



A lifetime of specialist care

Royal Brompton & Harefield **NHS**
NHS Foundation Trust

Royal Brompton Hospital

Preparing for your heart operation





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This booklet gives you information on preparing for your heart operation. It does not replace the need for personal advice from a healthcare professional. If you need any more information, please contact the cardiac surgery helpline via the hospital switchboard on 020 7352 8121 and ask for bleep 7043.

Why do I need heart surgery?

People need heart surgery for different reasons. The most common reasons are:

Coronary artery disease

The coronary arteries supply the heart with blood. In some patients, if fatty material builds up inside the wall of the arteries (atheroma), these arteries become narrowed. If this happens, the blood supply to the heart is reduced and it does not get enough oxygen. This causes chest pain called angina. If the artery becomes totally blocked, the result is a heart attack.

Damaged heart valves

The heart has four heart valves that control the flow of blood in and out of your heart.

Heart valves can get damaged through ageing, rheumatic fever or a heart attack. They may become stiff and their openings narrower or floppy, which may allow blood to flow in the wrong direction.

If the valves are damaged, your heart has to work harder to pump blood. Over time, the heart becomes enlarged (bigger) and inefficient.

An enlarged heart that does not work well is called heart failure. Symptoms include shortness of breath, tiredness and fluid retention.

Enlarged aortic artery

The aortic artery is the main artery that carries oxygen-rich blood to the body. The aortic artery can become enlarged and rupture (burst). This abnormality is usually caused by a genetic disorder.



Types of heart surgery

Coronary artery bypass grafting (CABG)

What is CABG?

Coronary artery bypass grafting (CABG) involves taking a vein or artery from another part of the body, usually the chest or leg, and attaching it to the coronary artery above and below the narrowed area or blockage. This replacement vein or artery is called a graft and allows blood to bypass the narrowing or blockage, improving blood supply to your heart muscle.

Heart bypass surgery does not cure the heart disease that caused your arteries to become narrowed or blocked. It is important to follow a healthy lifestyle to help the graft(s) work well and to prevent the narrowing of other arteries. There is more information on how you can improve your lifestyle on page 9 of this booklet.

How is CABG carried out?

The first step is to collect the vein or artery that is going to be used as the graft. The surgeon then reaches the heart by making a 25cm (10 inches) cut down the middle of the breastbone.

An alternative procedure called a minimally invasive operation is available to some patients who have only one blocked coronary artery. Instead of cutting through the breastbone, the surgeon makes a smaller cut in the side of the chest through which the surgery is carried out.

Your surgeon will discuss these methods with you and explain which one will be used.

What are the advantages of CABG?

A successful operation will increase the blood flow to your heart muscle. This will reduce symptoms such as angina (chest pain), shortness of breath and improve your overall quality of

life. The surgery also reduces the risk of future heart attacks. At your consultation, your surgeon will always discuss with you what they expect the outcomes to be for you as an individual.

What are the risks of CABG?

All medical procedures carry some risk. It is important to remember that we would not recommend any procedure if we did not believe the benefits outweigh any risks. The risks will be different for each patient, so we will discuss the risks that apply to you in more detail before the procedure.

The risks of CABG surgery include:

Atrial fibrillation – a fast, irregular heartbeat that usually settles after a few days. It rarely causes a major change to how the heart works or to the patient's overall level of health.

Bleeding – some patients may need a further operation after surgery to control bleeding.

Wound infection – this is more common in patients with poorly controlled diabetes or other conditions that make them more vulnerable to infection. If you do get an infection, this can be treated with antibiotics.

Renal (kidney) failure – this is more common in patients who already have kidney problems and can be treated with dialysis.

Stroke – this happens when a blood clot develops and travels to the brain, cutting off the oxygen supply. The risk is higher in patients who have had a stroke or transient ischaemic attacks (TIAs, commonly known as mini-strokes). To reduce the risk of stroke, we will give you medications both during and after the operation to slow down the rate at which your blood clots. We may also ask you to wear special stockings after your operation. These have been shown to reduce the risk of clots.

