

Cord compression

A plain-English guide for you and your family

WHAT IS HAPPENING

Your spinal cord is a soft cable of nerve tissue that runs down the middle of your backbone, inside a narrow bony tunnel. It carries every signal from your brain down to your legs, bladder, bowel, and skin—like the main power line for the bottom half of your body. When something (a tumor, an infection pocket called an abscess, a blood clot, a ruptured cushion between the bones called a disc, or a broken bone) grows or swells inside that tight tunnel, it squeezes the cord like a hand closing around a garden hose. The nerve fibers inside the cord cannot carry their electrical messages anymore, so your legs get weak, your skin goes numb below the squeeze, your bladder stops emptying or starts leaking, and the small patch of skin around your bottom (the saddle area) loses feeling. Your reflexes may jump sky-high because the brake signals from your brain are cut off, or your muscles may go floppy if the cord is badly hurt. The pain in your back is often worse when you lie flat because the pressure shifts. None of this is random—it all points backward to one problem: the cord is being crushed. Your body tries to cope by swelling and cranking up reflexes, but those are just alarms, not fixes. The real danger is that if the cord stays squeezed too long without oxygen, the nerve cells die and the damage becomes permanent. That is why this is always an emergency: doctors need to see the squeeze on an MRI right away, give a steroid to shrink the swelling, and either operate to lift the pressure or use radiation to shrink a tumor—all within one day—so you have the best chance of walking again.

What you might feel

- Back pain that gets worse when lying down or at night
- Numbness or tingling in the legs, feet, or around the groin and buttocks
- Weakness in one or both legs
- Trouble walking or clumsiness, stumbling more than usual
- Loss of bladder control (cannot hold urine) or bowel control (cannot hold stool)
- A tight band-like feeling around the chest or belly
- Electric-shock sensations down the spine or into the arms or legs when bending the neck forward

- Sexual dysfunction (trouble getting or keeping an erection, or loss of genital sensation)

Call the doctor right away if...

- New inability to hold urine or stool, or not feeling the urge to go
- Sudden weakness in both legs or legs giving out when trying to stand
- Numbness spreading into the groin, buttocks, or inner thighs (saddle area)
- Back pain that wakes you from sleep or does not get better with rest
- Loss of balance or falling more often, especially if it started suddenly

What the care team will do

- Perform and document a complete neurologic exam every 2 hours: motor strength in all four limbs using the 0-to-5 scale, sensory level with light touch and pinprick, rectal tone if trained, and reflexes
- Administer dexamethasone 10 mg IV immediately as ordered, then continue 4 mg IV every 6 hours on time without delay
- Insert a Foley catheter using sterile technique and monitor urine output hourly; if bladder retention is present measure post-void residual before placing the catheter
- Keep the patient flat in bed with log-roll precautions only; do not allow sitting or standing until spine stability is confirmed by imaging and the provider
- Apply sequential compression devices to both legs and administer enoxaparin or other anticoagulation as ordered; document calf size and check for swelling daily
- Implement pressure injury prevention immediately: turn every 2 hours using lift equipment and adequate staff, place high-risk areas on specialized foam or air mattress, keep skin clean and dry
- Start a bowel program on day one: stool softener, scheduled stimulant laxative, and digital stimulation protocol; document bowel movements daily on a flow sheet
- Ensure the patient remains NPO (nothing by mouth) until the surgical team clears them; if surgery is not planned start oral intake only after confirming normal swallow and gag reflex

Medicines you may be given — and why

Dexamethasone

Dexamethasone calms down the immune system's alarm response and shrinks swelling (edema) around the squeezed spinal cord. When a tumor, blood clot, or infection presses on the cord, the tissue around it puffs up like a bruise, making the squeeze worse. Dexamethasone

tells the body to stop sending fluid and immune cells to that spot, which takes pressure off the cord and protects the nerve fibers from dying.

Enoxaparin (Lovenox) or Heparin

Cord compression forces people to lie still, which slows blood flow in the legs and raises the risk of a clot in a deep leg vein (deep vein thrombosis) (DVT—a clot in a leg vein) and pulmonary embolism (a clot lodging in a lung artery) (PE—a clot that travels to the lungs). Enoxaparin blocks Factor Xa, a protein in the clotting chain, so blood stays runny enough to keep moving and clots do NOT form.

Opioid analgesics (e.g. Morphine, Oxycodone, Hydromorphone)

Cord compression often causes severe back or nerve pain because pressure on the cord and nerve roots sends alarm signals up to the brain. Opioids latch onto receptors (landing spots) in the spinal cord and brain that gate pain messages, turning down the volume so the person feels less hurt and can rest or tolerate movement during transport and treatment.

Ondansetron (Zofran) or Metoclopramide (Reglan)

Cord compression itself, high-dose dexamethasone, opioid pain medicine, and the stress of the illness can all trigger nausea and vomiting. Ondansetron blocks serotonin receptors (type 5-HT₃) in the gut and the brainstem's vomiting center (the area postrema), stopping the signal that makes you throw up. Metoclopramide blocks dopamine receptors in the same center and also speeds up stomach emptying.

Where this information comes from

- ASCO/ASTRO Guidelines on Spinal Cord Compression
- NCCN Clinical Practice Guidelines in Oncology
- Neurosurgery journal consensus statements
- AAN (American Academy of Neurology) practice parameters

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