



Image: The Yorkshire Heart Centre Jubilee Building, Leeds General Infirmary.

Rehabilitation After Heart Surgery

Information Booklet for
Patients and their Families



YORKSHIRE
HEART CENTRE

The Leeds Teaching Hospitals
NHS Trust



Please read about Take Heart at rear of this booklet



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Rehabilitation After Heart Surgery

INTRODUCTION

Now that you have had your operation you may have some unanswered questions.

This booklet has been written to provide answers to some of those questions and provide you with information that will assist your recovery.

If you have any further questions after reading this booklet, please ask either the nurses on the ward, your doctor or one of the Community Cardiac Rehabilitation Nurses.

It is important for you to use this booklet for reference whilst in hospital, but don't try to read it all at once, pace yourself and make use of the nurses on the ward by asking them to clarify things for you before you go home. Please take the booklet home with you when you are discharged but not before. We suggest family and friends read it with you whilst you are in hospital.

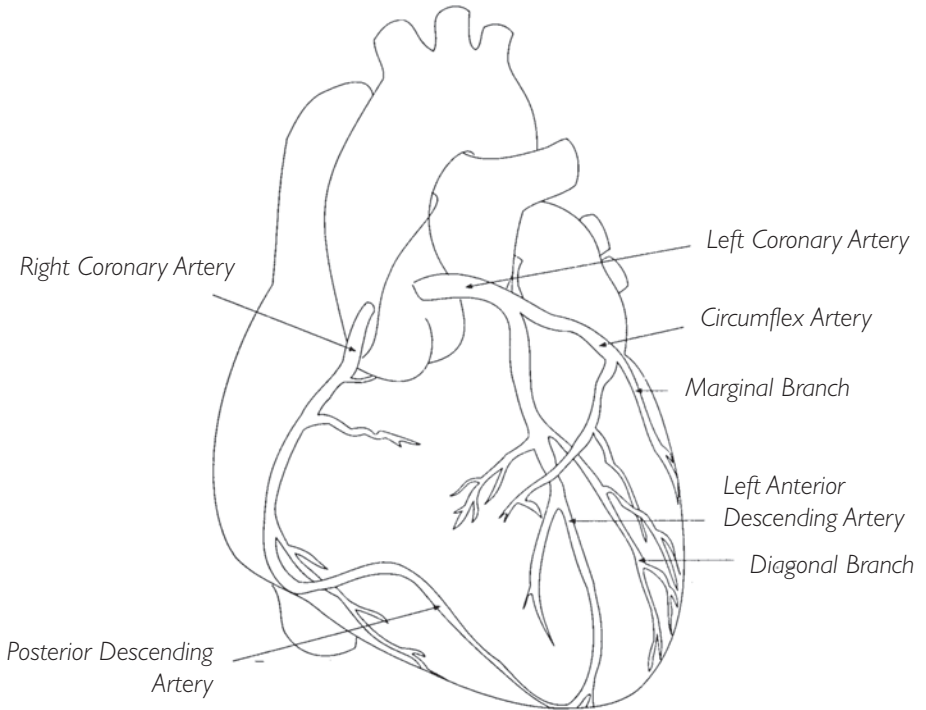
You may find it useful to write down what your operation was.

Why did I need my operation?

Either there was a problem with the heart valves, a problem with the arteries that supply the heart with blood or there was another problem for which you will have been given specific details, (if you are not sure please ask).

But let's start at the beginning.

The Heart

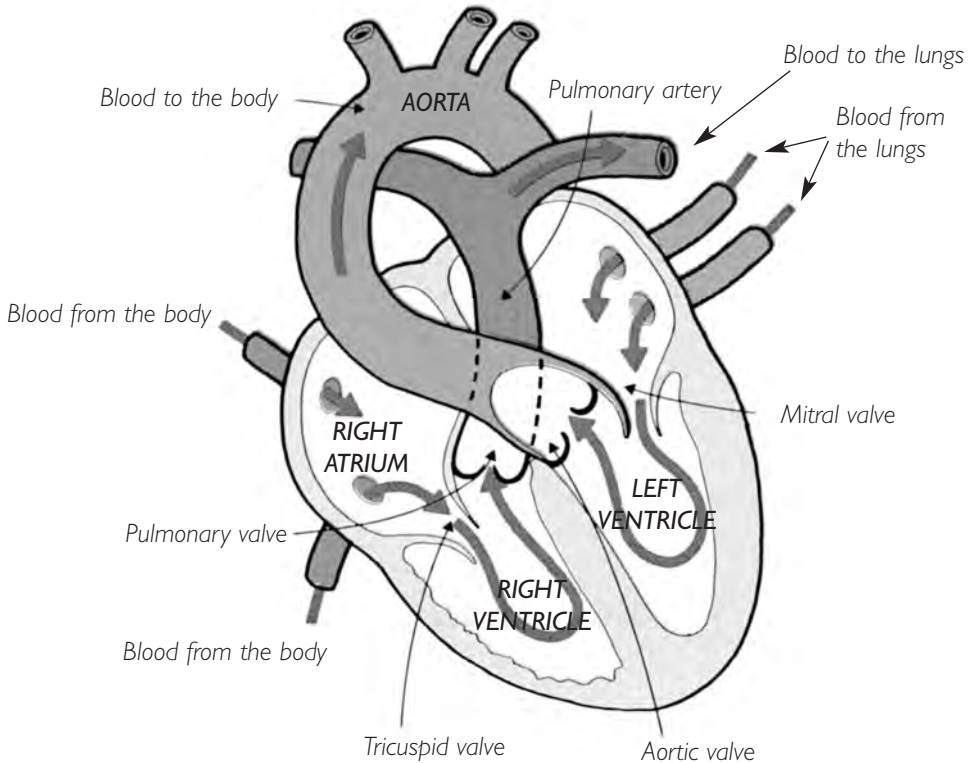


The heart is a hollow muscular pump which pumps blood around the body.

It is about the size of your fist and is situated in the chest between the lungs, slightly to the left.

The large blood vessels that begin at the heart carry blood to the lungs and body and back again, whilst smaller blood vessels covering the surface of the heart (coronary arteries) supply the heart with blood.

Inside the Heart



Inside the heart are four chambers.

The upper chambers are the right and left atria and the lower chambers are the right and left ventricles.

The heart receives blood that is low in oxygen from the body, into the right atrium and then the right ventricle pumps it to the lungs.

The left atrium then receives blood rich in oxygen from the lungs and the left ventricle pumps it round the body (see diagram).

There are four valves which separate the chambers and prevent blood flowing back into each chamber of the heart when it is not pumping.

That is the basic biology lesson over with. (But if it has whetted your appetite and you would like to know more, either ask the nurses or you could refer to one of the books suggested at the back of this booklet).

What is Coronary Artery Disease?

It can be very confusing when you find you have coronary artery disease especially if you compare notes with other people who also have this disease. Everyone you speak to may describe different symptoms to you or may be taking different medicines. Basically, coronary artery disease means that the arteries that supply the heart muscle with blood (remember that's the coronary arteries we talked about in our biology lesson), are sometimes not able to supply enough blood to the heart muscle.

This can be due to:

- Atheroma (fatty deposits) which can stick to the artery wall making it narrow.
- Thrombosis (a blood clot) which can partially or completely block the artery.

Nobody knows what causes coronary artery disease, but we do know that there are a number of things which can put you more at risk of developing it. These are known as risk factors and include:

- Age & Gender - men over 45 on average are more at risk. Women tend to catch up following the menopause, as prior to this their hormones tend to protect them from developing coronary artery disease.
- Hereditary- it can run in families.

Other risk factors are:

- Untreated high blood pressure.
- Diabetes.
- High blood cholesterol levels.
- Fatty Diet.
- Lack of exercise.
- Being overweight.
- Smoking.

These will be discussed in more detail later.

What about heart valve disease?

As previously mentioned there are four valves in the heart. As the heart muscle squeezes blood from chamber to chamber, the valves open to let blood through to the next chamber and then close to stop blood flowing backwards. In this way the valves keep the blood flowing through the heart and out to the rest of the body.

Valve disease occurs when the valves do not work as they should. If a valve doesn't open properly, less blood can move through the smaller opening. If the valves do not close tightly enough blood can leak through the opening. This can lead to the heart muscle having to work harder to pump the small amount of blood. Blood moving slowly may build up in the lungs or the body because it is not moving through the heart very well. This can cause you to feel out of breath or may cause your ankles to swell.

THE OPERATION

Details of your specific operation should be written in the first section of this booklet. If you are not sure of your operation ask your nurse to fill in the details.

Coronary Artery Bypass Grafting or Valve Surgery

What happens during the operation?

The majority of heart operations leave you with a scar down the front of your chest. This is because your breast bone (sternum) was cut so that the surgeons could get to your heart. If you have a different scar please ask your doctor to explain why this particular way was used. Once your chest is opened it is necessary to stop the heart from beating. To do this a piece of equipment is needed called a cardiopulmonary bypass machine. This machine takes over the work of the heart and lungs, supplying blood and oxygen and pumping it around the body, which means the surgical team can then safely perform your operation.

Once the operation is completed the cardiopulmonary bypass machine is turned down and your own heart starts beating by itself. Once the surgeons are happy with your heart's condition the cardiopulmonary bypass machine is removed. The final stage of the operation is to close your chest.

How is my chest held together?

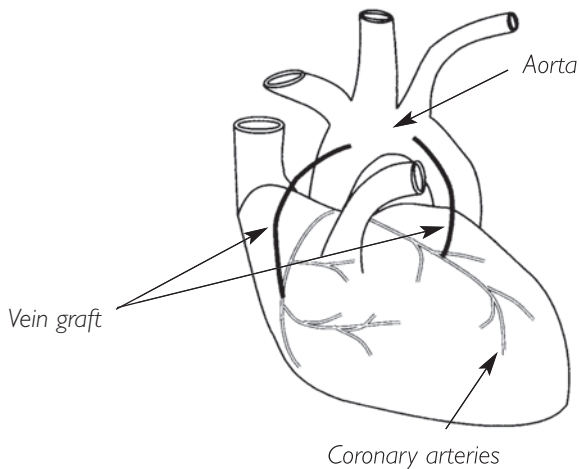
Your breast bone is held together with stainless steel wire and the muscle and skin are stitched. Your chest is held together firmly and will not split apart when you are deep breathing or coughing even though it might feel like that at first! It does take about three months for the breast bone to be fully healed.

Coronary Artery Bypass Grafting

Why did I need surgery?

This type of surgery is required to improve the blood supply to the heart muscle thereby relieving angina and reducing the risk of permanent damage to the heart muscle. The problem is caused by narrowing or blocked coronary arteries which do not allow enough blood to reach the heart muscle.

What is a Coronary Artery Bypass Graft?



