

Having heart surgery



BEATING HEART DISEASE TOGETHER



About the British Heart Foundation

The British Heart Foundation (BHF) is the nation's heart charity, dedicated to saving lives through pioneering research, patient care, campaigning for change, and providing vital information.

We rely on donations of time and money to continue our life-saving work. If you would like to make a donation, please:

- call our donation hotline on **0300 330 3322**
- visit **bhf.org.uk/give** or
- post it to us at the address on the back cover.

For other ways to support our work, and for up-to-date information on heart disease, the BHF and our services, see **bhf.org.uk**

Together we can beat heart disease.

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About this booklet

This booklet is for adults who are going to have, or have just had heart surgery. It explains:

- what happens before your operation
- what happens during the time you spend in hospital
- what to expect once you return home
- how a cardiac rehabilitation programme can help you after your operation, and
- what you can do to reduce your risk of further heart problems.

Whether you are having coronary artery bypass surgery or surgery on a heart valve or any other form of heart surgery, what happens before and after your surgery is similar. This booklet gives you just a **general** idea of what to expect, as all hospitals do things slightly differently. It also points out a few things that may be done differently for particular types of surgery.

This booklet does not replace the advice your cardiologist, heart surgeon, or any other health professional looking after you may give you, but it should help you to understand what they tell you. (The cardiologist is the heart specialist who will care for you

before and after your operation. The heart surgeon is the specialist surgeon who will carry out your operation.)

Heart surgery

If you are about to have heart surgery, you may be feeling a whole range of emotions. You may feel anxious, worried about the future, or glad that you are about to have treatment to improve your condition. It's natural to have these sorts of feelings.

It is important that you and your family understand why you are having the operation, what it involves and what you can expect to happen when you go into hospital. If you have any questions, or if anything is worrying you, talk to your doctors or nurses.

Heart surgery has developed tremendously in recent years. Although a heart operation is major surgery, techniques have moved on so much that, for most people, it is now a routine operation, and tens of thousands of people have heart surgery in the UK every year.

Coronary artery bypass surgery or coronary angioplasty

Advances in technology have meant that many people with less severe coronary heart disease, who in the past would have been recommended for coronary artery bypass surgery, can now have a procedure called

coronary angioplasty instead. For information on this, see our booklet *Coronary angioplasty*.

If you are having **coronary artery bypass surgery**, remember that this **cannot cure** the underlying coronary heart disease. However, having the operation can help to relieve your symptoms and improve your quality of life.

Waiting for your operation

Once your surgeon has suggested you have surgery for your heart condition, you go on a waiting list. Most people will have their operation within a few months of going on the waiting list. Some people will have their operation much sooner than this. It depends on your condition.

While you are on the waiting list, it is important to keep in contact with your GP and tell him or her if your symptoms change or suddenly get worse.

The hospital will send you information about when to go into hospital and where to go.

What you can do to help yourself while you are waiting for heart surgery

While you are waiting for your heart surgery, use the time to get yourself as healthy as possible. There are several things you can do.

- If you smoke, stop smoking.
- If you are overweight, try and lose some weight.
- Keep as physically active as your condition allows.
- Visit your dentist. This is particularly important if you are going to have heart valve surgery.

- Some people like to get support from a local heart support group.

We explain more about all these things on the following pages.

Stopping smoking

Stopping smoking is the single most important thing a smoker can do to live longer.

It is vital that you give up smoking as soon as possible before your surgery. If you continue to smoke right up to the time of your operation, this will increase the risk of complications and can affect your breathing in the days afterwards. (For more about this, see page 28.)

Preparing for and having a heart operation can be a very good time for you to stop smoking. Ask your GP, nurse or pharmacist for advice about how you can do this. Or, try one of the following helplines or websites.

- **NHS Smoking Helpline** 0800 022 4 332
www.smokefree.nhs.uk
- **Quitline**[®] 0800 00 22 00
www.quit.org.uk
Quitline also runs helplines in different languages.

For more information on stopping smoking, see our booklet *Stop smoking*.

Losing weight

Overweight people are more at risk of having complications during the operation compared with people who are not overweight.

If you are overweight, your doctor or nurse may be able to give you some advice, or refer you to a dietitian, to help you lose some weight before your operation. For more information, see our booklet *So you want to lose weight ... for good*.

Physical activity

Keep as physically active as your condition allows. Regular activity can help to keep you fit and it will also help you recover more quickly from your operation. Discuss with your doctor how much activity you should do.

If your heart condition causes symptoms such as chest pain or shortness of breath, you may find it more difficult to keep active. Your doctor can advise you about how much you should do, and how you can reduce the risk of getting symptoms while exercising, or how to cope with the symptoms if you get them.

Visiting your dentist

As soon as you know that you need to have heart

surgery, visit your dentist to make sure that your teeth and gums are as healthy as possible. This reduces the risk of infection. This is particularly important if you are having an operation on a heart valve. Infected gums or teeth can introduce bacteria into the bloodstream, which could cause complications. If your teeth and gums are not in good condition when you go into hospital, your operation may have to be postponed.

Getting support

Through a local heart support group, you and your family can get to know other people who have had heart surgery. They can also give you information about useful local services. For more on heart support groups, see page 67.

When you know the date of your operation Planning for your return home

As soon as you know when you will be having your surgery, it's a good idea to start thinking about your return home. Most people are discharged home about a week after routine heart surgery.

It's important to realise that you won't be able to manage everything on your own in the first couple of weeks when you go home. It is usually recommended that somebody

is with you for the first week or two. If you live alone, it may be possible to arrange for convalescence (when you go and stay somewhere else for a week or two after you leave hospital), or for you to have extra help with getting washed, and with meals and housework. You can discuss this with your GP, practice nurse, a social worker or someone at the hospital, before you go into hospital, so that they can help arrange it for you.

What to take with you into hospital

It is important that you are comfortable while you are in hospital. In the first few days after your operation you won't be able to move about as much as usual and you won't be able to lift your arms above your head. So it's a good idea to take **pyjamas** or **nightdresses** that button up at the front, rather than ones that you pull over your head.

Women are usually advised to wear a **bra** after the operation. You may find it easier to have bras that fasten at the front. Bras that are not underwired will be more comfortable after your operation, while your breastbone is healing.

Soon after your operation, the physiotherapist will encourage you to walk short distances, so you might find it more comfortable to have **loose-fitting trousers** or

tracksuit bottoms and **loose tops** that button down the front. Comfortable, well-fitting **shoes** or **slippers** are best. Some people like to get dressed every day, as this helps them feel that they are getting back to normal.

You might find it difficult to concentrate in the days after your surgery, so take some light reading with you, or some music or audiobooks to listen to with headphones.

If you have long hair, make sure that you have bands or clips to tie it back with. This will be more comfortable for you in the days after your operation, and more hygienic.

