

Your heart surgery



A New Beginning

Cardiac Rehabilitation Service
Wythenshawe Hospital

Foreword

As a group of former heart patients, The Ticker Club has over 30 years of experience providing support for patients and their relatives in the outpatient department, on the cardiac wards and at patient information days at Wythenshawe Hospital. As part of this work, the Club has for some years now, been privileged to provide the funding that makes this cardiac rehabilitation booklet available to all the hospital's cardiac surgery patients.

In our direct personal contact with patients, their relatives and friends – from diagnosis at the beginning of the “patient journey”, through their hospital stay and beyond – it is the feedback we receive from all concerned that has established beyond doubt the high value placed on this booklet and its contents.

We have all found, here in this booklet, information and advice we could rely on to help us understand and benefit from the procedure we have undergone. At the same time it is clear this booklet has proved to be a valuable reference resource, not just for patients, but also for relatives, carers and supporters alike.

As patient support providers, we in The Ticker Club are pleased to help underpin the care and professionalism of all the Wythenshawe Hospital staff who will feature in your patient experience. We see this booklet as a key part of the support on offer. We hope you too, will find it helpful.

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Registered Charity No. 519754

The first edition (1992) and present edition of this booklet were created by the Cardiac Rehabilitation Clinical Lead Physiotherapist at Wythenshawe Hospital, with contributions from the Cardiac Rehabilitation and Heart Surgery Teams, together with colleagues from various wards and departments.

For further information about cardiac rehabilitation, please contact the Wythenshawe Hospital Cardiac Rehabilitation Service on 0161 291 2177 or email us at cardiac.rehab@mft.nhs.uk.

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Section 1 Introduction

This cardiac rehabilitation information booklet was written to help ensure you receive detailed, consistent information from all the in-patient and out-patient staff looking after you. As it contains a large amount of information, we recommend that you read a small section at any one time.

Before your surgery, we would encourage you to refer to this booklet when asking the various members of staff any questions you may have, whilst you are in hospital and after going home. We suggest that any family or friends supporting you when you return home also read this information so that they know what to expect, too.

The aim of this booklet is to help you and your family to understand:

- Why you are having your operation, what it involves, what the risks and benefits are and what you may experience when you go into hospital;
- Details of your diagnosis and / or the procedure you have had
- How you will recover following your heart surgery;
- How you can plan for the future by making any necessary lifestyle changes and reduce further heart problems; and,
- How your recovery will be supported by you taking part in a cardiac rehabilitation programme.

What is cardiac rehabilitation?

Cardiac rehabilitation or cardiac rehab, as it is affectionately known, is a research based comprehensive programme delivered by a team of health professionals in a hospital, community or home-based setting. It has been shown to improve your health and wellbeing to help you live as full and active a life as possible. A specialist service, it is recognised by your surgeon and GP as a vital part of your treatment and recovery, to help you return to the best possible health following your operation.

The goals of cardiac rehab are to:

- Improve your awareness and understanding of the risk factors of cardiovascular disease;
- Provide you with information on coronary heart disease and its treatments;

- Develop an individual plan to help you to make positive long-term lifestyle changes; and
- Discuss physical activity and exercise to encourage you to exercise regularly and independently to improve your physical fitness.

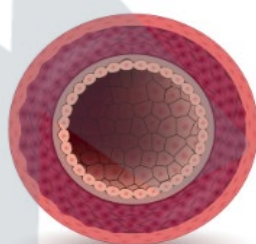
What is cardiovascular disease?

Cardiovascular disease (CVD) is the term for all types of diseases that affect the heart and/or blood vessels, including coronary heart disease. The exact cause of CVD is not clear. However there are many risk factors that can increase your chance of getting CVD. The more risk factors you have, the greater your chances of developing CVD (see Section 5 page 60 for detailed information).

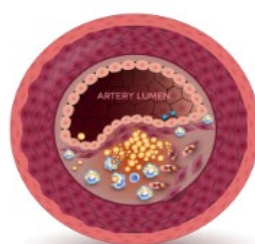
A healthy lifestyle can lower your risk of CVD. In patients already diagnosed with CVD, improving your lifestyle, minimising your risk factors, and staying healthy will reduce your chances of further cardiac events and maximise the benefits of surgery. This is called Secondary Prevention. Cardiac Rehabilitation tells patients how to minimise progressive heart disease.

What is coronary heart disease?

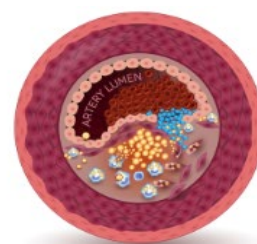
Coronary heart disease (CHD), or coronary artery disease as it is sometimes known, is a process that occurs over time. It is usually due to a gradual build-up of fat (cholesterol) within the walls of the coronary arteries, and can result in blockages that restrict blood flow to the heart. This can cause symptoms of angina (chest pain). A heart attack occurs when an area of the heart muscle has been completely starved of oxygen due to a blockage in a coronary artery, causing reversible or sometimes irreversible damage to the muscle fibres. With irreversible damage, the heart muscle fibres are replaced by scar tissue, leading to a reduction in heart function.



NORMAL ARTERY



**STABLE (FIBROUS)
PLAQUE FORMATION**

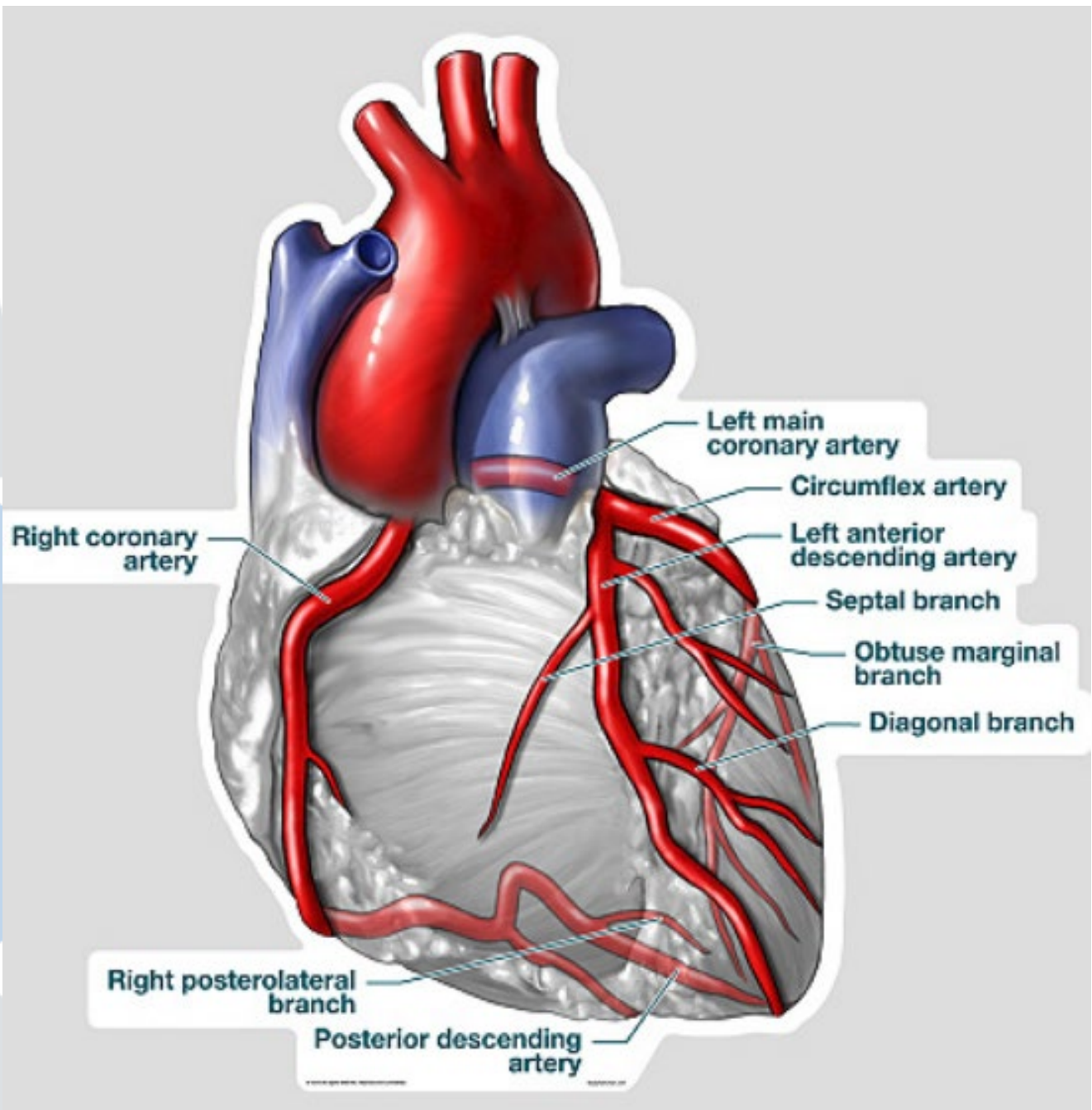


**UNSTABLE
PLAQUE FORMATION**

Where are the coronary arteries?

The heart is a muscular pump responsible for pumping blood, rich in oxygen, to all parts of the body. As with other muscles in the body it needs its own blood and oxygen supply. This comes from the two main coronary arteries (right and left), pictured below. The left artery divides into two arteries and together with the right coronary artery they form a network of blood vessels that run on the surface of the heart.

The Heart and Coronary Arteries



What is angina (chest pain)?

Angina is the most common symptom of coronary heart disease. It is a warning sign that the heart muscle is temporarily not receiving enough oxygenated blood due to narrowing of the coronary arteries. Angina can often be felt as discomfort or pain in the chest or in some cases discomfort in the arms, jaw, shoulders or upper back but everybody's experience of angina is different.

Stable angina occurs when the heart is working harder, for example, during unaccustomed levels of exercise or activity. It can also be felt if someone is under stress, excited or outside in hot, cold or windy weather. It can be well controlled with medication for example glyceryl trinitrate (GTN) spray.

Unstable angina is when symptoms come on with progressively less exercise or at rest and may also disturb sleep.

Guidance on what to do if you get angina (chest pain)

If you do get angina (chest pain) take the following steps:

Step 1. Stop what you are doing and sit down. Take 1 - 2 puffs of your glyceryl trinitrate (GTN) spray or GTN buccal tablets, between your inner lip and gum, if prescribed, and wait 5 minutes.

Step 2. If the pain persists after 5 minutes take a further 1 - 2 puffs.

Step 3. If there is no improvement after 10 minutes use your GTN spray for the third time and at the same time call for an ambulance by dialling 999. Do not take more than 3 doses of GTN spray.

Wait for help and remember:

1. Always wait for an ambulance or a doctor.
2. Do not get someone to drive you to hospital.
3. Do not drive yourself to hospital.
4. If possible, try to contact someone to be with you whilst waiting for an ambulance.

Section 2 Your heart operation

Main types of heart surgery

Coronary artery bypass grafting (CABG) is the most common type of heart surgery. There are various types of heart valve surgery and also other heart surgery including surgery to correct congenital heart diseases (heart conditions you are born with) and surgery for conditions of the aorta (within the chest).

Most heart operations are done using the traditional heart surgery technique which involves cutting your breastbone (median sternotomy).

Sometimes, alternative approaches may be considered by your surgeon. Your surgeon will advise and recommend what is in your best interests. Partial breastbone (mini-sternotomy) or other minimal access techniques may or may not be appropriate.

The lifestyle advice in this booklet is mainly aimed at patients having CABG surgery as a treatment for CHD. However the general activity advice applies to all patients having heart surgery.

Coronary Artery Bypass grafting

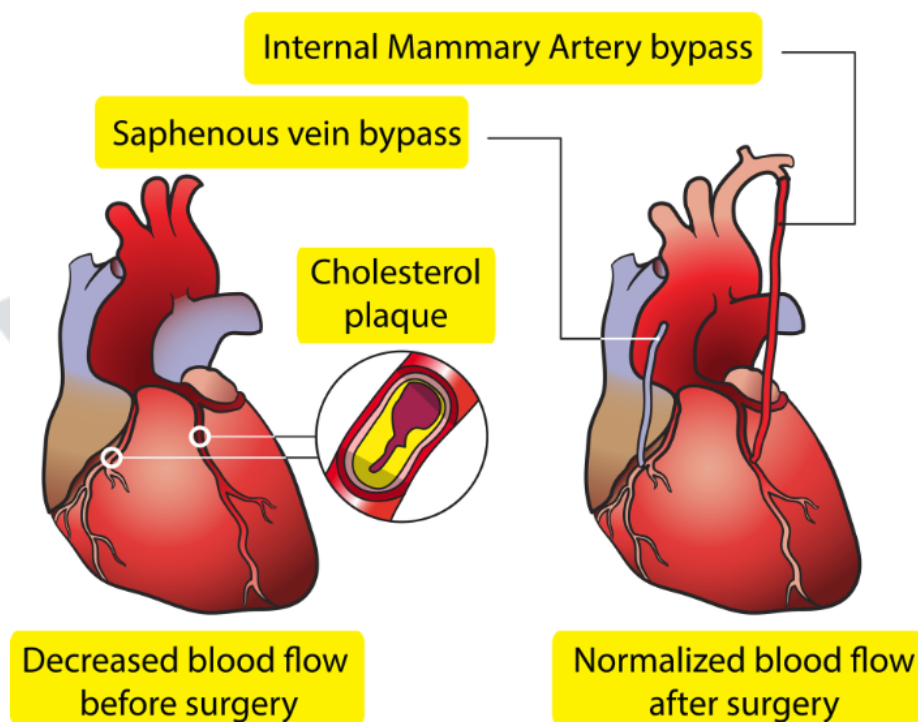
The purpose of coronary artery bypass grafting is to improve the blood flow to the heart muscle by bypassing the narrowed, damaged sections of the coronary arteries. The surgeon does this by attaching a piece of healthy artery or vein from another part of the body (usually from the chest, leg or arm) and attaching it to the coronary artery above and below the narrowed area or blockage. This new blood vessel is called a bypass graft. This operation can take between three and six hours depending on the number of grafts you need. This depends on how severe your CHD is and how many coronary blood vessels need to be bypassed.

The coronary angiogram is a 'roadmap' that gives the surgeon the initial information regarding the severity of CHD. However, it is not the full picture - the final number of grafts performed is based on the findings at the actual time of the operation.

The internal mammary artery, an artery inside the chest wall, is used as a bypass graft for the main branch of the left coronary artery whenever possible, as its life span is proven to be longer than that of a vein graft.

Your doctor, physiotherapist, or nurse will tell you if the internal mammary artery (IMA) was used for your operation. In some instances, however, it is preferable to only use vein grafts, for example, in emergency surgery when time is important (removal of the internal mammary artery is a longer procedure). In very rare cases, the internal mammary artery may have disease from where it originates and may then not be used as a bypass graft.

Coronary Artery Bypass Grafting



Part of a vein (the long saphenous vein) taken from the leg is used for your bypass graft which means you will have a leg wound. The position and length of the wound depends upon where a suitable vein is located. Please refer to the 'Vein Harvesting' patient information leaflet that you would have been given at your pre-op clinic appointment.

Occasionally your surgeon will choose to use the radial artery in the arm as a graft. In this case, the incision is in the forearm, from elbow to wrist.

There are two ways CABG surgery may be performed.

Most commonly, surgery is performed after placing the patient on a heart-lung bypass machine and stopping the heart.

Alternatively, 'beating heart' surgery may be considered in specific circumstances. In this case, the heart-lung machine is not used and the heart is not stopped to undertake the grafts.

Your surgeon will decide on the most appropriate technique.

Before you come into hospital

Out-patient clinic appointment

At your out-patient clinic appointment you will meet your surgical team. The surgeon will discuss:

- The results of any investigations/tests you have had including the angiogram showing any blockages or narrowing that may be responsible for your symptoms.
- Your operation, risks and expected benefits as well as alternatives for you as an individual.

In some cases at your out-patient appointment, a member of your surgical team will ask you to sign a written consent form for the operation to be carried out. If you have any questions, please talk to the doctor before you sign the consent form. Otherwise consent will be signed later at your pre-admission visit or on admission for your operation.

What are the benefits, risks and complications of CABG surgery?

The benefits of CABG surgery vary for each person. They may include:

- Reduction in angina and/or breathlessness
- Reduction in the amount of medication you need to take
- Improvement in your quality of life
- Reduction of the risk of future heart attacks
- Increased chance of you living longer

Patients should be aware that shortness of breath is not always due to heart disease. Lung conditions or obesity may contribute to this symptom. After surgery, it is usual to be breathless on exertion in the first few months due to the stiffness of the lungs and chest wall, but this can improve with regular walking and exercise. If there are other

underlying conditions responsible for breathlessness, it is important to appreciate that shortness of breath may not improve following your operation. However, your operation may be justified for other reasons.

You will have a chance to discuss your individual risk and the possibility of complications with your surgeon. CABG surgery, like any other surgery, carries a risk of complications. The risk of complications varies for each person. Your surgeon will take the following factors into account when assessing your individual risk.

- The extent or severity of your heart disease and the condition of your heart pump (function).
- Your age and gender.
- Whether you are having additional surgery at the time of your CABG.
- Whether you have diabetes, lung problems, kidney damage or any significant problems with the circulation to your brain or legs.
- The urgency of the operation.
- Your weight.
- Whether you are a smoker and/or a heavy drinker.

Possible complications:

- **Bleeding.** You may need to be taken back to theatre to treat excessive bleeding.
- **Infection.** Infection of your wounds (chest, leg or arm), or the lungs, will be treated with appropriate antibiotics. Recent smokers, obese patients, patients with chronic lung conditions, patients who are on steroids or are immunosuppressed, and critically ill patients are at increased risk of infections. Reduction in the risk of infection is achieved by early mobilisation and breathing exercises. Motivation to recover quickly is a key factor.
- **Heart rhythm changes.**

Atrial fibrillation. It is common to develop irregular heart rhythms after heart surgery during the early recovery phase. The most common irregular heart beat is called atrial fibrillation. All patients are monitored for this rhythm change during their hospital stay. It affects approximately 1 in 5 patients and is usually temporary. This can be treated effectively with medication. Sometimes this medication is continued for six weeks and reviewed at the out-patient visit.

On rare occasions during surgery the heart can suffer further damage especially in urgent or emergency surgical procedures when the heart muscle is vulnerable to further injury.

