CONDITION

Suppurative arthritis

Suppurative arthritis is an infection inside a joint that can quickly damage cartilage and surrounding tissue.

WHAT IT IS
Pus-forming infection inside a joint

BODY SYSTEM
Bones and joints

MAIN SYMPTOMS
Joint pain, swelling, warmth, reduced movement

WHAT CAUSES IT
Usually bacteria, rarely fungi or other germs

HOW IT IS DIAGNOSED
Joint-fluid analysis and culture, plus blood cultures

MAIN TREATMENT
Antibiotics and drainage of infected joint fluid

CAN IT BE CURED?
Yes - prompt treatment often clears the infection

IS IT AN EMERGENCY?
Yes - a new hot swollen joint needs urgent assessment

LONG-TERM OUTLOOK
Often good; delayed treatment raises joint-damage risk

Overview

Suppurative arthritis is an infection inside a joint. It is more commonly called septic arthritis or infectious arthritis. "Suppurative" means that the infection produces pus, a collection of germs, immune cells, and damaged tissue.

The infection causes inflammation in the synovial fluid that lubricates the joint. It most often affects one large joint, such as a knee or hip, but any joint can be involved. More than one joint may be infected, especially in people with certain health conditions.

Suppurative arthritis matters because infection can damage joint cartilage within a short time. Germs can also enter the bloodstream and cause sepsis, the body's dangerous overreaction to infection. Prompt hospital assessment, testing, and treatment reduce these risks.

This condition is different from osteoarthritis, gout, and autoimmune forms of arthritis. However, these conditions can cause similar pain and swelling, so symptoms alone cannot confirm the cause.

Symptoms

Symptoms often begin quickly, over hours or a few days. The affected joint may be:

Fever, chills, sweating, tiredness, or feeling generally unwell may occur. A normal temperature does not rule out the condition, particularly in older adults, babies, or people whose immune system is weakened.

Hip infection may cause pain in the groin, thigh, buttock, or knee. Because the hip is deep inside the body, obvious swelling may not be visible. A child may refuse to walk, limp, or stop using an arm or leg. Babies may be unusually irritable or cry when a limb is moved.

Infection associated with a replacement joint can sometimes develop more gradually. Possible signs include increasing pain, reduced function, swelling, or fluid draining from the surgical area.

- Very painful, including when resting
- Swollen, warm, or red
- Stiff or difficult to move
- Painful when someone else moves it

Causes and risk factors

Most cases are caused by bacteria. Staphylococcus aureus is a common cause, including strains that are resistant to some antibiotics like amoxicillin or doxycycline . Other bacteria can also be responsible.

Germs may reach a joint through the bloodstream from an infection elsewhere in the body. They can also enter through a wound, an injection, surgery, or an animal or human bite. Infection can occasionally spread from nearby skin, bone, or soft tissue.

Gonorrhea, a sexually transmitted infection, can spread through the bloodstream and affect one or more joints. This may occur with skin spots or pain that moves between joints, and genital symptoms may be absent.

Risk is higher in people who have:

Babies and older adults are also at higher risk. However, suppurative arthritis can occur without an obvious risk factor.

- A joint replacement or recent joint surgery
- Rheumatoid arthritis or another damaged joint
- Diabetes, kidney disease, or liver disease
- A weakened immune system
- Recent bloodstream or skin infection
- Injected non-prescribed drugs
- An open wound, bite, or injection near a joint

Diagnosis

A new, very painful, swollen joint needs urgent assessment because several conditions can look alike. Gout, bleeding into a joint, injury, and autoimmune inflammation may cause similar symptoms. Infection and gout can also occur together.

The main diagnostic test is joint aspiration. A clinician inserts a sterile needle into the joint and removes synovial fluid. The fluid is examined for its appearance, white blood cell count, bacteria, and crystals. A laboratory culture tries to grow and identify the germ so treatment can be targeted.

A negative culture does not always exclude infection. Cultures may be negative if antibiotics were started before the sample was collected, the number of germs is low, or the infection is caused by an organism that is difficult to grow.

Blood tests can look for inflammation and signs of infection. Blood cultures may identify germs circulating in the bloodstream. Tests for gonorrhea or other possible sources may be appropriate in some situations.

An X-ray can show existing joint damage or another cause of pain, but it may look normal early in the infection. Ultrasound can find fluid and help guide aspiration, especially in a hip. MRI or CT imaging may be used when a deep joint, nearby bone infection, or abscess is suspected.

When someone is seriously unwell, treatment may need to begin before every result is available.

Treatment and management

Suppurative arthritis is usually treated in hospital. The two main parts of treatment are antibiotics and removal of infected fluid.

Antibiotics are often given into a vein at first. Initial treatment covers the bacteria most likely to be responsible. It can then be adjusted when culture results identify the germ and show which antibiotics should work. Treatment may later change to tablets. The antibiotic and length of treatment are based on the germ, affected joint, response to treatment, and whether bone or replacement-joint infection is present.

The joint also needs drainage. This reduces pressure and removes pus and bacteria. Drainage may involve repeated needle aspiration, keyhole surgery called arthroscopy, or open surgery. The best approach is influenced by the joint involved, the amount and thickness of infected fluid, and how well it responds.

