NHS
Wrightington, Wigan and Leigh Teaching Hospitals
NHS Foundation Trust

Heart Pack

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The Heart Pack

Patient Information

Community Cardiac Rehabilitation Service

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Introduction

The Heart Pack is a comprehensive information pack for patients who have had a heart attack. It explains what a heart attack is, what the causes of a heart attack are and how you can reduce your risk of having another heart attack.

There is a lot of information in the Heart Pack. You do not need to read the Heart Pack from start to finish, it is designed to read in sections that maybe important / relevant to you. You can always re visit sections as required. Please discuss any of this information with your cardiac rehabilitation team if you need any further information / explanation.

Aims

To help patients recover physically and psychologically after a heart attack and reduce the risk of having another heart attack.

Risks

No risks identified.

Benefits

The heart pack can help reduce the risk of further heart attacks by increasing knowledge and understanding of heart disease. It explains the follow up you can expect following discharge from hospital and the services offered to you to aid your recovery.

Useful Contacts
Cardiac Rehabilitation Team

Specialist nurses

Physiotherapy

Occupational therapy

Telephone: 0300 707 1170

Cardiology Department

Main line Telephone: 0300 707 2445

CDC Telephone: 0300 707 4310 – **Patient answer phone / cancellation line only**

Coronary Care Unit Telephone: 01942 822387

Coronary Heart Disease

Coronary heart disease (CHD) is the build-up of fatty plaques within the coronary arteries, causing them to narrow. The coronary arteries supply the heart muscle with oxygen-rich blood, so it can work effectively. CHD can present as angina, unstable angina, or a heart attack. Unstable angina and a heart attack may also be called Acute Coronary Syndrome or ‘ACS’. These can exist independently, or one may lead to another. For example, angina may progress to unstable angina or to a heart attack. By altering your lifestyle, you could reduce the risk of this happening.

You have an increased risk of coronary heart disease with any of the following risk factors:

- Increasing age
- Gender
- A family history of coronary heart disease
- South Asian origin
- Smoking
- High blood pressure
- High cholesterol
- Diabetes
- Lack of exercise
- Being overweight
- Unhealthy eating
- Excess alcohol intake
- Stress

Heart Attack

The medical term for a heart attack is a Myocardial Infarction (MI). An MI is diagnosed by symptoms, an electrocardiogram (ECG) and a troponin blood test. This is a protein that is released onto the blood stream during a heart attack. An MI is caused by a reduction in the blood supply to the heart muscle, this is usually due to a build-up of fatty plaques in the

arteries causing narrowing’s or blockages. Fatty plaques can become inflamed and rupture causing a blood clot to form, leading to a blocked artery.

This reduction in blood flow prevents blood and oxygen reaching an area of the heart, which can cause damage to the heart muscle. Depending on the degree of damage, this may lead to heart failure. The rest of the heart muscle remains undamaged and continues to work normally. You may be referred to a heart failure specialist nurse if you have severe heart failure.

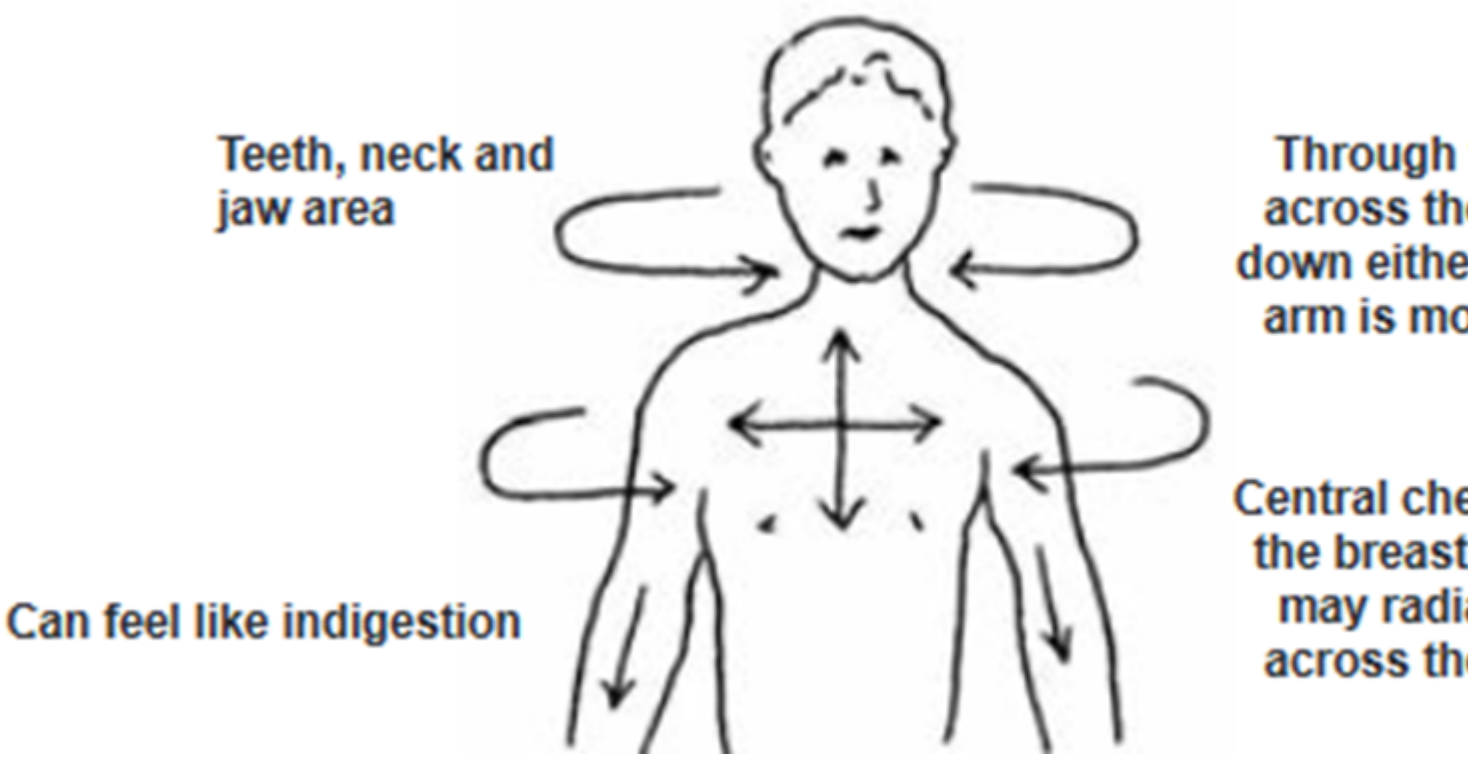
There are other causes of MI's such as blood loss or abnormal heart rhythms.