Ventricular fibrillation. Life threatening heart rhythms are rare after surgery and may necessitate resuscitation and electrical shock treatment. These rhythm problems are more likely in patients with severely scarred hearts and following heart attacks.

Heart block. Some patients will require a permanent pacemaker if heart block is persistent after surgery. Heart block is more common after valve operations.

- **Prolonged critical care and hospital stay.** This may sometimes be due to single organ or multi-organ failure.
- **Impaired kidney function.** The stress of surgery can affect your kidney function particularly if your kidneys were compromised before surgery. Some patients will require kidney support in the form of a renal filtration or dialysis machine and in the majority of cases, this need for support is temporary.
- **Prolonged ventilation or re-ventilation and possible tracheostomy.** This may be necessary especially in obese patients, patients with poor lung function, or critically-ill patients requiring surgery.
- **Stroke.** Stroke can complicate any heart operation in spite of uneventful surgery, even when every precaution has been taken. Patients with CHD may also have narrowing of the arteries supplying the brain (carotid arteries). Plaques in the arteries can result in an embolic stroke where particles dislodge from the wall of the artery and travel into the bloodstream to block smaller vessels in the brain. Clots in the heart may also send particles in the bloodstream that block the arteries in the brain.

The effects of a stroke may be temporary or permanent and the severity of the stroke may be mild or severe. The screening tests for stroke that we undertake including carotid Doppler ultrasound of the neck arteries and echocardiogram of the heart may sometimes identify issues that can be addressed to minimise the risk of stroke. Carotid Doppler studies are undertaken before surgery in selected patients.

- **Death.** The risk of dying after surgery is called the mortality risk. The surgeon will discuss your specific risks and the balance of risks and benefits that are factors for you as an individual when considering the recommendation for surgical or medical treatment.

What is heart valve disease?

Your heart has four valves. They ensure that blood is pumped in one direction only within the heart and towards the lungs and body. These valves can be damaged in many ways; for example be abnormal from birth, after rheumatic fever, from wear and tear or following a heart attack.

There are two main types of valve problem:

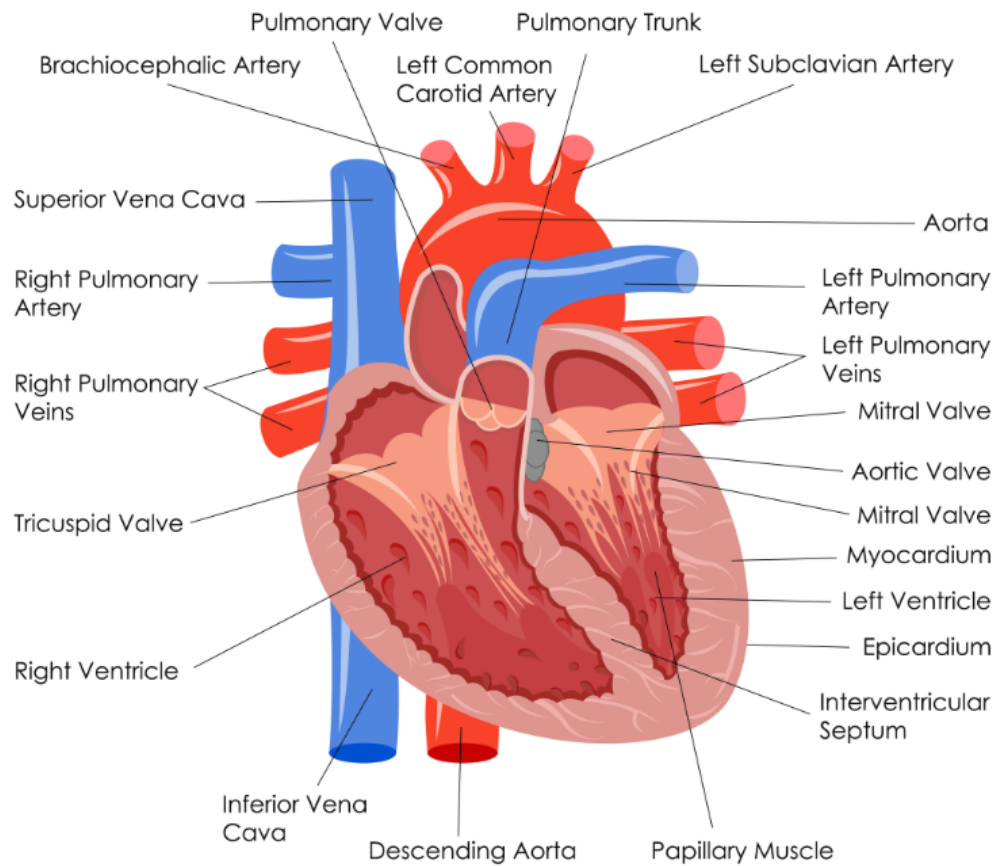
- The valve may become narrowed (called stenosis), which causes a block to normal blood flow within the heart.
- The valve may become leaky and allow blood to flow in the wrong direction (called regurgitation).

In both cases the heart has to work harder to maintain the forward flow of blood and eventually surgery may be necessary.

The drainage of blood from the lungs to the heart may be affected. This will result in a build-up of fluid on the lungs and cause breathlessness. The drainage of blood from the rest of the body to the heart may also be affected causing swollen ankles. Chest pain, palpitations and dizziness may also be experienced.

The most common valves, which require surgery, are the mitral and aortic valves (see picture). They are found in the left side of the heart.

Heart showing valves and chambers



Surgical treatment has a very good success rate for severe valve disease and is the treatment of choice. The evidence supporting surgery for heart valve disease has resulted from long follow up and many years of experience.

Alternatives to valve surgery, including other interventional and medical treatments, may have already been discussed with you by your cardiologist and surgeon.

Newer interventional techniques, such as Transcatheter Aortic Valve Implantation (TAVI) in aortic valve disease, may be appropriate if you are a very high risk or unsuitable for surgery; your surgeon will advise you appropriately.

Heart valve surgery

There are two types of valve surgery. The damaged valve can either be repaired or replaced. A replacement valve can either be mechanical (metal) or tissue (obtained from an animal, usually a pig or cow).

- Mechanical valves are longer lasting, but you will need to take anti-coagulant drugs (those which thin the blood) for the rest of your life (see page 36).
- Tissue valves do not last indefinitely, but you are less likely to require anticoagulant drugs.

Your surgeon will discuss with you the most suitable valve in your case. All valve operations are performed using the heart-lung bypass machine, as the valves are inside the heart and it is necessary to stop the heart while stitching the new valve.

What are the benefits and risks of valve surgery?

The benefits and risks of valve surgery vary for each person. Your surgeon will discuss your individual risk when listing you for surgery. The benefits for you will depend on your particular symptoms before the operation. You can expect to see an improvement in your symptoms. The surgery will also help to prevent your heart valves and function from deteriorating further. Valve surgery, like any other surgery carries a risk of complications.

Possible risks and complications depend on:

- Which valve is being operated on, and the extent of valve and heart muscle disease
- Whether you are having a coronary artery bypass graft at the same time as your valve surgery.

Complications include:

- Wound or chest infection
- Risk of bleeding after the surgery
- Ongoing risk of infection to the artificial valve (endocarditis). To reduce this risk all patients should have regular dental checks
- Irregular heart beat (atrial fibrillation or ventricular arrhythmias)
- Complete heart block, necessitating the insertion of a permanent pace maker in the postoperative period (as a separate procedure)

- Blood clots can form mostly on mechanical valves
- Wear or damage to valves, more common with tissue valves.
- There is always a very small risk of stroke with valve surgery
- Loss of life.

Cardiac surgery waiting list

Once your surgeon has recommended that you have heart surgery, and you have decided to go ahead with it, you will be put on a waiting list.

The NHS defines the maximum time that patients should wait for treatment including routine planned cardiac surgery. Current NHS policy and guidelines state that 92% of patients on the elective waiting list should be operated within 18 weeks. The clock starts with GP referral to the cardiologist and continues while investigations are undertaken leading to treatment decisions, referral for consideration for surgery, completion of investigations necessary to make judgements, and finally the waiting time on the cardiac surgery waiting list.

There are differences in the way the NHS counts the time for patients who are referred from outside Wythenshawe Hospital (for example from clinics at Tameside, Salford, Oldham, Bury, Macclesfield, and Stepping Hill). These referrals are arbitrarily assigned an eight week lead in time regardless of how long the patient has been in the system before they are listed for surgery. The Cardiac Surgery Waiting List office will be able to inform you what time you have been assigned and when you breach the 18 week waiting time.

We acknowledge that it is frequently the case that many patients are already breaching 18 weeks when they are referred to the cardiac surgeon and we do everything in our power to expedite the date of your operation once the decision has been made to proceed.

Patients on the planned (elective) waiting list are categorized by the surgeon into two categories: urgent and routine based upon their cardiac condition and on clinical judgement. Urgent patients should not wait 18 weeks.

Patients on the planned elective waiting list compete for limited NHS resources and may find their surgery delayed, postponed, or cancelled due to other clinical priorities such as transplant operations, emergencies, or in-house urgent hospitalized cases (who are unsafe to be discharged from hospital without surgery such as after a heart

attack). Further delays or cancellations may occur due to the pressure on resources including availability of theatre sessions or beds on critical care or a ward, and /or staffing shortages. All of these pressures are worse during the winter months when there may not be enough critical care beds available and there may also be an increased need for beds for Extracorporeal membrane oxygenation (ECMO) patients who need emergency artificial lung devices.

The Waiting List nurses and the Waiting List Office will inform you of your status on the waiting list and admission plans and inform you of changes in these plans. When cancellation rates are high, you may be given a provisional admission date that will be reviewed closer to the operation date.

At your outpatient visit, you will be informed of the average waiting times for operations based on available information at that time. Usually, there is an average waiting time of three months for planned elective routine surgery from the time of placement on the waiting list.

Earlier admission may be possible and you may be asked if you are willing to be available at short notice when there are late changes in schedules and unexpected operation slots. It may be that the type of medication you are taking rules you out for being called at short notice as some medication must be stopped for several days before surgery. You may be asked if you are happy to have your operation by a different surgeon than the Consultant who saw you in the out-patient clinic.

Your surgeon will do his utmost to get your surgery done as soon as possible. The waiting time for each surgeon will differ and will vary over time. It is reasonable to ask the Waiting List Office if your operation can be undertaken sooner by another surgeon in the department. If you ask, the Waiting List office will review the waiting times and discuss this with your surgeon. Regardless of you asking this question, the Cardiac Surgery Waiting List Office will be monitoring your waiting time and trying to expedite your operation.

What can I do to prepare for planned surgery?

Prior to your cardiac surgery it is very important that you get as fit as possible. The surgical team will have reviewed your current lifestyle risk factors with you. You will receive advice and support, as needed to make the below changes to your lifestyle.

- If you smoke - it is very important to stop smoking prior to surgery. Even stopping smoking just a few weeks prior to your surgery has been shown to reduce complications after cardiac surgery (reduced chest infections and better wound healing). There is help if you need it. Your GP can help you as well as put you in touch with the local Stop Smoking Service. There are some contact telephone numbers on pages 63 - 64.
- If you are overweight – losing some weight will help you to recover quicker. You will find it easier to move around as well as being less tired. There is advice about healthy eating and alcohol intake on pages 66 – 80.
- If you have diabetes – monitoring and working to keep your blood sugar level steady will also help you recover better after surgery.
- Keep as physically active and exercise as your symptoms allow. Regular walking, even for short distances, will help you to recover your fitness quicker after surgery.
- Take good care of your teeth and have regular dental check-ups. Tell your dentist that you are having heart surgery if you need dental treatment.

Pre-admission

Prior to your operation you are required to attend a preoperative assessment with one of the cardiac surgery specialist nurses; this gives an up-to-date assessment of your health prior to your surgery. The 'pre-op' process can take up to two to three hours and will involve you having an ECG, bloods, urine specimen and chest X-ray.

You may be required to attend appointments on future dates for further investigations; including an echocardiogram, vascular studies and lung function tests.

Please bring a current prescription list and details of any non-prescribed medication you may also be taking.

Although you may or may not have a date for your surgery when you attend your preoperative assessment, please bear in mind that any dates given can change due to service demands, such as emergency and transplant operations.

Before coming into hospital, please make any arrangements for help that you will need when you first return home after your surgery. The Society for Cardiothoracic Surgery in Great Britain and Ireland (SCTS) have a suggested checklist of practical tips to help you prepare for having surgery. (<http://scts.org/patients/having-heart-surgery/>)

To help inform you of what to expect when you come in to hospital you can view Wythenshawe Hospital's 'Hearts and Minds' video at <http://www.thetickerclub.co.uk>

Patient information day

Approximately one or two weeks prior to your surgery you will be invited to attend a Patient Information Day on the Cardiothoracic Critical Care Unit (CTCCU). This takes place on a Friday afternoon between 14.00 and 16.00 hours.

The purpose of the afternoon is to meet members of the team. The team will include someone who has had cardiac surgery who will discuss the patient and carer's perspectives.

They will provide you with information about your hospital stay from admission to discharge with the opportunity for you and your relatives to ask questions. If you do not receive an invitation to this event at least two weeks before your due surgery date, please contact the CTCCU office on (0161) 291 4527 to book your place.

Information about coming in to hospital

If you have a cough or flu, or are taking antibiotics, it is very important that you contact your Cardiac Surgery Specialist Nurse on 0161 291 5067 to ask for advice.

Prior to your admission, every effort is made to ensure that your operation goes ahead on the day as planned. However sometimes due to the pressure of emergencies a bed may not be available on CTCCU; unfortunately in this situation your operation will be postponed.

On the day of admission you will be asked to report to the desk in the Admissions Lounge on the First Floor of F Block within the Green Zone. Once all your details have been checked you will be directed to a Cardiothoracic Ward, normally F6. When you arrive on the ward you may have to wait in the dayroom until your bed is ready, sometimes this can be up to a few hours.

What belongings should I bring in?

As there is a limited amount of storage space, we would appreciate it if you would only bring into hospital a small overnight bag with the following essential items:

- Your own medication.
- Wash bag (denture pot if needed); you do not need to bring a towel.
- Clean nightwear that buttons down the front, dressing gown, comfortable full foot slippers.
- Two sets of underwear - one or two well-fitting non-wired bras for women.
- Small amount of money if required for newspapers.
- Magazine, book or audiobook with headphones and if required glasses and case.
- Comfortable clothes such as tracksuit bottoms and a shirt or blouse which button down the front.

If you have brought in any valuables such as jewellery and / or mobile electronic devices, please ask relatives or friends to take them home before your surgery.

When you are settled on the ward, the nursing staff will ask you some questions about your history and will take your temperature, pulse and blood pressure. This monitoring will continue regularly through the day and night, before and after your surgery.

As part of your introduction to the ward, the nursing staff will discuss any support that you may require at home after your operation. A member of the surgical team will discuss your procedure and ask you to sign a written consent form for the operation to be carried out. If you have any questions, please talk to the doctor before you sign the consent form so that you fully understand the risks of the surgery. The anaesthetist will also visit and talk to you, which will give you an opportunity to ask any remaining questions that you, may have before your operation.

A healthcare support worker will help prepare you for surgery. This may involve the removal of any body hair from your chest, legs and forearms before you have your bath or shower. The hospital policy is to use clippers. We strongly advise you not to attempt to shave yourself beforehand as there may be a risk of cuts or abrasions with shaving. This could cause your surgery to be postponed due to the risk of infection.

How long will I be in hospital?

You can usually expect to stay in hospital for five to ten days however, everyone progresses at a different rate and therefore your length of stay may be longer.

It is dependent upon:

- Your diagnosis;
- The cardiac treatment you have had;
- Your general health and any other medical conditions you may have; and
- Your home circumstances.

What will happen on the day of my operation?

On the day of your operation the anaesthetist may prescribe a 'pre-medication' a few hours before your operation. This will help you relax; if it makes you drowsy you will be taken to theatre on your bed, otherwise you will be able to walk, accompanied by a nurse.

In the anaesthetic room the anaesthetist will insert a tube in the back of your hand to administer the general anaesthetic to put you to sleep. A tube will also be placed down your throat, into your windpipe and connect you to a ventilator (breathing machine) which stays in place throughout your operation. Whilst the thought of having this tube in your windpipe is not pleasant, please remember that you will be asleep and therefore not aware of its presence.

Once you are asleep, an ultrasound probe known as the transesophageal echocardiogram (TOE) will be placed in your gullet so that the anaesthetist can monitor the function of your heart. This gives clear pictures of how well your heart is beating and how the valves are working throughout your operation. There are specific risks associated with TOE; some patients will not have a TOE during surgery because of their medical history.

During the operation your body temperature needs to be lowered to rest your heart and lungs and their function will be taken over by the heart-lung bypass machine.

You will have a catheter inserted into your bladder. This will drain your urine whilst you are asleep and for a short time afterwards. It may be removed during your stay on the Cardiothoracic Critical Care Unit (CTCCU) or on the ward.

After your operation you will be transferred into the CTCCU whilst still under the anaesthetic. It is important for us to monitor your heart rate, breathing and blood pressure. Your sedation will be reduced once you are stable. The tube in your windpipe will be removed when you have woken up and your breathing effort is adequate to wean you off the ventilator.

Cardiothoracic Critical Care Unit

In CTCCU, your nurse will monitor your condition and assess when you are ready to begin breathing unassisted again. As you start to wake up your nurse will tell you that you are back on the CTCCU and that your operation is over. To check that you have woken up properly, your nurse will ask you to move your toes and squeeze their hand. This helps them to assess how awake you are. You will still be very sleepy at this stage and you may become aware of the tube in your throat and windpipe. If, at this stage, your condition is considered stable the nurse will remove the tube in your throat. If not, the sedation will be topped up until you are ready for the tube to be removed. It is important to remember that whilst the tube remains in your throat you will be unable to talk. Do not be alarmed – your voice will return once the tube is removed.

Some patients who have existing lung disease, for example asthma or chronic bronchitis, may need more assistance with their breathing. The consultant anaesthetist who speaks to you before the operation will tell you if they consider that this will be the case.

Once you are off the ventilator and the tube is removed you will need extra oxygen via a facemask or nasal cannula (prongs) for approximately the next two days. The mask or nose prongs should remain in place for most of the time, but you can remove them in order to eat or drink.

Throughout your stay on CTCCU you will be looked after by a dedicated team of Consultant Intensivists alongside your Cardiac Surgeon.

