

# TREATMENT OF HORIZONTAL CANAL CUPULOLITHIASIS: A FORM OF BENIGN PAROXYSMAL POSITIONAL VERTIGO

Paquin LM, Dutton LL

Saint Catherine University

no funding

## **Compliance Statement**

The patient was informed about the case study and assured that all information would be de-identified. The patient gave consent for participation.

**Background and Purpose:** Benign Paroxysmal Positional Vertigo (BPPV) is the most common cause of vertigo due to a peripheral disorder, with a 2.4% occurrence rate in the general population. Considerable delay in diagnosis often leads to unnecessary healthcare costs. The purpose of this case report is to describe the physical therapy evaluation, intervention and discharge plan for a patient with a rare type of BPPV, horizontal canal cupulolithiasis, in the acute care setting.

**Case Description:** The patient was a 60-year-old woman presenting to the emergency department with complaints of dizziness and nausea that had been ongoing for 4 days. After central nervous system involvement was ruled out via a computed tomography scan, the patient was referred to physical therapy for evaluation and treatment. Her bed mobility required contact guard assistance and she was unable to transfer or ambulate due to nausea. The intervention was aimed at diagnosing the type of BPPV based on the physical therapist's assessment of the patient's nystagmus, and resolving it by appropriately repositioning the otoliths into their proper position within the inner ear. After the initial diagnosis and corresponding treatment yielded unsuccessful outcomes, a reassessment was done of the patient's nystagmus to find that it presented differently than originally thought. This reassessment led to the correct treatment approach.

**Outcomes:** After 5 treatment sessions (4 days), the patient's symptoms (nausea, dizziness and nystagmus) were relieved. The patient was able to perform bed mobility, transfers, and ambulation with modified independence.

**Conclusion:** The patient was initially misdiagnosed with posterior canal canalithiasis via the Dix-Hallpike assessment. Upon reexamination, the patient was correctly diagnosed with horizontal canal cupulolithiasis via the Roll test. This case report illustrates the necessity of correctly assessing the patient's nystagmus in order to have a successful treatment outcome.