

Malignant Spinal Cord Compression

A plain-English guide for you and your family

WHAT IS HAPPENING

Your spinal cord is like a thick bundle of electric wires that runs down the inside of your backbone, carrying signals between your brain and the rest of your body. Normally, the bones of your spine form a strong protective tube around the cord, keeping it safe. When cancer spreads to those bones — most often from lung, breast, or prostate cancer, or from multiple myeloma — the tumor grows inside or next to the bone and starts to squeeze the cord. That squeeze cuts off the signals traveling up and down, so the brain and body can't talk to each other. The first clue is often back pain that feels worse at night or when you lie down, because the tumor is pushing on nerves and gravity shifts fluid into the tight space. As the squeeze gets worse, your legs feel weak and clumsy because the brain's movement signals can't get through. You lose feeling below the squeeze — touch, pain, heat all fade. Finally, the nerves that control your bladder and bowels stop working, so you can't tell when you need to go or hold it in. None of this is random — every symptom points back to the same problem: a tumor pressing on the cord in one spot. The good news is that if doctors catch it early and lift the pressure with steroids, radiation, or surgery, many of those signals can come back. But if the cord stays crushed too long, the damage becomes permanent. That's why speed matters.

What you might feel

- Back pain that gets worse when lying down or at night
- Weakness in the legs
- Numbness or tingling below the level of the tumor
- Trouble controlling your bladder or bowels
- A band of pain around your chest or belly
- Trouble walking or a clumsy, unsteady gait
- Known history of cancer, especially lung, breast, prostate, kidney, or myeloma
- Loss of reflexes in the legs

Call the doctor right away if...

- New or worsening back pain in anyone with a history of cancer
- Any leg weakness, numbness, or trouble walking that comes on quickly
- Loss of bladder or bowel control (this is a true emergency — permanent damage can happen in hours)
- Back pain that is worse at night or when lying flat, especially if pain medicine doesn't help

What the care team will do

- Complete a full neurologic exam every 2 hours, checking motor strength in all four limbs using a 0-to-5 scale, sensory level by testing where the patient can feel a light touch or pinprick moving up from the feet, and reflexes in knees and ankles
- Keep the patient on strict bed rest with log-rolling technique for any position changes, using at least three staff members to turn the patient as one solid unit without twisting the spine
- Administer dexamethasone (a powerful steroid medicine) exactly on time every 6 hours via IV, and monitor blood glucose levels every 6 hours
- Place a urinary catheter if the patient has urinary retention (cannot empty bladder completely), measure residual urine volume, and monitor output every hour
- Assess pain intensity using a 0-to-10 numeric scale every 2 hours and give IV opioid analgesics (strong pain medicines like morphine or hydromorphone) as ordered, avoiding delays in dosing
- Monitor for signs of a clot in a deep leg vein (deep vein thrombosis) (blood clots in leg veins) by checking for calf swelling, warmth, redness, or pain, and apply sequential compression devices (inflatable leg sleeves) to both legs unless the patient has existing clots
- Check skin every 4 hours for pressure injury (bed sores), especially over the sacrum (tailbone), heels, and any bony area, and reposition the patient every 2 hours using pressure-relieving devices under heels and a specialty mattress
- Establish bowel program with daily stool softeners and stimulant laxatives, monitor for bowel movement every 24 hours, and perform digital stimulation or suppository insertion if no stool for 48 hours

Medicines you may be given — and why

Dexamethasone

Dexamethasone is a powerful steroid that shrinks swelling around the spinal cord. When a tumor presses on the cord, the tissue around it swells like a sprained ankle, and that extra swelling makes the squeezing worse. Dexamethasone calms down that inflammation fast, buying time and protecting nerve cells from dying.

Bisphosphonates (zoledronic acid) or Denosumab

Cancer in the spine often eats away at the bone, making it weak and more likely to collapse or cause pain. Bisphosphonates and denosumab both stop the cells that break down bone—called osteoclasts—from doing their job. Think of osteoclasts as demolition crews: these drugs either poison the crew (bisphosphonates) or take away their work orders (denosumab). Either way, the bone stops crumbling as fast, which lowers the chance of fractures and new areas of nerve squeezing.

Opioid analgesics (morphine, oxycodone, hydromorphone, or fentanyl)

When a tumor crushes the spinal cord or eats into bone, the pain can be severe—sharp, aching, or burning. Opioids attach to opioid receptors (special landing docks) in the spinal cord and brain, and they turn down the volume on pain signals traveling up to the brain. Think of pain like an alarm bell ringing loudly; opioids muffle the bell so the brain hears it as a quieter hum. They do not fix the tumor or the pressure, but they make the pain bearable while the team works on the real problem.

Low-molecular-weight heparin (enoxaparin) or unfractionated heparin

People with cancer and people who cannot move their legs (because of spinal cord compression) are at very high risk for blood clots in the deep veins of the legs (deep vein clot formation (thrombosis), or DVT). If a clot breaks off and travels to the lungs (pulmonary a traveling clot lodging in a vessel (embolism), or PE), it can be deadly. Heparin works by turbocharging antithrombin (a natural brake on clotting), so the blood's clotting cascade gets stopped before a clot forms or a small clot gets bigger. Think of clotting like a chain reaction—heparin cuts the chain early.

Where this information comes from

- NCCN Clinical Practice Guidelines in Oncology: Central Nervous System Cancers
- ASCO guideline on palliative care for patients with cancer
- Cochrane review: radiotherapy and surgery for metastatic spinal cord compression
- NICE guideline: Metastatic spinal cord compression in adults

Last reviewed: 2026-07-07