

Fact sheet

Concussion and mild traumatic brain injury

A patient with mild traumatic brain injury is a person who has had a traumatically induced physiological disruption of brain function.

Mild traumatic brain injury

A patient with mild traumatic brain injury has had a traumatically induced physiological disruption of brain function as manifested by at least one of the following:

- > any period of loss of consciousness
- > any loss of memory for events immediately before or after the accident
- > any alteration in mental state at the time of the accident
- > focal neurological deficits that may or may not be transient but where the severity of the injury does not exceed the following:
 - loss of consciousness of approximately 30 minutes or less
 - after 30 minutes, an initial Glasgow Coma Scale (GCS) of 13-15
 - post traumatic amnesia (PTA) not greater than 24 hours¹

Symptoms

Physical symptoms

Physical symptoms may include: headache, dizziness, nausea, sleep difficulties, fatigue, and blurred vision.

Cognitive symptoms

Cognitive symptoms may include: decreased attention span, concentration, mental speed and short term memory, and confusion.

Behavioural symptoms

Behavioural symptoms may include: irritability, emotional lability, depression, and anxiety².

Post-concussion syndrome

Post-concussion syndrome (PCS) is defined by the ICD-10 Diagnostic Criteria as:

1. History of head trauma with loss of consciousness preceding symptom onset by maximum of four weeks.
2. Three or more symptom categories:
 - a. headache, dizziness, malaise, fatigue, noise intolerance
 - b. irritability, depression, anxiety, emotional lability
 - c. subjective concentration, memory, or intellectual difficulties without neuropsychological evidence of marked impairment

¹ Mild Traumatic Brain Injury Committee of the Head Injury Interdisciplinary Special Interest Group of the American Congress of Rehabilitation Medicine 1993

² Trevena et al 2004

- d. insomnia
- e. reduced alcohol tolerance
- f. pre-occupation with above symptoms and fear of brain damage with a hypochondriacal concern and adoption of sick role³

PCS diagnosis

The Rivermead Post-Concussion Symptoms Questionnaire (RPQ) is a useful tool for identifying patients with this syndrome. The RPQ has predictive validity in PCS patients compared to those without PCS. However, the validity and reliability of RPQ was found to be less predictive at six months compared with three months and seven to 10 days⁴.

PCS treatment

All people with possible or definite mild traumatic brain injury should receive information about common symptoms and reassurance that recovery over a short period of time (days to a few weeks) is highly likely. There is some evidence that early, relevant information about common symptoms of mild traumatic brain injury and emphasising high rates of recovery can influence the rate of later persistent symptoms.

Mittenberg et al (1996) showed in a small randomised controlled trial that traumatic brain injury patients who received a printed manual and therapist visit (with cognitive behavioural instruction), prior to hospital discharge, and had a shorter duration of PCS symptoms and significantly fewer symptoms at follow-up.

Wade et al (1998) also showed a significant reduction in RPQ scores in traumatic brain injury patients who received a visit from a psychologist and printed information, prior to hospital discharge.

PCS prognosis

There is consistent evidence that PCS symptomatology is common especially within the first months following injury. There was no association observed with age, gender, or cause, with most symptoms resolving within three months. There is some evidence that persistent PCS is more likely in patients who are involved in litigation and/or compensation⁵.

Other conditions with similar symptoms include:

- > Meniere's disease (dizziness, tinnitus, vertigo)
- > Peri lymphatic fistula (dizziness, tinnitus, vertigo)
- > Post traumatic vertigo (dizziness, vertigo)
- > Acute and post traumatic stress, anxiety disorder (cognitive impairments)⁶

³ Trevena et al 2004

⁴ Trevena et al 2004

⁵ Trevena et al 2004

⁶ Trevena et al 2004

References

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For more information

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Resources accurate as at 3 February 2009. If you have any questions or wish to update the information, please contact [Dr Maggie Killington](mailto:Dr.Maggie.Killington)

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