A Coronary artery bypass graft improves the blood supply to the heart muscle by bypassing blocked or narrowed coronary arteries. Blood vessels are taken from your arms, legs or chest wall and used to redirect blood from the aorta (see diagram) to the areas of heart muscle which are not receiving enough blood. The number of bypass grafts used depends upon the number of narrowed or blocked coronary arteries you have.

Which blood vessels are used?

A blood vessel from the chest wall is called the left internal mammary artery known as the LIMA. The LIMA normally supplies blood to your chest wall but can be redirected and used to bypass a blocked or narrowed coronary artery. NB: It is useful for you to know if your surgeon used this artery because you may experience certain typical aches and pains (see section on aches and pains). Other blood vessels used are either leg veins, arm veins, arteries or all three.

Valve Surgery

Why did I need valve surgery?

As previously mentioned, your heart has four valves: the tricuspid, pulmonary, aortic and mitral. These valves regulate the blood flow through the heart. If any of the heart valves leak or become narrowed the blood flow alters and interferes with the heart's normal function, leading to symptoms such as breathlessness and tiredness. When this happens surgery may be required.

What happens during the operation?

The surgical team open your chest as described for coronary artery bypass grafting and if possible they repair the damaged valve. If they are not able to repair the valve then it will be removed and replaced with an artificial valve.

What are the artificial valves made of?

There are two types of artificial valves available: tissue valves or metal valves. As each person is different the surgeon will help you to decide which will be the best for you.

The valves are designed to work like normal valves. However people who have metal valves in place often say they can hear a ticking sound. This is quite normal and often fades in time.

How can I look after my new valve?

You can help by taking good care of your teeth, brushing them twice a day and having regular check-ups at the dentist.

Dental procedures and dental abscesses increase the risk of bacteria entering the bloodstream and infecting your new valve.

You may need to take antibiotics before some dental treatment or minor operations. Always tell the dentist about your artificial heart valve before you proceed.

I have heard that I will have to take warfarin. What is it?

Warfarin is a medicine which helps to prevent the blood from forming clots on your new valve.

How long will I have to take warfarin for?

If you have a metal valve you will need to continue taking warfarin for the rest of your life.

The surgeon may also ask you to take Warfarin if your heart is beating in an irregular rhythm known as Atrial Fibrillation (AF). You may also need to take the Warfarin for a limited time if your heart returns to normal rhythm.

Will I need regular blood tests?

To make sure that you are receiving the right dose of warfarin it is necessary to take regular blood samples, both in hospital and once you have gone home. It is very important that you are taking the correct amount of warfarin each day, as too little warfarin will not protect your valve from potential blood clots.

The good news is that the testing can be arranged at a hospital closer to home or sometimes by your G.P. and once the correct dose has been found for you the testing becomes less frequent.

Can I drink alcohol when taking warfarin?

Alcohol can affect the way warfarin works so, consult the staff on the ward for further information.

Other important things to remember:

Too much warfarin can cause bleeding, so look out for these signs:

- unexplained bruising
- nose bleeds
- bleeding gums when brushing teeth
- dark or black stools
- blood in the urine

If any of these occur see your G.P. at once. NEVER alter your warfarin dose without asking your doctor first.

If you are taking warfarin consult your doctor if:

- You suspect you are pregnant or have plans to become pregnant.
- You need to take anything that contains aspirin e.g. flu remedies. Try to avoid these and use paracetamol instead. (If in doubt, ask your local chemist).

Wound Healing

Many things effect the rate at which your wounds heal. These include:

- your gender
- your age
- the foods you eat
- other medical conditions such as diabetes
- your physique

When will my stitches be removed?

Different surgeons use different methods to close the skin. You may have:

- stitches (sutures)
- clips
- dissolvable stitches
- beads

You will be advised before leaving the hospital if and when these should be removed.

Some common questions asked about wound healing:

Some fluid is leaking from the wound. Is this normal?

If any clear or blood stained fluid starts to leak from your wound, please inform your Cardiac Rehabilitation Nurse who will advise you on how to deal with it. If the discharge becomes yellow or pus-like you should see your GP as it may be infected.

I have noticed pieces of skin coming off my wound. Is this normal?

Yes, you may notice that small lengths of skin appear to come away. This is part of the wound healing process and is entirely normal. Remember that the deep stitches in your heart and chest wall are firm and secure and are not affected by the changes you see around the skin.

Can my wound get infected and how would I know?

If your wounds or the surrounding skin becomes red, painful, swollen or warm, you should contact your Cardiac Rehabilitation Nurse or GP as soon as possible. If your wound starts to leak yellow or pus-like fluid, you should also contact your GP straight away. There may not be a need for any treatment or you may just need a course of antibiotics to help fight the infection.

Patients with diabetes.

Being diabetic can have a detrimental effect on wound healing. It is therefore very important that you monitor your diabetes carefully when you leave hospital. You should contact your GP if your blood sugars are persistently higher than 10mmols/litre or urine testing continues to show glucose in the urine. If you notice any signs of wound infection (as described above) you should contact your Cardiac Rehabilitation Nurse or GP straight away.

Why do my legs swell?

For those who have had the vein removed from their leg (saphenous vein), some swelling of the leg is expected. This is quite normal and may occur for up to 12 months following surgery.

You may need to wear elastic stockings for a short period of time following your operation. Your ward nurse prior to your discharge should advise you as to when they may be removed, approximately two to six weeks.

It is also helpful to keep your legs elevated when sitting, to help fluid return and reduce swelling. However, if the swelling gets more noticeable, seek advice from your G.P. as this can slow down the wound healing process. If you experience any swelling in the leg that has not been operated on, please tell your Cardiac Rehabilitation Nurse.

Do all my stitches dissolve?

Sometimes stitches that would normally dissolve under the skin may not. This is very common at the top and bottom of the wound. If left in place they may encourage infection and delay healing. They should be removed and again you should see your G.P. or practice nurse.

Tips for effective wound healing:

- Keep your wound clean by taking regular showers. This will prevent a build up of bacteria. Do not use soap or perfumed products directly on the wounds.
- If you do not have a shower you may take a bath but avoid lying in the bath for long periods.
- Pat your wounds dry with a clean towel after bathing/showering using a different part of the towel for your chest and leg wounds.
- Ensure you eat a well balanced diet. Protein such as low fat dairy products or lean meat will help wound healing.
- Wound healing takes place during rest and sleep, so do try to ensure you get enough rest.
- Protect your wound from damage i.e. knocking the wound.
- Try not to poke at the wound, as this may cause infection.
- Do not use any dressings, creams, talcs etc. on the wound unless advised to do so by your doctor or nurse.
- Try not to expose your wound to sunlight without protection. The wound is prone to sun burn, so keep it covered or apply a total sun block (make sure the skin is not broken before applying sun block).

How long will it take for my breast bone to heal?

Following the operation your breast bone is held together firmly by wires. These stay in place for the rest of your life. The bone is fully healed after about twelve weeks and even after the bone edges have healed the wires will remain in place. Normally these wires do not cause any problems but you will need to seek advice from your G.P. if:

- You can feel the wires under the skin and they are uncomfortable.
- You think infection is present because your breast bone is more painful, itchy or you have a temperature and feel generally unwell.
- You think your breast bone is not fixed firmly enough together and it moves about unequally.

Aches and Pains

After your operation it is normal to experience aches and pains. Everyone is different and the aches and pains you experience may be different from those experienced by someone else.

To help you become active again as quickly as possible, it is important that you take adequate pain relief. We recommend that you take all pain relief medication as prescribed. If this is not adequate, please speak to your Cardiac Rehabilitation Nurse or GP.

Common questions asked about aches and pains:

Why am I getting pain in my shoulders?

It is common to feel discomfort or numbness and other sensations around your neck, shoulders, back and breast area. This is due to your chest being held open during the operation. These aches will fade as your breast bone heals. It is important that you keep moving your arms and do the exercises that are explained later in this booklet. This should prevent long lasting stiffness and other shoulder problems.

Part of my chest feels tingly and numb, why is this?

There may be some areas of lost sensation in the skin around the wound. This is normal and causes no harm and often normal sensation will return after a few weeks or sometimes months.

If the surgeon used the left internal mammary artery (LIMA) to make a graft (if you are not sure about this you should ask), you may experience discomfort similar to 'chest pain', tingling or numbness. Women may find it more comfortable to wear a well supportive bra (ie: a sports bra) even at night. Make sure you are measured properly and get the correct size as this will improve support. Do not worry if any of these sensations happen, they will fade in time. Your G.P., however, may be able to prescribe anti inflammatory painkillers if this really becomes a problem.

Why is my leg wound more painful than my chest?

It is common to experience some discomfort from your leg wound, but it is important to keep active. You could also try the exercises that are described later in this booklet.

How long should I take my painkillers for?

When your aches and pains start to become less uncomfortable you can start to take less painkilling tablets. You may find that you experience more pain and discomfort at night so stop those last. You should notice that your aches and pains get less and less week by week and you may find that some days are better than others. The main thing is to try to keep yourself moving.

Your pain will gradually reduce as time goes on, if you feel you need different pain killing tablets you should discuss this with your G.P. Remember everyone recovers at different rates and some aches and pains can go on for up to a year.

Some people find that they experience more discomfort when they first get home than when they were in hospital. This is because the tendency is to do more for yourself than you did in hospital, so do not worry.

Other effects of the operation

After your operation you may notice several changes in your senses and moods. These effects will usually resolve or improve within 3 to 6 months, if not sooner.

Some commonly asked questions are:

Some days I feel fed up and depressed, other days I feel tearful and emotional and sometimes I feel irritable and angry. I didn't used to be like this, is it normal?

It is quite usual to feel low, fed up or emotional after your surgery and this is thought to be part of the normal recovery process. Some people complain of feeling vague and vacant. These feelings are often short lived but some people may experience them several times during their recovery, They may take the forms of tears, anger frustration and irritability. Your Cardiac Rehabilitation Nurse or G.P. could provide further support and information if you are concerned about this aspect of your recovery.

I am having difficulty concentrating on things e.g. reading a book, and sometimes my vision becomes blurred. Why?

You may find that you can't concentrate as well as you normally could and your vision is slightly blurred. This is thought to be due to having been on the heart bypass machine during your operation. The visual disturbances should resolve within a few weeks but if you are experiencing other symptoms or are worried, see your G.P. Your ability to concentrate may take longer to improve.

Why have I got a sore throat?

During your operation a machine (ventilator) breathes for you. The breathing tube can sometimes make your throat a bit sore but this should resolve soon afterwards.

When I am eating and drinking things don't taste the same as they usually do. Why?
You may find that your taste and smell sensations are different. Things may all taste and smell the same or different to how they usually do. This may also contribute to the loss of appetite you may be experiencing. Again this is thought to be due to having been on the heart and lung bypass machine. In time your taste and smell should return to normal.

