

Prosthetic Joint Infection

This leaflet provides information about Prosthetic Joint Infections. If you have any further questions or concerns, please speak to the staff member in charge of your care.

What is Prosthetic Joint infection (PJI)?

Growth of bacteria or fungus in your replaced joint, which can occur at any time following your operation.

Infection is a rare but serious complication following joint replacement surgery. Following hip or knee replacement, the rate of infection is generally less than 1%. When infection does occur, it may lead to pain and, if not treated early, failure of the replaced joint. Rarely, the infection can cause an abscess locally or spread to the bloodstream (sepsis), both of which can make you feel unwell and in need of urgent treatment.

How does the joint get infected?

Most commonly, infection gets in at the time of surgery. You will always be given antibiotics at the time of your joint replacement and we operate in ultra-clean theatres. Despite this, certain patients still have higher risks of infection.

Smokers, obese patients, patients with poor immune systems (e.g. rheumatoid arthritis, HIV) and patients taking drugs which suppress the immune system (e.g. steroids, chemotherapy) are patients in whom we particularly worry about the risk of infection.

In patients with no obvious risk factors who recover well from surgery, infection can still occur at a later stage. Conditions

such as skin ulcers, infected in-growing toenails, urine infections and dental infections may lead to bacteria in the bloodstream which can settle on foreign material in the body such as your joint replacement.

What are the signs and symptoms of prosthetic joint infection?

Several different symptoms may occur in patients who have an infected joint replacement.

Failure of the wound to heal and persistent wound leakage are two of the earliest signs and should never be ignored.

Once the wound is healed, if infection does occur, it most commonly causes pain around the joint. Rarely, the first signs may be those of sepsis – raised temperature, fast heart rate or feeling unwell. We are worried more about patients following joint replacement if we know they have a urine infection or an infected tooth for example.

Around the joint, the symptoms of infection can include increasing pain, warmth, redness, swelling and stiffness. Occasionally a well-healed wound may start to leak at a later stage – this is called a sinus. Occasionally, a sinus may develop a distance away from the wound whilst still involving the replaced joint.

Do I need any tests to confirm the diagnosis?

Confirmation of infection can be difficult. Diagnosis is made based on the story of symptoms, examining the joint, blood tests and imaging (x-rays, scans). Taking some fluid from the joint (an aspiration or biopsy) can help to confirm the presence and type of bacteria.

Do normal results mean no infection?

Diagnosing PJI can be difficult as blood investigations may not always be helpful and joint fluid examination results may not identify bacteria, especially when infection is caused by less aggressive bacteria or if you have started antibiotics.

You may be asked to undergo repeat joint fluid examination after stopping antibiotics as this may increase the likelihood of finding the bacteria. This is important, as it helps decide which antibiotic to use for your treatment.

Why did I develop this infection when so many others do well after this surgery?

Operating theatres and surgical processes have continually improved over the last 60 years but the risk of infection with any invasive procedure can never be zero.

This is especially true where foreign material such as a joint replacement is implanted. A healthy patient can sadly still be unlucky and develop an infection.

What treatments are available?

The treatment options are:

1) Washout of joint – This option is used for early infection where the infection has not had enough time to get a “hold” on the surface of the replacements. Your joint replacement is kept but the plastic parts are changed if possible. This is usually followed up by a prolonged course of antibiotics. This approach is termed “Debridement, Antibiotics and Implant Retention - DAIR”) and is only suitable if you have had symptoms for less than a few weeks.

2) Re-do Surgery and a course of antibiotic therapy

This involves the removal of your infected prosthesis followed by implantation of a new one – This is done usually if the

infection persists for more than 4-6 weeks. It is a complex procedure and requires planning.

After removing the infected prosthesis, removing infected bone, soft tissues and washing the joint, the surgeon may implant the new prosthesis during the same operation. This is called “single-stage revision”, compared to a “two-stage revision”, where the joint area is filled with a temporary joint (“spacer”), followed by another operation where the spacer is taken out and a new implant inserted.

