

Spinal Cord Compression and Cauda Equina

A plain-English guide for you and your family

WHAT IS HAPPENING

Inside your lower back, the spinal cord ends around the first or second lumbar bone (L1 or L2). Below that, a spray of nerves called the cauda equina (Latin for 'horse's tail,' because that is what it looks like) runs down through the bony tunnel. Those nerves—L2 through S5—carry the wires for leg movement, leg feeling, bladder squeeze, bowel control, and sensation around your bottom and genitals (the 'saddle area,' the skin that would touch a saddle if you sat on a horse). Normally those nerves talk freely up and down. But when a big ruptured disc, a tumor, a pocket of infection (abscess), or a blood clot squeezes the whole bundle at once, every job those nerves do starts to fail together. You lose feeling in the saddle area. Your bladder muscle stops squeezing, so pee backs up until the bladder gets so full it overflows and leaks out on its own. You lose the urge to poop and cannot squeeze your anal sphincter. Your legs get weak and hurt, often in both legs at once. Your ankle reflexes slow down or disappear. None of this is random—the weird pattern is the clue. The body is not fixing the real problem; it is just showing you what breaks downstream when one big thing upstream blocks all the wires at once. That is why speed matters. If the squeeze is not lifted by surgery within 48 hours, the nerves die and the damage—especially bladder and bowel control—becomes permanent. The MRI shows exactly what is squeezing and where. Surgery takes the pressure off. Time is the difference between getting better and living with a catheter and diapers forever.

What you might feel

- Sudden trouble peeing or can't pee at all
- Pee left in the bladder over 100 mL after trying to go (called post-void residual)
- Numbness or tingling in the saddle area (around the butt, inner thighs, and private parts)
- Can't control bowel movements or don't feel when you need to go
- Weakness in both legs, especially trouble standing up or walking
- Severe lower-back pain that may shoot down both legs
- Loss of reflexes in the ankles (absent ankle-jerk reflex)

- Sexual problems (can't get or keep an erection, or loss of sensation during sex)

Call the doctor right away if...

- New inability to pee, or bladder that stays full and won't empty (over 100 mL left after trying)
- Numbness in the saddle area (butt, groin, inner thighs, genitals)
- Loss of bowel or bladder control, or can't feel when you need to go
- Weakness in both legs that's getting worse, trouble walking or standing
- Severe back pain plus any of the above nerve symptoms—this is a surgical emergency

What the care team will do

- Keep the patient flat in bed with log-roll turning only, no twisting at the waist.
- Insert a Foley catheter and measure urine output every hour; record the amount of urine drained immediately after insertion.
- Perform and document a focused neurologic exam every 2 hours: check leg strength, saddle sensation, and rectal tone with a gloved finger.
- Keep the patient NPO (nothing by mouth) from the moment cauda equina is suspected.
- Administer dexamethasone 10 milligrams intravenous push immediately, then 4 milligrams every 6 hours as ordered.
- Notify the provider immediately if the patient reports new numbness, cannot move toes, or has a blood pressure above 180 systolic.
- Apply sequential compression devices (SCDs) to both legs and give subcutaneous heparin 5000 units every 8 to 12 hours if ordered.
- Document bowel sounds in all four quadrants and ask about last bowel movement; start a bowel program with stool softener and scheduled suppository.

Medicines you may be given — and why

Dexamethasone

Dexamethasone shrinks the swelling around the spinal cord or nerve bundle. When a tumor, infection, or inflamed disc pushes on the cord, the tissue around it swells up—like a sprained ankle puffing up. That extra swelling makes the squeeze even tighter. Dexamethasone tells the body to dial down that swelling fast, buying precious time for surgery or radiation to fix the root cause.

Enoxaparin (or heparin)

Enoxaparin prevents dangerous blood clots in the legs and lungs when someone suddenly cannot move their legs. Lying still for hours or days lets blood pool and thicken in the deep veins of the calves and thighs—like a garden hose with slow water turning sludgy. A clot can break off, travel to the lungs, and block oxygen. Enoxaparin blocks a clotting protein called Factor Xa so new clots cannot form.

Gabapentin or pregabalin

Gabapentin quiets nerve pain signals that fire like a broken alarm after the spinal cord or nerve roots are squeezed. Damaged nerves send wild, burning, or shooting pain messages even when no new injury is happening. Gabapentin latches onto calcium channels on nerve endings and turns down the release of excitatory messengers like glutamate, so fewer pain signals reach the brain.

Opioid analgesics (e.g., morphine, oxycodone, hydromorphone)

Opioids are used for severe pain when the spinal cord or nerve roots are freshly compressed and other medicines are not enough. They work by mimicking the body's natural pain-blockers (endorphins) and binding to opioid receptors in the spinal cord and brain. This shuts down pain signals before they can be felt as overwhelming suffering, buying comfort while surgery or other treatments are arranged.

Where this information comes from

- NICE 2016 guideline on suspected cauda equina syndrome
- American Association of Neurological Surgeons (AANS) clinical guidelines
- Cochrane reviews on emergency spinal decompression
- North American Spine Society (NASS) evidence-based clinical guidelines

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