



Heart surgery

changed my life

Kerrie Kent

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FOR EVERY
HEARTBEAT**

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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.

Whatever form of heart surgery you're having, 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 doctors or the other health professionals looking after you may give you, but it should help you to understand what they tell you.

Heart surgery is an operation that helps to mend problems with the heart and treat heart disease. It aims to relieve the symptoms of heart disease and improve your quality of life.

Heart surgery has developed a lot in recent years. Although a heart operation is still major surgery, techniques have moved on so much that it's now a routine operation. In fact, tens of thousands of people have heart surgery in the UK every year.

Heart surgery can include:

- **Coronary artery bypass graft surgery.** This is the most common type of heart surgery to help treat angina and coronary heart disease.
- **Heart valve surgery.** This involves repairing or replacing one or more of your heart valves.
- **Other surgery.** This includes surgery to correct congenital heart disease (heart conditions that you're born with), and heart transplants.

If you're about to have heart surgery, it's important that you and your family understand why you're having the operation, what it involves, what the risks and benefits are, 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.

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

Once your doctor has recommended that you have heart surgery, and you've decided to go ahead with it, you'll be put on a waiting list. Most people will have their operation within a few months of going on the waiting list, although some will have their operation much sooner than this. It all depends on your condition.

While you're on the waiting list, it's 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're waiting for heart surgery

While you're waiting for your heart surgery, use the time to get yourself as healthy as possible. There are several things you can do. We describe these on the next pages.

If you smoke, stop

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

It's vital that you stop smoking as soon as possible before your surgery. If you continue to smoke right up to the time of your operation, it will increase the risk of complications and can affect your breathing in the days afterwards. (For more about this, see page 30.)

Ask your GP, nurse or pharmacist for advice about stopping smoking. Or, contact the Smokefree National Helpline on **0300 123 1044**, or visit the Smokefree website at **www.nhs.uk/smokefree**



For more information on how to quit smoking, see our booklet **Stop smoking**.

If you're overweight, try and lose some weight

Overweight people are more at risk of having complications during their operation.

If you're overweight, your doctor or nurse may be able to give you some advice, or refer you to a dietitian, to help you lose weight before your operation.



For more information, see our booklet **Facts not fads: Your simple guide to healthy weight loss**.

Keep as physically active as your condition allows

Regular activity can help to keep you fit and recover more quickly from your operation.

Talk to your doctor about how much activity you should do. He or she can also give advice on how you can reduce your risk of getting symptoms while exercising, or how to cope with the symptoms if you get them.

Visit your dentist

As soon as you know that you need heart surgery, visit your dentist to make sure that your teeth and gums are as healthy as possible to reduce the risk of infection. This is particularly important if you're having an operation on a heart valve. Infected gums or teeth can introduce bacteria into the bloodstream, which could cause complications.

When you know the date of your operation

Planning for your return home

As soon as you've been given a date for 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 your first couple of weeks back at home. It's 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 stay somewhere else for a week or two after you leave hospital), or for you to have extra help with getting washed, meals and housework. Before you go into hospital, talk to your

GP, practice nurse, social worker or someone at the hospital so that they can help arrange it for you.

Pre-operative assessment

Most people are asked to go for a 'pre-operative assessment' a few weeks before their planned surgery date. The aim of this assessment is to make sure that you're as healthy as you can be before your operation so that you recover as quickly as possible afterwards. It will also make sure that all of the practical arrangements for your surgery have been made. You'll be encouraged to bring a family member or friend with you to the appointment, as you'll be given information to help prepare you and your family for the operation and your recovery.

What happens at a pre-operative assessment?

Pre-operative assessment clinics are usually run by nurses with experience and knowledge of your surgery. Sometimes physiotherapists, dietitians and anaesthetists are involved too. The nurses will ask you about any other medical conditions you have and, based on this, they can arrange any necessary tests or investigations before you're admitted to hospital.

The tests you'll have include:

- blood tests
- checks for any infection, and
- an electrocardiogram (ECG).

They may also include:

- a chest X-ray
- lung function tests
- a scan of your neck arteries, or
- an echocardiogram.

