Black Country Vascular Network

The Dudley Group NHS Foundation Trust

Leg Bypass Surgery

Vascular Surgery

Patient Information Leaflet

Including;

Ilio-femoral bypass
Femoro-popliteal bypass
Femoro-distal bypass
Femoro-femoro crossover

The Vascular Network for the Black Country population is part of the Dudley Group of hospitals, so major vascular operations are carried out at Russells Hall Hospital in Dudley.

Surgeons, anaesthetists, radiologists and nurses from Russells Hall Hospital in Dudley, New Cross Hospital in Wolverhampton and Manor Hospital in Walsall are working together as part of the Black Country Vascular Network (BCVN) to improve the care that patients with vascular conditions receive.

Introduction

This leaflet tells you about the operations performed on the leg to improve the blood supply. These surgeries bypass blood around narrowed or blocked arteries in your leg.

This leaflet explains what is involved before, during and after the operation. It also explains what the possible risks are and how you can help to make your operation a success.

Why is my surgery in Dudley?

Vascular services in the Black Country are centralised in the Black Country Vascular Hub, located at The Dudley Group NHS Foundation Trust. This surgery is not performed at other Black Country Hospitals. Vascular surgeons based at New Cross and Walsall Manor perform their surgery in Dudley, working alongside our Dudley-based surgeons.

Why do I need the operation?

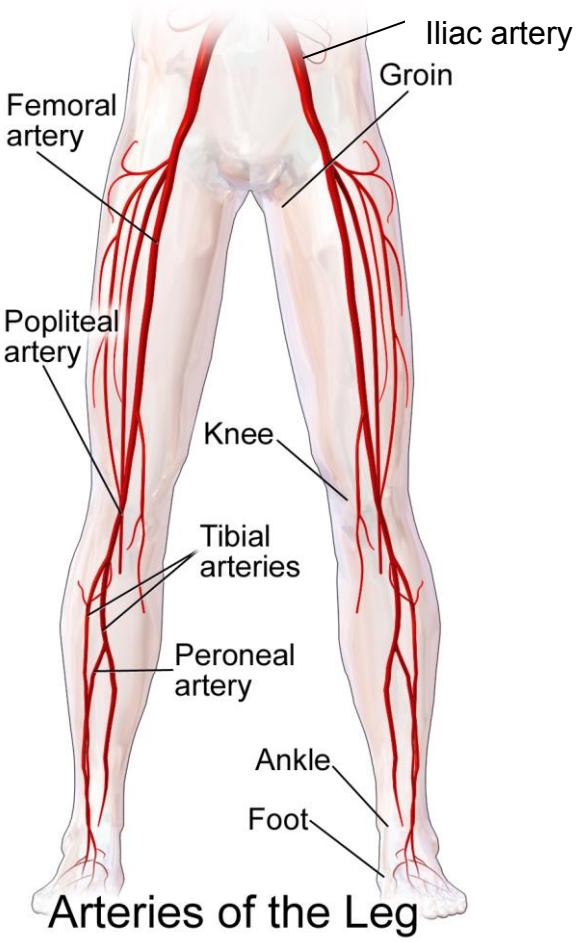
Because you have a blockage or narrowing of the arteries supplying to your legs, the circulation of blood to your legs is reduced. This becomes particularly noticeable when your muscles require more blood during walking and causes pain. If your disease is more severe, you may have pain at rest, ulcers or black areas of dead skin.

This operation is to bypass the blocked arteries in the leg so that the blood supply is improved. If the surgery is successful, it should allow you to walk further without pain. If your disease is more severe, this operation can be used to prevent the need for amputation.

Arteries of the Leg

The femoral artery starts in the lower abdomen and runs down into the thigh. This artery delivers blood to your legs.

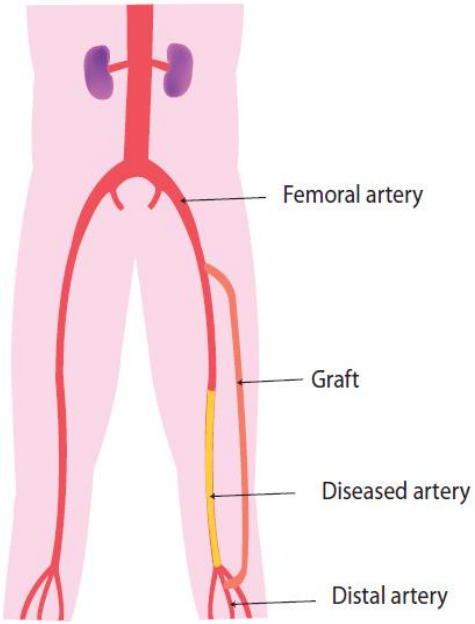
When the femoral artery reaches the back of the knee, it becomes the popliteal artery. Below the knee, it splits into three arteries (peroneal and two tibial arteries) that run down to the foot.



