

Cardiac Rehabilitation



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The heart

The heart is a muscular pump, which contracts 100,000 times each day. It is responsible for pumping blood around the body, without stopping, for 24 hours a day, every day of your life. To do this, the heart itself needs a good supply of blood, which will provide it with oxygen and nutrients. The arteries, which supply the heart with blood, are called the coronary arteries.

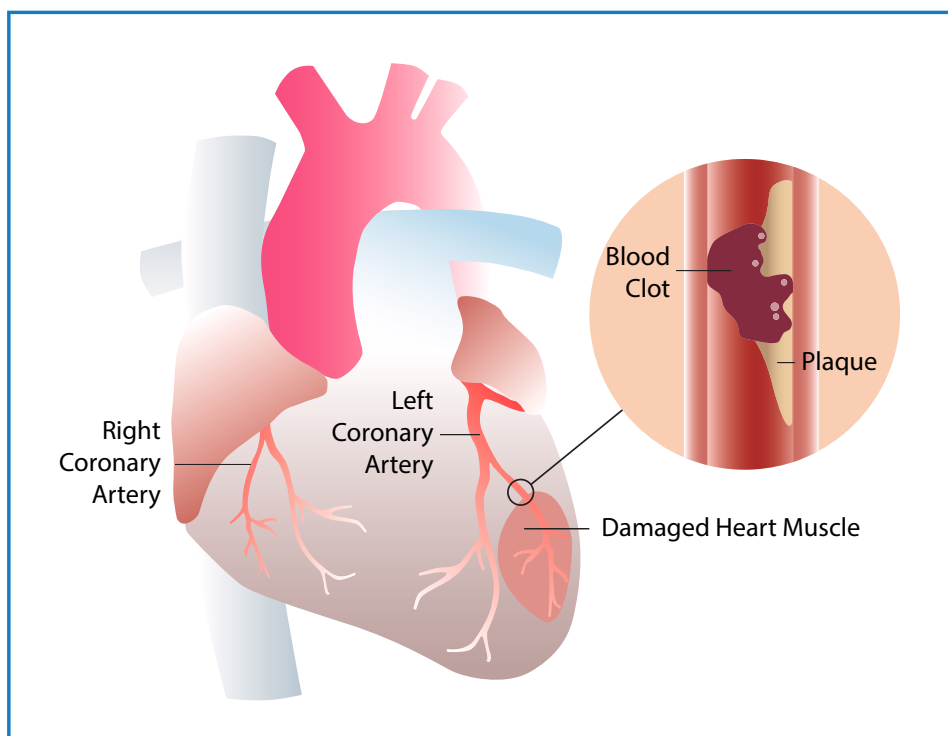
The amount of blood the heart needs varies according to the amount of work it has to do. When the heart beats faster (for example, during exercise) it requires more energy. The coronary arteries then dilate (become wider) to deliver more blood and oxygen to the heart muscle. When the heart returns to rest, the arteries return to their normal size.

The coronary arteries can become diseased, which can then lead to a heart attack or angina.

Heart attack

Other names for a heart attack are Myocardial Infarction and Coronary Thrombosis. This occurs when the blood supply to a part of the heart muscle is blocked by a blood clot in a narrowed part of one of the coronary arteries. This area will then be deprived of blood and oxygen, resulting in damage to the affected part.

The damage may cause a severe crushing pain, sometimes radiating to the jaw, back and arms. There may also be breathlessness, sweating and vomiting. The pain is not relieved at rest and may last for several hours. The symptoms and the severity of the heart attack will differ from one person to another.



Angina

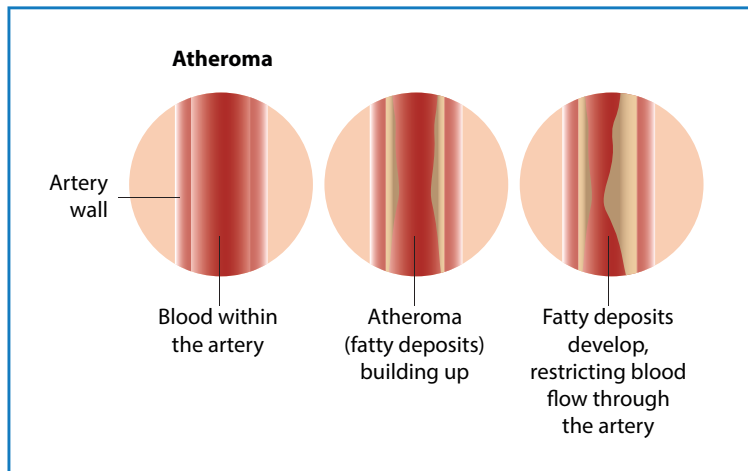
Angina can be described as discomfort or chest pain, which may radiate to the arm, neck or jaw, and is often brought on by physical exertion or emotional upset, and is generally relieved by rest.

