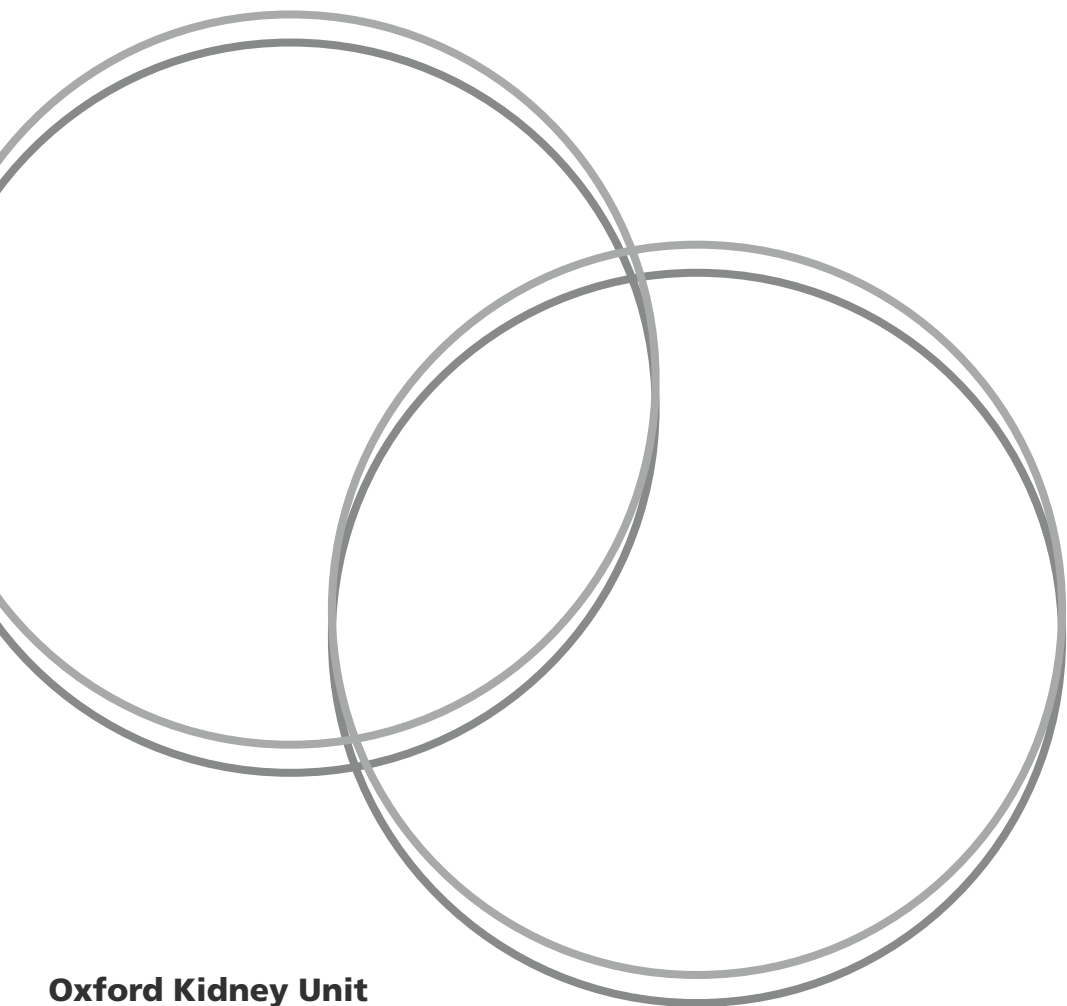




Oxford University Hospitals  
NHS Foundation Trust

# HeRO Graft

**Information for patients  
with Chronic Kidney  
Disease (CKD)**



**Oxford Kidney Unit**



## **What is a HeRO graft?**

The HeRO (Haemodialysis Reliable Outflow) graft is a specially made synthetic tube that is placed inside your body, under the skin. The first section (the 'graft component') goes down into your arm, and the second section (the 'outflow component') goes across your shoulder, through your vein and bypasses any narrowing in your veins.

