

The Oxford Kidney Unit

# Access for haemodialysis

**Part 1** – Preparing for dialysis and  
forming your new dialysis fistula



This leaflet will provide you with information about your fistula operation.

## What is haemodialysis?

Haemodialysis is a process which involves removing waste products and excess fluid from your body when your kidneys aren't working properly. People on haemodialysis usually have this in hospital for 4 hours, 3 times a week.

Blood is pumped slowly and gradually from the body, cleaned via a filter which is attached to a machine, and then returned. The blood is removed and returned through a fistula formed in your arm or a tube in your neck.

## What are the options?

One of the alternatives to having haemodialysis is 'Peritoneal Dialysis' (PD). This is when a soft plastic tube is placed in your abdomen, via a surgical procedure. This area is also known as the peritoneal cavity or 'tummy'. The peritoneum (inner lining of your abdomen) acts as a filter. Your abdomen is then filled with sterile dialysis fluid. This can be done manually or via a machine.

Toxins in your blood filter out through the peritoneum into the dialysis fluid, which is then emptied out. This process needs to be repeated approximately every 6 hours.

Once you have your PD catheter inserted, you should be able to use this after a couple of weeks. If you would like to know more information about PD and what is involved, please contact the PD team on 01865 225 368.

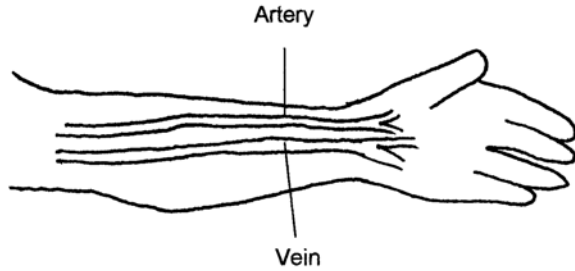
## What is a fistula?

An arterio-venous (AV) fistula is created by having a small operation. This involves joining your artery to your vein, either at the level of your wrist or at your elbow. This is known as a 'native' fistula.

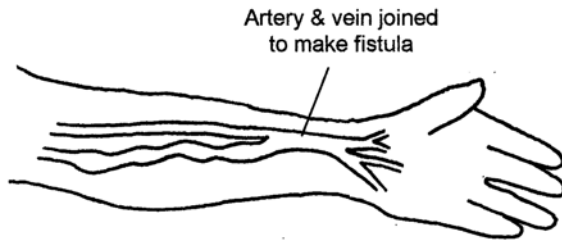
When we join your vein to your artery, you will have an increased (arterial) blood flow through the vein, which over time makes it become thicker and stronger. This allows dialysis needles to be inserted regularly and makes it easier to transfer your blood into the dialysis machine and back again.

The operation to create your AV fistula is usually done before you need to start haemodialysis. This allows your new fistula to develop (mature) well enough to allow the dialysis needles to be inserted. Your fistula should take between 6-8 weeks to develop.