Angina is due to a reduction in the amount of blood and nutrients travelling through the arteries to the heart muscle. This happens when a fatty substance, called atheroma, is deposited on the inner lining of the artery.

At rest, enough blood is passing into the heart muscle to nourish it. During exercise, the heart has to work harder, which requires a greater supply of oxygen and nutrients. If the coronary arteries are narrowed with deposits of atheroma, the heart muscle will be starved of oxygen and thus be unable to function correctly. This causes pain, which is often described as a 'cramp-like' sensation.

Risk Factors for Coronary Heart Disease

There are many factors that can influence a person's risk of developing heart disease or having a heart attack. Sometimes, in a healthy individual, no causes can be found.



Some of the risk factors we can't do anything about are:

- family history
- gender
- age
- cultural background.

Other factors we can do something about are:

- smoking
- eating an unhealthy diet
- being overweight
- prolonged stress
- lack of exercise.

Some medical conditions, such as diabetes, high blood pressure, and high blood cholesterol can also contribute to heart disease.

Cardiac rehabilitation

Cardiac rehabilitation aims to help you reach the best level of physical and psychological well-being as possible and is divided into four phases:

Phase one

This is the period from the time you are admitted to hospital to being discharged. Information will be given to you while you are in hospital about the changes you can make to your lifestyle, such as:

- improving your diet (pages 12-15)
- stopping smoking (pages 15-16)
- taking medication (pages 20-24)

- exercise (pages 11-12)
- driving (pages 16-17).

Phase two

You will be invited to attend an eight week education programme on either a Tuesday or Wednesday morning. Prior to this you will be offered an assessment either in hospital or in your own home with a trained member of the Cardiac rehabilitation team. The programme covers the following topics:

- the Heart, Heart Disease and Resuscitation
- risk Factors for Heart Disease
- treatments for Heart Disease
- how the mind adjusts to stress and heart disease
- stress Management and Relaxation
- lifestyle
- exercise
- dietitian.

Phase three

You are invited to attend the hospital-based exercise programme twice a week for eight weeks where you will be given an individualised exercise programme.

For patients unable/not wanting to attend there is an option for a home exercise programme.

Prior to the commencement of the exercise programme you will be invited to have an exercise assessment with the cardiac physiotherapist and this will then be repeated on completion of the programme.

The aims of the programme is to:

- improve your exercise tolerance
- increase your knowledge of your condition
- help you determine your own physical capabilities.

Phase four

After successfully completing phase three, you will be offered access to a local leisure centre. This is designed to help you maintain a healthy lifestyle and to continue to improve your exercise tolerance. There is a small charge to attend these sessions.

Ongoing care after your heart attack

Once you have been discharged by the Cardiac Rehabilitation service, the staff at your doctor's surgery will carry on with your care.

If you would like further information about this aspect of your care, you can contact the practice nurse at your doctor's surgery.

Home activity programme

This home activity programme has been developed for people who have had a heart attack. The aim is to gradually increase your level of activity.

If at any time you experience chest discomfort, stop what you are doing, take your Glyceryl trinitrate (GTN) spray as prescribed, and rest.

Included in this activity programme are some 'warm up' exercises for you to do before starting the activity and some 'cool down' exercises to be done at the end of the activity.

If you are exercising outside, you should be aware of some environmental aspects. Outdoor exercise should be avoided during times of extreme heat and extreme cold (as they may aggravate symptoms). Comfortable shoes are an essential part of an exercise programme. The more comfortable you are while being active, the more enjoyable it will be for you.

It is a good idea to keep a diary of your daily exercise. Note how much you were able to do and how you were feeling during exercise. Don't worry if you can't manage the walking times given. Do what you can, and aim to gradually increase your level of activity.

Remember, your exercises should be symptom-free and should feel fairly light and easy, and the pace of your walking should feel comfortable.

Warming up and cooling down

Here is a good 'warm up' before exercising, as well as a 'cool down' following exercise. Do each exercise with a little rhythm and at a medium pace. It is important that you do not hold your breath as you do the exercises, but continue to breathe normally.

Sitting

Ankle exercises – for 5 to 10 minutes.

This allows blood to start pumping around the body in warm up and allows your heart to gradually return to its resting pulse in cool down.

