Kidney Transplantation

A guide for patients and relatives

Contents

Introduction

The number of renal transplants performed per year in the United Kingdom is gradually increasing. In the year 2023/24, 3,355 patients received renal transplant including 907 from the living donors. On average at least 90% of transplanted kidneys are working at one year, of which 80 to 85% are still working after five years.

A functioning kidney transplant will almost certainly offer you a better quality of life. It will replace the function of your own kidneys and free you from the problems of dialysis and the dietary and fluid restrictions. It should therefore enable you to return to a near normal lifestyle. However, there are also some major considerations. You must be prepared to:

- undergo an operation at a very short notice as most transplants are performed out of normal working hours.
- take tablets for as long as the transplant is working to prevent your body from rejecting it.
- attend a follow-up clinic regularly.

This booklet is intended as a guide for patients with chronic kidney disease who are considering having, or have chosen to have, a kidney transplant. It tells you about the waiting list and the operation itself.
It also gives information and advice on what to expect and how to care for the transplant after the operation.

What is a kidney transplant?

A kidney is removed from a human donor and placed inside your body during an operation. It is carried out under a general anaesthetic. The kidney is connected to your blood vessels and your bladder and it then takes over the function of your own kidneys. In most cases only a single kidney is transplanted as it can perform the work usually carried out by both kidneys. However, two kidneys of some deceased donors, particularly from extremes of age, will be transplanted to a potential recipient. Your surgeon will discuss this with you when such an offer comes for you.

From where does the kidney come?

There are two main sources of kidneys used in transplantation:

1) **Deceased donors**

These kidneys come from someone who has died suddenly, for example in a car accident, a stroke or head injury. They may have had their names on the NHS Organ Donor Register or their next of kin will have agreed to organ donation.
An Opt-out law is now active in UK which has increased the number of deceased organ donation.

There are two sorts of deceased donors:
Donation after brain-stem death (DBD): These are donors who are brain dead but their heart is still beating. They have been kept on a ventilator until the organs are removed.

Donation after circulatory death (DCD): The heart of these donors has stopped beating before the organs are removed.

2) **Living donors**

Living donors who donate their kidney to a blood relative are known as **live related donors.**
They may be a close blood relative of the person needing the kidney (the potential recipient).
This could include a parent, brother, sister or child.
More distant relatives can also be donors. This could include a cousin, aunt or uncle or grandparent.

Living donors who are not related by blood to the recipient are known as **live unrelated donors.**
They should have an emotional relationship with the recipient and could include a partner, spouse, friend or work colleague.

Living donors who volunteer to donate their kidney to someone they do not know on the national transplant waiting list are known as non-directed **altruistic donors.**

All potential donors must satisfy the requirements of the Human Tissue Act 2006. Approval for a living donor transplant to take place must be given by the Human Tissue Authority.

Both deceased and living donors undergo a series of investigations to ensure they are suitable and the kidney will be compatible with the recipient's blood group and tissue type. Other tests include screening for viruses such as hepatitis, cytomegalovirus, human T-lymphotrophic virus (HTLV), human immunodeficiency virus (HIV), human herpes virus type 8 (HHV-8) as well as syphilis and malaria. The surveillance panel may change depending on prevailing infections at the time. Some of these tests are not available until after the transplant has been carried out. Although everything possible is done to make sure that the kidney is free from infection, tumour (cancer) or any other disease, these problems do occur very rarely.

What if I have a suitable live donor who does not have a compatible blood group or tissue type match?

The best option in this situation is to enter the UK Living Kidney Sharing Scheme (UKLKSS). This process, which is coordinated centrally for the UK, finds potential pairs who can exchange kidneys to achieve a suitable match.

An alternative is to remove the antibodies to blood group or tissue type that prevent transplantation by a series of treatments called immunoadsorption. More drugs are needed to suppress the immune system after this treatment and the results are not quite as good as those for routine living donor transplants.

Where is the kidney placed?

The kidney is transplanted into either the left or right side of the abdomen near to your bladder. It is usually connected to the blood vessels supplying the leg. These vessels are large enough to supply blood both to the legs and to the new kidney. There is usually no need to remove your own kidneys even though they are not working.

What are the advantages of a kidney transplant?

The benefits of a successful transplant include:

- Freedom from dialysis
- Freedom from most dietary restrictions
- Freedom from fluid intake restrictions
- Freedom to work without time restrictions
- Freedom to travel and take holidays
- Improved sexual function and fertility
- Improved well-being and ability to enjoy life.

What are the disadvantages of a kidney transplant?

A functioning kidney transplant will almost certainly improve the quality of your life. However, it is important that you also understand the possible disadvantages. This will help you make an informed choice about whether transplantation is suitable for you.

The disadvantages include:

- Risks are involved in having any operation, which can lead to serious complications or even death.
- You need to be available at very short notice; this means that plans must be made to care for children and pets.
- You must tell your employer that you may need to be away from work without notice.
- You will need to spend time in hospital (anything from a few days to several weeks).
- You will have to take tablets every day for as long as the kidney is functioning. This will help to prevent rejection of the kidney. Failure to take these tablets will almost always result in rejection.
- Your body may try to reject the kidney. This can almost always be treated successfully but may mean spending more time in hospital. It can also result in permanent damage to the kidney. Rejection is covered in more detail later in the booklet.
- If the kidney does stop working this would mean you would need to go back onto dialysis treatment as before. Even if this happens, you may still be considered for another transplant in the future should you wish.
- You will need to attend outpatient appointments after leaving hospital. This will be at least twice a week at first to keep a close eye on your new kidney. It should gradually become less frequent over the next few months. However, you will have to attend the clinic regularly for as long as the kidney is functioning.

- You will have a higher risk of infection. The drugs you will take have the side effect of making you more prone to infections, although these are usually easily treated (see Transplant Clinic section)
- You will be at increased risk of cancer particularly of the skin without proper protection because of the need for immunosuppressants
- You may experience a change in body image. Some patients may find they gain weight after a transplant and their face may become more rounded. You will, however, be able to have any dialysis lines removed, such as your PD catheter or haemodialysis line.
- There may be a risk of recurrence of the disease that caused your kidney failure. It is possible for some kidney diseases to recur in the transplanted kidney, particularly some forms of glomerulonephritis.
- You must consider that approximately 5 to 10% of patients, for a variety of reasons, are back on dialysis within a year of their transplant.
- There is a small unquantifiable risk of transmitting an unknown infection or cancer to the kidney recipient from the donor

Pre-transplant clinic

The transplant sister will tell you more about transplantation and talk through any concerns you may have. She is responsible for arranging the tests that are needed before you can go on the transplant waiting list.

