



Psychosomatic

Oculomotor and balance deficits in the concussed population

What clinical tests can be used to predict persistent concussion symptoms?

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Concussion symptoms can range from a variety of presentations, including: dizziness, headache, balance deficits, and visual changes. After sustaining mild Traumatic Brain Injury (mTBI), symptoms may develop and persist, and go on to become classified as post concussion syndrome (PCS) if persisting beyond three months. This paper closely examined some of the most common concussion symptoms, and evaluated the ongoing deficits of those who sustained a concussion between three months and two years ago.

This cross-sectional comparative study included 23 patients between 40-80 years of age from the University of Kansas Medical Centre, and controls.

The participants underwent extensive testing, including the Functional Gait Assessment (FGA, to determine deficits with dynamic balance). Moreover, they completed a Post-Concussion Symptom Scale (PCSS) and DHI (Dizziness Handicap Inventory); both subjective patient-reported outcome measures.



The FGA test consists of several head positions and movements while walking, as well as walking with eyes closed, and backwards, to investigate overall tolerance for functional mobility. Oculomotor tests were also conducted for visual acuity and near point convergence.

A correlation between FGA scores and persistence concussion symptoms was found. Additionally, subjective reporting on the DHI can be insightful for a multidisciplinary team approach to managing concussion, especially since it is divided into further subcategories of emotional and functional deficits.

While many of the objective tests and subjective assessment tools highlighted in this study are commonplace in current concussion assessment, the findings seem to support a multi-disciplinary approach to address concussion symptoms. The tests and measures also can be useful in identifying those who may be at risk of persistent/ chronic symptoms following mTBI.

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