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East Lancashire Hospitals NHS Trust

V02 Femoro-Popliteal Bypass Surgery

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What is atherosclerosis?

Atherosclerosis is a disease affecting the arteries. Abnormal fatty material (called atheroma) coats the inside of an artery, causing it to narrow or 'harden'. The amount of blood flowing through the artery is reduced.

When the arteries to your legs are affected, you will have pain in the back of your legs when you walk. If the narrowing gets more severe, you may have pain even when you are resting. If the blood supply continues to get worse, you may develop ulcers or even gangrene of your toes or feet.

Your surgeon has recommended a femoro-popliteal bypass operation. However, it is your decision to go ahead with the operation or not.

This document will give you information about the benefits and risks to help you to make an informed decision. If you have any questions that this document does not answer, ask your surgeon or the healthcare team.

How does atherosclerosis happen?

Atherosclerosis develops because of one or more of the following risk factors – smoking, high blood pressure, a family history of atherosclerosis, age, diabetes and high cholesterol levels. These factors also cause heart disease and stroke (loss of brain function resulting from an interruption of the blood supply to your brain).

The atherosclerosis has caused a severe narrowing or blocking of the major blood vessel in your thigh, called the superficial femoral artery (see figure 1).

Your surgeon may have tried to improve the blood supply to your legs by simple techniques but now recommends that you have surgery.

What are the benefits of surgery?

You should be able to walk with less pain. Surgery should improve the blood supply to your legs and prevent you from developing ulcers or gangrene. If you already have an ulcer, the operation should help it heal.

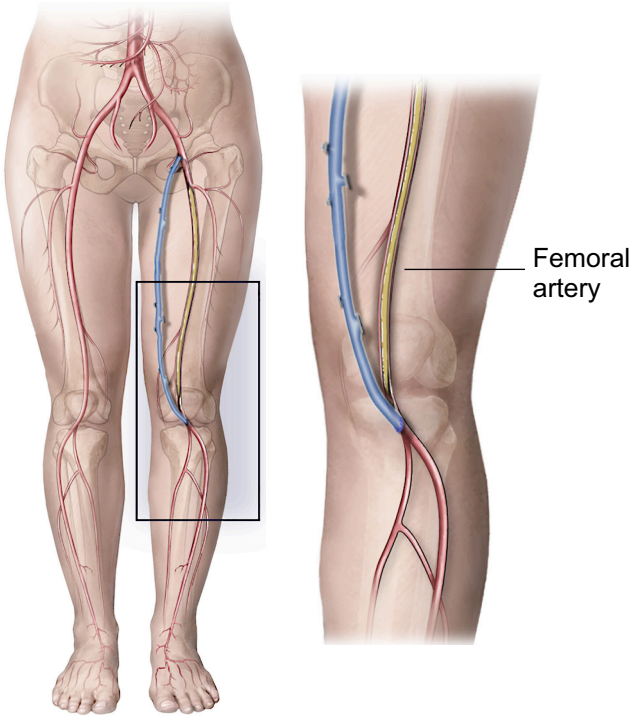

Figure 1

A blocked femoral artery

Are there any alternatives to surgery?

An angioplasty (widening an artery using a small inflatable balloon) is another treatment but will usually have been tried, if appropriate, before surgery is recommended. If you have not had an angioplasty, your surgeon will tell you why they have recommended a femoro-popliteal bypass as the best treatment for you.

What will happen if I decide not to have the operation?

Your doctor will make sure that you take blood-thinning medication and that the risk factors for this disease, such as high blood pressure, diabetes and high cholesterol levels, are treated. You should stop smoking as this is essential to prevent your leg from getting worse. The blood supply may continue to get worse, resulting in gangrene. As a result, your leg or foot may need to be amputated.

What does the operation involve?

The healthcare team will carry out a number of checks to make sure you have the operation you came in for and on the correct side. You can help by confirming to your surgeon and the healthcare team your name and the operation you are having.

Various anaesthetic techniques are possible. Your anaesthetist will discuss the options with you and recommend the best form of anaesthesia for you. You may also have injections of local anaesthetic to help with the pain after the operation. You may be given antibiotics during the operation to reduce the risk of infection. The operation usually takes one to five hours.

