

## 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.<sup>1-6</sup>

- Most recent review (11 RCTs, N=745)<sup>1</sup>:
    - 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).<sup>7,8</sup> They had slightly different inclusion criteria leading to different conclusions.<sup>7,8</sup>
- Larger review (9 RCTs, N=1078)<sup>7</sup>:
    - Resolution of symptoms and negative Dix-Hallpike test result: 86% versus 85% without restriction.
  - Smaller review<sup>8</sup>:
    - 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.<sup>1</sup> One small trial reported that 36.5% of patients experienced recurrence of symptoms within 48 months.<sup>9</sup>
- 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.<sup>10,11</sup> Trials that demonstrated improvement included initial supervision by an instructor.<sup>10</sup>

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

### 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.<sup>12</sup> The Epley maneuver is the treatment of choice. It is best demonstrated in the office, with patient handouts<sup>13</sup> given if symptoms recur or do not resolve. Videos demonstrating the maneuver are also available online.<sup>14,15</sup> In a retrospective study, 47% of patients obtained symptomatic control of BPPV after a single Epley maneuver; 84% experienced symptomatic improvement after 3 maneuvers.<sup>16</sup>

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