- i) Lift one leg so that your foot is slightly off the floor. Circle your ankle in each direction. Put that foot back in front of you, then repeat this exercise with the other foot.
- ii) Move your foot up and down in a pumping motion. Repeat with other foot.

If able, you may like to include some additional exercises to maintain flexibility e.g:

- Shoulder shrug – raise and lower your shoulders.
- Shoulder circle – backwards and forwards.
- Body twist – gentle turning with arms folded across the chest.

Rules of exercise

NO chest pain or symptoms

NOT breathless

DO NOT exceed the walking times stated for each week.

Activities and walking should be at a comfortable pace.

Strenuous activity, for example, swimming, golf, fishing and heavy gardening should not be undertaken for at least six weeks, or until after discussion with cardiac rehabilitation physiotherapist.

Your first week at home

Activity	Recommendations:	Things to avoid:
Personal Care	<ul style="list-style-type: none"> • shower preferable to bath • use a stool or chair in the shower if necessary • use lukewarm water • usual personal care (shaving, mouthcare, dressing, etc) 	<ul style="list-style-type: none"> • hot water • bending over in the shower • using your arms over your head for long periods • whirlpool, steam bath, sauna • constipation and straining
Physical activity	<ul style="list-style-type: none"> • always carry your GTN spray with you • do warm-up exercises as instructed • walk outside for 10-15 minutes once or twice a day • do cool-down exercises as instructed • if you experience shortness of breath or chest discomfort while exercising, stop, rest, and use your GTN spray as instructed 	<ul style="list-style-type: none"> • strenuous activity, such as: snow-shovelling, digging the garden, cutting the grass, carrying shopping bags, heavy lifting (more than 10lbs) • vacuuming (for four to six weeks) • exercising when tired • exercising on a full stomach (wait at least one hour after eating before exercising) • extreme temperatures, especially while exercising • any activity that requires holding your breath (e.g. lifting) • any activity that requires your arms to be extended above your head for long periods (e.g. hanging out laundry)
Recreational activities	<ul style="list-style-type: none"> • walking • watching TV • radio • cards • reading 	<ul style="list-style-type: none"> • excessive tiredness • places with excessive cigarette smoke
Diet	<ul style="list-style-type: none"> • as recommended by your dietitian • fruit and fibre intake will help to prevent constipation 	<ul style="list-style-type: none"> • large meals • excessive intake of alcohol, salt and caffeine
Rest	<ul style="list-style-type: none"> • attempt to have a nap every afternoon. If you are unable to sleep, just relax, read or listen to music. 	<ul style="list-style-type: none"> • emotionally-stressful situations

Your second week at home

Activity	Recommendations:	Things to avoid:
Personal Care	<ul style="list-style-type: none"> • shower preferable to bath • use a stool or chair in the shower if necessary • use lukewarm water • usual personal care (shaving, mouthcare, dressing, etc) 	<ul style="list-style-type: none"> • hot water • bending over in the shower • using your arms over your head for long periods • whirlpool, steam bath, sauna • constipation and straining
Physical activity	<ul style="list-style-type: none"> • always carry your GTN spray with you • do warm-up exercises as instructed • walk outside for 20 minutes once or twice a day • do cool-down exercises as instructed • if you experience shortness of breath or chest discomfort while exercising, stop, rest, and use your GTN spray as instructed • prepare light meals • wash dishes/load dishwasher • light dusting 	<ul style="list-style-type: none"> • strenuous activity, such as: snow-shovelling, digging the garden, cutting the grass, carrying shopping bags, heavy lifting (more than 10lbs) • exercising when tired • exercising on a full stomach (wait at least one hour after eating before exercising) • extreme temperatures, especially while exercising • any activity that requires holding your breath (eg, lifting) • any activity that requires holding your breath (e.g. lifting) • any activity that requires your arms to be extended above your head for long periods (e.g, hanging out laundry)
Recreational activities	<ul style="list-style-type: none"> • walking • watching TV • radio • cards • reading • short outings by car as a passenger 	<ul style="list-style-type: none"> • excessive tiredness • places with excessive cigarette smoke
Diet	<ul style="list-style-type: none"> • as recommended by your dietitian • fruit and fibre intake will help to prevent constipation 	<ul style="list-style-type: none"> • large meals • excessive intake of alcohol, salt and caffeine
Rest	<ul style="list-style-type: none"> • attempt to have a nap every afternoon. If you are unable to sleep, just relax, read or listen to music. 	<ul style="list-style-type: none"> • emotionally-stressful situations

