

Renal transplantation

Introduction to transplantation

This booklet contains information about kidney transplants and what to expect during your assessment. It is for you to take home with you to read following your transplant assessment and can be used for reference whilst waiting for a transplant. It contains information about the different types of transplant and the risks and benefits of transplantation. If you have any questions or the information is not clear please contact the transplant coordinator (details on the last page of the booklet).

Coventry oxford transplant network (COxNet)

Transplant surgery is an unpredictable specialty and sometimes more than one kidney will be offered at the same time. This means that kidneys are at risk of being turned down due to lack of resources. To minimise the chance of turning down acceptable kidneys for transplant and therefore giving patients the best access to transplant; Coventry and Oxford decided to create a partnership. This means that you may be asked to go to Oxford for your kidney transplant where you will receive the same standard of care you would get in Coventry. Once you are discharged home from hospital in Oxford you will be followed up twice weekly in Coventry.

Why should i have a transplant?

The main benefits of transplant are the improvement in quality of life and duration of life compared to dialysis. There are many studies showing that patients with a kidney transplant have a better quality of life and live longer than those undergoing dialysis. Long term dialysis leads to heart and circulatory disease and having a kidney transplant reduces the progression of these complications. This has a positive impact on patients' health in the long run.



Would i be suitable for a transplant?

Before being put on the waiting list for a transplant you will be asked to undergo a series of tests to ensure you are fit enough for the transplant operation. You will also be seen in the outpatient clinic by transplant doctors who will assess your suitability for transplant.

What blood tests do i need?

Blood group- We need to know what blood group you are so we can find a compatible transplant for you. There are four different blood groups: O, A, B and AB

Tissue typing – This blood test identifies your ‘tissue type’ so we can find a suitably matched kidney

Antibody screening - Antibodies are present in the blood and are from blood transfusions, previous transplants and pregnancy. Knowing which antibodies you have is important so we can find a suitably matched kidney.

We also have to screen you for viruses that may affect the treatment you receive.

Hepatitis B and C – viruses that affect the liver. If you suffer from these viruses or have previously been treated for them you may need treatment before we can offer you a transplant, and you may also need treatment afterwards.

HIV- If you suffer from HIV you will need special treatment to control it before being listed for transplant.

What medical investigations do i need?

Heart and lungs: You will need an assessment to make sure you are fit for an operation under general anaesthetic.

Electrocardiogram (ECG) – This test shows if the heart is beating normally.

Chest x ray – This is to assess your lungs and the size of your heart.

Echocardiogram (ECHO) - this is an ultrasound scan of the heart (the same type of scan pregnant women have to assess the baby) which will show how efficiently the heart is beating and how well it is working.

Will i need any other tests?

Depending on the cause of your kidney failure and your medical history, you may need other investigations. If you are aged 55 years or over, are diabetic or have a previous kidney transplant you may undergo:

Doppler scan – similar to an ultrasound, this scans the arteries and veins of the groin and legs to assess the flow of the blood and make sure the vessels are suitable for transplant.

Myocardial perfusion scan - This is a test in which a small amount of radioactive dye is used to obtain pictures of your heart using a special camera. The picture will show how well your heart muscle is supplied with blood.

Angiogram- This procedure is usually carried out on patients who have underlying heart problems. It is performed by a heart specialist who uses a dye to show whether the blood vessels supplying your heart (the coronary arteries) are narrowed or blocked. During the angiogram any narrowing of the coronary arteries can be treated by stretching (angioplasty) or placing a stent.

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CPEX – (cardio pulmonary exercise test) –This measures the function of your heart and lungs. For this test you will be asked to either cycle on an exercise bike or walk/run on a treadmill. The response of your heart rate and breathing will be monitored. This test is useful in deciding whether you might need a high dependency or intensive care bed after your surgery.

When the appropriate investigations have been completed you will be sent an appointment to see the transplant coordinator and transplant doctors at UHCW NHS Trust. At this appointment you can bring a friend or partner with you and you will be assessed to see if you are suitable to go on the transplant waiting list. You will be given the chance to ask any questions you may have about transplant.

Availability

Offers for transplant can happen at any time of the day or night and it is important that you are contactable at all times. If the team are not able to contact you when you are offered a kidney then you may miss that opportunity. If you miss a kidney offer it does not penalise you for future offers. It is therefore important to update us with any changes in telephone number and/or address and when you are going on holiday,

Blood transfusion

If you have a blood transfusion you need to let the transplant team know. This is because following a blood transfusion your body may develop antibodies which may make it more difficult to find a suitable kidney match.