Remove any nail polish or false nails before you go into hospital for your operation, as these can interfere with the monitoring equipment used to check your condition.

Accommodation at the hospital

Some hospitals can provide accommodation where your next of kin can stay. You may want to find out, at your pre-admission clinic appointment, what facilities are available, and if there is any charge. (For more about the pre-admission clinic, see page 15.)

Visiting the hospital before your operation

You can sometimes arrange to visit the hospital ward or intensive care unit before your operation. It may be possible to arrange this when you go to the

pre-admission clinic. (See page 15 for information about pre-admission clinics.)

What if I am unwell before my operation?

If you have a cold or are unwell before your operation, you should see your GP to discuss if it will affect you having your surgery. Most of the time it will not be a problem, but your GP can speak to your surgeon if he or she feels this is necessary. It is better to sort this out before you go to the hospital rather than waiting until you get to the hospital hoping to have your operation and finding out that the operation has to be delayed.

How long will I have to stay in hospital?

Many hospitals admit patients the day before the date planned for the operation. Your hospital will probably ask you to go to a **pre-admission clinic** before your operation, where they do all the tests that need to be done before your operation. If you go to a pre-admission clinic, you won't need to go into hospital until the night before or the day of your operation.

After your operation you will spend a day or so in an **intensive care unit** or a **specialised recovery unit**. They will then transfer you to a **high dependency unit** and then afterwards to the cardiac surgical ward where you were first admitted.

Most patients leave hospital about five to seven days after bypass surgery, and seven to ten days after heart valve surgery. These times vary greatly depending on:

- the type of operation you have
- if there are any complications after the operation
- your general health before the surgery, and
- your age.

In hospital before your operation

When you arrive in hospital, you should be shown around the ward. Your details will be checked and the nurse will ask you some routine questions. The doctor will ask you about your condition and how you are, and will want to examine you. You will have some tests before your operation. We describe these tests below. If you go to a pre-admission clinic, the tests will be done before you go into hospital.

Tests

You will have a number of **blood tests**, including checking your blood group. A blood transfusion will be ready for you in case you need one either during or shortly after your operation.

A **chest X-ray** and an **ECG (electrocardiogram)** will be taken before your operation. Later on, the doctors will compare these to the chest X-ray and ECG that will be done after your operation. If you are going to have surgery on a heart valve, you will also have an **echocardiogram**.

For more information, see our booklet *Tests for heart conditions*.

Visits from people in the medical team

Before you have your operation, you will meet the following people.

The heart surgeon

The heart surgeon who will be doing your operation will discuss the surgery with you and will explain the benefits and risks for you so that you can give your consent to the operation with a full understanding of what can happen. You will be able to ask the surgeon any questions. You might find it helps to write these down beforehand.

If you are having surgery on a heart valve, your surgeon will have discussed with you whether you can have a heart valve repair or if you need the valve to be replaced. (A valve repair is more common if the mitral valve is affected.) A valve replacement is done using either a tissue valve or mechanical valve. Your surgeon will explain more about these different types of valve, and discuss with you which would be the better option for you. We explain more about valve repair and valve replacement in our booklet *Heart valve disease*.

The anaesthetist

The anaesthetist is the doctor who will look after you while you are asleep for your operation and will remain

with you the whole time. Before your operation, he or she will explain to you the possible risks of having a general anaesthetic (in other words, of sending you to sleep and keeping you asleep during the operation). They will also want to know if you have ever had any reaction to anaesthetics in the past. You should tell the anaesthetist about any medical problems you have and if you have had any recent dental work or problems with your teeth. The anaesthetist will also make sure that your pain after the operation is kept under control.

The physiotherapist

The physiotherapist will show you breathing and coughing techniques, which will be very important after your operation. Breathing exercises can help you make a speedier recovery. They are especially important if you have been a smoker. The physiotherapist will also help you get moving again in the days after your operation.

The nursing staff

The nursing staff will look after you both before and after your operation. They will be able to answer your questions and reassure you. Before you leave hospital after your operation, the nurses will give you information and advice about your recovery and any lifestyle changes that you might need to make to keep your heart healthy.

The cardiac rehabilitation team

Someone from the cardiac rehabilitation team should visit you to talk about your rehabilitation after your operation (see page 39).

Getting ready for the operation

Baths or showers

Before having any surgery, it is important that your skin and hair are clean. This will reduce the risk of infection after the operation. The nurses on your ward will advise you about when you should have a bath or shower.

Skin preparation

Part of the skin preparation involves removing hair from the parts of the body where the surgeon is likely to make incisions (cuts). For some heart operations this means using clippers to remove hair from the chest, abdomen and lower arms for men, and sometimes removing hair from the lower arms for women. Another reason for removing hair from the arm is that, during your operation, a small tube will need to be inserted into your wrist or arm. If there is no arm hair, it makes it easier to fix the tube in properly.

If you are having bypass surgery using a vein from one of your legs, you will need to have the hair on your legs and groin removed as well.

Eating and drinking before the operation

You will not be allowed to eat anything for at least six hours before the operation. You can drink clear fluids – that is, water, black tea, black coffee or squash – until two hours before your surgery. This is so that you have an empty stomach and can safely take certain tablets that the anaesthetist may need to give you for your pre-med (see below). The hospital staff will tell you the exact time when you have to stop eating and drinking.

The 'pre-med'

About an hour or two before your operation is due to begin, you will be given a 'pre-med' (pre-medication). This will help to relax you and make you feel sleepy before you have the general anaesthetic. The pre-med may be given either as an injection or as a tablet.

Before you have the pre-med, you will be asked to put on a hospital gown and get into bed. The nurses will do several checks to make sure that all the correct preparations have been done and that you are ready for your operation.

Once you have had your pre-med you **must** stay in bed. If you need anything, you can call a nurse using your call bell.

Going to the operating theatre

When the theatre staff are ready for you, a porter will take you to the theatre suite. A nurse will go with you. When you get there, you will meet the theatre nursing staff and the anaesthetic team. The staff here will ask you some of the same questions that the nurses on the ward asked you.

Once you're in the anaesthetic room, the anaesthetist will put a small needle into the back of one of your hands. Through this, you will receive anaesthetic medicine that will send you to sleep. You will be checked very closely during the operation and the anaesthetic medicine will continue to be given through the drip in your hand, along with oxygen to breathe through a breathing tube. Another tube will be put into your wrist. This is so that your blood pressure can be monitored during and after your operation.

What happens during my operation?

Once you are asleep, a drip is inserted into a vein in your neck, and a catheter (a long, thin tube) is inserted into your bladder to drain any urine. An ultrasound camera can be passed into your oesophagus (gullet) if necessary, so your heart can be checked during the operation.