See page 17 for more information about these tests.

You may be shown deep breathing and coughing techniques, which are very important after your operation (see page 30).

The nurse will also complete some paperwork.

This means that there will be less to do on the day of your admission and allows your nurse to talk to other medical teams about any other treatment you may need before your surgery.

If you have any questions about your surgery, bring them to the assessment.

Be aware that your whole appointment, including having the tests, may take several hours.

After the pre-operative assessment

If there are any abnormal test results that need further investigation, the nurses will contact you before your surgery. You can also contact them if you have any other questions before you go into hospital.

What to take with you into hospital

It's important that you're comfortable while you're in hospital. In the first few days after your operation you won't be able to move about as much as usual or 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.

After surgery, women are advised to wear their usual **supportive bra** with any under wires removed. Back extensions can be added if needed. Front-fastening bras are not recommended as the bra's hooks and eyes would sit on the surgical incision, causing discomfort.

Soon after your operation, you'll be encouraged to march on the spot or 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're 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.

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.

**Although a
heart operation
is major surgery,
it's now a routine
operation.**

KERRIE'S STORY

When Kerrie was six months old, doctors discovered that her aortic valve was narrowed. She has undergone heart surgery three times since then, most recently in 2015.

"I didn't actually think about my recovery when going in for the operation back in 2010, so every stage was a shock to me. It was slow going at first, but I started going for walks and eventually I got up to a mile every day.

When I had my valve replaced again in 2015, I knew what to expect. I knew it would take time to build up my fitness again, but that I'd be back at work again soon. My husband and family were brilliant. They all played a key part in my recovery, looking after me and helping me stay positive.

Although I know I may need to have more surgery down the line, I still feel optimistic about everything the future has to offer."



For planned surgery, you may be admitted to hospital either the day before, or on the day of your operation.

After your operation you'll spend a day or so in an **intensive care unit**, or a **specialised recovery unit**. You will then be transferred to a **high dependency unit** and later on to the **cardiac surgical ward**.

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
- any complications after your operation
- your general health before the surgery, and
- your age.

When you arrive in hospital, you should be shown around the ward. If you've had a pre-operative assessment, you'll just have your details checked and the nurse will ask you some routine questions.

Tests

The following tests will be done before your operation. If your operation has been planned in advance, these tests will probably have already been done during your pre-operative assessment (see page 09).

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 are done after your operation. If you're going to have surgery on a heart valve, you will also have an **echocardiogram**.



For more information, see our booklet **Tests**.

Visits from people in the medical team

Before your operation, you'll meet the following people.

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

If you're having surgery on a heart valve, your surgeon will have discussed with you whether you can have a heart valve repair or if the valve needs to be replaced. 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 is the doctor who will give you your anaesthetic and look after you while you're 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.

The physiotherapist will show you breathing and coughing techniques, which will be very important after your operation. They will also help you get moving again in the days after your operation. In some hospitals, this may be done by a member of the nursing team instead of a physiotherapist.

The nursing staff will look after you both before and after your operation. They will be able to answer your questions and reassure you.

Someone from **the cardiac rehabilitation team** may visit you to talk about your recovery and rehabilitation after your operation (see page 47).

In several cardiac surgery centres, teams of nurses with advanced skills, known as **cardiac surgery nurse practitioners**, have been developed to replace some junior doctors. They work with the ward nursing team to make sure your physical condition is monitored and that any problems are treated quickly to avoid complications.



For more information on health professionals and what they do, visit [bhf.org.uk/HMwho](https://www.bhf.org.uk/HMwho)

Getting ready for the operation

Baths or showers

Before having any surgery, it's important that your skin and hair are clean. This will reduce the risk of infection after the operation. You'll be advised 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.

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

Eating and drinking before the operation

You won't 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 about two hours before your surgery. 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'll 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.

Once you've had your pre-med, it's important you 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'll meet the theatre nursing staff and the anaesthetic team.

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'll receive anaesthetic medicine that will send you to sleep. You'll be checked very closely during the operation and will continue to receive the anaesthetic medicine through the drip in your hand, and oxygen to breathe through a breathing tube.

