

## Traumatic and Non-traumatic Spinal Cord Injuries

### Causes of Spinal Cord Injuries

Normally, when a person suffers a spinal cord injury, the causes are typically classified as traumatic and non-traumatic. Traumatic spinal cord injuries are typically caused by a traumatic hit or injury which causes damage to one or more vertebrae and subsequent damage to the spinal cord. Studies have shown that most spinal cord injuries in Canada and the US are caused by traumatic origin.

### Non-traumatic Spinal Cord Injury

**Non-traumatic spinal cord injury** is damage to the spinal cord that was not caused by specifically incurred mechanical trauma to the cord. Instead of the spinal cord being injured by outside influences, such as a car accident or motorcycle accident, the spinal cord is been damaged in other ways such as:

- cord compression
- compression by cancer
- slow degeneration
- severe spinal stenosis
- tumors
- epidural abscess
- malignant primary tumors
- nonmalignant primary tumors
- arterial venous malformations of the spinal cord
- vascular ischemia
- Intraspinal hemorrhage
- loss of blood flow
- infections
- ALS
- bacterial infections
- blood clots (thrombosis)
- inflammation (meningitis, empyema, herpes, myelitis, tuberculosis, syphilis, multiple sclerosis), and birth defects..

Remember the spinal cord is a very delicate cable-like structure, which is typically about 47 to 50 cm long and most people, it is made up of fibers that transmit signals throughout the body. The spinal cord is the connector between the brain and the body, and sends and receives signals

The spinal cord made up of 21 pairs of nerves that supplies nerves to the upper and lower limbs, abdomen and chest area. The injury to your spinal cord causes paralysis, either [paraplegic](#) or

[quadriplegic](#) paralysis, both of which can be incomplete or complete paralysis. Quadriplegia is different than paraplegia in that it has a higher level of injury, causing greater paralysis and loss of body function.

Typically, quadriplegic injury is caused by spinal cord injury at the level of the neck and results in paralysis of all four of a person's limbs - paralysis which could be complete or incomplete. The degree of injury to the spinal cord determines the completeness of the injury. For example, if your spinal cord is only partially damaged, it may be able to receive and transmit signals from and to the brain. Signals may be able to cross the level of injury, to the particular limb, muscles or skin.

Overall, in Canada and the US - spinal stenosis and tumors account for most nontraumatic SCI requiring acute inpatient rehabilitation. Studies have shown that when a person suffers a nontraumatic spinal cord injury, paraplegia is much more likely than quadriplegia or tetraplegia.

## **Traumatic Spinal Cord Injury**

**Traumatic spinal cord injuries** are life-changing events where which cause immediate and devastating physical and psychosocial to the victim. Most people do not recover neurologically after a traumatic spinal cord injury and as a consequence, the lifetime costs of managing an accident victim that is suffered a spinal cord injury, either paraplegic or quadriplegic, can be staggering.

Traumatic spinal cord injuries or when victims suffer primary trauma the causes mechanical injury to the spinal cord, a combination of compression, laceration, distraction or shearing of the spinal cord tissue.

Several years ago, physiatrists out of Chicago published a peer-reviewed medical paper on the top causes of spinal cord injury. Most, unsurprisingly were traumatic spinal cord injuries. The most common causes of spinal cord injuries were:

- car accidents and spinal cord injury (32%). Car and motorcycle accident crashes, predominantly automobile crashes, are the leading cause of SCI in all Canadian Provinces, US states and across sexes;
- slip/trip and falls and spinal cord injury (22%) followed by;
- gunshot wounds (11%);
- motorcycle accidents and spinal cord injury (7%) - Spinal cord injuries were much more common in motorcycle accidents in males than females. Motorcycle accidents were categorized two wheel motorcycles, including motor cycles, mopeds and dirt bikes.
- diving accidents and spinal cord injury (5%) and;
- medical surgical complications (5%).

Car accidents are the leading cause of traumatic spinal cord injuries of persons under the age of 45 years, whereas falls (trip and falls, slip and falls) with the leading causes of traumatic spinal cord injury over the age of 45. Bicycle accidents and pedestrian accidents were also important to the study, with causes being totaled at 3% and 1.5% of the study, respectively.

C1 to C4 injuries accounted for the highest level of injuries, followed by C5 to C8, T1 to T6, and then injuries to the T7 to S3 levels. Other forms of traumatic spinal cord injury besides the common causes listed above, were noted to be:

- extreme sports
- auto racing
- bungee jumping
- scuba diving
- rollerblading
- jet skiing
- cheerleading
- surfing
- skiing

- horseback riding
- penetrating stab wounds
- snowmobile accidents and
- accident work related explosions.