The morning following your operation, the Surgeon and the Intensivist will assess you. They will review your clinical status and progress and decide whether you need to stay on CTCCU or are well enough to be transferred to the ward (this can vary from one individual to another). In general most patients are transferred from the CTCCU to the ward between one to three days after their operation. The nurse who is looking after you will keep you fully informed about your transfer.

Infection control

Infection control is a priority. All visitors to the unit will be requested to adhere to our hand hygiene standards. Applying alcohol hand gel on admission to and upon leaving the clinical area is essential.

Chaperones

All patients are entitled to have a chaperone present when examinations are being performed and personal care being delivered. Please inform the nursing staff of your requirements.

Pain

Your comfort is very important to us. When you are pain-free it will improve your breathing and help with your physiotherapy (see pages 24-27). We will give you pain relief medication through one of your drips and gradually replace this with tablets as you recover sufficiently to be able to eat and drink again. It is important that you let us know if you are experiencing any discomfort so that we can adjust your pain relief to suit your needs.

Intravenous infusions (drips)

Whilst you are sedated you will have several drips inserted. Some of these will be in your hand, others in your neck or shoulder. Most of these will be removed on the CTCCU before your transfer to the ward. You will be left with one drip in your hand and possibly one in a neck vein.

Eating and drinking

Soon after the tube in your throat has been removed you will be able to drink again.

Most people are ready to eat again on the evening of the first day after the operation. You will be offered light meals to start with.

Telephone enquiries and visiting arrangements

When you have been transferred from the theatre and arrived on CTCCU, a member of staff will telephone your next of kin within the hour.

Telephone enquiries thereafter, are welcome at any time of the day or night. In order to help the nursing staff who are caring for you, we ask that only one or two family members ring the CTCCU. They can then pass on the information to other family members. We understand that relatives are anxious to enquire how you are after your operation; however, each time your nurse has to answer the phone, they are taken away from caring for you.

Visiting on the CTCCU is restricted to immediate family only. On the day of your operation we do not encourage relatives to visit. Nevertheless we realise that this day will be an anxious time for your family and in some instances visiting may be possible. Please ask members of your family to contact the CTCCU and speak to the nurse who is looking after you. He/she will make the necessary arrangements.

However many previous patients have told The Ticker Club volunteers that “they do not recommend day-of-surgery visiting as they felt very tired due to the anaesthetic, and the nurses and doctors are still at their bedside frequently. Their advice to future patients is for family members to *‘wait until the day after the operation, it works better for all.’*”

Normal visiting arrangements can be resumed on the first day after your surgery. Before visiting however, your family should contact the CTCCU by telephone to check whether you have been transferred to another ward.

Visiting times on CTCCU are between 14.00 and 16.00 and 18.00 to 20.00 hours. This is to allow protected meal times and provide rest time for patients. Unfortunately, flowers are not allowed on the CTCCU or wards due to health and safety and infection control reasons.

Mobile phones and camera attachments are not to be used on the CTCCU.

Cardiothoracic ward

When you are transferred from the CTCCU, it is likely you will move to Ward F6 (or to Jim Quick Ward). It is recommended that the number of visitors to the ward is restricted to a maximum of two visitors per patient. Children under the age of five years old are discouraged from visiting the ward. Permission for children to visit should be obtained beforehand from the nurse in charge. Visiting times on Ward F6 are between 14.00 and 20.00 hours. Out of hours visiting will need prior arrangement with the ward sister.

Section 3 Your recovery

Your individual care plan will be assessed and supported by the health professional team during your recovery. Rest is initially encouraged followed by a gradual increase in your activity levels.

Clothing advice

Please wear underpants as soon as possible if you have any groin surgical wounds. If you are female, once the pacemaker and ECG leads are removed, you should wear a supportive non-wired bra at all times until the wound has healed. This will help reduce pressure on the chest wound. A front fastening bra may be easier to put on. If you feel discomfort however, try placing a surgical pad or some gauze underneath the bra.

We encourage you to get dressed after a few days as it can help you feel as though you are getting back to normal. At first lifting your arms above your head can be a little uncomfortable and therefore it is best to wear shirts, blouses and tops which button down the front rather than 'T-shirt' style clothes.

Chest wound

In order to operate on the heart, an incision through the chest is needed. This involves cutting through the sternum (breastbone) lengthways (called a median sternotomy). At the end of your operation your breastbone is held together by a number of steel wires which usually remain in place for the rest of your life.

Your breastbone should have knitted together at about six to eight weeks after your heart surgery and will have fully healed by 12 weeks. It is important however, to remember that everyone's healing time can be different as it is affected by things such as:

- Your age;
- An underlying medical condition, for example diabetes or obesity;
- Your nutritional status;
- Your medication and
- If you smoke.

You should be guided by your individual surgeon's advice regarding how much weight and movement you can put through your arms and upper body during this time. In general, do not lift anything heavy or walk large dogs on a lead for the first six weeks after the operation.

Your chest wound will be approximately 12 to 18 cm (5 - 7 in) long. For the first few weeks you may notice a lump or swelling at the top of your chest wound. This should gradually disappear over several weeks. Likewise, it is not unusual to feel the edges of the breastbone 'grate' together. However frequent 'grating' or 'clicking' when moving, coughing or sneezing should be reported to a member of staff on the ward or your GP.

It is quite common after major heart surgery to have aches and pains in your back, neck, shoulders and in the front of your chest. This discomfort is due to stiffness in the muscles and ligaments that have been stretched during the operation. Do not confuse this with angina, which you may have had before the operation. The degree of pain is extremely variable and is often worse in the morning after waking, late at night and when moving arms and shoulders. It will improve with time, but may take up to three months or even longer, sometimes up to six months. It is important that you take adequate pain relief.

When the internal mammary artery (see page 5 & 6) has been used for CABG surgery you may feel an ache or stabbing pain inside the chest especially when moving. The discomfort tends to occur in the same place each time. You may be aware of an area of numbness, tingling or discomfort on the outside of your chest, which can be temporary or remain permanent for some individuals.

Patients may also develop costochondritis (inflammation of the junctions where the upper ribs join with the cartilage that holds them to the breastbone) and have pain on coughing or movement to the side of the breastbone where the ribs join the costal cartilages. This can be treated with anti-inflammatory drugs and topical anti-inflammatory gel.

Physiotherapy

Physiotherapy is a very important part of your recovery. You will be assessed and treated by a physiotherapist the day after your operation. You will be encouraged to do breathing exercises and helped to get 'back on your feet' as appropriate for you.

Positioning and posture

When you are in bed or sitting in a chair it is important to be as upright as possible with your head supported and your shoulders relaxed. This will help you with your breathing and also help to relieve tension in your muscles. Also remember not to allow yourself to become round

shouldered or 'stooped'. This could lead to poor long-term posture and discomfort.

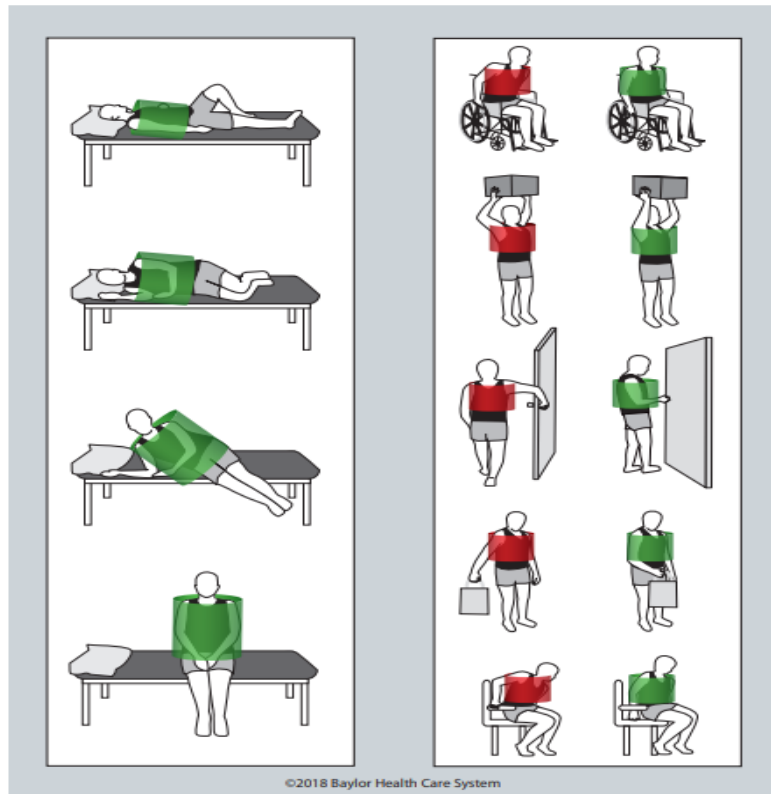
Breathing exercises

Breathing exercises help to prevent the development of chest infections after your operation. You may be given an incentive spirometer (IS) to encourage you to breathe deeply and assess how well your lungs inflate. It is very important for you to use this device before surgery, while you are in the hospital and when you go home.

Moving about

Your physiotherapist and nurses will encourage you to be independent in moving about and getting on and off the bed and chair as early as possible. You will find it less painful to move up and down the bed by shuffling your bottom from side to side. As pictured below, when getting off the bed it is easier to roll onto your side first, swing your legs over the edge of the bed and then push up with your arms keeping your arms close to your body. Do the same in reverse for getting into the bed.

Keep Your Move in the Tube®



These simple drawings show you how to move
'in the tube' (green) rather than 'out of the tube' (red)

Arm and shoulder exercises

From day one after your operation your physiotherapist will teach you to do arm exercises to prevent stiffness in your shoulder joints. They should be carried out five times each, three times a day, until full pain-free movement is gained.

Sit or stand.

Lift alternate arms out in front of you and then up above your head.

Progress to raising both arms together with hands clasped as shown.

Breathe in as you raise your arms.

Breathe out as you lower them.



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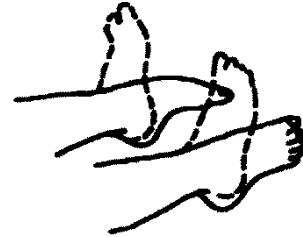
It is important in the early stages of recovery not to stretch or extend your arms out to the side or behind you too much. Your physiotherapist will show you how to correctly move generally keeping your upper arms

close to your body as if your arms are inside an imaginary tube within the trunk of your body. This is thought to lessen stress on your breastbone.

Foot and leg exercises

On the first day after your operation you are likely to sit out in a chair and be encouraged by your nurse or physiotherapist to 'march on the spot'. You will also be encouraged to bend and straighten your donor leg regularly in order to prevent stiffness.

Your physiotherapist will also teach you regular foot exercises. Lying on your back or sitting – bend and straighten your ankles.



These movements will help reduce the risk of blood clots forming and reduce swelling in your leg and ankle. Early movement of your leg will also help to reduce tightness and pain of the leg wound. You can help to reduce swelling in the leg by sitting with your leg up, knee fully supported by a pillow or chair, so that your foot is higher than your hip. This helps the fluid to drain away more easily. Also, do not sit with your legs crossed as this reduces the normal flow of blood in the veins.

On the second day after your operation, you are likely to start walking with help from your physiotherapist. If necessary, you can be given a walking aid to assist with your walking. Between the third and fourth day after your operation you will be encouraged to walk without supervision around the ward. Before you go home, if appropriate, your physiotherapist will make sure you can climb the stairs safely.

Leg wound

Most patients having CABG surgery will have a leg wound from where the vein used for the operation is taken. At first this will be covered with a tight bandage which will be removed on the second day. There are three main after-effects

1. **Pain.** It is common to experience pain along the wound site, particularly if the wound crosses the knee joint or extends to the groin area. Gentle movement of the leg will help to ease this pain.
2. **Numbness.** It is common to experience unusual sensations (pins and needles and numbness) along the leg wound. At the lower end of the wound there may be a small area which feels numb. This is because a small nerve, which runs to this area of the foot

and ankle, lies very near the veins and it often stops working after being disturbed. These sensations are likely to improve after a few months.

- 3. Swelling.** It is normal for swelling to occur in the ankle and leg from where the vein was removed during your surgery. Swelling is often present for about three months, until the other veins have taken over the job of the missing vein. Wearing compression (also called anti embolism or thrombo-embolus deterrent -TED) stockings can help to prevent fluid from accumulating in the tissues and reduce the risk of you developing a blood clot immediately after your surgery.

The need to wear compression stockings, for you as an individual, will be prescribed by your surgeon.

The nursing staff on the ward will advise, as appropriate, on:

- When you should wear them;
- The need for help to take them off every day to wash your legs and check the condition of your skin and then help put them back on;
- The length of time your consultant has advised you to continue wearing them, approximately six weeks in most cases;
- How to ensure they are pulled up correctly as areas where the stockings 'bunch up' could put pressure on the soft tissues in your legs.

Avoid sitting in one position for a long time or sitting with your legs crossed as this obstructs the blood supply to your legs. Elevate your foot and leg on a stool or while lying down on the arm of the sofa so that any excess fluid can drain away.

Physical after-effects of surgery

Below are some common immediate post-operative problems. They can be due to the surgery, the effects of the heart/lung bypass machine or the anaesthetic used during the operation. Most of these problems should settle during the first few weeks after your operation. Often having some knowledge of these after-effects and what they mean can help to lessen any anxiety you may feel if they occur.

- **Tiredness.** This is very common and may last for up to six weeks. Ensure you pace yourself with any activities you may do.
- **Sore throat and hoarse voice.** This is due to bruising of tissues by the tube in your throat.
- **Sweatiness.** Suddenly feeling hot and cold and having night sweats is normal. It is due to the temperature regulation of your body settling down again.
- **Change in sense of smell.** This should soon return to normal.
- **Reduced sense of taste.** Many people have a metallic taste in their mouths or find that all food tastes the same or is tasteless.
- **Poor appetite.** Try to eat something at each meal time and eat a small snack between meals. This is important for both nutrition and wound healing. Also drink water as advised by the nursing staff to prevent dehydration.
- **Indigestion and constipation.** These are common, as normal function of the gut slows down during surgery. Inform your nurse if you have a problem so they may give you something to help. It is important that you do not strain.
- **Visual disturbances.** You may have blurred vision, spots before your eyes and visual hallucinations. It is advisable to wait about three months before having your eyes tested.
- **Vivid dreams.** These are commonly experienced during the early days.
- **Thumping sensations.** Many patients experience a thumping noise in their ears or at the back of the head when lying flat or on

their left side. If this occurs, change your position. It will settle after a few weeks.

- **Fast Heart Rate.** You may feel your heart beating fast, irregularly or missing a beat, especially at night. Although very common after heart surgery (see heart rhythm changes on page 8 & 9) and is often a reaction to the heart being handled during surgery, it is important that you inform a member of staff. You may be attached to a monitor for a short time and will need to carry a portable transmitter with you. A fast heart rate is easily treated with medication (see page 33).

Wound care and healing

Your wound dressings will be checked daily and will normally be removed three days after your operation; if your surgical wounds are clean and dry then they will be left uncovered. If they are oozing, another dressing will be applied.

Dissolving stitches are used to sew the skin layers together. The skin begins to heal quickly and top layers are usually sufficiently healed within 48 hours. These layers continue to heal for a further six weeks or more. Over time the scar should shrink to a thin white line; occasionally it may remain red.

At first the nursing staff will help you to wash although you will be encouraged to become independent as soon as possible. After a couple of days the staff may assist you with having a shower to reduce the risk of infection. Then have a warm shower every day allowing the water to flow over the wound to keep your wounds clean and encourage healing. Use your hand to apply a mild shower gel rather than soap. Do not use flannels on wounds as they can harbour bacteria and cause infection.

Medication

Before surgery

A pharmacist or pharmacy technician will look at the medication you bring into hospital. This is to ensure that the appropriate pre-admission medication is prescribed during admission and on discharge.

After surgery

When you leave hospital you will be given at least one week's supply of medication to take home. Your nurse or ward pharmacist will explain how and why to take your tablets before you are discharged. You will be given a copy of the discharge prescription for your own records.

Your GP will prescribe your medication from there on. Continue to take your medication as prescribed until you are told otherwise, either at the out-patient clinic, or by your GP. If you have supplies of your medication at home and are unsure whether you are still to take them, ask your GP.

Following heart surgery, you will find that your medication will be altered. Angina medication such as Isosorbide Mononitrate and Nicorandil will be stopped.

However medicines for other medical conditions you have will normally be restarted following your operation. The doses of these medicines might have changed so please check carefully. If unsure, ask your nurse or ward pharmacist while in hospital or your GP after discharge.

A list of your medication is included in the discharge letter you will be given when you leave the hospital. Please refer to that list or to the '**Medicines changed**' section for further information.

Below you will find a list of medication that you might be started on before discharge, or that have been withheld before or during admission and have been restarted. You will take some medication for a short period of time (e.g. antibacterials, water tablets, pain relief, laxatives) while others will be long term. This will be indicated in the discharge letter in the medication list, under the **Number of days** section.

Pain Relief

E.g. Paracetamol, Dihydrocodeine, Codeine, Tramadol

Take your pain relief regularly as prescribed by your doctor, for as long as you have pain. This will help you to breathe deeply, cough, sleep, move around more comfortably and exercise.

Dihydrocodeine, codeine and tramadol commonly cause constipation. You may be prescribed regular laxatives to prevent and treat this.

Anti-platelet agents

E.g. Aspirin, Clopidogrel, Ticagrelor

Aspirin will normally be started, or restarted where applicable following heart surgery, although your dose may have changed. If you cannot take aspirin you will be prescribed clopidogrel. These medicines reduce the 'stickiness' of your blood and reduce the risk of clots forming in the new bypass grafts. It is recommended that you take them after a meal to prevent gastric irritation (heartburn).

If you have any urgent surgery following a heart attack, it is recommended that you are prescribed dual anti-platelet therapy for one year following the surgery to reduce the risk of further cardiac events. Variation in this protocol will be advised by your surgical team.

Lipid lowering medication

E.g. Simvastatin, Pravastatin, Atorvastatin

These medicines will normally be restarted following heart surgery. They help reduce the likelihood of your bypass grafts becoming narrowed or blocked, due to fatty deposits. Occasionally, the dose may be increased in order to achieve a lower cholesterol level. We recommend that you take them in the evening as this is when your body produces the most cholesterol and the level in your body is highest.