There is also a Transplant Information Programme (TIP) which you will be encouraged to attend. This is an educational session held in the evening approximately every three months. Speakers include medical staff, as well as patients talking about their experiences. Invitations are sent to anyone who has expressed an interest in transplantation or donation.
We are also developing electronic resources

For more information, please contact the transplant sisters on **020 8725 0107 / 0745 (direct line) or 07717 158664 or 020 8672 1255 and ask for bleep 6876.**

Screening for the waiting list

There is no age limit in this unit for patients being considered for a kidney transplant. You will be assessed for your general medical fitness to undergo an operation of this kind. If it is found that you do have any problems, you may still be able to have a transplant.
It might mean that you will require further investigations or intervention (e.g. treatments, procedures) prior to going onto the waiting list.

Before you can go on the Active Waiting List you will need the following:

- **Blood tests for**:
  a) **Blood group**
  There are four main blood groups: O, A, B and AB. Groups O and A are the most common in this country. It is important that we find out your blood

group, as not all groups are compatible. If you are offered a deceased donor kidney, you will only be given a kidney from a donor who has either the same blood group or has a compatible group with your own.

b) **Tissue type**

This is a blood test which looks at protein structures called antigens on your cells. These are present on most cells, tissues and organs in the body and are inherited from your parents. Your tissue type is determined by the combination of these antigens present on your cells. The test is now done by looking at the DNA prepared from your blood cells. Your blood samples and the DNA extracted from your cells will be stored in the Tissue Typing Laboratory for the purpose of transplantation. It is unusual for there to be an exact tissue type match between a kidney donor and recipient but it is thought that the more characteristics that match, the greater is the chance of a successful transplant.

c) **Antibodies**

These are produced by your immune system when something that is foreign to you has entered your body, such as a virus or a transplanted organ. Most antibodies are beneficial, help you to fight infection and are not relevant to transplantation. Those which are relevant may be produced:

- during pregnancy
- following a blood transfusion
- from a previous transplant

- linked to infections

High levels of these antibodies in your blood may make it more difficult to find a suitable kidney for you. The levels of these antibodies in your blood may change and are tested every two to three months while you are on the waiting list. We need to ensure that the recipient does not have antibodies which would cross-react with antigens in the donor’s tissue type. If they do then this could result in immediate rejection of the transplanted kidney. A **crossmatch test** is done to ensure this would not happen.

d) **Hepatitis B and C**

These are viruses which cause inflammation of the liver. If you have hepatitis, you may need treatment for this before you can go onto the waiting list. You may also need to go on an antiviral agent for the duration of the transplant after surgery.
Hepatitis may be spread by:

- infected blood
- contaminated needles
- the sexual route
- during childbirth.

e) **Cytomegalovirus (CMV)**

This is a common virus to which more than 50% of people have some immunity.

The virus lies dormant in the body but can be reactivated after a transplant. This is treatable with medication. If you are not immune to the virus, you may be given tablets after your transplant to reduce your risk of catching it.

f) **Human immunodeficiency virus (HIV)**

If you are found to have this virus then you may not be offered a transplant until the virus has been successfully controlled. Transplantation in HIV-infected patients is complex and you will be seen in a dedicated clinic in preparation for the procedure and the aftercare.

g) **Chicken pox virus (VZV)**

We need to check whether you are immune to the disease in case you come into contact with it after your transplant. In the event you are, we will arrange a vaccine with your GP.

h) **Glandular fever virus (EBV)**

Your immunity (your ability to fight infections) to the virus is checked.

- **Chest x-ray**
  To rule out underlying chest problems.
- **Electrocardiogram (ECG)**
  To see how your heart is working whilst you are resting.
- **CT scan with or without contrast**
  This test maybe required see the calcification of the vessels before activating patients on the kidney transplant waiting list to ensure that transplant surgery is possible.

- **Leg Dopplers (Femoral Dopplers)**
  This is an ultrasound of the blood vessels supplying your legs. It may be done if you are diabetic or have any problems with the blood supply to your legs. The transplanted kidney will be joined to the blood vessels in one of your legs and these Dopplers examinations will ensure the blood supply is sufficient to supply your legs and your new kidney.

Patients aged 40 to 60 years or those who have an abnormal ECG, will also have the following:

- **Exercise test**
  To see how your heart works and whether you have any shortness of breath or pain whilst walking on a treadmill at different gradients and speeds. If you are unable to walk on a treadmill, alternative tests will be arranged.
- **Echocardiogram**
  This is an ultrasound of your heart which will show any abnormalities in the heart’s anatomy. It also shows how well the heart valves are working.

Patients over 60 years and those with diabetes or a history of heart problems will also have the following:

- **Dobutamine stress echocardiogram**
  This is another type of ultrasound of the heart which assesses the heart muscle under stress. A drug called dobutamine is used to cause the

heart to beat faster and mimics the effect of exercise on the heart.

Patients with angina will be referred to a cardiologist to decide if any further tests are needed.

COVID-19 vaccination

Unless contraindicated, we highly recommend all renal patients on the transplant waiting list to get vaccinated for COVID-19. The data has suggested that the vaccination significantly reduces COVID-19 related risk of complications and death after renal transplant.
Update vaccinations according to government guidance will also be encouraged post-transplant.
If required, further information can be discussed with you by your clinical team at time of your consultation.

The waiting list

You will be reviewed by a consultant surgeon in the Pre-transplant Assessment Clinic. It is important to remember that if you have any doubts about having a transplant you must say so at this time before your name is put on the waiting list. This is not like a normal waiting list that works on a first-come, first-served basis. The details of everyone who is awaiting a transplant are registered on a national database at NHS Blood and Transplant. The name, age, blood group, tissue type and other relevant information of each person are recorded on a computerised list. When a kidney becomes available, all these factors are assessed and the most suitably matched person will be offered the kidney.

How long will I have to wait?

It is impossible to predict how soon a kidney will become available. It may be days, months or even years. There is an average wait of two to three years for a transplant, but this varies according to your blood group, tissue type and your level of antibodies if any.

We need to have your up-to-date details so we can contact you at any time. It is extremely important that you let the transplant sister know if you:

- change your address
- change your telephone number (including your mobile number)
- will be staying away from home and have alternative contact numbers.
- We also encourage an alternative number such as next of kin is provided

Some patients will need to be temporarily taken off the waiting list. Reasons for this include:

- Infection, such as a chest infection or peritonitis when on peritoneal dialysis
- Other illness or medical problems, such as heart problems
- Travelling abroad

- Personal reasons or change in personal circumstances.

How much notice will I be given when a kidney becomes available?

You will be contacted by telephone when a kidney becomes available. **This may be at any time, day or night.** You will be asked to come to the renal ward as quickly as you can. It may help to have written a list of what you will need to take with you to save time. You do have time to pack and organise yourself, so don't panic. Your partner or a friend can accompany you to the hospital if you wish.

Ideally the kidney should be transplanted within 24 hours of removal from the donor. The sooner it is transplanted, the more quickly it is likely to start working. Please let us know if there is likely to be any delay in you coming to the hospital.

Once you have been telephoned **do not have anything more to eat or drink** as this may delay the start of the operation.

Can I go on holiday when I am on the waiting list?

You can take holidays and travel whilst you are on the transplant waiting list. If you are on holiday in the UK mainland, you can remain on the transplant waiting list. If you are going abroad your name will be suspended from the list until you return home. In any case, discuss it with the transplant sisters before making final holiday plans.

