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Effect of Vestibular Rehabilitation and Gaze Stabilisation Exercises in Individuals with Motion Sickness: A Study Protocol

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ABSTRACT

Introduction: Vestibular rehabilitation exercises are commonly employed to improve balance, gaze stability, and functional mobility in individuals with vestibular disorders. These exercises aim to enhance the integration of sensory inputs, including visual, vestibular, and proprioceptive systems, to promote equilibrium.

Need for this study: This study provides a comprehensive and progressive approach to vestibular rehabilitation, combining static and dynamic exercises to address a range of vestibular dysfunctions.

Aim: This protocol outlines a structured series of vestibular exercises designed to target specific aspects of vestibular function.

Materials and Methods: The protocol consists of seven exercises, each targeting unique vestibular and balance components. Exercise 1 emphasises controlled vertical and horizontal ocular movements, promoting visual-vestibular integration. Exercise 2 incorporates dynamic movement with visual fixation, requiring participants to track their hand while performing diagonal body movements. Exercise 3 involves seated ball-tossing to challenge gaze stabilisation and coordination. Exercise 4 introduces ambulation with eyes open and closed, focussing on proprioceptive and vestibular reliance during gait. Exercise 5 includes marching in place with and without visual input and stable support to build independent postural control. Exercise 6 uses an unstable surface to challenge vestibular reflexes during marching, combined with visual fixation on a distant target. Lastly, Exercise 7 incorporates the Brandt-Daroff manoeuvre, a widely used positional therapy to reduce vertigo symptoms and habituate the vestibular system.

Keywords: Brandt-Daroff manoeuvre, Vestibular exercise, Vestibulo-ocular reflex