



Spinal Cord Injury

What is Spinal Cord Injury?

Spinal cord injury (SCI) occurs when a traumatic event results in damage to cells within the spinal cord or severs the nerve tracts that send signals up and down the spinal cord. The most common types of SCI include:

- **contusion** (bruising of the spinal cord)
- **compression** (caused by pressure on the spinal cord).

Other types of injuries include:

- **lacerations** (tearing of some nerve fibers, such as damage caused by a gunshot wound),
- **central cord syndrome** (strict damage to the corticospinal tracts of the cervical spinal cord).

Severe SCI often causes **paralysis** (loss of control over voluntary movement and muscles of the body) and loss of sensation and reflex function below the point of injury, including autonomic activity such as breathing and other activities such as bowel and bladder control. Other symptoms such as pain or sensitivity to stimuli, muscle spasms, and sexual dysfunction may develop over time. People with SCI are also prone to develop secondary medical problems, such as bladder infections, lung infections, and bedsores.

Is there any treatment?

While recent advances in emergency care and rehabilitation allow many people with SCI to live. Methods for reducing the extent of injury and for restoring function are still limited. Immediate treatment for acute SCI includes techniques to relieve cord compression, prompt (within 8 hours of the injury) drug therapy with corticosteroids such as methylprednisolone to minimize cell damage, and stabilization of the vertebrae of the spine to prevent further injury.

What is the prognosis?

The types of disability associated with SCI vary greatly depending on:

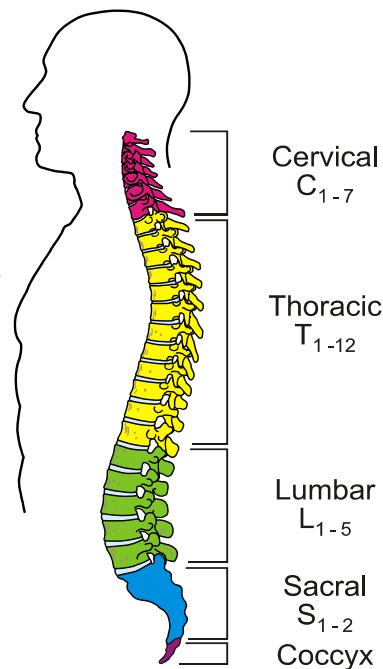
- the severity of the injury
- the segment of the spinal cord at which the injury occurs
- which nerve fibers are damaged.

Most people with SCI regain some functions between a week and 6 months after injury, but the likelihood of spontaneous recovery diminishes after 6 months. Rehabilitation strategies can minimize long-term disability.

What research is being done?

NINDS research on trauma-related disorders such as SCI focuses on increasing scientific understanding of how changes in molecules, cells, and their complex interactions determine the outcome of SCI, and finding ways to prevent and treat these injuries. There is also increasing interest in neural stem and progenitor cells and their potential application in cell replacement therapies for the treatment of complex neurological disorders such as SCI.

Adapted from the Spinal Cord Injury Information Page (reviewed 7-1-2001) by the National Institute of Neurological Disorders and Stroke (NINDS), National Institutes of Health.



Disclaimer: Information presented on this page is for specific health education purposes only. If you have questions, you should ask your doctor or nurse, or other persons who you see for your health care needs. Each clinician caring for the patient is responsible to determine the most appropriate care.

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