You are responsible for planning how you will get to the hospital quickly if you are called in for a transplant whilst you are on holiday. You will also have to pay for any extra expenses incurred. Because of this some patients prefer to come off the transplant waiting list whilst they are on holiday. You are advised to ensure you have adequate holiday insurance, which will enable you to return early if a transplant becomes available.

If a kidney becomes available, we need to be able to contact you at any time. It is therefore very important that you let the transplant sister know your holiday contact numbers.

The final crossmatch test

When a kidney becomes available a final crossmatch test will usually be done. The stored samples of your blood that have been sent every two to three months to the laboratory are used for this. They are mixed with the cells of the donor to ensure there is no reaction.
This will check that you have not developed any antibodies which could result in your body rejecting the transplant. A **negative crossmatch** test means that the transplant operation can go ahead.

You may be asked to come in for a transplant before we have the result of this final crossmatch test. This is to ensure the transplant operation can take place as soon as possible once the result is known. We aim to keep the length of time that the kidney is stored in ice as short as possible as this increases the chance of a successful transplant.

Occasionally the result will be a **positive crossmatch**. This means that the transplant cannot take place and you will be able to go home. This will obviously be very disappointing for you. Your name will stay on the waiting list until another kidney becomes available for you.

Keeping well before your transplant

It is very important that you keep yourself as healthy as possible before your transplant to increase the chances of success. The following points may help:

- Take a little exercise each day if you are able.
- If you smoke, please stop as this affects recovery from surgery, is a known cause for cancer and also negatively impacts the transplant, The NHS Smokefree helpline can provide advice on 0800 022 4332
- Try to lose weight if you are overweight.
- Have regular dental check-ups to keep your teeth and gums as healthy as possible.
- If you are on dialysis, ensure that you are well dialysed and keeping within the limits of your fluid restriction. Excessive fluid puts extra strain on the heart. If you have too much fluid in your body, you may need further dialysis or fluid removal before the operation can take place.

You should also ensure that your dialysis access lines are kept clean.

- Make sure that you take all your medication as prescribed, including blood pressure tablets, or phosphate binders, such as Calcichew.
- Ensure you eat a healthy diet, within any dietary restrictions for your kidney failure.

Pre-transplant checklist

There is a pre-transplant checklist at the end of the booklet which you may find helpful when you are called in for your transplant.

The Transplant

Arrival on the ward

On arrival one of the nurses will show you to your bed and introduce you to the ward layout. A doctor will carry out a physical examination and will take several blood samples. You will also be asked to have a chest x-ray and an ECG to ensure that you are medically fit for the transplant operation. Very occasionally the transplant must be cancelled because of problems identified by these tests.

If you are receiving dialysis therapy your fluid status (weight) and your blood chemistry levels will be assessed. This will help to decide whether you will need to haemodialyse or continue with your CAPD exchanges. Before going to theatre, patients on CAPD therapy will be asked to drain out the fluid and cap off the line.

We will take the following specimens to check for the presence of infection:

- urine
- swabs from your nose and groin
- specimens from any dialysis lines.

We will give you an enema to avoid the risk of constipation after the operation.

The doctor will ask you to sign a consent form.
You may also be asked if you would be willing to participate in a research trial, which will be explained fully to you at this time.

You will be asked to wear a hospital gown and an identity band bearing your personal details, also to remove false teeth and all jewellery, (wedding rings can be left on provided they are covered with tape).

We will give you medications, including drugs to suppress the immune system, in a high dose before the operation. This helps to prevent the onset of rejection. Some of these are given by mouth and some intravenously (into a vein, usually in your arm).

A nurse will accompany you to the operating theatre.

The operation

You will have a general anaesthetic and will be fully asleep for the operation which lasts about two to three hours.

The transplant kidney is placed in the lower abdomen on either the right or left side at the front. Generally there are three connections required:

1) between your artery and the artery of the transplanted kidney to take the blood to the kidney. In 30% cases there may be more than one artery requiring additional connections.
2) between the veins to remove the cleaned blood from the kidney
3) between the ureter and the bladder to drain the urine.

A small temporary plastic tube called a **stent** is placed inside the ureter (the tube that drains urine from the kidney to the bladder). This prevents it from kinking or blocking after the operation. It will usually be removed around two to four weeks after the operation. If we have used a magnetic stent it is taken out at out-patient clinic by passing a small plastic tube through the water passage; however for non-magnetic stent you will require to go to operation theatre for a small procedure by passing a camera through the water passage.
The latter procedure is mostly performed under local anaesthesia.
If the magnetic stent cannot be removed in clinic then removal can be done similar to the non-magnetic

version. If your kidney has two ureters then two stents will be used and must be removed. You will be specifically informed if this is the case.

Any dialysis lines (such as a haemodialysis line or a peritoneal dialysis catheter) will be left in place. This is in case the kidney does not work straightaway and you need to continue to dialyse. In some cases we may remove your peritoneal dialysis catheter at the time of transplant surgery.

Dual deceased donor kidney transplant operation has the same principles and will be discussed individually with the patients depending on their suitability.

Immediate care following the transplant

From the operating theatre you will be moved into the recovery area until you wake up. You will stay there until your observations, such as your blood pressure, are stable. A nurse from the ward will come to escort you back to the ward.

You will be given a button to press which gives you a dose of a pain killer into the vein in your arm. You will be shown how to use this if you experience any pain or discomfort. This is known as **patient controlled analgesia** (PCA).

You will have several different lines and tubes inserted in theatre to enable the nurses to monitor you closely.

These include:

- a tube or two in veins
- in your arm (drip). This is used to give drugs and intravenous fluids until you can take these by mouth.
- a urinary catheter that drains the urine from your bladder. This enables the nursing staff to monitor the amount of urine you are passing.
- a wound drain to drain any blood that may ooze after the operation.
- a thin tube (catheter) near the wound. This gives local anaesthetic directly into the wound site and this should help to minimise any pain.
- In some circumstance a line in the neck (central venous line) for infusions

Observations including of your blood pressure and urine output will be recorded approximately half hourly at first. As they become more stable, they will be recorded less frequently.

Recovering from the operation

Most patients can start to drink within a few hours of the operation and can eat soon after this.

The day after the transplant you will be encouraged to sit out of bed for a few hours. Then we will help you to walk a short distance the following day. This is important to avoid muscle weakness and other complications, such as chest infections and blood clots in the legs or lungs. The physiotherapist will show you how to do gentle breathing exercises, which will also help to prevent a chest infection.

To avoid constipation after the operation you may be given mild laxatives and suppositories or enemas.

The catheters and drain are usually removed after two days.

We will take frequent blood tests and will examine you regularly to determine how well the kidney is functioning. You will have an ultrasound scan of the transplanted kidney within 24 hours of the operation.

There is a ward round at 8.30am every morning when all transplant patients are seen by a consultant physician and surgeon, along with other key members of the team.