It can also be due to a dissection or tear in the artery, a spontaneous ‘bruise’ (bleed) in wall of the coronary artery. The blood squashes the artery from the outside reducing the blood flow to the heart. This is known as SCAD (spontaneous coronary artery dissection). If this was the cause of your MI further information can be found at beatscad.org.uk

The Heart Pack focuses on coronary heart disease (narrowed arteries) as this is the most common cause of MI's

Chest Discomfort

Heart attack and angina symptoms can be similar. ‘Heart pain’ can also feel like indigestion, muscular pain, or a chest infection. The pain or discomfort is usually experienced in the central chest area and may radiate to the neck, jaw, shoulders, arms, or through to the back. It may vary in severity, from nagging discomfort to severe pain. It may feel heavy, tight or there may be a burning sensation. Pallor, nausea, vomiting, breathlessness or a cold, clammy sweat can accompany heart attack pain. Symptoms may occur at rest, during activity or wake you from sleep.



Some people do not get chest pain / discomfort but may have some of the other symptoms described.

Pain / discomfort may occur in any of these places.

What To Do If You Experience Chest Discomfort

If you experience chest discomfort or symptoms like those you felt with your heart attack:

- Stop what you are doing; sit down if possible.
- Take 1-2 puffs (as prescribed) of GTN spray under your tongue.
- Wait five minutes.

- If you still have chest discomfort after five minutes, take 1-2 more puffs (as prescribed) of GTN.

- Wait five minutes.

- If the chest discomfort has not completely gone, **phone 999 (not 111) for an ambulance** (ask for Paramedic crew).

- **Never drive yourself or ask family/friends/taxi to take you.**

- The sooner you get help, the sooner the treatment can start, which may reduce damage to the heart muscle.

Cardiac Investigations

Coronary angiogram (cardiac catheterisation)

During your stay in hospital, you may have had an angiogram to see if there were any narrowing's in the arteries that may have needed stents inserting or bypass surgery. Sometimes the arteries may not have any narrowing's, therefore the heart attack will be treated with medication only.

For the first few days after your angiogram, you should check your puncture site. This is the area where the catheter was inserted into your artery; this is often the wrist or the groin. You can expect some bruising around the puncture site. Sometimes there is a small amount of bleeding when the catheter is removed, and a swelling or small lump may form around the area. This should go down within a few days, but if you have any concerns, contact your GP or the hospital where you had your procedure.

Your Cardiologist may arrange investigations as an outpatient. You can discuss this with your cardiac rehab team. Information about cardiac investigations can be found on the British Heart Foundation website (www.bhf.org.uk)

Risk Factors Associated with Coronary Heart Disease

Risk factors are those personal characteristics that increase the chance of developing coronary heart disease. Although great advances have been made in the treatment of coronary heart disease, changing our habits and lifestyle remains the most effective way to stop the disease progressing.

Risks That Cannot be Changed

Increasing Age
As we get older, the risk of coronary heart disease increases for both men and women.

Gender
Young men are more at risk of coronary heart disease than young women, as women are protected by hormones until the menopause. The risk for men and postmenopausal women is then the same.

Family History

You are more likely to develop coronary heart disease if your immediate family - mother, father, sisters, brothers - developed coronary heart disease (diagnosed with angina or had a heart attack or stroke) at a young age: under 65 for women or under 55 for men.

Ethnic Origin

People of South Asian origin are more likely to develop coronary heart disease than white Europeans. If you are African or African Caribbean, you have a higher risk of developing high blood pressure and having a stroke than other ethnic groups. African, African Caribbean and South Asian populations are more likely to develop Type 2 diabetes than the rest of the population. As these genetic risk factors cannot be changed, it is even more important that you concentrate on risk factors that can be changed.

Risk Factors That Can be Changed

Smoking

Stopping smoking is the single most important step you can take to improving your heart health. There are around 5000 chemicals in cigarettes, including tar, carbon monoxide, arsenic, formaldehyde, cadmium, benzene, polonium, plus many more. These chemicals make the artery walls sticky, which allows fatty material to stick to them.

Carbon Monoxide is a poisonous gas inhaled when you smoke; it prevents your blood cells carrying oxygen around your body, increasing your risk of heart disease.

Tar in cigarette smoke causes damage to your lungs, which can lead to Cancer.

70% of tar inhaled stays in your lungs.

Nicotine is the addictive chemical in cigarettes and e-cigarettes. Nicotine increases your heart rate, making your heart work harder. It also increases blood pressure. Untreated high blood pressure permanently damages your heart and arteries.

Light, mild, or low tar cigarettes are just as harmful as normal cigarettes.

E-cigarettes are useful to help you stop smoking. They are less harmful than normal cigarettes, as they do not contain tobacco and do not produce tar or carbon monoxide; however, they do normally contain liquid nicotine. There are different strengths of nicotine in the liquids in e-cigarettes; some do not contain any nicotine.

You will be encouraged to reduce the amount of nicotine in your e-cigarette to none, then stop using the e-cigarette altogether. More research is needed into the long-term impact of e-cigarettes.

Cigarette alternatives, such as smokeless tobacco and Shish, are not healthier options to smoking cigarettes.

It is never too late to stop smoking, even if you have smoked for years. Improvements in your health occur quickly.

After stopping smoking for:

- 20 minutes, heart rate and blood pressure return to normal
- 12 hours, carbon monoxide levels return to normal
- 2-3 days, sense of smell and taste improve
- 2 weeks, circulation and lung function improve, exercise becomes easier, and your breathing improves
- 1-9 weeks, coughs and breathing problems resolve
- 1 year, risk of heart disease is halved
- 5-10 years, cancer risk is halved
- 15 years, risk of heart disease is the same as a non-smoker

Passive smoking (when you breathe in someone else's cigarette smoke) also increases your risk of heart and circulatory disease.

You are 4 times more likely to stop smoking with support and medication. If you smoke, you will have seen the Stop smoking service in hospital. They may have arranged nicotine replacement therapy (NRT) for you if suitable. This will help with the cravings you may experience when trying to stop smoking, however, you will still need will power to break the 'routine' of your smoking habit. If you are struggling to quit, think of the triggers that make you want a cigarette, such as stress or drinking alcohol. Try to plan ways to cope with these situations. Changing your usual daily routine may help you stop smoking.