A small tube will be inserted into an artery in your wrist. This is so that your blood pressure can be monitored during and after your operation.

Once you're 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 away any urine. Sometimes an ultrasound camera may be passed into your oesophagus (gullet), so that 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, the heart needs to be stopped so that the doctors can operate on it safely. Blood is 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 the next page).

On the following pages 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're having coronary artery bypass surgery

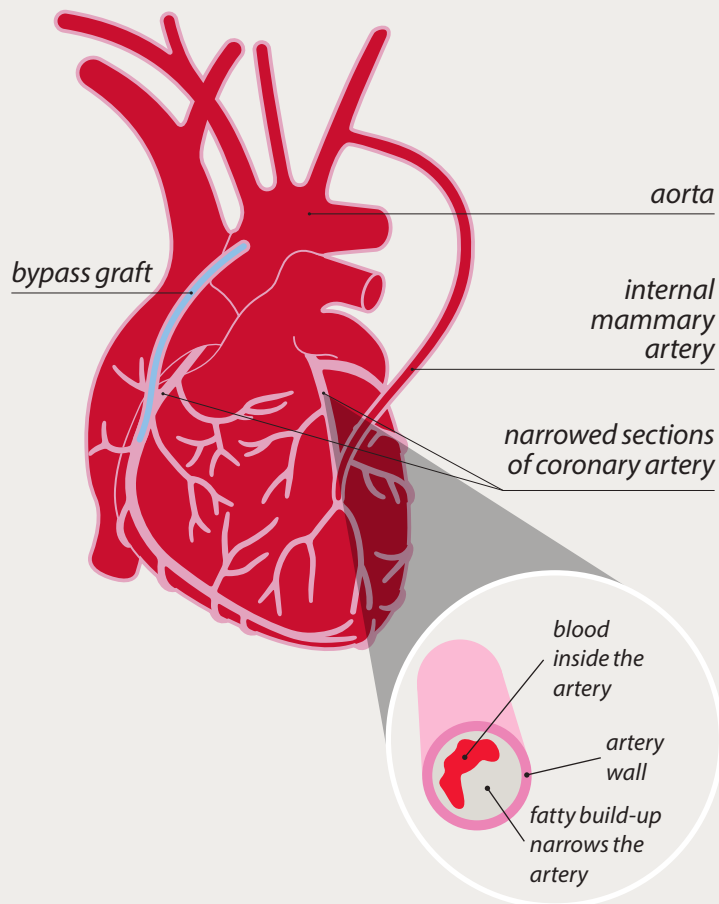
Once the heart has been stopped, the surgeon will use arteries from your chest wall (the internal mammary artery), arm (radial artery), or veins (saphenous vein) from your leg, to bypass the blockages in your coronary arteries. The number of bypasses you need depends on how many of your arteries have narrowed. The coronary arteries are on the outside surface of your heart, so the surgeon does not need to open your heart.

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're having coronary artery bypass surgery, remember that this can't cure your underlying coronary heart disease. But having the operation can help to relieve your symptoms and improve your quality of life.

Coronary artery bypass surgery



If you're having heart valve surgery

The surgeon will either repair or replace the faulty valve. If you're 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 your heart to reach them.



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

If you're 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're born with) and may need heart surgery. Most heart operations involve using the 'traditional heart surgery' technique described on page 23. The preparations for your surgery, and your recovery afterwards, are similar to what we have described on pages 20 and 30. 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 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.

Once the surgeon is happy that the operation is complete, your breastbone will be securely closed using steel 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 to carry out the surgery, or opens only part of the breastbone.

You may still need to be put on a heart-lung machine so that the surgeon can operate on your 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 groin (to connect you to the heart-lung machine), and one or more cuts are made in the side of your chest.

If you'd like to know if this is an option for you, talk to your surgeon.

**Regular activity
can help to keep
you fit and recover
more quickly from
your operation.**

After your operation, you'll 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'll be looked after here for about 24 to 48 hours. The medical and nursing staff in these units are very experienced and are used to looking after patients who have just had heart surgery.