Looking at your blood **creatinine** concentration is one of the main ways we monitor your kidney function. It is a word that you will hear regularly, both on the ward and when you attend the Transplant Clinic. A sudden increase in your creatinine concentration needs to be investigated, normally by an ultrasound scan of the kidney. You may also need to have a kidney biopsy (see next page). This will show why the kidney is not working so well and the appropriate treatment can then be given.

Care of exit sites and dialysis lines should continue as before your operation. Haemodialysis lines should be flushed weekly.

Before you leave hospital, we will inform you about your clinic appointment and your medications.

You will also be seen by a renal dietitian who will advise you on your diet.

Leaving hospital

The length of time in hospital varies from person to person and may be anything from four days to several weeks. An exact time cannot be given as this depends on many factors including:

- The doctors are happy with your blood results
- Your temperature is normal and no infections
- Ensuring no bleeding or large collections
- You are passing urine (or are on dialysis if the kidney has not yet started to work)
- You are generally medically fit to go home
- You have an appropriate support network.

What happens if the kidney does not work straightaway?

Occasionally the new kidney does not start producing urine for several weeks because it is recovering from being stored in ice. This is not anything to worry about and it will usually start to work in its own time. However, it does mean that you may have to start on dialysis or continue to dialyse until the kidney starts to work.

During this period you will not usually need to stay in hospital but will be seen in the Transplant Clinic. You will need to have regular ultrasound and MAG 3 scans to check the blood supply to the new kidney. In some instances a biopsy of the kidney is required each weekly, to ascertain that there is no rejection occurring.

What is a biopsy?

A biopsy is the removal of a tiny piece of kidney which is then examined under a microscope. It is done by passing a special needle through the skin into the kidney tissue using local anaesthetic.

Three months after your transplant a routine biopsy of the transplant is done in patients considered at risk of rejection to enable us to reduce the immunosuppression medications. This is to make sure the kidney tissue remains healthy. It could also help detect other early problems with the kidney, which can then be treated. It will also help us to decide the appropriate drug treatment for you in the long term.

How is it done?

Firstly, we ensure your blood pressure is controlled and blood tests including clotting time are in a safe range.

You are asked to lie on your back. You will have an ultrasound of the transplanted kidney, which shows the doctor the best site for the biopsy. Your skin is numbed with local anaesthetic, a needle on a device (biopsy gun) is inserted and two tiny pieces of kidney are removed. Some patients report a feeling of mild discomfort during or just after this procedure.

There is a risk of bleeding after a biopsy but this is quite rare. Your blood pressure, pulse and the site of the biopsy are checked regularly to ensure this is not happening. To reduce the chance of this occurring, **it is essential that you stay resting on your bed for at least six hours**.

If bleeding does occur the treatment will depend on the amount of blood loss. It can vary from no intervention, to giving a blood transfusion or to a procedure in the x-ray department to stop the bleeding. You may bleed around the kidney or into the urinary tract. Therefore, you must let the nurses know if there is any blood in your urine.

What will it show?

The piece of kidney is sent to the laboratory and the results are normally available the same day. The results will indicate whether rejection is present. They will also show whether there is any other problem in the kidney (such as acute tubular necrosis or drug toxicity).

Acute tubular necrosis (ATN)

Sometimes the biopsy does not show any rejection but shows ‘acute tubular necrosis’ or ‘ATN’. This just means that the kidney is ‘asleep’ and will start to work in its own time.

Drug toxicity
If the concentrations of drugs that suppress your immune system become too high in your blood, these can stop the kidney working properly. Once the drug dose is reduced and these concentrations fall, the kidney should start to work better.

Rejection

A rejection episode means that the body's immune system identifies the 'foreign kidney'. It forms either lymphocytes (a type of white blood cell) or antibodies, which try to attack and destroy the new kidney. It is important that you always let us know if you are unwell as this may be a sign of rejection.

Up to 20% of people will experience an episode of rejection after their transplant. It is most common within the first three months after a transplant and is usually easily treatable with drugs. The earlier it is detected, the easier it is to treat. Rejection can happen at any time, but not every rise in blood creatinine is caused by rejection.

Other factors that increase blood creatinine are:

- Infection
- Dehydration
- High concentrations of the anti-rejection drug (Tacrolimus) in your blood
- High blood sugars

- Some foods
- Some antibiotics or anti-inflammatory drugs
- Flying on an aircraft.

Rejection is treated with high dose intravenous steroids called methylprednisolone. This is given daily for three days through a drip in your arm (normally over one hour) and can be given as an outpatient. After this the dose of your steroid tablets may be increased.

In most cases rejection episodes are treated successfully. Very rarely the rejection cannot be controlled, the kidney may have to be removed and you will have to return to dialysis. Although it is extremely upsetting to lose a kidney through rejection, it does not exclude you from having a successful transplant in the future.

Psychological adjustment to life with a transplant

It is important to remember that the first three to four months after having your transplant tends to be quite an unsettling experience. Many people say that they do not know whether to laugh or to cry as the fear of losing the transplant is always at the back of their mind. However, their confidence grows and they realise that dialysis is no longer part of their normal routine. Most people comment on being truly satisfied with life with a transplant.

Sometimes changes in mood can be related to coping with the changes in your lifestyle and body image as a result of having a kidney transplant. However, they can also be due to the medications you will be taking. These tend to disappear as the medications are reduced.

It is important to include your partner and loved ones in your experiences. This is particularly important if they have been with you through your experiences on dialysis. Talking about both your concerns and theirs can really help in adjusting to your new life. You can also talk to the doctors and nurses, or to the psychologist or young adult worker (for those <30 years) about your feelings.

Transplant Clinic

Transplant Clinic hours are Monday to Friday 8.00am to 4.00pm.

There is **always** somebody who can give you advice over the telephone. Please do not feel embarrassed to telephone or ask questions.

The clinic telephone number is **020 8725 2455**.

If you need advice outside these hours, please contact the renal ward on **020 8725 1080**.

Please always leave a message with your return phone number if you are unable to speak directly to the receptionist.

Clinic visits

Initially you will be asked to attend the clinic at least twice a week. These visits will decrease gradually at the doctor's discretion. Even after your transplant is well established, we will still ask you to attend the clinic at least every three months for regular check-ups. These appointments can take between two to three hours so please ensure you make extra provision for adequate fluid / snacks as sometimes you may need to attend for USS or wait for medications etc, which can take even longer. (If diabetic, please take extra precautions to avoid a hypoglycaemic attack.)

Each time that you attend the clinic the following will be done:

A **blood sample** will be taken to monitor:

- Haemoglobin and white blood cell count
- Blood chemistry including creatinine and liver function
- Tacrolimus concentration (drug to suppress your immune system - see later section about drugs).

Do not take your Tacrolimus in the morning on the day you come to clinic until after you have had a blood test. Please ensure you bring the tacrolimus dose with you to enable this.
The concentration of the drug in your blood needs to be monitored immediately before the dose is due.

