

## **Traumatic Brain Injury**

Brain injuries are estimated to be 10 times more common than spinal cord injuries. A common type of brain injury is called Traumatic Brain Injury where there is damage to the brain as the result of a direct blow to the head or the impact of the brain against the skull. Falls, motor vehicle accidents and blunt trauma (being hit on the head by a blunt object) are the major causes of TBI.

The symptoms of TBI can vary along a spectrum from mild to severe, and can last a varied amount of time. This can range from concussion through to persistent vegetative states (coma). Injury due to trauma commonly affects younger people and causes life-long impairments in physical, cognitive, behavioral and social function. Some of the initial symptoms of brain injury can include: headache, confusion, light-headedness, dizziness, blurred vision or tired eyes, ringing in the ears, bad taste in the mouth, fatigue or lethargy. Other lasting effects of brain injury can have a profound impact on all aspects of a person's life. Some examples include: a change in sleep patterns, behavioral or mood changes, and trouble with memory, concentration, attention, or thinking.

The extent of the deficits from the injury depends on the location of the damage, as different parts of the brain are responsible for a set of precise characters or actions. Physically, there may be paralysis and all senses can be affected including; the diminished ability to process vision, taste and smell. Cognitively, brain damage can affect memory and concentration; while behaviorally, emotional stability can be altered. Overall, these changes mean that simple tasks and social interactions become difficult or even impossible to complete. As a result of both the injury itself and the change in quality of life, many people with TBI experience stress and depression.

Currently, there is little that can be done to treat the initial damage caused by the trauma. Other forms of treatment involve tailored programs in the areas of physical therapy, occupational therapy, speech/language therapy, psychology/psychiatry, and social support. Research to develop strategies and interventions to limit the primary and secondary brain damage that occurs within days of a head trauma, and to devise therapies to treat brain injury and improve long-term recovery of function are currently being conducted around the world. To date, many preventative and neuroprotective strategies have been employed to try to improve outcome, with variable success. As a result, more research is imperative to determine strategies to alleviate the symptoms and promote increased functional recovery from traumatic brain injury.