## **What are the most common ages of traumatic spinal cord injury victims?**

The most common age of spinal cord injury victim suffered a traumatic injury, both quadriplegic and paraplegic, were between the ages of 16 and 30 years old (40%) followed by ages 45 to 60 years old. As noted above, car accidents are the leading cause of spinal cord injuries up until the age of 45, with the cause then drops to number two, when the leading cause of “falls” takes over. In fact, about 75% of spinal cord injuries are suffered by persons aged 75 and older.

## **The costs involved in the management of a traumatic or non-traumatic spinal cord injury**

Spinal cord injuries are very, very costly ailments. The lifetime costs could be 10 million or more, depending on the completeness of the injury and the age of the victim. It’s well-known that people with high tetraplegia or quadriplegia will incur up to three times the charges that people with incomplete motor functional spinal cord injuries will incur.

Significant costs are often incurred throughout the life of a person with a spinal cord injury, from hospitalization to discharge home. The acute rehabilitation costs, home and vehicle modifications, the recurring costs of medical equipment, health supplies, ambulation equipment, medication, personal assistance, occupational therapy and rehabilitation costs can be staggering. Home modifications include either the purchase of a new home, or refitting to adapt. Often times modifications involve building ramps, widening doors, remodeling bathrooms, hallways and other rooms in the house. Vehicles and vehicle modification range greatly, from \$10,000-\$70,000, depending on the modifications needed in the type of vehicle to be modified.

Further, it’s important that spinal cord injury victims receive appropriate psychological care, not only while in hospital or in a rehabilitation setting by peer support, but for the remainder of his or her life. There’s no doubt that adjustment to the loss of your previously known life will be tremendously difficult. Adjustment and adaptation to a spinal cord injury will require you to adapt to multiple life altering losses, including movement, sensation, ambulation, independence, bowel dysfunction, bladder dysfunction, sexual dysfunction, employment issues, self image, and the role in your family. It’s critical that individuals become psychologically adaptive. Traditionally, medical studies have shown that poor lifelong adjustment often occurs when an individual is unable to pass through the initial stages of adjustment and remains stuck in a particular stage such as grief, or denial - or when an individual has limited support, psychological support, psychiatric support, poor social support, limited or maladaptive coping strategies, they have psychological co-morbidity or previous psychological injuries left untreated, the lack of relationships and an accompanying brain injury.

Whether you have suffered a traumatic or nontraumatic spinal cord injury, it’s important that you receive proper initial and lifetime psychological support in order to transition into the acceptance/accommodation of a spinal cord injury and integrate your injury into your life, set realistic goals, maintain your social and family network and focus on emotions that could prevent you from suffering from withdrawal, hopelessness, worthlessness - and go on to live a meaningful life.

Our Hamilton spinal cord injury lawyers will ensure to obtain the most compensation necessary in order to ensure that your psychological support is funded and that you could receive all the psychotherapy you need, as well as proper transportation to support groups and peer mentoring.

## **Have you or a loved one suffered a nontraumatic or traumatic spinal cord injury ?**

If you or a loved one has suffered a traumatic or non-traumatic spinal cord injury, it's important that you speak to a spinal cord injury lawyer in Hamilton sooner rather than later. An experienced spinal cord injury lawyer will help retain the services of an occupational therapy team that will assist in determining the levels of attendant care required, assist with discharge, as well as put the proper insurance funding in place to assist you now and into the future.

We understand that you are likely are utterly overwhelmed and have no idea where to turn. We understand that you may be experiencing severe emotional negative reactions. We understand that for quite some time - perhaps for years, you may experience doubt, denial, reluctance to carry out plans congruent with your disability (such as home modifications and transportation, using adaptive equipment, etc.), guilt and the lack of acceptance of your new life. This is normal. Our Hamilton spinal cord injury experts can help you from the start - with assisting in the funding of your accommodation, integration, return home, and lifelong recovery.

Although no amount of money can bring back your previous life, we can ensure that you receive the financial compensation to ensure your safety and to help you adapt to your multiple life altering losses - and ensure that you and your family are safe.

### **Contact our Hamilton Spinal Cord Injury Lawyers - Confidentially**

We understand that at this time, confidentiality is important to you. Feel free to fill out a confidential [contact form](#), chat with our online operator who would be happy to set up a free, confidential consultation or call us at [905-333-8888](tel:905-333-8888) 24/7. We are happy to meet at your convenience to discuss your options - and how we can protect your future.