

Patient Information - Femoropopliteal and Femorodistal Bypass - The Operation Explained



Patient information leaflet on Femoropopliteal bypass from Vascular Society Website
http://www.vascularsociety.org.uk/patient/fempop_dist.html

'The information contained in this patient information sheet is not a substitute for medical advice or treatment, and the Society recommends consultation with your doctor or health care professional'

1. Why do I need the operation?

- There is a blockage of the artery supplying your leg, and the circulation of blood to your leg is reduced. The operation is to bypass the blocked artery in the leg so that the blood supply is improved.
- The blocked artery may cause you to have pain in your calf when you walk, in which case the operation should allow you to walk further without pain.
- In most cases, however, surgery to bypass the blockage is recommended when the circulation is so poor that your foot is painful at rest or at night. Ulcers or even black areas of dead skin may also be present when the circulation is very poor. In such cases the operation is essential to prevent the amputation of your leg below or above the knee.

2. Before your operation

- Before your operation it is important to give up smoking as there is good evidence that the risk of failure of the bypass is greater if you smoke.
- It is likely that you will have had tests to check for causes of arterial disease such as diabetes, high cholesterol and high blood pressure. These risk factors will normally have been treated by the time you have your bypass but, if not, treatment will be started as soon as possible afterwards.
- Nowadays, it is normal to give you "aspirin" and a "statin" to reduce the risk of heart attack or strokes, which may result from progressing arterial disease. If you have had a peptic ulcer in the past, alternatives to aspirin such as clopidogrel may be used instead. You may also be given an "ACE inhibitor" drug to further reduce the risk of progressing arterial disease.
- Before bypass surgery, there are a number of tests that need to be done. These are of two types: those to assess your general fitness and suitability for bypass surgery, and some immediate pre-operative tests.
- Tests of fitness and suitability are normally done before a decision to operate is made. They normally include: blood tests, ECG (an electrical test of the heart). To find out the extent of the blockage an ultrasound scan of the blocked artery and arteriogram of the artery will usually be done. The arteriogram usually involves an injection of a dye into an artery, which shows up on an X-ray but in some cases an MRA (magnetic resonance angiography) or CTA (computerised axial tomography) scan may be done instead.
- Before the operation blood tests, an ECG, and often a chest X-ray will be arranged and you may have an ultrasound assessment of the vein that will normally be used to perform the bypass. These immediate pre-operative tests may be completed at a pre-admission visit to the hospital a few days before your operation or they may be done when you are admitted for the operation.
- Sometimes, the course of the vein to be used for the bypass will be marked in your leg with an indelible pen. This marking is done with the assistance of ultrasound.
- You will have the operation fully explained to you and you will be required to sign your consent to the operation.

3. Coming into hospital

- Please bring with you all the medications that you are currently taking. You will be admitted to your bed by one of the nurses who will also note down your personal details in your nursing record.
- You will be visited by the Surgeon who will be performing your operation and also the doctor who will give you the anaesthetic. If you have any questions regarding the operation please ask the doctors.

4. The Anaesthetic

- The first part of the operation involves giving you an anaesthetic. The operation can be done under general anaesthetic (with you asleep), or under a spinal or epidural anaesthetic (with you awake).
- With a general anaesthetic, a small needle is placed in the back of your hand. The anaesthetic is injected through the needle and you will be asleep within a few seconds.
- If you are to be awake, you will have a small tube placed in your back to give you a spinal or an epidural anaesthetic.
- A spinal or epidural anaesthetic makes it so that you can feel nothing from waist downward. This may affect one or both sides and the leg may be paralysed. The anaesthetic lasts for the length of the operation and its effects will wear off afterwards. In some cases an epidural catheter can be left in place to provide pain relief for a day or two after the operation.
- A tube (catheter) may be inserted into your bladder to drain your urine if you have a general anaesthetic. The catheter is essential if you have either the spinal or epidural.
- For all three options, a drip is placed into a vein in your forearm to give you some fluids during and following surgery.
- Antibiotics will be given at the beginning of the operation to reduce the risk of infection.

5. The Operation

- The blocked artery must be exposed both above and below the blockage.
- Normally a vertical incision about 10cm (4inches) long is made in the groin to expose the common femoral artery. This is the main artery supplying the leg, and is usually the point from which the bypass takes origin.
- 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 or even sometimes in the foot, and may then be on either side.
- The tube used to perform the bypass will normally be the principal skin vein of the leg. It is called the long saphenous vein and it runs up the inner side of the leg from ankle to groin.
- Helpfully the vein lies in the line of the incisions used to expose the artery. Sometimes the vein can be removed with the addition of one extra small incision about 5cm long at mid thigh level. Sometimes the two main incisions are joined to make one long incision.
- If the long saphenous vein is unavailable, its counterpart in the other leg or a vein from the arm may be used instead. 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 (in situ vein bypass) 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 days.