The Stop smoking service, or your GP, may give you a tablet called Varenicline (Champix) that can be very effective in helping to stop smoking. The Stop smoking service will phone you 2, 4 and 12 weeks after discharge from hospital. You will have been given a patient information leaflet and contact number. Contact the stop smoking service If you are struggling to stop smoking or speak to your cardiac rehabilitation nurse. You may also have been referred to 'Healthy Routes' for support with stopping smoking.

Hospital Stop smoking services numbers:

01942 773649 / 01942 822567 / 01942 773651

Healthy Routes: 01942 836967 / 836963 www.healthyrouteswigan.co.uk

National stop smoking service**:** 0300 123 1044

High blood pressure

Blood pressure is the force your heart uses to pump blood around the body through your arteries. High blood pressure increases the workload on the heart, which can cause the heart to weaken and enlarge over time. High blood pressure can damage the artery walls, which makes them more prone to the build-up of fatty plaques.

Blood pressure naturally fluctuates, but if it is persistently high, it needs to be lowered. When high blood pressure exists alongside smoking, obesity, diabetes and high blood cholesterol levels, the risk of heart attack or stroke greatly increases.

High blood pressure can often go undetected, because in the early stages it causes no obvious symptoms. Symptoms can be blurred vision, nose bleeds, breathlessness, and persistent headache. To be safe, everyone should have their blood pressure checked at least annually.

High blood pressure can be hereditary, it increases with age and is more common in African or African Caribbean populations. High blood pressure can also be caused by lifestyle. For example:

- Smoking
- Physical inactivity
- Poor diet

- Being overweight
- Too much salt intake
- Too much alcohol
- Stress

Your cardiac team will aim to reduce your blood pressure to below 140/80 mmHg, possibly below 120 /80 mmHg if very high risk.

High Cholesterol

Cholesterol is a fatty substance in the blood produced by the liver. Some cholesterol comes from the food we eat. We need cholesterol because all cells in the body require it. Cholesterol is carried in your blood by proteins. When cholesterol and proteins combine, they are called lipoproteins. There are two main types of lipoproteins, ‘good’ and ‘bad’.

High levels of cholesterol can cause heart attacks and strokes. Some causes of high cholesterol cannot be altered, such as getting older, if it runs in your family, or due to your ethnic origin. However, it can be improved with medication. Lifestyle can raise cholesterol levels, such as smoking, stress, lack of exercise, too much body fat around your middle and eating too much saturated fat and trans fats. If these factors are changed, you can lower your cholesterol levels in conjunction with medication. Please see the section on healthy eating; this can improve your cholesterol levels.

When you have a cholesterol blood test, the results provide your doctor with the following information:

Total cholesterol.

This is the number most people will refer to as their cholesterol level. This is your ‘good’ HDL cholesterol and your ‘bad’ non-HDL cholesterol combined. For a healthy heart, the aim is to have low non-HDL levels and high HDL levels. If your total cholesterol is high, it can mean you have a lot of bad (non-HDL) cholesterol in your blood.

Good cholesterol (HDL cholesterol).

This takes cholesterol you don’t need back to the liver, where it is broken down to be passed out of your body. It is known as ‘good’ cholesterol, because it gets rid of ‘bad’ cholesterol from your blood vessels.

Bad cholesterol (LDL and Non-HDL cholesterol).

Bad cholesterol delivers cholesterol from the liver to the cells around your body. It is known as ‘bad’ cholesterol because, if you have too much it gets stuck to the walls of your arteries making it harder for blood to flow through them; this can cause a heart attack or stroke.

Triglycerides.

These are another type of fatty substance in the blood, which are ‘bad’ fats. They are found in foods high in saturated fat, such as dairy products, meat, and cooking oils. They can be produced in the body either by the body’s fat stores, or in the liver. People who are very overweight, eat a lot of fatty or sugary foods, or drink too much alcohol, are more likely to have high triglyceride levels.

You should have had a cholesterol test on admission to hospital; your cardiac rehabilitation nurse will arrange for this to be rechecked 3 months after your hospital admission.

The aim is to achieve the following cholesterol levels:

Total cholesterol < 4 mmol/L

HDL cholesterol > 1 mmol/L

LDL cholesterol < 1.4 mmol/L

Non-HDL cholesterol > 40% reduction than baseline level or < 2.5 mmol/L

Triglyceride level < 1.7 mmol/L

Diabetes

There are two types of diabetes, type 1, and type 2. Type 1 is more common in children and young adults. This is when your body doesn’t make a hormone called insulin, which controls blood glucose (sugar) levels.

Type 2 is more commonly developed as we get older, often because of an unhealthy lifestyle, such as high sugar diet, being overweight and lack of exercise. The body doesn't make enough insulin or can't make use of the insulin it makes. Diabetes increases the risk of heart disease, because too much sugar in the blood damages the arteries.

Diabetes can also increase triglyceride levels. It is very important to keep good control of your blood sugar levels if you are diabetic.

- Eat a healthy diet
- Lose weight
- Don't smoke
- Take regular exercise
- Take your medication as directed

Your cardiac rehabilitation nurse will check your blood sugar levels when you have your cholesterol checked 3 months after your heart attack.

Physical Inactivity

38 % of adults in the UK and 36 % of the Northwest population do not meet recommended activity levels. Physical inactivity can lead to fatty material building up in your arteries. It can increase your chance of developing high blood pressure, high cholesterol, and type 2 diabetes.

Please read the section ‘Physical Activity’ for more information.

Being Overweight

Excess body weight can lead to fatty material building up in your arteries. It raises blood pressure, cholesterol and triglyceride levels and increases the likelihood of developing type 2 diabetes. Too much body fat, particularly around the waist, puts your health at risk.

There are different types of fat in the body, subcutaneous fat that sits under the skin and visceral fat that surrounds our internal organs, such as the heart and liver. People who are ‘apple’ shaped (carry excess weight around their middle) are at higher risk than those who are ‘pear’ shaped (carry weight around their hips, thighs, and bottom), because the fat sits around their organs.

Body Mass Index (BMI) and waist circumference are measurements that assess whether you are overweight. BMI doesn’t take muscle mass into account, so if you

are muscular, you may be classed as ‘overweight’ or ‘obese’. Waist circumference will tell you if you are carrying too much fat around your middle. A larger waist measurement is often a sign that you have too much visceral fat.

Place a tape measure halfway between the bottom of your ribs and top of your hips and hold the tape measure firmly just above your belly button to take the measurement.