Blood pressure lowering medication

There are different categories of medication that will be used to control your blood pressure after heart surgery e.g. *Water tablets (diuretics), ACE inhibitors and others e.g. Doxazosin, Amlodipine*. Some of them will be newly started while others you might have been taking prior to your surgery.

These medicines may or may not be restarted in hospital after your operation. This will depend on your blood pressure. If they are restarted, it is often at a lower dose than before your heart surgery. Once you return home, your GP or practice nurse should check your blood pressure regularly. It may then be necessary for the GP to gradually increase the dose again.

Angiotensin-converting enzyme (ACE) inhibitors

E.g. Ramipril, Lisinopril, Perindopril

ACE inhibitors work in a complex way by stopping certain enzymes (proteins) working within the body. They are used to help the heart pump blood around the body by dilating (widening) your blood vessels. After surgery, using an ACE inhibitor can prevent your heart from weakening and has been shown to reduce the risk of you suffering a heart attack, whether or not you suffer from high blood pressure.

After starting on an ACE inhibitor some patients complain of a dry tickling cough. This is a possible side effect of the drug. We advise patients that they should continue taking the tablets. However, if the cough becomes troublesome your doctor may reduce the dose or stop the tablets and prescribe a suitable alternative. The alternative medication you might be prescribed is from a class of medicines called angiotensin II receptor antagonists, commonly called 'sartans'. They work the same as ACE inhibitors but do not cause the dry tickling cough side effect.

Medication to remove extra fluid from your body - (Diuretics or water tablets)

E.g. Furosemide, Bumetanide, Co-Amilorfruse

After surgery you may be started on a water tablet if you are retaining extra fluid. This may only be for a short while and the tablets might be stopped before your discharge or continued for a short while after discharge.

Water tablets should be taken in the morning. If you have to take them more than once a day, you should take the second dose before tea-time or you may find that you are waking up in the middle of the night to go to the toilet.

Medication to control heart rhythm

E.g. Bisoprolol, Amiodarone, Digoxin

It is possible that you may be started on a medicine to correct an irregular/fast heart beat (see page 8), which sometimes occurs after heart surgery. If you are prescribed amiodarone or digoxin, you will need some blood test monitoring by your GP so please make sure you attend the appointment when asked (see below section Follow-up with GP on page 36).

Medication to reduce amount of acid in the stomach

E.g. Lansoprazole, Omeprazole, Ranitidine

These are commonly started after surgery to protect your stomach. If you were not on this type of medication before your operation, it is normally reviewed at your follow-up appointment.



Anticoagulants

E.g. Warfarin, Acenocoumarol (Sinthrome)

These medication help to stop clots from forming in your blood vessels.

Warfarin and acenocoumarol are used in those individuals with irregular heartbeats, repaired or replaced heart valves and those who have had blood clots formed in their blood vessels.

If you are prescribed these anticoagulant medication you will be given counselling by the pharmacy team and a separate information booklet which you should refer to. Make sure you keep the booklet after discharge for future reference.

Warfarin and acenocoumarol are medication that need special blood monitoring called an International Normalised Ratio (INR). This will normally be done by an anticoagulant clinic or your GP. The INR is a blood test that measures the clotting or 'thinness' of your blood; the higher the INR the 'thinner' the blood. The doctors will decide what the target INR should be for each patient receiving warfarin or acenocoumarol. The dose of warfarin/acenocoumarol may change from day to day, but this is quite normal. You will only be allowed to go home

when your blood is 'thin enough' and the desired INR has been achieved.

The hospital normally supplies 1mg (brown) warfarin tablets. The doctors will prescribe your daily dose of warfarin in milligrams (mg). For example 4mg of warfarin is **four** brown warfarin tablets. The daily dose should be written in your yellow anticoagulant book up until the day you will have your next INR check. There is some important information in the front of the anticoagulant book that you must read. We recommend you carry your anticoagulant book with you. You must inform doctors, dentists and pharmacists about your anticoagulant treatment.

It is best to take your warfarin/acenocoumarol at the same time each day, **at tea-time**. If you forget to take your tablet at the usual time, but remember later the same day, you can take your dose.

However, if you remember the following day, **do not take the dose you have missed**, but do take the dose for that day as prescribed. Please make a note of any missed doses in your anticoagulant book. You will need to attend the anticoagulant clinic at your local hospital for regular blood tests. The staff on the ward will give you details of your first appointment. Your anticoagulant clinic appointments will be weekly to begin with. Once your dose is stabilised, your appointments will become less frequent. It is useful if you take a list of your medicines (such as a copy of your discharge prescription) with you to the clinic, especially on your first visit.

You may bleed more easily or bleed for longer whilst on anticoagulants. Seek medical attention if there is blood in your urine, stools, vomit or sputum. Avoid heavy or binge drinking of alcohol as this may increase the risk of bleeding.

Many medicines will interact with warfarin/acenocoumarol. They can increase its effect, making the blood even thinner or work against it and lead to a thickening of the blood (both of these things can have serious implications). For this reason, **ALWAYS** check first with a doctor or pharmacist before deciding to take any medicines that are not part of your usual regimen, such as those you may have purchased over the counter.

Despite the cautions highlighted, warfarin is an extremely valuable medicine for certain heart patients.

New other oral anticoagulants (NOAC)

E.g. Apixaban, Rivaroxaban, Edoxaban, Dabigatran

These medication are used in those individuals with irregular heartbeats, and those who have had blood clots formed in their blood vessels. They also thin the blood like warfarin, but they have the advantage of not needing INR monitoring.

Tablets need to be taken at the same times each day to have the best treatment effect. Single missed doses may disrupt effect. If you forget to take your tablet at the usual time, but remember later the same day, you can take your dose. However, if you remember the following day, **do not take the dose you have missed**, but do take the dose for that day as prescribed.

You may bleed more easily or bleed for longer whilst on anticoagulants. Seek medical attention if there is blood in your urine, stools, vomit or sputum. Avoid heavy or binge drinking of alcohol as this may increase risk of bleeding. Discuss with your pharmacist if you are requiring additional medication to treat minor ailments e.g. pains, colds.

The pharmacy team will provide a counselling session in which the above will be explained and a booklet containing the information will be handed to you. Make sure you keep it after discharge for future reference.

Please note you should NEVER take two oral anticoagulants together.

If you have previously been taking warfarin or a new oral anticoagulant, but have been started on another during admission, the anticoagulant taken before that should be stopped.

For further information and support with your medication contact your community pharmacist or call the Medicines Information Department at Wythenshawe Hospital on 0161 291 3331 between the hours of 09:00 – 17:00 hours Monday to Friday.

Going Home

You will be able to go home when your Doctor states you are medically fit. If you need a 'Statement for Fitness to Work' following your hospital stay, a member of the ward team will organise one for you.

When you go home a relative or friend will need to collect you from the ward or the discharge lounge. You will not be able to go home on public transport. If getting home is going to be a problem, please discuss this with the ward staff as soon as possible.

You will be given a discharge letter, a copy of which is also sent to your GP, with details of your surgeon, heart operation, recovery, medication and any further plan.

You must wear a seat belt as a passenger travelling home in the car. If you find it uncomfortable, try placing a small flat cushion or towel between the seat belt and your chest for protection. Also be aware of the airbag installations in the car; choose carefully where you sit and adjust the position of the seat accordingly.

Your follow-up

General Practitioner

Your General Practitioner (GP) is responsible for your care after you leave hospital. If you feel unwell or have any worries regarding your recovery contact your GP.

You should arrange to see your GP for a review of your medication. Your GP will advise which blood tests you may require and their frequency depending on the below medication you have been prescribed.

ACE inhibitor and angiotensin II receptor antagonist

- Kidney function and other blood electrolytes one week after each dose change and every one to six months when stable.

Amiodarone

- Thyroid function every six months.
- Liver function every six months.

- Kidney function and other blood electrolytes every six months.
- Lung function - only if needed.
- Eye test once a year.

Cholesterol lowering medication

- Liver function every six to 12 months.

Digoxin

- A digoxin level should be checked eight to ten days after every dose change or if it is suspected that the level may be high.

Diuretics (Water tablets)

- Kidney function and other blood electrolytes should be checked every one to two weeks after each dose change and every three to twelve months when stable.

Out-patient appointment

About six to eight weeks after your discharge you should be seen by your surgical team at either the centre where you had your operation or at your local hospital. Your doctor will assess how well you are recovering and change any medication or arrange to repeat any tests if necessary.

Note - if you have not received your appointment within six weeks post-discharge, call your surgeon's secretary via Wythenshawe Hospital's switchboard telephone number (0161) 998 7070.

First few days at home

For the first few days at home, you should rest and relax, following a similar routine and level of physical activity as the last few days in hospital. You may walk around the house and garden and can go up and downstairs as necessary.

During this time it is quite common for you to only want to see close friends and family. As receiving visitors can be tiring, ask them to stay for a short time only so you can enjoy their company without getting over-tired.

For the first few days and nights it is advisable to have somebody with you most of the time. You may get out and about and be driven to places as soon as you feel ready.

Sleep and rest

Depending on your individual case and recovery, it is normal to feel tired initially after leaving hospital. During this time it is important to rest when necessary and to get adequate sleep. It is sensible to rest for at least ten minutes after a meal or after having a shower.

It can take a few weeks to settle back into your normal sleep pattern. You can help yourself by going to bed at your usual time, and use as many pillows as you need to make yourself comfortable in your normal sleeping position. However due to the healing of your breastbone, it is best to avoid lying on your stomach for the first six weeks. If you wake up during the night and are finding it hard to go back to sleep, try getting up and moving around a little before settling down again.

Eat well

The healing wound needs nutrients to repair, and therefore you need to increase your dietary requirements in the short-term. Diabetic patients must ensure blood sugars are well controlled during this healing period as research has shown that poor glucose control is linked to delayed wound healing.

Dental care

Good dental hygiene is important before and after heart surgery. This helps prevent the risk of infection that could affect your heart, particularly after valve surgery. It is recommended that you have regular dental check-ups every six to twelve months.

Good hygiene

It is vitally important that you look after your wounds once you get home. Before and after touching your wounds, make sure you wash your hands to avoid contamination with unseen germs. Contact your ward nurse or GP if you notice any of the following symptoms:

- Increased pain – as the wounds heal your pain should decrease steadily.
- Any new leakage or discharge that the District Nurse is not already aware of, should be reported immediately.
- Increased redness or tenderness – the skin around the wound edges should not be swollen, inflamed or hot to touch.

Psychological effects for you and your family

After your heart surgery you may experience a feeling of being out of control of your life. This can sometimes feel overwhelming. It is a natural reaction to the stress of the event. When you return home and leave the safety of the hospital you may feel vulnerable and uncertain about your future and other aspects of your life.

A major part of your recovery is to regain confidence and control. Your family will often experience similar feelings. This can result in them being over protective and may lead to frustration and conflict. It is important to discuss any problems and share the information you have been given verbally as well as the written information in this booklet. It will help to relieve both your own and your family's concerns, as you start to return to your everyday activities and lead a healthier lifestyle.

When you attend a cardiac rehab programme you will have access to psychological support, should you need it.

Some common emotions that you may experience are

- **Anxiety.** This is quite common and may result in feelings of irritability or anger and loss of temper can sometimes result in tension, poor sleep, lack of energy and anxieties about minor aches and pains. There is also fear and frustration that you might not be making sufficient progress and a tendency to compare yourself with someone else. Try to avoid making comparisons as everyone is different and recovers at a different pace. It is important to think positively and remember that the aim of your heart surgery is to improve your quality of life.
- **Change in mood or emotion.** You may have days when you feel down, depressed, more emotional than usual and even tearful. This is a perfectly normal reaction to the release from the stress and anxiety that some people feel in the build up to coming into hospital. On other days you may feel on top of the world. It is possible for these feelings to recur now and again over the next 12 months. They will go with time, as you become stronger and more confident.

Lack of concentration and memory lapses. Many people find it difficult to concentrate when reading and often find they cannot remember simple things, for example their own telephone number. This

should improve over the first few weeks, but you may continue to be affected for six to 12 months, when you are tired or under stress.

Section 4 – Your rehabilitation

Cardiac rehabilitation

When do I start cardiac rehab?

Following your heart surgery, cardiac rehab delivered by a team of health professionals is regarded by your surgeon as a vital part of your treatment.

Cardiac rehab normally starts when you are in hospital when a cardiology liaison nurse visits you on the ward. Referring to the information in this booklet, you will be given individual guidance to prepare you for going home. You will have the opportunity to discuss any specific concerns you or your relative or carer may have about getting back to your usual activities. We will also talk to you about the type of surgery you have had, as well as advise you on how to control or modify your medical risk factors (diabetes, high cholesterol and high blood pressure). We will discuss the appropriate lifestyle risk factors which you may need to change after your surgery such as unhealthy diet, excess alcohol intake, physical inactivity or resumption of smoking (see Section 5, pages 60 - 88 for detailed information).

Before your discharge from hospital you will be informed of your nearest outpatient cardiac rehab programme and will be given their contact details. If you have not been contacted by your local team within one week of discharge, please contact them to confirm that your referral has been received. Depending on your individual case, you should be invited for an assessment appointment at your local cardiac rehab programme approximately four to six weeks following your discharge.

If you have any concerns about your cardiac rehab referral, you may contact the Cardiology Liaison Nurse Team at Wythenshawe Hospital on 0161 291 2679.

Any messages left may not be retrieved until the next working day. If you are unwell, please do not leave any messages on this extension, contact your GP, or in an emergency call 999 immediately.

Comprehensive cardiac rehab follows national standard guidelines is proven to benefit and improve your quality of life and can positively

affect your long-term health. The list of cardiac rehab providers in the UK can be found at <https://www.cardiac-rehabilitation.net/>

For further information about the South Manchester Cardiac Rehabilitation service at Wythenshawe Hospital call 0161 291 2177 or email us at cardiac.rehab@mft.nhs.uk and for the community programmes at Burnage Healthcare and Woodhouse Park Lifestyle Centres call (0161) 435 3531.

What does a cardiac rehab programme involve?

An initial assessment appointment:

- Gives you, and your partner or family member the opportunity to discuss any concerns;
- Helps identify areas in your life that may increase your risk of further heart problems;
- Identifies and agrees any goals you have regarding your recovery;
- Supports you in achieving your personal goals for recovery (hobbies, return to work, social activities etc.);
- Assesses your levels of anxiety and depression using the Hospital and Depression Scale (HADS) and quality of life (Dartmouth) questionnaires;
- Informs you about the various options within your local programme, for example you may attend for assessment and advice only or attend a programme for several sessions or weeks.

Exercise sessions:

- Agree a personal activity and exercise plan for you to follow, based on your needs and ability, either in a group setting or on an individual basis;
- Adapt exercises to you; you are encouraged to increase activity gradually under supervision at the sessions as well as at home
- Look at your specific goals and record your progress using a home physical activity diary (paper or digital).

Advice and education in cardiovascular disease:

Topics may include:

- Risk factors of cardiovascular disease and skills for making lifestyle changes;
- Healthy eating;
- Benefits and effects of physical activity and exercise and recommendations for long-term physical activity and healthy living;
- Emotions and feelings;
- Relaxation techniques;
- Medication;
- Cardiopulmonary resuscitation (basic life support).

Other possible services available are:

- Stress awareness and stress management,
- Other psychological support;
- Smoking cessation;
- Diet and weight management;
- Alcohol support services.

Returning to your physical activities and exercise

While regular physical activity and exercise has been shown to help improve your heart health after surgery, it is understandable that you may be concerned about how much is alright for you to do when you go home. Be guided by the information in this booklet on how to move during the first six to eight weeks while your breastbone is knitting together. This is particularly important when you are doing activities involving the upper body.

Once you start your local cardiac rehab programme your team/s will advise you on the amount and type of physical activity and exercise you can do as well as how to progress your level of activity. You will be given individual guidance about the specific activities you may want to return to, or start anew.

How much activity should I do?



Gradually regaining or improving your physical activity levels is a crucial part of your recovery. Following the guidance in this rehabilitation section, you should work within your own limits and try not to compare yourself to anyone else. Your energy levels should guide you in the amount of activity you do. It is very important that you listen to your body and during activities; take regular rest breaks even when you do not feel tired.

You should return to your normal activities in stages dependent on:

- The severity of your heart condition before your surgery;
- The type of surgery you have had;
- Your age;
- Your general health and usual level of mobility and fitness;
- Any other medical conditions you may have.

Household chores and gardening

Below is a guide for gradually increasing your household chores, gardening and general activities over the weeks. Please be aware that everyone is different and progresses at a different rate.

It is important that you follow the below guidance:

- Remain in each stage until you can complete it comfortably.
- Only move onto the next stage when you feel ready.

- Don't miss a stage out regardless of how well you think you feel
- If you find a stage difficult, we recommend you repeat the stage until you are able to progress comfortably.

Stage One (1 – 2 weeks)

Take things gently, strolling around the house.

Read, listen to music or watch television.

Make yourself a light snack.

Begin light activities, e.g. light dusting, set the table and prepare simple meals.

Washing-up, loading and unloading the dishwasher.

Tending indoor plants.

Stage Two (2 – 4 weeks)

Increase activities to include light hand washing, ironing small items.

Begin activities outside (seated), such as light cutting and weeding.

Begin light social activities i.e. visiting friends or relatives when you feel ready.

Go to the supermarket and make short visits into town.

Be careful not to lift or carry anything heavy until you have been assessed at your local cardiac rehab programme

Stage Three (6 – 8 weeks)

As you increase your chores, try to space activities throughout the day
Machine washing, cooking, ironing and changing your bed linen (do not pull the bed out), sweeping, mopping floors, vacuuming (ask someone to carry the vacuum upstairs for you to avoid lifting or moving heavy objects)

Access public transport as usual

Normal supermarket shopping with small trolley, carrying small bags of groceries

Stage Four (8 – 10 weeks)

Push babies/ children in a buggy

Progress to doing jobs involving more arm activity such as light digging, hoeing, raking leaves and mowing the lawn (powered mower)

Try to split a job into manageable chunks, for example, do a little, have a rest, then continue later or the next day.

Stage Five (from 12 weeks build up to heavier tasks)

Lift baby/grandchild as able

Decorating, wash and polish car, clean windows, trim the hedges

Remember - take regular rest breaks even when you do not feel tired.

Avoid long periods of work with your arms above your head as this can raise your blood pressure and put extra strain on your heart. For example, use a hose rather than a watering can to water plants in high places.

Some people may see caring for the household and the family as mainly their responsibility. It is important not to feel guilty about leaving the housework for a while and letting others help you.