My fingers sometimes feel numb and tingle, especially my little fingers.

Is this normal?

This can happen because the nerves that run down the arms can be 'stretched' when the surgeon opens your chest during your operation. These sensations should resolve in time. Performing regular exercise will help (please see section on exercise).

I have difficulty sleeping and I have vivid dreams and nightmares. Why?

Once again it is difficult to say why people can't sleep well and have vivid dreams but it is quite common. The dreams and nightmares will fade in time and eventually your sleep pattern will return to what's normal for you. However, if the nightmares and dreams should persist, please discuss this with the Cardiac Rehabilitation Nurse. Pain and discomfort can prevent sleep so make sure you take your prescribed painkillers if you are uncomfortable and try to find a comfortable position in bed. Taking a daytime nap may be useful if you find you are very tired. Some people find it difficult to sleep on their side, again this is common and will improve in time.

QUESTIONS ABOUT SEX

Following discharge from hospital you are advised to gradually increase your daily exercise as you gain strength and confidence, pacing yourself as you feel most comfortable. This applies to all your daily activities including sexual intercourse. You can have sex as soon as you feel ready.

Many people have concerns about having sex after heart surgery. Some commonly asked questions are:

I don't feel like sex as I still feel tired and not very energetic, is this common?

Sex is a physical activity and like any activity following your surgery you have to increase the intensity and duration gradually until you become fitter. Generally if you can walk up and downstairs without undue breathlessness, chest pains or palpitations you can resume sexual activity and gradually build up your stamina.

My breast bone is still healing and sore and I can't do anything strenuous for at least six weeks. How can I have sex without causing pain or damage?

Until your breast bone is healed and your chest is comfortable you must avoid putting pressure on it. Avoid positions which involve you leaning on your elbows, arms or chest or your partner leaning on your chest. For example, if you have had surgery, you could try lying on your back with your partner taking the more active role on top. Some people find lying side by side more comfortable exploring new positions and sensations that do not put pressure on the chest. Remember these are only suggestions, you must do what feels comfortable for you.

If I have an orgasm will it harm my bypass grafts, valves or put strain on my heart?

No it won't. Sexual activity will not put 'strain' on the heart anymore than walking up two flights of stairs. When orgasm occurs, the heart rate (or pulse) and blood pressure do increase but only briefly and this will not cause any damage.

I don't feel like having sex. Is this normal?

It is very common for people who have had heart problems and then surgery to experience a temporary loss of their sex drive. This is normal and will, given time, return. Many people and their partners also feel anxious and frightened about having sex after heart surgery, if after reading this booklet you are still experiencing anxieties and concerns, contact your Cardiac Rehabilitation Nurse for further advice and support.

I have difficulty maintaining an erection and sometimes experience pain in my penis. Why?

This may be due to short term effects of surgery or catheterisation (the tube that drained your urine). It should resolve in time. If it persists, consult your G.P. Also some drugs, i.e. beta-blockers, can result in lack of desire or impotence. Again if you think this is a problem consult your G.P.

On a positive note resuming sexual activity with your other usual activities, once home, can make you feel like things are getting back to normal again and may help to improve relationships which could have become strained due to your illness, anxiety and waiting for surgery.

WHAT ABOUT MY MEDICINES?

Will I need any medicines after my bypass operation?

Yes. You will be prescribed a small number of medicines. Some of the common medicines are listed below, but if you are taking any others, ask the doctor or Cardiac Rehabilitation Nurse to explain them to you.

ANTIPLATELETS

How do aspirin and clopidogrel (Plavix[®]) work?

Whenever a blood vessel wall is damaged, platelets collect around the area of the damage and clump together to form a clot. If the clot becomes too large it can block the blood vessel and prevent blood from reaching the heart muscle. This is what happens when you have a heart attack. Aspirin and clopidogrel help stop platelets sticking together, which prevents clots forming. Therefore taking aspirin or clopidogrel will help to prevent your new grafts from blocking.

Unwanted effects

Aspirin can cause indigestion and heartburn. To try and prevent this, you should always take them with food or just after a meal. If you do get indigestion with aspirin, you may find that the coated form of aspirin is better. If you have had a stomach or duodenal ulcer in the past, you should tell your doctor before you start taking aspirin or clopidogrel. In some people, aspirin can bring on an asthma attack. Please tell your doctor if you suffer from asthma.

For the full information about the side effects of aspirin and clopidogrel read the information leaflet that you get with your tablets. If you have any questions speak to your doctor, nurse, or pharmacist.

BETA-BLOCKERS

Atenolol (Tenormin[®]), bisoprolol (Cardicor[®], Monocor[®]), metoprolol (Betaloc[®], Lopresor[®]) carvedilol (Eucardiac[®]).

How do beta-blockers work?

Beta-blockers block the actions of hormones such as adrenaline that make the heart beat faster and stronger. They prevent the heart from beating as quickly and forcefully when you exercise or feel under stress. This reduces the work that the heart has to do.

Unwanted effects

Beta-blockers can narrow the air passages. For this reason you should not take them if you have asthma or wheezing. They may also narrow small blood vessels which can cause cold hands and feet.

Minor side effects are common and include tiredness and cold hands and feet. Other less frequent effects include nausea, diarrhoea, skin rashes, impotence or other sexual disorders, nightmares and pins and needles in the fingers.

Beta-blockers should not be stopped suddenly. You **must** see your doctor if you think you need to come off your beta-blocker.

For the full information about the side effects of beta-blockers read the information leaflet that you get with your tablets. If you have any questions speak to your doctor, nurse, or pharmacist.

CHOLESTEROL (LIPID)-LOWERING DRUGS ('STATINS')

Atorvastatin (Lipitor[®]), fluvastatin (Lescol[®]), pravastatin (Lipostat[®]), rosuvastatin (Crestor[®]), simvastatin (Zocor[®]).

How do statins work?

Cholesterol is produced in the liver with the help of an enzyme. Statins block the effect of this enzyme and reduce the production of cholesterol. Statins reduce the levels of bad cholesterol (LDL's) and increase the levels of good cholesterol (HDL's).

What time of day should I take statins?

Most statins should be taken at night because most cholesterol is produced by the liver at night. However, atorvastatin and rosuvastatin can be taken in the morning or evening.

Why will I benefit from taking statins?

It is recommended that people who have coronary artery disease take lipid-lowering drugs to reduce their blood cholesterol are the statins. Even if your cholesterol is not high, reducing it will lessen the chance of you having another heart attack.

Unwanted effects

Statins can cause stomach pain, wind, constipation or diarrhoea. If this happens to you, tell your doctor because reducing the dose may make this better. A rare but serious side effect of statins is inflammation of the muscles (myositis). You must tell your doctor if you have any unexpected muscle pain, tenderness or weakness.

Drinking grapefruit juice or eating grapefruit should be avoided if you are taking a statin drug called simvastatin. However, if you are taking another statin, such as atorvastatin, then grapefruit juice (or the grapefruit) can be taken in small quantities. If you have any concerns regarding statins and grapefruit then you should talk to your doctor, nurse or pharmacist.

For the full information about the side effects of statins read the information leaflet that you get with your tablets. If you have any questions speak to your doctor, nurse, or pharmacist.

ACE INHIBITORS

Captopril (Capoten[®]), enalapril (Innovace[®]), lisinopril (Zestril[®]), perindopril (Coversyl[®]), ramipril (Tritace[®]).

How do ACE inhibitors work?

ACE stands for ‘angiotensin converting enzyme’. ACE is a substance in the body which makes angiotensin. Angiotensin is a chemical normally produced in the body which makes blood vessels narrower. ACE inhibitors stop ACE from making as much angiotensin. This causes the blood vessels to widen and improves blood supply to the heart muscle.

Why will I benefit from taking an ACE inhibitor?

They help to reduce damage to the heart muscle which can cause heart failure.

Unwanted effects

Most people take ACE inhibitors without any problem. However some people get a persistent, dry, irritating cough. This is not serious but if you find it unbearable, speak to your doctor. He or she may prescribe an alternative treatment for you.

ACE inhibitors sometimes affect how the kidneys work and lower blood pressure. When your doctor starts the treatment, he or she will take care to start you on a low dose and will regularly check your blood pressure. They will check your kidneys are working well, at least once, by taking a blood test. If your blood pressure and kidneys are working well, your doctor may increase the dose.

If you cannot tolerate an ACE inhibitor your doctor may suggest that you take an alternative class of drugs called “Angiotensin II receptor antagonists” such as valsartan (Diovan[®]), losartan (Cozaar[®]), or candesartan (Amias[®]). This is a newer class of drug which is similar to ACE inhibitors and some patients tolerate them better.

For the full information about the side effects of ACE inhibitors read the information leaflet that you get with your tablets. If you have any questions speak to your doctor, nurse, or pharmacist.

All these medicines mentioned so far are to try to prevent further problems. You may also be prescribed medicines known as nitrates.

Commonly asked questions:

What if I forget to take a dose?

If it is a once a day dose, take it as soon as you remember. If you do not remember until the next day, just wait until your next dose is due.

If it is a twice or three times a day dose, take it as soon as you remember. If it is nearly time for your next dose when you remember, just wait until your next dose is due.

Is it alright to drink alcohol while I am on these tablets?

Unless your doctor has told you otherwise, yes. Alcohol will not interfere with these tablets. Remember to stay within the recommended weekly amounts (see Page 27).

You may be on other tablets that are affected by alcohol. If you have any concerns, ask your doctor, nurse, or pharmacist.

How long will I be on these tablets?

You will be taking these tablets for the rest of your life unless there is a reason to stop taking them. You will need to make sure that these tablets are on your repeat prescription from your GP.

Will I be entitled to free prescriptions after my surgery?

No, not unless you have another reason to get free prescriptions, for instance if you are over 60 years old or get income support.

You may be able to save money if you buy a prepaid certificate for three or 12 months. Ask your pharmacist for details.

I've been prescribed soluble aspirin. Do I have to dissolve them first?

No. If you prefer, you can swallow the tablets without dissolving them in water first. As with all tablets, swallow them with a drink of water.

Are these tablets safe to take with my other tablets?

If you also take other medication, ask your doctor or pharmacist to check that they are safe to take together.

If I am on holiday and forgot to pack my medicines, what should I do?

It is possible to buy some of these medicines from a pharmacy shop. Ask the pharmacist for advice. It is a good idea to carry a list of your medicines in your wallet or purse or carry your updated Personal Health Record with you.

If you have any further questions or concerns about your medicines, contact your doctor, nurse, or pharmacist.

WHEN CAN I DRIVE AGAIN?

There are regulations about driving which are issued by the Driving Vehicle Licence Authority (DVLA). They generally depend on what type of operation you have had, so if you are not sure find out and write the operation in the front of this booklet.