In this unit there are lots of machines, tubes and electronic monitoring equipment. These help to give your nurses and doctors the information they need to make sure you make good progress after your operation. We explain what the equipment is for on page 33.

Breathing

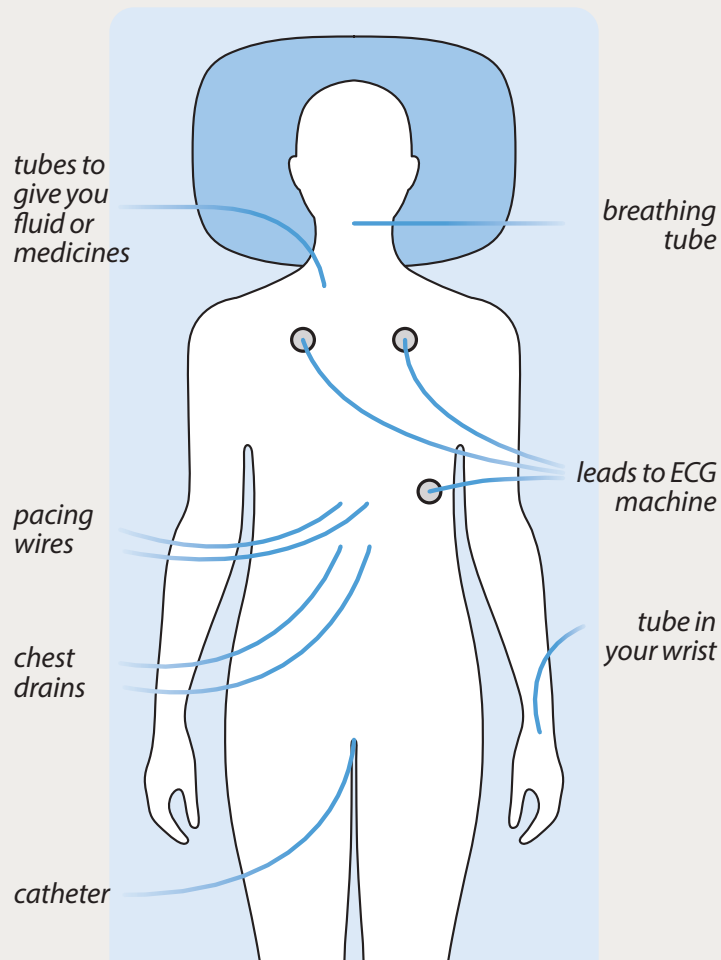
After your operation, you will be kept asleep with anaesthetic medicines for a few hours. You'll be connected to an artificial breathing machine called a **ventilator** and will breathe through a tube that passes through your mouth into your lungs. As you begin to wake up, you may feel that the tube 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're sure that you are properly awake, they'll remove the tube and you'll be able to breathe normally.

When you come off the ventilator, you'll have an oxygen mask over your nose and mouth, to make sure you're 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'll see several tubes and perhaps some wires connected to your body:

- A breathing tube will be in your mouth to help you breathe.
- Two or three small tubes in veins in your arms and neck allow fluid to be delivered into your circulation and may also be used to give you any medicines you might need.
- Leads from an ECG machine will be attached to your chest, to monitor your heartbeat.
- Two to four wires, called **pacing wires**, are put in place to control your heart rate if necessary after the operation. The pacing wires are removed two or three days after your operation.
- **Chest drains** will be put into the chest area around your heart at the end of the operation. 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.

- A small tube connected to an artery in your wrist allows the medical staff to monitor your blood pressure and take blood samples.
- A tube called a **catheter** will be placed into your bladder so that you can pass urine during and after your operation. It usually stays in place for one or two days.

Can I have visitors?

For the first eight to twelve hours or so, you will be asleep for much of the time. Each intensive care unit is different, so ask the nurses what the normal visiting hours are.

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'll be taken to a high dependency unit. Here, the doctors and nurses will concentrate on:

- your breathing and coughing
- 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 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, or one of the nurses, will spend some time working with you on your breathing and coughing exercises. This will help to clear any phlegm from your lungs and reduce the risk of chest infection, and is a vital part of your recovery.

