

Dix-Hallpike Test (The drop test)**Indications:**

- Perform on all patients complaining of dizziness/vertigo
- Tests for posterior canal benign paroxysmal positional vertigo (BPPV)

Physiology:

- The maneuver positions the posterior semicircular canal in a vertical orientation which causes the canalith particles to gravitate downward causes vertigo and nystagmus.

Technique:

1. The patient should be seated on the exam table so that when they lie down their head will extend over the end of the table
 - a. Have someone stand on each side of the table while you perform this maneuver as some patients develop severe vertigo and fall off the table. Also, have a bucket nearby as patients occasionally vomit
2. Explain to the patient what is going to be done and that any dizziness will only last a few seconds
3. Maintain control of the patients head to be sure the maneuver is performed optimally and to provide maximal stimulation
4. Tell the patient to keep their eyes open and look directly at you at all times
5. Place one hand on top of the head and one hand under the chin
6. Have the patient go quickly from the sitting to the supine position, with their head hanging 10°-30° below horizontal, as you quickly turn their head toward you
 - a. The “down” ear is the one being tested
 - b. If the patient can tell you which side down causes the vertigo, check the opposite side first to minimize nausea
7. Observe the patients eyes for at least 15 seconds to see whether nystagmus is induced
 - a. The onset of nystagmus may have a latency period of several seconds and has a crescendo-decrescendo pattern of intensity
8. Slowly bring the patient back to a sitting position, with the head still rotated
9. Check for nystagmus again
 - a. The nystagmus should reverse rotation
10. Repeat the procedure with the head rotated the opposite direction

Results:

Positive: “down” side produces nystagmus and is the side causing the positional vertigo
 If the right side is being tested (in the “down” position), the eye will rotate in a counterclockwise manner during the rapid phase of nystagmus, with a minor up-beating vertical (toward the forehead) component
 If the left side is being tested, the results are similar except the eye rotates clockwise
 Negative: no nystagmus is noted

Diagnostic Accuracy:

Sensitivity for BPPV: 50%-78%

Likelihood ratio (LR):

A positive test combined with a history of vertigo or vomiting gives a LR of 7.6 for peripheral, nonemergent form of vertigo

If vertigo/vomiting is lacking in a “dizzy” patient, the LR for peripheral, nonemergent vertigo as opposed to potentially emergent and/or central cause is 0.6

Notes:

- The intensity lessens and nystagmus fatigues with repeat testing

References:

1. Froehling DA et al. Does this dizzy patient have a serious form of vertigo? JAMA. 1994;271:385-388.
2. Orient, JM. Sapira's Art and Science of Bedside Diagnosis. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins. 2010;562.
3. Parnes LS, Agrawal SK, Atlas J. Diagnosis and management of benign paroxysmal positional vertigo (BPPV). CMAJ. 2003;169:681-693.
4. Viirre E1, Purcell I, Baloh RW. The Dix-Hallpike test and the canalith repositioning maneuver. Laryngoscope. 2005 Jan;115(1):184-7.