A **urine sample** is also required, which is tested for signs of infection and protein.

You will be **weighed** and will have your **blood pressure** taken.

If you are unwell extra investigations including blood tests, scans or x-rays may be carried out.

It is not necessary to see the doctor during each visit unless you are unwell or have any problems. You will see a specialist nurse every visit.

General Information

Infections

The tablets we give you to suppress your immune system (immunosuppressants) will make you more prone to infection. The most common sites for infection are urine, wound, throat and chest.

Important signs and symptoms of these could be:

- Raised temperature 37.5°C (98.4°F) or above
- Red, inflamed or oozing wound site
- Stinging, cloudy or smelly urine or needing to pass urine frequently
- Productive cough (where you cough up phlegm)

You must telephone the clinic immediately if you have any of these problems.

Viruses

Cytomegalovirus (CMV)

You may already have this virus in your body, which may be reactivated due to the drugs you are taking (immunosuppression). The signs are aching, flu-like symptoms and high temperatures in the evenings. This is treatable with an anti-viral drug.

Chicken pox

If you come into contact with chicken pox you must telephone the clinic immediately to see if you are immune and for advice. Transplant patients can get chicken pox much more severely due to the immunosuppression, which can be dangerous. If you are not immune we need to assess the situation to determine the next course of action.

Shingles

If you have had chicken pox, you may contract shingles because of the reactivation of the virus. It usually starts with pain or areas of localised spots. If it is suspected that you have shingles, you will be isolated in a room away from other transplant patients and treated with an anti-viral drug.

We advise all transplant recipients to ensure they are vaccinated with the non-live shingles vaccine (two doses) that can be given to immunosuppressed patients; speak to the renal team or your GP about it.

Polyomavirus (BK)

It is latent or inactive in the kidney and urinary tract of

most adults. It can activate in kidney transplant patients and interfere with kidney function. We aim to check for this in all our patients at three months
Presentation can include flu-like symptoms to impaired transplant function. If suspected, your doctor will discuss it further with you.

Other common ailments

Gout

This is quite common. It presents itself as a painful and swollen area over a joint, usually affecting the hands, elbows, knees or feet. It is treatable with certain drugs, but these must be prescribed by the hospital as some anti-gout tablets can damage the kidney. You will also be advised on dietary triggers.

High blood pressure

Your blood pressure will be taken at every clinic visit.
If it is raised (hypertension) you will be prescribed the appropriate blood pressure tablets. You will also be advised to pay particular attention to adopting a low salt diet. The aim is to lower the blood pressure to less than 135/85 mmHg.

Change in weight

You should inform the clinic if:

- your weight increases by more than 2 kg (4 lbs) in 24 hours
- your ankles become puffy
- you experience shortness of breath

- the amount of urine you are passing decreases significantly
- your weight steadily decreases over a few days
- you feel light headed.

Vomiting and diarrhoea

If you are vomiting and cannot take your tablets or you have diarrhoea, please ring the clinic. These could mean you will not absorb your drugs effectively, putting you more at risk of rejection.

It is very important if you are unwell to ring the clinic immediately for advice. Do not just ignore it.

Alcohol

You are allowed to drink alcohol in moderation after a transplant. Alcohol binges should be avoided. Women should aim to drink less than 14 units per week. Men should drink less than 14 to 21 units in a week. A unit is approximately equivalent to:

- half a pint of beer
- a small glass of wine
- a measure of spirits.

Smoking

We **strongly** advise you to stop smoking after your transplant if you have not done so already (see the section on keeping well before your transplant). Smoking can contribute to reducing the blood supply to your new kidney. This will make it more likely to stop working. It also increases your risk of having a heart attack or a stroke and can lead to cancer.

Driving

You are advised not to drive for four weeks after your transplant operation and until your doctor has agreed it is safe for you to drive. You need to be able to turn to reverse comfortably and carry out an emergency stop. You should also check the wording of your car insurance policy. You may need to inform your insurers that you have had a transplant.

Work

Your fitness to return to work is usually assessed two to three months after your operation. Medical certificates are available from the doctors in the clinic.

Exercise

You should avoid heavy lifting for a few weeks after your transplant (remember this includes small children and pets). After this you can resume normal activities. There are few restrictions on sport, except for boxing and rugby. These full contact sports should be avoided as they could result in damage to the transplanted kidney.

Sex

Sexual activity may be resumed whenever you feel ready. Following transplantation you will probably find that your interest in sex returns very quickly. It is important to remember that fertility also returns, so do not take any risks. We strongly advise women not to become pregnant within the first year after transplant.

Barrier methods of contraception are the best to use for transplant patients (like the sheath or diaphragm).
The coil should not be used due to the risk of infection.
The oral contraceptive pill may be suitable for some women but you should discuss this with the clinic doctors as the doses of your other drugs may need to change.

Planning a family - Women

We recommend avoiding pregnancy in the first year after the transplant. If you are considering pregnancy, please discuss it with the doctors in the clinic and we will arrange for pre-pregnancy counselling with the specialist team. You must withhold Mycophenolate at least twelve weeks before conceiving. The doctors will change your Mycophenolate to a safer alternative.

Studies have shown that Mycophenolate can cause increased risk of miscarriage and pregnancy loss during the first trimester, structural deformities and birth defects in the baby.

We recommend you use two effective methods of contraception (for example the contraceptive pill and barrier methods such as condoms) during treatment with Mycophenolate and for twelve weeks after stopping treatment.

Planning a family – Men

Men wishing to start a family after a transplant should discuss with the transplant team, as their medication may need to be changed. Each situation needs to be considered on an individual basis, looking at potential risks / benefits of continuing or switching medications.

Operation to remove ureteric stent and dialysis lines

Approximately two to four weeks after having your kidney transplant you will have your stent removed. This is usually done in the clinic or as a day case under a local anaesthetic depending on the type.

If you also have a PD catheter, this will be taken out at the same time as the stent. You will need to stay in hospital for this operation, which is usually done under a general anaesthetic.

If you have a haemodialysis line, this will usually be removed by the renal doctors as soon as your kidney is working well.

Dentist

You are advised to visit the dentist regularly to ensure your teeth and gums stay healthy. Bacteria that can cause problems with your heart can get into the bloodstream via a decayed tooth. Please inform the clinic prior to any dental appointment as some patients may need antibiotic cover.

Holidays

Please check with the clinic before booking any holidays. You may need specific information and vaccinations depending upon your destination. You should also take a letter from the hospital on holiday with you, giving details of your medication.

The following are travel tips for all transplant patients:

- UK travel. 0 to 6 months post-transplant, European Travel 6 to12 months post-transplant and worldwide travel after one year.
- If you are flying, drink bottled water, take regular walks along the plane and do regular leg exercises.
- Take enough medication to last until you return plus one week. You may not be able to obtain the same anti-rejection medications in other countries.
- Carry your medications in hand luggage, to make sure you always have access to them.
- It is suitable to take a letter with you explaining why you need your medication along with a summary of your medical condition and history in case there are any queries at customs. Ideally, you should ask your consultant if you are well enough to travel.
- Make sure that you have adequate insurance and the insurance company is aware of any existing conditions.