In some cases, the infection is particularly bad and you may require repeated operations to get rid of the infection.

Tissue samples sent during the procedure help to detect the offending organism and help guide which antibiotic to take, which usually continues for at least six weeks after the operation.

3) Non-operative treatment – This involves taking antibiotics for a long time to keep the bacteria controlled but will not cure the infection. We may consider this if a person is not medically well enough for surgery by our anaesthetic team or if multiple surgical attempts have failed and there are no remaining surgical options. Continuing antibiotics long-term may lead to antibiotic resistance (loss of effectiveness of the antibiotic), side effects and continued symptoms.

4) Amputation

In the very rare situation where we are unable to control the infection, we may have to consider amputation as a last resort.

Why is it so difficult to treat PJI and why is it important to remove the implanted prosthesis?

Bacteria like sticking to metal implants. They have several mechanisms to stop antibiotics or your body’s immune system

from working to kill the bacteria. Unless we find out about the infection very quickly, ideally within a week or two, usually we must remove the implant to cure the infection and that explains the reasons for the different options.

Does having a procedure get rid of all the infection and need for any further surgery? What are the success rates?

The long-term rates to eradicate infection range from 70-95%. Success rates are lower where the PJI is caused by resistant bacteria, multiple failed previous attempts to remove infection and in patients that have medical conditions that limit their ability to fight infection.

How long am I expected to be in the hospital after the surgery?

The time of discharge may vary amongst patients and is usually around a week after the procedure. Numerous factors may affect this, including pain control, rehabilitation, laboratory culture results and wound healing, as well as organising antibiotic therapy.

What is OPAT and how does the antibiotic therapy continue after discharge?

OPAT or Outpatient Parenteral (intravenous) Antimicrobial Therapy is a service to allow discharge of medically stable patients who remain in the hospital only because they are receiving intravenous antibiotics.

You may be discharged with an intravenous line (called a 'PICC' line) and arrangements are made for receiving the antibiotics at home. This can be done by you or a family member, after training and assessment or a nurse visits you to administer the dosage.

More details can be found on the link below

<https://www.stgeorges.nhs.uk/service/specialist-medicine/clinical-infection/outpatient-parenteral-antibiotic-therapy-opat-service/>

When and where will I be followed up after surgery?

Your follow-up will be at St. George's Hospital, with the surgical team. You should have an appointment within six weeks of discharge and depending on your progress, you will be followed up for at least two years to ensure infection is cleared.

Is it an emergency? How long can I wait before having the procedure?

If you have symptoms such as fevers, chills, dizziness, nausea and feel generally unwell we may need to admit you as an emergency for urgent surgery. If your clinical condition allows, we typically ensure you are pre-operatively reviewed in our outpatient high risk anaesthetic clinic and optimised for surgery. You will be added to the waiting list on an urgent basis.

What can I do to prepare for the surgery? Is there anything I can do to help myself?

It is extremely important that you take care of your health, both physical and mental, before and after the surgery.

Stopping smoking

Tobacco use in any form has been shown to increase the risk of wound problems and infection after surgery. It is extremely important if you do smoke, that you quit smoking prior to surgery.

Smoking cessation programs are available that help you quit smoking. Please find the link below.

<https://www.nhs.uk/live-well/quit-smoking/nhs-stop-smoking-services-help-you-quit/>

Rehabilitation

It is important to maintain your function as best as you can prior to surgery. Post operatively, your recovery will typically be longer than your original surgery. Consider how you manage at home and if you need more support from family or carers. Ideally discuss this with your surgical team, your GP and family, prior to admission.

Diabetes and blood sugar management

If you are diabetic, controlling your blood sugars before and after surgery will improve your chances of wound healing and successful treatment.

Diet

A balanced and healthy diet can be supplemented and reviewed by our team of dieticians. If there is concern regarding this then a dietician can be involved in your care to optimise your nutrition.

