

Spinal Cord Stroke

Spinal stroke is a very rare condition. Spinal Stroke or Spinal Cord Trauma is a medical condition where the spinal cord gets damaged for a variety of reasons. The spinal stroke may result from direct injury to the spinal cord caused by severe impact or from indirect injury caused by the diseases surrounding the tissues, bones and blood vessels of [spinal cord](#). Spinal stroke is the condition that usually occurs in patients that experience reduced blood flow to [spinal cord](#) due to interruption or blockage. The anterior posterior spinal arteries is responsible for carrying blood to the spinal cord and when the arteries are blocked or get obstructed due to diseases then the blood flow to spinal cord is restricted or eliminated. The lack of blood flow causes decreased oxygen supply and other essential nutrients to spinal cord and results in severe spinal cord tissues damage and it can lead to paralysis. The condition is known as spinal stroke.

Spinal stroke is mostly caused by direct impact, compression of spinal cord by large [disc herniation](#), compression by spinal tumor, rupture spinal artery or blood clot completely obstructing the spinal artery. The alternative names of spinal stroke are cord compression, compression of spinal cord, and spinal cord injury. Rarely whiplash injury of spinal cord may not be associated with evidence of disc or vertebral column injury resulting in fracture or dislocation.

Causes of Spinal Stroke

Spinal cord of human being comprises of nerves that efficiently carry messages between the body and brain. This spinal cord actually passes through the spinal canal, which is a tubular structure of vertebral column. There are a variety of factors that cause spinal stroke in people. However, some of the common causes of spinal stroke include

Spinal Stroke Causes Due to Direct Impact

- Gunshot wounds
- Assault
- Falls
- Sports injuries
- Motor vehicle accidents
- Industrial accidents
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Spinal Stroke Caused Due to Diseases Resulting in Spinal Cord Compression

- Age Related Disease.
- Osteoporosis. Osteoporosis results in fracture of vertebrae and collapse of spinal canal, which causes compression of spinal artery.
- Rheumatoid Arthritis. This results in subluxation of vertebrae followed by compression of spinal artery.
- Spinal Stenosis. When the spinal canal shielding the spine becomes too narrow then there is a huge chance of experiencing injury in spinal cord. This usually happens as a part of aging process.

Spinal Stroke Caused Due to Disc Diseases

- Large Disc Herniation- Spinal artery injury or compression is caused by herniated disc or penetration by disc fragments.

Spinal Stroke Caused Due to Spinal Tumor

- Bone Tumor- The growth of primary or metastatic bone tumor causes compression of spinal cord.
- Spinal Cord or Spinal Nerve Tumor- Causes compression of spinal cord and obstruction of spinal artery resulting in spinal stroke.

Epidural Fluid

- Epidural abscess
- Epidural bleeding resulting in epidural blood clot.
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Anatomical Structural Changes in Spinal Cord

Swelling, inflammation, fluid build-up, bleeding outside or inside the spinal cord can also cause spinal stroke. The fluid or blood build-up will press the spinal cord seriously and ruin it. Spinal stroke may also occur in healthy, young people. People aged between 15 and 35 can also be affected by spinal stroke. Deaths due to spinal stroke are higher amongst the young children.

The Risk Factors for Spinal Stroke Include:

- Riding high speed cars can increase your chances of meeting with motor vehicle accident which can cause spinal stroke.
- Taking part in highly risky physical activities.
- Diving into shallow water.

- Old people with weak bones or osteoporosis or people with other medical conditions are more likely to become the victim of spinal stroke or spinal injury.

Symptoms of Spinal Stroke

The symptoms of spinal stroke vary depending upon the location of the spinal injury. Spinal cord injury causes stoppage of impulses going from brain to peripheral tissue and from peripheral tissue to brain. The lack of physiological function of spinal cord result in loss of feeling and weakness below the affected area. The symptoms basically depend on whether the complete cord is injured or partial damage is caused to the spinal cord.