An infected replacement joint may require specialist surgery. Depending on the circumstances, the implant may be cleaned and retained, partly replaced, or removed and replaced during a later operation.

Pain relief and fluids may be provided during the acute illness. The joint may be rested briefly, but prolonged immobility can increase stiffness and muscle weakness. Once the infection is controlled, guided movement and physiotherapy can help restore strength and range of motion.

Any source of infection elsewhere in the body also needs attention. If gonorrhea is responsible, sexual partners may need testing and treatment through an appropriate service.

Complications

Infection and inflammation can damage cartilage, leaving lasting pain, stiffness, or reduced movement. The infection may spread into nearby bone, causing osteomyelitis, or collect in surrounding tissue as an abscess.

Bacteria can enter the bloodstream and cause sepsis. This can affect blood pressure, breathing, and organ function.

Other possible complications include recurrent infection and a need for further surgery. Infection around a replacement joint can loosen the implant. In children, severe infection near a growth area can affect bone growth or joint development.

The likelihood of complications is greater when treatment is delayed, the infection is difficult to control, or serious health problems are already present.

Prevention

Suppurative arthritis cannot always be prevented. Infection may develop even when there is no clear wound or known source.

Practical ways to reduce some risks include cleaning and covering cuts, getting appropriate care for infected skin or bites, and not sharing needles or other injecting equipment. Following wound-care instructions after joint surgery can help identify problems early.

Routine vaccination helps prevent some infections that can occasionally spread to joints, particularly in children. Safer sex practices, testing, and prompt treatment can reduce the risk of gonorrhea and its complications.

People with joint replacements should seek medical advice about persistent wound drainage, increasing joint pain, or signs of infection. Antibiotics before dental work are not automatically needed by everyone with a replacement joint; this is considered according to individual circumstances.

Living with it and what to expect

Treatment usually begins urgently and may require a hospital stay. Pain and swelling should improve as the infection responds, but recovery is not always immediate. Blood tests and symptoms may be monitored to check that inflammation is settling.

Antibiotic treatment often continues after discharge. Completing the planned course and attending follow-up appointments help confirm that the infection has cleared. New fever, worsening pain, renewed swelling, or drainage should be reported promptly rather than left until a routine visit.

Movement may remain limited for weeks or months. Physiotherapy can help rebuild strength and flexibility, particularly after surgery or a prolonged period of reduced activity. Return to work, driving, sport, and normal exercise is guided by the affected joint and the progress of recovery.

Many people recover useful or normal joint function after prompt treatment. Others have lasting stiffness, weakness, or pain because cartilage was damaged. Outcomes are affected by how quickly treatment began, the joint and germ involved, existing joint health, age, and other medical conditions. Infection involving a replacement joint may require longer treatment and more than one operation.

Routine follow-up may include a review of movement, pain, blood tests, wound healing, and antibiotic side effects.

When to get medical help

Seek urgent same-day medical assessment for a joint that becomes suddenly painful, swollen, warm, or difficult to move, especially with fever or feeling unwell. Do not wait for a routine appointment if infection is possible.

A child who will not walk, refuses to use a limb, or has severe pain when a joint is moved also needs urgent assessment. The same applies to new pain or swelling around a replacement joint.

Call emergency services if joint symptoms occur with signs of severe infection, such as:

After treatment has started, contact the treating service promptly if pain or swelling is worsening, fever returns, a wound begins draining, or prescribed antibiotics cannot be kept down.

Routine follow-up is appropriate when recovery is progressing but stiffness, weakness, or medication concerns need review.

- Confusion, unusual sleepiness, or difficulty waking
- Severe breathing difficulty
- Blue, grey, very pale, or blotchy skin
- Collapse, fainting, or extreme weakness
- Rapid worsening with a sense that something is seriously wrong

Common questions

Is suppurative arthritis the same as septic arthritis?

The terms are often used for the same condition. Suppurative arthritis emphasizes pus-forming infection, while septic arthritis is the more common modern term for infection inside a joint.

Can suppurative arthritis go away on its own?

It should not be expected to clear without treatment. Antibiotics may be needed urgently, and infected joint fluid usually needs to be removed. Delaying care increases the chance of cartilage damage and spread of infection.

How quickly does joint damage happen?

There is no single timetable. Damage can develop quickly because bacteria and inflammation affect cartilage. This is why a new hot, swollen, very painful joint is assessed urgently rather

than watched at home.

Is suppurative arthritis contagious?

The arthritis itself is not usually passed from one person to another. Some infections that can lead to it are contagious. Gonorrhea can spread through sexual contact, while certain skin or respiratory infections may spread in other ways.

Can gout be mistaken for a joint infection?

Yes. Both can cause sudden severe pain, redness, warmth, and swelling. Finding crystals in joint fluid supports gout, but it does not completely rule out infection. Joint-fluid culture is therefore important when septic arthritis is possible.

Will my joint return to normal?

Many people regain good function, especially when treatment begins promptly. Some have ongoing pain, stiffness, or weakness. Recovery is influenced by the amount of cartilage damage, the joint involved, other health conditions, and whether a replacement joint is present.

Sources

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