

Septic Arthritis

A plain-English guide for you and your family

WHAT IS HAPPENING

Normally, the inside of a joint is a sealed, sterile space filled with slippery fluid that cushions the bones. The thin lining (synovium) keeps germs out and makes just enough fluid so the joint glides smoothly. In septic arthritis, bacteria break into that space—usually by riding through the bloodstream from an infection somewhere else (like a skin sore or infected IV line), sometimes from a direct poke (a nail, a dog bite, or a dirty needle), and rarely by tunneling in from an infection in the bone next door. Once inside, the bacteria multiply fast. White blood cells pour in to fight them, filling the joint with thick pus. The pressure climbs, the joint swells hot and red, and even the tiniest movement hurts so much that a child will refuse to use the arm or leg. Fever spikes as the body sounds the alarm. If the pus sits there for more than a few hours, enzymes from the dying white cells start to digest the smooth cartilage that coats the bone—once cartilage is gone, it does not grow back, and the joint is permanently damaged. That is why septic arthritis is treated as an emergency: tap the joint with a needle to confirm pus and see which bug it is, start strong IV antibiotics right away (before the culture comes back), and get the patient to the operating room the same day to wash out all the pus and infected tissue. Speed saves the joint.

What you might feel

- Hot, red, swollen joint (usually just one)
- Severe pain in the joint that gets worse with any movement
- Not wanting to move or put weight on the joint
- Fever and chills
- The joint looks bigger or puffier than the same joint on the other side
- Warmth when you touch the skin over the joint
- Fast heart rate
- Recent skin infection, IV drug use, or a prosthetic (artificial) joint in the same spot

Call the doctor right away if...

- Fever above 101°F (38.3°C) plus a hot, swollen joint—infection can destroy cartilage in hours
- Refusal to move or bear weight on a joint in a child—especially hip or knee—may be septic arthritis and needs same-day evaluation
- Joint pain plus signs of sepsis: confusion, very low blood pressure, fast breathing, or mottled skin—bacteria may be spreading through the whole body
- Prosthetic (artificial) joint that suddenly becomes painful, warm, or swollen—infection in a fake joint almost always needs surgery to clean out

What the care team will do

- Keep the patient NPO (nothing by mouth) until the orthopedic surgeon evaluates them, because urgent surgical washout may be needed within hours.
- Protect the painful joint by keeping it immobilized in a neutral position with pillows or a splint, and avoid any passive or active range-of-motion exercises.
- Draw blood cultures from two different sites before giving any antibiotics, and prepare the patient for immediate joint aspiration by the physician.
- Administer IV antibiotics (vancomycin and ceftriaxone) within one hour after joint fluid is obtained, using a large-bore IV catheter for reliable access.
- Monitor vital signs every 2 to 4 hours, watching for fever spikes, a fast heart rate (tachycardia) (fast heart rate over 100), low blood pressure (hypotension) (low blood pressure), or worsening pain despite pain medicine.
- Assess neurovascular status (circulation, sensation, and movement) of the limb distal to the infected joint every 4 hours, comparing with the opposite side.
- Give scheduled IV acetaminophen or IV ketorolac for pain control rather than waiting for the patient to request pain medicine, avoiding opioids if possible.
- Examine the skin over the entire body for wounds, rashes, pustules (pus-filled bumps), or IV drug track marks, and document any findings with photos if hospital policy allows.

Medicines you may be given — and why

Vancomycin

Vancomycin kills bacteria by blocking them from building their protective cell walls. Think of bacteria like tiny water balloons — they need a tough outer shell to stay intact. Vancomycin stops them from making that shell, so the bacteria burst and die. It works especially well

against MRSA (methicillin-resistant *Staph aureus*), a stubborn germ that often causes joint infections and doesn't respond to many other antibiotics.

Ceftriaxone

Ceftriaxone kills bacteria by attacking their cell walls from a different angle than vancomycin. It sneaks into the bacteria's wall-building machinery and jams the gears, so the wall can't finish forming. The bacteria lose their structure and burst. Ceftriaxone covers a wide range of germs, including *Neisseria gonorrhoeae* (the gonorrhea germ, a common cause of septic arthritis in sexually active young adults), many gram-negative bacteria (like *E. coli* and *Klebsiella*), and some gram-positive bacteria (like *Streptococcus*). It's often paired with vancomycin at the start because together they cover almost all the bacteria that cause joint infections.

Oral antibiotics (step-down therapy)

After about 2 weeks of IV antibiotics in the hospital, many patients can switch to pills taken by mouth to finish the treatment course at home. The specific pill depends on which bacteria grew in the joint fluid culture and which antibiotics it's sensitive to. Oral antibiotics work the same way as IV antibiotics — they kill bacteria by blocking cell wall building, protein making, or DNA copying — but they're absorbed from the gut into the bloodstream instead of going straight into a vein. Switching to pills is safe once the infection is clearly improving (less pain, less swelling, fever gone, blood markers like CRP dropping) and the bacteria are known to be susceptible. The total antibiotic course for a natural (not prosthetic) joint is usually 4–6 weeks; for a prosthetic (artificial) joint, it may be months or even lifelong.

Where this information comes from

- IDSA Clinical Practice Guideline for the Diagnosis and Treatment of Native Vertebral Osteomyelitis in Adults (2015)
- British Society for Rheumatology guideline for management of the hot swollen joint in adults (2018)
- CDC Septic Arthritis overview
- AMA JAMA Rational Clinical Examination series on the adult with monoarticular arthritis

Last reviewed: 2026-07-07