



*Psychosomatic*

## **Concussion, cognitive fatigue and its treatment**

Cognitive fatigue is one of the most common, difficult, symptoms of concussion - what is the best treatment?

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Nearly 2 million mild traumatic brain injuries (mTBI) occur each year in the United States alone, with concussion being a world-wide issue for healthcare management.

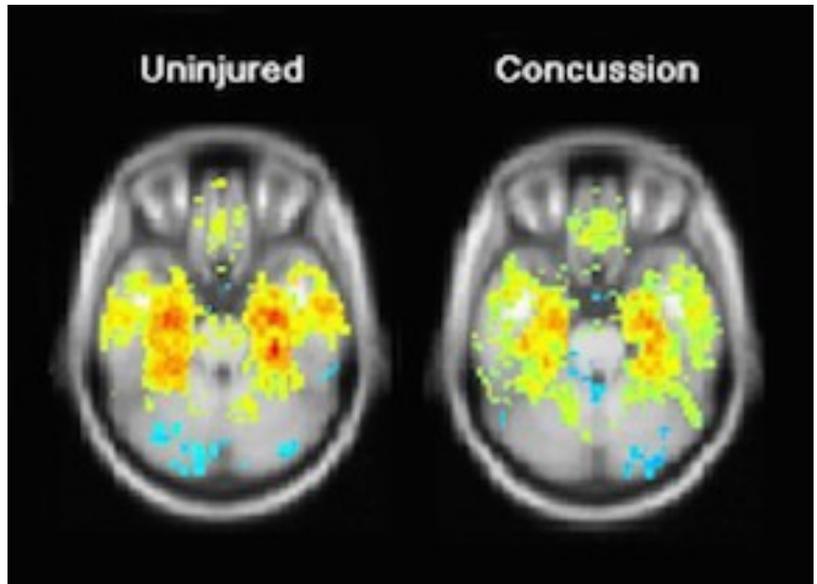
One of the main symptoms associated with mTBI is cognitive fatigue - defined as “a subjective lack of physical and/ or mental energy that is perceived by the individual or caregiver to interfere with usual and desired activities.”

This article focuses the sources of primary fatigue, directly related to the mTBI, whereas secondary cognitive fatigue is related to poor sleep and resulting in day-time fatigue.

There has been relatively little work done to develop interventions for fatigue following TBI in general, and the evidence is highly variable for recommendations around mTBI fatigue.

The main advice is around sleep hygiene and regulating a schedule that adheres to pacing, and avoids a 'boom and bust' pattern of doing too much.

An other, lesser known management modality of mTBI associated fatigue is medication. Methylphenidate (a dopamine agonist) may help overcome attentional difficulties and reported cognitive difficulties. Melatonin is also sometimes used to help promote greater quality of sleep, with hopes of improving cognitive fatigue - but this is addressing the secondary rather than the primary source of cognitive fatigue following mTBI.



Cognitive behavioural therapy (CBT) has also been found beneficial when managing cognitive fatigue. It is felt that, in conjunction with other functional interventions (such as light exercise), structuring of schedules and days as well as cognitive retraining, anxiety-reducing techniques and education around proper energy management techniques can help improve cognitive fatigue.

Even the application of mindfulness alongside of CBT can be helpful as mindfulness can work in 2 ways: increasing self-awareness as well as decreasing cognitive stimuli output and processing for a brief period.

While a lot of approaches have been taken in helping to manage mTBI fatigue, the current research remains clear on the fact that no single intervention is the key to overcoming its symptoms.

Even with the use of medication, this is not the sole approach, and a multi-disciplinary approach is needed to best support cognitive fatigue following mTBI.

## Expert opinion

The components of concussion management are highly dependent on the health care community that the patient is assessed in.

While the literature remains clear about the need for functional, medical, and psychological input, many healthcare systems remain 'siloed' in their approach of just one of these 3.

However, some places around the world, such as New Zealand, are taking an approach of having a neurological screening done by a physiotherapist (or occupational therapist) as well as a neurologist and neuropsychologist for a collaborative treatment plan.

With the emerging evidence, hopefully this multidisciplinary approach will continue to spread worldwide.

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