- Make sure that you keep well hydrated in hot climates. Never drink untreated water.
  Only drink bottled water.
- Never have salads, ice cream or ice. Special care should be taken when buying food from the street sellers due to risk of food poisoning.
- It is also important to be careful with the hot sun. Please see the section on skin care for safe sun advice
- Please take the telephone number of the transplant team in case you need to ring for advice.

Vaccines

Always check with the clinic before having any type of vaccine. You should **never** have a ‘live’ vaccine, (including measles, mumps, rubella, tuberculosis (BCG), and polio in the oral form.)

Transplanted patients should avoid contact with babies peri-receiving ‘live’ vaccines. This is because the live organisms can be transmitted in the baby’s stool when the nappy is changed. Where possible an inactivated form of the vaccine can be given or contact should be avoided the day of and for 24 to 48 hours after or.

We recommend that you have the influenza vaccine (‘flu jab’) on a yearly basis, the pneumonia vaccine every five years, the COVID-19 vaccination according to government guidance. These are not live vaccines.
You should arrange this through your GP.

Prescriptions

You are not automatically entitled to free medicines / prescriptions after a transplant. If you are on a low income or have other medical conditions, you may be entitled to free prescriptions.

If you must pay, a yearly pre-paid certificate is the cheapest way and covers all medications for one year. Application forms are available at Post Offices and can also be obtained online via the NHS Business Services Authority at: Buy an NHS Prescription Prepayment Certificate (nhsbsa.nhs.uk)

Possible changes in state benefits

Having a transplant may affect your finances particularly if you have been claiming benefits due to ill health. It is important to inform the Benefits Agency when you have had your transplant. Remember that any benefits paid to which you are not entitled will have to be returned.

If sickness certificates can no longer be issued, then benefits such as Incapacity Benefit will be affected. Benefits that have been paid for help needed, (such as with dialysis) are likely to stop after a transplant. Benefits are also affected by hospital admissions.

Attendance Allowance or the care component of Disability Living Allowance, will normally stop four weeks after a transplant. However, there may be other reasons for claiming these allowances.

If you feel that allowances have been stopped unfairly, you have the right to appeal against the decision. A social worker or the Citizen's Advice Bureau (CAB) can help you with an appeal or give you advice on the benefits to which you are entitled.

Hospital transport and parking

Hospital transport is only available for those who medically need it. If you are on low income benefits you may be entitled to free fares on public transport. Ask the staff in clinic or see the leaflet "How do I get to and from St George's Hospital?" for more information. All renal patients are entitled to free parking on the St George's Hospital site. You will need to have a photo identity card to get this. Please ask the staff in clinic for details about how to obtain this.

Diabetic transplant patients

Your blood sugars may be unstable at first after your transplant due to the new drugs you are taking. If on high dose steroids these can increase your appetite. You may need to increase the amount of insulin you take to control your blood sugar. Extra care needs to be taken over the control of:

- blood sugars
- diet
- weight.

As a transplant patient your diabetic control needs to be very good. Diabetic changes in the long term can put you at risk of losing your transplanted kidney.

As a diabetic, if you have any problems or infections of your hands or feet, please contact the clinic immediately. You may need antibiotic cover.

You should continue to attend your Diabetic Clinic and Eye Clinic appointments as normal.

Skin problems and how to avoid them

Environmental climate changes affect everybody but particularly those people whose immune system is suppressed. This includes transplant patients due to the drugs they are taking. The reduced immune response in the skin makes it more susceptible to the effects of sunburn. It also reduces the production of cells that recognise and destroy abnormal cells. This in the long term can result in the development of skin problems including:

- skin cancer
- fungal infections
- warts
- rodent ulcers
- a change in the appearance of moles.

The sun **will** cause skin changes, so you should avoid exposing your skin to it. You need to be careful even on cloudy days and you should use a sun block factor (SPF) 50+ on a daily basis; other skin protection includes keeping covered and wearing hats.

Check your skin regularly and if you notice any changes tell the clinic staff immediately. We aim for 12 to 24 monthly skin reviews for our transplant recipients. If you develop any skin problems, we will refer you to a dermatologist.

Drugs and their side effects

The function of the body's immune system is to protect the body against foreign invaders. Unfortunately, a transplanted kidney is recognised as foreign tissue. Therefore, the immune system activates itself to produce lymphocytes and antibodies to destroy it.
This is the basis of rejection of a transplant.

Tissue typing is used to match the donor to the recipient as closely as possible. However, drug therapy is also essential to prevent the body from rejecting the transplanted kidney. The drugs used are known as immunosuppressants (anti-rejection drugs). They act by damping down the body's immune system.

You must avoid any herbal remedies, as their interactions with transplant medication are unknown. Some foods and seasoning also interact such as grapefruit, turmeric and ginger. You should also check if it is safe to take any new medications including antibiotics not prescribed by the renal teams as some may interact with immunosuppressants and raise your creatinine

What do I do if I forget to take a dose of my immunosuppressants?

If you forget to take a dose of your immunosuppressants, take another as soon as you remember. Never take a double dose to catch up. If it is almost time for your next dose, miss out the forgotten dose and continue as normal. This must be an exceptional circumstance. In the event you are struggling to remember to take your medications please contact the clinic. Make sure you telephone the clinic to let us know that this has happened.

There are several important immunosuppressants which may be used. These include:

Tacrolimus (also known as **Adoport**)
Tacrolimus is used to suppress the immune system and prevent it from rejecting the transplanted kidney.
The dose is worked out according to your body weight and will be adjusted depending on the drug levels in the blood.

Tacrolimus should be taken at approximately 10.00am and 10.00pm on an empty stomach. This means that you should not eat anything for about two hours before or one hour after you take it.

Please put diagram in with times

On the day that you attend the Transplant Clinic you **should not take your morning dose (you can take your other morning medications)** but bring it with you to take after you have had a blood test. This is to ensure that the blood sample is taken approximately 12 hours after the last dose. This allows the drug concentration in the blood to be accurately measured.

Tacrolimus **should not be taken with grapefruit or grapefruit juice** as this affects its absorption.

There are now several different versions of tacrolimus so it will be prescribed for you by its trade name, for example Adoport, Prograf or Advagraf. **It is very important that you continue with the same brand unless advised to change by the doctor or nurse in the transplant clinic**

Side effects of Tacrolimus

There are several possible side effects that you may notice. These can occur particularly in the early weeks after the transplant when the doses are higher. Many patients do not experience any side effects at all.

Side effects include:

- Tremor or pins and needles in the hands or feet.
- Tacrolimus may affect the breakdown of glucose by the body. This makes your blood sugar too high and, in some patients, causes permanent diabetes. If this occurs you may need to have tablets or insulin injections to control the blood sugar.
- Raised blood cholesterol.
- Poor appetite or feeling sick.