Your surgeon will make a cut on your groin over the common femoral artery. They will make another cut to free up the popliteal artery, usually on the inner side of the lower part of your leg. Your surgeon will stitch a bypass graft onto the common femoral artery and then onto an artery in the lower part of your leg. Blood will be able to flow through the graft, bypassing the blocked artery (see figure 2).

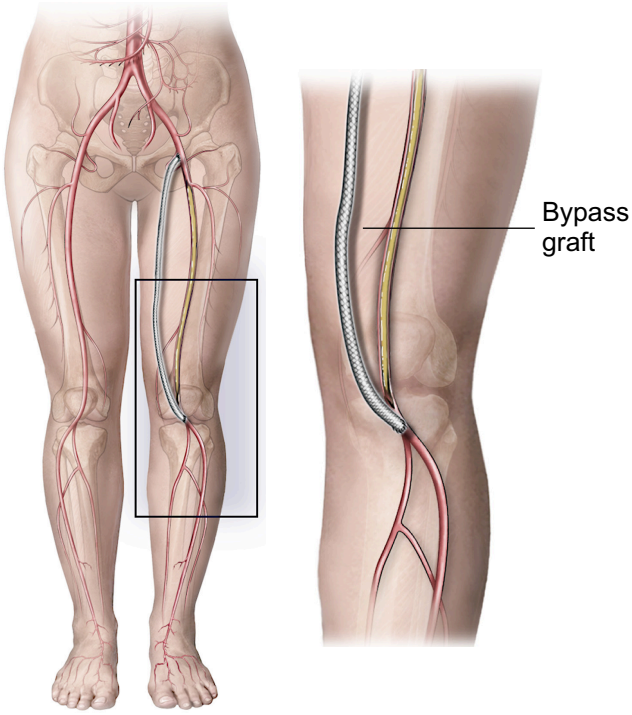

Figure 2

A femoro-popliteal bypass

The graft is either artificial or made from a vein taken from your leg or arm. Your surgeon will discuss this with you.

The cut on your skin may need to go all the way from your groin to your knee or below, especially if your own vein is being used for the graft.

Your surgeon will close your skin with stitches or clips.

They may place a small tube in a vein in your arm (drip) and in your neck (called a central line). They will also place a catheter (tube) in your bladder to help you to pass urine.

What should I do about my medication?

Let your doctor know about all the medication you take and follow their advice. This includes all blood-thinning medication as well as herbal and complementary remedies, dietary supplements, and medication you can buy over the counter.

What can I do to help make the operation a success?

If you smoke, stop smoking now. Smoking is one of the main reasons why this problem happens. Stopping now can help to reduce the risk of you having a heart attack (where part of the heart muscle dies), having further narrowing of the arteries and developing certain cancers. If you continue smoking there is a higher risk that the bypass will fail. Stopping several weeks or more before the operation may reduce your risk of developing complications and will improve your long-term health.

Try to maintain a healthy weight. You have a higher risk of developing complications if you are overweight.

Regular exercise should help to prepare you for the operation, help you to recover and improve your long-term health. Before you start exercising, ask the healthcare team or your GP for advice.

You can reduce your risk of infection in a surgical wound.

- In the week before the operation, do not shave or wax the area where a cut is likely to be made.
- Try to have a bath or shower either the day before or on the day of the operation.
- Keep warm around the time of the operation. Let the healthcare team know if you feel cold.

What complications can happen?

The healthcare team will try to make the operation as safe as possible but complications can happen. Some of these can be serious. You should ask your doctor if there is anything you do not understand. Any numbers which relate to risk are from studies of people who have had this operation. Your doctor may be able to tell you if the risk of a complication is higher or lower for you.

