

Systematic Review Snapshot

Clinical Synopsis

TAKE-HOME MESSAGE

The Epley maneuver is a very effective treatment for benign paroxysmal positional vertigo.

METHODS

DATA SOURCES

MEDLINE, EMBASE, and CINAHL from 1966 through September 2009 were searched; bibliographies of identified articles were scanned for additional relevant articles.

STUDY SELECTION

Randomized controlled trials and quasirandomized trials assessing the effectiveness of the canalith repositioning procedure (ie, Epley maneuver) in patients with benign paroxysmal positional vertigo were reviewed by 2 authors, and a third author helped to resolve discrepancies. Only studies reporting outcome measurement at greater than 24 hours after the intervention were included.

DATA EXTRACTION AND SYNTHESIS

A data collection form that included methodological quality criteria was completed for each study. Only randomized controlled trials were considered for meta-analysis with plans to report outcomes as odds ratios with 95% confidence intervals.

Is the Canalith Repositioning Maneuver Effective in the Acute Management of Benign Positional Vertigo?

EBEM Commentator

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Results

Results of the 2 included randomized controlled trials.

| Study (N)* | OR (95% CI) | NNT (95% CI) [†] |
|-------------------------------|--------------|---------------------------|
| Lynn ¹ (33) | 22 (3.4–142) | 1.6 (1.0–2.3) |
| Von Brevern ² (66) | 37 (8.8–159) | 1.4 (1.1–1.7) |

OR, Odds ratio; CI, confidence interval; NNT, number needed to treat.

*N=number of patients included in trial.

[†]Calculated with Confidence Interval Analysis (version 2.1.2; University of Southampton, Southampton, UK).

Of the 10 studies meeting the inclusion criteria, only 2 were randomized controlled trials. Therefore, the authors were unable to conduct a meta-analysis. These 2 randomized controlled trials were considered high quality, with adequate reporting of randomization, concealment of allocation, and blinding of patients and those measuring outcomes; however, neither trial conducted an intention-to-treat analysis.^{1,2}

Commentary

Based on a national sample of *International Classification of Diseases, Ninth Revision* code data, it appears

that patients who receive a diagnosis of a vestibular condition frequently do not receive optimal emergency department (ED) management.³ Patients with benign paroxysmal positional vertigo typically present with episodes of dizziness triggered by positional changes that last less than 1 minute.⁴ The results of this systematic review indicate that when these types of patients present to the ED, an attempt at the canalith repositioning maneuver is appropriate. Although the results of the 2 randomized controlled trials are imprecise, the magnitude of effect was large. The only trial published in the emergency medicine literature that passed the systematic review literature screen was excluded after full text review; the trial was stopped early after only 11 subjects were enrolled in each arm because of an interim analysis demonstrating a profound benefit.⁵ The value of recommending restricted activity at discharge remains uncertain; one of the randomized controlled trials restricted activity after the intervention¹ but the other did not.²

Given that there is no financial cost associated with the Epley maneuver

and the procedure requires only a few minutes to perform, emergency physicians should use this technique for patients with benign paroxysmal positional vertigo.

1. Lynn S, Pool A, Rose D, et al. Randomized trial of the canalith repositioning procedure. *Otolaryngol Head Neck Surg.* 1995;113:712-720.
2. von Brevern M, Seelig T, Radtke A, et al. Short-term efficacy of Epley's manoeuvre: a double-blind randomised trial. *J Neurol Neurosurg Psychiatry.* 2006;77:980-982.
3. Newman-Toker DE, Camargo JCA, Hsieh Y-H, et al. Disconnect between charted

vestibular diagnoses and emergency department management decisions: a cross-sectional analysis from a nationally representative sample. *Acad Emerg Med.* 2009;16:970-977.

4. Kerber KA. Vertigo and dizziness in the emergency department. *Emerg Med Clin North Am.* 2009;27:39-50.
5. Chang AK, Schoeman G, Hill M. A randomized clinical trial to assess the efficacy of the Epley maneuver in the treatment of acute benign positional vertigo. *Acad Emerg Med.* 2004;11:918-924.

This is a clinical synopsis, a regular feature of the *Annals'* Systematic Review Snapshot

(SRS) series. The source for this systematic review snapshot is: Helminski JO, Zee DS, Janssen I, et al. Effectiveness of particle repositioning maneuvers in the treatment of benign paroxysmal positional vertigo: a systematic review. *Phys Ther.* 2009;90:663-678. DOI:10.2522/ptj.20090071.

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