- Constipation or trapped wind.
- Headache.
- Insomnia (difficulty in sleeping), vivid dreams, nightmares or very rarely hallucinations.
- Hair loss.

It is important to tell your doctor of any side effects or unusual symptoms that you are experiencing. These may indicate that your blood concentrations of Tacrolimus are too high and the dose may need to be changed.

Mycophenolate Mofetil (also known as **MMF**)
This is also used to suppress the immune system to prevent it rejecting the transplanted kidney. It should be taken at 8.00am and 8.00pm or 10.00am and 10.00pm hours (i.e. twice a day, 12 hours apart). Once started it should be taken at the same time thereafter.
It is important that you or your partner **do not become pregnant** whilst taking mycophenolate. Speak to your transplant doctor for contraception advice or if you are planning to become pregnant. They will consider switching you to an alternative medication.

Side effects of MMF

Many patients will not experience any side effects from their drugs. If you do experience any, please do not stop taking your MMF but telephone us or tell us when you come to clinic.

- Diarrhoea
- Abdominal pain

- Anaemia.

Prednisolone

This is a steroid that is used in combination with Tacrolimus and Mycophenolate to reduce the risk of rejection of the kidney. It is essential that you **do not stop taking your Prednisolone suddenly** unless advised to do so or you will become ill.

Always tell your doctor or dentist that you are on Prednisolone, particularly if you are unwell. Always remember to carry your steroid card with you.

Prednisolone should always be taken with food or a glass of milk to prevent it from irritating the stomach and should be taken once a day in the morning. Some people will take this for one week after the transplant but others will need to take it for longer.
We recommend that you do not take the EC (enteric or sugar coated) form of the drug. This is because the absorption of this form from the stomach can sometimes vary.

Side effects of Prednisolone

The risk of any side effects decreases as the dose of Prednisolone is decreased over the first few months after the transplant.

Side effects include:

- Irritation of the stomach - remember to take Prednisolone with or after food. You will be given a drug to block the production of acid in the stomach to reduce this side effect.

- Increased appetite - follow dietary instructions to avoid putting on weight.
- Blood vessels may become more fragile and bruising or bleeding is more likely. Report any unexpected bruising or bleeding, unusually dark urine or black tarry stools.
- Occasionally Prednisolone may affect the breakdown of glucose by your body, making your blood sugar too high. If this occurs, you may need to take tablets or insulin injections to control this. You will be given advice in clinic about this.

Basiliximab

This is given intravenously (into a vein, usually in your arm), in two doses after the transplant. The first is given during the operation and the second dose four days later. It helps to reduce the risk of rejection of the transplanted kidney.

Other anti-rejection drugs that may be used

The following drugs may also be used. If they are prescribed for you, the doctor will discuss the dosage and any possible side effects with you.

Ciclosporin
Azathioprine
Sirolimus

Changes in immunosuppressants at three months

The risk of rejection is greatest in the first three months after your transplant. After this most patients need less immunosuppression. You may then be able to stop one of the three drugs (Tacrolimus, Mycophenolate, Prednisolone). The doctors will look at several factors to decide which two drugs you should continue to take. These include looking at the result of a biopsy of the transplanted kidney (see section on What is a Biopsy?).

Other drugs that may be prescribed after a transplant

- **Cotrimoxazole**
  To help prevent certain chest infections. It is usually stopped after three months.

- **Omeprazole**
  This protects the stomach from possible irritation or ulceration. It will usually be stopped after three months. You may be prescribed **Famotidine** or **Lansoprazole** instead which have the same effect.
- **Valganciclovir**
  To help prevent viral infection caused by cytomegalovirus in those at high risk. This is usually stopped after six months.
- **Entecavir**
  To help prevent reactivation of Hepatitis B in patient's with previous exposure who are deemed at high risk. It is taken for the life of the transplant

- **Isoniazid and Pyridoxine**
  Patients with previous exposure or originally from areas of high risk for Tuberculosis may be asked to use to prevent the flare of an infection. Usually stopped after six months

It is essential that you take your drugs to stop your new kidney from being rejected. Rejection can happen at any time and if you stop your drugs, **it is certain to happen**.

You will need to continue your drugs for as long as the transplant is functioning. You should not stop or take any new tablets, unless the clinic doctor authorises this.

Please bring all your tablets with you on each visit to the clinic. This will save any confusion as some drugs dispensed by outside pharmacies may differ from tablets given to you at the hospital.

Remember to get a new prescription for your tablets from the doctor at least a week before your tablets run out.

Both the doctors and nurses will be happy to discuss any queries that you have about your own treatment.

Research studies

The results of transplantation are good but there are still several possible associated problems. We are constantly looking for solutions to these and at ways to improve the results still further. You may be invited to participate in a research study. Information about the study will be given to you either before you come in for or at the time of your admission for a transplant.

This may be either a study of a new drug or other forms of treatment. These studies have all been through a rigorous approval process. They also always have the full support of the transplant team who consider them to be safe. Participation in these studies is entirely voluntary. You will be given written and verbal information about the studies. If you decide not to take part, we will support your decision.

Diet

Before Transplantation

It is important to follow the dietary guidelines given to you by the renal dietician. This will ensure you are as healthy as possible before your transplant operation.

After Transplantation

After a successful kidney transplant there are fewer dietary restrictions to follow and you may find that your appetite increases. However, at times your blood results may be abnormal and you may need to follow dietary restrictions. Otherwise, you should follow a healthy eating plan. It is important to try to keep the levels of blood cholesterol as near to normal as possible and to prevent excessive weight gain.

The basic principle of such a plan includes:

- Enjoy your food
- Eat a variety of foods

- Eat plenty of food rich in starch and fibre
- Eat plenty of fruit and vegetables
- Don’t eat too many fatty foods
- Don’t have too many sugary foods and salt added to foods
- If you drink alcohol, drink in moderation
- Eat the right amount to maintain a healthy weight.

Grapefruit (the fruit and juice) can affect your medications and **should therefore be avoided** in transplant patients.

As your immune system is affected by your tablets, it is important to make sure your food is cooked and served safely.

After your transplant the dietitian will review your diet and provide more detailed information. You will be advised about eating a healthy diet and food safety.

Commonly used terms

Arteriogram or Angiogram

The examination of an artery, for example the artery that supplies the kidney. It involves passing a fine catheter into an artery, usually in the groin, under local anaesthetic. An opaque dye is injected through this into the bloodstream. X-rays are then taken which show the blood supply to the kidney and highlight any blockages or narrowing. This is done in the x-ray department. You will need to stay in bed for between 6 and 24 hours afterwards, depending on results of the test, to reduce the risk of bleeding.

Acute Tubular Necrosis (ATN)
When a biopsy shows no sign of rejection but the kidney appears to be ‘asleep’. The kidney will ‘wake up’ and start to function in its own time.

Antibodies
These are produced by your own body when something that is foreign to you has entered your body, such as a virus. Most antibodies are beneficial and help your body fight infection. Certain antibodies are relevant in transplantation and, if present in high levels, can make it more difficult to transplant successfully.

