BACK PAIN

SPINAL CORD TRAUMA

SPINAL CORD TRAUMA IN THE LOW BACK

Introduction

The spinal cord is a mass of nerve tissue running from the brain to the lower back. Between each vertebra, these nerves branch off into "nerve roots" connecting with the rest of the body.

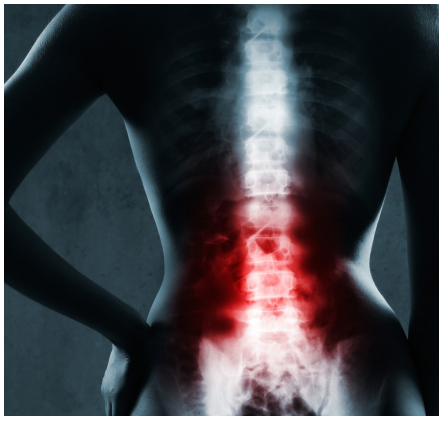
Each nerve root is responsible for a specific bodily region and function, sending and receiving messages to and from the brain.[1]

When the spinal cord is damaged, the organ and muscle functions corresponding to the nerve roots below the area of damage are also affected. This means that traumas occurring to the spinal cord at chest or lumbar level will affect the torso or legs. This may be related to mobility or to bodily functions such as bladder control.[2]

In this guide...

Causes of spinal cord trauma in the lower back

Spinal cord trauma means that one or more of the vertebrae has been damaged due to bruising, tearing, fracture, dislocation, compression, or perforation.



This can result from an injury or event such as the following[2, 3, 4]:

- Traffic or motor vehicle accidents
- Falls
- Workplace incidents (accidents, such as slipping, or trauma caused by manual activities such as lifting or loading)
- Everyday accidents (for example, slipping in the shower or on stairs)

- Sports-related injuries (including impact sports, such as hockey or football, or impacts caused by activities such as diving in shallow water)
- Violence-related incidents (resulting in blows, gunshots, or knife wounds)
- Stress fractures (for example, caused by osteoporosis or bone weakness)
- Medical conditions (such as cancer or a virus)

Risk factors for spinal cord trauma in the lower back

Accidents can happen for any reason and at times are unavoidable and unpredictable. However, in the case of spinal cord trauma, there are certain factors which increase risk[2]:

- **Age.** Younger (16 to 30 years of age) and older (over 65) people are more at risk of spinal cord injury. In the case of older people, this is primarily due to a greater risk of falling.
- **Lifestyle and risky behavior.** Failing to follow safety precautions when driving or doing sports, adventure, or leisure activities increases the risk of suffering a spinal cord trauma. Moreover, 25% of spinal cord injuries involve the use of alcohol.
- **Bone or joint disorders.** Some medical conditions causing weakened or compromised bones or joints — such as arthritis and osteoporosis — can aggravate the effects of a minor incident or injury, resulting in spinal cord trauma.

Symptoms and consequences of spinal cord trauma in the lower back

Trauma to the spinal cord can cause permanent damage. The consequences for each individual will depend on the location and severity of injury or damage. It is also important to understand that the effects of spinal cord trauma might not be immediately seen or felt. This is because bleeding, swelling, inflammation, or the accumulation of fluid in or around the spinal cord can occur over a matter of days or even weeks.[2]

Immediate medical attention is always necessary in case of an accident, fall, or injury. Furthermore, individuals providing care to others in such situations should under no circumstances move or manipulate the spine or surrounding area.

Some effects of spinal cord trauma in the lower back include the following[2,3,4,5]:

- Weakness, muscle spasms, intense pain, or stinging in the area affected by trauma.
- Paraplegia: total or partial loss of sensation and/or movement in the lower part of the body.
- Alteration, impairment or loss of bodily functions (including loss of bladder control or sexual function, respiratory complications, and digestive problems).

Diagnosing spinal cord trauma in the lower back

Depending on the nature of the traumatic event resulting in spinal cord injury, diagnosing the exact location and severity of damage may require several tests, beginning with a physical examination and medical history.

Examples of testing carried out for spinal cord injury includes neurological examinations, CT (computed tomography) scans, MRI (magnetic resonance imaging) scans, and spinal x-rays.

Classifying spinal cord injuries[2,3]:

Complete injury: total lack of function, sensation or movement below the level of the injury on the body, with both equally affected.

Incomplete injury: partial functioning below the level of the injury on the body. This could be the ability to move one limb more than another, or more sensations or functioning in one side or area.

Treatment for spinal cord trauma in the lower back

The scientific and medical community continues to carry out research with the goal of one day being able to repair injuries occurring to the spinal cord. However, until such time, damage to the spinal cord is irreversible.[2,6]

Treatment of spinal cord trauma is therefore focused on improving quality of life and allowing people with spinal cord injuries to be as independent, mobile, and productive as possible.[2] Keeping individuals active and helping them to avoid further injury or complications is also a fundamental part of treatment.[5]

Please note that not all of the treatment options below will be covered by your Cigna medical insurance. It is important to check with your Cigna nurse or case manager beforehand.

Spinal cord rehabilitation

Rehabilitation, or physical therapy, works to keep the body as active as possible, strengthening those muscles not affected by injury. In addition, rehabilitation seeks to avoid atrophy, or the degeneration and wasting of inactive muscles, organs, and other tissues.[5]

A spinal cord injury rehabilitation program should begin as soon as possible, becoming more comprehensive and extended as an individual's condition improves.[3]

Medication

For individuals who have suffered a spinal cord injury, certain medications can help to cope with pain and muscle spasms. There are also medications available to address specific bodily functions, such as bowel or bladder control and sexual function.[2] As with all medications, it is important to discuss potential side effects and complications with your doctor beforehand.

Vocational rehabilitation, behavioral health therapy and support groups

Depending on their specific needs and circumstances, certain individuals and their families may benefit from therapy programs, associations, or support groups that incorporate lifestyle changes and counselling. Examples include occupational therapy, which focuses on making changes to adapt a home or work environment, and behavioral health therapy, which may involve guidance from a psychologist or social worker.[5]

Surgery

Although surgical advances cannot yet restore damage which has occurred to the spinal cord, certain surgical procedures can help to prevent an individual's condition from worsening. This includes surgery to ease pressure off the spinal cord or its nerves, remove bone or disc fragments, insert spinal bracing, as well as surgery which aims to stabilize the spine, such as fusion surgery.[5,6]

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2. Spinal cord injury. Mayo Clinic website. http://www.mayoclinic.org/diseases-conditions/spinal-cord-injury/basics/definition/con-20023837 October 8, 2014. Accessed September 11, 2017.
3. Spinal Cord Injury. Johns Hopkins Medicine website. http://www.hopkinsmedicine.org/healthlibrary/conditions/physical_medicine_and_rehabilitation/spinal_cord_injury_85,P01180 Accessed September 18, 2017.
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