Death – the risk of not surviving the operation will be higher for patients who are very unwell before the surgery. Your



surgeon will discuss your risk with you at your consultation.

Are there any alternatives to CABG?

Drugs will only control the symptoms of your heart disease and will not solve the underlying problem.

What will happen if I do not have CABG?

Without heart bypass surgery, symptoms such as angina and shortness of breath will get worse and more frequent over time. You will also have a higher risk of having a heart attack. Patients with severe coronary artery disease may have a shorter life expectancy.

Heart valve surgery

What is heart valve surgery?

In heart valve surgery, damaged valves are either repaired or replaced. The valves that most commonly need surgery are the aortic and mitral valves. In some cases it is possible to repair a narrowed valve by simply opening it up (valvotomy). Sometimes a leaking valve can also be repaired, but if it is badly damaged it has to be replaced.

There are two types of replacement valves:

- Mechanical valves – made out of metal and plastic.
- Tissue valves – made out of tissue from pigs, cows or from human donors.

Heart valve surgery involves making a cut of about 25cm (10 inches) down the middle of the breastbone to access the heart. Some patients are suitable for a minimally invasive operation. This involves making a smaller cut and may lead to quicker recovery times. If a minimally invasive operation is suitable for you, your surgeon will discuss this with you in more detail.

What are the advantages of heart valve surgery?

Heart valve surgery should help improve the quality of your life by reducing symptoms such as shortness of breath, blackouts, tiredness, chest pain and fluid retention. It will also reduce the risk of your heart failure developing further and help increase your life expectancy.

What are the risks of heart valve surgery?

All medical procedures carry some level of risk. However, we would not recommend a procedure if we did not believe the benefits outweigh any risks to your health. Please ask your surgeon if you need more information.

These risks will be different for each patient. Your surgeon will discuss the specific risks with you before your operation.

The risks of heart valve surgery include:

Need for a permanent pacemaker – the operation can disrupt the heart's regular rhythm. This will usually return to normal in the days after surgery. Sometimes this does not happen and patients need a permanent pacemaker fitted after surgery to regulate their heart rhythm.

Other risks of heart valve surgery are the same as those for heart bypass surgery (CABG) on page 5 of this booklet.

Are there any alternatives to heart valve surgery?

Drugs can be used to treat the symptoms of your condition, but cannot cure the underlying problem.

What will happen if I do not have heart valve surgery?

Without heart valve surgery, your symptoms will get worse and more frequent over time.



Aortic surgery

In aortic surgery, the enlarged aortic artery is either replaced or repaired by placing a graft (a synthetic tube) around it to stop it from getting any bigger.

What are the advantages of aortic surgery?

Aortic surgery will remove the risk of the aortic artery getting any bigger and rupturing (bursting), and will help increase your life expectancy.

What are the risks of aortic surgery?

All medical procedures carry some level of risk. However, we would not recommend a procedure if we did not believe the benefits outweigh any risks to your health.

These risks will be different for each patient. Your surgeon will discuss the specific risks with you at your outpatient appointment before your operation.

Before coming to hospital

When will I have my operation?

Unfortunately we cannot give you a date for your operation immediately. Your surgeon's secretary will contact you to discuss the planned date for your admission and send you a confirmation letter.

You can turn down the planned date if you want or need to. However, if you decide to delay the operation, there may be an impact on your health.

Once you have a date for your operation, we recommend that you start making travel arrangements for how to get to the hospital on time for your admission. We have accommodation close to the hospital available for families, if needed. However, this must be booked in advance.

For more information, please contact the accommodation office on **020 7351 8044**.

What if my symptoms get worse?

If you feel unwell while waiting for your operation, please contact your GP. It may be that your treatment needs to be changed. You should see your GP if you:

- have unusual swelling in your ankles
- have a cough and/or are producing phlegm
- are not able to exercise as much as usual.