What are the different types of kidney donors and transplants?

There are several different kinds of kidney donor and types of transplant a patient may receive:

Deceased donors: (previously called cadaveric donors) are people who have died in hospital and have consented to donate their organs.

Live donors: These are healthy individuals that are known to you who want to donate a kidney for your benefit. The donor is often related to you, such as a parent, sibling or child. However, they may be unrelated, but with a close emotion link, such as a partner or friend.

Altruistic donor: This is a unique type of live donor who wants to donate a kidney to someone unknown to them for altruistic (unselfish) reasons.

Antibody incompatible transplant: This is a technique where patients who have high levels of antibodies in their blood, usually due to previous transplants, can still have a transplant. It usually involves specialist treatment and more information will be provided if it is relevant to your individual circumstances.

Paired exchange: This is a nationally run programme that gives patients the opportunity to receive a live donor kidney transplant even if they have an incompatible donor. If this is an issue that affects you and your potential donor you will be given more information about the scheme.

Transplant waiting list

Once your case has been discussed in the weekly transplant meeting and you have been officially activated you will be sent a letter informing you are on the national transplant list.

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Once your name is on the list you can be called for transplant at any time. If your tissue type is the best match for the available kidney you will be called for transplant even if your name has only just gone on the list. The average wait for a kidney transplant is 2-3 years but this varies widely, and can be much longer.

It is important that when you are on the list you keep yourself as fit and healthy as possible. Regular exercise, good diet, smoking cessation and taking your medication as prescribed will help you to maintain a healthy lifestyle.

Suspension on transplant list

When planning a holiday please inform the transplant centre the dates of your holiday, so you can be suspended whilst you are away.

Please inform the transplant team of any illnesses or infections so that your consultant can assess whether you should be temporarily suspended from the list.

A letter will be sent to you informing the reason of your suspension.

It is important to realise that when you are suspended on the transplant list you will keep gaining points on the list but will not receive any offers.

Blood tests whilst on the transplant waiting list

Once you are active on the transplant waiting list you will have blood tests taken every 3 months. These bloods are sent to the tissue typing laboratory to monitor antibody levels in your blood. This is important as it helps decide which kidney is a suitable match for you.

Haemodialysis and peritoneal dialysis patients will have their blood samples sent routinely by the dialysis staff and patients who are pre-dialysis will be sent a letter and invited for a blood test.

Annual review

Whilst you are active on the waiting list for a kidney transplant, you will be re-assessed at the transplant assessment clinic to ensure your health has not changed. This will be similar to your initial medical assessment and will be between 12 and 18 months depending on your medical and physical condition.

Surgery and hospital stay

What happens when I am called for a transplant?

The transplant co-ordinator can call you any time of the day or night. There is a limited time that the co-ordinator has to contact you so please ensure you are available at all times.

You will be asked to attend Ward 22 ECU (2nd floor, University Hospital Coventry) where you will be met by the ward nurse. Due to the recent **COxNet** collaboration detailed at the beginning of this leaflet, you may be asked to go to the Churchill Hospital in Oxford for your transplant.

Once you attend hospital for a kidney transplant you will be assessed by the surgical team. They will make sure that your health has not changed and that you are suitable for a transplant. You will have blood tests, an ECG and a chest x ray and will see an anaesthetist and surgeon. Any relevant factors relating to the kidney that has been offered for you will be discussed and you will be asked to sign a consent form.

What if I have my transplant in oxford?

If you have your transplant in oxford you will be looked after by the team in Oxford until you are ready to be discharged. The hospital stay is usually between days 5-7. All of your post-operative follow up will be performed in Coventry and an appointment will be made for you to attend the clinic once you are discharged home from oxford.

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Surgical procedure

A kidney transplant takes 2-3 hours and involves a general anaesthetic (GA). You will have a catheter inserted into your bladder to monitor your urine and may have an intravenous line in your neck (central line), which is for medication, blood taking and giving IV fluid.

The kidney can be placed on the left or right side in the lower abdomen (see diagram). The kidney is joined to your blood vessels and your bladder. A stent (small plastic tube) is placed from the kidney to the bladder to help the drainage of urine. The stent is removed after 4 weeks during a short local anaesthetic procedure.