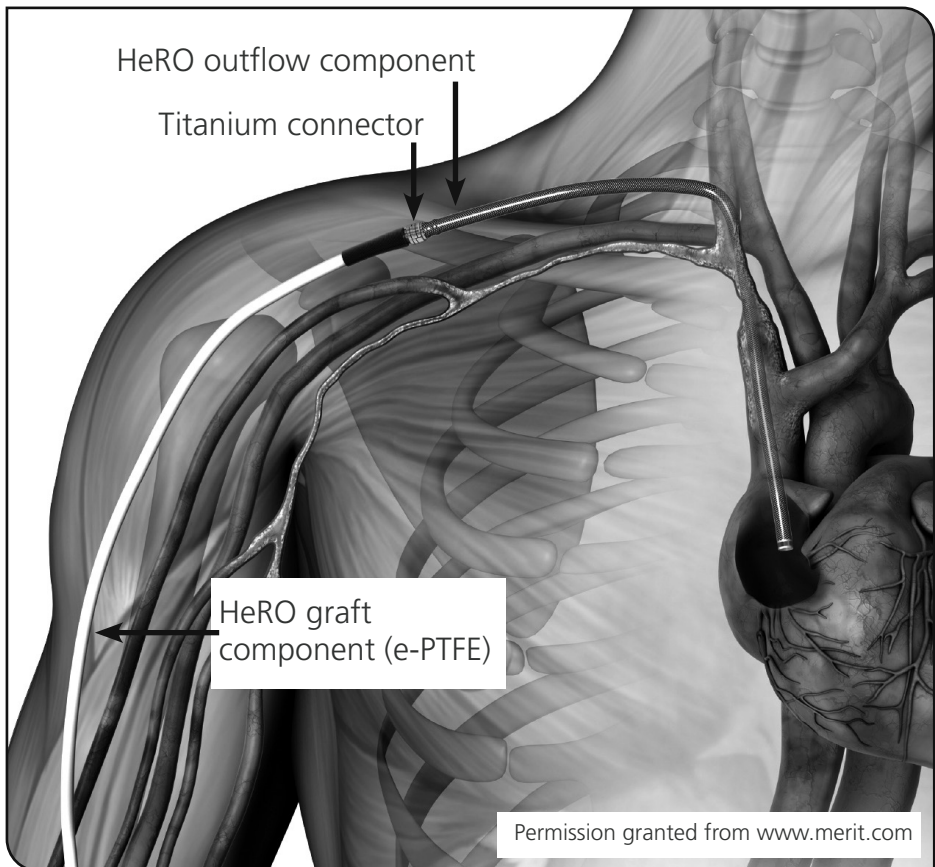
A HeRO graft is used for haemodialysis when a 'native' fistula (using your own blood vessels) may not be an option. This is usually because of problems with blockages (stenosis) in your neck and chest veins. Stenosis is a narrowing in a vein which can be caused by the insertion of multiple neck lines.

## How is the HeRO graft inserted?

The 'graft component' of the HeRO graft will be attached to the artery in your arm, to supply blood to the graft. The graft is then tunnelled under the skin from the artery connection to the shoulder area when it joins the outflow component. The graft is where the dialysis nurses will insert needles for your haemodialysis.

The 'outflow component' of the HeRO graft will be attached to the top of the graft component in your arm, using a special connector. The end of the outflow component will be placed into the large blood vessel in your neck and will sit in the upper part of the right side of your heart. It will return blood back to your heart.

You will be able to feel the connector under your skin near your collar bone.



## **Why do I need a HeRO graft?**

You may benefit from the HeRO graft if you have narrowed or blocked veins in your neck or chest. A HeRO graft is also safer and a better alternative to having a vascular tunnelled line for haemodialysis.