How do I rate my perceived exertion (effort)?

When carrying out physical activity, the below scale can help you measure how hard you are working by you giving your 'effort or exertion' a score between 0 - 10. This will help to make sure you work at an appropriate intensity. Your perception of effort depends mainly on the strain and fatigue in your muscles and on your feeling of breathlessness or aches in the chest. For the first few weeks after your operation your activity should feel light (a score of 1 - 2). As your energy levels increase your exercise should feel moderate intensity (a score of 3 - 4). This scale or a similar one will be explained in more detail when you attend your cardiac rehab programme.

The correct guidelines are given below

No.	Intensity of effort experienced	Perception of how hard the activity feels to you
0	Nothing at all	No exertion at all
0.5	Extremely weak	Just noticeable
1	Very weak	No problem
2	Weak	Light/very easy to continue
3	Moderate	Comfortable to continue
4		Beginning to feel puffed
5	Strong	Heavy/feeling a bit puffed
6		Feeling puffed
7	Very strong	Tiring/You have to push yourself to continue
8		Very tiring
9		Out of breath/shattered
10	Extremely strong	Maximum – think of the hardest thing you have ever done and you could only sustain for 1 – 2 minutes

Never continue to carry on with any form of physical activity or exercise if you have any of the following symptoms

Chest discomfort or pain	Palpitations
Pain in your neck ,arm or jaw	Muscle cramps
Unexpected shortness of breath	Extreme or unusual fatigue
Dizziness, headaches or nausea	Feeling unwell

How can exercise help my recovery?

What type of physical activity is good for my heart?

Exercise is a structured physical activity that is planned with a purpose for improving health. The heart is a muscle, and like any other muscle, it needs physical activity to stay healthy. Regular moderate intensive exercise will improve the blood flow to the heart muscle and make the muscles of your skeleton more efficient. This is known as ‘aerobic activity’ and is the type of activity which is most beneficial for your heart. Aerobic activity is any repetitive, rhythmic activity, involving the large muscle groups in your body such as the legs, shoulders and arms. This

type of activity increases the body's demand for oxygen and helps to develop your stamina.

What is the normal response to physical activity/exercise?

- Faster and stronger heart beat (pulse rate)
- Slight breathlessness
- Slight sweating
- Slight muscle ache approximately 36 hours after exercising
- Start to feel warm and flushed.

Walking

Regular walking is an ideal form of exercise for your early recovery after you leave hospital. Walking is also a good choice of physical activity in the long term to improve and maintain your fitness.

Below is a guide for gradually increasing your walking however you should be aware that everyone improves at a different rate. It is important that you follow the guidance

- Remain in each stage until you can complete it comfortably
- Only move onto the next stage when you feel ready
- Don't miss a stage out regardless of how well you think you feel
- If you find a stage difficult, we recommend you repeat the stage until you are able to progress comfortably.

Stage of Recovery (approximate no. of week/s post discharge)	Length of Walk Slowly increase the time you spend walking as you feel ready
One	Climb stairs as necessary 5 minutes, several times during the day as a stroll
Two	10 minutes, a few times a day, leisurely pace
Three	15 minutes daily, leisurely/moderate pace
Four	20 minutes daily, moderate/brisk pace
Five	25 - 30 minutes daily, moderate/brisk pace
Six	At least 30 minutes or more daily, moderate/brisk pace
Target	30 - 45 minutes or more, brisk pace as able

When may it not be a good idea to walk?

- Preferably better to go for your walk in the day time, rather than leaving it until the evening when you are likely to be tired.
- Try not to exercise immediately after eating a large meal; it is best to wait at least one hour before going out for your walk.
- Avoid exercising outdoors in really cold or windy weather as the heart has to work much harder in these conditions. In cold weather wear a hat, scarf and gloves and walk at a slower pace.
- In hot, humid weather go out for a walk at the cooler times of the day.
- Try to avoid exercising outdoors in areas of high levels of air pollution.



Where and how should I walk?

- At first walk at a steady pace on firm, flat ground if possible.
- If you live in a hilly area it is best at first to travel by car to a flat park with level ground. As you progress, if possible walk uphill on the way out and downhill on the way home.
- Try to walk with a relative or friend as this will help you feel more confident and is also more fun. Sometimes, you can find markers or a start point within the area near your home, say a tree or a lamp-post, that you can walk to, with more distant markers as the days progress and your fitness improves.
- It is very important to gradually build up the pace during the first few minutes of the walk (warming up) to ensure your body and particularly your heart has a chance to adapt to the increase in physical activity. Likewise, it is important to gradually slow down

your pace (cooling down) during the last part of your walk rather than suddenly stopping when you reach home.

- You should always be able to walk and talk at the same time. You should feel warm and be breathing slightly heavier than normal. Feeling slightly short of breath whilst exercising is normal, but you should not feel exhausted.
- If you do too much one day, and you feel more tired and sore than previously rest the following day and then continue at a reduced level the next day until you feel happy to do more again. Listen to your body and on days when you feel less energetic, reduce the amount you do or walk at a slower speed.
- Be careful when walking a dog on a lead for the first six weeks at least while your breastbone is healing. Your dog may pull too much or want to walk at a faster pace than is comfortable for you.
- Set goals e.g. short term (two weeks) walk ten minutes twice a day e.g. long term, join a formal exercise class or walking group.
- A pedometer, phone app 'Map my walk' or 'Accupedo' or activity tracker device can be used to measure steps and distance.



The amount of walking you may undertake after your operation will depend on whether you are a regular walker. You should aim for at least 30 minutes of moderate intensity walking at least five times a week (150 minutes a week). If you are used to regular exercise you may progress much quicker than the time scales suggested above. Some people walk up to three or four miles a day following their surgery under the guidance of their cardiac rehab physiotherapist.

If you find it difficult to do a 30 minute continuous walk due to lack of time or other conditions that limit your physical ability, try doing three walks of 10 minutes during the day. It is also important to avoid long periods of time sitting. Even if you have limited energy levels, it is a good idea to stand up and move around every 30 minutes or so.

What else can I do if I can't walk, or the weather is bad?

You could try some of the below exercises if you find it hard to walk or the weather is too bad for you to go out for your daily walk. As with walking, start slowly and build up gradually. To start with, try to do each exercise for about thirty seconds. Refer to the rating of perceived

exertion scale (see page 47) and do not allow yourself to become uncomfortably breathless.

Marching on the spot

Standing as shown (or sitting on a chair).
March briskly on the spot, raising your legs and swinging your arms gently.



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Sitting to standing

Sit on a dining room type of chair.
Use one hand to help you stand up from a chair as necessary and then sit down slowly on the chair.
Stand up and sit down a few times.
If you are strong enough, progress as shown to standing up from a chair (if safe to do so) with your arms crossed.
Stand up and sit down a few times.



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Seated knee extension

Sit on a chair.
Pull your toes up, tighten your thigh muscle and straighten your knee. Hold approx. 3 - 5 sec and then slowly relax your leg. Repeat five times with each leg.



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Active hobbies and sports

In most cases you may return to activities you previously enjoyed. If you were not physically active before your heart surgery you may now decide to take up a new enjoyable activity. When undertaking any activity, always start slowly and gradually build up. If one particular activity causes discomfort, it should be discontinued and replaced with another.

As with walking, it is important to remember that each person's progress with an activity will be different. It may depend upon whether it is a new hobby or sport for you, your rate of recovery after your illness and your previous level of fitness.

Once you have started the cardiac rehab exercise sessions at approximately five weeks after you leave hospital, your local team/s will give you more individual guidance about when you can start your specific activities. If you or your relatives have worries about you starting

or progressing with any physical activity, please speak to your cardiac rehab physiotherapist.

Some general advice is listed below for when you return to some popular activities:

Static cycling – may be started four to five weeks after discharge. Take care not to put too much weight through your arms until your breastbone is fully healed.

Cycling – start with short periods on the flat from eight to 10 weeks preferably not in heavy traffic. Increase in the same way as with your walking programme - your distance, speed and include hills when you feel able.

Bowling – start playing using lightwood bowls. Practice gently swinging your arm before you play. Gradually increase to playing with your usual weight of wood and to a full game by about 10 weeks.

Dancing – this is an excellent exercise and also a very sociable one but it is important not to return until you are able to keep up comfortably with the pace of the dancing and you can cope with the demands of a particular dance style.

When can I play golf?

Start by walking the course and putting the ball and gradually build up to the full swing action to be able to play a few holes of golf by about twelve weeks post discharge. It may be useful to practice on the driving range before attempting a full game of golf. Take care when lifting your golf bag full of clubs. Initially you may need to carry less or use a trolley, preferably a powered one.

When can I go swimming?

Swimming is a great form of exercise but not suitable for everyone. Talk to your cardiac rehab physiotherapist before you consider starting swimming. Your heart has to work much harder in water due to the effect of hydrostatic pressure pushing more blood back to your heart.

You should wait about twelve weeks after your discharge before returning to swimming to ensure the strenuous arm work needed during this activity does not affect the healing of your breastbone. In the same way as with walking the amount of swimming you may undertake will depend on whether you are a regular skilled swimmer. It is just as important to warm up and cool down when exercising in water as it is on land. Get into the water gradually and start by swimming widths in the

shallow end before you progress to swimming lengths. Due to the buoyancy of water, it is very easy to underestimate how hard you are working so it is a good idea to exercise at a lower level than you would out of water.

When can I return to racquet sports?

Attend your local cardiac rehab exercise sessions to build up your fitness and stamina to return to these strenuous activities after at least 12 weeks post discharge. Avoid a high level of competition for up to six months. We generally advise against returning to play squash due to the stop/start nature of the game and the sudden bursts of high intensity.

For your guidance The Association of Chartered Physiotherapists in Cardiac Rehabilitation (ACPICR) have produced leaflets, regarding what you need to consider when returning to various sports and activities. Please ask a member of your local Cardiac Rehab Team for an appropriate handout when you have received verbal advice from your cardiac rehab physiotherapist.

We advise that you talk with your surgeon, GP or your cardiac rehab physiotherapist before you return to contact sports, such as rugby, or sports which are highly competitive (or of high intensity), which impose sudden severe loads on the heart, such as football, scuba diving, water skiing or body building.

Avoid sports and activities in the following circumstances

- Extremes of temperature
- For two hours after eating a large meal
- If you are feeling tired.

If you are unwell with a virus, cold or stomach infection, wait until at least two days after the symptoms have disappeared before returning to your chosen activity.

In the long term, certain activities including heavy lifting or pushing heavy weights require a degree of caution. If you are keen to undertake these activities you should discuss a suitable resistance (strength) training programme, for you as an individual with your cardiac rehab physiotherapist.

Sexual activity

It is normal for you and your partner to have some concerns when resuming sexual activity. We usually advise that you wait at least four weeks after your discharge before you start having sex again. Talking to each other openly about how you feel, as well as cuddling, touching and caressing can help build self-confidence and help you return to your normal sexual relationship

Having sex will increase your heart rate (pulse) and blood pressure but no more than if you were to walk up two flights of stairs. You should be guided by how you are managing other physical activity and when you and your partner feel ready. Find a comfortable position that does not put too much pressure on your arms, shoulders and chest wound. You may want to suggest that your partner takes a more active role. Other practical tips are

- Avoid having sex after a heavy meal
- Avoid drinking too much alcohol
- Keep the bedroom at a comfortable temperature.

Erectile dysfunction

Erectile dysfunction (ED), also known as impotence is the inability to get and/or maintain an erection good enough for satisfactory sexual activity. It is a common problem in men after CABG surgery; it happens particularly when the heart-lung bypass machine has been used as it can affect the function of certain hormones. Women can also experience a temporary loss of sex drive after surgery

It might be reassuring to know that erection problems are common. At least one in every ten men suffers with erection problems. Medical experts now know that physical ailments, many of those linked to growing older, such as heart disease, high blood pressure and diabetes are the most common causes of ED. However, most men with erection problems may have a mix of both physical and psychological causes.

Speak to your GP or a member of your Cardiac Rehab Team for advice, support and information if you have any questions about your heart-related sexual activity or are having problems with ED due to:

- Inadequate blood flow through the penis, similar to the effect in the coronary arteries
- Your medication such as beta-blockers

- Emotional stress.

If appropriate they will put you in touch with other professionals who will be able to help you find the underlying causes of ED and advise you about the various treatment options that are available.

Please note if you are using GTN tablets/spray, isosorbide mononitrate, isosorbide dinitrate or nicorandil you cannot use phosphodiesterase type 5 (PDE5) inhibitors which are the main medical treatment for ED. This is because the combination can cause dangerously low blood pressure. PDE5 inhibitors include Viagra (sildenafil), Cialis (tadalafil), Levitra (vardenafil) and Spedra (avanafil).

Do not worry about talking to your doctor or nurse about your sex life; they will want to help and will understand that it is important to you.

Driving

We advise you wait about six weeks after your discharge before you start driving a car or motorcycle (Group 1). We generally prefer you wait until after your post discharge (about six to eight weeks) follow-up appointment with your surgical team. This is to allow time for your breastbone to heal properly and for your reactions, eyesight and concentration to return to normal.

If your post-operative follow-up at the hospital has been delayed, please check with your GP before you start driving. Remember that you need to feel comfortable enough to cope with sudden movements, as well as being able to do an emergency stop.

As a note of reference:

The Driver and Vehicle Licensing Agency (DVLA) guidance at

<https://www.gov.uk/health-conditions-and-driving>

states that after heart surgery 'you must not drive for at least four weeks.

Driving may resume after 4 weeks provided there is no other disqualifying condition'. However, as stated above it is preferable to wait six to eight weeks.

You do not need to inform the DVLA of your operation, unless you have recurrent angina, attacks of dizziness or palpitations or have been advised to, by a health professional.

You must inform your insurance company of your particular operation, otherwise you may invalidate your insurance. This should not result in

any change to your policy. Some insurance companies do increase charges, so you may need to shop around to find an insurance company who will insure you with no increase to your normal premium.

If you have problems with your insurance company, there is a list of insurance companies that are sympathetic to those with heart problems, available from the British Heart Foundation at <https://www.bhf.org.uk/> or call 020 7554 0000.

When you first start driving avoid long journeys, driving in peak rush hour or in heavy traffic as this can be very stressful. Increase driving gradually in the same way as physical exercise starting with a short, quiet drive with a partner or friend until you feel more confident.

If you have a bus and lorry driving licence (Group 2) you must inform the DVLA of your surgery as soon as you are discharged. The DVLA will request medical information from your consultant which can take some time. Re-licensing may be considered, once you are able to meet the requirements of an exercise or other functional test, and you do not have any other disqualifying condition.

For more information you can visit www.gov.uk/dvla-medical-enquiries and follow the link to email DVLA.

Or call 0300 790 6806

Monday to Friday from 08:00 to 17:30 or Saturday, 08:00 to 13:00 or you can write to Drivers Medical Branch, DVLA, Swansea, SA99 1TU.

Returning to work

Returning to work can be an important part of your rehabilitation process. Most people who want to return to work following heart surgery will be able to. Some return to the same job as before, some make changes to their workload or role, and some may choose to change jobs maybe to something less physically demanding.

Thoughts about returning to work can cause worry so where possible try to leave the decision of whether to return to your previous work until you feel recovered enough to consider the various options open to you. When you return will depend upon your individual heart condition and recovery, the type of work you do and the amount of physical or emotional stress involved.

Discuss your individual circumstances with your surgeon, GP or Cardiac Rehab Team. Also keep in touch with your employer via their human resources and/ or occupational health departments if available. You may want to ask your employer if it would be possible to do lighter duties when you first go back. We also advise asking them to consider a phased return or reduced hours to begin with, and gradually increasing your hours.

Work includes both paid and unpaid work including child care commitments and/ or voluntary roles. Benefits that work can bring are

- Income
- Purpose and satisfaction
- Routine
- Increased self-esteem
- Reduced feelings of isolation and depression.

Attending your local cardiac rehab programme will help you to improve your fitness levels and help you to feel more confident about returning to work. Discuss any concerns you have as well as your individual work needs. Your Cardiac Rehab Team can help you prepare for your return to work by assisting you with a return plan which may open up different choices for you.

If you have a job where you sit for most of the day, you will be able to return to work sooner than someone with a manual job. Generally if you have a strenuous job we advise taking at least 12 weeks off to allow your breastbone to heal fully. If your job involves heavy lifting, it is important you seek the advice and guidance of your cardiac rehab physiotherapist in carrying out a suitable resistance (strength) training programme.

If your work is stressful for example or involves a lot of travel, now is a good time to seek advice and look at ways to help modify and manage any stress you may have been experiencing before your surgery. If available at your local programme, you could attend stress management sessions to learn techniques to help you deal with stress more efficiently.

For more detailed advice, order the BHF booklet 'Returning to work with a heart condition' by calling 0300 200 2222.

If a change of employment is suggested, the Disability Employment Adviser (DEA) at your local job centre can help you find a job or gain

new skills. Visit Jobcentre Plus at <https://www.gov.uk/contact-jobcentre-plus> for claims, appointments, help finding a job and finding your nearest Jobcentre Plus.

There may also be other services in your local area to advise you finding a job or you could look at <http://nationalcareersservice.direct.gov.uk> where you will find a database of careers.

Money issues

Who can I contact for help and advice?

You can call 0800 882 200 to speak to a Government Benefits Adviser or visit <https://www.gov.uk/benefits-adviser> to find information about benefits, disability advice, bus passes, blue parking badges. There are benefits that you may be entitled to whilst off sick and in work, particularly if you reduce your hours.

The Money Advice Service set up by the government offers free and impartial advice to help people manage their money. For more information you can visit <http://www.moneyadviceservice.org.uk> or call 0300 500 5000.

For further support and free advice regarding money issues, contact your local Citizens Advice Bureau or visit <http://www.citizensadvice.org.uk>

If you require large quantities of medicine or regular prescriptions, a prescription pre-payment certificate (PPC) could save you money. For information call 0300 330 1341 or visit <https://www.nhsbsa.nhs.uk/help-nhs-prescription-costs/prescription-prepayment-certificates>

Holidays and flying

A holiday is a great chance to relax and unwind. A restful holiday in the UK may be taken after a couple of weeks at home, provided you are feeling well enough to travel. During a long journey, make sure you have frequent breaks, getting out of the car to stretch your legs.

If you are planning a flight or already have one booked for shortly after your operation, it is a good idea to check, if you will be ready to fly with your cardiac rehab, surgical team or GP.

