

Background

- Benign paroxysmal positional vertigo (BPPV) is the single most common cause of vertigo encountered in neurology and otology clinics¹
- Post-treatment restrictions required patients to remain in an upright position for 24 to 48 hours after various canalith repositioning maneuvers (CRMs)⁴
- Common restrictions included: cervical collars,
 - Maintaining upright position (30-45 degrees) for 24-48 hours, avoiding head tilts, sleeping upright and avoiding sleeping on the affected ear
 - CRMs included treatments described by Epley, Semont, Gans and others

Purpose

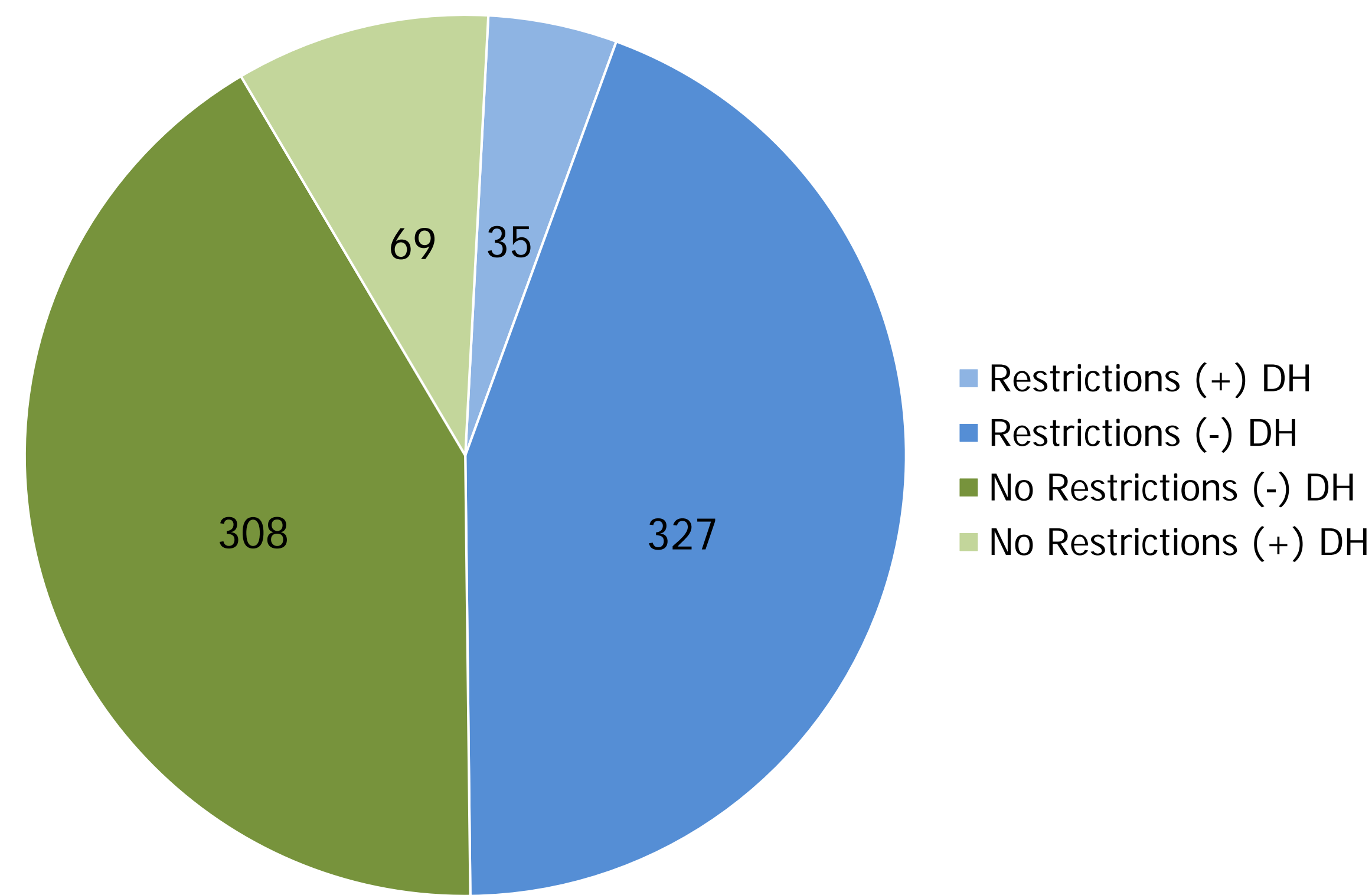
- Determine if postural restrictions following CRM are necessary for patients diagnosed and treated for BPPV
- Complete an updated, comprehensive systematic review and meta-analysis to determine best practice following a CRM

Methods

- Inclusion criteria for studies included:
 - Subjects were 18+ years old
 - Clinically diagnosed with BPPV by a positive Dix-Hallpike
 - Treated with a CRM
 - Studies were RCTs with a control group without post-CRM restrictions and experimental groups with post-CRM restrictions.
 - Studies were published in English
- Meta-analyses, systematic reviews, and retrospective studies were not included in this meta-analysis.
- In order to assess the quality of included studies, the Oxford Centre for Evidence-Based Medicine's (OCEBM) Levels of Evidence were used.
- Der Simonian and Laird random effects models were used to produce summary estimates which take into account the within and between study variability (heterogeneity). Heterogeneity was determined with I² squared values >50% and Cochranes-Q p-values <0.10.
- Cochrane Risk of Bias tool was used to evaluate each included study.

