

Osteoarthritis

A plain-English guide for you and your family

WHAT IS HAPPENING

Your joints are where two bones meet, like your knee or fingers. Between the bones sits a smooth, slippery layer called cartilage — think of it like the rubber coating on a wire. That cartilage lets the bones glide past each other without grinding. A thin lining called the synovium wraps the joint and makes a slippery oil (synovial fluid) that keeps everything sliding smoothly. Cartilage has no blood vessels, so once it gets damaged it cannot really heal itself. In osteoarthritis, years of use — plus a little background inflammation — wear the cartilage down faster than the body can patch it. The bone underneath thickens and grows lumpy bumps, trying to spread out the load. You feel pain when you move the joint, because the raw, damaged surfaces rub and stress the tissues around them; the pain gets better when you rest. Morning stiffness lasts less than 30 minutes, just long enough for movement to pump fluid back into the joint. You might hear grinding (crepitus) or feel bony knobs on your fingers (Heberden nodes at the fingertips, Bouchard nodes at the middle knuckles). The joint slowly loses its full range of motion as bone spurs block movement. In late disease, the bone underneath can collapse unevenly, twisting the joint out of line. Every one of these findings traces back to the same root problem: the cartilage cushion has worn away, and the body is doing everything it can to stabilize and protect what is left.

What you might feel

- Pain in big joints — hips, knees, hands, or lower back
- Joint stiffness that loosens after you move around
- Pain that gets worse as the day goes on or after you use the joint a lot
- Hard, bony bumps on finger joints — Heberden nodes at the tips or Bouchard nodes in the middle
- Pain at the base of the thumb that makes pinching and gripping hard
- Joint swelling that feels firm, not squishy
- A grinding or crunching feeling (crepitus) when you move the joint
- Loss of range — you cannot bend or straighten the joint as far as before

Call the doctor right away if...

- Sudden, severe joint pain or swelling in one joint that comes on in hours — may be infection or gout instead.
- Fever, night sweats, or unexplained weight loss — raises concern for infection or a different type of arthritis.
- Numbness, tingling, or weakness below the painful joint — suggests a nerve is being pinched and needs urgent evaluation.
- Joint pain plus a new rash, eye redness, or belly symptoms — points toward autoimmune arthritis, not osteoarthritis.
- Pain so bad that it wakes you from sleep or keeps you from walking — may need joint replacement surgery soon.

What the care team will do

- Assess pain level using a 0-to-10 scale and ask which joints hurt most during movement and rest.
- Check the affected joints for bony lumps called Heberden nodes (finger tips) and Bouchard nodes (middle finger joints) and check if the thumb base is swollen.
- Teach the patient to lose weight if overweight and start low-impact exercise like swimming, water aerobics, or cycling.
- Give acetaminophen (Tylenol) up to 3,000 mg per day or NSAIDs like ibuprofen or naproxen as ordered, and teach the patient to take NSAIDs with food.
- Apply topical NSAID gel (diclofenac) or capsaicin (hot pepper) cream to painful joints and teach the patient to wash hands after applying.
- Assist with intra-articular (inside the joint) steroid or hyaluronic acid injections and monitor for increased pain, redness, or fever after the procedure.
- Teach the patient about duloxetine (Cymbalta), an antidepressant that treats chronic osteoarthritis pain, and explain it may take two to four weeks to work.
- Educate the patient about joint replacement surgery (arthroplasty) for hip or knee if pain limits daily life despite medicines and injections.

Medicines you may be given — and why

Acetaminophen (Tylenol)

Acetaminophen turns down pain signals in the brain and spinal cord. It does NOT fix the worn cartilage or stop swelling in the joint — it just makes the pain feel less sharp so you can move more comfortably.

NSAIDs (ibuprofen, naproxen)

NSAIDs block an enzyme called COX (cyclooxygenase) all over your body. COX makes prostaglandins — chemicals that trigger swelling, heat, and pain in the joint. By stopping COX, NSAIDs lower the swelling and pain in the worn joint.

Topical NSAIDs (diclofenac gel)

You rub the gel directly onto the painful joint. The medicine soaks through the skin and blocks COX enzymes in the joint tissue below, lowering swelling and pain right where you need it. Very little gets into the rest of your body, so it is gentler on your stomach, heart, and kidneys than pills.

Duloxetine (Cymbalta)

Duloxetine raises the levels of two brain messengers — serotonin and norepinephrine — in your spinal cord. These messengers help the spinal cord's own pain-blocking system work better, so pain signals from the joint get turned down before they reach your brain. It does NOT fix the joint itself; it changes how your nervous system reads the pain.

Intra-articular corticosteroid injection (triamcinolone, methylprednisolone)

A doctor injects a strong anti-swelling medicine directly into the painful joint. The steroid shuts down many of the immune cells and chemical messengers (like cytokines) that cause inflammation and pain inside the joint. Relief usually lasts weeks to months, but the cartilage damage itself is not repaired.

Intra-articular hyaluronic acid injection (viscosupplementation; Synvisc, Hyalgan, Euflexxa)

A doctor injects a thick, gel-like fluid (hyaluronic acid) into the joint. Healthy joints naturally make this slippery substance to cushion and lubricate movement. In osteoarthritis, the joint fluid becomes thinner and less protective. The injection temporarily adds back that cushion, which may ease pain and improve movement for a few months. Evidence is mixed — some people feel better, others notice little difference.

Capsaicin cream (topical)

Capsaicin is the chemical that makes chili peppers hot. When you rub it onto the skin over a sore joint, it first causes a burning or stinging feeling. With repeated use, it depletes substance P — a chemical that pain nerves use to send hurt signals to the spinal cord. Once substance P runs low, the pain messages quiet down.

Where this information comes from

- American College of Rheumatology (ACR) 2019 osteoarthritis guideline
- Osteoarthritis Research Society International (OARSI) 2019 guideline
- Cochrane systematic reviews on osteoarthritis
- American Academy of Orthopaedic Surgeons (AAOS) 2021 knee osteoarthritis guideline

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