What is a femoro-popliteal bypass graft?

The blocked artery must be exposed both above and below the blockage. A vertical incision about ten cm (four inches) long is made in the groin to expose the common femoral artery. This is the main artery supplying to the leg, and is usually the point from which the bypass starts. A second incision of similar length is made to expose the artery below the blockage. This may be just above or below the knee and is on the inner side of the leg. Occasionally, the incision is lower in the calf (femoro-distal bypass), and may then be on either side.

The tube used to perform the bypass will normally be one of the skin veins of the leg. It is called the long saphenous vein and it runs up the inner side of the leg from the ankle to the groin. Helpfully, the vein lies in line of the incisions used to expose the artery. Sometimes, the vein can be removed with the addition of another small incision about five cm long at mid-thigh level.



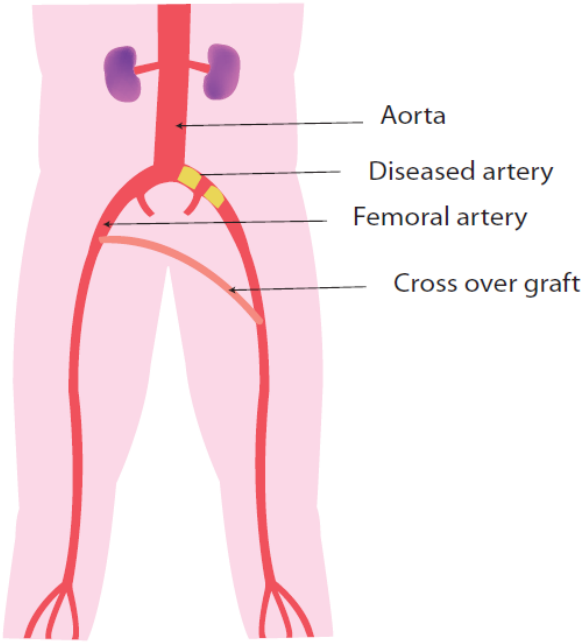
Sometimes, the two main incisions are joined to make one long incision. If the leg vein is unavailable, its counterpart in the other leg or a vein from the arm may be used instead. Removing veins usually has no long term consequence.

The pre-operative ultrasound assessment of the veins will determine which vein is best. If no vein is suitable, an artificial tube is used. This is made of plastic and may be one of several types.

The bypass tube is joined to the artery at groin level and again to the artery below with very fine permanent stitches. The graft will sometimes lie deep within the leg and sometimes just beneath the skin. If it is beneath the skin, the pulse in it can easily be felt. At the end of the operation, the incisions are all closed, either with dissolving stitches, which do not need to be removed, or with a non-dissolving stitch or metal clips which will normally be removed after about ten to 14 days.

What is a femoro-femoral crossover bypass?

This is the insertion of a plastic artificial artery between the femoral arteries in each groin. The graft is placed via incisions in both groins and is passed from side to side buried beneath the skin in the lower abdomen (tummy).



How will this operation help?

The aim is to improve the blood supply to your diseased leg and to relieve the symptoms. By doing this, it is hoped to prevent and save a foot from progressive ulcers or gangrene leading to amputation. It may also increase the distance at which you can walk before experiencing a feeling of cramp in the muscles of your legs.

Are there alternatives?

The blood supply to your leg has become compromised by a blockage of the main artery and needs to be corrected to maintain the health of your leg and foot and to help you walk more comfortably. You could carry on as you are, and it has to be your decision to have surgery. If your disease is severe, you could choose to have the leg amputated. There are sometimes alternative bypass operations (such as, aortobifemoral, iliofemoral, or axillofemoral) that you could have, or angioplasty (balloon stretch of the artery under local anaesthetic) but these will depend on the extent and position of the blockage in your leg artery and if your surgeon feels that this is a possible option.

Your condition will be discussed in our multidisciplinary team meeting when all the specialist doctors come together to make plans on how to treat patients.

Is the treatment safe?

This is a major operation. The risk to you as an individual will depend on:

- Your age
- Your general fitness
- Whether you have any medical problems (especially heart disease)

As with any major operation such as this, there is a risk of you having medical complications, such as:

- Death (one in 50)
- Heart attack (one in 20)
- Chest problems
- Deep vein thrombosis (blood clots in the leg veins)
- Stroke
- Kidney failure (one in 40)
- The loss of circulation to the legs or bowel
- Infection in the artificial artery

Each of these is rare, but overall it does mean that some patients may have a fatal complication from their operation. For most, the risk is about five per cent, so in other words 95 in every 100 patients will make a full recovery from the operation.

The doctors and nurses will try to prevent these complications and to deal with them rapidly if they occur.