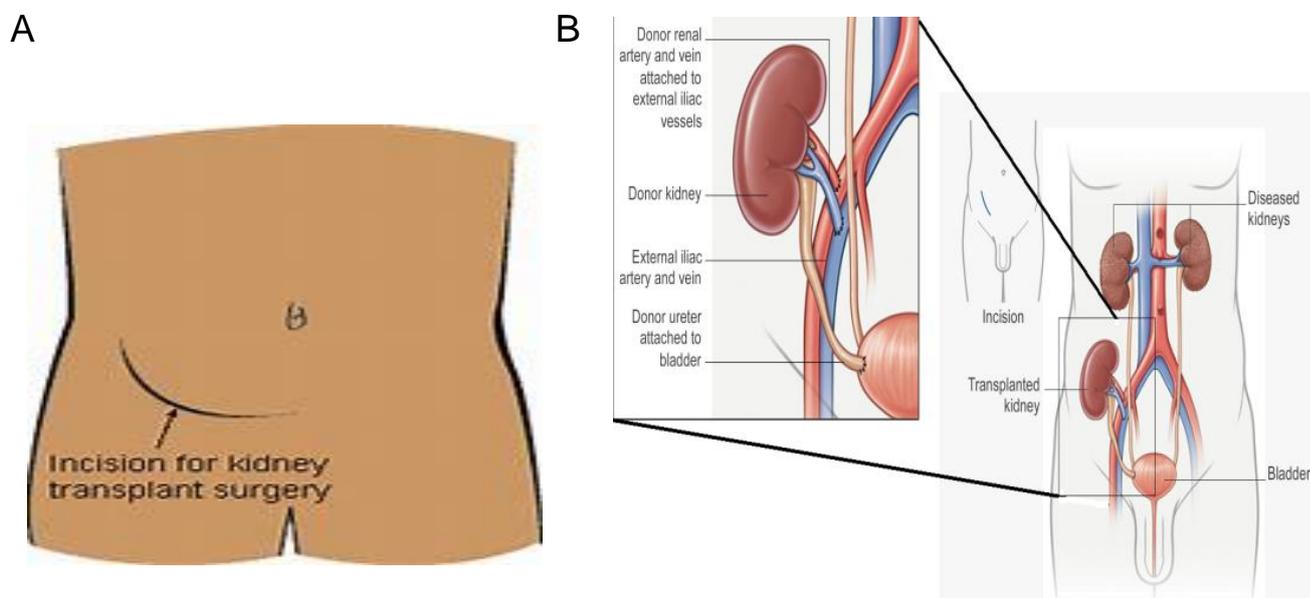


Figure 1 A. This image shows the right sided surgical incision for a kidney transplant.

B shows an example of where a kidney transplant is located and the how it is joined to the blood vessels and bladder

All surgery has potential risks and complications and the serious and frequently occurring ones are detailed below.

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Delayed graft function

Sometimes kidneys don't work straight away. This 'sleep phase' is normal and the transplant team will keep you informed during the daily ward round. Whilst the kidney is 'waking up' you might need to continue dialysis during your hospital stay.

Pain

All patients will experience some degree of pain following transplant. In hospital this can be controlled with a variety of pain killers. You may still have some pain when you are discharged and will be sent home with appropriate medication.

Infection

Due to the use of strong medications to suppress your immune system at the time of transplant you are susceptible to chest, urine and wound infections. To minimise the risks of infection you will be given a dose of antibiotics at the time of surgery. You will be encouraged to mobilise early and given breathing exercises to minimise chest infections.

Bleeding

The risk of bleeding requiring further surgery is very low. Occasionally a blood transfusion is required but transfusions are not without risk and are avoided if possible.

Deep vein thrombosis (DVT) and pulmonary embolism (PE)

Blood clot formation (thrombosis) in the legs or lungs following transplant surgery is uncommon. To minimise clot formation you will be given a blood thinning injection and compression stockings to wear whilst in hospital. Once discharged the best way of avoiding blood clots is to remain active and well hydrated.

Rejection

Your body will recognise the kidney as foreign and the immune system will react to the kidney just as it would to an infection. This response to the kidney, where it becomes inflamed as a result of the immune response, is called rejection. The role of the Immunosuppressive drugs

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you are given is to reduce this response. The majority of cases of rejection can be treated by increasing the Immunosuppression. The risk of kidney loss to rejection is very low and in the first year will affect fewer than 3 patients in 100.

Primary non function (PNF)

Occasionally the kidney never recovers and does not work. This is called primary non function and occurs in less than 3 in 100 patients. This is sometimes due to clotting (thrombosis) of the artery or vein connected to the kidney which is a rare but serious complication.

