

Concussion: Clinical and Vocational Outcomes from Sport Related Mild Traumatic Brain Injury

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Abstract : There is an increasing incidence of mild traumatic brain injury (mTBI) cases throughout sport and with this, a growing interest from governing bodies to ensure these are managed appropriately and player welfare is prioritised. The Berlin consensus statement on concussion in sport recommends a multidisciplinary approach when managing those patients who do not have full resolution of mTBI symptoms. There are as of yet no standardised guideline to follow in the treatment of complex cases mTBI in athletes. The aim of this project was to analyse the outcomes, both clinical and vocational, of all patients admitted to the mild Traumatic Brain Injury (mTBI) service at the UK's Defence Military Rehabilitation Centre Headley Court between 1st June 2008 and 1st February 2017, as a result of a sport induced injury, and evaluate potential predictive indicators of outcome. Patients were identified from a database maintained by the mTBI service. Clinical and occupational outcomes were ascertained from medical and occupational employment records, recorded prospectively, at time of discharge from the mTBI service. Outcomes were graded based on the vocational independence scale (VIS) and clinical documentation at discharge. Predictive indicators including referral time, age at time of injury, previous mental health diagnosis and a financial claim in place at time of entry to service were assessed using logistic regression. 45 Patients were treated for sport-related mTBI during this time frame. Clinically 96% of patients had full resolution of their mTBI symptoms after input from the mTBI service. 51% of patients returned to work at their previous vocational level, 4% had ongoing mTBI symptoms, 22% had ongoing physical rehabilitation needs, 11% required mental health input and 11% required further vestibular rehabilitation. Neither age, time to referral, pre-existing mental health condition nor compensation seeking had a significant impact on either vocational or clinical outcome in this population. The vast majority of patients reviewed in the mTBI clinic had persistent symptoms which could not be managed in primary care. A consultant-led, multidisciplinary approach to the diagnosis and management of mTBI has resulted in excellent clinical outcomes in these complex cases. High levels of symptom resolution suggest that this referral and treatment pathway is successful and is a model which could be replicated in other organisations with consultant led input. Further understanding of both predictive and individual factors would allow clinicians to focus treatments on those who are most likely to develop long-term complications following mTBI. A consultant-led, multidisciplinary service ensures a large number of patients will have complete resolution of mTBI symptoms after sport-related mTBI. Further research is now required to ascertain the key predictive indicators of outcome following sport-related mTBI.

Keywords : brain injury, concussion, neurology, rehabilitation, sports injury

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