

Research Week Abstract

Title – Effects of Vestibular Rehabilitation in Patients with Dizziness and Balance Problems Following Traumatic Brain Injury: A Critically Appraised Topic

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Effects of Vestibular Rehabilitation in Patients with Dizziness and Balance Problems After Traumatic Brain Injury: A Critically Appraised Topic

Abstract: This paper serves to unpack the complexity and importance of post-concussive care in those suffering from vestibular dysfunction following mild traumatic brain injury (mTBI).

Vestibular rehabilitation (VR) is a form of physical therapy designed to assist those experiencing symptoms including motion sensitivity, blurred vision, difficulty concentrating, or dizziness.

Clinical Scenario: Current programs focus on either a standardized-multidisciplinary approach to rehab, or highly individualized care focused on addressing patients' impairments and activity limitations. Primary studies have reported favorable outcomes exploring the effect of VR in the treatment and quality of life for patients with mTBI. However, current research is inconclusive whether one treatment intervention is more effective at treating mTBI over the other. **Focused**

Clinical Question: What is the effect of using an individualized approach to VR programs for dizziness and balance problems following mTBI? Regardless of the severity of the injury, the majority of affected patients experience symptoms that impede their ability to recover in a timely manner. **Summary of Key Findings:** All three studies exhibited beneficial effects of VR

interventions for mTBI impairments including reduced dizziness and balance problems, as well as improved self-efficacy and psychological distress. However, no significant differences in clinical outcomes were found between participants receiving only multidisciplinary rehab versus those who received individualized VR rehab.

Clinical Bottom Line: Previous studies identified a multidisciplinary approach to VR as an effective treatment in those with vestibular dysfunction following mTBI, however, current research suggests an individualized approach tailored to patients' specific limitations and impairment should be utilized instead.³ Further research is needed to determine the comparative effectiveness between these two treatment approaches following mTBI. ***Strength of Recommendation:*** Grade A evidence shows no statistical support for the use of an individually focused VR rehab intervention over the more common multidisciplinary approach.

Christian Worldview Integration: From a Christian perspective and biblical worldview, I personally believe that God designed our brains to be the most intricate and beautiful part of our human bodies. The brain serves a much greater purpose than serving as our control center. As complex and fragile as they are, the human brain was designed by God as a manifestation of his infinite power and affirms the value in which he holds upon us. Growing up as an athlete myself and now having a passion for working with athletes within the athletic training profession, I have seen first-hand the impact of season-ending or career-ending injuries as well as repetitive head impacts. While not all athletes may cope the same way, I feel it is my top priority as a future athletic trainer to recognize the signs and normalize the conversation when it comes to mental health and illness. Since the mind-body connection plays a vital role in our biological functioning concerning our everyday thoughts, feelings, beliefs, and attitudes, it is important to

implement open communication, empower those who are suffering, and equalize treatment of both physical and mental health within athletics. For it is written, “Even though I walk through the valley of the shadow of death, I will fear no evil: for you are with me; your rod and your staff, they comfort me” (Psalm 23:4).