

Evaluating the Epley maneuver

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Clinical question

How effective is the Epley maneuver in treating benign paroxysmal positional vertigo (BPPV)?

Bottom line

Epley maneuvers will lead to complete resolution of symptoms for 1 in every 2 to 3 patients treated. Post-Epley movement restriction does not improve symptom resolution but might promote a negative Dix-Hallpike test result for 1 in every 10 patients treated.

Evidence

Six systematic reviews of RCTs consistently supported Epley maneuvers (as classically described) despite considerable heterogeneity among trials.¹⁻⁶

- Most recent review (11 RCTs, N=745)¹:
 - Results were statistically significant for the Epley maneuver versus control at 24 hours and 4 weeks.
 - Resolution of symptoms (5 RCTs, n=273): 56% versus 21% with control (NNT=3).
 - Positive to negative Dix-Hallpike test result (8 RCTs, n=507): 80% versus 37% with control (NNT=3).
- A few small studies compare the Epley to other maneuvers and report equivalence (eg, Semont and Gans) or inferiority (eg, Brandt-Daroff) of these interventions.

Two systematic reviews looked at movement restriction after the Epley maneuver, such as a neck brace or postural advice (avoid lying on affected side for 1 to 5 days and sleep upright for 24 to 48 hours).^{7,8} They had slightly different inclusion criteria leading to different conclusions.^{7,8}

- Larger review (9 RCTs, N=1078)⁷:
 - Resolution of symptoms and negative Dix-Hallpike test result: 86% versus 85% without restriction.
- Smaller review⁸:
 - Resolution of symptoms (2 RCTs, n=119): 52% versus 41% without restrictions (not statistically different).
 - Negative Dix-Hallpike test result (9 RCTs, n=528): 89% versus 78% without restrictions (statistically different).

Context

- The natural history of BPPV is unclear.¹ One small trial reported that 36.5% of patients experienced recurrence of symptoms within 48 months.⁹
- Clinicians perform the *classical Epley maneuver* while patient self-treatment is the *modified Epley maneuver*.
- Two small RCTs found that modified Epley maneuvers (3 times daily until symptoms resolved) resulted in symptom improvement in 64% to 95% of patients by 1 week.^{10,11} Trials that demonstrated improvement included initial supervision by an instructor.¹⁰

- Adverse events are poorly reported but include neck discomfort, transient nausea, and disequilibrium.⁸

Implementation

Generally, BPPV can be diagnosed clinically; neuroimaging is rarely required. Red flags include focal deficits with numbness or weakness, cerebellar signs including severe ataxia, unilateral hearing loss or tinnitus, and direction-changing nystagmus.¹² The Epley maneuver is the treatment of choice. It is best demonstrated in the office, with patient handouts¹³ given if symptoms recur or do not resolve. Videos demonstrating the maneuver are also available online.^{14,15} In a retrospective study, 47% of patients obtained symptomatic control of BPPV after a single Epley maneuver; 84% experienced symptomatic improvement after 3 maneuvers.¹⁶

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