The surgeon needs to be able to get to your heart, which is in the centre of your chest. For most heart operations, surgeons use the **traditional heart surgery** technique. This involves cutting your breastbone.

In most cases, so that the doctors can operate safely on the heart, the heart will need to be stopped and the blood will be diverted from the heart to a **heart-lung machine**. This machine makes the blood circulate around your body so that your body still gets the oxygen and nutrients it needs. (For some heart operations, the heart-lung machine may not be needed. See page 24.)

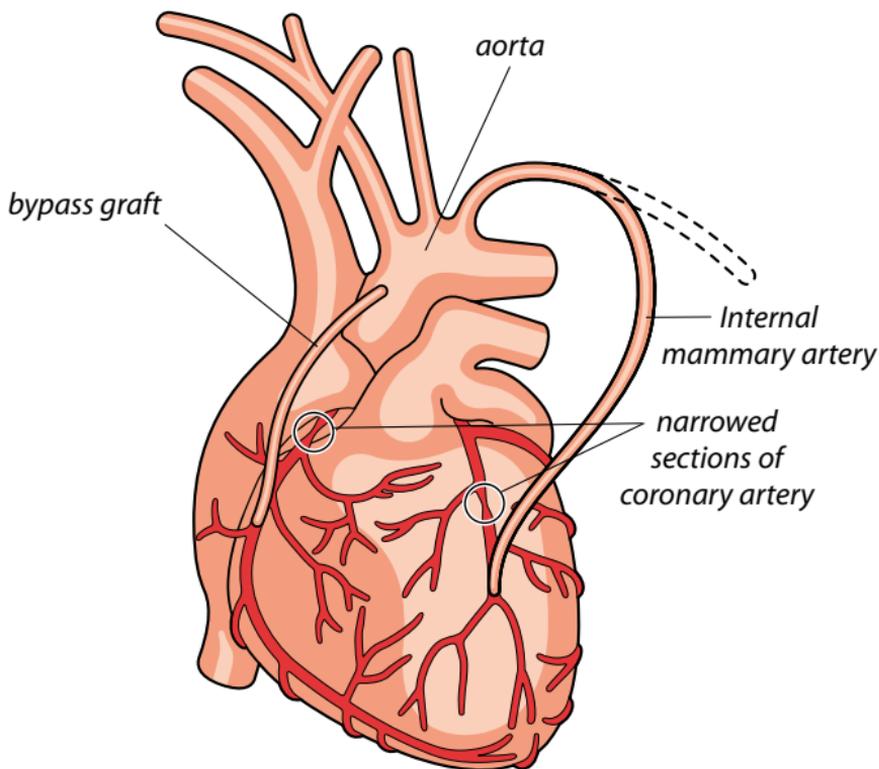
Below we describe what happens during bypass surgery and during heart valve surgery. Some people may have valve surgery and bypass surgery at the same time.

If you are having coronary artery bypass surgery

Once the heart has been stopped, the surgeon will use

arteries from your chest wall (the internal mammary artery) or arm (radial artery), or veins (saphenous vein) from your leg, to bypass the blockages in your coronary arteries. (See the illustration below.) The number of bypasses needed depends on how many arteries are narrowed. The coronary arteries are on the outside surface of your heart, so the surgeon does not need to open your heart.

Coronary artery bypass surgery



Beating heart surgery

Sometimes coronary artery bypass surgery can be carried out without stopping the heart and so a heart-lung machine is not needed. The surgery is performed on a beating heart and is known as **beating heart surgery** or **off-pump surgery**.

If you are having heart valve surgery

The surgeon will either repair or replace the faulty valve. If you are having a valve replaced, it may be replaced with either a tissue valve or a mechanical valve.

The heart valves are inside the heart and so the surgeon will need to open the heart to reach them. This is known as **open-heart surgery**.

For more detailed information about heart valves, heart valve disease and other ways to treat heart valve conditions, see our booklet *Heart valve disease*.

If you are having another type of heart surgery

There are several other reasons why people may need to have heart surgery other than bypass surgery or heart valve surgery. For example, some people have **congenital heart disease** (a heart condition that they are born with) and may need heart surgery. Most heart operations

involve using the 'traditional heart surgery' technique described on page 22. The preparations for your surgery, and your recovery afterwards, are similar to what we have described on pages 16 and 27. If you need information about a specific operation, call the BHF Heart Helpline on **0300 330 3311**.

When the surgeon has finished operating on your heart

Once the surgeon has finished operating on your heart, and if a heart-lung machine is being used, they will start your heart beating again and slowly allow the blood to re-enter your heart from the heart-lung machine. Your heart then takes over pumping normally and the heart-lung machine is turned off.

Various tubes and wires will be connected to your body. We explain what these are for on page 28.

Once the surgeon is happy that the operation is complete, your breastbone will be securely closed using wires. The wires will stay there for the rest of your life.

Minimal access surgery

The main difference between this type of surgery and traditional surgery is that with minimal access surgery the breastbone is not cut completely. Instead, the

surgeon makes one or more small cuts in the side wall of the chest, or opens only part of the breastbone, to carry out the surgery.

You may still need to be put on a heart-lung machine so that the surgeon can operate on the heart.

Although this type of surgery is sometimes called 'minimally invasive surgery', this is not strictly true because tubes are inserted into your neck and into your groin (to connect you to the heart-lung machine), and one or more cuts are made in the side of your chest.

People who have minimal access surgery tend to get moving again more quickly after their operation compared to those who have traditional surgery, because their breastbone has not been cut, or has not been fully cut. However, minimal access surgery can be technically difficult to do and is not suitable for everyone. If you would like to know if it is an option for you, discuss it with your surgeon.

What happens immediately after the operation?

After your operation, you will be transferred from the operating theatre to your place of recovery. Most people will go to the **intensive care unit** or to a **specialised recovery unit**. You will be looked after here for about 24 hours. The medical and nursing staff in these units are very experienced and are used to looking after people who have just had heart surgery.

In this unit there are lots of machines, tubes and electronic equipment. These help to give your nurses and doctors the information they need to make sure you make good progress after your operation. Some of the machines make bleeping noises which you don't need to worry about. We explain what the equipment is for on the next page.

Breathing

After your operation, you will be kept asleep with anaesthetic medicines for a few hours. You'll be connected to an artificial breathing machine called a **ventilator**. You will breathe through a tube that passes through your mouth into your lungs. As you begin to wake up, you may feel that the tube makes you want to cough. You won't be able to talk or drink until the tube has been removed.

The anaesthetic medicines relax your muscles, so the breathing tube needs to stay in place until the doctors are happy that you can breathe for yourself. Once they are sure that you are properly awake, they will remove the tube and you will be able to breathe normally.

When you come off the ventilator, you will have an oxygen mask over your nose and mouth, to make sure you are still getting enough oxygen.