The important complications that you should have discussed with your consultant are:

- Infection of the artificial artery. This is rare (about one in 500) but it is a serious complication, and usually treatment involves removal of the graft. It is much less common when the vein is used to reconstruct the artery. To try to prevent this from happening, you are given antibiotics during your operation.

- Wound infection. Wounds sometimes become infected and this may need treatment with antibiotics.

- Bleeding. The may require a return to theatre.

- Blockage of the bypass graft. This is a specific complication of this operation where the blood clots within the bypass graft, causing it to block. If this occurs, it will be necessary to perform another operation to clear the bypass.

- Limb loss (amputation). Very occasionally, when the bypass blocks and the circulation cannot be restored, the circulation to the foot is so badly affected that amputation is required.

- Heart complications. Major surgery stresses the heart and this can sometimes cause heart attacks, abnormal heart rhythms or heart failure.

- Chest infections can occur following this type of surgery, particularly in smokers, and may require treatment with antibiotics and physiotherapy.

- Leg swelling. This is normal after surgery and is nothing to worry about as it results from extra blood flow following surgery. The swelling may last for several months. With this swelling, your wound may leak clear fluid, but this will settle down with time and as the incision heals. Elevation of the leg can help.

- Skin sensation. You may have patches of numbness around the wound or lower down the leg which is due to the inevitable cutting of small nerves to the skin. This can be permanent, but usually improves within a few months.

- Occasionally, the bowel is slow to start working again. This requires patience and fluids will be provided in a drip until your bowels get back to normal.

Before your operation

Your surgeon will ask you to sign a consent form. They will explain what the procedure involves, the risks and the benefits.

If you are not already in hospital, you will be asked to attend a pre-admission clinic before your operation in order to allow time for the tests required to make sure you are fit for the operation.

These will include blood tests, an electrocardiogram (heart tracing) and an X-ray of the arteries (arteriogram) to find out where the blockages are if it has not already been done.

The preoperative assessment team will assess your medical history, arrange any additional tests that are necessary, and provide you with information about having an anaesthetic. Sometimes, you may need to see one of our consultant anaesthetists before the day of your surgery.

We will review your regular medicines when you come to hospital for your pre-admission appointment. If you are taking any medicines that thin the blood (such as warfarin), then you may need to stop them temporarily before the procedure. You do not need to stop aspirin. You will be given full information on any changes that you need to make to your medicines at the pre-admission clinic – please ask us if you have any questions.

What can I do to help myself?

It is important to prepare yourself well for the operation. There is a lot that you can do to improve your fitness.

Smoking

If you smoke, you must try hard to give up before your operation. The longer you can give up for, the better.

Continued smoking will cause further damage to your arteries, your graft is more likely to stop working and you are more likely to have complications from your operation. Your vascular specialist nurse or GP practice nurse can advise you about these.

Losing weight

If you are overweight, some of the risks of the anaesthetic and the operation are increased. Losing weight will reduce these risks.

You should consider a change to your diet by reducing the amount of fat that you eat. If you require any advice about this, an appointment can be made to see the hospital dietician.

Exercise

Regular exercise will increase your strength and fitness. There is no need to push yourself – a regular walk at your own pace will boost your stamina.

High blood pressure

High blood pressure is a known risk factor for vascular disease. It is very important that you have your blood pressure checked regularly, at least every six months. If you have been prescribed medications for high blood pressure, you must make sure that you take it according to the instructions given.

Diabetes

If you have diabetes, it is important that your blood sugar levels are well controlled.

High blood cholesterol levels (fatty substance in your blood) You should eat a healthy, balanced diet and try to reduce any excess weight. It is important to reduce the level of cholesterol in your blood. Your vascular nurse can refer you to a dietician if needed. You may be prescribed medication to help lower your cholesterol level (e.g. a statin) and low-dose aspirin to help prevent blood clots from forming.

Coming into hospital

If you are not already in hospital, you will usually be admitted on the day of surgery. Our vascular ward is ward B3. Please bring with you all the medications that you are currently taking. If you have any questions regarding the operation, please ask the doctors.

On the morning of the operation, you will be asked not to eat for a minimum of six hours before surgery. More detailed instructions will be provided in surgical preassessment. You will be given a theatre gown to wear.

The anaesthetic

You will meet your anaesthetist who will discuss the anaesthetic with you on the morning of surgery. This operation can be done with you asleep (general), or awake. If you are to be awake, you will have an injection placed in your back. This is called a spinal or an epidural. A needle will be inserted into a vein in your arm to administer the anaesthetic. There is often also a second needle placed into an artery in your wrist which allows us to measure your blood pressure accurately.

The type of pain relief you can expect after the surgery will also be explained by your anaesthetist. Usually, you will have simple pain killers, such as paracetamol, with additional strong pain killers, such as morphine as required.

