



## Issue #7:

### THE LINK BETWEEN CONCUSSION AND DEPRESSION



Research has found that patients with concussions, or Traumatic Brain Injury (TBI), are more likely to experience depression compared to those who have not had a brain injury.<sup>1</sup> Current research has yet to pinpoint how age, gender, or the part of the brain that was injured effects the development of depression-related symptoms. As research in this area continues, it is important to understand the signs and symptoms of concussion and the possible connections to mental health to ensure that proper treatment is sought immediately to reduce suffering and improve recovery.

#### What is a concussion

Concussions are caused by head trauma including violent shaking of the head and upper body, causing the brain to slide back and forth forcefully against the inner walls of the skull. A concussion changes normal brain function. The severity of symptoms can vary and recovery times can also be quite different, lasting days or weeks, and in severe instances, even years. A 2013 study indicated that, in Canada, there were approximately 30,000 concussions annually in just the 12-to-19-year-old age group alone.<sup>2</sup>

#### Symptoms of a concussion

The signs and symptoms of a concussion can be difficult to detect. Some may appear immediately; others may be delayed for hours, days, or even weeks after injury.

#### Immediate signs and symptoms include:

- Amnesia surrounding the traumatic event
- Appearing dazed
- Confusion or feeling as if in a fog
- Delayed response to questions
- Dizziness, "seeing stars", or loss of balance
- Fatigue
- Headache or a feeling of pressure in the head
- Nausea
- Ringing in the ears
- Slurred speech
- Temporary loss of consciousness
- Vomiting



### Signs and symptoms that may be delayed:

- Concentration and memory complaints
- Disorders of taste and smell
- Irritability and other personality changes
- Psychological adjustment problems and depression
- Sensitivity to light and noise
- Sleep disturbances

### Depression after a brain injury

Studies have found that approximately 18 to 37 percent of people with a concussion develop depression in the first year after their injury. Between one to two years after the injury, this rate can double; with up to 61 percent of people reporting depression.<sup>3</sup> Additionally, more than half of the people with TBI who are depressed also experience significant anxiety.<sup>4</sup> In comparison, to those in the general population without TBI, approximately nine to ten percent are diagnosed with depression.<sup>1</sup>

Factors that contribute to depression after a brain injury can vary significantly between persons. These factors include:

**Physical changes in the brain.** Injuries to areas of the brain that control emotions may result in changes to neurotransmitters within the brain which may lead to depression.

**Emotional response to injury.** The struggle to adjust to temporary or lasting disability may result in depression.

**Cumulative effects of multiple brain injuries.** Persons who have experienced one or more traumatic brain injuries are at a greater risk of developing lasting, sometimes progressive, impairments that limit function and result in depression.

It's important to recognize that even after a mild TBI or concussion, you may develop depression-related symptoms. It is important to seek help from a healthcare professional early on.

### How can I tell if I am depressed?

Depression is a complex disorder with varying characteristics; here are a few indications that you may be experiencing depression:

- Changes in appetite or eating patterns
- Changes in your sleeping habits, including unrest or sleeping more than usual
- Experiencing feelings of low energy, lowered self-esteem and general lethargic approach to everyday routine
- Feeling agitated or restless
- Increased or initial use of alcohol, drugs, or tobacco
- Losing interest in usual activities such as favourite hobbies, time with family members, or activities with friends
- Suicidal ideations

### How to take care of your mental health after a concussion

It is important to tell your healthcare provider about any symptoms of depression you may be having regardless of how long it's been since your head injury.

There are various treatment options that can help depression and anxiety. At Homewood Health, the Integrated Mood and Anxiety Program (IMAP) is designed to assess and treat those diagnosed with depression and/or anxiety disorders. The program helps patients better understand their condition, effectively manage stressors and symptoms and improve functioning in their day-to-day lives.

The program begins with a comprehensive orientation and assessment period followed by an intensive treatment program that includes various therapy techniques including Cognitive Behavioural Therapy (CBT) and Dialectical Behavioural Therapy (DBT). When someone experiences a concussion or TBI, CBT based therapy can assist the individual in re-establishing problem-solving skills or realistic thinking to help make changes in their thoughts, feelings, and behaviours. Although based on CBT, DBT Therapy is an evidence-based approach with a greater focus on emotional and social aspects. DBT can help those who experience a severe head injury cope with extreme or unstable emotions and harmful behaviours as a result of the brain injury. Each treatment plan is tailored to an individual's specific needs.

## The Link between Concussion and Depression

Julie Martin, Program Manager for IMAP and the Program for Traumatic Stress Recovery, says “our programs use a holistic approach that encompasses the biological, psychological, social and spiritual aspects of the person. We utilize group learning as a supportive environment, and this is customized to fit each patient’s symptoms and needs, creating the structure and balance so essential to meaningful recovery.”

The program provides patients with a rich therapeutic experience. Individuals with depression and anxiety disorders tend to feel isolated. Working in groups with other people who outwardly appear to be coping, but who are actually struggling, helps patients realize other people have similar problems.

The IMAP Program has proven to be very successful in helping people in their recovery. One program patient offers this insight: “IMAP restarted my path toward meaning. I’m so glad I was introduced to CBT. Now, I can cope.”

Depression is a very common experience after brain injury. While research continues to help us understand the connection between concussions and depression, awareness is helping to detect mental disorders at an earlier stage in their development which enables earlier treatment. If you or a loved one have experienced even a mild TBI it is important not to ignore signs of depression and seek help from a healthcare professional right away. For more support on concussions, seek support through your Employee and Family Assistance Program, local concussion agencies and clinics, or counselling and rehabilitation centres.

### References:

- 1 Depression after Traumatic Brain Injury. (n.d.). Retrieved from <http://www.msktc.org/tbi/factsheets/Depression-After-Traumatic-Brain-Injury>
- 2 Concussion statistics dizzying. (2013, February 19). Retrieved from <https://www.mcgill.ca/newsroom/channels/news/concussion-statistics-dizzying-225078>
- 3 Concussion. (2017, July 29). Retrieved from <https://www.mayoclinic.org/diseases-conditions/concussion/symptoms-causes/syc-20355594>
- 4 Concussion/mTBI: Patients: Mental Health. (n.d.). Retrieved from <https://www.sjhc.london.on.ca/concussion-mild-traumatic-brain-injury/patients/mental-health>

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