The recommended waist measurements are:

- below 37 inches (94cm) for men
- below 31.5 inches (80cm) for women

If you are overweight, you need to lose some weight. Don’t try to lose weight too quickly; losing weight slowly and steadily (about 1lb a week) is healthier and you are more likely to keep the weight off for good. If you are overweight, losing even 10% of your weight will benefit your health.

Unhealthy eating

Many common health problems, including coronary heart disease, are linked to what we eat. Unhealthy eating can also lead to being overweight. It can increase blood cholesterol levels, increase the risk of developing high blood pressure and diabetes. Food’s high in fat and sugar can lead to blockages in the arteries because sugar/fructose elevate triglyceride levels. Like cholesterol, triglycerides can be deposited on the walls of the arteries and cause blockages.

Healthy eating is not a ‘diet’, it is about eating a well-balanced diet. There is no need to buy special products or have separate meals from other members of the family as, a healthy diet is recommended for everyone.

Excess alcohol intake

Drinking too much alcohol increases blood pressure and damages the artery walls, making it easier for fatty material to build up. This increases the risk of having a heart attack and stroke. Excess alcohol can also increase the risk of type 2 diabetes and vascular dementia. It can also contribute to obesity, increased cholesterol and triglyceride levels, irregular heartbeat, and heart failure, as well as other health problems.

The recommended maximum number of alcohol units per week for Men and Women is no more than 14 units. You should have at least 2 days without any alcohol.

- Pint of beer / larger / cider (5.2%) is 3 units
- Bottle of beer / larger / cider (330 mls / 5%) is 1.7 units
- Large glass of wine (250 mls / 12%) is 3 units
- Single measure of spirits (25 mls / 40%) is 1 unit

Avoid binge drinking, this is having more than 6 units of alcohol in one session.

Stress

Stress is a part of everyday life. When stress is experienced short-term and at a low level, it is called pressure. This pressure can be good for us; this is what we experience when we feel motivated with a sense of achievement and success - it allows us to focus and perform in a more efficient way. When under prolonged and/or high stress, several physiological processes can be triggered in the body. These may include increased heart rate, increased blood pressure, abnormal heart rhythm & increased cholesterol/triglycerides in the blood. Over time, these could contribute to the development of heart disease.

Stress is also associated with other cardiac risk factors. For example, the experience of stress may lead to increased smoking as a way of coping. Similarly, stress is related to other ‘unhealthy’ coping strategies, such as poor diet, increased alcohol consumption and lack of exercise.

Recovery From a Heart Attack

The cardiac rehabilitation programme aims to help patients regain physical fitness and return to a good quality life. It also helps reduce the risk of a further heart attack. Recovery from a heart attack can take several weeks and recovery rates vary from person to person. You should not compare your recovery rate to that of others.

Your cardiac rehabilitation nurse can see you at home initially, then you may be asked to attend clinic if that is appropriate. Your cardiac rehabilitation nurse will discuss heart disease and offer advice about your risk factors to reduce your risk of heart problems in the future.

Your cardiac rehabilitation nurse will monitor and treat any symptoms you may have and monitor your blood pressure and heart rate closely. The nurses are non-medical prescribers, so will be able to prescribe certain cardiac medications as required. Patients are usually discharged from hospital on low doses of heart medications. Your cardiac rehabilitation nurse will aim to gradually increase the doses of your medication to the maximum dose recommended.

Healthy Eating

A Mediterranean-style diet is recommended, as it reduces the risk of developing diabetes, high blood pressure and high cholesterol. Research has shown that people who closely follow a traditional Mediterranean style diet are more likely to live a longer life, and also are less likely to become obese. This includes fruit, vegetables, fish and replacing saturated fat with unsaturated fat.

Eat regular meals

Breakfast is important; you should take your morning medication after breakfast/food, not on an empty stomach. Meals should contain a wide variety of different foods.

Include foods rich in starch and fibre.

These should be a part of every meal. Increased intake of soluble fibre from oats, beans, pulses, fruit and vegetables, wholegrain bread, rice, pasta, cereals, and potatoes can help reduce ‘bad’ cholesterol (LDL cholesterol).

Eat at least five portions of fruit and vegetables each day.

Fruit can be fresh, frozen, dried, or tinned (in juice not syrup). A small glass of fresh, unsweetened fruit juice per day counts as one portion (not from concentrate). Avoid grapefruit or grapefruit juice, as this can interact with your cholesterol tablets. Vegetables can be fresh, frozen, or tinned (in reduced salt). Fruit and vegetables are good sources of antioxidants such as carotene, Vitamin C and Vitamin E. These are important allies in protecting our cells from being attacked by free radicals. Antioxidants protect LDL cholesterol by stopping the oxidation process. This reduces the chance of fatty plaque formation and helps prevent heart attack and stroke.

Include fish in your diet.

Aim to eat 2 portions of fish per week. This can be white fish or oily fish.

Nuts and seeds.

Aim to eat at least 4-5 portions of unsalted nuts and seeds per week. One portion is about 30g.

Reduce your overall intake of saturated fat.

Too much saturated fat increases triglycerides and LDL cholesterol levels, increasing your risk of blockages in the arteries. Saturated fat is found in red meat and dairy products. Trimming fat off meat can make a significant reduction in saturated fat intake. Choose reduced fat dairy products. Replace saturated fat with polyunsaturated fats or monounsaturated fats.

Reduce your intake of foods high in sugar.

Use a sweetener in drinks or try to do without sugar; choose diet, slimline or low-calorie drinks. Refined carbohydrates, such as white bread/crisps, can elevate triglycerides; choose wholegrains instead.

Avoid too much salt.

You should have less than 6g salt per day. Use salt in cooking or at the table, not both. Most of the salt we eat is in the food we buy. Eat fewer salty foods such as crisps, bacon, and preserved foods. All salt is harmful, crystals, grains, sea salt, Himalayan salt, garlic, or celery salt. **Do not use salt substitutes.**

If your cholesterol is above target and/or if you have diabetes, you can be referred to a dietician for specialist advice.

Anxiety Following a Heart Attack

Anxiety following a heart attack can lead to increased feelings of anxiety and low mood. This is a normal part of the adjustment process and may take time to settle down. You may initially feel anxious for the following reasons:

- Feeling worried about having a further heart attack
- Concerned that you are not making progress
- Being afraid of dying
- Uncertainty about the future, such as health, work, finances
- Concern about the impact on family

You may feel like your life has been turned upside-down and it can take time to allow what has happened to sink in. The symptoms of anxiety are generated by our Automatic Nervous System, also known as our Fight or Flight mechanism. Stress hormones are released into the blood stream to help us run away or fight in response to a perceived threat/danger.