Results/Analysis

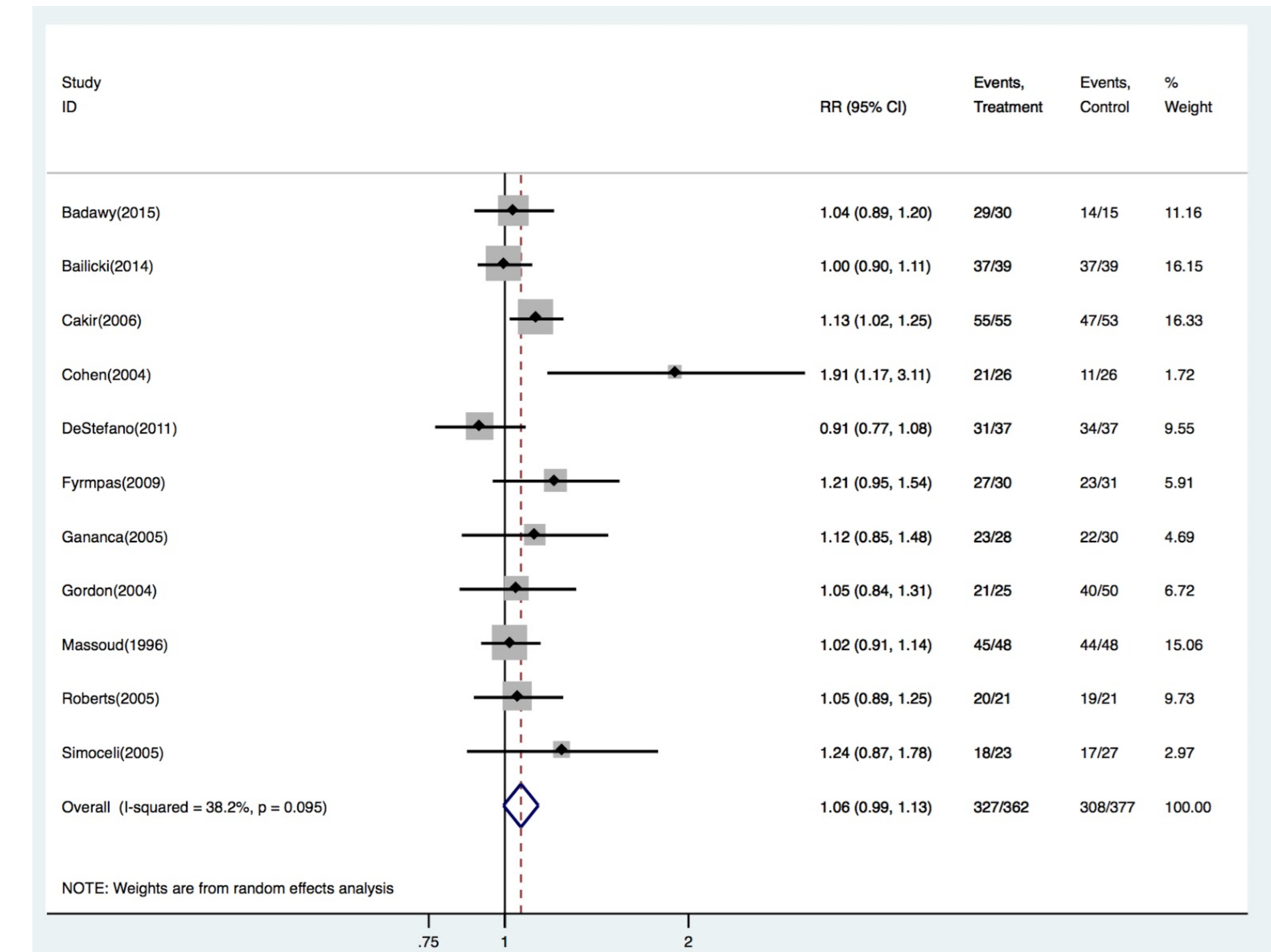
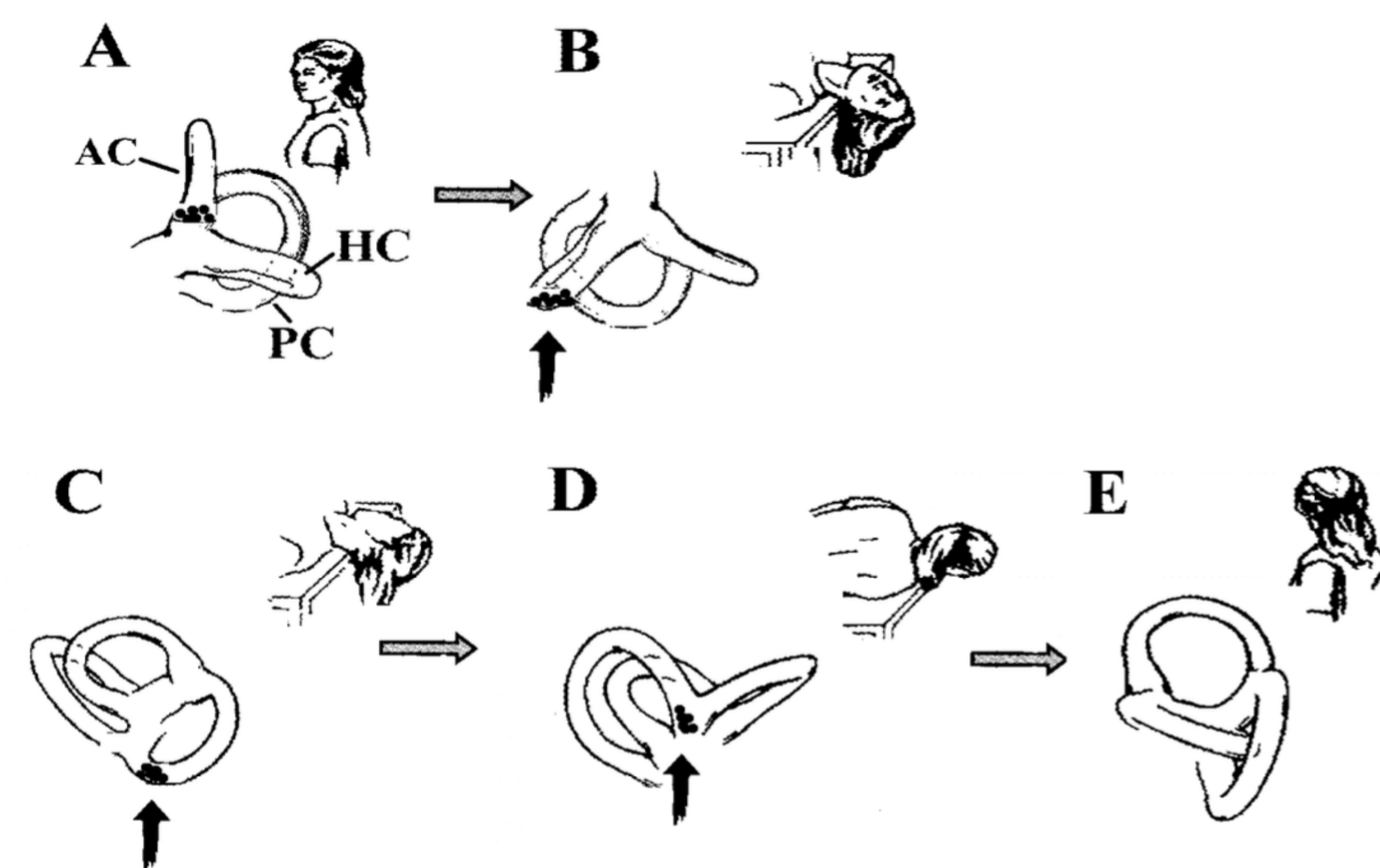
Post-Treatment Dix-Hallpike Results