Biopsy
The removal of a tiny piece of tissue from the kidney by inserting a needle through the skin. This is then examined under a microscope. By looking directly at the kidney’s cells, problems with the kidney can usually be identified. Any treatment needed can then be determined.

Creatinine
A substance produced by muscles that is excreted (removed) by the kidneys. It is measured by a blood test and gives an indication of kidney function.

Crossmatch test
This is a blood test done immediately before a transplant. It ensures there the recipient’s blood does not contain antibodies against the donor’s cells, which could result in failure of the transplant.

Cytomegalovirus (CMV)
This virus may be present in your body without causing any symptoms. However, when your immune system is suppressed by the drugs after a transplant, the virus may become active again and cause a severe flu-like illness. This is prevented by the drug Valganciclovir, which can also be used for treatment.

DNA (Deoxyribonucleic acid)
This is a nucleic acid which contains the genetic information stored in the cells of the body. Apart from identical twins, each person's genetic identity is unique to them.

Doppler / Duplex
Both are types of specialised ultrasound scans usually performed in the x-ray department. They show the speed of blood flow within the kidney and can demonstrate any deterioration in the blood supply.

Echocardiogram
An ultrasound of the heart.

Electrocardiogram (ECG)
Shows the electrical functioning of the heart muscle. Leads are attached to the wrists, ankles and chest and are connected to a machine which produces a tracing, giving a picture of the condition of the heart.

Haemoglobin
A substance in the red blood cells responsible for the transport of oxygen around the body. It is measured by a blood test. The level is often low in patients with kidney failure or in those who have bled. These patients are then said to be ‘anaemic’.

Hepatitis B and C virus
These viruses cause inflammation of the liver.

Herpes
Commonly known as cold sores if present around the mouth or nasal area. They may also be present around the genital area. It is treatable with a drug called Acyclovir .

Human Immunodeficiency Virus (HIV)
This virus affects the immune system. This reduces protection from infection and cancers. It is the virus that causes AIDS.

Intravenous
This means into the vein, such as a drug that is given into the vein.

Lymphocyte
A type of white blood cell

MAG 3 scan
A type of scan done after a transplant to look at the blood supply to the kidney. It involves the injection of a very mildly radioactive substance. This is taken up by

the kidney, which is then scanned to ensure it is receiving a good blood supply. There is no risk to your health from this small dose of radiation.

Midstream Specimen of Urine (MSU)
A urine sample which is sent to the laboratory and examined for infection.

Rejection
The body's immune system identifies the transplanted kidney as foreign tissue. It then forms lymphocytes and antibodies to try to attack and destroy it. It is diagnosed by performing a kidney biopsy and treated with drugs.

Skin cancer
A tumour or malignant growth of skin cells.

Ultrasound
A scan using sound waves to show the anatomy (the make up) of the kidney or other organ. The size and shape of the kidney can be measured. It can also be used to diagnose abnormalities, such as kidney stones or obstruction of the urine flow. It is a painless scan performed by running a probe over the skin.

Urinary catheter
A narrow flexible tube introduced into the bladder to drain urine.

Organ donation

Patients with renal failure generally do not realise that they too can be tissue and organ donors. After your death you can donate:

- corneas
- heart valves
- skin
- trachea
- bone.

If you wish to donate your tissues and organs after your death you should discuss it with your family so that they are aware of your wishes.

By registering on the NHS Organ Donor Register you may be giving somebody the same opportunity that you are hoping to receive. If you have any questions about this, do not hesitate to ask.

You can join the NHS Organ Donor Register by:
Phone: 0300 123 23 23
Online: www.organdonation.nhs.uk

Further information

Kidney Care UK:
https://kidneycareuk.org

St George’s Kidney Patient Association
https://sgkpa,org,uk

National Kidney Federation:
www.kidney.org.uk

St George’s Kidney Patients’ Association

Who are we?

We are an association for the renal patients of St George's Hospital. We provide a link between ourselves and the doctors, nurses and managers. Through this link we can influence decisions made on our behalf.

What does the SGKPA do?

- We buy items to increase the comfort of patients including dialysis chairs, air conditioners and ice-making machines.
- We furnished the day room and relatives’ room in Buckland Ward (previous Renal Ward).
- We have also funded medical equipment including equipment for laparoscopic surgery and for Doppler scans.
- We organise fundraising social events including concerts and quiz nights.
- We work closely with staff, making suggestions, taking up complaints and improving communications.
- We take part in discussions on future policy and plans with the various Boards of the Trust and the NHS, both inside and outside the hospital.

Contact us at:
St George's Kidney Patients Association,
St George's University Hospitals NHS Foundation Trust
Blackshaw Road
London SW17 0QT

Please ask the renal staff for contact phone numbers or visit our website at: www.sgkpa.org.uk

Pre-Transplant Checklist

You might find it useful to tick ☑ the boxes below:

☐ Ensure the transplant sister has your correct address and telephone number. Always inform the transplant sister if you are staying away from home overnight or longer.

☐ Give other contact numbers of friends, relatives and your work or anyone who can help us to contact you when a kidney becomes available.

☐ Tell your employer that you may have to take time off work without notice. This can sometimes be as much as several months.

☐ Arrange for someone to be on stand-by to look after your children and pets.

☐ If you cannot hear the telephone at night, consider installing one in your bedroom or having a louder bell fitted.

☐ Write a list of things to pack for your admission to hospital. This will help you to get ready quickly when you are contacted.

When you have been called to come in for your transplant:

- Prepare a bag with:
    - Nightwear
    - Dressing gown
    - Slippers
    - Toiletries
    - Clothes
    - Other personal items such as reading material
    - The tablets you are taking or a list of the tablets and their dosages

- **Do not eat or drink anything more** until we know for what time your operation is planned.
- Remember that the decision whether the transplant can take place depends on the result of the final crossmatch. This result may not be known until after you get to the hospital.

Useful Telephone Numbers

Transplant Clinic	020 8725 2455
Transplant Clinic Secretary	020 8725 2705
Transplant Sisters	020 8725 0107 / 0305 / 0745
Transplant Sister Mobile	07717 158664 or 020 8672 1255 and ask for bleep 6876 or 7585
Transplant Lead Nurse	020 8725 0117 or 020 8672 1255 and ask for bleep 7127

Renal Registrar	020 8672 1255 Ask operator to bleep Renal Registrar on call
Renal Senior House Officer	020 8672 1255 Ask operator to bleep Renal SHO on call
Renal Ward	020 8725 1080 / 0062
CAPD	020 8725 3406
Haemodialysis	020 8725 0336
Renal Psychologist	07787 659510
Transport booking	020 8725 0808

St George's University Hospitals NHS Foundation Trust
Blackshaw Road
Tooting
London
SW17 0QT

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.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.

The Walk-in and Advisory telephone services are closed on Wednesdays.
Please contact PALS in advance to check if there are any changes to opening times.

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

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

NHS UK

The NHS 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

This has been endorsed by the Patient Information Group

PInG

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