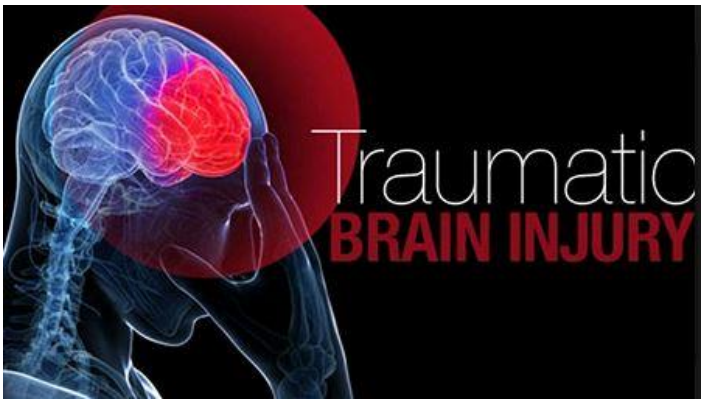
Shaw Chiropractic Group

A MEDICAL-LEGAL NEWSLETTER FOR PERSONAL INJURY ATTORNEYS BY DR. STEVEN W.SHAW

Mild Traumatic Brain Injury: Part II



The last newsletter on mild traumatic brain injury (mTBI) was well received. Since then, I've received an abundance of calls requesting more information about mTBI diagnosis and management. Apparently, there has been increasing awareness of the seriousness of mTBIs in the legal community with mTBI legal programs popping up all around the country. Therefore, in this edition of the newsletter I will review the highlights from the **Guidelines for Mild Traumatic Brain Injury and Persistent Symptoms** published by the Ontario Neurotrauma Foundation. This guideline was written to assist healthcare professionals in the implementation of evidence based, best practices for mTBI patients and specifically for patients who experience persistent symptoms. The document is 156 pages in length and quite an interesting read. That said, I suspect that most attorneys will not take the time to read the entire guideline so I have highlighted and bullet pointed what I believe to be information that is valuable from a personal injury attorney's perspective (as well as mine). Here we go:

- **Persistent symptoms are not an uncommon complication of mTBI; 10 to 15% of individuals who incur mTBI will continue to experience significant symptoms beyond the normal recovery period of three months**.
- mTBI can include post-traumatic headache, sleep disturbance, disorders of balance, cognitive impairments, fatigue, and mood or affective disorders.
- mTBI is among the most common neurological condition with an estimated annual incidence of 200/100,000 in the United States.

- Canadian studies have calculated the incidence of mTBI in Ontario to lie between 493/100,000 and 653/100, 000.
- The term mild TBI (mTBI) denotes the acute neurophysiological effects of blunt impact or other mechanical energy applied to the head, **such as from sudden acceleration, deceleration or rotational forces.**
- **Physical Symptoms of mTBI include:** Headache, Nausea, Vomiting, Blurred or double vision, Seeing stars or lights, Balance problems, Dizziness, Sensitivity to light or noise, Tinnitus
- **Behavioral/Emotional Symptoms of mTBI include:** Drowsiness, Fatigue/lethargy, Irritability**,** Depression**,** Anxiety**,** Sleeping more than usual**,** Difficulty falling asleep.
- **CognitiveSymptoms of mTBI include:** Feeling "slowed down"**,** Feeling "in a fog" or "dazed"**,** Difficulty concentrating**,** Difficulty remembering.
- **Computed Axial Tomography (CAT) and conventional Magnetic Resonance Imaging (MRI) usually fail to detect evidence of structural brain abnormalities in mTBI**.
- The mTBI definition includes a Glasgow Coma Scale (GCS) score of 13-15
- Post traumatic amnesia (PTA) is another criteria used to define injury severity.
- Loss of consciousness of less than 30 minutes also serves as an index of mild TBI.
- **It should be noted that mTBI can occur in the absence of any loss of consciousness**
- A patient with mild traumatic brain injury is a person who has had a traumatically induced physiological disruption of brain function, as manifested by one or more of the following:
  • Any period of loss of consciousness for up to 30 minutes
  • Any loss of memory for events immediately before or after the accident for as much as 24 hours
  • Any alteration of mental state at the time of the accident (e.g., feeling dazed, disoriented, or confused)
  • Focal neurological deficit(s) that may or may not be transient.
- In most cases, patients who experience mTBI will recover fully, typically within days to months. The concern is that, as the Center for Disease Control (CDC) notes**, *"up to 15% of patients diagnosed with mTBI may have experienced persistent disabling problems***"
- Another area of controversy is the potential influence of related litigation and financial compensation on the presentation and outcome for persons who have sustained mTBI. While there is consistent evidence of an association between seeking/receiving financial compensation (i.e., via disability benefits or litigation) and the persistence of postconcussive symptoms, this relationship is complex and it must not be assumed that the initiation of a compensation claim arises solely from the pursuit of secondary gain. **The *intentional* exaggeration or manufacturing of symptoms (i.e., malingering) is relatively rare**;
- Risk Factors Influencing Recovery Post mTBI
  - Medical Factors (red flags)
    - Post-traumatic amnesia (PTA)
    - History of previous traumatic brain injury