The results of the post-treatment Dix-Hallpike tests are shown in this chart. The results of 739 total subjects were analyzed

- 362 subjects received post-maneuver postural restrictions and 377 subjects did not
- There was **not** a statistically significant difference in treatment success rates
- The Simocelli et. al. data are excluded as they did not use the Dix-Hallpike as an assessment tool.

Canalith Repositioning Maneuver for Posterior Canal BPPV



The results of the meta-analysis for the eleven included studies revealed that there was not a statistically significant difference in treatment success rates between patients who received post-CRM postural restrictions and those that did not ($p=0.095$). The effect size of this analysis is 1.06 (0.99, 1.13)

Conclusions

The results of the current meta-analysis indicate that the use of post-maneuver postural restrictions does not improve the efficacy of the repositioning maneuvers for treatment of BPPV.

Clinical Relevance

Based on the results of this meta-analysis, we recommend abstaining from the use of post-treatment postural restrictions when treating BPPV, as the postural restrictions are unnecessary.

Acknowledgements / References

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¹ Li S, Tian L, Han Z, Wang J. Impact of postmaneuver sleep position on recurrence of benign paroxysmal positional vertigo. *PLoS one*. 2013;8(12):e83566.
⁴ Epley JM. The canalith repositioning procedure: for treatment of benign paroxysmal positional vertigo. *Otolaryngology--head and neck surgery* : official journal of American Academy of Otolaryngology-Head and Neck Surgery. 1992;107:399-404.
⁷ Hunt WT, Zimmermann EF, Hilton MP. Modifications of the Epley (canalith repositioning) manoeuvre for posterior canal benign paroxysmal positional vertigo (BPPV). *Cochrane Database of Systematic Reviews*. 2012(4):N.PAG-N.PAG 1p.