Soon after you come off the ventilator, the nurses will remind you to take deep, slow breaths and to cough. If you carried on smoking in the days or weeks just before your operation, you may find it much harder to do this because of the extra mucus (thick fluid) in your lungs.

If an ultrasound camera was passed into your oesophagus (gullet) during your operation, you may have a sore throat when you wake up.

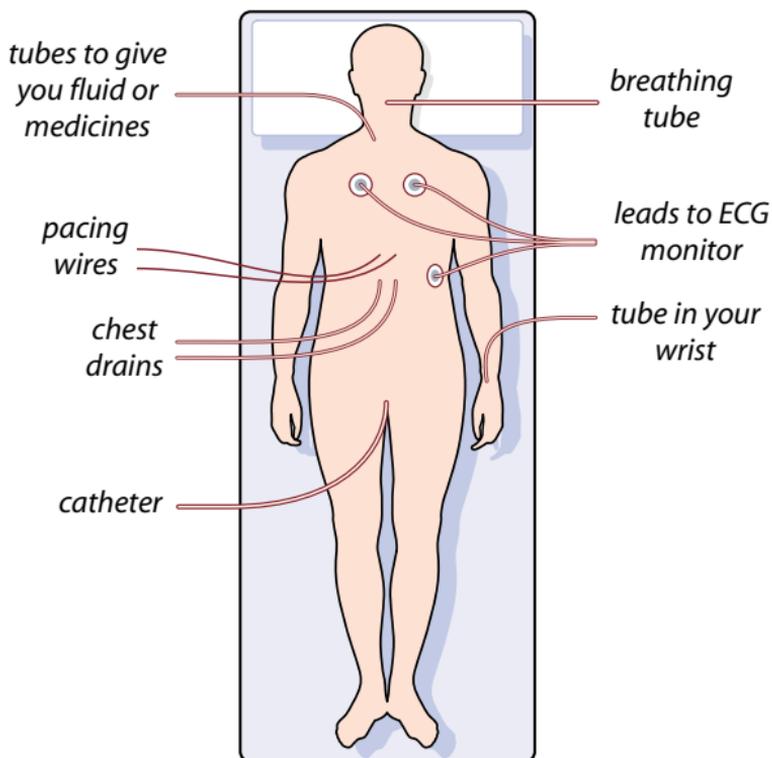
What are all the tubes and equipment for?

When you wake up from the anaesthetic, you will see several tubes and perhaps some wires connected to your body.

A small tube connected to an artery in your wrist allows the medical staff to measure your blood pressure. It also allows staff to take blood samples and to monitor how well you are recovering.

There may be two or three other small tubes in veins in your arms and neck. These are to allow fluid to be delivered into the circulation. They may also be used to give you any medicines you might need – such as antibiotics or pain relief. You are likely to be given morphine to help to control the pain in the first 24 hours, or for longer if you need it.

Equipment used for monitoring your recovery in the first few days after your operation



Another tube, called a **catheter**, will be inserted into your bladder so that you can pass urine during and after your operation. The nurses will measure how much urine your kidneys are producing. This is another way of telling how well you are recovering after your operation. The catheter will normally stay in place for one or two days.

At the end of the operation, the surgeon will put some **chest drains** into the chest area around your heart. These tubes allow any blood and fluid that build up in the chest area to drain out. A nurse will usually remove the chest drains a day or two after the operation.

You may also have between two and four wires, called **pacing wires**, inserted. These are used to control your heart rate if necessary after the operation. The pacing wires are removed before you leave hospital.

Can I have visitors?

For the first eight to twelve hours or so, you will be asleep for much of the time. One or two visitors are sometimes able to visit you during this time. Each intensive care unit is different, so ask the nurses what the normal visiting rules are. Usually, your family or friends don't visit you until after you have woken up.

Your family can phone the hospital at any time to see how you are. It's a good idea if just one person makes the

calls to the hospital, and relatives and friends can get their information from that person.

Coming out of the intensive care unit or recovery unit

Once the medical staff are satisfied with your recovery in the intensive care unit or the recovery unit, you will be taken to a high dependency unit. Here, the doctors and nurses will concentrate on:

- your breathing
- making you as comfortable as possible
- getting you to eat and drink small amounts, and
- getting you moving about again.

Your breathing

You may be given oxygen through short tubes that sit just inside your nostrils. You may sometimes need to use an oxygen mask to get extra oxygen if you can't get enough through the nasal tubes. This can sometimes happen if you are or were a smoker.

A physiotherapist will spend some time working with you on your breathing exercises and coughing. This is a vital part of your recovery. The sooner you are able to do these exercises, the faster your recovery is likely to be.

At first, you may feel some pain and discomfort when you are doing the exercises. The nurses will give you medicine

to help with the pain, and will also teach you techniques to reduce any discomfort you have.

Making you comfortable

You can expect to have some discomfort for a few days after your operation. The amount of discomfort varies from person to person.

In the first couple of days or so, you will be given painkillers as an injection or as an infusion (drip) through a vein in your arm or neck. Sometimes the infusion is delivered through a device called a PCA pump. PCA stands for patient-controlled analgesia. This means that **you** can use the machine to control how much pain relief you are getting. It is particularly helpful to be able to use it before your physiotherapy, or when your chest drains are removed, or if you need to move. When you push a button on the pump, the pump delivers a measured amount of pain relief. The pump is designed so that you can't accidentally give yourself too much.

After a couple of days, and once you are drinking enough, the pump will be stopped and you will be able to take painkillers as tablets instead. The nurses will monitor your pain level and make sure you are as comfortable as possible.

You might be asked to describe your pain using a score of between 1 and 10, where 10 is very bad pain. This will help your nurses judge what type of medicine will be best for you and also help them assess how well it is working.

Eating and drinking

After the operation, it is normal to lose your appetite for a few days. The nurses will give you small amounts of drinks to start with and, if you are drinking enough, they can remove the drip. You will be offered light food for your first meals.

You may feel nauseous (sick) after the operation. If this happens, you can have an injection or tablets to help with this. You may have a salty or metallic taste in your mouth after the operation for some weeks, but this should eventually go away.

Also, your bowel action will be slow – because of the operation and the medicines you are taking, and also partly because you haven't been moving around much. It's very common to have constipation in the early days after surgery. The nurse may give you a mild laxative to ease this. Getting up and about as soon as possible may help to avoid the constipation. Drinking water and eating fruit can help too. The nurses will be able to advise you

about how much you should be drinking.

Getting moving again

You may be surprised at how soon after heart surgery you will be able to move around again. The nurses and physiotherapist will help you walk around the bed and then around the ward, usually on the second day after surgery. Getting moving again very soon after the operation will help you to recover more quickly and prevent problems that can happen due to being in bed for too long.