  - History of previous physical limitations
  - History of previous neurological or psychiatric problems
  - High number of symptoms reported early after injury
  - Skull fracture
  - Early onset of pain and in particular headache within 24 hours after injury
  - Reduced balance or dizziness during acute stage
  - Confounding effects of other health related issues, e.g., pain medications, disabling effects of associated injuries, emotional distress
  - Presence of nausea after injury
  - Presence of memory problems after injury
- Contextual Factors (yellow flags)
  - Injury sustained in a motor vehicle accident
  - The potential influence of secondary gain issues related to litigation and compensation
  - Not returning to work or significant delays in returning to work following the injury
  - Being a student
  - Presence of life stressors at the time of the injury
  - Higher levels of symptom reporting is associated with mood symptoms and heightened self-awareness of deficit
  - Older age
  - Lack of social supports
  - Less education/lower social economic status

- The Abbreviated Westmead Post Traumatic Amnesia Scale (A-WPTAS) is a standardized tool that can be used to evaluate post traumatic amnesia. This tool has the advantage of being used with non-English speaking patients.
- The assessment and monitoring of symptoms following mTBI may be facilitated using the Rivermead Post Concussion Symptoms Questionnaire.
- Headache is a very common symptom following mTBI with estimates ranging between 30-90% of patients who suffer from headaches. Several researchers have noted that posttraumatic headache is more common after mild TBI than after severe TBI.
- Investigators have reported post-traumatic headache symptoms resembling chronic tension-type headache for most individuals but some investigators have found migraine to be the most common phenotype. Also headaches resembling chronic tension-type headache may coexist with episodic migraine or migraine headache.
- It is well known that too frequent use of analgesics/acute headache medications can, in some, exacerbate, perpetuate and chronify headaches via the phenomenon of medication overuse (“rebound”) headache
- Sleep disturbance is most common following mild TBI, not severe TBI.

- Insomnia is the most common form of sleep disturbance following TBI characterized by problems with sleep initiation and/or sleep maintenance.
- Early post-concussive symptoms following mTBI can include irritability, anxiety, emotional lability, depressed mood, and apathy. Thereafter, a significant proportion of individuals may develop persistent mental health disorders, with major depression and anxiety disorders observed most frequently.
- Depressive disorders following TBI are commonly associated with increased irritability and are often comorbid with anxiety syndromes. The latter include generalized anxiety, panic attacks, phobic disorders, and posttraumatic stress disorder (PTSD). **These disorders comprise both new-onset conditions that develop de novo post-injury, as well as those reflecting an exacerbation of pre-injury conditions or vulnerabilities.**
- mTBI is associated with disruptions in cognitive skills that include difficulties with attention/concentration, speed of information processing, memory and aspects of executive cognitive skills.
- Impairment of the vestibular system is a common problem experienced post mild TBI with complaints ranging from vertigo to problems with dizziness, balance, vision as well as mobility. Vestibular deficits can be of peripheral origin where the inner ear is affected or can also be of central/ brain origin.
- Benign Paroxysmal Positional Vertigo (BPPV) is a specific common cause of balance impairment where patients experience vertigo and often nausea with sudden movements or changes in position such as rolling over in bed or looking up.
- The types of vision disorders that people who have sustained mTBI may experience range from ambient vision disturbances to diplopia, inability to visually fixate, poor convergence, scanning deficits, poor visual acuity, accommodative dysfunction, oculomotor dysfunction, and photosensitivity.
- Fatigue is one of the most pervasive symptoms following TBI and it can actually be out of proportion to exertion or may even occur without any exertion. Fatigue is multidimensional and can affect physical, cognitive, and subjective aspects. Fatigue following TBI has been found to significantly impact well-being and quality of life.

Obviously, this “brief” newsletter summary of a 156 page document can only highlight what I considered some very interesting points. For a more thorough review I would suggest downloading the entire document for your library and future reference by visiting this link https://bit.ly/1e2okvV and also download the revision document published a few years after the original https://bit.ly/2GvuN2Y .

In future newsletters, I will share some evolving technologies for assessing concussion and measuring and monitoring the physiological and cognitive effects over time to demonstrate recovery, or lack thereof.. My practices have been receiving demos of some of these

technologies to see if we can implement them into our practices as part of the routine assessments of patients with suspected concussion, mTBI and the related co-morbidities.

Recently, I've also encountered some providers that have an interest in this area of medical legal work including a neuropsychologist and a neurologist. Both have been in conversation with me to accept likely mTBI patients on an LOP. The neuropsychologist in particular has tentatively agreed that she will be able to perform a cursory (~2 hour) screening assessment for a very reasonable price before advancing to a full blown neuropsychological evaluation which, as we all have experienced, can range in cost between $4,000 and $10,000 only to find out that there is no significant abnormality related to the trauma.. That would be a very helpful assessment and save your clients/my patients unnecessary expense

Please let me know if you find this topic of interest by dropping me an email at Dr.Shaw@ShawChiropractic.com