**1. Forearm before access surgery**



**2. Forearm after surgery**



**3. Fistula in use 6 weeks after surgery**

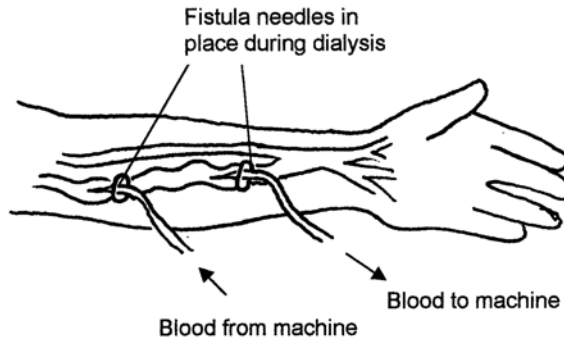


Image © WKPA

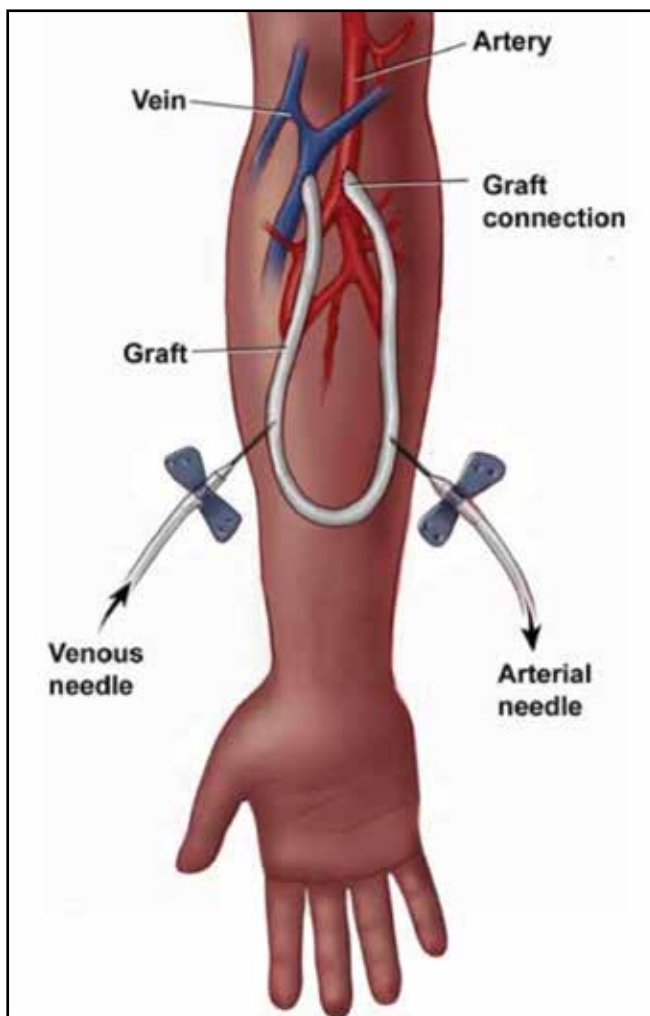
<http://www.wkpa.org.uk/Kidney%20Patients%20Library/Section%205/Having%20your%20fistula%20formed.html>

## What is a graft?

Approximately 83% of people (83 in 100) on haemodialysis in the Oxford Kidney Unit have haemodialysis via a fistula. A fistula is known as the 'gold standard' for haemodialysis, it reduces the risk of getting an infection and it usually lasts a long time (this could be many years). However, for some people, creating a 'native' fistula (using your own veins) may not be an option, and you may need to have a 'graft' instead. This may be because you have small veins and a native fistula may not develop well enough to allow for regular needling. In this situation, your vein and artery will be connected together by a graft, which is placed under your skin.

A graft is a synthetic material (see picture on page 7). The dialysis needles can be inserted into the graft in exactly the same way as you would insert needles into a fistula.

There are different types of grafts that can be used. These can be inserted in the forearm, upper arm and the legs. Your surgeon will discuss with you the most appropriate place to insert your graft and why.



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## How quickly can my graft be used?

Grafts are used in exactly the same way as a fistula but, because they do not need to develop as a fistula does, they can be needed sooner; usually after two weeks. Sometimes we will place a graft called an 'instant needling graft'. This type of graft can be needed within 24-48 hours.

## When will my haemodialysis access be created?

When you are nearing haemodialysis your Kidney doctor will refer you to the dialysis access clinic, where you will meet a Vascular Access Consultant Surgeon, Vascular Access Nurse and a vascular scientist. They will discuss your dialysis access options with you and have a look at the veins in your arm. They will also carry out an ultrasound scan of the veins in your arms, to make sure we choose the best place to create a fistula. This involves having a cold gel on your arm, over which we roll a handheld probe.

Sometimes the veins look very small on the ultrasound machine, so we may need to send you for a further test. This test is called a venogram and is performed in the radiology department at the Churchill hospital.

A venogram involves a needle being placed in a vein in the back of your hand. A small amount of dye is pushed through the needle, whilst the radiographer takes some pictures using X-rays. The dye will help to show up your veins on the X-ray pictures.

These pictures will then be discussed with your surgeon and they will decide where to create your dialysis access. If you need to have one of these tests, an appointment will be sent to you in the post.

During your access clinic consultation you will be given the opportunity to ask any questions you may have. At this appointment, you may be given a date for your operation. If we do not give you a date, then a letter will be sent to you in the post.



## What can I expect on the day of my surgery?

You will need to come to the Day Surgery Unit at the Churchill Hospital. This will be either at 7.30am, if your operation is in the morning, or at 11.30am if your operation is in the afternoon.

Unless you've been told otherwise, you will be having your surgery under a local anaesthetic, which will make your skin numb. This means you will be awake throughout the operation. The operation usually takes around 1 hour to an hour and a half and you should be able to go home the same day.

You may need to have sedation to make you feel more relaxed during the operation. Your surgeon will discuss this with you.

If you are having your surgery under a general anaesthetic (when you will be completely asleep) or a regional block (to numb your arm), then you will have a pre-operative assessment approximately two weeks before your operation. At your pre-operative assessment, an Advanced Nurse Practitioner will explain what will happen and make sure you are fit enough to have the operation. If you are taking medication such as warfarin or clopidogrel, please contact the number on your appointment letter.

## After your fistula is created

Once you have had your fistula made, you will have a small dressing over the wound. You will be shown how to look after your new fistula by one of the nurses on the Day Surgery Unit, so that you know what to do at home.

The nurses will show you how to use a stethoscope, to listen to the blood flowing through your fistula.

- When the stethoscope is placed gently onto the small dressing you will be able to hear a 'whooshing' sound.
- If you place your fingers on top of the dressing, you should be able to feel a 'buzzing'. Both the buzzing and the whooshing are normal and this means that your fistula is working.