Gradually you will be able to walk longer distances. The physiotherapist will make sure that you are walking up and down stairs comfortably and safely before you are allowed to go home.

If you have had your breastbone cut for your operation, you may feel quite stiff around your shoulders and chest. Don't be worried about your chest wound opening again. The wire that the surgeon uses to close the wound is very secure and strong, so you don't need to worry about it breaking, even when you cough. The physiotherapist will teach you how to use a pillow or rolled up towel to help support your chest in the days after your operation. This will help ease any discomfort and help support your chest when you cough.

If you have had a vein removed from your leg, or part of an artery removed from your arm for coronary artery bypass surgery, you may find that your leg or arm swells up. The wound in your leg or arm may also feel very tight and itchy for the first few weeks.

Most hospitals get heart surgery patients to wear special stockings once they start moving around. If you have valve surgery, you will be given these special stockings to wear before you go for your surgery. They help the blood to circulate and help prevent blood clots from forming. You may be given some stockings to take home with you. The nurses will tell you how to use and look after them.

Visitors

The nurses will tell you and your relatives and friends the arrangements for visiting hours on your ward. The team may want to talk to your partner or carer about how you are doing and will also want to make sure that there are suitable arrangements in place for when you go home.

You will be tired after your heart surgery, so it is important that you don't have too many visitors to start with. Or, get your visitors to call a person of your choice first, to check whether it is OK to visit you. They should keep their visits short (about 10 to 20 minutes), because longer visits will be very tiring for you.

How am I doing?

After the operation, many patients have a couple of days when they are tearful or very low. It's normal, after a big operation, to feel emotional and tired, and uncomfortable.

Don't be afraid to ask the hospital staff how you are doing. They will be happy to answer your questions, encourage you and reassure you.

Getting ready to go home

Before you leave hospital, the staff will do several things, which we describe below.

Having your stitches out

These days, many of the stitches used are a type that will dissolve over time. If the stitches you have are the type that don't dissolve, the nurse will remove them for you while you're still in hospital. Or a practice nurse at your local GP surgery can take them out later. If you can't get to the GP surgery for this, a community nurse can visit you at home.

Often the stitches used to hold your chest drains in place don't dissolve on their own. These are usually removed a few days after the operation.

Discharge from the surgical wounds (cuts)

While you are recovering, it is common for a small amount of fluid to leak from the part of the chest where the incision (cut) was made. Also, if you have had bypass surgery, you may have had part of a vein taken from your leg, or part of an artery taken from your arm. There might be fluid from where that cut was made too. The fluid may be blood-stained. If there is just a small amount of discharge, a nurse will put a small, dry dressing on it. If there is a lot of discharge, a nurse will dress the wound and may refer you to your local practice nurse or community nurse.

Talks

Most hospitals arrange for a nurse to give a talk to a group of patients on issues that may affect you when you go home – such as how to deal with jobs around the house, doing the shopping or going back to driving. Your partner or carer can go with you to this.

Final check-up

One of the doctors in the medical team will give you a check-up and will repeat some of the tests you had before your operation.

The nurse should make sure that all your questions have

been answered and that you understand what to do, and what not to do, when you go home.

Medicines and prescriptions

The nursing staff will give you a supply of all the medicines you need to take after you go home. You will be given a letter to give to your GP as soon as you return home. The letter contains a list of the medicines that your GP will continue to prescribe for you, as well as any other information the hospital may want to pass on. You can visit your GP, or make an appointment for him or her to visit you at home after your surgery.

If you have been prescribed **anticoagulant tablets** (for example, warfarin) to help prevent your blood from clotting, you will also need to have regular blood tests to make sure that you have been prescribed the correct dose of your medicine. The hospital staff will tell you where to go to have these blood tests done or arrange for someone to come to you if necessary.

For more information, see our booklet *Medicines for your heart*.

Cardiac rehabilitation team

Someone from the cardiac rehabilitation team should visit you before you leave hospital. She or he can give you

advice on your recovery and how you can help keep your heart healthy. They will tell you about the cardiac rehabilitation programme you can join (see page 45), and about any heart support group in your area (see page 67).

Home again

It's always good to get back home after being in hospital. However, it is normal to feel worried or anxious when you leave the hospital. You will need to have someone with you at home, or stay with a relative or friend for the first week or two, or organise some convalescence (see page 12).

If you have had surgery where the breastbone has been cut, you won't be able to lift, push or pull anything heavy until your breastbone is fully healed, which can take 10 to 12 weeks after surgery. This includes taking too much of your body weight through your arms when you sit down or get up from a chair, bed or toilet. You shouldn't do things such as changing duvet covers, vacuuming, or carrying shopping or baskets of washing. This is why it is important to have someone who can do these jobs for you in the early days. As you recover, you will be able to get back to your normal routine.

If you have had minimal access surgery, your surgeon will advise you on how much lifting and carrying you can do. When you return home, either you or a relative or friend should give your GP the letter that your hospital gave you. This gives the GP important information about your

treatment and medicines.

Remember to get into a routine of taking your medicines as prescribed, including painkillers. You may find it helps to write a list of the medicines you need to take and the times when you need to take them. You will learn more about your medicines at cardiac rehabilitation.

It is important that you have time to adjust to being home again. Try to get up and dressed each day and gradually get back into a daily routine. You should continue with the walking exercises you started in hospital.

It is also important to get enough rest when you go home, so you might want to ask people not to visit you in the first few days. Set aside specific rest times in the day and stick to them. Make sure that you rest properly by going to lie down, rather than just dozing in a chair.

When you are sitting, sit with your feet up on a stool, but make sure your legs are supported. This will help prevent them getting swollen.

When you go home it is normal to have good days and bad days. Feelings of anxiety or depression are common in the first few weeks after surgery. It is better to think about your progress from week to week rather than from day to day. If you continue to feel down or depressed,

Speak to your doctor about it.

You may have very vivid or bad dreams. This may be because of the anaesthetic you had, or medicines you are taking, or just because of what you have recently been through. These dreams will pass with time.

Some people can have memory problems after surgery. This is completely normal after a major operation, and for most people the problem doesn't last for long.

As the weeks pass, you will make progress and will gradually be able to do more and more.

Some cardiac rehabilitation teams can offer you support when you go home. One of the team members may visit you or phone you to see how you are. Or they may offer a helpline service that you can call for advice or information.

How long will it take me to recover?

Most people find that it takes between two and three months to make a full recovery after the operation.

Obviously the recovery time varies greatly, depending on how severe your heart condition was, and the type of operation. Older people or those who were particularly unwell before surgery may take longer to recover than younger people.

How much activity should I do?

The first few days

For the first two or three days at home, do about the same amount of moving around and walking exercise as you did with your physiotherapist in your last few days in hospital.