You should go to accident and emergency (A&E) if your GP cannot see you straight away and you are experiencing any of the following symptoms:

- angina that is not relieved by rest or controlled by your normal medication
- unusual chest pain
- pain in your arms, back or throat
- shortness of breath that is not relieved by rest
- fainting or dizzy spells for no reason.

Royal Brompton Hospital does not have an A&E department.

What can I do to improve my health?

Increase your overall level of fitness by walking regularly

Increased fitness will help you to recover more quickly after surgery. It also reduces the likelihood of complications after your operation.



Quit smoking

Smoking is one of the main causes of coronary artery disease and it damages your lungs. Patients with strong, healthy lungs tend to recover from surgery much more quickly than those with lung damage. Many patients find that having a heart operation gives them extra motivation to stop smoking. There is plenty of support available to help you give up for good. Please talk to your GP or pharmacist. You can also call SMOKEFREE on **0300 123 1044** or visit them at www.nhs.uk/smokefree.

Control your weight

Patients who are overweight are more likely to have complications after their operation and to recover more slowly from surgery. The best way to find out whether you are overweight is to calculate your body mass index (BMI). You can discuss this with your GP, who can also refer you to a local dietitian if needed.

Visit your dentist

As soon as you know that you need to have heart surgery, visit your dentist to make sure your teeth and gums are as healthy as possible. This is to reduce the risk of infection. Infected gums or teeth can introduce bacteria into the bloodstream, which could cause complications or an infection called endocarditis. We have a separate leaflet on endocarditis. Please ask a member of the nursing team if you would like more information.

What appointments and tests will I have before my operation?

While you are waiting for a date for your surgery, we will organise other appointments to help make sure you are ready for your operation.

Surgical information seminars

All patients on the waiting list for heart surgery are invited to a surgical information seminar. During these sessions, a clinical nurse specialist and other healthcare practitioners will give you

an idea of what to expect before and after the operation and will also give advice on recovering after surgery. A film of patients talking about having heart surgery is shown during the session, and there will be a chance for you to ask questions.

We strongly recommend that you attend a seminar so you are adequately prepared for your surgery.

Pre-operative assessment


Before coming into hospital for surgery, most patients will need to attend an assessment (health check) at the pre-admission clinic. The assessment is an important part of your preparation for heart surgery. A clinical nurse specialist will contact you by telephone to arrange this.

At the pre-operative assessment, some patients will be seen by an anaesthetist (others will see their anaesthetist on arrival at hospital for their surgery). Anaesthetists are specialist doctors who are responsible for providing anaesthesia to patients for operations and procedures. They have a range of skills which include pain management and intensive care. During heart surgery you will have a general anaesthetic to send you to sleep so you don't feel pain while it is carried out. Your anaesthetist will help look after you and will be responsible for you before, during and immediately after your operation.

Your anaesthetist will do a pre-operative check where you will be asked about your general health, medical history, previous anaesthetics and operations, allergies and what current medications you are taking.

It is important to tell us about allergic reactions you may have had to medicines or other substances (for example latex or specific foods) in the past.

Your anaesthetist will examine you, paying particular attention to your heart and lungs, as well as to your mouth and neck. You should tell him/her if you have any loose teeth, caps, crowns or dental bridges. This is to minimise the risk of damage when



inserting breathing tubes and monitor probes once you have been anaesthetised. It is also important to tell your anaesthetist if you have any pain or stiffness when you move your neck.

When the assessment is finished and the anaesthetist has your test results (see below), he/she will explain what will happen during your surgery, and tell you about the risks and benefits of having it. He/she will also discuss any choices you might have regarding your anaesthetic.

MRSA (methicillin resistant staphylococcus aureus) swabs

This test is to check whether you have MRSA bacteria on your skin or in your nose. This is a routine test for all patients admitted to the hospital. It is an important test that helps to stop the spread of MRSA (sometimes referred to as a 'superbug').

Electrocardiogram (ECG)

An electrocardiogram is a simple, painless test which measures the electrical activity of your heart through electrodes (sticky patches) placed on your chest.

Blood tests

Blood tests can help us to check different areas of your general health. If you have a blood test your nurse can explain what we are checking for.