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'll 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're getting. When you push a button on the pump, it delivers a measured amount of pain relief. The pump is designed so that you can't accidentally give yourself too much. It's particularly helpful to be able to use it before doing your breathing and coughing exercises, when your chest drains are removed, or if you need to move.

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

Eating and drinking

After the operation, it's normal to lose your appetite for a few days. The nurses will give you small amounts of drinks to start with and you'll 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're taking, and also partly because you haven't been moving around much. The nurse may give you a mild laxative to ease this.

Getting moving again

You may be surprised at how soon after heart surgery you'll be able to move around again. You'll be encouraged to walk around your bed and then around the ward, usually on the second and third days after surgery. Getting moving again very soon

after the operation will help you to recover more quickly and prevent problems caused by being in bed for too long.

Gradually you'll be able to walk longer distances. You may be asked to walk up and down stairs to make sure that you can do this comfortably and safely before you're allowed to go home.

If you've 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 steel 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.

In some cases, you may be taught how to use a pillow or rolled up towel to help support your chest in the days after your operation. This can help ease any discomfort and help support your chest when you cough.

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

Most hospitals get heart surgery patients to wear special stockings which can help the blood to circulate and help prevent blood clots from forming. The nurses will tell you how to use and look after them.

How am I doing?

After the operation, you may have a couple of days when you're feeling very low. It's normal to feel emotional, tired and uncomfortable after a big operation.

Don't be afraid to ask the hospital staff how you are doing. They'll 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.

Your surgical wounds (cuts)

While you're recovering, it's common for a small amount of fluid to leak from where the operation incisions (cuts) were made. If there's a lot of fluid, a nurse will dress the wound and may refer you to your local practice nurse or a community nurse.

Final check-up

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

The nursing team 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'll 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.

Cardiac rehabilitation team

Someone from the cardiac rehabilitation team may visit you before you leave hospital. They'll tell you about the cardiac rehabilitation programme you can join if this is suitable for you (see page 47), and about any heart support groups in your area (see page 69).



For more information, see our booklets
Medicines for my heart and **Cardiac rehabilitation**.