Following a heart attack, this fight or flight reaction can be triggered, even though we are not in any actual danger. Therefore, it is easy to see how symptoms of anxiety can be mistaken as another heart attack. Anxiety can persist through our thoughts and what we tell ourselves.

For example:

- I’m having another heart attack
- I can’t breathe
- I’m going to die

As previously mentioned, these symptoms usually settle down in time. Occupational therapy can help you work through this process to promote a better feeling of wellbeing, if your anxiety or low mood is not resolving over time.

Physical changes associated with stress:

- Increased blood pressure
- Increased heart rate
- Chest discomfort/tightness
- Increased breathing rate
- Increased sweating
- Increased muscle tension/headaches

- Feeling sick/dizzy
- Increased cholesterol and blood sugar

Emotional changes associated with stress:

- On edge
- Irritable
- Tearful
- Frustrated or angry
- Easily loses temper
- Uptight
- Panicky

Changes in the way you think:

- Thought’s racing
- Difficulty concentrating
- Constant worrying and dwelling on things

Changes in the way you may behave:

- Unable to sit and relax
- On the go all the time
- Starting jobs and not finishing them

- Increased smoking and alcohol consumption
- Excessive or reduced appetite
- Disturbed sleep

The key to reducing stress and the risk of heart disease is not in eliminating all stress, but in learning how to manage stressful situations. Learning how to relax following stressful situations gives your body chance to recover from stress.

Ways to help decrease stress:

- Practice relaxation techniques or mindfulness (meditation)
- Deep breathing. Breathe in through your nose and hold your breath for a few seconds. Exhale slowly through the mouth. Repeat this 4-5 times whenever you feel stressed or angry
- Think positively
- Manage time more effectively and keep as organised as possible
- Take “time out” for yourself. Read a book, listen to music - or anything that you enjoy and find relaxing
- Have a hobby or activity outside of work and family
- Spend more time with people with whom you feel positive and good about yourself, and less time with those who make you feel negative and angry
- Take regular exercise

For the quick release of tension whenever you feel anxious, panicky, or uptight:

1. Say “STOP” to yourself

2. Let your breath go

3. Take in a slow, gentle breath - hold it for a second

4. Let it go with a leisurely sigh of relief

5. Drop your shoulders and at the same time relax your hands

6. Breathe in deeply again, and as you breathe out make sure that your teeth are not clenched

7. Take two, small quiet breaths

8. If you must speak, do it more slowly and in a lower tone of voice

As part of your cardiac rehabilitation programme, you will be offered an occupational therapy referral. Occupational therapists focus on what you can do and what you may be having difficulty coping with following your heart attack; occupational therapists enable you to improve your confidence and quality of life.

The occupational therapy department offers a range of programmes/interventions to equip you with knowledge, skills and techniques, example include:

- Stress management and relaxation techniques; both individual and within a group setting

- Advice and information on resuming daily activities

- Advice on managing symptoms of fatigue and breathlessness

- A mindfulness (meditation) programme

Research has shown that stress management, relaxation and mindfulness techniques can reduce symptoms of stress/anxiety and can increase general wellbeing and quality of life.

If you feel that you may benefit from any of the above, please request a referral from your cardiac rehabilitation nurse or physiotherapist. You will then be offered an assessment to determine what is most suitable for your needs.

Activity Following a Heart Attack

When you are recovering from a heart attack, you are likely to have less energy and feel tired. Some people will recover very quickly whereas others will take much longer. It can be tempting to compare your recovery to others; however, everyone is an individual and you will recover at your own pace. Alternatively, you may feel well and be tempted to do more than is advised.

Adapting your daily activities so that you use less energy and feel less tired is known as energy conservation. This can help your heart to heal quicker.

Energy conservation strategies include:

Prioritising

This involves selecting those activities which are most important to you on a particular day. Some daily activities are necessary, but others aren't. Ask yourself the following questions to find out which of yours are necessary:

- What do I need to do today? What do I want to do today?
- What can be put off until another day?
- What can I ask someone else to do for me?

Pacing

Pacing yourself will help you have enough energy to complete an activity. You will recover faster if you work on a task until you are tired rather than exhausted. The alternative, doing something until you're exhausted, or going for the big push, means that you'll need longer to recover.

It is better to take a little extra time to complete one task and be able to continue, than to finish one task quickly and feel too tired to continue.

Over a period, when you are pacing, you should be able to increase your overall activity levels without ill effects. Pacing gives you awareness of your own limitations, which enables you to positively plan the way that you use your energy, maximising what you can do with it.

Planning

Look at the activities you normally do on a daily and weekly basis and develop a plan for how you can spread these activities out. If certain activities make you breathless or fatigued, rather than do them in one go, plan to do them throughout the day. Change the time of an activity: instead of having a bath or shower in the morning when you are busy, have one in the evening. Do weekly activities such as gardening, laundry, and food shopping on different days, with rest days in between.

Planning involves organising your tasks in an energy efficient way. Some examples may include:

- Having all items readily available when cooking, showering etc.
- Completing all tasks upstairs before coming downstairs, to avoid using the stairs several times a day
- Some tasks could be ‘heavier’ for you to undertake, so plan to mix in heavier and lighter activities daily.

As with pacing, try to plan some rest and relaxation into the day, making time for socialising if that is important to you.

First - second week at home

- Light washing up or making a snack is fine; progress to light housework and preparing simple meals by the second week, if feeling well
- Do not move or lift heavy objects that require you to hold your breath to maintain the lift
- Limit how often you go up and downstairs if you find this tiring

- Making a bed is fine but do not strip or change sheets or the duvet cover

- Start the walking programme

Third - fourth week at home

- Increase household tasks

- You can push a supermarket trolley and carry shopping bags short distances such as from the car to the house. It should feel a comfortable weight for you, does not affect your breathing and is not near to your maximum lifting ability or held for a long time

- Light gardening is fine, such as dead heading, but some people can feel breathless or lightheaded when bending forward or down, in which case delay this activity

- Continue with the walking programme

Physical Activity

Physical activity is essential for a healthy heart, and regular moderate intensity exercise that raises your heart rate and makes you breathe faster and feel warmer should be part of your daily routine.