To read more about anaesthetics visit www.dgft.nhs.uk/anaesthetics or contact our surgical preassessment team (01384 45611 ext. 1849

After the operation

How will I feel afterwards?

After spending some time in the recovery area of the theatre, you will return to the Vascular Specialist Care Unit, on ward B3. In this special area of the ward, there are more nurses to look after you and specialist monitoring equipment to ensure you are safe and that any complications are recognised quickly. The nurses will give you pain killers and medicines to prevent sickness.

You will be able to eat and drink straight away after the surgery. We aim to remove drips and tubes as soon as possible.

The position of the groin wounds will make moving uncomfortable at first. You will be encouraged to get up on the first day after your operation for a short while. The nurses and physiotherapists will assist you with this. You will progress to walking after 48 hours following your operation. This will encourage blood flow, aid the healing of your wound and prevent complications in recovery.

As a safety measure, you will receive injections of a blood-thinning substance to prevent blood clots from forming. When sitting out in a chair, you will be encouraged to elevate your legs. When lying in bed or sitting out, it is advisable to continue leg and deep breathing exercises taught to you by the physiotherapist.

The wound is usually closed with stitches or clips that are removed seven to ten days after the operation, or dissolvable buried sutures that do not need to be removed. You can be discharged with the staples in place and arrangements are made for their removal with either the district nurse or at your GP's surgery. You will be advised as necessary.

It is quite common to feel a bit low after having an operation – this can be caused by a number of factors, such as pain, feeling tired and not sleeping well.

The nurses can help you with this, so please do not hesitate to let them know how you are feeling. It may be as simple as changing your painkillers or having a light sleeping tablet that will make you feel better.

Going home

The timing of discharge varies from patient to patient, depending on their walking ability. Usually your hospital stay is five to seven days. If dissolvable stitches have been used, these do not need to be removed. If your stitches or clips are the types that need removing and this is not done whilst you are still in hospital, your GP practice or district nurse will remove them and check your wound.

You will feel tired for many weeks after the operation, but this should gradually improve as time goes by. Regular exercise, such as a short walk combined with rest is recommended for the first few weeks following surgery, followed by a gradual return to your normal activity.

Driving

Before resuming driving, you will need to be fully recovered from your surgical procedure. You should be free from the distracting effect of pain or the sedative, or other effects of any pain relief medication you may be taking. You should be comfortable in the driving position and able to safely control your car, including freely performing an emergency stop.

Your insurance company should be informed about your operation. Some companies will not insure drivers for a number of weeks after surgery.

Bathing

Once your wound is dry, you will be able to have a bath or shower as normal.

Work

You should be able to return to work within one to three months following your operation. If in doubt, please ask your doctor.

What do I do if I feel unwell at home?

In general, call your GP or the out of hours doctors service. If you develop sudden pain or numbness in the leg that does not get better within a few hours, contact the hospital immediately.

Likewise, if you experience any pain or swelling in your calves, any shortness of breath or pains in your chest, you must seek medical attention.

Will I have to come back to hospital?

The vascular team may review you six weeks after discharge in the outpatient department to observe your progress, but this is not always necessary if you are completely well. You can contact the vascular team if you have a problem.

Finally

Some of your questions should have been answered by this leaflet, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure before you sign the consent form.

Useful web addresses

www.dgft.nhs.uk
www.nhs.uk
www.circulationfoundation.org.uk
www.vascularsociety.org.uk

Further information

If you have any questions, or if there is anything you do not understand about this leaflet, please contact your vascular nurse specialist or your consultant's secretary:

Russells Hall Hospital, Dudley on 01384 456111

Ward B3, Russells Hal Hospital on 01384 456111 ext. 2717

Walsall Manor Hospital on 01922 721172 ext. 6669/7763

New Cross Hospital, Wolverhampton on 01902 307999

This leaflet can be downloaded or printed from:

http://dgft.nhs.uk/services-and-wards/vascular-service

Contact information

Russells Hall Hospital, Dudley

Mrs Shiralkar	Consultant vascular surgeon	01384 244246
Mr Pathak	Consultant vascular surgeon	01384 244245
Mr Rehman	Consultant vascular surgeon	01384 244176
Mr Newman	Consultant vascular surgeon	01384 244243
Mr Wall	Consultant vascular surgeon	01384 456111 ext.
Sharron Cole/Vicky Baker	Vascular nurse specialists	01384 456111 ext. 2456 (answer machine)

New Cross Hospital, Wolverhampton

Mr Garnham	Consultant vascular surgeon	01902 695977
Mr Hobbs	Consultant vascular surgeon	01902 695971
Paula Poulton/ Val Isgar	Vascular nurse specialists	01902 695984

Manor Hospital, Walsall

Mr Khan	Consultant vascular surgeon	01922 721172 ext.6669
Beth Smith	Vascular nurse specialist	01922 721172 ext.7648

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