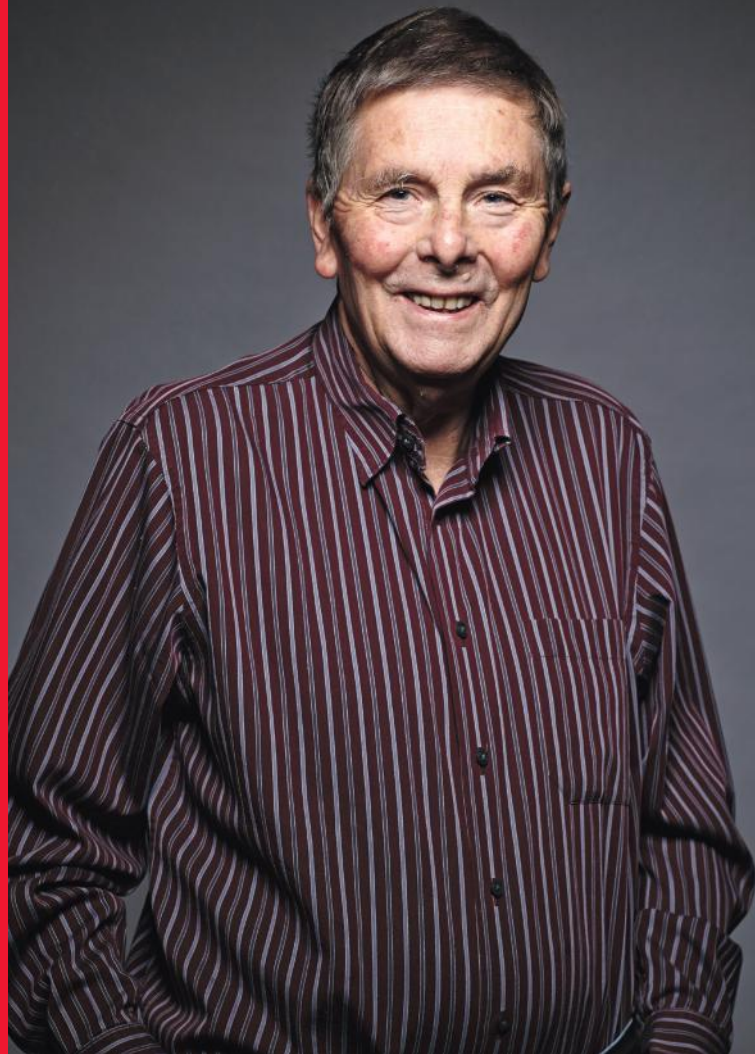
ROD'S STORY

Back in 1987, when he was 41, Rod developed tightness in his chest while out jogging. He was referred to a hospital for tests.

"In those days I was very active. I ran a successful business and was a fit, normal bloke. I had an angioplasty, which unfortunately failed, and so I had an emergency triple heart bypass.

I began serious hill walking in 1988 – more walking than I'd ever done before my bypass. My cardiologist joked that I thought I was 18 again, but I loved it. A few years later I got a severe pain in my arm. I was having a heart attack. I needed further bypass surgery. In 2001, I started getting angina when exercising, especially during the cold weather. I had another heart attack in 2003, and a third bypass quickly followed.

I made a full recovery and have never had angina since. I'm a very lucky individual and I'm still enjoying life at 69."



It's always good to get back home after being in hospital. But it's normal to feel worried or anxious when you leave the hospital. You'll 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 08).

If you've 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. This can take up to 12 weeks after your surgery, so you shouldn't do things like vacuuming, carrying shopping or baskets of washing, or changing duvet covers. Also, don't take too much of your body weight through your arms when you sit down or get up from a chair, bed or toilet. As you recover, you'll be able to get back to your normal routine.

If you've 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 the hospital gave you. This gives the GP important information about your treatment and medicines.

It's normal to have good days and bad days, and feelings of anxiety or depression are common in the first few weeks after surgery. But it's 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 can be because of the anaesthetic you had, the medicines you're taking or just because of what you've 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'll make progress and will gradually be able to do more and more.

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 and 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 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. Before you leave hospital, the hospital staff will give you advice about how to gradually increase the amount of exercise you do.

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. 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.

You may 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 get you back 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**.

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 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 fluid 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.

Caring for someone who has had an operation can be difficult and tiring. If you're looking after someone, it's 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.

The following organisations and websites may also be helpful.

- **Carers Direct** www.nhs.uk/carersdirect
Helpline **0300 123 1053**
Carers Direct provides information and support to carers.
- **Gov.uk** www.gov.uk
Provides information on carers allowance and other benefits.



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

Can I drive?

Whatever kind of heart surgery you've had, it's likely that you won't 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 a licence to drive a bus, coach or lorry, you may need to have further tests before you're allowed to drive your vehicle again.

You'll 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. Visit the DVLA website at www.gov.uk/health-conditions-and-driving or call them on **0300 790 6806**, or write to them at DVLA, Swansea SA99 1TU. 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.

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.

What about holidays and flying?

A holiday can give you the chance to unwind and rest, but it's better to wait until you feel recovered. Talk to your doctor or cardiac rehabilitation team about when it's OK for you to go away.

Sex

Most people who have had heart surgery can return to their sex life. If you've 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.

What about alcohol?

If you're 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're taking warfarin and you're not sure how much you can drink, check with your doctor.

Remember to drink only within the recommended sensible limits. For information on this, see our booklet *Eating well*.

Air pollution

It is important to be aware that being exposed to high levels of air pollution can make existing heart conditions worse. The level of air pollution varies from day to day, depending on the weather and season. Pollution levels are classed as low, moderate, high or very high – you can check this for your area by visiting uk-air.defra.gov.uk

If you've had heart surgery, you may want to avoid spending long periods of time in places where there are high levels of air pollution. For example, avoid walking on or near busy roads. For most people, the benefits of exercising outdoors outweigh the risks associated with air pollution, but it is good to be aware of the potential risk. See pages 46-47 for information on getting active after heart surgery.