Chest X-ray

An X-ray lets us look at your lungs, as well as the size and shape of your heart.

Echocardiogram (echo)

An echocardiogram is a test that uses sound waves to build up a moving picture of the heart. It is similar to the ultrasound scan used in pregnancy and is extremely safe. It allows us to learn more about the function and structure of your heart valves and chambers. We attach electrodes to your chest to monitor your heart and take the echo with a small hand-held recorder.

Ultrasound, computerised tomography (CT) or magnetic resonance imaging (MRI) scan

All of these scans let us look at your heart and lungs in more detail. Your doctor or nurse will explain which scan you are having and why.

Carotid doppler

This is an ultrasound scan of the arteries in your neck (the carotid arteries). It allows us to examine the arteries for any signs of narrowing or blockage.

Lung function tests

If you smoke, have recently quit, or have a chronic lung problem, such as chronic obstructive pulmonary disease (COPD) or asthma, you may need to have a lung function test to check how well your lungs are working. It is a simple and painless test where you simply breathe into a mouthpiece.

What do I need to bring in with me for my stay in hospital?


Toiletries

- Toothbrush and toothpaste
- Shampoo, liquid soap and shower gel
- Deodorant
- Shaving equipment for men
- Hairbrush/comb

Disposable flannels and clean towels will be provided daily by the hospital.

Clothing

- The clothing you bring should be light and comfortable.
- Avoid tight, elasticated, restrictive clothing, particularly at the ankles.

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- Front-buttoning tops are recommended as it will be difficult to pull clothing over your head because of your wound.
 - Female patients will need to bring in at least two bras. They should be non-wired and front fastening. It is important that your bras are the correct size. If you attend the pre-admission clinic, you will be measured as part of your assessment. If not, please go to a lingerie department/shop and get measured so that you bring/buy the right size bra.

Footwear

- Bring a pair of slippers that fit well and cover the whole of the foot.
- Avoid backless slippers and shoes.

Non-slip socks will be provided.

Medication

Please bring in all the medications you take, in their original boxes. This is so your doctor can accurately prescribe the medication you require for your stay in hospital.

Valuables

We recommend that you do not bring any valuables or large sums of money with you.

Glasses, dentures and hearing aids

- If you wear dentures, bring a plastic denture pot with a secure fitting lid.
- If you wear glasses, bring a hard glasses case.
- If you wear a hearing aid, bring the storage box for your hearing aids so these can be securely looked after while you are in theatre.

Ear plugs and eye mask

Ear plugs and eye masks are optional, but you could find them useful to help block out the noise/light that is inevitable in a ward environment at night.

Storage for your belongings

You will have your own locker at your bedside to store your belongings.

While you are having your operation, we will lock your belongings in a secure locked cupboard until you return to the ward.

Devices

You will be able to use a mobile phone, laptop or MP3 player.

There is access to free wifi on all wards. Ask your nurse for the password. Please bring earphones with you so that you don't disturb other patients.

Admission to hospital


It is very important that you do not shave or remove hair from your chest, arms, legs or groin before coming into hospital. This is because shaving may damage the skin and increase the risk of infection. We will prepare your skin for surgery while you are in hospital.

What will happen on the day of my admission and surgery?

Most patients will be admitted on the morning of the day of their surgery.

Some patients will need to be admitted the day before surgery. You will be told about this when you are given a date for your operation.

You will be asked to shower at home before coming in for surgery, using an antimicrobial hair and body wash, which will be given to you at your pre-admission assessment. If you are admitted for surgery the day before your operation, you will be asked to shower the evening before, and morning of, your surgery on the ward.



Your surgeon will discuss the operation with you at your pre-admission assessment or on the ward if you are admitted the day before surgery. The surgeon will then ask you to sign a consent form to show that you understand the information and agree to have the operation. If you have any more questions about the operation, please discuss these with your surgeon.

You will not be able to eat or drink anything for six hours before your operation as the anaesthetic must be given on an empty stomach. You may take regular medication, as advised by your anaesthetist, with a small sip of water right up to the time of your surgery if necessary.

