

The Epley manoeuvre

For benign paroxysmal positional vertigo

The Epley manoeuvre (canalith repositioning) can be used to treat posterior canal benign paroxysmal positional vertigo (BPPV). BPPV is characterised by brief episodes of vertigo related to rapid changes in head position. BPPV can be confirmed by the Dix-Hallpike positional test. The Epley manoeuvre is easily performed in the clinic, or by the patient, and is described in detail in this article. It has NHMRC Level I evidence of efficacy and no serious adverse effects have been reported.

This article forms part of a series on non-drug treatments, which summarise the indications, considerations and the evidence, and where clinicians and patients can find further information.

BPPV is typically associated with intense vertigo, which is usually less marked in central positional vertigo. Furthermore, nystagmus often persists in central positional vertigo when the head is maintained in the same position.

The intervention

How to do the Epley manoeuvre

General practitioners, patients, other medical practitioners and physiotherapists can administer the Epley manoeuvre.

Requirements: a bed or table that can be accessed from both sides and which allows for the patient's head to be positioned off the end of the table. A bowl is advisable in case of vomiting.

Figure 1 illustrates the Epley manoeuvre for treating left-sided posterior semicircular canal disease.

What should I consider?

Considerations

Special care should be taken with both the Dix-Hallpike test and the Epley manoeuvre in patients with neck pain, stiffness or discomfort and in those with neck injury, severe cervical spondylosis or severe positional dizziness or vertigo. Infrequently patients are unable to tolerate the manoeuvre because of cervical pain, stiffness or discomfort.

Adverse effects

No serious adverse effects have been reported. Common side effects include vertigo and nausea (and sometimes vomiting) during the manoeuvre.

Evidence

National Health and Medical Research Council (NHMRC) Level I evidence (systematic review of randomised controlled trials) that the Epley manoeuvre is safe and effective for the treatment of posterior semicircular canal BPPV, until symptoms resolve.

The condition

What is BPPV?

Benign paroxysmal positional vertigo (BPPV) is a syndrome characterised by episodes of vertigo, which last for approximately 1–60 seconds, are related to rapid changes in head position, particularly movements related to gravity and those involving neck extension (eg. lying down in bed, reaching up for high objects, bending over) and may be associated with nausea and vomiting, which can last for up to several hours.

Benign paroxysmal positional vertigo is believed to be due to debris (canaliths) in the semicircular canals of the ear. Canaliths may continue to move after the head stops moving, with stimulation of the vestibular nerve leading to vertigo.

Symptoms of BPPV usually resolve spontaneously within 1–2 weeks, but may persist for up to several months. Attacks tend to occur in clusters and symptoms may recur, following periods of apparent remission.

What causes BPPV?

Although most cases are unexplained, BPPV is associated with head trauma, vestibular neuritis, vertebrobasilar ischaemia, labyrinthitis, middle ear surgery and periods of prolonged bed rest.

How is BPPV confirmed?

Posterior canal BPPV is confirmed by a positive Dix-Hallpike positional test (the 'Hallpike manoeuvre'), with unequivocal features of positional nystagmus. The test is not positive in patients with anterior and horizontal semicircular canal BPPV, both of which are much less common.

A positive Dix-Hallpike positional test provokes vertigo and nystagmus when the patient is moved from a sitting position to lying down, with the head tipped 45 degrees below the horizontal, 45 degrees to the side and with the side of the affected ear (and semicircular canal) downward. The nystagmus typically has a latency of a few seconds before onset and fatigues after approximately 30–40 seconds. The nystagmus is rotatory with the fast phase beating toward the lower ear (geotropic) and adapts with repeated testing. Optic fixation (when the eyes are fixed on a specific object) may reduce the severity of the nystagmus.

Are there any key differentials to consider?

Benign paroxysmal positional vertigo needs to be distinguished from central positional vertigo, which may occur with:

- multiple sclerosis
- cerebellar disease
- brainstem ischaemia
- migraine.

