Rebuilding daily skills after spinal cord injury

Choose one activity you want to work on, such as moving from bed to a wheelchair or reaching your phone. Your rehabilitation team can help identify which steps you can practice safely.

A spinal cord injury consists of damage to any part of the spinal cord, or the nerves at the end of the spinal canal. This damage often causes a permanent loss of function or/and sensation below the site of the injury.

The most common spinal cord injury causes are traumatic accidents such as falls, traffic collisions, and sports injuries. After the initial trauma, additional damage frequently occurs due to swelling, inflammation and fluid building up around the spinal cord.

Non-traumatic spinal cord injuries are much less common but do also occur. A spinal cord tumor, multiple sclerosis, spinal stenosis, spinal cord compression, infection, loss of blood and osteoarthritis are all possible causes of non-traumatic spinal cord injuries.

Spinal cord injuries can be divided into two levels of severity:

- Complete spinal cord injury — This type of injury to the spinal cord results in a complete loss of function below the level of the injury. All sensation and voluntary movement are lost on both sides of the body. A complete spinal cord injury might take the form of a severed spinal cord, or the spinal cord might remain in one piece but sustain severe damage.
- Incomplete spinal cord injury — When some level of function remains below the site of the injury, it is categorized as incomplete. People with incomplete spinal cord injuries may be able to move one limb more than another, have better function on one side of the body, or retain sensation in parts of the body that cannot be moved.

Paralysis from a spinal cord injury may be referred to as tetraplegia or paraplegia. Tetraplegia, also known as quadriplegia, means paralysis of the arms, hands, trunk, legs, and pelvic organs. Paraplegia means paralysis of the legs, pelvic organs and all or part of the trunk, with function remaining in the arms.

If a traumatic accident results in any signs of a spinal cord injury, the survivor should seek an emergency medical evaluation immediately. These signs include:

- Extreme pain or pressure in the neck, head or back
- Weakness, loss of coordination, or signs of paralysis in any part of the body
- Numbness, tingling, or loss of sensation in the hands, fingers, feet, or toes
- Loss of bladder or bowel control
- Difficulty with balance and walking
- Impaired breathing after injury
- An oddly positioned or twisted neck or back

Spinal cord injury symptoms vary in form and duration depending on the severity of the injury, but many people experience:

- Loss of movement
- Lost or altered sensation, including the ability to feel heat, cold and touch

- Loss of bowel or bladder control
- Exaggerated reflexes or spasms
- Changes in sexual function, sexual sensitivity and fertility
- Pain, including an intense stinging sensation caused by damage to the nerve fibers in the spinal cord
- Difficulty breathing, coughing, or clearing secretions from the lungs

Though anyone can suffer a spinal cord injury, there are several risk factors associated with both complete and incomplete spinal cord injuries, including:

- Being male
- Being between the ages of 16 and 30
- Being older than 65
- Engaging in risky behavior
- Having a bone or joint disorder

Often, a spinal cord injury causes permanent damage, but a small fraction of recovering individuals regain all function post-injury. It's possible to regain some function as late as 18 months after the injury, so both short- and long-term rehabilitation efforts are critical.

Spinal Cord Injury Complications

Because the spinal cord carries messages between the brain and the rest of the body, spinal cord injuries can cause serious complications related to multiple bodily functions.

Common areas that are affected are:

- Bladder control — Loss of bladder control is common with spinal cord injuries, because the spinal cord may no longer be able to send a message to the brain that the bladder is full. Loss of bladder control can also increase the risk of urinary tract infections and kidney or bladder stones.
- Bowel control — Similar to bladder control, bowel control becomes more difficult after a spinal cord injury because of the interrupted flow of information from the bowels to the brain.
- Skin sensation — Below the site of the injury, a person may lose all sensation in their skin. This makes them more susceptible to skin injuries like burns and pressure ulcers.
- Circulation — Circulatory problems like low blood pressure, high blood pressure, and swelling in the extremities are common with spinal cord injuries.
- Respiratory system — If a spinal cord injury causes paralysis that affects the abdominal and chest muscles, it may be hard to breathe and cough, which can lead to lung problems and pneumonia.
- Muscle tone — Some people who experience spinal cord injuries suffer from spastic paralysis, which causes the muscles to stiffen or move uncontrollably, or flaccid paralysis, which leaves the muscles limp and unable to contract.
- Fitness and wellness — Spinal cord injuries lead to muscle atrophy and limited mobility, which may create the risk of obesity, cardiovascular disease and diabetes.
- Sexual health — Spinal cord injuries may affect sexuality, fertility and sexual function for both men and women.
- Pain — Persistent nerve pain is a common complication, especially in the case of incomplete spinal cord injuries.
- Depression — Spinal cord injury symptoms are life-altering, and it can be difficult for a person to adjust to the loss of independence/function and lifestyle changes.

