Lower Limb Endarterectomy
An information guide
Lower Limb Endarterectomy

Introduction

This leaflet describes an endarterectomy, a surgical procedure used to treat blocked arteries in the lower limb. It explains what is involved and what the possible risks are. It is not a substitute for the advice which the doctor or specialist may give you, but can act as a starting point for discussion. Prior to any procedure, you should have full explanation of the procedure and the risks and benefits involved before signing the consent form.

What is an endarterectomy?

Endarterectomy is the general term used to describe the surgical removal of plaque (a build-up of fatty tissue) from an artery that has become narrowed or blocked. In certain situations endarterectomy may be used instead of a bypass operation where the blockage is generally shorter in length.

What are the benefits of this operation?

When there is a blockage in this artery, the circulation of blood to your legs is reduced which may cause you to have pain in your calf when you walk, is known as intermittent claudication. This operation should allow you to walk further without pain. This surgery is also recommended when the circulation is so poor that your foot is painful at rest or at night.

Another symptom indicating a possible blockage in the artery may be leg ulcers or black areas of dead skin. In such cases, this operation can be used to prevent the amputation of your leg below or above the knee.
Alternatives

You may prefer not to have this operation, in which case your doctor may then treat you with ‘best medical management’. This might include taking Aspirin or equivalent daily, good control of your blood pressure/cholesterol/diabetes, and stopping smoking. However you must be aware that your symptoms may get worse in the future.

Is there anything I can do while waiting for the operation?

There are things that you can do to make yourself fitter for this operation, and also reduce the risk of developing further disease caused by atherosclerosis (hardening of the arteries).

If you smoke - **give up!** We can refer you to the smoking cessation nurse who can provide you with further information. If you have high blood pressure it is important that it is well controlled before the operation. If you are **diabetic** keep your blood sugars well controlled. Have your **cholesterol** (fat in your blood) measured. You may need to take a tablet to lower it. Try to eat a healthy, low fat, low salt diet. Aim for 5 portions of fruit and vegetables a day, and fish twice a week (make one an oily one such as salmon, mackerel, sardines or tuna).

Possible risks/complications

As with any surgery there are some risks associated with this procedure.

**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.
**Wound infection:** Wounds sometimes become infected and this may need treatment with antibiotics and dressings. Severe infections are rare. Occasionally, the wound 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.

**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.

**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. Very occasionally when the bypass blocks and the circulation cannot be restored, the circulation of the foot is so badly affected that amputation is required.

**Limb swelling:** It is normal for the leg to swell after this operation and therefore it is important to rest with your leg up on a stool when sitting. The swelling usually lasts for about 2-3 months. It normally goes virtually completely, but may occasionally persist indefinitely.

**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.
Pain: The incision (cut) on your leg is likely to be uncomfortable at first. The nurses will monitor your level of pain and pain killers will be given as prescribed. The pain will slowly improve, but you may get twinges and aches for between 3-4 weeks. It is important that your pain is controlled so that you can move about.

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

Pressure sores (bed sores): can occur in 4 to 10% of patients admitted to hospital. Certain parts of the body which are at higher risk of damage include heels, buttocks and sacrum. Preventative measures will be discussed with you.

Deep vein thrombosis (blood clot in the legs): can occur following surgery. Preventative measures such as daily injections of a blood thinning medicine can help reduce the risk of clots performing.

Pulmonary embolism (blood clot in the lungs): can occur following surgery. Preventative measures such as daily injections of a blood thinning medicine can help reduce the risk of clots performing.

If you are worried about any of the aspects of surgery please ask one of the medical or nursing staff. You will be helped to make the decision about whether to have surgery, but the final decision will be yours.
Before your Operation

Before you come into hospital, you will be asked to attend the preoperative assessment clinic. You will be seen by a nurse and doctor, so that your medical information can be written down, any tests completed and blood tests taken. It will also be an opportunity for the operation to be explained, and for you to ask questions. Your tablets will be reviewed, and you may be asked to stop some of them before your surgery. We will also take swabs to check for any bugs that could lead to an infection.

You may need to have an appointment with our vascular anaesthetist for tests that will show how fit you are for both the surgery and the anaesthetic.

There are a number of tests that needs to be done, prior to the operation which include:

• an ultrasound scan of the blocked artery
• ultrasound assessment of the vein which will normally be used to perform the bypass.
• blood tests
• ECG (heart tracing)
• chest x ray.
The anaesthetic

The first part of the operation involves giving you an anaesthetic. The operation can be done with you asleep (general anaesthetic) or awake with the following anaesthetics.

A spinal anaesthetic makes it so that you can feel nothing from the waist downward on the operation side. The leg is paralysed. This anaesthetic lasts for about 2-2½ hours.

An epidural again makes it so that you can feel nothing from waist downwards, and affects both legs. There is no paralysis however. The epidural is like a drip and can stay in for several days to provide post-operative pain relief.

The Operation

The details of the procedure depend on the location of the artery to be treated. A cut is made over the site of the blockage. The artery is cut and the plaque removed. Once the artery is clean, the artery wall may be widened with a graft (manmade material, one of your veins or bovine patches, sewn in place to widen the artery. NB (Bovine patches are made from animals such as cows pericardium). If you have any religious or personal objections to this, please discuss this with your consultant and an alternative prosthetic material can be used.
What will happen after the operation?
From the recovery area of the operating theatre you will go to back to the ward.
You will have a number of special tubes.