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

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're 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.

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.

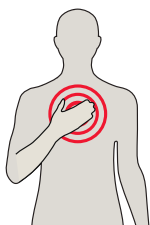
- If you smoke, stop.
- Keep active.
- Try to avoid doing exercise in areas with high levels of air pollution (see page 53).
- Keep to a healthy weight and body shape.
- Keep your cholesterol and blood pressure under control. It's important to get these checked regularly at your GP's surgery.
- Eat a healthy, balanced diet and only drink alcohol within the recommended sensible limits.
- If you have diabetes, control your blood glucose level.

For more information on these topics, see our other resources on page 67.

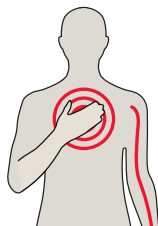
HEART ATTACK? THE SYMPTOMS ... AND WHAT TO DO

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



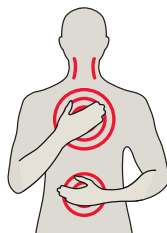
Pain or discomfort in the chest that doesn't go away.



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.

ACT FAST...

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

- 1** Send someone to call 999 for an ambulance immediately.

If you are alone, go and call 999 immediately and then come straight back to the person.
- 2** Get the person to sit in a comfortable position, stay with them and keep them calm.
- 3** Give the person an adult aspirin tablet (300mg) to chew if one is easily available, unless they're allergic to aspirin or they've been told not to take it.

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 them to stay resting until the ambulance arrives.

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

A person who is having a cardiac arrest may develop a dangerously fast heart rhythm which can 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.

There are now **public access defibrillators** – or **PADs** for short – in many workplaces, shopping centres, train stations, leisure centres and village halls. It's very easy to use a PAD. The machine gives clear, spoken instructions and you don't need training to use one.

Once attached to a person in cardiac arrest, the PAD will instruct you whether or not a shock is needed and how to deliver it.

Find out where the PADs in your local area are. For more information, go to [bhf.org.uk/defibs](https://www.bhf.org.uk/defibs)

The most important thing you can do to help save a person's life is **CPR – cardiopulmonary resuscitation**. This, along with defibrillation, can double someone's chance of survival in some cases. We explain how to do this on the next pages.

CALL PUSH RESCUE

If someone has had a cardiac arrest, they will be unconscious, and either not breathing or not breathing normally. The person needs immediate help or they will die within minutes.

First check that it is safe to approach the person.

To find out if the person is conscious, gently shake him or her, and shout loudly, 'Are you all right?' If there is no response, the person is unconscious.

You will need to assess the person's **airway** and **breathing**.

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



Look, listen and feel for signs of normal breathing. Only do this for up to ten 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.

Now remember: **Call Push Rescue**

CALL...

Call for help.

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

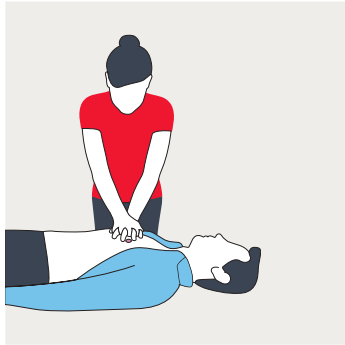
Call 999 immediately.

- 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.**



PUSH...

Push hard and fast on the centre of the chest.



Start chest compressions.

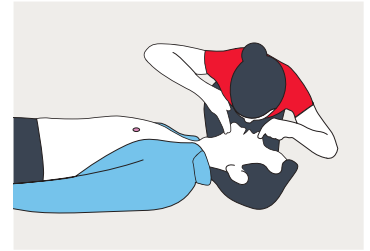
Place the heel of one hand in the centre of the person's chest. Place the heel of your other hand on top of your first hand and interlock your fingers. Press down firmly and smoothly on the chest 30 times, so

that the chest is pressed down between five and six centimetres each time. Do this at a rate of about 100 to 120 times a minute. That's about two each second.

RESCUE...

Give 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 five seconds to give the two rescue breaths.