1 Complications of anaesthesia

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

2 General complications of any operation

- Pain can be severe with this operation. The healthcare team will give you strong painkillers either by an epidural or through the drip. It is important that you take the medication as you are told so you can move about and cough freely.
- Bleeding during or after the operation. You may need a blood transfusion or another operation and it is common for the areas around your wounds to be bruised.
- Infection of the surgical site (wound). It is usually safe to shower after two days but you should check with the healthcare team. Let the healthcare team know if you get a high temperature, notice pus in your wound, or if your wound becomes red, sore or painful. An infection usually settles with antibiotics but you may need another operation. Infection may lead to the graft failing (risk: 1 in 10).
- Unsightly scarring of your skin.
- Blood clot in your leg (deep-vein thrombosis – DVT). This can cause pain, swelling or redness in your leg, or the veins near the surface of your leg to appear larger than normal. The healthcare team will assess your risk. They will encourage you to get out of bed soon after the operation and may give you injections, medication, or special stockings to wear. Let the healthcare team know straightaway if you think you might have a DVT.
- Blood clot in your lung (pulmonary embolus), if a blood clot moves through your bloodstream to your lungs. If you become short of breath, feel pain in your chest or upper back, or if you cough up blood, let the healthcare team know straightaway. If you are at home, call an ambulance or go immediately to your nearest Emergency department.

3 Specific complications of this operation

- Graft failure caused by a blockage. This can happen either early after the operation or months or years later. The risk partly depends on the type of graft that is used (risk: natural grafts 1 in 5 in five years, artificial grafts 1 in 2 in five years).
- Infection at the bypass graft join, which can cause a false aneurysm (risk: 1 in 100). This is a potentially dangerous swelling and you may need another operation to repair it. If the infection does not get better with antibiotics, you may need an operation to amputate your leg. Have a bath or shower before the operation to wash your abdomen and groins to reduce this risk.
- Swelling of your leg. This is normal and usually settles with time.
- Blocking of the artery to your foot, if any abnormal material passes through your bloodstream (risk: 1 in 20).
- Amputation, if the bypass fails or if there is infection (risk: 1 in 30).
- Fluid collecting under your wound (seroma or haematoma), which leads to a continued leak of fluid from your wound (risk: 1 in 10). This usually settles with time.
- Nerve injury. Small nerves to your skin can be cut, causing patches of numbness around your wound or down your leg. This usually gets better but may be permanent.
- Death (risk: 1 in 14 in 30 days). People who need the operation often have other serious medical problems.

How soon will I recover?

• In hospital

After the operation you will be transferred to the recovery area and then to the ward. Sometimes you may go to the intensive care unit or high dependency unit for up to 24 hours so the healthcare team can monitor you more closely.
You will be able to drink after you have recovered from the anaesthetic.
You may be given fluid through the drip. The healthcare team will use the central line to monitor the pressure of blood returning to your heart. This will help your doctor to know how much fluid to give you.
The drains, drips and catheter will usually be removed after two to five days.
You should be able to go home after five to seven days. However, your doctor may recommend that you stay a little longer.
If you are worried about anything, in hospital or at home, contact the healthcare team. They should be able to reassure you or identify and treat any complications.

• Returning to normal activities

To reduce the risk of a blood clot, make sure you follow carefully the instructions of the healthcare team if you have been given medication or need to wear special stockings.
Your surgeon will tell you when you can return to work.
If you smoke, it is less likely that the operation will be a success.

Regular exercise should help you to return to normal activities as soon as possible. Before you start exercising, ask the healthcare team or your GP for advice.
Do not drive until you are confident about controlling your vehicle and always check your insurance policy and with your doctor.

• The future

Most people can return to normal activities. Your surgeon will recommend that you have treatment with blood-thinning medication, such as aspirin or clopidogrel, to make the graft last longer.

Summary

Narrowing of the arteries in your legs is a common condition caused by atherosclerosis. You may benefit from surgery if you have severe disease and non-surgical treatment has failed to improve the blood supply to your legs.
Surgery is usually safe and effective but complications can happen. You need to know about them to help you to make an informed decision about surgery. Knowing about them will also help to detect and treat any problems early.

Keep this information leaflet. Use it to help you if you need to talk to a healthcare professional.

Acknowledgements

Author: Mr Bruce Braithwaite MChir FRCS
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