It is normal to be anxious before your surgery. You may be given a sedative medication ('pre-med'), which will help you to relax.

When it is time for your operation, you will be taken on a bed or chair to the anaesthetic room. A friend or relative is welcome to stay with you until this time.

What will happen once I am in the anaesthetic room?

Once you arrive in the operating department, an assistant who works with the anaesthetist will check your details and paperwork again. You will then be brought into the anaesthetic room. We will connect you to a heart monitor and place a probe clip on your finger to measure your pulse and oxygen levels.

You will be given oxygen to breathe through a mask and the anaesthetist will then insert a cannular (tube) into a vein in your arm. You will be given anaesthetic drugs by injection through the cannula in your arm or vein to send you to sleep. Many patients do not remember anything after this, but some are aware of the anaesthetist injecting a local anaesthetic into their wrist. This is so we can insert a small tube (cannula) into your artery to monitor your blood pressure.

Once you are deeply anaesthetised, a breathing tube will be

inserted through your mouth and into your airway, and you will have a catheter fitted.

What happens after my operation?

Immediately after your operation you will be taken to the adult intensive care unit (AICU) or to the recovery unit. You will be connected to a monitor to check your heart rate, blood pressure and blood oxygen levels. A nurse will be with you at all times.

At first, we will keep you asleep so that we can make sure your heart is working well and that there is no major bleeding from the wound.

We will then turn off the anaesthetic and allow you to wake up gradually. You will become aware that the tube helping you to breathe is still in your mouth. As soon as we are happy that you can breathe strongly enough on your own, a nurse will remove the tube.

Several drips will provide you with the fluid, medications and pain relief you need. You will also have a catheter in your bladder. This means that you do not have to worry about going to the toilet.

You will also have some chest drains in place after your operation. These remove blood, fluid and air that may collect in the chest after surgery. The drains are removed once they have finished draining all the fluid.

When can my friends and family visit me?

Your friends and family can visit you as soon as you are well enough. You are likely to be very tired after your operation and we suggest that you only have two visitors at a time.

To reduce the risk of infection in hospital, visitors should always wash their hands before and after visiting you and use the hand cleansing gels which are at the end of every bed and at the entrance to the ward. Please ask your friends and family not to visit you if they are feeling unwell.



Recovering from your operation

When will I move back to the ward?

Most patients are well enough to move back to the high dependency unit (HDU) on the day after their operation. Some patients take longer to recover than others and need to stay a little longer on the intensive care unit.

What will happen when I am back on the ward?

Once you are back on the ward you should recover quickly. Most drips and drains will be removed within two or three days of the operation and each day you should notice an improvement in how you feel.

Most patients pass through the following stages during their recovery. Remember that every patient is different and so this is just a guide:

Stage one (generally day one) – HDU

- You will still be connected to some drips and tubes.
- A nurse or physiotherapist will help you sit in a chair and spend some of the day out of bed.
- You will be able to eat and drink small amounts.

Stage two (generally day two) – return to the ward

- We will remove most of your drips and tubes. If you have had heart bypass surgery with a vein from your leg, we will remove the bandage from your leg.
- Your nurse or physiotherapist will encourage you to take regular short walks around the ward.
- Your nurse will help you with personal hygiene, if needed.
- You will be able to dress in your own clothing.

Stage three (generally days three to four)

- You will be able to walk longer distances.
- You will be able to have a shower – a nurse can help if needed.
- You should have a better appetite.

Stage four (generally day five)

- You should be able to climb stairs.
- If your mobility is limited, or you are worried about climbing stairs, a physiotherapist will help you with this.
- Plans for your return home will be finalised – including support from social services, if needed.

Stage five (generally days six to seven)


You will go home.

What pain relief will I receive after my operation?

Good pain relief is important for your recovery. Our aim is to control your pain so that you can do the exercises your physiotherapist gives you and so that you can gradually move and walk around comfortably.