These regulations are:

- **Coronary Artery Bypass Grafting and Valve repair or replacement.**
 - 1) You do not need to advise the DVLA of your operation, but you do need to let your insurance company know. (More about insurance later).
 - 2) The DVLA advise that you do not drive for four weeks following your surgery. However, the surgeons here at the Infirmary **strongly advise that you wait for at least six weeks**. This is to ensure that the breast bone can take all the tugging from the steering wheel etc. without worsening any chest discomfort. You may also experience a lack of concentration for some time after your surgery, which could be dangerous when driving.

Remember these are only guidelines - some people feel that they are not up to the stresses and concentration necessary for driving in today's traffic until much later than this six week period, whilst other people do not have any problems. It is up to you to make sure that you are safe to drive again, in whatever conditions you might meet.

N.B. You are still required to wear a seat belt.

- **Pacemaker Operation**

You must inform the DVLA of your operation and they will want to make enquiries about your health with your G.P. The usual outcome of these enquiries is that your licence will be replaced by a short period licence. This is to ensure that regular checks can be made to ensure that your health does not effect your ability to drive.

These regulations apply to ordinary drivers licences only. If you hold a HGV or PSV licence you must inform the DVLA immediately and your licence will be temporarily withdrawn. You will be able to re-apply for your licence, please ask your Doctor or Cardiac Rehabilitation Nurse for further advice.

Car Insurance

As mentioned before it is very important that you let your insurance company know about your operation, or you may find that your policy is not valid. In most cases you should state that you have had a 'corrective procedure'. This means that the operation has "corrected" your condition.

Some people find that their insurance companies accept this whilst other companies ask for a medical certificate before they will agree to give you insurance cover and other companies will load your policy by up to 20%. The attitude of motor insurance companies really does vary so if you have problems ask your Cardiac Rehabilitation Nurse, who may be able to offer some advice. If in doubt, shop around for your car insurance.

Can I go on holiday on a plane?

You should not travel abroad until after you have attended your 6 week outpatient appointment. We recommend that before you make plans to travel abroad, you discuss it with your Cardiac Rehabilitation Nurse. Remember the flight on the aeroplane is often the least physical part of your journey, remember the hassle of finding a parking place, queuing at the check-in desk and waiting around can be very tiring, so it's worth bearing these things in mind before you book your holiday.

Holiday insurance can sometimes be a problem and some airline companies may ask for a medical certificate to say that you are medically fit to fly.

NB: Most travel insurance policies ask you to declare any medical condition you have been treated for in the past twelve months, so if in doubt ask before you travel.

When can I go back to work?

This very much depends on the job that you do. The best plan would be to discuss this with the surgeon either before you are discharged or at your out-patient appointment. Your Cardiac Rehabilitation Nurse may also be able to advise you. If your job is a desk job you may feel able to return to work after eight to twelve weeks. However, if you have a more physical job you may have to wait longer. The ward nurses can provide you with a sick note.

Can I have a bath or shower?

You can have a bath or shower as mentioned previously. However, when you first go home you may feel weak the first few times you attempt this so make sure someone is close by. Try not to use very hot water because this can effect your circulation and make you feel dizzy.

NUTRITION

Do I need to keep to a special diet?

After your operation it is important to eat as varied a diet as possible. Eating normal amounts of a wide range of foods will help your wounds to heal. It will also help you to get your strength and energy back.

What about the healthy eating advice I was given before my operation?

You may ignore the “Healthy Eating’ guidelines for the first few weeks following your operation especially if your appetite is poor. Choose foods which you find tempting.

In hospital, you may find that your appetite is very poor initially. This may be because you feel sick, are in pain or are constipated. If this is the case, please tell the doctors and nurses, as they may be able to give you something to help. If you still cannot manage more than half your meals within a few days of your operation, a dietician is available for help and advice. You may also be offered information to use when you get home.

What happens once I go home?

Try to eat meals that are of a normal size. If you cannot manage that or you find you are missing meals try eating small snacks e.g. biscuits and cheese, sandwich, yogurt, between meals.

There are lots of ways of making your diet healthier. However, there are three main areas that are important. These are:

1. Oily fish
2. Fruit and vegetables
3. Fat

Oily fish

Oily fish are rich in omega 3 oils. These can help to make your blood less sticky, reduce the risk of blood clots and help the blood to flow around the body more easily.

The most common oily fish are mackerel, pilchards, sardines, kippers and salmon. These can be fresh, frozen or tinned. (Tinned tuna is not a good source of omega 3s due to processing which removes the omega 3s). A portion is approx 4oz (100g).

Ideas to get you started:

- Sardines/pilchards on toast
- Tinned salmon sandwiches
- Salmon steak with potatoes and vegetables

The healthiest choices of tinned oily fish are those in tomato sauce or spring water rather than those in oil or brine.

If you are unable to eat oily fish, or you do not like it, then choose other foods which contain omega 3s. These are rapeseed or linseed oil, pine nuts and dark green leafy vegetables. Look out also for food which has omega 3s added to them like certain types of eggs, margarine spreads or milk. Remember that your body uses fish sources of omega 3 more easily than plant sources. Alternatively you could try a fish body oil supplement (not cod liver oil as this is from the cod's liver and not from the flesh of the fish). These are widely available in supermarkets. You should aim for 1 portion of oily fish a week and 1 portion of another type of fish.

Fruit and vegetables

These are an important part of keeping healthy. Aim for five portions a day. This should be a variety of fruits and vegetables. Fruit and vegetables contain antioxidant vitamins, minerals and fibre that can help to keep your heart healthy.

A portion is:

- 1 x apple, banana or nectarine
- 1 x handful of grapes, strawberries or cherries
- 1 x slice pineapple, pawpaw, mango or melon
- 2 x plums, satsumas or kiwis
- 3 x dried apricots, prunes or figs
- 5-6 x passion fruits or lychees
- 1 small glass of fruit juice (150mls) - this only counts once a day!

Or

- A small bowl of salad

Or

- One third of an aubergine or half a pepper
- 2 x florets broccoli
- 3 tablespoons of vegetables (these can be either fresh, frozen or tinned) like carrots, peas, sweetcorn, cabbage, beans.

Fresh, frozen, tinned and dried fruit all count towards your 5 a day. (Potatoes are starchy and therefore do not count towards 5 a day).

Five easy ways to 5 a day

- Breakfast: One glass of fresh fruit juice/vegetable juice
 One bowl of cereal with dried fruit
- Lunch: Salad in a sandwich
 Add salad or vegetables to a hot meal
 Piece of fruit as dessert
- Evening meal: Serve two types of vegetables with your main meal
 Tinned fruit in fruit juice and low fat yoghurt
 Stewed fruit
- Snacks: Try raw vegetable sticks like celery, carrots and cherry tomatoes,
 fresh fruit or dried fruit

Fat

Overall, you should be aiming to eat less fat which will reduce the amount of fat in your blood. There are two groups of fats: saturated and unsaturated. Try to replace saturated fat with monounsaturated fat where possible. However, remember to eat less fat overall.

Saturated Fats

Saturated fats usually come from animal products e.g. lard, dripping, ghee, cheese, cream, visible fats on meat and also coconuts. These fats tend to be solid at room temperature. Saturated fats can also be hidden in foods like pies, burgers, sausages, fried foods like samosas, cakes, biscuits and pastries. It is these fats which can be harmful because they raise your LDL or 'bad' cholesterol, so try to reduce the amount you eat.

Unsaturated Fats

Unsaturated fats in small amounts are thought to be better for us as they help to lower your LDL or 'bad' cholesterol. These usually come from vegetable sources. There are two types. One type is called **polyunsaturated**. These are found in sunflower, cornflower oil and margarines or spreads made from them. The other type is called **monounsaturated** and they can be found in olive, rapeseed, linseed and walnut oils. Polyunsaturated fats can lower your HDL or 'good' cholesterol as well as your LDL cholesterol when taken in large quantities, so always choose monounsaturated fats where possible.

Trans Fats

Trans fats are found in margarine, solid spreading fats and manufactured products that contain these, e.g. cakes, biscuits, etc. Trans fats are thought to behave in a similar way to saturated fats and are therefore harmful when taken in excess quantities. Try to avoid these when possible.

Ideas to help

- Use a monounsaturated spread instead of butter. Try olive oil based spreads, e.g. Utterly Butterly, St Ivel Gold, Bertolli or other olive oil type spreads.
- Oven bake or grill instead of frying.
- If frying then try to use olive, rapeseed or linseed oil instead.
- Buy leaner cuts of meats and remove the visible fat from meat before cooking.
- Skim excess fat off stews and casseroles.
- Remove skin from chicken and turkey.
- Choose low fat dairy products such as low fat cheese, low fat milk, low fat yoghurts.

How do I understand food labels?

Food labels can be confusing. Two ways to check if your food item is healthy are:

1. By reading the ingredients list. The biggest ingredient is listed first, so if a fat or fatty food (e.g. cream, cheese, butter, margarine or oil) is listed in the top five ingredients, then it is likely to be high in fat.
2. By checking the quantity of fat in a product by looking at the amount of fat per 100g. This can help you to compare two food items and choose the one that is the lowest in fat. As a rule, 3g (or 3ml) fat per 100g is low.

You can use the table below to work out how much of each nutrient is in 100g of your foods.

| A lot | A little |
|---------------------------------|---------------------------------|
| 10g of sugars | 2g of sugars |
| 20g of fat 5g of saturates | 3g of fat 1g of saturates |
| 3g of fibre | 0.5g of fibre |
| 1.25g of salt 0.5g of sodium | 0.25g of salt 0.1g of sodium |

Remember 'reduced fat' products can still be high in fat. Below is a guide to some of the claims you may see on food packaging and what they mean.

REDUCED FAT - e.g. 25% less fat - the product contains 25% less fat than the original. Remember to consider how much fat was in the original product!

LOW FAT - the product contains less than 3g fat per 100g/100ml.

FAT FREE - the product contains less than 0.1g fat per 100g/100ml.

To make a healthy heart choice, remember the amount of fat and the type of fat are the most important to check in order to eat for a healthy heart.