The first four to six weeks

After two or three days, you can begin to do more activity. Steady walking is ideal. Set yourself realistic goals. Before you leave hospital, the hospital staff will give you advice about how much activity you should do when you go home. Different people will be able to do different amounts. They will give you advice about how to gradually increase the amount of exercise you do between the time you leave hospital and when you start your rehabilitation programme about eight to twelve weeks after surgery (see the next page). They will also tell you how to keep a record of how much exercise you're doing.

If the weather is OK, go out with someone for a short walk, ideally somewhere fairly flat. Getting into the fresh air and doing your deep breathing exercises will help you get better and will help lift your spirits.

As you begin to walk more, you may feel uncomfortable

around your chest, neck, shoulders or back. Don't worry. This is a natural part of the recovery process as the muscles and bones around the chest continue to heal after the operation. Make sure that any discomfort is controlled with painkillers, as this will help you to gradually increase your activity level. You may also feel a bit short of breath as you increase your exercise levels. This will also improve as the days pass and you gain more stamina.

For more information, see our booklet *Physical activity and your heart*.

Joining a cardiac rehabilitation programme

You should be invited to go on a cardiac rehabilitation programme, which usually starts two to six weeks after you leave hospital. The programme usually includes exercise sessions and advice on lifestyle, including healthy eating and relaxation techniques, and information about your medicines. It aims to restore you to as full a life as possible, to keep you as well as possible, and to help you find out how you can protect the health of your heart. It can also help rebuild your confidence and is good fun to do. For more information on rehabilitation programmes, see our booklet *Cardiac rehabilitation*.

If you have not already been invited to a cardiac rehabilitation programme, ask your GP, or visit www.cardiac-rehabilitation.net to find out where there is one in your area. Or call our Heart Helpline on 0300 330 3311.

Warning signs

This booklet has already told you about the aches, pains and feelings that are a normal part of the recovery process after heart surgery. You should contact your GP or cardiac rehabilitation nurse if:

- you get chest pain
- you get new or very bad palpitations
- you get very short of breath
- you sweat a lot more than usual or get a fever
- your eyesight is affected or you get very dizzy, or
- the area around your surgical wound swells up or there is discharge oozing from it.

If your GP thinks it's necessary, he or she can arrange for you to have an appointment with a hospital specialist for more advice or treatment.

Looking after the carer

Caring for someone who has had an operation can be difficult and tiring. If you are looking after someone, it is important that you look after your own health.

- Ask for support when you need it and make sure you get regular breaks.
- Don't try to do too much for the person.
- Try to control how many visitors you have and how long they stay for.

For more information, see our booklet *Caring for someone with a heart condition*.

Everyday life in the weeks after your operation

Baths and showers

You can take baths or showers exactly as usual. However, you may need help with this as you shouldn't take any weight through your arms.

You may find it easier to sit on a stool in the shower cubicle and have somewhere to sit when you get out of the shower.

You may find it difficult to wash your hair to start with and may need some help with this, as it can be uncomfortable to raise your arms above your head.

Can I drive?

Whatever kind of heart surgery you have had, it is likely that you will not be allowed to drive for at least four weeks after your operation. There are different rules about how soon you can start driving again, depending on what type of driving licence you hold. For example, if you have an LGV (large goods vehicle) licence or PCV (passenger-carrying vehicle) licence, you may need to have further tests before you are allowed to drive your vehicle again.

You will need to check with your doctor and with the Driver and Vehicle Licensing Agency (DVLA) about when it's OK for you to start driving. The DVLA's address is DVLA, Swansea SA99 1TU, and their website is www.dvla.gov.uk. Most people don't start driving again until their surgeon says they can.

Whatever sort of driving licence you have, you may also need to tell your motor insurance company about your surgery. If you have any problem with continuing your motor insurance policy, the BHF can give you a list of companies that may be able to provide insurance for you. This is based on feedback from heart patients. You can download a copy from our website bhf.org.uk, or call the BHF Heart Helpline on **0300 330 3311** to order a copy.

How soon can I go back to work?

Many people who have heart surgery go back to their previous jobs. How soon you can return to work depends on the kind of work you do. As a general rule, people who do non-manual jobs can think about returning to work any time from a few weeks after the operation. People who have heavy manual jobs may not be able to go back to work for at least three months after the operation. That's the time needed for the breastbone and muscles to heal.

Talk to your GP and surgeon about when you can go back

to work. Talk to your employers too. They may be able to offer you a gradual return to work, or lighter work for a while when you first go back. For more information, see our booklet *Returning to work with a heart condition*.

What about holidays or flying?

A holiday can give you the chance to unwind and rest, but it is often better to wait until you feel recovered. For most people this can be several weeks. Talk to your doctor or cardiac rehabilitation team about when it's OK for you to go away.

When you go on holiday, you might want to think about staying in accommodation that is easily accessible. Avoid hilly destinations unless you are fit enough for that level of activity. Keep an up-to-date list of all your medicines with you, just in case you lose any of them. And make sure you have adequate travel insurance.

Most people are able to fly once they have fully recovered from their surgery. Talk to your doctor about when it's OK for you to fly.

Travelling can be tiring and long journeys can increase your risk of developing a deep vein thrombosis (DVT), which is a blood clot in the vein. So, if you are travelling, make sure that you have frequent breaks when you can get up and walk around. Whichever form of transport you

are taking, allow plenty of time and don't carry heavy bags.

Sex

Most people who have had heart surgery can return to their sex life. If you have had heart surgery, you can have sex as soon as you feel you have recovered. For most people this is within a few weeks, but some people prefer to wait longer. Be careful not to put the chest wound under too much pressure. Sex is just as safe as other equally energetic forms of physical activity or exercise. Use the same approach to having sex again as you do to building up your general physical activities.

Loss of sex drive is not uncommon after a big operation. Some men may experience impotence (the inability to get or keep an erection). This may be the result of the stress that you have been through. However, it can also be due to other reasons. Impotence is a common problem, so if you are having difficulties, talk to your doctor about it.

If you have a heart condition, you should be cautious about taking a PDE-5 inhibitor medicine such as Viagra. Always check with your doctor beforehand.

For more information, see our DVD *Sex and heart disease*. (See page 65 for details of how to order a copy.)

What about alcohol?

If you are taking sleeping tablets or painkillers, remember that any alcohol you have will have a more powerful effect than usual.

Alcohol can interfere with how warfarin (anticoagulant) tablets work. So, if you are taking these and you are not sure how much you are allowed to drink, check with your doctor.

Remember to only drink within the recommended sensible limits and to avoid alcohol on at least two days a week. For information on sensible limits, see our booklet *Eating for your heart*.

For information about your recovery after heart surgery, see our booklet *Cardiac rehabilitation*.

