CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

PATIENT INFORMATION

Septic arthritis of the knee

What you're feeling

With septic arthritis of the knee, the joint itself is infected. The knee is usually hot, swollen and very tender. The pain sits deep in the knee and it typically hurts too much to put weight through that leg. You may have a fever as well.

The pain does not come and go with activity the way wear-and-tear arthritis does. It is there all the time, and moving the knee or standing on it makes it worse. Many people find they cannot bear weight at all, so walking to the bathroom or getting to the car becomes impossible without help. Bending the knee enough to sit down, get into a car or put on shoes is often too painful.

The swelling can come on quickly, over hours or a day or two. The knee may look puffy and feel warm to the touch compared with the other knee. Night-time is often hard because the throbbing keeps you awake, and any movement under the blankets can be sharply painful.

If you have had a knee replacement or knee surgery such as an ACL reconstruction, watch for new pain, swelling and fever in that knee. An infection after ACL reconstruction is rare, but it needs prompt attention. The same applies if you have a condition such as haemophilia, where a swollen, warm and tender knee can be from bleeding into the joint rather than infection. If treatment for a bleed does not work quickly, infection needs to be checked for.

This condition is a surgical urgency. If you have a hot, swollen, painful knee with fever and you cannot bear weight on it, it needs to be assessed straight away. The key test is taking fluid from the joint with a needle, which both confirms the diagnosis and starts treatment. Blood tests and scans such as an MRI help complete the picture.

What's actually happening

Your knee joint is normally a sealed space. The ends of the thigh and shin bones meet inside it, and a thin layer of lubricating fluid lets them glide smoothly. With septic arthritis, germs have got into that sealed space and are multiplying in the fluid.

CQ HAND + UPPER LIMB
Dr Kieran Hirpara — Specialist Orthopaedic Surgeon
Suite 2, Level 1, Mater Private Hospital Rockhampton, 31 Ward Street, The Range, QLD 4700
Phone 07 4863 6556 · office@cqupperlimb.com.au · cqupperlimb.com.au

The germs, usually a common skin bacteria called staphylococcus aureus, set off fierce inflammation. The joint lining pumps out extra fluid as part of your body's defence, which is why the knee swells so quickly. That trapped fluid builds pressure inside the joint, and the pressure is what causes the deep, throbbing pain and the heat you can feel. The swelling and irritation also stop the joint from moving, which is why bending the knee or putting weight on it becomes almost impossible.

Left alone, the infection does not just sit quietly. The germs and the inflammation they trigger start to damage the smooth cartilage that covers the bone ends inside the joint. That damage can become permanent, which is why this condition is treated as a surgical urgency rather than something to wait out with tablets.

The same process can happen in a knee you have already had operated on. After surgery such as an ACL reconstruction, or after a knee replacement, germs can occasionally reach the joint and cause the same hot, swollen reaction. If you have a history of septic arthritis in a knee, that knee also carries a higher chance of infection around a future joint replacement than a knee that has never been infected.

The aim of treatment is to drain the infected fluid out, wash the joint clean, and use antibiotics to kill the remaining germs. Getting the fluid out quickly relieves the pressure and protects the cartilage before lasting damage is done.

What we can do about it

Dr Kieran Hirpara, an orthopaedic surgeon at Mater Private Hospital Rockhampton, treats septic arthritis of the knee as an emergency that needs same-day action. Patients are generally referred to our clinic by their GP; if a physiotherapist has suggested you see us, you will still need a referral from your GP in order to be eligible for the Medicare rebate. A clinic assessment, including your history, an examination and imaging where needed, confirms the diagnosis.

Because this is an infection inside a sealed joint, there is no self-management phase to try first. Rest, tablets or physiotherapy will not clear it, and waiting lets the germs damage the cartilage. The first step is draining the fluid with a needle, which relieves the pressure and gives a sample for testing. Antibiotics are started straight away, aimed at the germ found in that sample.