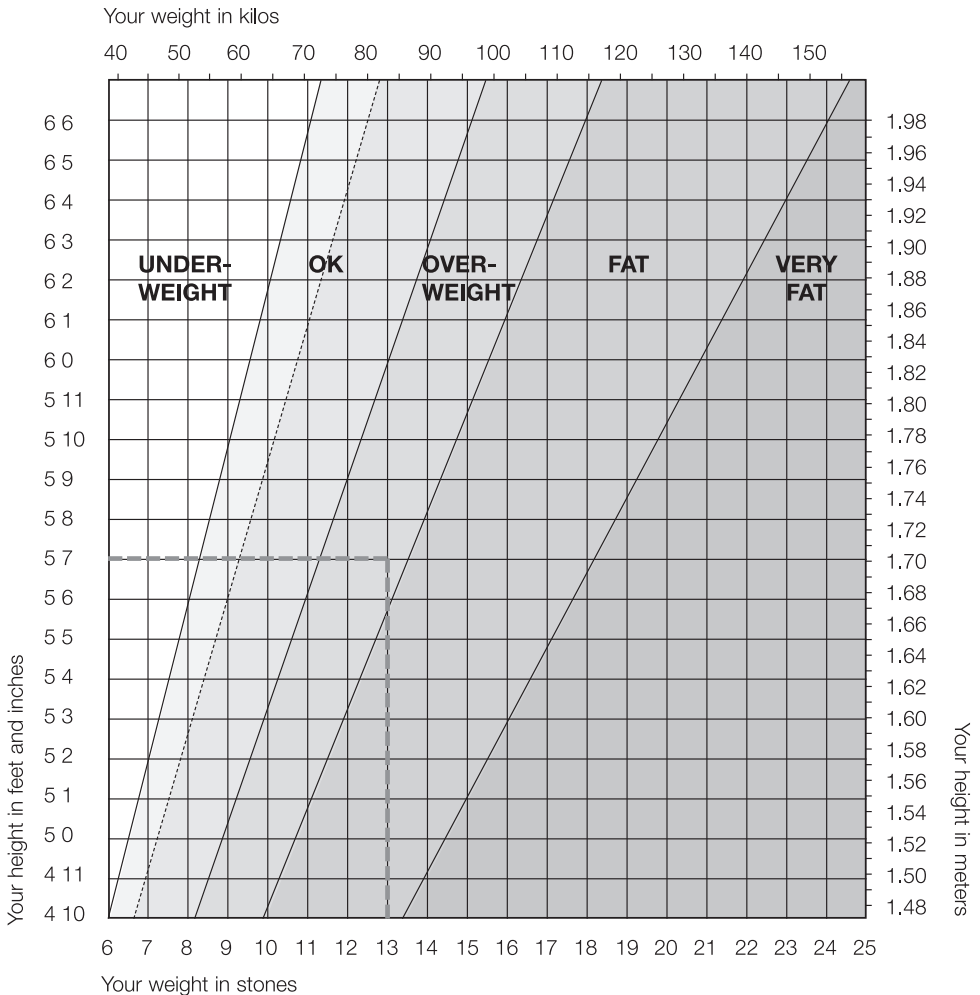
The following section includes some information about how to lose weight.

BEING OVERWEIGHT

If you are overweight, then aiming to reduce your weight by 10% is beneficial. For example, if you are 18 stone, aim for 16 stone or if you are 14 stone aim for 13 stone. This will reduce the strain on your heart and will help lower your blood pressure. If you follow the dietary advice to reduce fat intake, your weight should come down.

Look at the chart below to see where your weight falls.

Height and Weight Chart



You can reduce your energy intake by changing the snacks you eat (e.g. crisps, cakes, biscuits) to the fruits and vegetables suggested. Do not forget that all alcoholic drinks contain calories.

Be careful when choosing low fat foods as some can still be high in calories due to the amount of sugar in the food, e.g. fruit juices, reduced-calorie biscuits and low fat yoghurts.

You may notice that you tend to eat more when you are feeling worried, low in mood or bored. If this happens to you, try and find an activity or hobby that will take your mind off food or have a glass of water or no added sugar squash instead. Keeping a diary of what you eat and drink can also help you to find ways in which you can reduce the amount of energy you eat. The support of your friends and family is also important to help you to keep motivated.

See the following website for further details: www.bdaweightwise.com

ALCOHOL

Can I still drink alcohol?

It is thought that drinking alcohol in moderation can in fact protect your heart, especially in men over 40 and post menopausal women. Alcohol can raise the amount of good cholesterol in the blood, and make blood less sticky. However, alcohol intake which is above the recommended units can in fact be bad for the heart, causing certain heart conditions, high blood pressure and strokes.

What are the recommended units?

A unit of alcohol = half pint of (normal strength) beer, a pub measure of a spirit or a small glass of wine (125ml). Remember that many glasses of wine are bigger than this, so take care to check.

Figure 3: Units of Alcohol



The maximum recommended units are no more than two units per day for women with CHD (14 units a week) and three units per day for men with CHD (21 units a week). It is also advisable to have a couple of alcohol free days a week to give your liver time to recover and avoid binge drinking. Remember alcohol contains a lot of calories. High intakes of alcohol can lead to an increase in weight and in some instances, increased levels of triglycerides (fatty chemicals) in the blood.

Does it matter what type of alcohol I drink?

No, some studies have stated that red wine is best, but others have stated that it is the alcohol itself rather than beverage type that offers some protection. Compared with non-drinkers, people who drink light-moderate amounts of alcohol have lower death rates from CHD on average. However, remember that most beer nowadays is stronger than 'normal strength' which was usually about 3.5%. For example, a 440ml can of beer is often over two units. Check the strength on the label. People who are currently non-drinkers do not need to start drinking alcohol because of its reputed protective properties.

PHYSICAL ACTIVITY

This section will provide advice for you and your partner or carer about the importance of physical activity. It will also give guidance about how much activity and what type is recommended during the first few weeks at home after discharge from hospital.

What are the benefits of physical activity?

Being physically active:

- Reduces the risk of stroke, coronary heart disease, diabetes, osteoporosis and some cancers.
- Improves the circulation to the heart and the major organs.
- Helps keep blood pressure within normal limits (lowers raised blood pressure).
- Helps improve your blood cholesterol levels.
- Tones and strengthens muscles and keeps joints flexible.
- Helps to prolong independence amongst older adults.
- Enables you to do more with less effort as fitness improves.
- Helps you to maintain or to reach a healthy weight.
- Helps in the prevention and management of depression and anxiety.
- Improves psychological well-being (increases self esteem).
- Helps to prevent blood clotting.
- Helps you to sleep better and gives you more energy.
- Helps you to relax.

What sort of physical activity can I do?

Walking will have formed an important part of your hospital recovery and needs to continue as part of your rehabilitation when you return home. Your first walk at home should be a similar distance to that walked in hospital. It is important to gradually increase the time spent walking and then the speed.

How much should I do?

In the first six weeks of your recovery, you should be aiming to increase your walking to 30 minutes continuously. We recommend you use the 'Walk-Talk Test' to ensure that you do not over do it. This simply means that you should be able to talk and be active at the same time. Everyone has a different level of fitness and it is important that you exercise at your own pace.

You could try making a list of all the physical activity you do in your day, gradually working your way up to 30 minutes and increasing it by a little more each day.

Everyday Activity

This section is designed to help you return to everyday life after you come home from hospital. It is a guide only and you must remember that everybody recovers at different rates and has different levels of fitness. As with everything, you should start gently and build up gradually.

How much you feel able or want to do will depend on your usual daily routine. You may find it useful to break down a task into more manageable chunks - giving yourself more time to rest. If you experience pain or discomfort, stop doing the task.

Individual advice and guidance on work and leisure activities can be sought from the cardiac rehabilitation team.

The following provides some general guidelines for you.

For the first few days at home, keep to the same routine as in hospital. Get dressed, potter around the house, climb stairs slowly and rest when you need to. For the first six weeks do not lift anything heavier than a full kettle or pan of potatoes. You should also avoid lifting heavy shopping for at least the first six weeks.

Friends and relatives may wish to visit at this time, which may be enjoyable but also very tiring. Ask them to stay for short periods and limit the number of visitors.

First week at home

- Take things slowly.
- Stay around your home and garden. Potter around the house and walk in the garden, weather permitting.
- Climb stairs slowly - and rest if you need to.
- Return to gentle activities like sewing, reading and puzzles.
- Listen to music, watch TV.
- Make a light snack, do washing up.

Avoid

- Lifting, pulling, pushing anything heavy.
- Housework

Week 2

- You may try walking outdoors. Walk everyday if possible. Avoid going out if you feel tired or unwell, or if it is very cold or windy. Take a mobile phone if you have one. Start with five minutes once or twice daily and increase the time you spend walking by approximately five minutes at a time. Stop if you experience chest pains/discomfort which usually eases with rest.
- Light housework i.e. dusting, washing up, setting the table, preparing simple meals, tending indoor plants.
- Continue to rest for short periods if you need to.
- Enjoy visitors, but not for too long and not too many.
- It is fine to go shopping with somebody as long as you are not lifting anything or pushing a trolley.

Avoid

- Carrying shopping, lifting, pushing, pulling heavier objects, heavier housework, cleaning and gardening.
- Walking the dog on a lead for the first six weeks.

Week 3

- Walking - continue walking daily. By the end of this week you may be able to walk up to approximately half a mile.
- Begin light social activities - visit friends, go out for a meal.
- Continue to rest when necessary.
- Shopping - but avoid carrying heavy bags.

- Increase household tasks - ironing (with ironing board set up), light hand washing or machine washing - but gently.
- Make beds - but don't strip and change bedding yet.
- Making light meals.

Week 4

- Daily walking - continue to build up gradually. By the end of the week you may be walking up to a mile per day.
- Housework (as in Week 3).
- Access public transport.
- Social activities - cinema, social events.

Weeks 5-6

You should be managing most of your normal daily activities at this stage.

- Daily walking - between one and two miles and gradually increasing the time you spend walking.
- Housework - still avoid any heavy lifting.
- Washing/polishing car with regular breaks.
- Light gardening.

Avoid

- Continue to avoid lifting anything heavy (remember this includes your children or grandchildren).
- Activities which require lifting your arms above your head for long periods e.g. decorating ceilings, leaning out to high cupboards, leaning above shoulder height.

Weeks 7-8

You may be back to your usual level of activity

- Brisk daily walks of up to two miles (40-60 minutes).
- Activities such as dancing, cycling.
- Shopping - may start to lift slightly heavier weights if you need to.
- Housework - remember nothing too heavy.
- Light gardening.
- Driving (see page 19 for more advice).

8 weeks plus

Continue to increase the distance of your walks as you feel comfortable.

By now you may have started or will have a starting date for a cardiac rehabilitation exercise and health education programme.

What if I can't get out for a walk because the weather is bad, or I have to wait in for a delivery?

The following exercises are examples that you could try at home instead of going for a walk. Remember to start off slowly, gradually increasing your pace (see page 29 for further information).

Aim to begin with 30 seconds for exercises 1 to 4 and five 'sit to stands'. If you feel able, aim to do these twice a day.

When you can manage the exercises comfortably, gradually increase the time, e.g. from 30 to 40 seconds and five to seven 'sit to stands'.

1. Walk on the spot

Swing your arms, step your feet.



2. Toe taps

Alternate stepping forwards, tapping your left and right toes.



3. Step ups

Hold onto a rail for support. Step up onto the step. Step back down. Repeat.

Try holding on to the back of the chair or to the wall if you need a little more support with exercises 1 to 3.