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

Keep doing the 30 chest compressions followed by two 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.

If you prefer not to give rescue breaths

If you'd rather not give rescue breaths, call 999 and then deliver **hands-only CPR**. Keep doing the chest compressions – at a rate of about 100 to 120 times a minute.

For more on this, see [bhf.org.uk/handsonly](https://www.bhf.org.uk/handsonly)



For more information about training in how to do CPR, see page 68.

British Heart Foundation website

[bhf.org.uk](https://www.bhf.org.uk)

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

Genetic Information Service

0300 456 8383

(A similar cost to 01 or 02 numbers.)
For information and support on inherited heart conditions.

Online community

community.bhf.org.uk

Share your experiences, stories, tips and ideas with other people like you in our online community.

Heart Helpline

0300 330 3311

(A similar cost to 01 or 02 numbers.)
For information and support about your heart condition and keeping your heart healthy.

Twitter

[@TheBHF](https://twitter.com/TheBHF)

Get our latest news and views directly into your Twitter feed.

Facebook

facebook.com/bhf

Join the conversation and get our latest news and updates on Facebook.

Booklets and DVDs

To order our booklets or DVDs:

- call the BHF Orderline on **0300 200 2222**
- email **orderline@bhf.org.uk** or
- visit **bhf.org.uk/publications**

You can also download many of our publications from our website.

Our resources and services are free of charge, but we rely on donations to continue our vital work. If you'd like to make a donation, please call our donation hotline on **0300 330 3322** or visit our website at **bhf.org.uk/donate**

Heart Information Series

This booklet is part of the *Heart Information Series*. The booklets in this series are:

- Angina
- Atrial fibrillation (AF)
- Blood pressure
- Cardiac rehabilitation
- Caring for someone with a heart condition
- Coronary angioplasty
- Diabetes and your heart
- Heart attack
- Heart failure
- Heart rhythms
- Heart surgery
- Heart transplant
- Heart valve disease
- Implantable cardioverter defibrillators (ICDs)
- Keep your heart healthy
- Living with a pacemaker
- Medicines for my heart
- Peripheral arterial disease
- Reducing my blood cholesterol
- Returning to work
- Tests

Our services

For more information about any of our services, contact the BHF on **0300 330 3322** or visit **bhf.org.uk**

Nation of life savers

The BHF has a vision to create a nation of life savers. As part of that vision, we're doing everything we can to make sure the UK public know CPR and can use public access defibrillators. Join the fight for every heartbeat and help us save the lives of thousands of people across the UK every year. Find out more at **bhf.org.uk/cpr**

- **Heartstart** is a free, two-hour course where you can learn CPR and other emergency life saving skills.
- Our **Call Push Rescue** training kit is available free to eligible secondary schools, and for a small fee to workplaces and community groups. It has everything you need to learn CPR, including a training DVD.

Heart Matters

Heart Matters is the BHF's free, personalised service offering information to help you lead a heart-healthy lifestyle. Join today and enjoy the benefits, including *Heart Matters* magazine and access to online tools. Call the **Heart Matters Helpline** on **0300 330 3300**, 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**.

Help shape the BHF – Heart Voices

Heart Voices is a growing network of heart patients who use their experiences to make sure our work meets the needs of patients. By signing up, you'll get the chance to shape the BHF by getting involved with anything from helping us to make new resources to informing our research. Visit **bhf.org.uk/heartvoices** for more information and to sign up.

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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 inside front cover.

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THANK YOU

This booklet is part of the *Heart Information Series*. We distribute 2 million booklets from this series each year. Without your hard work and support the British Heart Foundation wouldn't be able to provide this vital information for people with heart conditions.

Donate to the fight at bhf.org.uk/donate, or text **FIGHT to 70080** to donate £3 to fund our life saving research.



British Heart
Foundation

For over 50 years our research has saved lives.

We've broken new ground, revolutionised treatments
and transformed care.

But heart and circulatory disease still kills one in four
people in the UK.

That's why we need you.

With your support, your time, your donations,
our research will beat heart disease for good.

**FIGHT
FOR EVERY
HEARTBEAT**

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