

## **SPINAL CORD INJURY**

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Over 10,000 people in the United States suffer a spinal cord injury each year. These are also known as an SCI. Any damage to the spinal cord that results in loss of mobility or function is commonly referred to as a spinal cord injury. These injuries are most often caused by trauma but can be caused by disease. These injuries can result in temporary or permanent loss of movement (paralysis), loss of sensation, or loss of bowel or bladder control. These injuries primarily result from automobile accidents but violence-related accidents have been increasingly the cause of SCI's. Falls and sports accidents also cause SCI's.

There are two types of spinal cord injuries - complete and incomplete. A complete injury is an injury where the victim has no sensation or voluntary motor movement on either side of his or her body below the level of the injury. An incomplete injury is where the victim has some sensation or partial movement.

Injuries are normally defined by the area of the spine that has been affected. Nerves in the spine are defined by the area of the vertebrae. An injury to the spine in the neck area will affect the cervical vertebrae. For example, an injury to the nerves at the fourth cervical vertebra is called a C-4 injury. The thoracic vertebrae are located below the neck. These injuries are defined as T-1, etc. The lumbar and sacral vertebrae are located under the thoracic vertebrae.

Neck injuries can lead to paralysis of all limbs (quadriplegia). Thoracic injuries normally cause paralysis to the lower limbs only (paraplegia). The amount of dysfunction will vary depending on the severity of the injury. For example, an incomplete cervical injury can leave the patient with some hand use; however, a complete injury at C-4 may result in the patient being on a ventilator. Thoracic injuries can leave the patient's arms functional but may interfere with walking, bowel and bladder control, as well as sexual function. Blood pressure, pain levels, and body temperature can be affected as well by spinal cord injuries.

Spinal cord injuries usually involve swelling of the spinal cord. The swelling of the spinal cord may affect the entire body. The patient may regain function months or

years after the injury if the swelling goes down. It is rare for a patient to regain the full function of his body after a serious spinal cord injury.

There are various forms of treatment for spinal cord injuries, including: stabilizing any broken vertebrae, maintaining the patient, preventing movement to the injured area, and reducing swelling. There is no cure for spinal cord injuries. Stem cell research has shown signs for being helpful in the future.