You may be given a 'squeazy ball' to help your new fistula to develop; squeeze and release this in your hand once a day for about 10-15 minutes. Don't worry if you do not receive a 'squeazy ball', a rolled up pair of socks or ball of wool will do the same job.

# What can I expect immediately after my surgery?

	<b>Day surgery using local anaesthetic</b>	<b>General anaesthetic</b>
Wound care	You shouldn't have any bleeding from the dressing (see page 13 for more information). There are no stitches to be removed, as the wound is sealed with dissolvable stitches.	You may have a larger dressing on your arm, which may require changing before you leave hospital.  You are likely to have stitches or staples to close the wound. These usually need removing 10-14 days after your operation. Your nurse will let you know where this will happen, before you leave the hospital.
Bathing instructions	Please keep wound dry for 5 days.	Please keep the wound dry until the stitches or staples have been removed.
Pain control	Paracetamol as directed on the packet.	You are likely to have a larger cut, so you may need stronger pain relief. Please contact us if your pain is getting worse.
Driving	We would advise you not to drive on the day of your operation, as you may have some pain. You can resume normal activities as soon as you feel well enough.  If you have had sedation you must not drive for 48 hours. Please make sure you have someone who can pick you up, or that we have arranged transport for you.	You must not drive for 48 hours after your surgery. If your arm is painful you may wish to leave it a little longer before driving. You must be able to safely perform an emergency stop.

If you take a blood thinning medication (such as aspirin, clopidogrel or warfarin) and we had asked you to stop it before surgery, your nurse will tell you when to restart it before you leave the hospital. If you are on warfarin, please make sure you restart it at your usual dose. If you're not sure what this is then please ask before you leave the hospital.

## What can I expect in the days following my surgery?

You may find that you have some arm or hand swelling (your forearm, upper arm or over your knuckles). We would advise that you raise your arm above chest level, to help reduce the swelling. A small amount of swelling is completely normal and should go down within a few days. If your swelling continues for longer than a few days, or is getting worse, then please contact the Vascular Access team or Wytham ward. The contact details are at the back of this leaflet.

Do not worry if you develop an egg shaped swelling at the level of your elbow on the inside of your arm, but please contact us to tell us and we will advise you on what to do. The egg shape is usually a collection of fluid. It is also normal to have slight pins and needles or numbness in your thumb and first finger; this should improve within a few weeks following your operation. If it doesn't improve, or gets worse and you're concerned, please contact us.

## Signs to look out for

It's important to seek help immediately if you experience any of the following:

- **Bleeding** – if you have any bleeding from your fistula, please call us for advice.
- **Excessive bleeding** – if you have applied more than two dressings and blood continues to seep through from your new fistula, this is not normal. Please dial 999 to be taken to your local Accident and Emergency department.
- **Redness and/or hot to touch or weeping wound** – you may have an infection requiring antibiotics. Please contact either the Vascular Access team or your pre-dialysis nurse.
- **Cold (blue) hand** – if your hand is cold, changes colour, or you lose feeling, please contact the Vascular Access team or Wytham ward (outside of hours) immediately.

## What will happen next?

It's important that you check your fistula every day, to make sure it is still working (buzzing when you touch it and listening with the stethoscope). If you can't feel or hear anything, please contact either your pre-dialysis nurse, or one of the Vascular Access nurses as soon as possible.

At two and six weeks after the date of your operation, your pre-dialysis nurse (or dialysis nurse) will contact you to arrange to have your fistula checked. After this time you will be seen regularly by your Kidney doctor and/or your pre-dialysis nurse, but it's important to keep checking your fistula between these appointments. We recommend that you check your fistula is working every day.

For information about starting haemodialysis and using your fistula or graft, please refer to leaflet no. 2 in this series, called 'Starting dialysis and looking after your new fistula'.

If you have any questions or concerns about anything in this leaflet, please contact us.

## Useful contact numbers

### **Vascular Access Nurses**

01865 225 910 or 01865 225 373  
(Monday to Friday, 8.00am to 5.00pm)

### **Main Haemodialysis Unit**

01865 225 807  
(Monday to Saturday, 7.30am to 7.00pm)

### **Tarver Haemodialysis Unit**

01865 225 487  
(Monday to Saturday, 7.30am to 7.00pm)

### **Renal Ward**

01865 225 780 or 01865 225 790  
(24 hours a day)

### **Wytham Ward**

01865 235 010 or 01865 235 112  
(24 hours a day)

### **Oxford Kidney Unit website**

[www.ouh.nhs.uk/oku/](http://www.ouh.nhs.uk/oku/)

If you have a specific requirement, need an interpreter, a document in Easy Read, another language, large print, Braille or audio version, please call **01865 221 473** or email **[PALS@ouh.nhs.uk](mailto:PALS@ouh.nhs.uk)**

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