Most knees need more than a needle drain. We wash the joint out, either with keyhole surgery (arthroscopy) or with an open washout (arthrotomy). Keyhole surgery uses small cuts and a camera, and it lets us see parts of the joint that an open washout cannot reach. It also tends to cause less pain afterwards, so you can start moving the knee sooner. Many infections clear with one washout. If the infection keeps coming back, we can remove more of the inflamed joint lining during a repeat keyhole procedure.

If you have had an ACL reconstruction and the knee becomes infected, surgery is the mainstay of treatment there too. Washing the joint out combined with antibiotics can clear the infection and save the graft. If the infection persists despite that, removing the graft and any fixation hardware usually brings it under control.

Once the infection is gone, the aim shifts to getting the knee moving again. Physiotherapy helps you rebuild movement and strength, and most people work on bending and straightening without needing another operation.

CQ HAND + UPPER LIMB
Dr Kieran Hirpara — Specialist Orthopaedic Surgeon
Suite 2, Level 1, Mater Private Hospital Rockhampton, 31 Ward Street, The Range, QLD 4700
Phone 07 4863 6556 · office@cqupperlimb.com.au · cqupperlimb.com.au

There are two situations where a knee replacement enters the picture. A recent or current knee infection means a replacement cannot be done yet, because the new joint could become infected too. Once the infection has fully settled, a replacement can be considered. In that setting, the infection is cleared in 87% of cases where it is still active and 95% where it has settled before surgery. If a knee that has already been replaced becomes infected, and the infection cannot be cleared, fusing the knee (arthrodesis) is the last option. It gives a stable, painless knee that will not bend, and it is only used when nothing else can be done.

What to expect

With treatment started promptly, most infections can be cleared and the knee can be saved. The severe pain and swelling usually settle once the joint has been drained and washed out, though the knee often stays stiff and weak for weeks afterwards while you rebuild movement and strength with physiotherapy. Some people are back on their feet within days of the washout, others need longer, and there is no set timetable that fits everyone.

The outlook depends a lot on how quickly the infection is treated. The longer germs stay inside the joint, the more cartilage damage they do, and that damage cannot be undone. Treated early, many knees return to good function. Left alone, the infection keeps damaging the joint and can leave permanent stiffness and pain.

Some infections do not clear with the first washout. If signs of infection come back after treatment, that can mean the germ has spread into the bone next to the joint, which is harder to treat and needs further surgery. Repeat washouts, longer courses of antibiotics or further procedures may be needed before the infection is finally gone.

If you have had an ACL reconstruction and the knee becomes infected, surgery gives the best chance of clearing it and saving the graft. Waiting or trying to manage it without an operation tends to mean a longer recovery and a worse result. Treated properly, many people regain knee function comparable to what they would have had without the infection.

If the knee is already replaced and the infection cannot be cleared, further surgery is needed. Sometimes a new replacement can be done once the infection is under control. Where nothing else works, fusing the knee is the final option. It gives a stable, painless leg that will not bend, and it is only considered when every other treatment has failed.

The honest summary: treated quickly, most people come through this with a working knee. Treated late or not at all, the risks are lasting damage, stiffness and further operations.

When to see someone

This is not a condition to wait out or watch for a few days. A hot, swollen, very painful knee with fever, especially if you cannot put weight on it, needs same-day assessment. Go to an emergency department if you have those signs, or if you feel generally unwell with the knee symptoms. The same urgency applies if you have a knee replacement or have had knee surgery such as an ACL reconstruction and that knee becomes hot, swollen and painful with fever. If you have haemophilia and treatment for a bleed into the knee does not work

quickly, the joint needs prompt checking for infection as well. Ask for a specialist review if your knee is swollen and painful without fever or injury, or if a previous knee infection seems to be returning.

CQ HAND + UPPER LIMB
Dr Kieran Hirpara — Specialist Orthopaedic Surgeon
Suite 2, Level 1, Mater Private Hospital Rockhampton, 31 Ward Street, The Range, QLD 4700
Phone 07 4863 6556 · office@cqupperlimb.com.au · cqupperlimb.com.au