A HeRO graft can be used when your 'native' fistula or previous graft are not working well and need to be replaced.

## **What will happen before I have the HeRO graft?**

You will meet the surgeon and specialist nurse in the Vascular Access Clinic to discuss the options available to you. The surgeon will explain the procedure in detail and answer any questions you may have. Please ask as many questions as you wish.

You may need to visit the Radiology department for vein imaging, to check your blood vessels.

The insertion of the HeRO graft is carried out under a general anaesthetic (you will be asleep). You will need to have a pre-operative assessment approximately 2 weeks before the operation, to make sure you are fit for the anaesthetic.

Please bring a list of all the medications you are taking to the pre-operative assessment, as you may need to stop some of these before your operation. Most people need to stay in hospital overnight after the operation. This is so we can make sure the HeRO graft is working well and that there are no complications.

## **What happens during the operation?**

While you are asleep under the general anaesthetic, the surgeon will make 3 small cuts: one in the crease of your elbow, a second one in your shoulder area and the final one in your neck.

During the operation, the surgeon and radiology (X-ray) doctors work together. First, the radiology doctor will inject dye into the large blood vessel that leads back to your heart from your neck. This will check for any narrowing. If there is any narrowing a small balloon will be used to stretch the narrowing. The radiology doctor will then feed the outflow component through the blood vessel.

The surgeon will then tunnel the graft part of the HeRO under the skin of your arm using a special tool. It will then be attached to the artery in your arm.

The graft and outflow parts will then be connected together just in front of your shoulder, allowing the blood to flow from the artery at the elbow all the way back to your heart.

After the operation, you will either have 3 small dressings over the wounds, or the wounds will be closed using some special waterproof glue.

We will ask the dialysis nurses to check your wounds or change the dressings.

## **What are the risks of surgery?**

Insertion of a HeRO graft can be complex, particularly if you have narrowings in your veins. Whilst stretching these narrowings, there is a risk of bleeding into the chest which may require further surgery to control the bleeding. During the procedure the outflow component gets close to the heart, it can sometimes cause a disturbance of the heart rhythm. This settles after the procedure.

Other risks are similar to those experienced with other dialysis grafts. The graft can sometimes thrombose (formation of a blood clot that blocks the graft), requiring the clot to be removed. In about 1 in 10 people, if too much blood flow from the artery goes up the graft this can “steal” blood away from the hand causing numbness and tingling in the fingers.

As with any operation and graft, there is a risk of infection - you will be given some antibiotics during the operation to reduce the risk.

## **What to expect after the insertion**

When you wake up from the operation you may feel discomfort and some pain where the HeRO graft was inserted. You will be given pain relieving medication when you need it.

It is also normal to have some numbness or tingling in your fingers or hand on the arm where the graft has been inserted. This should get better after a few weeks, but if it does not please tell your dialysis nurse.

You may also notice some swelling around the graft itself, or your arm may be slightly swollen. This is normal after this operation and should get better within a few days. If the swelling does not go away after a few days please tell your dialysis or vascular access nurse.

## **Starting haemodialysis after the surgery**

Your new HeRO graft will be ready to needle straight after the surgery, so please do not worry about your haemodialysis after the operation.

### **Seek immediate medical help if you experience any of the following:**

- bleeding from any of the wounds
- a wound becoming red and/or hot to touch, or weeping fluid.  
You may require antibiotics
- your hand on the side of the graft becomes cold or blue
- a loss of feeling in your arm or hand that is not normal for you.

## **What happens when I go home?**

You cannot drive for 48 hours after the general anaesthetic, or if you still have swelling in your arm.

You can take paracetamol as directed on the packet. If you feel you need stronger painkillers please speak to your dialysis nurse.