Spinal cord injuries also make people more susceptible to certain complications, known as secondary conditions, that can be dangerous and sometimes even life-threatening.

These secondary conditions include:

- Fractures
- Osteopenia or osteoporosis
- Deep vein thrombosis and pulmonary embolism
- Orthostatic hypotension
- Autonomic dysreflexia
- Septicemia
- Pneumonia
- Bladder and kidney stones

Spinal Cord Injury Recovery

A spinal cord injury causes irreversible damage to a person's body, often affecting the function of multiple organs and extremities. However, comprehensive post-trauma care can help prevent complications, and focused rehabilitation programs help those with both complete and incomplete spinal cord injuries return to an active and productive lifestyle.

Spinal cord injury rehabilitation starts with the level of injury, preserved movement and sensation, medical needs, home environment and the activities the person wants to regain.

A plan may include physical and occupational therapy, nursing and medical support, bowel and bladder management, pressure injury prevention, equipment selection and caregiver education. Ask which elements are needed in this case.

If you've suffered a complete or incomplete spinal cord injury, you may benefit from a rehabilitation program that includes:

- Physical therapy
- Endurance training
- Gait training
- Strengthening programs
- Range of motion exercises
- Upright posture orientation
- Occupational therapy
- Relearning how to perform daily activities
- Speech therapy
- Cognition enhancement
- Communication
- Swallow assessment/training
- Video swallows
- Passy-Muir valve training
- Adaptive equipment
- Group and individual therapy sessions

A complete or incomplete spinal cord injury can change sensation, movement and daily independence. Spinal cord disease, including a tumor, and neurological conditions such as multiple sclerosis can also cause weakness or paralysis through different mechanisms. The treatment team considers which functions are affected, how to protect the skin and joints, how to move safely, what equipment fits and what the person wants to do at home. Ask clinicians and therapists to show the person and caregiver how to manage a daily task and explain when to seek reassessment.

Archived recovery account

This account describes care in an earlier setting. The course, timing and outcome belong to that individual.

On the road to recovery after a traumatic accident

The patient was riding on a motorcycle when she suffered a serious accident and had to be rushed to the hospital where she was treated for a traumatic brain and spinal injury. She had to have delicate brain surgery to relieve the pressure inside her skull and had to have a ventilator placed to support her breathing. She remained at the facility in intensive care and was able to be taken off the ventilator before being transferred to the treating hospital to receive ongoing medical care and begin rehabilitation.

When she was first admitted, the patient was completely dependent on her caregivers for all her needs and mobility. Although her mental faculties were still in the early stages of recovery and she was confused and disoriented and unable to communicate, her team of caregivers began to work with her to help increase her strength, mobility and comprehension. With help from her speech therapist, the patient regained the ability to swallow and received dedicated help with vocalizing and improving her cognitive abilities. She was able to begin drinking and eating a normal diet once again and made excellent progress with her physical and occupational therapists who helped her go from being bedbound to standing up and walking with the aid of a walker. The patient also improved in the areas of comprehension and speech and by the time she was discharged to continue with specialized rehab, she had made significant gains in all areas of her recovery and was looking forward to the next stage in her journey to recovery.

Talk with Lakeview

For questions about a possible stay, call Lakeview Admissions at (262) 534-8509. During a stay, ask the bedside nurse who can help with your question.

https://www.lakeviewsystem.com/inpatient-rehabilitation