Throughout your stay in hospital we will ask you to score your pain on a scale of zero to 10. Zero being no pain and 10 being unbearable pain. Please do not feel you need to give a brave answer. If you give us an honest answer, it helps us make sure that you have the correct level of pain relief.

There are many different pain relief methods available. Before your operation, your anaesthetist will discuss this with you and together you will decide on which methods are best for you.



Options include:

Patient controlled analgesia (PCA)

This is a method that allows you to control your own pain relief. A pump containing medication (normally morphine) is connected to a cannula (a small plastic tube) that is inserted into one of your veins. When you are in pain, you press a button that delivers a safe, pre-set amount of medication.

There is no risk of addiction or overdosing. Most patients receive pain relief in this way after their operation.

Tablets or liquid

Once you are eating and drinking again, you will be given this type of pain medication throughout the day. Tablets or liquid can be used along with PCA. They usually take about 30 minutes to work.

Suppositories

If you are having problems swallowing or are feeling sick after your operation we can give you suppositories. These are waxy pellets placed into your back passage (rectum). They dissolve and the medication is then easily passed into your body.

What happens if I have problems with pain?

Please rest assured that we will do everything we can to control any pain you have following your operation. We have specialist pain management nurses who will be happy to see you if you are finding that your pain is a problem.

How long will I need to take pain relief medication for?

You will need to take pain relief medication for the first few weeks after your operation. We have a separate leaflet about managing your pain at home. Please ask us if you would like more information.

Going home

When will I go home?

Different patients take different amounts of time to recover after heart surgery. It is difficult to predict exactly when you will go home, but most patients are ready a week after their operation.

What will happen before I am discharged home?

We know that being discharged from hospital after an operation can be both a happy and a worrying time. Our staff will do everything they can to make you feel prepared.

Different members of our team will discuss with you what to do to help your recovery back at home. We will give you a two-week supply of your medication and a copy of your discharge letter that we also post to your GP.

We have a separate leaflet on returning home after your heart operation. We will give you a copy of this when you are recovering from your operation in hospital. If you do not receive a copy, please let us know.


Will transport be arranged to take me home?

We can only arrange hospital transport for patients who are in medical need and cannot get to and from our hospitals in any other way. Unless you have a medical need for hospital transport, you will be asked to make your own arrangements.

You will not be able to drive for at least six weeks after your operation, so please arrange for someone to take you home. If you are planning to use public transport, please make sure that someone is able to travel with you.

Parking

Royal Brompton Hospital has no parking for patients and relatives.



There are three disabled parking spaces on the Sydney Street site, which are available on a first-come-first-served basis and are limited to stays of four hours.

There is metered parking on the streets around the Sydney Street site, which varies from a maximum stay of between two and four hours.

If you are dropping someone off who is being admitted for surgery or picking someone up who has had heart surgery, the parking attendant will allow you to park in front of the main entrance of the hospital for 15 minutes, if there is space available. Alternatively, you may be asked to park in one of the metered bays on the street until a space becomes available.

Where can I get more information?

Please call us if you have any questions about coming into hospital, your surgery, or recovering after the operation. You can call our 24-hour cardiac surgery helpline through the main hospital switchboard on **020 7352 8121**, and ask for **bleep 7043**.

If you have concerns about any aspect of the service you have received in hospital and feel unable to talk to those people responsible for your care, call the Patient Advice and Liaison Service (PALS) on 020 7349 7715 or email pals@rbht.nhs.uk. This is a confidential service.

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إذا كنت ترغب في الحصول على ترجمة فورية لمضمون هذه الوثيقة إلى اللغة العربية، يرجى منك الاتصال بأحد مستخدمينا بجناح المصلحة التي يتم فيها استشفائك. أحد موظفينا سيسعى لترتيب إجراءات الترجمة وإتمامها في الوقت المناسب لك.

Brosurteki bilginin Türkçe tercemesi için tedavi görüyor olduğunuz bölüme bas vurunuz. Bölüm personeli tercemenin gerçekleşmesini en kısa zamanda ayarlayacaktır.

