

Overwegingen

- Nadelen: het mogelijk provoceren van draaiduizeligheid
- Kosten: minimaal
- Afweging van voordeel tegen nadeel: het voordeel weegt zwaarder.
- Waarde oordelen: Dix-Hallpike manoeuvre is de gouden standaard testmethode voor het stellen van de diagnose BPPD
- Rol van de voorkeur van de patiënt: minimaal.
- Exclusie: patiënten met fysieke beperkingen van de nek, zoals ernstige reumatoïde artritis en cervicale radiculopathie.

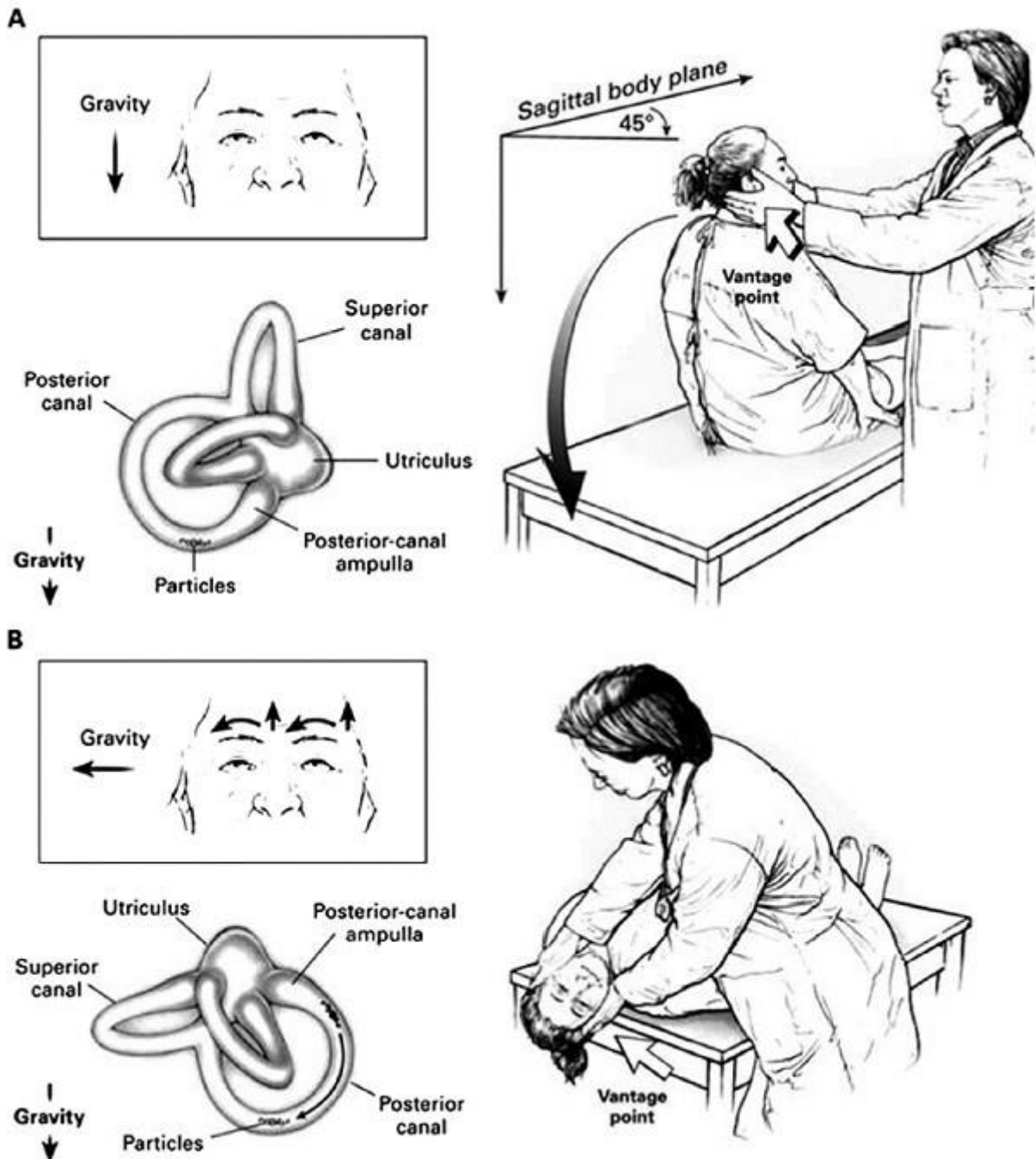


Figure 2.1

Diagrammatic representation of performance of the Dix-Hallpike maneuver for the diagnosis of posterior canal BPPV (adapted from Furman et al., 1999). **(A)** The examiner stands at the patient's right side and rotates the patient's head 45 degrees to the right to align the right posterior semicircular canal with the sagittal plane of the body. **(B)** The examiner moves the patient, whose eyes are open, from the seated to the supine right-ear-down position and then extends the patient's neck slightly so that the chin is pointed slightly upward. The latency, duration, and direction of nystagmus, if present, and the latency and duration of vertigo, if present, should be noted. The arrows in the inset depict the direction of nystagmus in patients with typical benign paroxysmal positional vertigo. A presumed location in the labyrinth of the free-floating debris thought to cause the disorder is also shown.