Spinal cord injury in lower back below level of second lumbar vertebra causes severe damage to several bundle of nerve fibers. The symptoms observed are numbness and weakness of lower leg. This type of injury is serious and need immediate medical attention. Injuries to the spinal cord at any level can cause following symptoms:

- Numbness
- Loss of normal bowel function caused by Ischemic bowel syndrome²
- Loss in bladder control.
- Decreased muscle tone.
- Pain.
- Unable to understand the position of leg and joint, which interferes with posture and walk.
- Paralysis and weakness.

Symptoms of Spinal Stroke Caused Due to Cervical or Neck Injuries

The symptoms of cervical injuries around the neck usually affect the entire body includes arms and leg or may affect middle part of the body. The symptoms of spinal stroke due to this type of injury usually appear on one or both the sides of your body. Some of the life threatening symptoms may include breathing difficulties caused due to paralysis of breathing muscles.

Symptoms of Spinal Stroke Caused Due to Thoracic or Chest Level Injuries

Spinal stroke at chest level usually have symptoms that may affect the legs, bowel and bladder function. Spinal stroke at thoracic spinal cord or cervical spinal cord causes damages of sympathetic fibers. Sympathetic nerve damage causes abnormal heart function, blood pressure issues, trouble maintaining normal body temperature and abnormal sweating.

Symptoms of Spinal Stroke Caused Due to Lumbar Sacral or Lower Back Injuries

Spinal stroke resulting from lumbar spinal cord injury causes symptoms like numbness and weakness in lower leg as well as bowel and bladder dysfunction.

Treatment for Spinal Stroke

Spinal stroke is a serious medical condition and needs immediate medical care and should be treated right away. The time between the spinal stroke and the treatment offered can significantly affect the final outcomes.

There are medicines used to reduce the swelling and inflammation like high dosage of corticosteroids. If spinal cord pressure is the main

reason for the injury then the pressure should be removed as soon as possible by surgical treatment. Timely surgical treatment of spinal cord stroke can prevent permanent spinal cord damage. The scientific published study suggests partial or near complete recovery of loss of motor and autonomic symptoms is possible.

Surgery may be Required for Spinal Stroke to Prevent Permanent Spinal Cord Damage

- Remove the epidural abscess or blood clots.
- Remove the spinal tumor, which is pressing spinal cord and obstructing blood flow to spinal cord.
- Realign the spinal bones or vertebrae.
- Fuse broken spinal bone or placing the spinal brace.
- Remove the disk fragments, bone fragments and foreign objects.
- Bed rest is essential post surgery to enable the bone of the spinal cord to heal aptly.

Spinal Traction

In some cases, spinal traction is prescribed by the doctors to treat spinal stroke. This can help the patient to keep the spine from moving. The diseases or trauma resulting in neck spinal stroke needs stabilization of neck. Neck is stabilized before and after surgery by neck traction. Neck traction is applied by hanging appropriate calculated weight supported by tongs attached to the skull. Tongs are the metal braces that are anchored to the skull. At the time of discharge from hospital your doctor will advised you to wear the spine braces for several months as recommended.

Your doctor will suggest you the things that you need to do for muscle spasms, bladder and bowel dysfunction. You will also learn from your doctor how to take proper care of your skin and protect it from the pressure sores.

Physical therapy is also required along with occupational therapy and other rehabilitation therapies after the spinal injury is healed. These therapies will help the patients to cope up with the disabilities that are caused by the spinal cord injury or spinal stroke.

Prevention of Spinal Stroke

Prevent Injury. It is important to prevent trauma and injuries in order to prevent spinal stroke. Suitable safety practices during play and work is utmost crucial for preventing the spinal stroke or injury. You are required to use apt protective equipments during any activities to prevent the spinal injuries as much possible.

Diving into shallow water is the most common cause of spinal stroke and hence you are always suggested to check the depth of water before diving and also dive safely by avoiding the rocks and other water objects on your way.

Sledding and football involves some of the abnormal twisting or sharp blows, which may require bending of your neck and back. This may lead to spinal cord injury if not played properly. So, before sledding down the hill it is necessary to check for the obstacles. You need to make use of right equipments and techniques while playing football or soccer.

Early Diagnosis and Treatment

Early diagnosis and treatment of diseases like osteoporosis, fractured vertebrae, disc herniation and cancer which may cause spinal stroke helps to prevent permanent damage of spinal cord and also occurrence of spinal stroke.