

Two-Stage Revision Knee Replacement

For most patients a total knee replacement relieves pain and improves their quality of life. However, like any surgery, there are risks including infection. Approximately 1% of patients undergoing total knee replacement will develop an infection.

What is a Deep Infection?

Deep infections of the joint consist of either acute (caught within a few days of the onset of the infection) or chronic infections (caught weeks to months after the onset of the infection). Infections can sometimes occur years after the knee replacement operation.

The cause of the infection is sometimes never found. Infections can occasionally spread to the knee from another infection in the body elsewhere.

Diagnosis of Infection

This routinely involves clinical assessment, blood tests and usually a procedure to perform a needle aspiration or keyhole procedure to take samples. The success of any treatment relies on knowing what type of infection you are dealing with.

If You Feel Unwell with a Deep Infection

Infections can sometimes cause 'Sepsis', which is where infection spreads to the bloodstream. This on occasions can make you feel very unwell, and can even be a risk to your life. It is important that if at any stage in the treatment you feel unwell and develop symptoms of a fever with a high

temperature, you seek urgent medical attention from your GP or local Emergency Department. Please also contact your specialist surgical team to inform them of this development.

What is the Treatment of a Deep Infection of a Total Knee Replacement?

Unfortunately, treatment with antibiotics alone is not normally enough to treat a deep infection of a knee replacement. A deep infection of a knee replacement is typically treated with surgery in what is called a **Two-Stage Revision Knee Replacement**. A two-stage revision knee replacement consists of first clearing the infection and then, once the infection is cleared, reinserting a new joint replacement.

The First Stage

Stage one consists of an operation to remove the infected replacement and all suspected infected tissue, washing out the joint, and placing in an antibiotic spacer and administering intravenous (IV) antibiotics. The spacer is typically made of cement and shaped like a knee replacement but the cement contains extra antibiotics specific to the type of infection that is being treated. The spacer is temporarily implanted and can deliver a high concentration of antibiotics to the joint and surrounding tissues. On most occasions, this antibiotic spacer may contain some aspects of a knee replacement and will allow you to walk on your leg. However, it may feel stiffer or more unstable than a true total knee replacement and on occasion a brace is required to help make the knee more stable.

Stage Two

Once the infection is felt to be cleared, the second stage of the treatment is undertaken. The second stage consists of another operation to remove the antibiotic spacer, wash the joint out and insert a new total knee replacement. Success rates following a two-stage knee revision arthroplasty is quite good and ranges from 88% to 96%.

The main goals of the two-stage revision knee replacement surgery are to clear the infection and to give patients a functional knee once again. However, after any revision knee replacement the knee can feel stiffer or more sore than first time knee replacements.

Our Team

The treatment of an infected joint replacement typically involves a specialist team in order to achieve the best outcome possible. This team includes Orthopaedic Surgeons, Microbiology doctors, nurse specialists, fellows and other junior doctors. You will also be seen by our specialist nurse and physiotherapy team to help you through the operation and get you mobile again. Microbiology doctors help determine the type and duration of antibiotics to be used. **Patients undergoing this staged procedure typically receive antibiotics for 6 weeks, although this may vary depending on the type of infection, and may be for up to 3 months.** Typically the antibiotics are stopped if all remains clear and the second stage will take place in the next 2 to 6 weeks.

Side Effects of Treatment

There are risk and side effects of the treatment in a two-stage revision knee replacement surgery including risks of the surgery itself as well as side effects of the antibiotics used in the treatment. Risks of the surgery include stiffness, bleeding (which may require blood transfusion), blood clot in the leg, blood clot to the lung, nerve injury and risk of the general anaesthetic. Rarely if the treatment fails to clear the infection, amputation may be the only viable option left. Although extremely rare, there is also a risk to your life.

Side effects of antibiotics can include nausea/vomiting, diarrhoea, abdominal cramping, loss of appetite, rash, fever, headache and dizziness. Antibiotics can kill off normal bacteria which act as a defence in the bowel and vagina. This may then allow other fungal (thrush) or other bad bacteria to grow. Monitoring may also be required to ensure the antibiotics do not cause any long term effects on the liver or kidneys.

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www.rdehospital.nhs.uk/patients/services/PEOC/peoc_knee.html

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