Injury to other structures

The risk of injury to structures such as bowels, nerves, blood vessels, spermatic cord (in males) is small.

Ureteric complications

The ureter is the tube that drains urine from the kidney and it is joined to the bladder during the transplant. About 5 in 100 patients will experience a complication associated with the ureter. This can either be due to a leak or a narrowing (stricture) of the ureter. Some of these complications may need further procedures or surgery to correct.

Wound infection and hernia

As many as 20 in 100 patients will have a wound complication. This can be just leakage of fluid from the wound which is usually managed with dressings. Wound infections and hernias can also occur. Wound complications are more common in those patients with higher body mass index (bmi).

Transmission of disease

All organ donors are screened for infections prior to transplant to minimise transmission of known and potentially dangerous infections. The screening is very effective although a small number of infections can be undetectable in the donor blood for a period of time. These infections can be transmitted during the transplant although the risk is extremely small. Certain viruses are commonly transmitted or

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reactivated following transplant and are detailed below. Hepatitis and HIV are included as they can cause serious infection

BK is a virus that is found in the kidney of most adults but does not cause any harm. In kidney transplant patients it can reactivate and cause infection.

CMV is a virus that is present in more than half of the population and like BK is usually harmless. CMV can also be passed on through the kidney and it can cause problems in transplant patients. CMV can affect any organ or tissue and symptoms can be “flu like” temperature, aches and pains, diarrhoea, or indigestion. More rarely it can cause visual disturbance, jaundice, or breathlessness. Higher risk patients are given a preventative drug for 100 days which reduces the chance of CMV causing a problem. The treatment for CMV disease is with antiviral drugs and lowering the level of immunosuppression

EBV is a virus that is commonly associated with glandular fever. It causes “flu like symptoms” and swollen glands. Occasionally it can also lead to a more serious condition called post-transplant lymphoproliferative disease or PTLN. This is usually treatable however it can be serious and sometimes chemotherapy is used.

Hepatitis

There are different hepatitis viruses (B, C and E) which can lead to inflammation in the liver. Hepatitis viruses can be passed on through a transplanted kidney although the risk is extremely low. The commonest types of hepatitis (B and C) have effective treatments available.

Hepatitis b vaccination

There is an effective Hepatitis B vaccine available. The nursing staff will organise for you to receive the vaccination during your transplant work up.

HIV is a virus that affects the immune system and can make people more susceptible to infection. The risk of transmission is negligible and all donors are tested for HIV before donation can proceed.

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Risks of immunosuppression

The drugs you are required to take to minimise the risk of rejection put you at increased risk of infection and cancer. The specific drugs and their side-effects are detailed below and in the relevant drug information leaflets.

Diabetes

Patients can become diabetic after transplant because of the Immunosuppressive drugs that they are taking (tacrolimus and prednisolone). If you are diabetic already and it is controlled using diet or medication only, there is a high chance that you will require insulin therapy after the transplant.

Drugs and immunosuppression

Basiliximab (Simulect)

This is a medication given on the day of surgery on day 4 after the transplant. It helps reduce the risk of rejection. Side-effects to this medication are uncommon and include allergic reactions (rarely anaphylaxis).

You will be started on 3 drugs following your kidney transplant; Tacrolimus (TAC), Mycophenolate (MMF) and Prednisolone (Pred). Details about TAC and MMF can be found on the two leaflets at the back of this leaflet.

Steroids

Prednisolone is a steroid and is used because it has anti-inflammatory effects which reduce the risk of rejection. Six weeks after your kidney transplant your dose of prednisolone will be 5mg once daily. This is a very low dose and eliminates many of the long term side-effects that are associated with steroid therapy. The two major complications from long-term low dose steroids are thinning of the bones (osteoporosis) and risk of increase in blood sugar levels (diabetes). Your transplant nephrologist will manage these issues in clinic as part of your long-term follow up.

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Discharge and follow up

Following your kidney transplant you will remain in hospital for between 4-7 days and in preparation for discharge from hospital after the transplant you will be seen by the post-transplant nurses and the pharmacist. They will give you detailed information about follow up care and medications. You will be asked to attend the post-transplant clinic, located on the 5th floor adjacent to the dialysis unit, 2-3 times per week immediately following discharge.

Contact numbers

Rufina sanchez	Recipient transplant co-ordinator	024 7696 7744
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The Trust has access to interpreting and translation services. If you need this information in another language or format please contact 024 7696 7782 and we will do our best to meet your needs.

The Trust operates a smoke free policy

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