

This information is for patients who have been advised to undergo an operation for narrowed or blocked coronary arteries. It explains what is involved, the period of recovery and the risks associated with the procedure.

### Why do you need coronary bypass surgery?

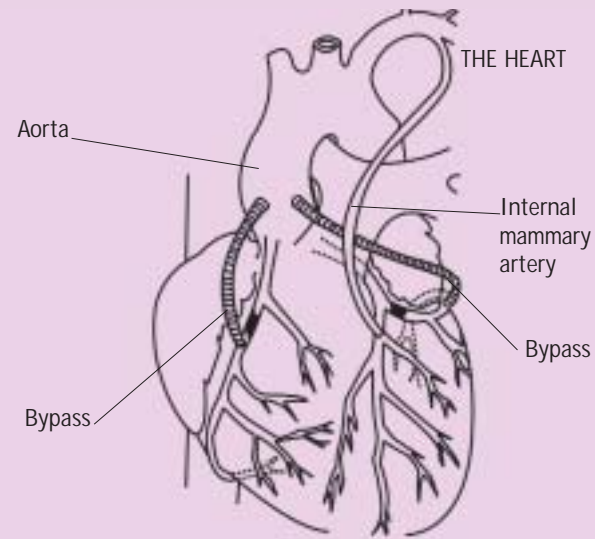
The coronary arteries supply the heart muscle and if they become narrowed or blocked the blood supply may be reduced causing angina. There may also be a risk of heart attack. A cardiac catheterisation examination of the coronary arteries may indicate whether you need coronary bypass surgery.

### What are the treatment options?

In addition to drugs and lifestyle changes (such as a low cholesterol diet) to treat angina and to reduce the risk of heart attack, you may be offered coronary angioplasty where appropriate; this involves widening the arteries. See separate leaflet. If the symptoms continue and coronary angioplasty is not feasible, coronary artery bypass is the best option.

### What is coronary artery bypass surgery?

It is an operation where a blood vessel



(an artery or a vein) is removed from one part of the body and replaced on the heart to 'bypass' a blocked coronary artery.

See the diagram.

Several of these 'bypass' grafts may be needed and at least one of the blood vessels used will usually be an artery. Fortunately the body is designed with plenty of arteries and veins, which makes it possible for a surgeon to remove them safely and re-attach them on the heart. Arteries in the chest wall (often the mammary artery) and veins from the leg are usually used.

The doctor will examine you carefully before the operation to make sure that it is safe to remove these blood vessels.

There are two approaches to coronary bypass surgery:

- 1) 'On-pump' - the commoner method, where the blood is diverted to a heart-lung machine. This machine takes over from your heart temporarily while the bypass blood vessels are being attached.
- 2) 'Off-pump' - a more recent method used by some surgeons, which does not use a heart-lung machine, but a stabiliser is placed on the heart immobilising the part of the coronary artery that is to be bypassed.

**Your specialist doctor will discuss with you which approach would be better for you before the operation.**

### Preparation for your operation

Most hospitals have a pre-operative assessment day.

- You will visit the hospital about 2 weeks beforehand for tests that may include a blood test, blood pressure check, chest x-ray and a heart tracing (ECG).
- You will have the opportunity to discuss your operation and your recovery period with the nurses and doctors. **Please ask any questions you want to.**
- You should report any **allergies** you may

have and bring in any **medicines** that you are taking, in their containers.

- If you are taking **warfarin** you will need to stop it a few days beforehand.

### Your operation

You will usually come into hospital the day before your operation.

- A doctor will see you and explain the proposed surgery and ask you to sign the **consent form** to confirm that you understand the procedure and agree to go ahead with it. (You may do this at the pre-operative assessment).
- You will have a general anaesthetic for this operation, which usually takes about 3 - 5 hours.
- You can expect to have a central incision (cut) over the breastbone, which will be stitched up afterwards.
- You can also expect to leave the operation theatre with
  - a **drain** (tube) that may be removed after a few hours; this allows excess fluid to escape from the operation site.
  - a **drip** attached to a needle placed in a vein, to give you fluids and drugs for a limited time.

## After the operation

- You will return to a recovery ward.
- Doctors, nurses and physiotherapists will all be part of the hospital team helping you to recover from your operation.
- Please ask for painkillers as and when you need them.
- You should be able to go home after about 6 days.

## Going home

- A friend or relative should collect you from hospital and take you home.
- By the time you go home you will usually be able to walk several hundred yards on the flat and be able to walk up and down one flight of stairs.
- You will not need nursing at home, but **you will need someone to do the shopping and to support you generally for the first 10 days.**
- The hospital will send your GP a letter about your treatment.
- Take painkillers as prescribed for your pain.
- You will need to contact your GP for repeat prescriptions of any drugs that you are on.
- Any stitches or clips can be removed by your GP after about 10 days.

- You can shower or bath; if the dressing gets wet replace it with a dry one.
- You should not drive for 4 weeks.
- You will usually have a check up at the hospital with the doctor about 6 weeks after the operation; this will involve a heart tracing (ECG) and a chest x-ray. You will also be advised when you can safely resume sexual and other activities.
- You should allow 3 months for full recovery as this is the time it takes for your breastbone to heal completely.
- You can return to work after 3 months.

## Long term recovery

**Coronary bypass surgery may relieve your symptoms but it is not a cure on its own.**

You need to be aware of the risks factors that may affect you such as: high blood pressure, smoking, and a high blood cholesterol and do your best to change them. Regular aerobic exercise such as walking or swimming is also important.

You should be seen by a specialist doctor or your GP every year, and have your blood pressure and cholesterol checked regularly.

## What are the risks?

**This is a major operation that has a good success rate.**

Ask your specialist doctor about the success rate of your cardiac department.

- There is a small risk of **death** (2% - 3%).
- There is a small but serious risk of **stroke** (less than 1%).
- About 50% of patients notice that their **short-term memory and thinking processes are rather slow** to begin with, but this usually returns to normal after two months.
- Again, following the operation about 20% of patients experience an **abnormally fast and irregular heart rhythm**; this is usually treated by drugs and for most patients it will return to normal by the time of their outpatient appointment.
- The risk of **wound infection** (5% - 10%) is reduced by using antibiotics and good wound care.
- Sometimes a **collection of fluid** may develop between the chest wall and the lung (less than 5%). This may need to be removed under local anaesthetic.

**For some patients the risks may be higher, please speak to your specialist doctor before your operation if you have any worries.**

## Any further questions?

**Please contact the cardiac department at your hospital.**

# Coronary artery bypass surgery



PATIENT INFORMATION



BRITISH CARDIAC SOCIETY