

Cancer Pain and Palliative Care

A plain-English guide for you and your family

WHAT IS HAPPENING

Cancer pain is different from normal pain. Normal pain is like an alarm — it tells you to pull your hand off a hot stove so you don't get burned worse. Cancer pain keeps ringing even when you can't fix the problem, so it stops protecting and just wears you down. The pain comes from three big causes. First, the tumor itself pushes on bones, squeezes organs, or blocks tubes inside the body — that makes a deep aching or pressure pain. Second, the tumor or the treatments (like chemotherapy or radiation) can damage nerves directly — that makes a burning, shooting, or electric-shock pain. Third, the constant hurt, the fear, the sadness, and the loneliness make the pain feel even worse — your mind and spirit amplify what the body feels. Doctors call this 'total pain' because it is physical, emotional, social, and spiritual all at once. The good news is that each type of pain responds to different treatments, so the care team builds a plan that tackles all three: medicines for the body pain, different medicines for the nerve pain, and support for the emotional and spiritual pain. Starting comfort care early — not waiting until the very end — gives the best relief and the best quality of life.

What you might feel

- Constant, aching pain that does not go away
- Sharp, shooting, or burning pain along a path on the skin
- Pain that gets worse at night or when lying down
- Deep, throbbing bone pain
- Pain in a new place that was not there before
- Feeling very sad, hopeless, or anxious every day
- Extreme tiredness and no energy to do daily tasks
- Loss of appetite and unintended weight loss
- Trouble sleeping through the night
- Nausea, vomiting, or severe constipation

Call the doctor right away if...

- New, severe pain that suddenly starts or gets much worse over hours or days
- Numbness, tingling, or weakness in the arms or legs, or loss of bowel or bladder control (may mean the spinal cord is being squeezed by tumor or collapsed bone)
- Trouble breathing, chest pain, or coughing up blood (may mean a clot in the lung or cancer spread to the lungs)
- Confusion, severe headache, or sudden trouble speaking or moving one side of the body (may mean cancer has spread to the brain or bleeding inside the skull)
- Fever above 100.4°F (38°C) with chills, especially if the person is on chemotherapy (the immune system may be too weak to fight infection, risking sepsis)

What the care team will do

- Assess pain every 2 to 4 hours using a numeric scale (0–10) or PAINAD tool if the patient cannot speak, and document the score in the chart.
- Give prescribed opioid analgesics on time, not waiting until pain is severe—administer long-acting opioids (morphine ER, oxycodone ER, fentanyl patch) every 8 to 12 hours and keep short-acting rescue doses (immediate-release morphine or oxycodone) available every 1 to 2 hours as needed.
- Monitor for opioid side effects: check bowel movements daily and start a bowel regimen (docusate 100 mg plus senna 2 tablets at bedtime) on day one of opioid therapy; assess for nausea and give ondansetron 4 to 8 mg every 8 hours if needed; watch for sedation (sleepiness) and respiratory rate below 8 breaths per minute.
- Screen for nerve pain (neuropathic pain) by asking if the pain burns, shoots, or feels like pins and needles—if yes, notify the provider to add gabapentin starting at 100 to 300 mg at bedtime or duloxetine 30 to 60 mg once daily.
- Assess for spinal cord compression every shift: ask about new leg weakness, numbness in the groin or inner thighs (saddle anesthesia), or loss of bladder or bowel control—if any are present, keep the patient flat in bed and call the provider immediately for stat MRI and dexamethasone 10 mg IV.
- Address total pain by asking about emotional distress, family worries, financial stress, and spiritual concerns—involve social work, chaplaincy (spiritual care), and psychology early in the care plan.
- Educate the patient and family that using opioids for cancer pain is not addiction—addiction is a brain disease with loss of control and harm, while physical dependence (the body adapts and needs the medicine to avoid withdrawal symptoms) is normal and expected.

- Reposition the patient every 2 hours, support painful limbs with pillows, apply heat or cold packs as tolerated, and offer distraction (music, guided imagery, visits from loved ones).

Medicines you may be given — and why

Acetaminophen (Tylenol)

Blocks pain signals in the brain and spinal cord by stopping an enzyme called COX (cyclooxygenase) that makes prostaglandins (little chemical messengers that turn up pain volume and cause inflammation). Think of it like turning down the volume knob on pain messages traveling up to your brain.

Ibuprofen (Advil, Motrin) or Naproxen (Aleve)

Blocks COX enzymes (COX-1 and COX-2) throughout the whole body, which stops tissues from making prostaglandins (chemicals that cause pain, swelling, and heat at the injury or inflammation site). It is like shutting off the factory that makes the alarm bells ring in injured or inflamed areas.

Morphine

Locks onto mu-opioid receptors (tiny docking stations) on nerve cells in the brain, spinal cord, and throughout the body. When morphine docks, it tells the nerve 'do not pass the pain signal forward.' It also changes how the limbic system (the brain's emotion center) interprets pain, making it feel less scary and overwhelming.

Oxycodone (OxyContin, Roxicodone)

Works the same way as morphine—docks onto mu-opioid receptors in the brain, spinal cord, and peripheral nerves to block pain signals from being sent and change how the brain feels and interprets pain. It is chemically different from morphine (semi-synthetic) but does the same job.

Hydromorphone (Dilaudid)

A more potent cousin of morphine—it is a semi-synthetic opioid made from morphine. It binds to the same mu-opioid receptors but is about 5 to 7 times stronger per milligram, so much smaller doses do the same pain-blocking job. Think of it as a concentrated version that turns down the pain volume even more efficiently.

Methadone

Blocks pain in two ways at once: (1) Like other opioids, it docks onto mu-opioid receptors to stop pain signals, and (2) it also blocks NMDA receptors (a different pain amplifier in the spinal cord that causes 'wind-up' pain—when the nervous system turns up its own volume over time).

