

## Module A: Overview

This module presents an:

- overview of concussion, including
- the causes and characteristics of concussion.

A concussion is a form of brain injury caused by a hard blow or jolt to the head, neck, or body. Within the skull, the brain is floating in a small volume of fluid that protects it during normal activities. At the time of impact, the brain moves rapidly within the skull, stretching and compressing. This can result in temporary damage to the nerve fibers within the brain, and causes a short-term change in mental function.

When someone has a concussion, the brain is vulnerable. There is a 3 times higher risk of suffering another concussion and further injuring the brain. Second impact syndrome is a rare and potentially fatal condition that can occur if multiple concussions are sustained before the first concussion has healed. Failure to recognize and respond to any concussion can result in a prolonged recovery and persistent symptoms.

The leading causes of concussion in working age adults are falls, motor vehicle crashes – for example, accompanied by whiplash – and sport and recreational activities.

Concussions are frequently among the top five types of work-related injury claims, along with soft tissue injury such as cuts and bruises, sprains and strains, broken bones, and dislocations. It is estimated that one in every one hundred and sixty-five adults suffers a concussion each year in Canada. This is considered to be an underestimate as many people do not seek medical care for concussion.

Although concussions can occur anywhere, WorkSafeBC data show that the service sector has the highest number of reported concussions that led to time away from work, followed by trades and construction. In Canada, the highest rates of workplace concussions are in the transportation, storage, service, government, and primary industries, including forestry, fishing, and mining.

Concussion can temporarily affect energy levels and how information is processed and remembered. In the early stages of recovery, there is a huge increase in the brain's metabolic activity, requiring significantly more energy in order to function.

Think about it like this: on a normal day, you have a full cup of coffee to take on the day's activities. When you are recovering from a concussion, your brain uses a large portion of its energy just to heal, so now you have less energy available for your daily activities.

Concussions often make headlines, and many people have followed a professional athlete or know someone personally who has had a concussion. The media tends to focus on the worst cases, however when recognized and managed correctly, the majority of concussions resolve uneventfully.

Typical recovery times vary depending on age, and the number and severity of symptoms. Generally, adults tend to recover from concussion within 4 weeks, however 15 to 30 percent will continue to experience persistent symptoms beyond this period. Among adult athletes, concussion recovery usually occurs within 10 to 14 days. People that have had multiple concussions are at an increased risk of more severe symptoms, longer recovery periods, and extended leave from work with each successive concussion.

Unlike sprains, strains, or broken bones, which have predictable recovery rates and paths, recovery experiences with concussion can vary. To complicate things further, concussions are an “invisible injury”. Due to a lack of public awareness and understanding, those recovering from concussion can experience stigma, isolation, and frustration. The potential effect of concussion on mental health is often overlooked; around 30% of adults experience depression or anxiety during concussion recovery. More visible injuries sustained at the same time as a concussion, such as those needing stitches or a cast, can overshadow and delay concussion diagnosis.

Managing recovery from concussion requires a support team, which can include caregivers or family members, licensed medical professionals, coworkers, friends and peers, and the workplace. Proper management can speed-up recovery and reduce the risk of complications.