- If one or more toes have been severely damaged by infection or the poor blood supply and there is no hope of their recovery it may also be necessary to remove the dead or infected part. This will be explained to you before the operation.

6. After the operation

- After your operation you will be given fluids by a drip in one of your veins until you are well enough to sit up and take fluids and food by mouth.
- The nurses and doctors will try and keep you free of pain by giving pain killers by injection, via the epidural tube in your back, or by a machine that you are able to control yourself by pressing a button.
- It is also likely that you will be given an injection of heparin under the skin to reduce the risk of clotting in your veins (DVT or deep vein thrombosis)
- Within a day or two, the drip, epidural and bladder catheter will be removed.
- You will become gradually more mobile until you are fit enough to go home.
- The physiotherapists may visit you after your operation. They will help you with your breathing to prevent you developing a chest infection and with your mobilisation to get you walking again.
- You may be given aspirin (or in some cases warfarin) to reduce the risk of your bypass blocking. This will usually be continued indefinitely.

7. Going home

- If your stitches or clips are of the type that need removing, this is usually done whilst you are still in hospital. If not, we will arrange for your GP's practice or district nurse to remove them and check your wound.
- You may feel tired for some 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: You will be safe to drive when you are able to perform an emergency stop. This will normally be 2-4 weeks after surgery, but if in doubt check with your own doctor.
Bathing: Once your wound is dry you may bathe or shower as normal.
Work: If this applies to you, you should be able to return to work within 6-12 weeks of surgery. Your GP will advise you of this when you see him/her for your sick-note.
Medicines: You will usually be sent home on a small dose of aspirin if you were not already taking it. This is to make the blood less sticky. If you are unable to tolerate aspirin an alternative drug may be prescribed.

8. What are the risks of surgery?

- *Bypass blockage:* The main specific complication of this operation is blood clotting within the bypass causing it to block. If this occurs it will usually be necessary to perform another operation to clear the bypass. This may occur in about 10% of patients in the six weeks after surgery
- *Limb loss:* 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.
- *Major Complications:* As with any major operation there is a small risk of you having a medical complication such as a heart attack, stroke, kidney failure, chest problems, loss of circulation in the legs or bowel, or 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 patients this risk is about 5% - 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.

- *Limb swelling:* It is normal for the leg to swell after this operation. The swelling usually lasts for about 2-3 months. It normally goes virtually completely, but may occasionally persist indefinitely. It is important that you should keep your leg elevated on a stool when you are sitting for the few months after surgery to minimise swelling. It is important that you should avoid tight bandages or stockings on the leg as this might compress the bypass graft and cause it to block.
- *Wound infection:* Wounds sometimes become infected and this may need treatment with antibiotics. Bad infections are rare. Occasionally, the incision may need to be cleaned out under anaesthetic
- *Graft infection:* Very rarely (about 1 in 500), the artificial graft may become infected. This is a serious complication, and usually treatment involves removal of the graft.
- *Skin sensation:* You may have patches of numbness around the wound or lower down the leg which is due to the inevitable cutting small nerves to the skin. This can be permanent but usually gets better within a few months.
- *Chest infections:* These can occur following this type of surgery, particularly in smokers, and may require treatment with antibiotics and physiotherapy. .
- *Fluid leak from wound:* Occasionally the wound may leak fluid. This may be clear but is usually blood stained. It normally settles in time, and does not usually indicate a problem with the bypass itself.
- *Bowel problems:* Occasionally the bowel is slow to start working again after the operation. This requires patience and fluids will be provided in a drip until your bowels get back to normal.

9. What can I do to help myself?

- If you were previously a smoker you must make a sincere and determined effort to stop completely. Continued smoking will cause further damage to your arteries and your bypass is more likely to stop working.
- General health measures such as reducing weight, a low fat diet and regular exercise are also important. If you develop sudden pain or numbness in the leg that does not get better within a few hours then contact your GP or the hospital immediately.
- You may be asked to attend the hospital at intervals after the operation (usually 3 monthly at the start) to have an ultrasound scan of your bypass. This is to ensure that it is working well, and that there is no narrowing of the bypass that might lead on to bypass blockage.