This dual action is especially helpful for nerve pain and pain that has become chronic and 'stuck on.' It is like turning down two volume knobs at once.

Fentanyl (Duragesic patch, Actiq lozenge, Subsys spray, Fentora tablet)

Another mu-opioid receptor agonist that docks onto receptors to block pain transmission, but it is about 80 to 100 times stronger than morphine per microgram. It comes as a patch you stick on your skin (releases medicine slowly and steadily over 72 hours) or as fast-acting lozenges, buccal tablets, films, or sprays for sudden breakthrough pain. Think of the patch as a steady trickle all day and night, and the lozenge or spray as a quick burst for pain spikes.

Gabapentin (Neurontin)

Calms overexcited nerves by blocking voltage-gated calcium channels (specifically the alpha-2-delta subunit—tiny gates on nerve endings). When a nerve is damaged, squeezed by a tumor, or irritated by chemotherapy, it fires too much—like a car alarm stuck going off. Gabapentin closes those calcium gates so less calcium flows into the nerve cell, which means the nerve releases less glutamate (the main excitatory pain chemical). The nerve stops sending so many pain signals. It does NOT block all pain, just the burning, shooting, tingling, electric-shock kind (neuropathic pain).

Pregabalin (Lyrica)

Works just like gabapentin—binds to and blocks the alpha-2-delta subunit of voltage-gated calcium channels on overactive nerves, closing the gates so less calcium flows in and the nerve releases less glutamate (excitatory pain chemical). This quiets down nerve pain. Pregabalin is absorbed more predictably and completely from the gut than gabapentin, so it may work a bit faster and the dose is more reliable. Think of it as gabapentin's more predictable sibling.

Duloxetine (Cymbalta)

Boosts two brain chemicals—serotonin and norepinephrine—in the spinal cord's pain pathways by blocking their reuptake (recycling) back into nerve cells. More serotonin and norepinephrine stay active in the synapse (space between nerves), which strengthens the brain's descending pain inhibition system (the brain's own natural volume-down pathway that travels from the brainstem down the spinal cord). This system normally dampens pain signals before they reach your awareness. Duloxetine turns up that filter, so pain signals are quieter. It is especially helpful for nerve pain (neuropathic pain) and chronic pain syndromes.

Dexamethasone (Decadron)

Reduces swelling (edema) and inflammation around tumors, compressed nerves, and the spinal cord by entering cells and binding to glucocorticoid receptors. The receptor then moves into the nucleus (cell control center) and turns OFF genes that make pro-inflammatory proteins (cytokines, prostaglandins, leukotrienes). When a tumor presses on a nerve or the spinal cord,

swelling around it makes the squeeze much worse and inflames the nerve. Dexamethasone shrinks that swelling, giving the nerve more room and stopping inflammatory irritation, which eases pain and can restore nerve function. Think of it like letting air out of a balloon that is squeezing a rope—the rope (nerve) can move and signal freely again.

Zoledronic acid (Zometa) or Pamidronate (Aredia)

Sticks tightly to hydroxyapatite (the mineral in bone) and poisons osteoclasts (the cells that break down and resorb bone). Cancer that spreads to bones (bone metastases) often speeds up bone breakdown by releasing factors that activate osteoclasts, leaving painful holes (lytic lesions) and weak bone. Bisphosphonates are absorbed by osteoclasts when they try to dissolve bone; once inside, the drug disrupts the osteoclast's energy-making machinery (mitochondria) and causes the cell to die (apoptosis). Bone breakdown slows dramatically, which reduces pain, lowers the risk of fractures (pathologic fractures), prevents spinal cord compression, and treats high blood calcium (hypercalcemia of malignancy). Think of it as poisoning the demolition crew that is tearing down your bones.

Denosumab (Xgeva)

Blocks RANKL (Receptor Activator of Nuclear factor Kappa-B Ligand), a protein that bone cells release to signal osteoclast precursor cells to mature, activate, and start chewing up bone. Denosumab is a fully human monoclonal antibody—a lab-made immune protein that grabs and binds tightly to RANKL, covering it up so it cannot dock onto its receptor (RANK) on osteoclasts. Without the RANKL signal, osteoclasts never mature or turn on. No active osteoclasts means bone breakdown stops almost completely. This reduces pain, prevents fractures, prevents high calcium (hypercalcemia), and lowers the risk of spinal cord compression. It is like cutting the phone line that orders the demolition crew to tear down your bones—no signal, no demolition.

Radiation therapy (external beam or radiopharmaceuticals such as strontium-89 or radium-223)

Damages the DNA inside cancer cells so they cannot divide and grow, causing them to die (apoptosis or mitotic death). When tumor cells in bone die, they stop releasing inflammatory chemicals (cytokines, prostaglandins) that irritate nerves, and they stop destroying bone, which reduces pain. External beam radiation therapy (EBRT) focuses high-energy X-rays or photons on one or a few painful bone metastases from outside the body. Radiopharmaceuticals (bone-seeking radioactive medicines like strontium-89 chloride or radium-223 dichloride) are injected into a vein; they travel through blood and concentrate in bone metastases throughout the skeleton, delivering radiation directly from inside the bone over days to weeks. Both methods kill cancer cells in bone and ease pain.

Where this information comes from

- NCCN Clinical Practice Guidelines in Oncology: Adult Cancer Pain, Version 1.2024
- WHO Guidelines for the Pharmacological and Radiotherapeutic Management of Cancer Pain in Adults and Adolescents, 2018
- American Society of Clinical Oncology (ASCO) Palliative Care Guidelines
- National Consensus Project Clinical Practice Guidelines for Quality Palliative Care, 4th Edition

Last reviewed: 2026-07-07