

**This article has multiple issues.** Please help [improve it](#) or discuss these issues on the [talk page](#).



This article includes a [list of references](#), but **its sources remain unclear because it has insufficient [inline citations](#)**. *(June 2012)*

This article **contains [instructions, advice, or how-to content](#)**. *(June 2012)*

This article **should be divided into [sections](#) by topic, to make it more accessible**. *(June 2012)*

The **Epley maneuver** (or canalith repositioning maneuver) is a maneuver used to treat [benign paroxysmal positional vertigo](#) (BPPV)[1] of the posterior or anterior canals.[2] Free floating particles from the affected [semicircular canal](#) are relocated, using gravity, back into the [utricle](#), where they can no longer stimulate the cupula, therefore relieving the patient of bothersome vertigo.[2][3] It is often performed by a doctor, chiropractor, or a physical therapist, after confirmation of a diagnosis of [BPPV](#) using the [Dix-Hallpike test](#) and has a reported success rate of between 90–95%.[4][5][6] This maneuver was developed by Dr. John Epley and first described in 1980.[7] Physiotherapists and some chiropractors now use a version of the maneuver called the "modified" Epley that does not include vibrations of the mastoid process originally indicated by Epley, as they have since been shown not to improve the efficacy of the treatment.[8]

The following sequence of positions describes the Epley maneuver:

1. The patient begins in an upright sitting posture, with the legs fully extended and the head rotated 45 degrees towards the affected side.
2. The patient is then quickly and passively forced down backwards by the clinician performing the treatment into a supine position with the head held approximately in a 30 degree neck extension ([Dix-Hallpike](#) position) where the affected ear faces the ground.
3. The clinician observes the patient's eyes for "primary stage" nystagmus.
4. The patient remains in this position for approximately 1–2 minutes.
5. The patient's head is then turned 90 degrees to the opposite direction so that the unaffected ear faces the ground, all while maintaining the 30 degree neck extension.
6. The patient remains in this position for approximately 1–2 minutes.
7. Keeping the head and neck in a fixed position, the individual rolls onto their shoulder, in the direction that they are facing.
8. The eyes should be immediately observed by the clinician for "secondary stage" nystagmus and this secondary stage nystagmus should beat in the same direction as the primary stage nystagmus. The patient remains in this position for approximately 1–2 minutes.
9. Finally, the patient is slowly brought up to an upright sitting posture, while maintaining the 45 degree rotation of the head.
10. The patient holds sitting position for up to 30 seconds.

The entire procedure may be repeated two more times, for a total of three times.

During every step of this procedure the patient may experience some dizziness.

Following the treatment, the clinician may provide the patient with a soft collar, often worn for the remainder of the day, as a cue to avoid any head positions that may once again displace the otoconia. The patient may be instructed to be cautious of bending over, lying backwards, moving the head up and down, or tilting the head to either side. The soft collar is removed prior to bed. When doing so, the patient should be encouraged to perform horizontal movements of the head to maintain normal neck range of motion.[9]

It is important to instruct the patient that horizontal movement of the head should be performed to prevent stiff neck muscles.

It is still uncertain in the research literature whether activity restrictions following the treatment

improves the effectiveness of the canalith repositioning maneuver. However, patients who were not provided with any activity restrictions needed one or two additional treatment sessions in order to attain a successful outcome.[10] The Epley maneuver appears to be a long-term effective conservative treatment for BPPV that has a limited number of complications (nausea, vomiting, and residual vertigo)[2] and is well tolerated by patients.[11]

## Contents

- [1](#)  
[Backgr](#)  
[ound](#)  
[Informa](#)  
[tion](#)
- [2](#) [See](#)  
[also](#)
- [3](#)  
[Referen](#)  
[ces](#)
- [4](#)  
[Externa](#)  
[l links](#)

## Background Information

The goal of the Epley or Modified Epley maneuver is to restore equilibrium of the [vestibular system](#), more specifically to the semicircular canals to treat the symptoms associated with [BPPV](#). There is compelling evidence that free floating [otoconia](#), probably displaced from the otolithic membrane in the [utricle](#) are the main cause of this disequilibrium.[8] Recent pathological findings also suggest that the displaced [otoconia](#) typically settle in the posterior semicircular canal in the [cupula](#) of the [ampulla](#) and render it sensitive to gravity.[8] The cupula move in relation to acceleration of the head during rotary movements and signal to the brain via [action potentials](#) which way the head is moving in relation to its surroundings. However, once a crystal becomes lodged in the cupula, it only takes slight head movements in combination with gravity to create an action potential, which signals to the brain that the head is moving through space where in reality it is not, thus creating the feeling of [vertigo](#) associated with BPPV.[12]

When a therapist is performing the Epley or Modified Epley maneuver, the patient's head is rotated to 45 degrees in the direction of the affected side, in order to target the posterior semicircular canal of the affected side.[8] When the patient is passively positioned from an upright seated posture down to a lying (supine) position, this momentum helps to dislodge the [otoconia](#) (crystal) embedded in the [cupula](#). Steps 3–10 in the above mentioned procedure are causing the newly dislodged crystal to be brought back to the utricle through the posterior semi circular canal so that it can be re-absorbed by the utricle.[8]