As travelling can be tiring it is often better to wait to go aboard until you have recovered enough to manage normal daily activities, walk the

sometimes long distances from the check-in to the aircraft and cope with a change in climate.

If you are going aboard, check that you have adequate travel medical insurance cover, even if you are only going to Europe and already have an EHIC card. Depending on individual circumstances, some insurance companies require that you do not fly until you have been reviewed by your surgical team at about six to eight weeks after your discharge. Check your policy carefully.

The Civil Aviation Authority provides further guidance regarding fitness to fly at <https://www.caa.co.uk/Passengers/Before-you-fly/Am-I-fit-to-fly/>

When planning a trip it is important to prepare your holiday carefully so that you will be able to relax, enjoy and get maximum benefit from it. Here are some tips:

- Carefully plan how you will get there and back
- Allow plenty of time when travelling so you aren't rushing or feeling under pressure
- Avoid lifting and carrying heavy bags and suitcases – use the baggage trolleys available or request assistance at the airport
- Make sure that your accommodation is not on a steep hill so that walking to and from it will be comfortable for you
- Check local transport options and availability
- Take enough tablets and carry them in your hand-baggage
- Take a copy of your repeat prescription, in case you need to get more medication when you are away from home.

Generally, immediately after your heart surgery it is best to avoid planning holidays in countries which are very hot or very cold, or places of high altitude. In hot sunny weather protect your scar/s with a sun block, and be aware you will tire more easily so reduce the intensity of your daily physical activity.

Long journeys can increase the risk of a deep vein thrombosis (DVT) or blood clot developing in one of the veins in your calf. On a long haul flight make sure you get up and walk down the aisle frequently. For further information see the leaflet 'Travel and your heart' available from the British Heart Foundation <https://www.bhf.org.uk/> or call 020 7554 0000 for a paper copy.

Section 5

Cardiovascular Risk Factors and Healthy Lifestyle Advice

Cardiac rehab is a proven secondary prevention programme. This means when you are already diagnosed with coronary heart disease (CHD), it can help you reduce your risk of heart problems in the future. Attending your local cardiac rehab programme (see pages 41 - 42) after your heart surgery is vital to help you to live as healthy a lifestyle as possible.

What are the main cardiovascular risk factors?

Although the exact cause of CHD is not clear, there are many things (risk factors) that can increase your risk of getting this type of cardiovascular disease (CVD). The more risk factors you have, the greater your chances of developing CHD. It is important to remember that some people may have many risk factors and others may have none. The risk factors of CHD generally fall into two categories; non-modifiable (ones you can't change) and modifiable (ones you can change).

Attending for a cardiac rehab assessment and following sessions will help improve your awareness and understanding of your specific risk factors. Importantly cardiac rehab will support you in **how you can** make positive lifestyle changes now and in the long term.

Non-modifiable risk factors for coronary heart disease

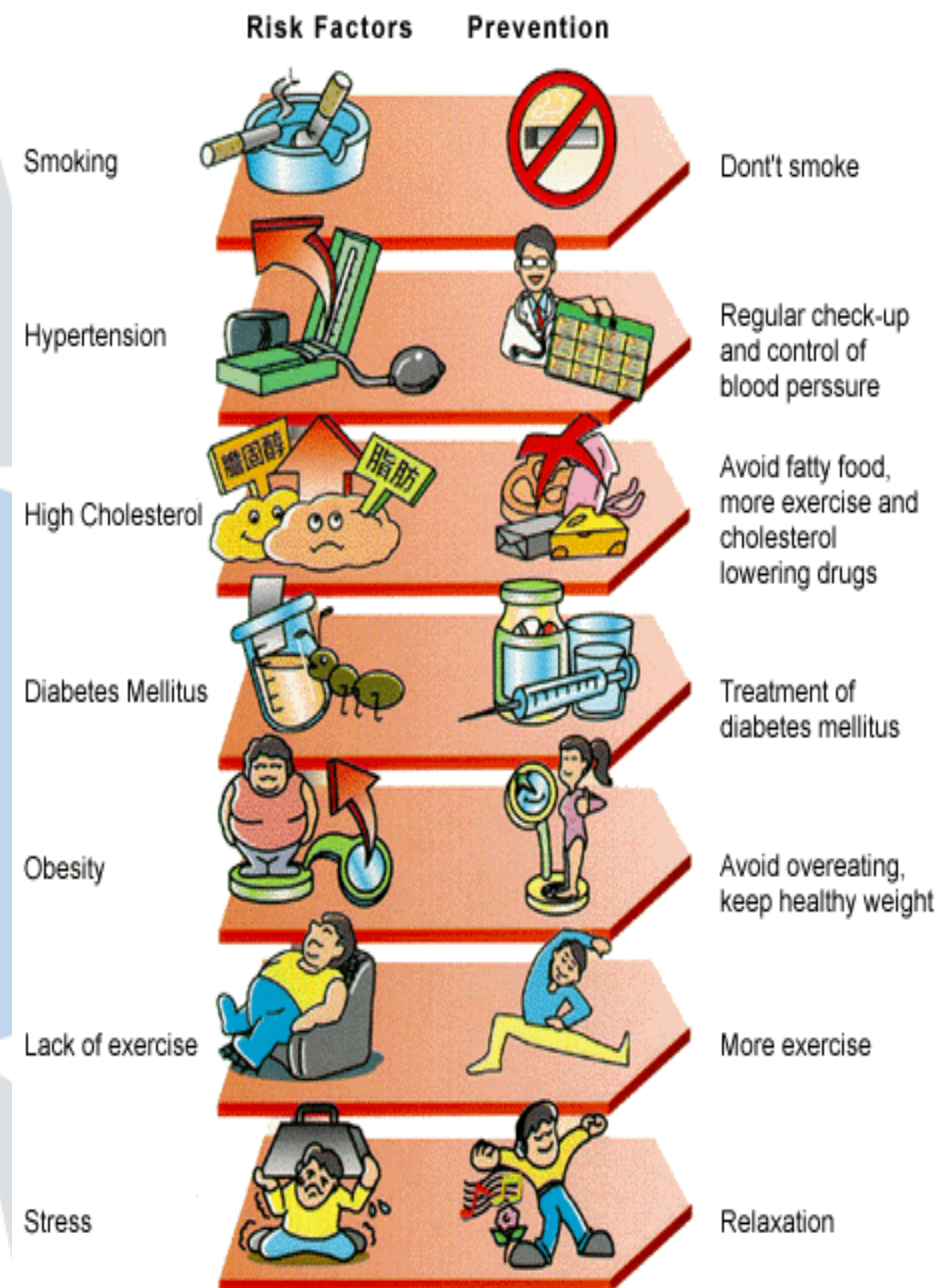
Being aware of the major CVD risk factors that you can't change may help motivate you to make changes to your lifestyle to help reduce your risk of further coronary events, for example angina or a heart attack. You are at higher risk of developing CVD if you have

- **Family history of early CHD.** This is where a first-degree male blood relative has had CHD or a stroke before the age of 55 years or, for a female relative before the age of 65 years. It is important that your family members are aware of their own risk factors and take steps to prevent CVD.
- **Increasing Age.** About 82 % of people who die of CHD are 65 years or older.
- **Gender.** As a man you are at greater risk of heart disease than a pre-menopausal woman. But once past the menopause, a woman's risk is similar to a man's.

- **Ethnicity.** Your ethnic origin plays a role. People of South Asian origin have almost a 50% higher death rate compared to the rest of the UK population.
- **Socioeconomic status.** Being poor, no matter where in the world, increases your risk of CVD.

Modifiable risk factors for coronary heart disease

Modifiable risk factors are things you can change or do something about.



Smoking

Major studies show that smoking is the single biggest preventable danger

to your future health. People who smoke tobacco have twice the risk of developing CHD compared to non-smokers. People who do not smoke but have to inhale the smoke from others, known as passive smoking, are also at risk of heart disease.

Smoking affects the heart and body in many ways. Smoking just three cigarettes a day doubles the risk of having a heart attack. There are more than 5000 chemicals contained in tobacco smoke, most of which are harmful. Below are three of the main chemicals.

Carbon monoxide is a poisonous, invisible gas with no smell. It is found in car exhausts, leaking gas heaters and burning cigarettes. It is carried around the body in the blood. To try and get more oxygen in, the heart beats faster and more red blood cells are produced meaning the blood becomes thicker and stickier. The heart has to work harder; this increases the risk of a heart attack or heart failure.

Nicotine is the drug that causes addiction. It is very powerful and fast acting, hitting the brain in seven seconds after each drag. Nicotine itself appears to have minimal long term effects on health. In the short term it causes stimulation of the nervous system and an increase in blood pressure and heart rate.

Tar is inhaled into the lungs from a burning cigarette. It is inhaled as a vapour, but settles as a sticky substance that stops the lungs working as well as they can. Tar also contains cancer causing chemicals. Tar is present whatever brand you smoke including lights, mild or menthols. When you inhale, 70% of the tar stays in the lungs.

Even if you have tried to give up before, it is worth another try. Smokers die, an average of 10 years younger than non-smokers. Stopping smoking dramatically reduces your risk of a heart attack or stroke. Did you know that former smokers live longer than continuing smokers, no matter what age they stop smoking? With every day you do not smoke your chances of a heart attack or stroke are greatly reduced.

So whatever age you are, it is never too late to stop. If you smoke, stop!

What is available to help me stop smoking?

- **Nicotine Replacement Therapy (NRT)**

Helps by providing the body with nicotine. Studies show that the benefits of using NRT to stop smoking outweigh any risks there may be with NRT. The purpose of NRT is to take the edge off withdrawal symptoms. The nicotine provided from NRT is clean i.e. it does not contain the other 4999 chemicals found in cigarette smoke. Consequently it can now be used by smokers with cardiovascular disease. Stopping smoking is critical for those with heart disease as it can slow down the progression of the disease.

There are a variety of safe, medicinal NRTs available including: patches, inhalator, gum, lozenge, mini lozenge, microtab, nasal spray and mouth spray. There are also two safe medication products (Champix and Zyban) which can be prescribed by your doctor.

The nicotine replacement therapy I have chosen is:

.....

- **Electronic cigarettes**

These are not a medicinal product. At this time there is conflicting evidence about their long-term safety and effectiveness. Current medical advice is to use a safe medicinal product such as NRT or an alternative such as Champix or Zyban. Because of this, no electronic cigarettes are produced by or for the NHS and these devices are not available on prescription. Electronic cigarettes cannot be used in the hospital. If you wish to use an electronic cigarette you can still contact the MFT Smoking Cessation Team for advice and support on stopping smoking.

Having help and support from an NHS Stop Smoking Service as well as a tested medicinal product can increase your chances of stopping smoking by up to four times. If you require further help or advice on NRT whilst you are in hospital, we can refer you to the Smoking Cessation Nurse who can offer you support in stopping smoking.

If you prefer you can refer yourself by calling the MFT Smoking Cessation Nurse on 0161 291 5030.

You can also obtain help to stop smoking from

- Your GP
- Practice Nurse at your doctors surgery
- Stop Smoking Greater Manchester Helpline 0300 123 1044
- @StopSmoking_McR / Stop Smoking McR on twitter
- Smokefree NHS at <http://www.nhs.uk/smokefree> or <http://www.gosmokefree.co.uk>

Lack of regular physical activity

Lack of regular physical activity and exercise is a major health risk.

- Inactive people have twice the risk of developing CHD compared with active people
- People who meet the physical activity guidelines (at least 150 minutes of moderate intensity activity per week
 - reduce their risk of having a heart attack by 40%
 - reduce their risk of a cardiovascular event by 30%.

Improving the amount of physical activity is one of the most important lifestyle changes needed to reduce the risk of further CHD.

What are the benefits of being physically active?

- Reduces the risk of having a stroke or heart attack
- Helps to control high blood pressure
- Helps manage cholesterol levels
- Helps to prevent and control Type 2 diabetes
- Helps you to lose weight
- Relieves stress and anxiety
- Improves sleep patterns and energy levels
- Improves confidence and sense of wellbeing.

What are the physical activity guidelines?

You should aim to be active every day. Over a week, activity should add up to at least 150 minutes at moderate intensity, for example 30 minutes activity five times a week or, alternatively, bouts of 10 minutes. A good example may be brisk walking. It is better to take regular exercise and have an active lifestyle, rather than doing isolated sessions. It is also important to avoid extended periods where you are sedentary for example sitting for long periods of time. It is a good idea to stand up and move around every 30 minutes or so.

What type of exercise should I do?

As described in the 'Your Rehabilitation' section (see pages 41 - 49) the type of exercise that helps your heart the most is called 'aerobic or cardiovascular activity'. This type of activity should be carried out at moderate intensity where you feel you are exerting yourself, feel like your breathing has increased but feel comfortable to continue. Aerobic activity is any repetitive, rhythmic activity, involving the large muscle groups in your body such as the legs, shoulders and arms. This type of activity, over time, makes your body more efficient at using oxygen and helps to develop your stamina.

With any activity it is important to begin slowly and to build up gradually. As well as being good for heart health, activities are important for improving general flexibility, co-ordination and mobility of joints and muscle strength.

Keeping your body supple and flexible will help you keep a full range of movement and stay independent especially as you get older.

Activity which strengthens your muscles and bones are also important. These can also help give you good balance, posture and bone strength.

Your local Cardiac Rehab Team will advise you regarding appropriate exercise and options for enjoying long-term activity.

Visit the Green Gym <http://www.tcv.org.uk/greengym> to improve your fitness and health while helping to improve the outdoor environment.

Visit Walking for Health <http://www.walkingforhealth.org.uk/walkfinder> to find local health walks by postcode to help you get active and stay active.



Poor diet /being overweight

Being overweight can make you more at risk of developing conditions such as CHD, high blood pressure, diabetes and osteoarthritis. 61.7% of adults are overweight or obese in the UK.

Being overweight is defined as a body mass index (BMI) of 25 - 30 and obesity is defined as a BMI of 30 - 34.9.



Maintaining a healthy weight has many health benefits as well as making you feel more energetic and increasing your confidence. To lose weight you need to use up more energy (calories or joules) than your body takes in from food and drink. New digital technology is helping to tackle obesity and lack of exercise. There are plenty of web-based tools and devices such as the Fitbit and Smartphone apps to help you manage and achieve your heart and general health goals.

Alternatively visit <http://www.bdaweightwise.com/>

If you are overweight or obese, you can choose to take positive action to lose weight in three ways:

- ♥ Eat & drink fewer calories than your body needs
- ♥ Use more calories by getting more active
- ♥ A combination of both - try to move more and eat less

When you attend your local cardiac rehab programme you could agree to weigh-in, complete a food diary and record your weight at each exercise session. You may be referred to a hospital dietitian as appropriate.

If you are identified as overweight or obese, with other poor health conditions, you may be given information or offered a referral to a local lifestyle weight management programme as appropriate to your needs and dependent on available local services.

Dietary advice

Q. Does it really make any difference what I choose to eat?

A. Yes it does. Research has shown that by making changes to your diet you can reduce your risk of recurrent heart problems.

Q. I feel that I have done all I can to eat healthily but I still developed heart disease.

A. Unfortunately this is true of many people, but your efforts were not wasted. If you had not chosen a healthy diet, you may have developed heart disease at an earlier age or it may have been much more serious. By continuing to choose a healthy diet, you will reduce your risk of further heart problems. Can you make any changes to reduce other risk factors?

Q. What are the most important changes I should make to my diet?

A. That will depend on what you are eating right now. Many people would benefit from

- Altering their fat intake
- Increasing their intake of fruit and vegetables
- Reducing their salt intake
- Maintaining a healthy weight.

As you read through the next few questions think about what you eat and whether you could make any helpful changes to your eating pattern.

Q. Are all fats the same?

A. No. All fats and oils contain a mixture of saturated fat and unsaturated (including mono-unsaturated and poly-unsaturated fat) in different proportions. Some foods contain mostly saturated fat and very little unsaturated fat. All fats and oils are high in calories, containing more than twice as many calories as there are in the same weight of bread or potato. If you are trying to lose weight, you should restrict all fats.

Q. Is it important to reduce my intake of saturated fat?

A. Yes. Too much saturated fat causes the level of cholesterol in your blood to increase. If your weight is in the normal range, replace some of this with unsaturated fat.

Q. Which foods contain a lot of saturated fat?

A. Saturated fat is mainly found in

- Butter, lard, suet, ghee, coconut oil, palm oil, and any products made using these for example pastry, pies, cakes, biscuits
- Fat on meat, processed meats such as sausages, beef burgers, salami, corned beef
- Full-fat dairy products such as full-cream milk, cream, cheese, full-fat yoghurt
- Manufactured foods such as chocolate, mayonnaise, cream substitutes.

Q. What are trans-fats and partially hydrogenated fats?

A. These fats are like saturated fat. They are mainly found in deep fried foods, some shop-bought cakes, biscuits, confectionery, pastries and crisps. They are formed during processing when the fats are subjected to high temperatures. Many manufacturers have changed their production methods to ensure their products are free of partially hydrogenated fats and trans-fats.

Q. What is cholesterol?

A. Cholesterol is an important fatty substance found in every cell of the body. Too much cholesterol in your blood can increase your risk of heart disease. The most common cause of high cholesterol levels is eating too much total fat especially saturated fat.

If you have a strong family history of early death from heart disease or very high blood cholesterol levels, you may have a genetic condition. If you are unsure discuss this with your GP. If you are told you may have familial hypercholesterolaemia, you may need to restrict foods rich in cholesterol such as shellfish, offal and egg yolk as well as your intake of saturated fat.

Q. What are sterols and stanols?

A. Plant sterols and stanols occur naturally in plants and there is evidence that they can help to lower cholesterol levels. The intake of stanols and sterols in the typical Western diet is generally quite low.

For most people, their cholesterol level will be brought into the recommended range by

- Taking medication such as statins
- Reducing their saturated fat intake
- Maintaining a reasonable weight for their height.

Sterols and stanols may be useful if you can't tolerate cholesterol-lowering drugs. They are added to some fat spreads, soft cheeses, yoghurts and yoghurt style drinks. They are only effective if taken

regularly. There is no additional benefit of taking extra so once you have taken the recommended amount 1.6-2g/day, you can use other products e.g. olive spread which are cheaper.