## **Looking after your HeRO graft**

For the first few weeks after the operation, please follow these tips:

- Keep your access arm clean and dry.
- Watch for signs of infection (e.g. redness, tenderness, swelling, or a high temperature).
- Be gentle with your access arm and avoid lifting heavy objects.
- Use your arm as normally as possible, but avoid movements that cause pain or discomfort.
- When sitting or lying down, rest your arm on pillows higher than your heart to reduce any swelling.
- Don't overwork your upper arm muscles during the healing period.

### **Other tips to care for your new haemodialysis access:**

- Wear loose clothes over your access arm.
- Avoid carrying a backpack/handbag on your dialysis shoulder.
- Try not to lie on your access arm or shoulder while you sleep.
- Feel for the 'thrill' or buzz in your HeRO graft several times a day, noting if it stops or feels different. If the buzz stops or changes, report this to your dialysis unit as soon as possible.

Please continue to check your graft in the same way as you have been checking your fistula or the old graft. Let the dialysis nurse know if you think it has stopped working or you are worried about it. If you are not sure how to check the function of your HeRO graft speak to your dialysis or vascular access nurse.



## **Useful contact numbers**

### **Vascular Access Nurses**

Churchill Hospital, Oxford  
Telephone: 01865 225 373  
(8.00am to 5.00pm, Monday to Friday)

### **Main Haemodialysis Unit**

Churchill Hospital, Oxford  
Telephone: 01865 225 807

### **Tarver Haemodialysis Unit**

Churchill Hospital, Oxford  
Telephone: 01865 225 487

### **Renal Ward**

Churchill Hospital, Oxford  
Telephone: 01865 225 780 or 01865 225 790  
(24 hours a day, including Bank holidays and weekends)

### **Milton Keynes Haemodialysis Unit**

Telephone: 01908 996 496

### **Stoke Mandeville Haemodialysis Unit**

Telephone: 01296 316 996

### **Banbury Haemodialysis Unit**

Telephone: 01295 229 811 or 01295 224 130

### **High Wycombe Haemodialysis Unit**

Telephone: 01494 426 347

### **Swindon Haemodialysis Unit**

Telephone: 01793 605 286

### **Whitehouse Dialysis Unit**

Telephone: 01295 228 552 or 01295 228 553

## Useful websites

### **Oxford Kidney Unit**

Lots of information about the Oxford Kidney Unit for patients and carers.

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

### **UK Kidney Association**

Patient information leaflets and advice.

Website: [www.ukkidney.org/patients/information-resources/patient-information-leaflets](http://www.ukkidney.org/patients/information-resources/patient-information-leaflets)

### **Kidney Patient Guide**

Information for patients with kidney failure and those who care for them.

Website: [www.kidneypatientguide.org.uk](http://www.kidneypatientguide.org.uk)

### **Kidney Care UK**

A charity which has lots of practical support and information for people with kidney disease.

Website: [www.kidneycareuk.org](http://www.kidneycareuk.org)

### **Six Counties Kidney Patients Association**

The SCKPA is run for patients by patients or family members. They offer support to people suffering from kidney disease or who are on dialysis. They work closely with the Oxford Kidney Unit and have branches in Oxfordshire, Northamptonshire, Buckinghamshire, and Milton Keynes, and parts of Wiltshire, Gloucestershire and Berkshire.

Website: [www.sixcountieskpa.org.uk](http://www.sixcountieskpa.org.uk)

## **National Kidney Federation**

A charity which has lots of practical support and information for people with kidney disease.

Website: [www.kidney.org.uk](http://www.kidney.org.uk)

## **OUH Patient Portal Health for Me**

Please ask a member of the renal team to sign you up to the patient portal.

Website: [www.ouh.nhs.uk/patient-guide/patient-portal](http://www.ouh.nhs.uk/patient-guide/patient-portal)

## Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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Mr Simon Knight, Consultant Transplant Surgeon  
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Oxford University Hospitals NHS Foundation Trust  
[www.ouh.nhs.uk/information](http://www.ouh.nhs.uk/information)



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