



# Youth and Spinal Cord Injuries

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## What is a Spinal Cord Injury?

The spinal cord is a bundle of nerves that carries signals from the brain to the rest of the body. A spinal cord injury results when the spinal cord is cut, damaged, or pinched. In most people with spinal cord injuries, the spinal cord remains intact but is damaged. When a spinal cord is injured, a loss of some or all functions of mobility and/or feeling occur in at least some part of the body. This is also known as paralysis. The extent to how a spinal cord injury will affect the body depends on where the injury is on the spinal cord. Generally, the higher on the spinal cord the more extensive the spinal cord injury will be.

## What Causes a Spinal Cord Injury?

Spinal cord injuries are typically caused by some sort of trauma such as gunshot wounds, automobile crashes, and falls. Diseases such as polio and spina bifida can also cause spinal cord injuries. Accidents while participating in sports can likewise lead to such injuries. However, paralysis caused by strokes or trauma to the brain is not the same as paralysis caused by spinal cord injury.

## What are the Types of Spinal Cord Injuries?

A person can have a spinal cord injury and not have total paralysis. One example is spastic paralysis. This causes a muscle to become hyper-reflexive, and spasms can occur. Flaccid paralysis happens when reflexes and muscle tone decrease or in many cases are absent.

Paraplegia is paralysis that affects the middle of the chest, stomach, hips, legs, feet, and/or toes. Tetraplegia (formally known as quadriplegia) is paralysis in the head, neck, shoulder, upper chest, arms, hands, and/or fingers. It also includes paralysis in the areas affected by paraplegia.

There are different levels of paralysis. They include:

1. **A-Complete**—No sensory or motor function,
2. **B-Incomplete**—Sensory function but no motor function,
3. **C-Incomplete**—Sensory function and some motor function,
4. **D-Incomplete**—Sensory function and much motor function,
5. **E-Normal**—No paralysis.

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## What is the Treatment for Spinal Cord Injuries?

Occupational therapy is needed to help patient's learn day-to-day activities in a new way. These activities include bathing, cooking, and driving. Physical therapy is used to improve and maintain muscle tone and range of motion. Psychological therapy may be needed to help an individual deal with the major changes in his or her life. Individuals in wheelchairs can learn new physical activities through recreation therapy. Types of recreational activities that can be performed include basketball, tennis, billiards, and sailing. Being active also helps reduce the risk of an individual becoming depressed. Vocational therapy can teach an individual new job skills if he or she is unable to work in the capacity the person did before suffering a spinal cord injury. This type of therapy can also teach an individual modifications and new ways to perform a job if this is an option. Many people with spinal cord injuries may need wheelchairs for mobility. Depending on the type of paralysis, some people may need a breathing machine. For some individuals, surgery may be an option for improved feeling and motion.

## Important Issues for Extension Educators and 4-H Leaders to Consider:

1. Have contact information for parents or guardians and the member's doctor in accessible places. An example of this would be behind the child's nametag and in the medical forms box which should be stored in the main office at 4-H events. This form should include information such as what kinds of medication the child is taking, allergies, if any adaptive devices are used, and other health conditions.
2. Visit with the member and his or her parents about the member's particular spinal cord injury. Questions that can be asked include, "What type of spinal cord injury do you have?" and "When thinking about the 4-H program, what do you see as challenges?"
3. Because many spinal cord injuries occur in the teenage years, leaders may have worked with the member before he or she sustained a spinal cord injury. After the injury can be a difficult time for such a member. He or she may not want to participate in 4-H even after undergoing extensive therapy and receiving a doctor's okay. It is important at this time to make sure the member

knows he or she is still welcome in the 4-H program. Consider what the member's interests were before the spinal cord injury, and work with the member and his or her parent to find ways of modifying projects so the member may still complete them. It will help everyone to remember that the individual with the physical disability is not that different than before the injury. After all, the person still has the same interests.

4. Members confined to wheelchairs face barriers that most people never consider. Even a couple of stair steps into a 4-H meeting place present a challenge for someone in a wheelchair. Consider this when choosing meeting places. The same goes for 4-H awards programs. Make sure that the awards stage is equipped with ramps instead of stairs or is at the same level as the audience.

## For More Information Contact:

### American Spinal Injury Association

2020 Peachtree Road, NW

Atlanta, GA 30309-1402

Phone: (404) 355-9772

Web site: [www.asia-spinalinjury.org](http://www.asia-spinalinjury.org)

(Web site active as of May 6, 2005)

### National Spinal Cord Injury Association

6701 Democracy Blvd.

Suite 300-9

Bethesda, MD 20817

Phone: (800) 962-9817

Web site: [www.spinalcord.org](http://www.spinalcord.org)

(Web site active as of May 6, 2005)

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