Mental health

Coping with a diagnosis of PJI can be extremely difficult. It never occurs at a good time, is unexpected, requires more time in hospital, can cause more pain and needs rehabilitation. This can cause difficulties with work, home life and can be stressful. There will always be a period of resentment and a feeling that “someone is to blame” despite this almost never being the case.

It is impossible to plan for this problem and the treatment is varied and often unpredictable. You can self-refer to access psychological therapy (Improving Access to Psychological

Therapy - IAPT). Please find the link for the self-referral form below.

<https://www.stgeorges.nhs.uk/wp-content/uploads/2020/04/IAPT-Leaflet-London.pdf>

Will I have a normal joint after the surgery?

Surgery to treat infection involves removal of infected bone and soft tissues, therefore the expected outcome is not as good as it would have been otherwise.

It is important to do the exercises the physiotherapists give you following surgery to optimise your outcome. Many patients have some residual discomfort or awareness following an infected arthroplasty.

Postoperative FAQs

Your recovery time following treatment will be longer than it was following your hip or knee replacement. We will aim to get you home as soon as possible but this may take longer than you expect. If you run into difficulties once at home, we will do everything we can to support you. Treatment of infected joint replacements is extremely difficult and complications can occur, even in the best of hands.

It is important that you get in contact with our team to discuss this.

Please contact our Arthroplasty Clinical Nurse Specialist, Aine Ringrose

Her working hours are 9am to 5pm Monday to Friday

Bleep 7442 via switch 2028 6721255

Tel 020 8725 1689

Email: aine.ringrose@stgeorges.nhs.uk

Frequently asked questions

What do I do if...

..my drip for antibiotics in the community stops working or for any other reason I cannot take the antibiotics?

Please contact your OPAT team urgently. If it is not resolved, please contact Aine Ringrose as we may need to provide an alternative treatment. Stopping antibiotics may reduce the chance of eradicating infection.

..my wound has started to leak following my discharge?

In an emergency you may need to see your GP or practice nurse however please contact Ms Aine Ringrose. We will probably need to bring forward your follow-up appointment.

..I have had an increase in pain following my discharge from hospital?

Please get in touch with Ms Aine Ringrose or our secretaries as we may need to bring forward your follow-up appointment.

..I have a temperature and feel unwell following discharge?

Your infection may not be controlled or has returned.

Depending on how bad you feel and how far away you live, you may need to go to A&E or to get advice from your GP. Please let us know if this happens as we may need to transfer you to St George's or review you sooner.

Contact us

Orthopaedic Nurse Practitioner

Ms Áine Ringrose – Orthopaedic Nurse Practitioner

Bleep 7442 via switchboard 020 8672 1255

Tel (Mon -Fri) 020 8725 1689

aine.ringrose@stgeorges.nhs.uk

Secretaries

Tracy Dale

Tel (Monday to Wednesday) 020 8725 4018

tracy.dale@stgeorges.nhs.uk

Natalie Grant

Tel (Thursday to Friday) 020 8725 4015

natalie.grant@stgeorges.nhs.uk

Additional services

Patient Advice and Liaison Service (PALS)

PALS can offer you advice and information when you have comments or concerns about our services or care. You can contact the PALS team on the advisory telephone line Monday, Tuesday, Thursday and Friday from 2pm to 5pm.

A Walk-in service is available:

Monday, Tuesday and Thursday between 10am and 4pm

Friday between 10am and 2pm.

Please contact PALS in advance to check if there are any changes to opening times.

The Walk-in and Advisory telephone services are closed on Wednesdays.

PALS is based within the hospital in the ground floor main corridor between Grosvenor and Lanesborough Wing.

Tel: 020 8725 2453 **Email:** pals@stgeorges.nhs.uk

NHS Choices

NHS Choices provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health. **Web:** www.nhs.uk

NHS 111

You can call 111 when you need medical help fast but it's not a 999 emergency. NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones.

Tel: 111

AccessAble

You can download accessibility guides for all our services by searching 'St George's Hospital' on the AccessAble website (www.accessable.co.uk). The guides are designed to ensure everyone – including those with accessibility needs – can access our hospital and community sites with confidence.



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