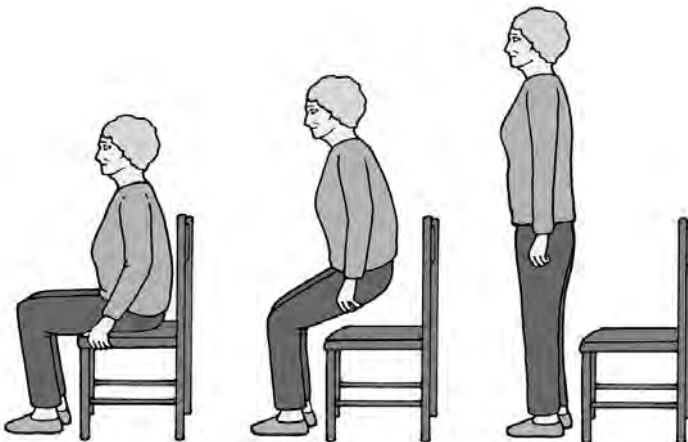
4. Shoulder Circling

Put your hands on your shoulders. Circle both arms forwards and then backwards.



5. Sit to stand

Sitting on a dining/kitchen chair. Feet on the floor, shoulder width apart. Stand up. Sit down slowly. Repeat.



Exercises too boring?

- Try walking on the spot whilst watching TV or making a phone call
- Put some of your favourite music on, or listen to the radio whilst carrying them out
- Try a step counter so you can see how much you are doing
- If the weather's bad, could you take a trip to an indoor shopping centre to do some walking?

Physical Activity Diary

You may find it useful to record your activities on a diary sheet. This will also be useful for the cardiac rehabilitation staff when you attend the exercise and education programme.

Diary Sheet example

| Day | Activity | Time | Comments/how it felt |
|-------|---------------------|--------------------------|---|
| Sat | Shopping | 25 mins | Easy |
| Sun | Walk | 20 mins | Bit puffed up the hill but could still talk |
| Mon | Gardening - pruning | 15 mins am 10 mins pm | No Problems |
| Tues | | | |
| Weds | | | |
| Thurs | | | |
| Fri | | | |

For your safety please avoid the following:

- Exercising during periods of illness, if you feel unwell, or have a temperature.
- Drinking alcohol and being physically active.
- Engaging in physical activities for at least an hour after eating.
- Having a very hot or a very cold bath or shower after activities.
- Being active in extremes of temperature, (e.g. in very cold weather, wrap up warmly and walk at a slower pace. This is because the heart has to work harder in these conditions.
- Sudden excessive physical activity.

Remember it is important to:

- Always warm up and cool down.
- Wear comfortable clothing and footwear with low heels.
- Reduce intensity of any physical activity following illness or a break.
- Gradually build up your activity levels.
- Increase your fluid intake on hot days.
- Make physical activity part of your daily routine.
- Find a long term physical activity you enjoy.
- Mention any concerns you have about sexual activities to your cardiac nurse or doctor.

During physical activity it is normal to:

- Feel yourself breathing harder than normal.
- Feel warmer during and after the exercise.
- Feel your heart beating slightly faster.

You should still be able to talk whilst exercising and feel that you could keep going at this level for some time. The key is to exercise without over exertion.

- If you feel well and pain-free following your exercises, do not be tempted to continue as prolonged exercising will not speed up your recovery.
- Do not exercise (or continue to exercise) if you are experiencing any of the following: chest, arm or jaw pain, nausea, excessive breathlessness, palpitations, excessive sweating, muscle cramps, feeling faint or dizzy.
- Should you experience difficulties with any aspects of the home programme do not hesitate to contact your cardiac rehabilitation team as alternative exercise programmes and physical activities can be discussed.

If you were not very active before your hospital stay or you suffer from a condition which restricts your level of activity, e.g. arthritis, you may need to progress at a slower pace.

What is the cardiac rehabilitation exercise and health education programme?

Programmes are run in Leeds community leisure centres and within the Leeds Teaching Hospitals. Check with your Cardiac Rehabilitation Nurse as to which will be the most suitable programme for you to attend. You can attend from about six weeks onwards after discharge from hospital. You will usually have an outpatient appointment with your Consultant prior to starting the programme.

What does it involve?

It involves a supervised exercise session once or twice a week for six to eight weeks depending on the programme. The exercise sessions take about an hour, followed by a talk and a chance to ask any questions. You will spend approximately two and a half hours at the programme each time.

The talks may include:

- How the heart works
- Medication
- Physical activity
- Psychology talk and questions
- Healthy eating

You will be invited for an introductory visit to meet the cardiac rehabilitation staff and for the Physiotherapist/exercise professional to design an individual exercise programme for you.

When can I return to my sports and hobbies?

Everyone is different and therefore has different recovery rates, so please ask your doctor or a member of the cardiac rehabilitation team. Participating in the exercise and health education programmes will also give you the opportunity to seek advice from the team about this issue.

Hobbies

Remember as with any activity, start gently and build up gradually. If you experience any pain or discomfort whilst exercising or have any questions, consult your Cardiac Rehabilitation Nurse.

Walking

You may start walking as soon as you get home from hospital. Start by walking indoors and distances that you could manage in hospital. Gradually increase the distance and progress to outdoors, as you feel comfortable.

Gardening

After a month you can start light gardening, such as weeding, but avoid prolonged bending. No digging or heavy work until you have full wound healing at about 12 weeks.

Swimming

You may return to swimming after 12 weeks providing there are no wound healing problems. Swimming is a good all round exercise, especially for those who are overweight or have joint problems.

Cycling

This is a good exercise for increasing leg strength and overall stamina. After 12 weeks you may start cycling on paths and quiet roads, progressing as you feel confident. If you have an exercise bike you may start this after 8 weeks.

Fishing

Use shorter, lighter rods if possible to begin with. If you intend to row a boat then you must wait at least 12 weeks.

Golf

Start with putting and progress to pitching, no driving until 12 weeks - to allow for full bone healing. Begin with 9 holes and progress to 18, as you feel comfortable.

DO NOT ATTEMPT rugby or any contact sports without permission from your Consultant or without seeking advice from your Cardiac Rehabilitation Nurse.

Exercise is for life!

Any extra physical activity you can add into your life above 30 minutes a day can significantly benefit your health.

Why not try..?

- Walking to work
- Parking your car further away from the shops
- Getting off the bus one or two stops earlier
- Using the stairs instead of the lift or escalators
- Using the television remote control less

If you alter your lifestyle in this way and then exercise regularly, you will notice how much more you can do with less effort. You will enjoy all the benefits of exercise and may meet new people.

It is very important whilst choosing an exercise to find one you enjoy, so you are more likely to continue with it.

The exercise and health education programme will be able to encourage and help you with your future exercise levels, so until then try including more activity into your daily routine.

Breathlessness

Is it common to become breathless when walking or doing tasks?

It is quite normal to breathe a bit harder than normal when you are physically active. If you get breathless when physically active, pacing your activities or resting usually helps. Sometimes people find they get very worried about breathing a bit harder than usual. This worry can lead to the body becoming tenser which may make relaxed breathing more difficult. Recognising when breathing harder is normal and learning how to relax can both be of help if you think this applies to you.

How do I know when I should ask for help?

Everyone gets a bit breathless at times if they have to do something they're not used to and find it a bit of a challenge. However, if you find that you are experiencing any of the following, please seek help:

- The breathlessness comes on suddenly
- Is different from normal
- Does not go with rest
- Comes on when you are not active
- Or, if you find that you are gradually getting more breathless over a few days.

DIABETES

What is diabetes?

Diabetes is when either the body does not produce enough insulin, or the insulin that is made does not work properly. This means glucose (sugar) cannot get into your cells. Glucose stays in your blood, causing the level of glucose to be too high. Diabetes can develop later in life, usually after the age of 40.

This type of diabetes (Type 2) is strongly linked with being inactive, over-weight and where there is a family history of diabetes. In certain populations it occurs more often. This is particularly true of people of South Asian and African-Caribbean origin living in this country.

You can greatly reduce the risk of developing Type 2 diabetes by taking regular exercise and controlling your weight.

What effect does diabetes have on the heart?

Diabetes appears to affect the heart in different ways:

- High glucose levels in the blood affect the walls of the arteries, making them more likely to develop atheroma.
- Diabetes can affect the heart muscle itself, making it a less efficient pump.
- It increases the damage done by smoking, high blood pressure and high cholesterol.
- People with Type 2 diabetes often have high triglyceride levels and low levels of HDL cholesterol (the protective type of cholesterol).
- It can affect the nerves to the heart, so symptoms are not felt in the usual way (some patients with diabetes do not feel any pain with a heart attack). This can lead to difficulty and delay in diagnosis of a heart attack if you have diabetes.

What can I do about it?

Diabetes cannot be cured, but it can be managed and controlled. There are two main aims of diabetes treatment. One is to resolve the symptoms of diabetes, and the other is to prevent the complications which diabetes can cause.

Diabetes can be controlled by one or more of the following: diet, physical activity, tablets and insulin.

If you have diabetes, you are more than twice as likely to have a heart attack or stroke as someone without diabetes. Your risk of a heart attack is the same as someone who has already had a heart attack.

People with diabetes have a higher chance of also developing high blood pressure, circulation problems, nerve damage, damage to the kidneys and the eyes. The risk is particularly high if you are also overweight, smoke and are not physically active.

You can greatly reduce your risk of developing any of these complications by controlling your blood glucose, blood pressure, eating a healthy diet and taking regular exercise. It is important to attend your regular check ups, where you will have blood glucose, blood pressure, kidney function, eyes and feet checked.

You will have had a routine blood test for glucose whilst in hospital.

Further information on diabetes is available on request.

YOUR EMOTIONAL RECOVERY

Many people find waiting to come into hospital for heart surgery stressful. You might feel relieved that the operation is over. Or, you may be reading this having come into hospital suddenly because you became unwell and needed the surgery quickly. Not having much time to prepare yourself can be a challenge as you start to recover.

People sometimes think that stress and worries can lead to a person having heart problems. However, there is little scientific evidence to support this. It is true that people who are under high levels of stress are likely to smoke or drink more, both of which add to risk. The stress itself is not thought to be problematic.

The following are a few questions that other people who have had heart surgery have asked and which you might find helpful as you recover.

I feel really emotional and become upset really easily. Is this normal?

It is quite normal to feel very anxious or nervous after a heart operation. This is because of everything that you have been through and feeling more emotional is your mind's way of processing what has happened. This can mean that you become tearful easily and may feel a bit down. Or you might notice that you get angry or irritated with things you had been able to cope with before. It is important to remember that there is no right or wrong way to feel. You might find that talking things over with family or friends can help. Or you might prefer to speak to a health care professional such as your Cardiac Rehabilitation Nurse.

My family won't let me do anything. Do you have any advice on how I cope with this?