A drip
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.

Wound drain
Sometimes these are used. This is a tube into your leg which allows blood or bruising to drain away. It is removed when the drainage has stopped.

Urinary catheter
This is a tube in your bladder to drain urine. The drainage is measured closely by the staff.

Oxygen mask
You may be given oxygen via a mask or nasal tubes.

Observations
Your pulse, blood pressure, temperature, breathing rate and heart rhythm will be very closely monitored, alongside checking the colour, warmth, movement, sensation and pulses in your feet.

Wound
Your wound will have a dressing on it and will be regularly checked.

Mobilising
You will become gradually more mobile until you are fit enough to go home. You may be visited by the physiotherapists 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.

Pain
The nurses and doctors will try and keep you free of pain by giving pain killers. It is likely that you will experience bruising around the area operated on.

Preparing for discharge
Most patients go home 3-5 days after their surgery, although this may be longer if complications occur.

Preparing for home should start as early as possible. It is a good idea to have someone to help look after you for a while, or some patients choose to live with a member of their family for a short time. Think about the tasks, or activities you do which may be difficult, especially if you have a caring role for someone else. Stocking up on frozen or tinned items means you don't need to go shopping immediately.

If there are complications with your recovery you may need to stay in hospital a little longer.
Going Home and Aftercare

Recovery times vary, and it can take several weeks to feel ‘back to normal’. It also depends on your age, health and activity before surgery.

Wound

If your stitches or clips are of the type that needs removing, which are not removed whilst in hospital then, we will arrange for your GP’s practice or district nurse to removed them and check your wound. Your wound will be red at first but will gradually fade over six months or more. Once your wound is dry you may bathe or wash normally with mild soap and water. If your wound becomes red, sore or is oozing please let your GP know, as this could be a sign of an infection. Protecting your scar from exposure to sunlight during the first year after having surgery will prevent the scar becoming darker.

Mobility, hobbies and activity- start slowly!

It is normal to feel tired for at least 2-4 weeks after your operation. Taking regular exercise such as a short walk combined with rest is recommended for the first few weeks and you can gradually increase this. Taking on light household chores, and walking around your house is a good starting point.

Working

When to return to work will depend on the type of job that you do. Most people need to wait 6 weeks before returning to work, and may work shorter hours for a few weeks to build back up to their normal hours. Please ask staff if you require a sick certificate for work and this will be given to you before you leave hospital. If you
require longer time off work that is indicated on the certificate your GP can provide you with an additional certificate.

Sex
You can resume your sex life when you feel comfortable. If you experience problems sustaining an erection, your GP or consultant will be able to refer you to a specialist.

Driving
For safety and insurance reasons patients are unable to drive for 4 weeks after their operation. If you are in doubt, you should check with your GP and insurance company.

Constipation many pain killers can cause constipation, therefore ensure you drinks plenty of fluids and speak with your doctors with regards a laxative if this causes a problem.
What can I do to help myself?

**Smoking.** If you are a smoker the single most important thing you can do to help yourself is to give up smoking. Stopping smoking will also help to protect all of your arteries, making it less likely that you will suffer from heart attacks or strokes. Giving up is not easy but there is a smoking cessation service and support groups that can help. Your vascular specialist nurse or GP practice nurse can advise you about these.

**Inactivity.** Gentle exercise such as walking and cycling are recommended to help to improve your overall level of fitness. Exercise helps your body to produce healthy cholesterol and this helps to protect your arteries against bad cholesterol.

**High blood pressure.** High blood pressure is a known risk factor for rupture of aneurysms. It is very important that you have your blood pressure checked regularly, at least every 6 months. If you have been prescribed medication 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: you will be given advice on how to do this. Your vascular nurse can refer you to a dietician if needed.
**Medication** You may be prescribed a statin drug to lower your cholesterol level and low-dose Aspirin (or in some cases Warfarin) to help prevent blood clots from forming and your bypass blocking. This will usually be continued indefinitely.

**Complications and what to look out for**

If you think that there is something wrong with your wound once you get home, you should contact your GP, or the ward from which you were discharged.

The things to keep a look out for and to tell the vascular team about are:

Pain, redness or swelling or a discharge around the wound.

If you develop sudden pain or numbness in your legs that does not get better within a few hours then contact the hospital immediately.

If you have other concerns or questions during your recovery at home, write them down in this booklet to ask at your follow-up appointment.

You may be asked to attend the hospital at intervals after the operation (usually 3 monthly at the start) to ensure that the bypass is working well, and that there is no narrowing of the bypass which might lead on to bypass blockage.
Contact numbers
If you have any questions or queries you can contact your GP or alternatively the secretary for your consultant surgeon.

Debbie Ruff Lead Nurse Vascular Nurse Specialist
Tel 0161 778 5090

Zeadia Bruce Clinical Nurse Specialist Vascular
Tel 0161 778 5090

Mr Ibrahim
Tel 0161 627 8698

Mr Madan
Tel 0161 720 2253

Mr Antoniou
Tel 0161 627 8981

Mr Kelleher
Tel 0161 627 8981

Ward T3
Tel 0161 627 8850
If English is not your first language and you need help, please contact the Ethnic Health Team on 0161 627 8770

For general enquiries please contact the Patient Advice and Liaison Service (PALS) on 0161 604 5897

For enquiries regarding clinic appointments, clinical care and treatment please contact 0161 624 0420 and the Switchboard Operator will put you through to the correct department / service

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