

Spinal cord injury -- a focus on restoring function

September 15 2011, By Stacy Stark

Imagine that you are driving home from work today when you are involved in a head on collision with an SUV. Life Lion flies you to the hospital. When you awake in the Emergency Department, you notice that you cannot feel your legs. Your doctor tells you that you may not be able to walk. You also eventually realize that you cannot urinate or defecate voluntarily.

This is an all too familiar scenario for many people within the United States. [Motor vehicle crashes](#) are the No. 1 cause of [spinal cord](#) injury (SCI). Approximately, 10,000 people in the U.S. will suffer a new SCI this year, and approximately 250,000 people in the U.S. are living with SCI.

The most common level of tetraplegia (paralysis with all four extremities involved) is cervical level 5. This means you cannot move your hands, wrists, and legs and your sensation stops slightly below the nipple line, with no feeling below that. The most common level of paraplegia ([paralysis](#) with legs involved) is thoracic level 12. This means you cannot move your [legs](#) and your feeling stops at your waist, with no sensation below that.

Major improvements in the pre-hospital management of patients with an acute spinal cord injury have led to an improved neurologic prognosis for SCI patients. The most important factor in this management process is cervical spinal stabilization at the scene of injury. A standard spinal cord injury specific examination immediately after injury provides

information needed to measure recovery. These repeated examinations are used to predict individual recovery.

When SCI is complete, you have no movement or feeling below the level of injury. However, many people do regain some movement and sensation after injury.

Approximately 80 percent of patients with complete injury have a chance of remaining complete at one year. Those with an initial certain incomplete injury with certain characteristics -- [sensation](#) and or movement below the level of injury -- have a variable recovery prognosis, sometimes with as high as a 90 percent chance of walking again following [rehabilitation](#).

SCI has a long recovery. After the acute hospital stay, many patients enter acute inpatient rehabilitation during which patients still require medical care, but receive three hours of therapy every day, five days a week. This rehabilitation lasts for approximately four weeks. During this phase, the patient learns how to care for themselves, and the patient and family are educated about daily care and how to perform it, if applicable.

The rehabilitation team consists of doctors, nurses, therapists, a nutritionist, a care coordinator, a social worker and a psychologist. Ultimately, the rehabilitation team's goal is restoring function. A multidisciplinary approach focuses on a patient's medical, physical, emotional and psychological well-being. A physician called a physiatrist will lead the rehabilitation team. Physiatrists are doctors who have done their residency in the medical field of Physical Medicine and Rehabilitation, and are experts in caring for patients with acquired and congenital disabilities.

Suffering a SCI is serious, but treatment has advanced greatly. Activities

based restorative therapy with functional electrical stimulation has shown promising results in restoring function to those with both complete and incomplete [spinal cord injuries](#). Currently, there is no cure for SCI, but this may change one day through the research that is currently being done.

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