It is common for partners and family members to try to over-protect people who have had heart surgery. It is natural to feel worried and want to help. However, it is easy to become over-protective and try to wrap someone in cotton wool. Early on, this can be helpful as you may feel tired and will be limited in how much you can physically do. As you get stronger, you might feel frustrated that you can't do everything you did before the operation, this is a normal emotional reaction. You may also find you become frustrated by the efforts of those around you to help. Rather than respond when you are feeling frustrated, it is often more helpful to find a time when you are feeling relaxed to explain how you have been feeling. It can also be helpful to say things like "I understand that you are trying to help, but I need to do some things myself so I can gradually build up my confidence and strength". If things do not change, your Cardiac Rehabilitation Nurse can give you and your family further support and advice.

I'm really struggling to sleep since I had my operation. Is there anything that will help?

It is common to struggle with sleep after a heart operation. You may also feel more tired than usual. Sometimes it takes a little while to get into a comfortable sleeping position because of the scar and it may take a while to get used to this. Being in hospital can also disturb your sleep pattern and any worries you might have can also make it harder to get off to sleep at night. The good news is that there are lots of things that can help to improve your sleep.

- **Sleep environment** - it sounds obvious, but if your bed is uncomfortable you may find that your sleep is disturbed. To feel more comfortable, some people find they need extra pillows at night. If your room is too hot or too cold, or not light or dark enough, this can also disturb your sleep. It is worth seeing if there is anything that will make your bed and your bedroom a more comfortable environment.
- **Physical activity** - being physically active is one of the most important things that you can do to improve your sleep pattern. Taking a gentle walk each day as part of a regular routine can help you get a good night's sleep.
- **Bedtime routines** - it is common for people who have sleep problems to link going to bed with worrying about sleep or lying awake. Use the hour or so before bedtime to unwind and relax. This might mean having a warm bath, reading, practising relaxation or listening to music (try to make sure it is restful though). Next, do the things that you would normally do when bedtime is approaching, such as bathroom routines and so on. Although it may be tempting to go to bed early if you have been struggling with sleep, this does not tend to be helpful. It is better to go to bed when you feel sleepy, rather than going to bed early then lying there worrying about whether or not you will sleep.
- **Reduce daytime naps** - in the early stages of your recovery, it may be helpful to have a rest during the day if you feel particularly tired. As you recover, try to slowly reduce the time you spend napping during the day.
- **Food and drink** - eating a heavy or spicy meal before bedtime can interfere with your sleep, so it may be better to eat earlier on in the evening.

Caffeine is a stimulant which can keep you awake even if you take it two or three hours before you go to bed. It is found in coffee, tea, chocolate and in some pain killers and cold remedies - check the ingredients on any medicines you buy from the chemist. It may be worth cutting down the amount of caffeine you have during the day.

Nicotine (found in cigarettes and tobacco) can also prevent you from sleeping well. If you smoke, if possible try not to smoke within several hours of bedtime.

Alcohol can also cause disturbed sleep, although some people find a small amount (about one unit, e.g. a single measure of spirits, half-pint of beer or a small glass of wine) can help them to relax and feel drowsy enough to sleep. However, it is generally better to avoid alcohol if you have sleep problems. Large amounts in particular can cause you to wake within a few hours and then struggle to get back to sleep.

Why do I keep feeling sensations in my chest and my heart beating since the operation?

Most people feel the odd ache or twinge in their bodies, but often don't pay them much attention. After any kind of heart problem it is common to become more aware of your heartbeat (palpitations) or to feel twinges in your chest. If you speak to other people who have had heart surgery, they often say the same thing. Over time, the awareness of these sensations slowly reduces, but it is worth remembering that this is perfectly normal.

I've been struggling to concentrate on things since my operation. Why is this?

It is normal for people to get problems with concentration after their heart operation. This can mean that activities like watching TV or reading becomes slightly less enjoyable for a while. Some people also find that their co-ordination isn't as good as it was. For example, using a knife and fork can become more of a challenge. Both problems usually sort themselves out after about a month or so. However, please let your Cardiac Rehabilitation Nurse know if you are worried or if they do not start to improve.

Pacing Yourself

As part of your recovery, it is important to get back to doing things that you enjoyed before. The rate at which different people are able to do this will vary, and you should follow the advice of your Cardiac Rehabilitation Nurse, Doctor, Physiotherapist or Fitness Instructor, as to how much you should be doing and how soon you should be doing it.

For some people, the worry caused by having heart problems stops them from activities they previously enjoyed, even after they have been told that they can do them. If you find yourself doing this, here is some advice you might find useful.

- Set yourself a target. For example, some people want to get back to doing the gardening or jobs around the house. Break the target down into smaller chunks. For example, you may decide that weeding a whole flowerbed would be too much. Think about how much you might be able to do without becoming tired. If this is five minutes of dead-heading flowers, have a go. Be prepared to stop if it

gets too much. If you found it easy, think about doing a bit more next time, e.g. 10 minutes. However, make sure you do not do more than you had planned to do one day as rushing into things can make you feel more tired.

- You may be worried about going out alone straight away. Try going somewhere nearby with someone else the first time. When you feel okay about doing this, go some of the way on your own and then gradually do more to build up your confidence.

How about the future?

For some people, recovering from a heart operation can be the start of some positive changes. Many people become a lot fitter and may decide to take up new activities such as swimming or walking, which they had not thought of before. Others realise the importance that some things - and some people - have to them and are determined to make time for themselves to do things they enjoy. Worrying will not bring on heart problems, but people often realise that they would like to be less stressed and do something about it. Many people get a real sense of achievement from doing something positive to feel healthier.

How can the cardiac rehabilitation team help me?

After your surgery, it is important that you feel supported in getting back your confidence. There may be a lot of information to remember when you first come out of hospital. Your Cardiac Rehabilitation Nurse can help you with any questions you may have about your recovery.

If you have been invited to attend an exercise and health education programme, you will receive further support and advice from the members of the team as well as meeting other people who are also recovering and making positive changes to their lifestyles.

RISK FACTORS FOR HEART DISEASE

The cause of CHD is unknown. However, there are a number of factors which can increase your risk of developing heart disease. These are known as risk factors.

Some risk factors cannot be changed. These are known as *unmodifiable risk factors* and include:

- **Family history** - CHD can run in families
- **Age** - The risk of developing heart disease increases with age
- **Gender** - Men over 45 on average are more at risk. Women are protected by the hormone oestrogen until after the menopause, then women become as vulnerable to heart disease as men
- **Ethnic origin** - People from the South Asian population are more at risk of developing heart disease

Fortunately, you can control many of the factors that contribute to the narrowing of the coronary arteries. These are known as modifiable risk factors as they can be changed. This will reduce the risk of further problems. Your Cardiac Rehabilitation Nurse can help you set realistic, achievable goals to reduce the risk factors that apply to you.

Modifiable risk factors

These will be discussed in detail in the following pages. If you would like further information about risk factors, speak to your Cardiac Rehabilitation Nurse or Doctor. The modifiable risk factors for CHD include:

- Smoking
- High blood pressure
- Cholesterol
- Diet & lifestyle
- Being overweight
- Alcohol
- Lack of exercise
- Diabetes

Smoking

Stopping smoking is the single most important thing you can do to improve your health.

How does smoking affect my health?

When you smoke, the chemicals released into your body make your blood sticky. This causes fatty deposits called atheroma. Your heart then has to work harder to get the oxygen and nutrients it needs. When too many fatty deposits build up inside the artery, it can rupture which leads to a clot. The clot can then block the flow of blood to the heart.

Smoking tends to increase your blood cholesterol levels. It reduces the HDL (the good cholesterol), thereby increasing the LDL (bad cholesterol). See page 47.

When you smoke a cigarette, the burning process produces a gas called carbon monoxide. This gas is poisonous. In the body it sticks to the red protein of blood cells, making the blood less able to carry oxygen. This will starve the heart of vital oxygen and nutrients.

Nicotine, in cigarettes, stimulates the body to produce adrenaline. This makes the heart work harder and can raise blood pressure. The high nicotine levels in cigarettes are the addictive part of the cigarette.

There is a close link between smoking and an increased risk of heart disease. From the moment you stop smoking the risk of having a heart attack starts to reduce.

After just 24 hours of stopping, carbon monoxide is eliminated from your body and after 48 hours there is no nicotine left. After one year of stopping, the risk of a heart attack is halved.

Other benefits from stopping smoking are:

- Reduced strain on the heart
- Improved breathing
- Reduction in blood pressure
- Improved circulation to hands and feet
- Improved smell and taste

Is there any support that can help me stop?

- Whilst in hospital you can ask any of the ward staff for advice or help or ask to see the hospital specialist advisor. You will be supported in your quit attempt and that support will continue when you get home.
- You could start your quit attempt once home. Leeds Smoking Services (LeSS) run quit groups all over Leeds or you can see if your GP practice can help. LeSS can also do home visits or arrange for one-to-one support.

To find out more, ask the ward staff, your Cardiac Rehabilitation Nurse or phone Leeds Smoking Services on 0800 169 4219.

When you make the decision to stop smoking, you will be given advice on preparing to stop and how to cope once you have stopped. You will also be advised on drug treatments recommended to help you.

Nicotine Replacement Therapy (NRT) and Zyban[®] (Bupropion)

NRT replaces a small amount of the nicotine that you used to get from cigarettes. It is the addictive nature of nicotine that makes it hard for many people to quit. NRT provides you with some help with that addiction and allows you to deal with the habit side to smoking. NRT is well researched and if used correctly will double your chances of success. Remember, it is safer than smoking.

There are six types of NRT:

- Patch
- Gum
- Lozenge
- Microtab
- Nasal Spray
- Inhalator

Your smoking cessation advisor can advise you on which types of NRT can be combined.

There is also a drug called Zyban[®]. However, it does not combine well with other medication and you will need to seek medical advice before starting this treatment.

NRT and Zyban[®] are available on prescription. NRT is also available to buy over the counter at pharmacies or larger supermarkets. However, it is recommended that you get support from a smoking cessation advisor as this will also improve your chances of success and stopping smoking for good.

High Blood Pressure

Blood pressure is the force that circulating blood puts on the artery walls. When blood pressure is high, there is more pressure on the artery wall than usual. Some people have high blood pressure and do not know they have it.

This extra pressure damages the smooth lining of the arteries and makes it easier for cholesterol and fat to build up along the artery walls. As the arteries become clogged with these fatty layers (atherosclerosis), less blood gets through. This causes the heart to beat harder as it tries to pump blood through narrowed arteries. If untreated, high blood pressure may in time damage the heart, brain and kidneys. It is a leading cause of heart attacks and strokes, heart or kidney failure.

The exact cause of high blood pressure is not fully known for many people. High blood pressure can be treated and lowered with medication.

How do I control blood pressure?

