy reduces BPPV recurrence frequency; treat both simultaneously
Failure to resolve	Persistent BPPV after 3 Epley attempts → vestibular physician; rule out variant or central cause
School re-integration	Most children return to full school within 1–2 weeks of successful repositioning

WHEN TO REFER

- **► BPPV not resolving after 3 Epley manoeuvres — vestibular physician; canal variant assessment**
- **► BPPV recurrence ≥3 times per year — vestibular physician; investigate underlying cause; self-management training**
- **► Post-concussion BPPV with persistent concussion symptoms beyond BPPV resolution — concussion clinic; VOMS assessment**
- **► Central positional nystagmus features (no latency, no fatigability, direction-changing) — MRI brain urgently; neurology**
- **► BPPV + unilateral SNHL — investigate for EVA, labyrinthine malformation; paediatric ENT + MRI temporal bones**

♦ The Epley manoeuvre is effective in children as young as 4–5 years if they cooperate. The key adaptation for younger children is to move more slowly through each position, use a smaller head-extension angle, and have a parent present for comfort. A successfully performed Epley in a 5-year-old with post-concussion BPPV can resolve weeks of school absence in a single clinic visit.

♦ BPPV in children is almost never idiopathic — always search for the precipitant. Head trauma, vestibular neuritis, and vestibular migraine account for 60–70% of paediatric BPPV. Treating the precipitant (VM prevention, VRT post-neuritis) significantly reduces BPPV recurrence and prevents the repeated episodes that can trigger secondary PPPD.