



Musculoskeletal

The loaded Dix-Hallpike test for BPPV

Does a slight change to the Dix-Hallpike maneuver yield better test results?

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Benign paroxysmal positional vertigo (BPPV) is a common form of dizziness. The physiology of BPPV is when otoconia (often referred to as 'crystals' or free floating particles in the semicircular canal) influence the vestibular neurological signal to the brain when the head moves. The Dix-Hallpike test is a common test for assessing the posterior canal to see if BPPV is present.

Previous studies have suggested that a poor testing result may be due to the positioning of the otoconia in the canal prior to the full testing procedure. The authors of this article investigated whether a 'loaded' head positioning prior to testing would produce a greater duration and/ or more intense nystagmus response so that the assessor can establish a positive test easier.

A total of 28 participants were randomly divided into two groups of 14, and participated in a prospective study in which each participant was tested with a standard Dix-Hallpike (S-DH) as well as a loaded Dix-Hallpike test (L-DH).

The L-DH positioning involved flexing the cervical spine by 30 degrees and rotated to the testing side, held in this position for 30 seconds before completing the remainder of the Dix-Hallpike test (starting in sitting, head rotated to side being tested, then assisted into



full reclined position with cervical extension of 20 degrees).

Group 1 underwent the S-DH three times, and then the L-DH three times. Group 2 underwent the L-DH three times then the S-DH. Nystagmus was assessed for duration and latency of onset with each test. Symptom severity was recorded after each test as well.

It was found that the L-DH produced a longer nystagmus; as a result it may be easier for clinicians to detect.

As an important limit of this study, the authors do mention that only participants who were able to tolerate repetitive testing were included.

Moreover, given the fact that the L-DH increased the intensity of nystagmus and reported symptoms, clinicians should consider whether or not the patient is able to tolerate the L-DH positioning in the future.

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Expert opinion

This study discusses an alternative to the Dix-Hallpike, which can be helpful in ascertaining a diagnosis of BPPV.

One limitation not noted in this study was the possibility of fatigue of symptoms with L-DH versus the S-DH. It is often stated that repetitive testing of the Dix-Hallpike maneuver may cause a reduction in symptoms and nystagmus in some patients due to fatigue of positional response if tested several times close together.

While this was not addressed in this paper, it should be a consideration for future clinical application when doing a S-DH or a L-DH. For those able to tolerate a potentially more intense testing position, perhaps just one test of the L-DH may be better tolerated and yield a better result.

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