Performing the Dix-Hallpike Diagnostic Maneuver

The Dix-Hallpike maneuver is performed by the clinician moving the patient through a set of specified headpositioning maneuvers to elicit the expected characteristic nystagmus of posterior canal BPPV (Fig 2.1) (Furman, et al., 1999) (Dix, et al., 1952). Before beginning the maneuver, the clinician should counsel the patient regarding the upcoming movements and warn that they may provoke a sudden onset of intense subjective vertigo, possibly with nausea, which will subside within 60 seconds. Because the patient is going to be placed in the supine position relatively quickly with the head position slightly below the body, the patient should be oriented so that, in the supine position, the head can "hang" with support off the posterior edge of the examination. The examiner should ensure that he can support the patient's head and guide the patient through the maneuver safely and securely, without the examiner losing support or balance himself.

1. The maneuver begins with the patient in the upright seated position with the examiner standing at the patient's side (Furman, et al., 1999). If present, the patient's eyeglasses should be removed. We initially describe the maneuver to test the right ear as the source of the posterior canal BPPV.
2. The examiner rotates the patient's head 45 degrees to the right and, with manual support, maintains the 45-degree head turn to the right during the next part of the maneuver.
3. Next, the examiner fairly quickly moves the patient (who is instructed to keep the eyes open) from the seated to the supine right-ear down position and then extends the patient's neck slightly (approximately 20 degrees below the horizontal plane) so that the patient's chin is pointed slightly upward, with the head hanging off the edge of the examining table and supported by the examiner. The examiner observes the patient's eyes for the latency, duration, and direction of the nystagmus (Norre, et al., 1988) (White, et al., 2005). Again, the provoked nystagmus in posterior canal BPPV is classically described as a more or less mixed torsional movement with the upper pole of both eyes beating toward the affected ear (in this example the right ear) in combination with a vertical (upbeat) component. The patient should also be queried as to the presence of subjective vertigo.
4. After resolution of the subjective vertigo and the nystagmus, if present, the patient may be slowly returned to the upright position. During the return to the upright position, a reversal of the nystagmus may be observed and should be allowed to resolve (a torsional nystagmus to the healthy ear, in combination with a vertical (downbeat) component).
5. The Dix-Hallpike maneuver (steps 1-4) should then be repeated for the left side, with the left ear arriving at the dependent position (Numez, et al., 2000). Again, the examiner should

inquire about subjective vertigo and identify objective nystagmus, when present. The examination of the left side completes the test. The provoked nystagmus in left ear posterior canal BPPV is more or less mixed torsional movement with the upper pole of both eyes beating toward the affected ear (in this example the left ear) in combination with a vertical (upbeat) component. The Dix-Hallpike maneuver is considered the gold standard test for the diagnosis of posterior canal BPPV (Fife, et al., 2008). It is the most common diagnostic criterion required for entry into clinical trials and for inclusion of such trials in meta-analyses` (Hilton, et al., 2004) (Cohen, et al., 2005). The lack of an alternative external gold standard to the Dix Hallpike maneuver limits the availability of rigorous sensitivity and specificity data. Although it is considered the gold standard test for posterior canal BPPV diagnosis, its accuracy may differ between specialty and nonspecialty clinicians. Lopez-Escamez et al (Lopez-Escamez, et al., 2000) have reported a sensitivity of 82 percent and specificity of 71 percent for the Dix-Hallpike maneuvers in posterior canal BPPV, primarily among specialty clinicians. In the primary care setting, Hanley and O'Dowd (Hanley, et al., 2002) have reported a positive predictive value for a positive Dix-Hallpike test of 83 percent and a negative predictive value of 52 percent for the diagnosis of BPPV. Therefore, a negative Dix-Hallpike maneuver does not necessarily rule out a diagnosis of posterior canal BPPV. Because of the lower negative predictive values of the Dix-Hallpike maneuver, it has been suggested that this maneuver may need to be repeated at a separate visit to confirm the diagnosis and avoid a false-negative result (Numez, et al., 2000) (Viire, et al., 2005) (Norre, et al., 1994). Factors that may affect the diagnostic accuracy of the Dix-Hallpike maneuver include the speed of movements during the test, time of day, and the angle of the plane of the occiput during the maneuver (Numez, et al., 2000). The Dix-Hallpike test must be done bilaterally to determine which ear is involved or if both ears are involved (Numez, et al., 2000). In a small percent of cases, the Dix-Hallpike maneuver may be bilaterally positive (ie, the correspondingly appropriate nystagmus is elicited for each ear in the dependent position). For example, bilateral posterior canal BPPV is more likely to be encountered after head trauma (Katsarkas, et al., 1999). Although the Dix-Hallpike maneuver is the test of choice to confirm the diagnosis of posterior canal BPPV, it should be avoided in certain circumstances. Although there are no documented reports of vertebrobasilar insufficiency provoked by performing the Dix-Hallpike maneuver, clinicians should be careful to consider the risk of stroke or vascular injury in patients with significant vascular disease (Whitney, et al., 2006). Care should also be exercised in patients with cervical stenosis, severe kyphoscoliosis, limited cervical range of motion, Down syndrome, severe rheumatoid arthritis, cervical radiculopathies, Paget's disease, ankylosing spondylitis, low back dysfunction, spinal cord injuries, and morbid obesity (Whitney, et al., 2005) (Whitney, et al., 2006). Patients who are obese may be difficult for a single examiner to fully support throughout the maneuver, so additional assistance may be required. For patients with physical limitations, special tilting examination tables may allow the safe performance of the Dix-Hallpike maneuver.

To our knowledge, no comparative studies have been performed so far to investigate whether the diagnostic accuracy of the Hallpike maneuver with observation of the nystagmus by the naked eye improves by the use of Frenzel's glasses or infra-red Video-Oculography.