- Get your blood pressure checked as often as your doctor suggests
- Stop smoking
- Take your medications regularly as prescribed
- Reduce your salt intake and try to avoid processed, convenience and fast foods
- Fruit and vegetables provide us with a good source of potassium which can help control your blood pressure. Aim for five portions a day.
- Reduce stress by learning ways to relax and by exercising
- Lose weight if needed. The heart pumps harder to supply an overweight body with blood and oxygen.

- Reducing your salt intake can help control blood pressure
- The easiest way to do this is not to add salt at the table or in cooking

Cholesterol

Cholesterol and triglycerides are fatty chemicals in the blood. The liver makes them from fats in foods. There are two main types of cholesterol; LDL 'bad cholesterol' which carries cholesterol from the liver to the rest of the body, and HDL 'good cholesterol' which returns excess cholesterol to the liver.

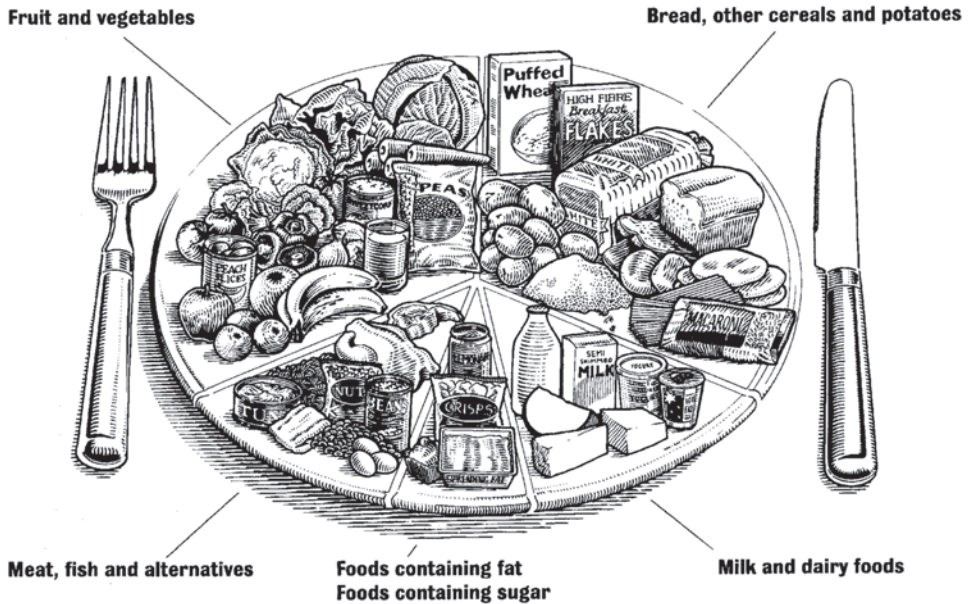
If you have high levels of cholesterol and triglycerides, your risk of CHD is greater. High levels of LDL cholesterol stick to the walls of your arteries and make plaque. This plaque blocks the arteries, interfering with the blood flow which can make a heart attack more likely.

Many people with high blood cholesterol will only need advice about diet, a healthy lifestyle and possibly future blood cholesterol monitoring. The next section provides information about diet. For others, particularly those who have an inherited type of high blood cholesterol or other risk factors for CHD, different blood tests and simple medical investigations may be needed. If this applies to you, effective medications in the form of statins are available. The treatment for high cholesterol is now as routine as that of other common conditions. Treating raised blood cholesterol is a positive way you can do something to avoid future heart problems.

The aim of cholesterol lowering medication is to reduce your cholesterol by 30%. It is recommended that once starting this medication, you have your cholesterol checked after three months and then at least yearly, unless advised otherwise. This can be carried out by your local practice nurse.

Diet: Getting The Balance Right

Overall dietary balance is important. No single food contains all the essential nutrients the body needs to be healthy and function efficiently. A balanced diet should include a variety of foods. The illustration below represents each of the five food groups and gives a guide to the proportions of food we need to achieve a balanced diet.



Breads, other cereals and potatoes

Ideally, each meal should be based on starchy foods. Starchy foods are bulky, low in fat and often high in fibre. They provide us with energy and also provide some calcium, iron and B vitamins. This group also includes rice, pasta, noodles, beans and lentils.

Fruit and vegetables

Aim to eat five portions of fruit and vegetables each day. Choose a variety; fresh, frozen and tinned all count! These foods provide us with important antioxidant vitamins and minerals such as potassium and folic acid. They are also an excellent source of soluble fibre. Fruit and vegetables are low in fat and calories, so they make the ideal snack!

Milk and dairy products

Where possible try to choose low fat varieties. These foods provide us with a good source of protein, calcium and some fat soluble vitamins. This group includes milk, cheese, fromage frais and yoghurt.

Cream, butter and eggs are not dairy products.

Meat, fish and alternatives

This group provides us with a good source of protein, iron, B vitamins, zinc and magnesium. Try and choose lean cuts and low fat alternatives where possible. You can include your oily fish in this group, which is an excellent source of omega 3 fatty acids. This group includes eggs, nuts, textured vegetable protein, beans, lentils and tofu.

Fat and sugar rich foods

These foods should be eaten in small quantities. They provide excess calories and fat which can contribute to weight gain. Too much sugar, can raise your triglycerides (fatty chemicals in the blood). The group includes butter, fat spreads, biscuits, cakes, ice cream, sweets, chocolate and fizzy or sweetened drinks.

GLOSSARY OF TERMS

Angina

Medical name for pain in your chest. It might include feelings of chest heaviness or tightness that may spread to the arms, neck, jaw, face, back or stomach. Caused when the coronary arteries are narrowed.

Atheroma

Fatty deposits inside the arteries.

CAD

Coronary Artery Disease

Cholesterol

A fatty chemical in the blood which includes LDL (Low Density Lipoprotein), the 'bad' cholesterol and HDL (High Density Lipoprotein), the 'good' cholesterol.

Electrocardiogram (ECG)

A test that records the rhythms and electrical activity of the heart.

Heart attack (Myocardial infarction)

When blood supply to the heart is blocked by a blood clot. The symptoms usually last for more than 30 minutes and may last for many hours.

Heart failure

A condition where the heart muscle is weakened, therefore not pumping blood around the body as well as it could. This can lead to symptoms of breathlessness, swelling of the feet and ankles.

Pacemaker

A small electrical device that is surgically implanted to regulate an abnormal heart rhythm.

CARDIAC REHABILITATION NURSES

You should have been given the contact number of your Community Cardiac Rehabilitation Team either before your surgery or prior to your discharge home.

Your Cardiac Rehabilitation Nurse can offer you:

- ongoing support
- an individual risk factor assessment
- assistance with any modification to your lifestyle
- further information regarding coronary artery disease or valve disease
- further information on your recent surgery

Please do not hesitate to contact them for further information. They have a 24 hour answerphone where, if they are not available, you can leave a message.

Edited & compiled by Cardiac Rehabilitation Nurses

*We would like to thank the following people
for their contributions in compiling this booklet:*

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Anna Hutchinson: Senior Physiotherapist

Karen Jackson: Staff Nurse

Rachel McCall: Dietician

Penny Morris: Clinical Psychologist

Colin Pullan, MBE: Chairman Take Heart

Kath Robertson: Physiotherapy Clinical Specialist

Helen Rowbotham: Senior Sister

Caroline Senior: Cardiac Rehabilitation Nurse

Sean Willis: Staff Nurse

Notes:

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Membership Application

Membership of Take Heart is open to anyone for a once only fee of £1.50. In return you will receive a regular newsletter and the opportunity to participate in the club's activities.

Title:Surnames(s):

First Names: Member 1:

Member 2:

Address:

..... Postcode:

Telephone:

An attractive club badge is available at £1.00. Please indicate the quantity required in the box shown and add the cost to the Membership fee.

No of Badges required:

I enclose a cheque/postal order for £..... payable to TAKE HEART

Donation Form

Donations should be sent to: The Secretary, Take Heart, The Yorkshire Heart Centre, 'F' Floor, Jubilee Wing, The General Infirmary at Leeds, Leeds LS1 3EX.

I would like to make a donation of £..... to TAKE HEART

Name:

Address:

..... Postcode:

If you are a UK taxpayer, the Charity can benefit further from your donation.

If you would like further details, please tick this box:

PLEASE MAKE ALL CHEQUES PAYABLE TO TAKE HEART

Donations are always welcome and will be acknowledged, and published in our newsletter

*Please send completed Membership/Donation Forms to:
The Secretary, Take Heart, The Yorkshire Heart Centre, 'F' Floor, Jubilee Wing,
The General Infirmary at Leeds, LS1 3EX. Tel: 0113 392 2888. Fax: 0113 392 5222.*

Registered Charity No. 1002063



We Are Take Heart

Take Heart is a small, but professional charity, run on a completely voluntary basis, raising funds exclusively for the Yorkshire Heart Centre at Leeds General Infirmary, St James's hospital and its units within The Leeds Teaching Hospitals NHS Trust. We were founded in 1989 by a small number of heart patients wishing to return something for the excellent care received.

From a small beginning, we have raised over three million pounds and this has been used to provide comfort and enhance the surroundings for the many thousands who visit the centre every year. We have also made significant progress in supporting staff in their work and improve their working environment.

Some of the major achievements of the charity are the provision of a suite of relatives rooms available free of charge when required, a roof garden providing a peaceful area for patients and relatives, and an internal garden. We provide free bedside television, free telephone calls and free internet for all patients on the heart wards and we have recently provided changing rooms for an additional MRI scanner. Take Heart have refurbished most waiting areas and made sure that patients enjoy comfort of the highest standard. We also fund information booklets (such as the one you are now reading) which are available in all the Heart Centre wards.

Look around and you will see that all the bedside furniture in the heart wards was provided by Take Heart. We also provide equipment to help bring the latest technology into the centre which, in some cases, helps to reduce waiting times. Our latest major projects include two new portable echo machines and an Intracoronary Optical Coherence Tomography Scanner, (catheter-based invasive imaging systems using light rather than ultrasound for detailed examination of stents), costing in excess of £165,000 and complete refurbishment of the Roof Garden and spent some £60,000 on a major refurbishment of Ward L16.

Take Heart funds are raised in many ways - through donations - events - sponsorship, and bequests, mainly through its thousands of members and supporters.

We would love you to become a member of Take Heart. As a member, you will receive our newsletter about five times a year and if you wish to take part in anything, this is absolutely at your choice. Please note that you will never be bombarded with follow-up mail. You can join by going to our web site www.takeheart.net or picking up a form from any ward reception area.

Use your SmartPhone to visit our website > > >



Colin Pullan, MBE
Chairman, Take Heart.

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Registered Charity No. 1002063

Raising funds exclusively for the
Yorkshire Heart Centre
at Leeds General Infirmary,
St James's Hospital
and its units within the
Leeds Teaching Hospitals NHS Trust

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