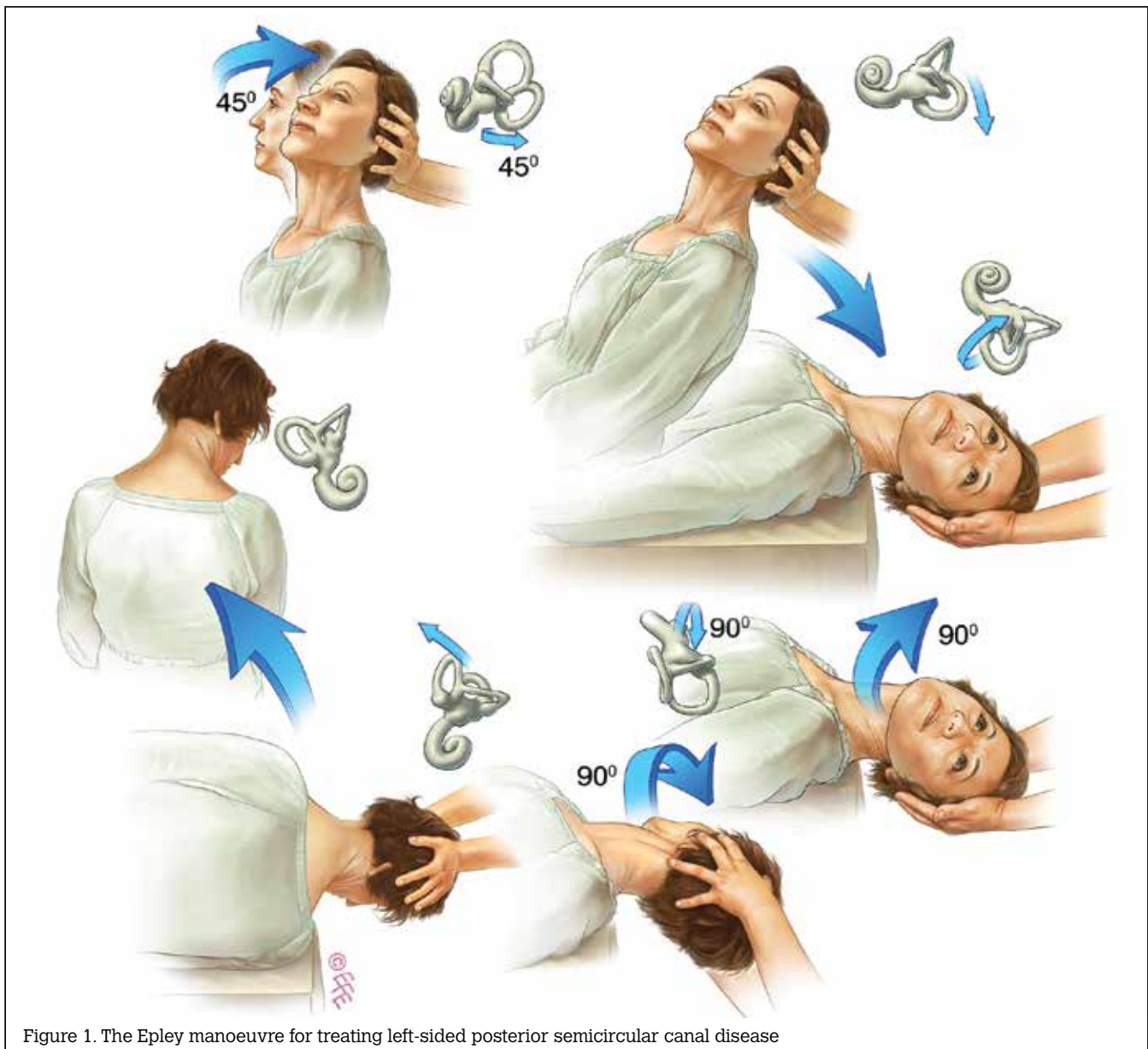


Figure 1. The Epley manoeuvre for treating left-sided posterior semicircular canal disease

Anything else?

In patients refractory to the Epley manoeuvre, diagnoses such as central positional vertigo and anterior and horizontal semicircular canal BPPV should be re-considered. Formal vestibular function testing is sometimes required to confirm the diagnosis.

Resources

Key references

- von Brevern M, Radtke A, Lezius F, et al. Epidemiology of benign paroxysmal positional vertigo: a population based study. *J Neurol Neurosurg Psychiatry* 2007;78:710–5
- Furman JM, Cass SP. Benign, paroxysmal positional

vertigo. Figure 3. *N Engl J Med* 1999;341:1590–6

- Hilton MP, Pinder DK. The Epley (canalith repositioning) manoeuvre for benign paroxysmal positional vertigo. *Cochrane Database Syst Rev* 2004;2:CD003162.

Clinician resource

Video links to the Epley manoeuvre and the Dix-Hallpike test can be found at <http://ent.cochrane.org/tools-support-reviews>.

Patient resource

The Better Health Channel has consumer information about BPPV at www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Vertigo_benign_paroxysmal_positional_vertigo?open.

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EPLEY MANOEUVRE:

The Epley manoeuvre (canalith repositioning) is used to treat posterior canal **benign paroxysmal positional vertigo (BPPV)**.

- 80% success rate
- Easy to perform
- Repositions calcium deposits

SEQUENCE OF POSITIONS (Video [HERE](#)):

- SITTING
 - Turn head 45° to the affected side – **HOLD 1 MIN**
- LAYING FLAT ON BACK
 - Head remains turned to affected side and hangs off end of couch with the neck extended 30° – **HOLD 1 MIN**
 - Turn head towards the good ear – **HOLD 1 MIN**
- ROLL TO LAY ON THE HIP AND SHOULDER OF THE GOOD SIDE
 - Then turn head toward good ear. Will now be looking at floor, with chin close to shoulder – **HOLD 1 MIN**
- MOVE TO SITTING POSITION
 - Ensure head position does not change relative to trunk (chin still on shoulder of good side) – **HOLD 1 MIN**
 - Finally, turn head to centre and flex neck to put chin on chest in one movement – **HOLD 1 MIN**

POST-MANOEUVRE INSTRUCTIONS:

- Patient not to drive home after Epley
- Patient to avoid lying flat for 2 nights
- For a further 5 nights, avoid lying on bad side