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# CAUDA EQUINA SYNDROME

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**Abstract**

Low back pain affects millions of people every year and, in most cases, it improves without surgery. But severe back pain can be a symptom of a serious condition that is not well known and is often misdiagnosed.

**Cauda equina syndrome** (CES) occurs when the nerve roots of the cauda equina are compressed and disrupt motor and sensory function to the lower extremities and bladder. Patients with this syndrome are often admitted to the hospital as a medical emergency. CES can lead to incontinence and even permanent paralysis.

The collection of nerves at the end of the spinal cord is known as the **cauda equina**, due to its resemblance to a horse's tail. The spinal cord ends at the upper portion of the lumbar (lower back) spine. The individual nerve roots at the end of the spinal cord that provide motor and sensory function to the legs and the bladder continue along in the spinal canal. The cauda equina is the continuation of these nerve roots in the lumbar region. These nerves send and receive messages to and from the lower limbs and pelvic organs.

**Keywords**:Cauda equina syndrome (CES),Pain,Nerves.

## Background

CES is a rare condition with a disproportionately high medico-legal profile. It occurs most frequently following a large lower lumbar disc herniation, prolapse or sequestration. CES may also be caused by smaller prolapses in the presence of spinal stenosis
Less common causes are epidural haematoma infections primary and metastatic neoplasms, trauma post-surgical, prolapse after manipulation,after chemonucleolysis, after spinal anaesthesia and it has been reported in patients with ankylosing spondylitis, gunshot wounds and even resulting from constipation.1

## Incidence

A total of 1281 studies were identified, and 26 studies were included in the review. Data about CES incidence were available from 3 different populations: asymptomatic community populations, patients with non-traumatic low-back pain, and patients presenting as an emergency with suspected CES. The incidence of CES was 0.3-0.5 per 100,000 per year in 2 asymptomatic community populations, 0.6 per 100,000 per year in an asymptomatic adult population, and 7 per 100,000 per year in an asymptomatic working-age population. CES occurred in 0.08% of those with low-back pain presenting to primary care in 1 study, and a combined estimate of 0.27% was calculated for 4 studies of those with low-back pain presenting to secondary care. Across 18 studies of adults with suspected CES, 19% had radiological and clinical CES. 2

## Causes

CES most commonly results from a massive herniated disc in the lumbar region. A single excessive strain or injury may cause a herniated disc. However, disc material degenerates naturally as a person ages, and the ligaments that hold it in place begin to weaken. As this degeneration progresses, a relatively minor strain or twisting movement can cause a disc to rupture.

The following are other potential causes of CES:

- Spinal lesions and tumors
- Spinal infections or inflammation
- Lumbar spinal stenosis
- Violent injuries to the lower back (gunshots, falls, auto accidents)
- Birth abnormalities
- Spinal arteriovenous malformations (AVMs)
- Spinal hemorrhages (subarachnoid, subdural, epidural)
- Postoperative lumbar spine surgery complications
- Spinal anesthesia