If you choose to use stanol or sterol enriched products, they will lower the absorption of vitamins from your diet. Therefore ensure you eat plenty of fruit and vegetables to compensate. No safety data is available for the use of these products during pregnancy or breast-feeding so we would not recommend them. For further information, ask your GP.

Q. Why is it important to watch your intake of salt?

A. Salt can raise your blood pressure. High blood pressure can increase your risk of developing heart disease and stroke. Experts recommend we limit our salt intake.

- Avoid adding salt at the table, including sea salt, organic salt, garlic salt.
- Avoid tinned or packet soup, sauce mixes, salty foods e.g. crisps, salted nuts, salted crackers.
- Limit the quantity and frequency of eating foods containing a lot of salt such as bacon and processed meats e.g. ham, sausages, pate, cheese, stock cubes, gravy, soya sauce, bottled sauces most processed foods, tinned meats or ready meals – check labels.

Additional tips:

- Choose fresh food where possible.
- Gradually reduce the amount of salt used in cooking and use alternative flavourings e.g. onions, garlic, pepper, vinegar, tomatoes, herbs and spices.

Q. What should I look for on food labels?

A. You can use the colour coded traffic light labelling as a guide if there is one or compare the 'per 100g' figures on the food label with the information below.

	This is a lot	This is a little
Fat	20g per 100g of food or more	3g per 100g of food
Saturated fat	5g per 100g of food or more	1g per 100g of food or less
Salt	More than 1.5g per 100g of food	0.3g per 100g of food or less
Sodium	More than 0.5g per 100g of food or less	0.1g per 100g of food or less

Handy tips

Also remember to watch your portion size.

Some foods are labelled with the salt content and the sodium content. You only need to compare one. It doesn't matter which you check but make sure you use the correct figure for comparison.

Q. How much fruit should I eat?

A. Government agencies recommend you try to include a total of five portions of fruit and vegetables per day. Try to include as wide a variety of different fruit and vegetables as possible. If you dislike fruit, try to eat more vegetables or salad instead.

Q. What is a portion?

A. Any of the following would be one portion

- 1 slice of large fruit e.g. 1 slice of pineapple or melon or ½ large banana
- 1 average sized piece of fruit e.g. 1 apple, 1 pear, 1 orange or 1 small banana
- 2 smaller sized fruits e.g. 2 kiwi, 2 plums or 2 clementines
- 1 handful of strawberries, raspberries or cherries
- 3 tablespoons of vegetables or a cereal bowl of mixed salad.

Q. How do I know if I am overweight?

A. Have a look at the chart on the following page and check whether your weight falls into the recommended range. If you need to lose a lot of weight, it may be better to choose a more realistic target. If you lose 10% of your body weight this will significantly reduce your risk of heart disease e.g. this would mean that if you are

- 100kg (15st 10lbs) aim to reduce your weight to 90kg (14st 2lbs)
- 70kg (11st) aim to reduce your weight to 63kg (9st 13lbs)

Once you have reached this target, you can always set a new lower target if you wish.

Also check your waist measurements as some people will fall within the recommended weight range but would benefit from reducing their waist measurement.

HEIGHT in ft and in Range without shoes	Recommended Weight Range stones & pounds	HEIGHT in metres without shoes	Recommended Weight kg
4ft 10ins	6.12 - 8.8	1.47m	43.2 - 54.0
4ft 11ins	7.1 - 8.12	1.50m	45.0 - 56.2
5ft 0ins	7.4 - 9.2	1.52m	46.2 - 57.8
5ft 1ins	7.8 - 9.06	1.55m	48.0 - 60.0
5ft 2ins	7.11 - 9.11	1.57m	49.4 - 61.6
5ft 3ins	8.1 - 10.1	1.60m	51.2 - 64.0
5ft 4ins	8.5 - 10.6	1.63m	53.2 - 66.4
5ft 5ins	8.8 - 10.10	1.65m	54.4 - 68.0
5ft 6ins	8.12 - 11.1	1.68m	56.4 - 70.6
5ft 7ins	9.2 - 11.6	1.70m	57.8 - 72.2
5ft 8ins	9.6 - 11.10	1.73m	59.8 - 74.8
5ft 9ins	9.9 - 12.1	1.75m	61.2 - 76.6
5ft 10ins	9.13 - 12.6	1.78m	63.4 - 79.2
5ft 11ins	10.3 - 12.11	1.80m	64.8 - 81.0
6ft 0ins	10.7 - 13.2	1.83m	67.0 - 83.8
6ft 1ins	10.12 - 13.7	1.85m	68.4 - 85.6
6ft 2ins	11.2 - 13.13	1.88m	70.6 - 88.4

Q. Does your waist affect your health?

A. Yes. You can't choose your shape but if you are carrying extra weight around your waist, it is a greater strain on your heart. If you are "apple shaped" rather than "pear shaped", make an effort to lose some of those extra inches.

If your waist measures more than
80cm (32 inches) for women
94 cm (37 inches) for men

your risk of heart disease is increased. The larger the measurement, the greater the adverse effect on your health. Some evidence suggests that if you are from an Asian background you should aim for a weight in the lower half of the recommended range and a slightly lower waist measurement.



Q. What should I eat?

A. Changing the proportions of the food we eat can lead to a healthier diet.

Use the below guide for your main meals

The eatwell plate

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



Department of Health in association with the Welsh Assembly Government, the Scottish Government and the Food Standards Agency in Northern Ireland

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Lean meat, poultry, fish, eggs, pulses, nuts or low fat cheese

- Even lean meat contains some saturated fat therefore limit the size of portion to approximately 110g (4oz) raw weight or 55g (2oz) cooked weight.
- Trim all visible fat from meat. Remove skin from poultry. Avoid adding extra fat or lard. Use a little rapeseed oil or olive oil when cooking e.g. stir-fries or curries.
- Include 2 portions of fish a week, one of which is oily fish e.g. salmon, trout, mackerel, sardines, pilchards and herring. You could include this as a sandwich, baked potato filling, toast topping, salad or cooked meal.
- Choose potato topped pies such as cottage pie, fisherman's pie rather than pastry.
- Skim fat from gravies. Choose tomato-based sauces rather than cheesy or cream sauces. Add onions, garlic, herbs, spices, tomato puree and vinegar to give flavour.
- Vegetarian options – base meals on pulses, tofu, soya meats, nuts such as almonds, walnuts, chestnuts, hazelnuts and/or seeds.
- Choose fat-reduced cheese and limit quantity to 110g (4oz) per week. Spread this out over 3 meals. Avoid eating cheese as a snack unless it is very low-fat such as cottage cheese.

Starchy foods such as potatoes, sweet potatoes, bread, rice, pasta, chapattis, wraps, couscous

- Many people think these foods are fattening. This is not true unless you fry them, add extra fat or oil or eat in large quantities. Avoid frying potatoes or rice. Spread margarine thinly on bread.
- Serve plain boiled or baked potatoes. Use a little low-fat milk in mashed potatoes.
- Once you reach your target weight, add variety by making your own pastry, crumbles, stuffings or roast vegetables occasionally using an olive oil based margarine or rapeseed oil or olive oil.
- Serve pitta bread, wraps or hot fresh rolls for a change.

Vegetables, salad and/or fruit

- Many people eat too little fruit and vegetables – try to serve an extra portion of vegetables at your main meal. Take fruit or salad along with snack meals.
- Serve extra vegetables instead of Yorkshire pudding, dumplings, batter, stuffings.



Q. Are there other changes I should make to help decrease my saturated fat intake?

A. To decrease saturated fat

- Choose low fat milk, low-fat or fat free yoghurt or fromage frais. (If you have diabetes or wish to lose weight, choose healthy eating or diet yoghurts as these are low in both fat and sugar). Try to avoid cream and cream substitutes.
- Choose olive spread, rapeseed oil or olive oil instead of butter, lard, suet or ghee
- Avoid products containing coconut, coconut oil or palm oil as they contain a lot of saturated fat.

Q. How can I change my eating habits?

A. Here are some helpful hints to get you started

- What changes do you think you need to make to your diet? Jot them down

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You may feel you have too many other changes to make right now and want to concentrate on stopping smoking or becoming more active first. You must be convinced that making the change is worthwhile. Think of the benefits and jot them down. When you are ready to tackle changing your eating habits, get the list out again and remind yourself of what you have written.

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- Also try to jot down all the disadvantages or difficulties of making these changes

-
- Can you do anything to help overcome these difficulties?
-

- Try to jot down what you plan to eat for your main meals before you go shopping so that you buy all the foods you need. If you have suitable foods in the fridge/freezer you are much more likely to keep to your new eating pattern
- Prepare an extra portion of suitable meals and freeze to use at times when you are busy or when the rest of the family want to get a meal from the chip shop.
- If you live alone, it can be hard to make the effort to prepare regular meals. Remember you are as important as anyone else. You will find it easier to eat healthily if you plan and cook regular meals. This makes it easier to avoid snacking too.
- Try to get as much variety as possible so that you enjoy your meals.

Q. Can I have an occasional treat?

A. Yes and when you do – enjoy it. Eating should be a pleasure but it is also worth remembering that the only way your body obtains all the nutrients it needs to keep you healthy is from the foods you choose to eat. It is the combination of foods we eat and the balance that is important. Enjoy the occasional treat or family occasion but be careful not to take very large portions or several foods rich in saturated fat all on the same day. Try to choose wisely from day to day. Be careful to avoid frequent treats.

Q. What are the main points?

A. Just to summarise ...

- Include two portions of fish a week, one of which is oily fish.
- Limit all fats if you are overweight. If normal weight for height, limit foods containing a lot of saturated, hydrogenated or trans-fats. Replace some of these fats with rapeseed oil, olive oil or sunflower oil and margarines made from these oils.
- Check your weight and waist measurement. If higher than recommended, set a realistic target and check weekly to see if you are making progress.
- Include plenty of fruit and vegetables. Aim to have five portions a day. If you dislike fruit, try to include more vegetables and vice versa.
- Choose more fresh foods rather than processed foods whenever you can.
- Limit your intake of salty foods.

Please note - If you have a poor appetite or have been losing weight unintentionally, ask a member of your Cardiac Rehab Team or your doctor to refer you to a dietitian.

Additional information

The British Heart Foundation (BHF) <https://www.bhf.org.uk/heart-health/treatments> produces various dietary information booklets. Many are available in the hospital or you can call the BHF on 020 7554 0000 or email orderline@bhf.org.uk

If you have access to the internet, the following web addresses have useful dietary information.

British Dietetic Association (BDA) is the Association of UK Dietitians
<https://www.bda.uk.com/>

Food Standards Agency <http://www.food.gov.uk>

Change 4 Life <http://www.nhs.uk/change4life>

British Nutrition Foundation <https://www.nutrition.org.uk/>

Drinking too much alcohol

Drinking more than the recommended amount of alcohol can have a harmful effect on your heart and general health. It can cause abnormal heart rhythms, high blood pressure, damage to your heart muscle and other diseases such as stroke, liver problems and some cancers. Alcohol is also high in calories so it can lead to weight gain. It also lowers your inhibitions which might mean you find it harder to stick to your healthy eating plans when you have been drinking. If you are trying to lose weight, cut down on alcohol.

Is it safe to drink with a heart condition?

After undergoing heart surgery, it can be difficult to know if and when you can drink alcohol again. Once you have recovered from your surgery, it's fine for most people with a heart condition to drink alcohol within the recommended limits. However, check with your doctor for advice on whether it is safe for you to drink alcohol and how much. Some alcoholic drinks and mixers also contain caffeine, which can make your heart work much harder. You should avoid these drinks after heart surgery especially if you suffer from recurring tachycardias (rapid heart rates) and arrhythmias (abnormal heart rhythms).

Reference: <https://www.bhf.org.uk/informationsupport/support/healthy-living/healthy-eating/alcohol>

Will alcohol interact with my medication?

Drinking alcohol can affect the way your medicines work. If you want to drink and you are taking regular medication, you should check with your pharmacist or doctor first that it is safe to do so.

Everyone should avoid drinking too much alcohol but this is particularly important if you are taking the following medication.

- If you are taking sleeping tablets or painkillers, remember that alcohol will have a more powerful effect.
- Warfarin and other anticoagulant (anti-clotting) medication - too much alcohol can interfere with the blood clotting process, so if you do drink alcohol it is better to have just a small amount regularly. Your anticoagulant clinic will be able to advise you on this (see pages 33 - 35).

How much can I drink?

If you drink alcohol it is important to keep within the guidelines (Department of Health 2016). For detailed information visit <https://www.drinkaware.co.uk/> or if you have a Smartphone download for free, the Drinkaware Track and Calculate Units app.

- Men and women should not drink more than 14 units of alcohol each week.
- You should have several alcohol-free days each week. These guidelines apply whether you drink regularly, or only occasionally.



Most people don't drink alcohol every day - but if you do, you should aim to have some days off. Just make sure you do not increase the amount you drink on the other days. If you do drink as much as 14 units per week, spread this out evenly over three days or more.

Drinking large amounts of alcohol in one go can cause additional damage to your body, so avoid heavy or 'binge' drinking – you can't save up your units! If you drink too much, avoid alcohol for 48 hours to allow your body time to recover.

When it comes to single drinking occasions you can keep the short term health risks at a low level by sticking to a few simple rules.

- Limit the total amount of alcohol you drink on any occasion
- Drink more slowly, drinking with food, and alternating with water

For further information visit <https://www.nhs.uk/oneyou/be-healthier/drink-less/>

How much is one unit of alcohol?

A unit is a measure of alcohol. The number of units is based on the size of the drink and its alcohol strength or ABV. The ABV (alcohol by volume) figure is the percentage of alcohol in the drink. One unit is 10ml of pure alcohol. Because alcoholic drinks come in different strengths and sizes units are a good way of telling how strong your drink is. It's not as simple as one drink, one unit.

- A single pub measure (25mls) of spirits (40% ABV) contains one unit of alcohol
- A glass (50 ml) of liqueur, sherry or other fortified wine (20% ABV) contains one unit of alcohol
- Half a pint (about 300mls) of normal strength (4% ABV) lager, cider or beer contains 1.1 unit of alcohol - be aware that many beers and ciders are stronger and have a higher volume than this
- A standard 175ml glass of wine (13% ABV) would be 2.3 units - be aware that many wines have higher alcohol content and the size of glasses may be bigger

If you feel you would benefit from a referral to the alcohol team



outpatient clinic, talk to your cardiac rehab health professional or email the hospital team at alcohol.team@mft.nhs.uk or call them on 0161 2916572.

Stress

Stress describes the state you may sometimes experience when everything seems too much to cope with. You may feel overwhelmed and unable to meet the demands placed on you. We all experience some degree of stress in our lives. Not all stress is bad for us, for example the stress we feel when having an interview or doing an exam might help us improve our performance and enable us to succeed. However, too much stress over a long period of time can have a negative effect on your health and wellbeing.

When we experience stress, our bodies react to a perceived threat by releasing certain hormones, the main one being adrenalin. Adrenaline causes increases in our heart rate, blood pressure and breathing rate. It can also cause muscle tension and indigestion.

These changes can make us feel that there is something wrong with our bodies, when in fact it is a normal adrenaline response to a stressful thought or event. This is referred to as a “fight or flight” response and is necessary for survival in a life threatening event. Sometimes people may misinterpret this “fight or flight” response (and think that they are having a heart attack). This in itself creates further anxiety which results in even more stress hormones circulating in the body.

How does stress affect the heart?

In the past, stress has not been identified as a direct risk factor for coronary heart disease (CHD). However, emerging findings suggest that the effects of the stress response, particularly when chronic can lead to inflammation in our arteries, which increases the risk of having a heart attack, angina or stroke*.

Acute stress can trigger reduced blood flow to the heart, can cause your heart to beat irregularly and can increase the likelihood of blood clots. It is therefore just as important to manage stress in the same way we would manage other risk factors such as smoking or high blood pressure.

Stress can also be an indirect risk factor for CHD. When we are stressed, we tend to rely on short-term fixes which can result in less healthy behaviours such as overeating, drinking too much alcohol or smoking. All of these risk factors increase our risk of cardiovascular disease. * Tawakol A, Ishai A, Takx RAP, Figueroa AL, Abdelrahman A, Kaiser Y, et al. *Relationship between resting amygdalar activity and cardiovascular events: a longitudinal and cohort study. Lancet.* 2017;389:834–845. doi: 10.1016/S0140-6736(16)31714-7.

What can I do to help myself manage stress?

- ♥ Take time to look at the kind of things that are stressful to you. By identifying the sources of stress, you can start to think about how you can deal with them
- ♥ Making changes to your lifestyle in a positive way such as eating a balanced diet, taking regular physical exercise, cutting down on alcohol and giving up smoking. Doing these things will reduce your risk for developing further CHD
- ♥ Make more time for rest and relaxation (for example mindfulness, yoga and relaxation techniques). See below for information on a rapid relaxation technique that you can try
- ♥ Learn to say no to people when you feel overburdened
- ♥ Avoid putting things off. Adopt the “Do it today!” approach
- ♥ Learn to challenge your thoughts if you notice that worrying thoughts tend to run away with you
- ♥ Talk to family or friends about your worries or find out about support groups that you can attend. Ask for help if you need it and accept it when it is being offered
- ♥ Make more time for yourself to enjoy activities that make you feel good
- ♥ Make time to reassess your values. What do you find important in life? Is your life going in the direction that you would like it to? If not, what can you do to bring about change?
- ♥ Be kind to yourself. Recovery takes time. Try not to be too hard on yourself. It is normal to have good days and bad days after heart surgery (see page 28)



If you feel stressed or very anxious, talk to your GP or a member of your Cardiac Rehabilitation team who will be able to help you decide what help would benefit you most. Some Cardiac Rehabilitation Departments may run a stress management course that you can attend during or after your rehabilitation programme. Additionally, if you are experiencing any ongoing anxiety or depression, you may be referred to a specialist health professional for psychological interventions such as cognitive behavioural therapy (CBT).