CASE STUDY Shaun Westrip, 66

“My wife noticed I was getting more breathless, but one day I walked to the pub and really struggled. I saw my GP two days later and he called 999. In hospital I had an angiogram, which showed four blockages in my coronary arteries, and I was told I needed bypass surgery, which I had a week later.

I was ready for it, but did feel nervous. I remember being taken to theatre, then woke up and was being taken to intensive care. The nurses got me out of bed the next day. Any problem I had they were there. Most of the tubes were removed in the step-down unit. Having the chest drains removed wasn't very nice. My family visited, but I didn't want them there every day. I was taught to hold a rolled-up towel over my chest to cough and the physio took me up and down the stairs.

I went home five days later. A community nurse visited to change my chest dressing. I use a stick for walking outside as my leg wound is still a little sore. Last week I saw my surgeon who was very pleased and has now discharged me. I'm going back to work next week and will take time off to go to cardiac rehab classes at my local hospital.”

What happens at my first outpatient appointment?

About six weeks after your operation, you will be asked to go back to the hospital for an outpatient appointment with the surgical team. This allows your surgeon to assess how well you are recovering and to change your medicines if necessary. It also gives you the chance to ask any questions, or ask about any symptoms you may have had during your recovery period.

Before you go for your appointment, you may find it helpful to write down any questions you want to ask the doctor. Before the end of your appointment, make sure that the doctor has answered all your questions.

Most people have another electrocardiogram (ECG) and a chest X-ray taken at their first outpatient visit. If you have had heart valve surgery, you may also have an echocardiogram.

Blood tests may also be done. These may include a test to check that you have been prescribed the correct dose of warfarin.

If your surgeon is happy with your progress, you may not need to see him or her again.

What can I do to help keep my heart healthy?

Keeping your heart healthy after your surgery is vital, as it helps to reduce your risk of heart problems in the future. The following are all very important.

- If you smoke, stop smoking.
- Keep active.
- Keep to a healthy weight and body shape.
- Keep your cholesterol and blood pressure under control. It is important to get these checked regularly at your GP's surgery.
- Eat a healthy balanced diet, only drink alcohol within the recommended sensible limits, and make sure you have at least two alcohol-free days a week.
- If you have diabetes, control your blood glucose level.

There is more information about all these things in our other booklets and resources (see page 65).

How your support can help

Over recent decades, research funded by the BHF has made a substantial contribution in the fight against heart disease. For example, our funding for cutting-edge surgical research has contributed to innovations that mean the heart is better protected during operations where the heart's blood supply has to be cut off.

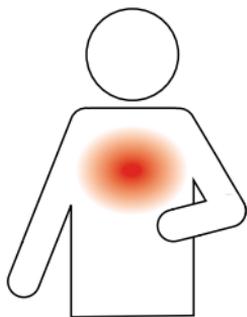
We aim to play a leading role by continuing to support vital research. The number of people dying from heart and circulatory disease each year in the UK is falling. But this means that more people are living with the disease, so there is still a great deal to be done.

Our next big challenge is to discover how to help the heart muscle repair itself, and find a cure for heart failure. Visit our website [bhf.org.uk/findthecure](https://www.bhf.org.uk/findthecure) to find out about our Mending Broken Hearts Appeal and see how your support can help make a difference.

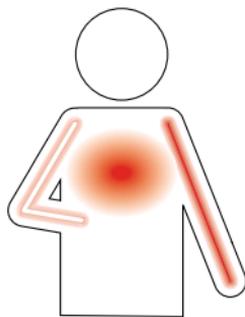
Heart attack? Know the symptoms ... and what to do

A heart attack is when a part of the heart muscle suddenly loses its blood supply. This is usually due to coronary heart disease.

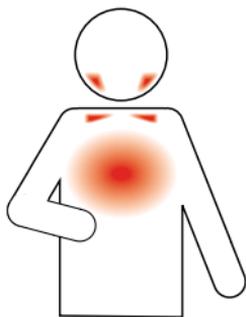
The symptoms of a heart attack



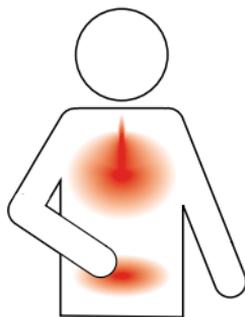
Pain or discomfort in the chest that doesn't go away.



The pain may spread to the left or right arm ...



... or may spread to the neck and jaw.



You may feel sick or short of breath.

Think quick ... act fast. Call 999 immediately.

What to do if you think someone is having a heart attack

- 1 Send someone to call 999 for an ambulance immediately.
- 2 If you are alone, go and call 999 immediately and then come straight back to the person.
- 3 Get the person to sit in a comfortable position, stay with them and keep them calm.
- 4 If the person is not allergic to aspirin, give them an adult aspirin tablet (300mg) to chew if there is one easily available. If you don't have an aspirin next to you, or if you don't know if the person is allergic to aspirin, just get him or her to stay resting until the ambulance arrives.

What is a cardiac arrest?

A **cardiac arrest** is when a person's heart stops pumping blood round their body and they stop breathing normally.

A person who is having a heart attack may develop a dangerously fast heart rhythm which can cause a cardiac arrest and be fatal.

It is sometimes possible to shock the heart back into a normal heart rhythm by giving **defibrillation**. This means giving the heart an electrical shock using a defibrillator. For every minute that a person is in cardiac arrest before defibrillation, their chances of survival are reduced by about 10%. However, by doing CPR (cardiopulmonary resuscitation) you can double someone's chance of survival. We explain how to do this on page 62.

What to do if someone has collapsed and is not responding, and may be in cardiac arrest

Think DRS, ABC.

D = Danger

Check for **danger**. Approach with care, making sure that you, the person and anybody nearby are safe.

R = Response

Check for **response**. To find out if the person is conscious, gently shake him or her, and shout loudly, 'Are you all right?'

S = Shout

If there is no response, **shout** for help.

You will need to assess the person and take suitable action. Now, remember **ABC** – **airway, breathing, CPR**.

A = Airway

Open the person's airway by tilting their head back and lifting their chin.



B = Breathing

Look, listen and feel for signs of normal breathing. Only do this for up to 10 seconds. Don't confuse gasps with normal breathing. If you're not sure if their breathing is normal, act as if it is not normal.

C = CPR

If the person is unconscious and is not breathing normally, they are in **cardiac arrest**.

Call 999 immediately.