Benefits:

- Improves strength, flexibility, and balance

- Gives you a feeling of well-being and satisfaction
- Helps you to relax and sleep better
- Helps you to lose/maintain a healthy weight in conjunction with a healthy diet
- Helps to maintain your blood pressure within normal limits
- Lowers total cholesterol level by increasing good cholesterol

Walking Programme

It is safe to start your walking programme after your first few days at home after your heart attack. Some breathlessness with exercise is normal, but you should not feel exhausted. Consider how short of breath you are, as well as how your muscles are feeling when you are walking. You should be able to ‘walk and talk’ and using the Borg rating of Perceived Exertion (RPE) scale can give you and your family confidence that you are not overdoing things.

RPE Scale

The intensity of effort experienced during exercise

6	No exertion at all	At rest, not aware of breathing, not using muscles
7		

8	Very very light	
9		
10	Very light	
11	Fairly light	
12		
13	Somewhat hard	You can hold a conversation, but you can feel that muscles are working; you feel warm and slightly out of breath.
14		
15		‘Tiring; you have to push yourself to continue’
16		
17	Very hard	

18		
19	Extremely hard	
20	Maximal exertion	‘As hard as most people have experienced’

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Never continue to exercise or carry on with activity if you feel any of the following symptoms:

Chest pain, dizziness, palpitations, nausea, muscle cramps, excessive shortness of breath and extreme fatigue.

Walking programme guidance

The following levels are a guide to help you progress with your walking. **The levels are not weeks** - some will be able to progress through levels 1-5 within their first two weeks at home, others may need longer if they were previously unfit or have other conditions that limit their mobility.

Remember even if you were very active before your heart attack, your heart is recovering

and progression through the levels is for your safety.

Level	Walking times
1	5 – 10 minutes
2	10 – 15 minutes
3	15 – 20 minutes
4	20 – 25 minutes
5	25 – 30 minutes

If you have been prescribed a GTN spray, always remember to take it with you.

- Walk with a relative or friend initially if this will help with your confidence
- Start at Level 1 the first time you go out. Walk at your own steady pace on the flat for 5-10 minutes. Remember you should always be able to comfortably walk and talk. It may take a few days to feel confident enough to increase your pace to score 11- 13 on the RPE scale
- Once you can manage to walk for 10 minutes at a rate of 11-13 on the RPE scale,

you can progress onto the next level

- If you have other conditions that affect your mobility, such as arthritis or COPD you may find moving up a level too difficult. Instead, keep to the same level but increase the number of times in the day you go out for your walk. Two 10-minute walks give the same health benefits as one 20 minute walk, but may be more comfortable for you

- Please do not worry if you are unable to achieve this, it will be discussed fully at your Physiotherapy Assessment

- It is advisable to go for a walk at your best time of the day. Do not leave it until the evening when you are likely to be tired, and not immediately after a heavy meal

- You may feel tired and need a rest after your walk, but you should never feel exhausted. Go back a level if you need to

- The heart works much harder in cold or windy conditions, so avoid extremes of temperature or very windy days in the first few weeks after your heart attack.

Cardiac rehabilitation physiotherapy assessment

You can be referred to the cardiac physiotherapist by your cardiac rehab nurse. This is an individual assessment to discuss your physical activity needs, provide individualised exercise progression and to support return to work or to active hobbies.

Even if you do not feel an exercise programme is something you wish to take part in, discussing your activity levels with a physiotherapist can help you with your recovery.

Attending the assessment does not mean you have to complete an exercise programme but may answer some of your worries or concerns about exercise or future activity levels.

Please bring your medication list and hospital discharge letter with you to your assessment.

You will be closely monitored during any exercise; however if you experience any chest discomfort or other symptoms, always inform the physiotherapist immediately.

If you have been prescribed a Glyceryl Trinitrate (GTN) spray, always bring it with you.

Long-term Exercise

Adults should aim to build up to at least 150 minutes of moderate intensity activity per week, in bouts of 10 minutes or more. Balance and coordination exercises are advised for older adults at risk of falls on at least 2 days a week, and all adults should include a muscle strengthening activity, such as exercising with weights or carrying shopping at least 2 days a week.

Finding an activity you enjoy is key to continuing to exercise in the long term.

- Remember to start any new exercise or activity slowly and build up gradually, both in intensity and duration
- Warm up before exercise. Warming up prepares your heart for exercise by slightly increasing heart rate. It reduces the risk of injury
- Cool down at the end of exercise, by gradually reducing the speed and intensity of exercise. Cooling down at the end of exercise gradually brings your heart rate and breathing back to resting level
- **Do not** continue to exercise if you have chest discomfort, dizziness, palpitations, nausea, muscle cramps, excessive shortness of breath or extreme fatigue

- **Do not** exercise during illness or infection (being on antibiotics). If you have a temperature, the body uses more energy, and your heart is already working harder

- If you have been unwell or have had a break from regular exercise, reduce the intensity and or the duration of exercise, and build back up to your previous level of activity

- Be aware that when exercising outdoors on very cold or windy days, the heart works harder. **Avoid extremes of temperature and wear appropriate clothing.**

- **Do not** have a very hot or cold shower, or use a steam room, hot tub (e.g., Jacuzzi) or sauna after exercise. This can cause a rapid fall in blood pressure or abnormal heart rhythm

- **Do not** exercise immediately after a heavy meal, as blood is diverted away from the muscles to the digestive system during this time

- **Do not** drink alcohol before exercise

- You will need to discuss with your Physiotherapist partaking in sports which are highly competitive or impose a sudden severe load on the heart, as these should be avoided unless you are extremely fit. e.g. squash, weight training

Staying Active

1. **Choose something you enjoy**. If it is not fun, you will not keep it up.

2. **Be realistic about goals**. Set small, measurable, and achievable targets.

3. **Make exercise part of your day**. It must fit your schedule. Use an exercise diary to help monitor your success.

4. **Keep moving.** All activity counts use the stairs instead of the lift; get off the bus a stop earlier.

5. **Don’t go it alone.** Involve family members, join a group. There are lots of community programmes. Ask your cardiac physiotherapist for information.

6. **Variety.** Mix and match so you don’t get bored. Dancing, yoga, Tai Chi, cycling, bowling, swimming. The list is endless.

7. **Set Reminders.** Set phone reminders. Use post-its or write on a calendar. Leave your trainers near the door.

1. **Acknowledge Your Progress.** Use a pedometer or track your activity on your phone.

Treat yourself when you reach one of your goals.