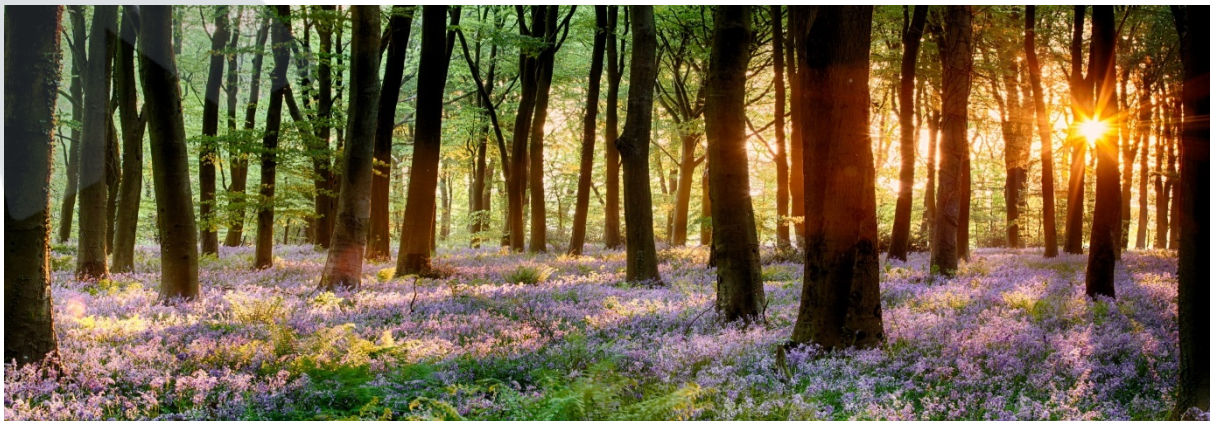
Mindfulness

Paying more attention to how you feel and to the world around you can improve mental wellbeing. This is called mindfulness. One of the most common mindfulness techniques is body scanning (focusing on different parts of your body and letting the tension go, moving from head to feet). Mindfulness helps you to be present in the here and now and can be helpful in dealing with anxious thoughts. Mindfulness can be used anywhere, for example in a quiet room whilst meditating or even when walking - being conscious of the light, of the trees and of the birds singing.

Useful websites

♥ <https://www.bhf.org.uk/mindfulness>

♥ <https://www.mindful.org>



♥ <https://www.headspace.com> (also available as free smartphone app)

Relaxation

Relaxation can be an effective coping strategy to help to improve your physical and mental wellbeing. It can be learnt by anyone and with practice you should be able to relax almost anywhere. Relaxation benefits the heart as it can lower blood pressure, and also slows down your breathing and heart



rate. Relaxation reduces muscle tension and pain and can help to calm you down when you feel anxious. It is important that you make time to relax during your recovery period but also as a longer term strategy for wellbeing.

If you are feeling particularly stressed, you can try this quick “emergency” relaxation technique

- ✓ Recognise that you are feeling tense – look out for signs within you like racing thoughts, butterflies in your stomach, tension in your shoulder muscles or a dry mouth
- ✓ Breathe in deeply through your nose and hold your breath for 2-3 seconds
- ✓ Exhale slowly through your mouth until you have no air left in your lungs
- ✓ Repeat this breathing pattern again. You might feel slightly dizzy - this is your body’s response to deep breathing and is nothing to worry about. The dizziness will pass
- ✓ As you exhale, focus on dropping your shoulders and relaxing your hands and jaw
- ✓ Tell yourself: “I am okay. I can do this. I am feeling more relaxed”. Speaking to yourself in a kind and calming way can help a lot in bringing down your stress levels

Your local Cardiac Rehabilitation Team may present relaxation classes, please contact them to enquire about this as it can be helpful to learn a few different relaxation techniques in order to find the one that works best for you.

If you would like details of where to obtain relaxation CDs, you can contact the Wythenshawe Hospital Cardiac Rehabilitation Team on 0161 291 2177 or cardiac.rehab@mft.nhs.uk

If you want to find out more about managing stress and how you can help your heart, you can order the BHF booklet “**Coping with stress**” by telephoning 0300 200 2222.

Online resources for relaxation and wellbeing

- ♥ <https://www.nhs.uk/conditions/stress-anxiety-depression/mental-health-helplines/>
- ♥ <https://www.ntw.nhs.uk/resource-library/relaxation-techniques/>
- ♥ You can also visit YouTube for lots of examples of scripted guided relaxation techniques and relaxing background music.

Self-help services

- ♥ Living life to the full series <http://www.lltff.com>
Provides sessions to help you be happier, sleep better, do more and feel more confident
- ♥ Psychological services covering Manchester, Stockport and Trafford - self referral and GP referral possible
https://www.selfhelpservices.org.uk/shs_type/psychological-therapy/
- ♥ Mental health charity - MIND <http://www.mind.org.uk>
Information on conditions, treatment and support

Medical modifiable risk factors

Your individual medical risk factors that can be controlled will be monitored at your cardiac rehab sessions. Maintaining guideline levels of blood pressure and blood glucose is also important for safe exercise. The ideal is for you to have your blood fat levels (cholesterol) checked by the end of your cardiac rehab programme.

High blood pressure (hypertension)

Blood pressure (BP) is the pressure of blood in the arteries as the heart pumps blood around the body. High blood pressure happens if the walls of the larger arteries lose their natural elasticity and become rigid, and the smaller arteries or vessels constrict (become narrower). As we get older, we often need a 'higher pressure' to force the blood through vessels that have 'stiffened' with age. So, what might be a high reading for a young person can be perfectly normal for an older person. Your doctor or nurse will tell you the correct reading for you.

High blood pressure is often missed as there are no obvious symptoms. This is why hypertension is particularly dangerous. If left untreated, it can cause damage to many parts of the body including blood vessels, the heart, the kidneys and the eyes. It is a major risk factor for hardening of the arteries, heart attack, stroke, heart failure, kidney failure and sight loss. A small reduction in blood pressure can help protect your heart.

You can help control your blood pressure by:

- ♥ Keeping to a healthy weight
- ♥ Cutting down on salt – no more than 6g of salt per day. Dietary salt is a significant factor in raising blood pressure in people with hypertension and in some people with normal blood pressure
- ♥ Cutting down on alcohol intake
- ♥ Stopping smoking
- ♥ Taking your prescribed medication
- ♥ Practising relaxation, mindfulness and other stress management techniques
- ♥ Avoiding stressful situations.

For more detailed advice or to order the BHF booklet 'I've got my blood pressure under control' call 0300 200 2222.

It is normal for your blood pressure to rise and fall depending on your activity.

You have probably heard the doctor or nurse say something like, 'your BP is 140 over 80'. Blood pressure is measured in millimetres of mercury. This is usually written down as mmHg. The top number (140) is the pressure that your heart is pumping at (systolic). The lower number (80) is the pressure between heart beats when the heart relaxes (diastolic).



You will have your blood pressure checked when you attend cardiac rehab and you should continue to have regular blood pressure checks at your GP surgery. The targets for blood pressure when you attend clinic are

- individuals aged under 80 years: lower than 140/90mmHg
- individuals aged over 80 years: lower than 150/90mmHg.

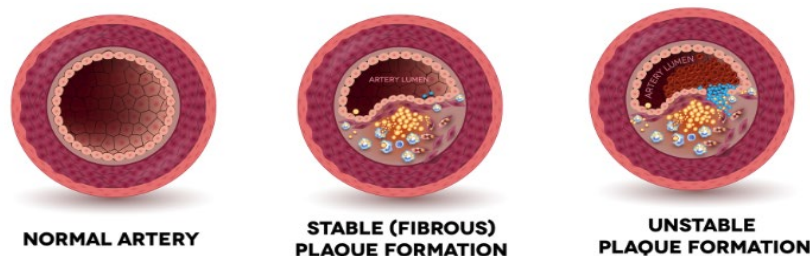
However, the targets for daytime average blood pressure during an individual's usual waking hours are

- individuals aged under 80 years: lower than 135/85 mmHg
- individuals aged over 80 years: lower than 145/85 mmHg

For all people with diabetes the target for resting blood pressure is less than 130/80.

High fat levels in the blood (cholesterol)

Cholesterol is a word you may well have heard, but never understood. Cholesterol is the best known of a group of fat-like substances in the body called lipids. The liver makes cholesterol from the saturated fats we eat. A certain amount of cholesterol is essential for life and it is present in every cell in the body and also in the blood. When people have an excess of fats in their blood, the body is unable to break these fats down and may therefore deposit them in the artery wall. These affected areas are known as atheroma or atherosclerotic plaques. Over time these get bigger and can spread into the centre of the artery, making the artery smaller. This may cause the symptoms of angina or more seriously lead to a heart attack.



Cholesterol is carried around the blood in different forms. The two main forms are high density lipids (HDL) and low density lipids (LDL).

HDL carries the cholesterol away from your arteries back to your liver whereas LDL carries the cholesterol to your arteries where it can contribute to the build-up of fatty deposits (atheroma), in your artery walls.

A high level of cholesterol may be affected by diet and lifestyle. It could also be inherited, a condition called Familial Hypercholesterolaemia. You may be asked if any family members have been diagnosed with high cholesterol or have been diagnosed with any heart problems at a young age. These factors could have implications on your treatment.

If you are known to have a heart problem, you should try to lower your cholesterol. The best way is to

- ♥ Eat more healthy fats (less saturated/ trans fats)
- ♥ Be physically active
- ♥ Keep to a healthy weight.



For many people these natural ways are not enough on their own. In this case, research has shown that the need for cholesterol lowering medication is essential. The test for cholesterol is often done as a fasting test which means you will be asked not to eat or drink anything other than water for 12 hours before the test.

After your heart surgery it is advisable to wait three 3 months before having your cholesterol levels checked. If you have been prescribed a statin for life you will have blood tests every 6 - 12 months that measure your total cholesterol, HDL cholesterol and non-HDL cholesterol.

For further information visit the heart UK Cholesterol_Charity at <http://www.heartuk.org.uk> or order the BHF booklet 'Reducing your blood cholesterol' by calling 0300 200 2222.

Diabetes

Diabetes occurs when the glucose level in the blood is too high. Glucose is a sugar that the body makes mainly from the starches and sugars (carbohydrates) in food. The blood carries glucose to all the cells in the body, where it is used to produce energy. The hormone insulin allows the glucose to move from the blood and into the cells, therefore enabling the glucose level in the blood to fall. Diabetes occurs when the body either stops producing insulin or the insulin is no longer able to keep the glucose level in the blood within the normal range.

In diabetes, glucose levels in the blood rise because glucose cannot move from the blood into the cells due to a lack of insulin. The cells become starved of glucose (fuel) which leads to symptoms of diabetes. Diabetes increases the risk of coronary heart disease and can cause other serious health problems. There are two types of diabetes

- Type 1 – when the body does not produce any insulin
- Type 2 – when the body does not produce enough insulin, or the cells of the body are unable to use insulin effectively.

Prediabetes (borderline diabetes) is closely linked with obesity. One in three adults in England has prediabetes. It is characterised by the presence of blood glucose levels that are higher than normal but not yet high enough to be classed as diabetes. Make healthy choices now to prevent Type 2 diabetes developing.

- Diabetes damages the heart in several ways
- High glucose levels in the blood affect the walls of the arteries, making them more likely to develop atheroma (plaque)
- Platelets stick together more easily, forming clumps which are more likely to get stuck in blood vessels
- Diabetes increases the damage done by the major CHD risk factors of smoking, high blood pressure and high blood cholesterol
- Diabetes can affect the heart muscle itself, making it a less efficient pump
- People with Type 2 diabetes often have lower levels of HDL cholesterol
- Diabetes can affect the nerves to the heart so that the symptoms of heart disease are not felt in the usual way

If you have diabetes it is very important to:

- ♥ control your blood glucose
- ♥ control your BP and cholesterol
- ♥ be physically active
- ♥ keep to a healthy weight.

Target blood sugar for anyone with diabetes is between 4 - 9 mmols. If your blood sugar is consistently outside this range your medication (either insulin or tablets) may need adjusting. You should contact your practice nurse, district nurse, GP or Diabetes Nurse Specialist. You should attend your GP surgery for regular diabetic check-ups, which include a blood test called glycated haemoglobin (HbA1c) which identifies your average long-term blood sugars.

If you have diabetes the nursing staff will give you more information and if necessary, while you are in hospital, you may be referred to a Diabetes Nurse. You can call 0300 200 2222 to order the BHF booklet 'Diabetes and your heart'. For more information you can contact Diabetes UK <http://www.diabetes.org.uk/>

Section 6 Your support

In addition to the valuable patient support provided by this booklet, it has been shown that individuals having heart surgery greatly benefit from talking to former patients who have been through a similar experience. You can easily contact such patients through a support group.

Support groups

Ticker Club www.thetickerclub.co.uk

Email enquiries@thetickerclub.co.uk or call 0161 291 2873

The Ticker Club, a registered charity for Wythenshawe Hospital patients, was founded in 1987 by a group of patients who had recovered from heart surgery. It is a totally voluntary organisation open to all those who have undergone, or are about to undergo some form of cardiac or vascular procedure. It is also open to their families and to all who wish to support the aims and objectives of The Ticker Club.

The Ticker Club raises money through subscriptions, donations, prize draws and other events. All funds raised are spent on facilities and equipment for the hospital's heart, vascular and cardiac rehab units.

Patient support volunteers visit the cardiac wards and clinics daily to offer practical advice and moral support to new patients, both before and after surgery. The Club also produces a quarterly Newsletter with information on the Club's activities.

If you would like to join The Ticker Club, or require any further information about the work they do, please email them enquiries@thetickerclub.co.uk or call 0161 291 2873.

Other support groups

If you wish to find out about the support or community-based exercise groups available in your area, please contact your local cardiac rehab co-ordinator. Alternatively, you may contact our cardiac rehab secretary on 0161 291 2177.

Long-term wellbeing and lifestyle options

On completion of your cardiac rehab programme, you will be encouraged to continue to live as healthy a lifestyle as possible, doing regular physical activity in the long term and /or taking up an exercise or hobby that you enjoy.

Alternatively, you may choose to be referred to a local exercise referral scheme, health and wellbeing service or a local community-based exercise group. Listed below are some examples of health and fitness services in the Manchester area.

Cycling: Transport for Greater Manchester

<http://cycling.tfgm.com/Pages/training.aspx>

Free adult cycle training – whatever your level

Health and Wellbeing Service Manchester

<http://www.goodhealth-manchester.nhs.uk>

Local services and health information around conditions

Manchester Physical Activity and Referral Scheme

<http://www.mhsc.nhs.uk/services/wellbeing-services/physical-activity-referral-scheme.aspx>

Helps people living with long-term health conditions to increase their levels of physical activity in a safe and structured environment

Active Lifestyles Manchester

<http://www.manchester.gov.uk/activelifestyles>

Active Lifestyles is our free-to-join club for anyone who wants to get fit and keep fit (from babies to retired people)

PARiS (Physical Activity Referral in Stockport)

<http://www.lifeleisure.net/enterprise/lifeleisurestockportgpreferral>

GP Exercise Referral scheme in Stockport, designed to help patients with moderate medical conditions become and stay more physically active, whilst benefiting and or improving their health

Healthy Stockport

<http://www.healthystockport.co.uk>

Help you to make positive changes to your health and lifestyle

Health and Wellbeing Tameside

<http://www.tameside.gov.uk/health>

Advice and information about a variety of health issues and initiatives on improving your own health and wellbeing and also information on local services

Active Trafford

<http://www.traffordleisure.co.uk/active-trafford/>

Provide a concessionary pass for discounts on exercise and activity across Trafford

Useful contacts

British Heart Foundation (BHF)

<https://www.bhf.org.uk/heart-health/treatments>

Greater London House

180 Hampstead Road

London

NW1 7AW

Email: orderline@bhf.org.uk or call 020 7554 0000

Call the Heart Helpline on 0300 330 3311 Monday to Friday from 09:00 to 17:00

The BHF produces a range of booklets about understanding heart disease and prevention. They are free of charge and can be ordered on line or by calling

0300 200 2222. You can also view informative videos via

<https://www.youtube.com>

Society for Cardiothoracic Surgery (SCTS) in Great Britain and Ireland <https://scts.org/patients/having-heart-surgery/>

Encouraging and promoting research and excellence in the practice of cardiothoracic surgery

NHS Choices <http://www.nhs.uk>

Lots of information on conditions, services, healthy living and health news

Arrhythmia Alliance <http://www.heartrhythmalliance.org/>

The heart rhythm charity that promotes better understanding, diagnosis, treatment and quality of life for individuals with cardiac arrhythmias

Email info@heartrhythmcharity.org.uk or call the 24 hour helpline on 01789 867501

Wythenshawe Hospital contact numbers

Cardiac Surgery Specialist Nurses	0161 291 2463
Cardiothoracic Critical Care Unit (CTCCU)	0161 291 4527
ACCU	0161 291 6077
Ward F5	0161 291 5302
Ward F6	0161 291 2566
Jim Quick Ward	0161 291 2204
Cardiology Liaison Nurses	0161 291 2679
Pharmacist	0161 291 3331
Smoking Cessation Service	0161 291 5030
Dietician	0161 291 2701
Wythenshawe Hospital Cardiac Rehabilitation Out-patient Secretary and Team	0161 291 2177
South Manchester Community-based Cardiac Rehabilitation services at Burnage Healthcare & Woodhouse Park Lifestyle Centres	0161 435 3531

Other useful contacts

NHS 111 – dial 111 from any landline or mobile for free NHS advice and out of hours appointments

Age UK <http://www.ageuk.org.uk>

Information and advice including finances, local support, staying independent, work and volunteering, health and wellbeing, learning, care options, travelling, and bereavement

Transport for Greater Manchester <http://www.tfgm.com>

Journey planner, public transport routes and timetables, accessible transport

Ring and ride <http://www.ringandride.info>

Door to door service for people of all ages who find it difficult to use public transport

Call 0300 330 1341

Questions or concerns

We hope that this cardiac rehab information booklet and your Surgical and Cardiac Rehab Teams have answered all your questions about your heart surgery.

If in the future you need further help or advice, please do not hesitate to contact your local Cardiac Rehab Team (see the contact details given to you on your discharge from hospital).

If you have any questions or concerns about any of the information in this booklet, please contact the South Manchester Cardiac Rehab Team on 0161 291 2177.

Suggestions and complaints

If you would like to provide feedback, discuss a concern or make a complaint

- Ask to speak to the ward or department manager
- Write to the Patient Advice and Liaison Services (PALS) or telephone 0161 291 5660
- Log onto NHS Choices <https://www.nhs.uk/contact-us/>

We welcome your feedback so we can continue to improve our services.



**Really
informative**

*Always
opportunities
to ask
questions and
clarify things*

We thank The Ticker Club for funding this
highly valued information booklet

Produced by the
Cardiac Rehabilitation Clinical Lead Physiotherapist and
Wythenshawe Hospital Cardiac Rehab & Heart Surgery Teams

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