- Send someone else to call 999 for an ambulance while you start CPR.
- **Or, if you are alone with the person, call 999 before you start CPR.**



How to do CPR

If you have not been trained to do CPR, or if you're not able, or not willing, to give rescue breaths, do hands-only CPR. This is described in step 1 on the next page. Keep doing the chest compressions – at a rate of about 100 to 120 times a minute – until:

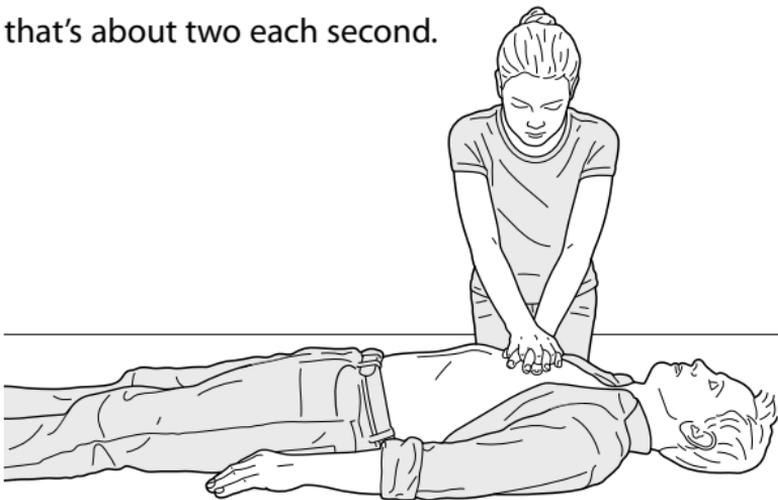
- the ambulance crew arrives and takes over, or
- the person starts to show signs of regaining consciousness, such as coughing, opening their eyes, speaking, or moving purposefully **and** starts to breathe normally, or
- you become exhausted.

CPR

1 Chest compressions

Start chest compressions.

Place the heel of one hand in the centre of the person's chest. Place the heel of your other hand on top of your first hand and interlock your fingers. Press down firmly and smoothly on the chest 30 times, so that the chest is pressed down between 5 and 6 centimetres each time. Do this at a rate of about 100 to 120 times a minute – that's about two each second.

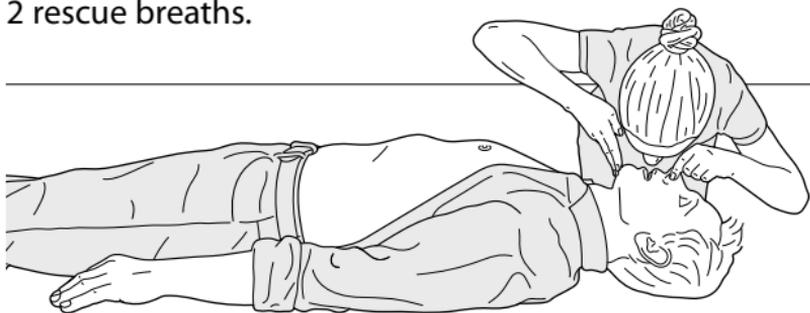


2 Rescue breaths

After 30 compressions, open the airway again by tilting the head back and lifting the chin, and give two of your own breaths to the person. These are called rescue breaths.

To do this, pinch the soft parts of the person's nose closed. Take a normal breath, make a seal around their mouth with your mouth, and then breathe out steadily. The person's chest should rise and fall with each breath. It should take no more than 5 seconds to give the two rescue breaths.

Then give another 30 chest compressions and then 2 rescue breaths.



3 Continue CPR

Keep doing the 30 chest compressions followed by 2 rescue breaths until:

- the ambulance crew arrives and takes over, or
- the person starts to show signs of regaining consciousness, such as coughing, opening their eyes, speaking, or moving purposefully **and** starts to breathe normally, or
- you become exhausted.

For more information

British Heart Foundation website

bhf.org.uk

For up-to-date information on heart disease, the BHF and its services.

Heart Helpline

0300 330 3311 (a similar cost to 01 or 02 numbers)

For information and support on anything heart-related.

Genetic Information Service

0300 456 8383 (a similar cost to 01 or 02 numbers)

For information and support on inherited heart conditions.

Booklets and DVDs

To order our booklets or DVDs:

- call the BHF Orderline on **0870 600 6566**, or
- email **orderline@bhf.org.uk** or
- visit **bhf.org.uk/publications**

You can also download many of our publications from our website. For a list of resources available from the BHF, ask for a copy of *Our heart health catalogue*. Our booklets are free of charge, but we would welcome a donation. (See page 2 for how to make a donation.)

Heart Information Series

This booklet is one of the booklets in the *Heart Information Series*. The other titles in the series are as follows.

Angina

Atrial fibrillation

Blood pressure

Cardiac rehabilitation

Caring for someone with a heart condition

Coronary angioplasty

Diabetes and your heart

Having heart surgery

Heart attack

Heart rhythms

Heart transplantation

Heart valve disease

Implantable cardioverter defibrillators (ICDs)

Keep your heart healthy

Living with heart failure

Medicines for your heart

Pacemakers

Peripheral arterial disease

Physical activity and your heart

Primary angioplasty for a heart attack

Reducing your blood cholesterol

Returning to work with a heart condition

Tests for heart conditions

Our services

For more information about any of our services, contact the **Heart Helpline** on **0300 30 3311** or visit **bhf.org.uk**

Emergency life support skills

For information about Heartstart – a free, two-hour course in emergency life support skills, including what to do if someone seems to be having a heart attack – call the **BHF Helpline** on **0300 330 3311** or visit **bhf.org.uk**

Heart Matters

Heart Matters is the BHF's **free**, personalised service that provides support and information for people who want to improve their heart health. Join today and enjoy the benefits, including *heart matters* magazine and an online members' area. Call the **Heart Helpline** on **0300 330 3311**, or join online at **bhf.org.uk/heartmatters**

Heart support groups

Local heart support groups give you the chance to talk about your own experience with other heart patients and their carers. They may also include exercise classes, talks by guest speakers, and social get-togethers. To find out if there is a heart support group in your area, contact the **Heart Helpline** on **0300 330 3311**.

Make yourself heard – Hearty Voices

Hearty Voices gives you the skills, confidence and knowledge you'll need to influence health services for the benefit of heart patients and their families across the UK. It aims to develop a nationwide network of representatives to speak out on behalf of heart patients and their carers, and to provide them with training and opportunities to have their say and get involved.

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Have your say

We would welcome your comments to help us produce the best information for you. Why not let us know what you think? Contact us through our website **bhf.org.uk/contact**. Or, write to us at the address on the back cover.

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- Mr Olaf Wendler, Consultant Cardiothoracic Surgeon, King's College Hospital, London.

We are the nation's heart charity, dedicated to saving lives through pioneering research, patient care, campaigning for change and by providing vital information. But we urgently need your help. We rely on your donations of time and money to continue our life-saving work. Because together we can beat heart disease.

bhf.org.uk

 Heart Helpline
0300 330 3311
bhf.org.uk

Information & support on anything heart-related. Phone lines open 9am to 5pm Monday to Friday. Similar cost to 01 or 02 numbers.

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