Swimming and Water-Based Exercise

Swimming is a very good exercise for improving health and fitness; however when you have a heart condition, there are some important matters to consider before you start swimming. The reason for this is that swimming is a strenuous exercise, the effects of which can be underestimated.

It is very important to be aware that just being immersed in water without doing any activity or exercise can lead to your heart working much harder than it does on dry land.

If you are thinking of restarting or taking up swimming, please speak to your cardiac physiotherapist. They will be able to advise you about whether it is safe for you to begin

exercising in water. This will be personal to you depending on your medical history and fitness levels. If you have adequately recovered and feel ready to exercise in water, your physiotherapist will be able to advise you about how much exercise to do. If you are not quite ready to start exercising in water, this does not mean you will never be able to go swimming again. It just means that for the time being, it may be safer to improve your fitness and activity levels on land before you start to swim.

Work

Following a heart attack, you will need a sick note from your GP. Typically, you should be off work between four to twelve weeks depending on your recovery and the type of work you do. Your cardiac rehabilitation team / GP nurse will advise you about this.

Driving

If you have had a stent inserted and do not require any further stents within 4 weeks and do not have heart failure, you can drive after **1 week**.

If you have not had any stents inserted (medical treatment) or you are waiting for stents within 4 weeks or if you have heart failure following your heart attack, you cannot drive for **4 weeks.**

You do not need to notify the DVLA that you have had a heart attack, but it is important that you notify your insurance company, **otherwise you may find that your insurance is invalid.**

If you have an HGV or PSV license you must notify the DVLA as soon as possible as they need to contact your consultant to determine your fitness to drive. This process may require further investigation and can take up to 3 months or more.

Holidays

Avoid holidays involving long car/coach journeys until you are symptom free and confident. Air travel will depend upon any clinical procedures you have had and upon advice from your Consultant Cardiologist.

The Civil Aviation Authority advises that you cannot fly for 7 days following a heart attack, or 10 days if you have had bypass surgery following your heart attack. This is increased to 4-6 weeks if you have had a ‘complicated’ heart attack. If you have heart failure that isn’t well controlled, you cannot fly. Stable but severe heart failure may require medical oxygen due to lowered oxygen pressure at high altitude. You cannot fly if you have uncontrolled high blood pressure. You are advised to take your medications in your hand luggage.

For further information see www.caa.co.uk

You are advised to tell your insurance company of your heart condition.

More information on travel insurance is available on the BHF website www.bhf.org.uk

Sexual Activity

Sexual activity presents no greater risk of triggering a further myocardial infarction (MI) in a person than if they had never had an MI. Sexual activity can be resumed when comfortable to do so, usually about 4 weeks after an MI.

Men may experience erectile dysfunction (ED) after an acute cardiac event. ED is when a man has trouble in achieving or keeping an erection good enough for a fulfilling sex life. ED affects at least 1 in 10 men in the UK. ED may become a problem after your heart attack

due to anxiety. It is normal to feel anxious initially; however, if ED persists or was a problem before your heart attack, please see your GP. Your GP can assess you to establish the cause of ED and discuss potential treatments. There is also a specialist clinic for assessing and treating patients with ED.

Medical conditions such as heart disease, circulation problems and diabetes can increase the risk of developing ED. Sometimes the medication given to treat these conditions can cause ED. Risk factors for heart disease such as smoking, hypertension, high cholesterol, obesity, and excess alcohol intake, can also cause ED. Please ask your cardiac rehabilitation nurse if you would like any further information on ED.

Medication for ED (PDE5 inhibitors) such as Viagra (Sildenafil), Cialis (Tadalafil) and Levitra (Vardenafil) is usually effective and safe in men with stable coronary heart disease (CHD). However, they should not be taken for 6 months following a heart attack.

PDE5 inhibitors are not recommended for patients with low blood pressure or with severe heart failure. They cannot be taken if you are on regular ‘nitrate’ medication or Nicorandil. See your GP if you take alpha blockers (Alfuzosin, Doxazosin, Indoramin, Prazosin,Tamsulosin and Terazosin). You should not take recreational compounds such as Amyl Nitrate (Poppers) if you take medication for ED. Medication for ED in conjunction with these heart tablets can dramatically lower blood pressure, causing you to feel dizzy or even collapse.

There are other treatments for ED that your GP or specialist can discuss with you. You should not take any medication for ED that has not been prescribed for you by a doctor.

GTN spray is a ‘nitrate‘ medication. If you have used GTN spray, you should not take medication for ED for at least 24hours (48 hours if you take Tadalafil) as this may lead to very low blood pressure. You should not use GTN for 24 hours after taking medication for ED (48 hours if you take Tadalafil). If you develop chest discomfort 24 hours (48 hours if you take Tadalafil) after taking ED medication, phone 999 if the pain/discomfort lasts longer than 10 minutes. You must inform the paramedics and the medical team that you have taken

medication for ED so they can treat you safely.

Medication

After a heart attack, you will be given medication to treat your condition; research has shown these drugs help to prevent further heart attacks.

Important guidelines about your medication:

- Never take medication that is not prescribed for you
- Always read the instructions on the label carefully. If you can’t read it, then get someone to read it for you. You can ask your pharmacist for bigger print on labels
- Do not stop taking your medication unless you have been instructed to do so by your cardiac rehabilitation nurse, your GP, or the hospital doctor
- If you are concerned about any side effects, talk to your cardiac rehabilitation nurse or GP
- Always keep medication well away from children
- Never mix tablets together in one bottle. Always keep them in separate containers
- Avoid running out of medication. Order a repeat prescription in plenty of time
- Check that the drugs and dosage on your repeat prescription is the same as before, unless the doctor has told you that the drugs or dosage should be changed
- If you find it difficult to remember whether you have taken your medication, make a chart of the drug and the times you take them and tick them off as you go, or fill up a weekly pill box

- Most medication for heart disease is life-long unless you have problems/side effects. Please discuss any side effects with your cardiac rehabilitation nurse/GP

- Check with the pharmacist before buying any medicines ‘over the counter’, especially cold and flu remedies or any non-steroidal anti-inflammatory medicines. Avoid these unless your GP advises it is ok to take them. It is important to check with the pharmacist if you use any herbal or supplementary medicines

- Always carry an up-to-date list of your medication with you

- If you pay for your prescription, it is advisable/cheaper to obtain a pre-pay prescription

Pre-payment prescription helpline **0300 330 1341** Website: www.nhsbsa.nhs.uk

Types of Drugs

Anti-Platelets

Anti-platelets prevent a heart attack by reducing the “stickiness” of blood. They also prevent blood clots forming and blocking the coronary arteries or stents.