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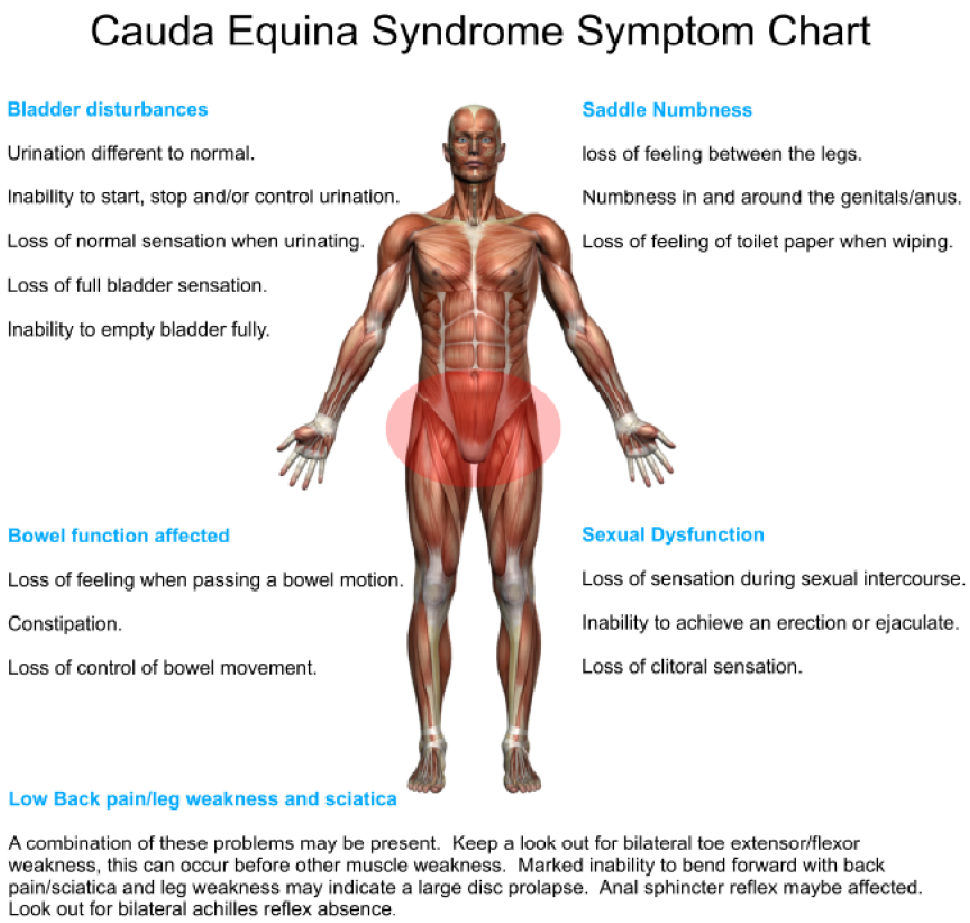
**Sign and Symptoms**




**Classification**

Cauda Equina Syndrome can be classified into 3 groups:

**Cauda Equina Syndrome with retention** (CESR) – Presents as back pain with unilateral or bilateral sciatica, lower limb motor weakness, sensory disturbance in the saddle region, loss of anal tone, and loss of urinary control
**Incomplete Cauda Equina Syndrome** (CESI) – As above, however only altered urinary sensation (e.g., loss of desire to void, diminished sensation, poor stream, and need to strain); painful retention may precede painless retention in some cases
**Suspected Cauda Equina Syndrome** (CESS) – Cases of severe back and leg pains with variable neurological symptoms and signs, and a suggestion of sphincter disturbance. Most cases will be progressive in nature and will not immediately cause complete compression on the cauda equina. This is important for the management, as incomplete cauda equina syndrome has a greater potential for neurological recovery.

**Differential Diagnosis**

- A medical history, in which you answer questions about your health, symptoms, and activity
- A physical exam to assess your strength, reflexes, sensation, stability, alignment, and motion. You may also need blood tests
- Magnetic resonance imaging (MRI) scan, which uses magnetic fields and computers to produce three-dimensional images of your spine
- A myelogram -- an X-ray of the spinal canal after injection of contrast material -- which can pinpoint pressure on the spinal cord or nerves
- A computed tomography (CT) scan.

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- **Radiculopathy** – presents with radiating back pain, however there will be no faecal, urinary, or sexual dysfunction in these patients
- **Cord compression** – a surgical emergency with a similar pathophysiology to CES, however is characterised by upper motor neurone signs 3

**Surgical Management**

- Surgical Decomression
- Drainage
- Laminectomy
- Fixtation of Fractur
- Removal of forigen body

**References**

1. Alan Gardner,Edward Gardner, and Tim Morley.Cauda equina syndrome: a review of the current clinical and medico-legal position. European spine journal2011 May; 20(5): 690–697.Published online 2010 Dec 31. doi: 10.1007/s00586-010-1668-3.
2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3082683/#:~:text=Cauda%20equina%20syndrome%20is%20a,1%20in%20100%2C000%20%5B1%5D.
3. Ingrid Hoeritzauer, Matthew Wood, Phillip C Copley, Andreas K Demetriades, Julie Woodfield ·What is the incidence of cauda equina syndrome. A systematic review.National Library of medicine . 2020 Feb 14;1-10.doi: 10.3171/2019.12.SPINE19839. Online ahead of print.https://pubmed.ncbi.nlm.nih.gov/32059184/
4. https://teachmesurgery.com/neurosurgery/spinal/cauda-equina-syndrome/#:~:text=Investigations,For%20suspected%20cases%20of%20cauda%20equina%20syndrome%2C%20an%20emergency%20whole,an%20abnormality%20found%20on%20MRI.

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