Examples: Aspirin, Clopidogrel, Ticagrelor and Prasugrel.

Depending on the type of heart attack you’ve had and whether or not you had stents inserted, you may be on a combination of Aspirin and one of the other drugs listed for between 3 - 12 months, possibly longer, up to 4 years. After that you will remain on Aspirin long-term, unless you are advised otherwise by your doctor.

Possible side effects:

- Breathlessness (air hunger)
- Bruising
- Indigestion
- Nausea

Can cause gastric bleeding (seek advice from your GP immediately if you notice any blood in your stools, or if your stools appear black and tarry).

You may be given medication to protect your stomach from these side effects, called protein pump inhibitors (PPI), such as Lansoprazole or Omeprazole.

Never take aspirin on an empty stomach; always take it with or after food.

Beta-Blockers

Betablockers block the action of adrenaline on the heart, causing it to beat more slowly, reducing the amount of work the heart must do. They increase the amount of blood that the heart can pump with each beat.

Examples: Bisoprolol**,** Carvedilol**,** Nebivolol and Atenolol.

Possible side effects:

- Dizziness/light headedness - it may be worth getting your blood pressure/heart rate checked if you experience this
- Although beta blockers can initially make you feel lethargic and worse than you did before, in the long term, beta blockers reduce the risk of your condition getting worse
- Cold hands and feet
- Disturbed sleep
- Erectile dysfunction

Do not stop taking beta blockers suddenly, unless on the advice of your doctor or cardiac rehabilitation nurse.

ACE Inhibitors

ACE stands for Angiotensin Converting Enzyme Inhibitors. These tablets work by relaxing your blood vessels, making it easier for the heart to pump blood through them.

Examples: Ramipril, Lisinopril, Enalapril and Perindopril.

Possible side effects:

- Dizziness - this can be a sign of low blood pressure
- Persistent dry cough - (for patients who experience this problem, an alternative therapy may be given, e.g. Candesartan, Lostartan, Irbesartan, Valsartan - these belong to a group of drugs known as Angiotensin II Receptor blockers and do a very similar job to ACE inhibitors, but do not produce the side effect of a dry cough)
- Alteration of taste
- Skin rashes
- Very rarely, an allergic reaction causing swelling around the mouth or face; if it occurs, call 999

ACE Inhibitors can cause your body to retain potassium, so you will have blood tests from time to time to monitor potassium levels and kidney function.

Cholesterol Lowering Drugs

Statins

Statins lower the cholesterol level in the blood by acting on the enzyme in the liver which produces cholesterol. They also help to stabilise fatty plaques in the arteries, reducing the risk of further heart attacks. They are usually taken at night, as this is when the liver produces the most cholesterol.

Examples: Atorvastatin, Simvastatin, Pravastatin and Rosuvastatin.

Possible side effects:

Inflammation of the muscles can occur very occasionally. If you experience tenderness of the muscles, contact your cardiac rehabilitation nurse or GP. A blood test can check if a statin is causing muscle problems. Your GP will also perform blood tests to check your liver function at regular intervals.

- Gastro-intestinal side effects
- Rashes
- Dizziness
- Alopecia

You should avoid eating grapefruit or drinking grapefruit juice if taking Simvastatin, as it causes the amount of the drug to rise in the blood stream. Small amounts of grapefruit/juice are ok with Atorvastatin. Some antibiotics can affect the level of Simvastatin, and you may be advised to stop taking your statin whilst you complete a course of antibiotics. If you have any concerns, speak to your pharmacist or cardiac rehabilitation nurse or GP

Other Medication to Lower Cholesterol

Ezetimibe

Ezetimibe works by preventing the intestine from absorbing cholesterol. It can be used in people who are unable to take statins or is sometimes used in combination with a statin if the cholesterol targets are not achieved.

Possible side effects:

- Gastrointestinal problems
- Headache
- Muscle complaints
- Lack of energy

Vazkepa

You will be offered Vazkepa if your triglyceride levels are > 1.7 when you have your cholesterol rechecked 3 months after your heart attack. Vazkepa (2 tablets twice per day) is a highly purified fish oil that reduces cardiovascular risk.

Possible side effects:

- Increased risk of bleeding
- Gout
- Irregular heart rate
- Constipation

- Rash
- Musculoskeletal pain

Inclisiran

This is a small injection in the stomach that lowers LDL (bad cholesterol). This will be offered if your bad cholesterol is > 2.6. After the initial dose there is one after 3 months, then every 6 months.

Possible side effects:

- local reactions at injection site, pain, swelling.

GTN (glyceryl trinitrate) spray

GTN dilates arteries. When the arteries carrying blood to the heart are narrowed, that can cause chest discomfort. When the arteries are dilated, it increases blood flow and oxygen to the heart muscle, relieving the chest discomfort.

Possible side effects:

- Headache caused by GTN spray can be relieved by taking paracetamol
- Dizziness (due to a reduction in blood pressure). Take GTN spray whilst sitting down

Influenza vaccination.

It is advised that you have an annual influenza vaccination following a heart attack.

You will also be advised to have a pneumonia jab.

Research: is done to add to the existing scientific knowledge on a particular subject. It is possible that during your treatment, you may be asked to take part in a research study; however, you DO have the right to refuse, and this WILL NOT affect the care that you receive.

Discharge from Cardiac Rehabilitation

When you are ready for discharge, you will be asked to have a fasting blood test to check the function of your kidneys, liver, thyroid, full blood count and your sugar and cholesterol levels. You will then be discharged back to your GP's care, who should review you every year to check your bloods, blood pressure and weight.

Suggestions, Compliments and Complaints

We are constantly trying to improve our services and therefore appreciate any comments or suggestions you may have to help us do this.

You are invited to provide feedback about the cardiac rehabilitation service by completing a short anonymous survey. The survey can be accessed electronically by using the QR code below.

Hover your smartphone camera directly over the QR code to be taken to the website.

Alternatively, you can visit the website online by using this website address:

https://wwl.amat.co.uk/t/ijuhe6iLeC

If you are concerned about your treatment or the service we provide, speak to the staff involved or the cardiac rehabilitation manager.

If, however, you would prefer not to do this, you can contact Patient Advice and Liaison Service (PALS). They will listen to you and provide you with relevant information and support, to help resolve any concerns or problems you may have.

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