Your third and fourth week at home

Activity	Recommendations:	Things to avoid:
Personal Care	<ul style="list-style-type: none"> • start to resume your normal level of personal care, using your energy level as a guide 	<ul style="list-style-type: none"> • hot water • bending over in the shower • using your arms over your head for long periods • whirlpool, steam bath, sauna • constipation and straining
Physical activity	<ul style="list-style-type: none"> • always carry your GTN spray with you • do warm-up exercises as instructed • walk outside for 30 minutes at a relaxed pace once or twice a day • do cool-down exercises as instructed • if you experience shortness of breath or chest discomfort while exercising, stop, rest, and use your GTN spray as instructed • sexual activity (see guidelines, p 25) 	<ul style="list-style-type: none"> • strenuous activity, such as: snow-shovelling, digging the garden, cutting the grass, carrying shopping bags, heavy lifting (more than 10lbs) • exercising when tired • exercising on a full stomach (wait at least one hour after eating before exercising) • extreme temperatures, especially while exercising • any activity that requires holding your breath (e.g. lifting) • any activity that requires your arms to be extended above your head for long periods (e.g. hanging out laundry)
Recreational activities	<ul style="list-style-type: none"> • walking • watching TV • radio • cards • reading • short outings by car as a passenger • cinema • eating out – remember, healthily! 	<ul style="list-style-type: none"> • excessive tiredness • places with excessive cigarette smoke
Diet	<ul style="list-style-type: none"> • as recommended by your dietitian • fruit and fibre intake will help to prevent constipation 	<ul style="list-style-type: none"> • large meals • excessive intake of alcohol, salt and caffeine
Rest	<ul style="list-style-type: none"> • attempt to have a nap every afternoon. If you are unable to sleep, just relax, read or listen to music. 	<ul style="list-style-type: none"> • emotionally-stressful situations

Your fifth and sixth week at home

Activity	Recommendations:	Things to avoid:
Personal Care	<ul style="list-style-type: none"> • start to resume your normal level of personal care, using your energy level as a guide 	<ul style="list-style-type: none"> • hot water • bending over in the shower • using your arms over your head for long periods • whirlpool, steam bath, sauna • constipation and straining
Physical activity	<ul style="list-style-type: none"> • contact your doctor about returning to work • always carry your GTN spray with you • do warm-up exercises as instructed • continue with the same exercise level as in Week Four, until you see your doctor or a member of the Rehabilitation Team. Walk outside for 30 minutes at a relaxed pace once or twice a day • do cool-down exercises as instructed • if you experience shortness of breath or chest discomfort while exercising, stop, rest, and use your GTN spray as instructed 	<ul style="list-style-type: none"> • strenuous activity, such as: snow-shovelling, digging the garden, cutting the grass, carrying shopping bags, heavy lifting (more than 10lbs) • exercising when tired • exercising on a full stomach (wait at least one hour after eating before exercising) • extreme temperatures, especially while exercising • any activity that requires holding your breath (e.g. lifting) • any activity that requires your arms to be extended above your head for long periods (eg. hanging out laundry)
Recreational activities	<ul style="list-style-type: none"> • anything as in previous weeks • slow dancing 	<ul style="list-style-type: none"> • excessive tiredness • places with excessive cigarette smoke
Diet	<ul style="list-style-type: none"> • as recommended by your dietitian • fruit and fibre intake will help to prevent constipation 	<ul style="list-style-type: none"> • large meals • excessive intake of alcohol, salt and caffeine
Rest	<ul style="list-style-type: none"> • try to maintain seven to eight hours of sleep per night • take naps as necessary 	<ul style="list-style-type: none"> • emotionally-stressful situations

Exercise

Exercise is beneficial, as it:

- gives you a sense of well-being
- relieves stress
- helps lower your blood pressure
- promotes better sleep
- can help lower blood cholesterol levels
- improves self-confidence
- can help strengthen bones and muscles
- helps keep joints supple
- aids weight loss.

Exercising after the eight-week activity programme

The best type of exercise to benefit the heart is 'aerobic' exercise. This is repetitive, rhythmic exercise, involving large muscle groups such as those that are used when walking, cycling, and dancing.

Aerobic activity increases the body's demands for oxygen, causing the heart to beat faster and your breathing to become quicker and deeper. This increased workload on the heart and circulation helps it become more efficient and develop endurance.

Avoid lifting heavy weights.

How much exercise should you do?

It is important to gradually increase your physical activity levels and consider how active you were before your heart attack or heart surgery.

If you were physically inactive before, you need to gradually introduce more activity into your day-to-day routine. For example, walking to your local shop rather than taking the car or bus, gradually increasing the distance you are walking, or using stairs instead of the lift where possible.

After the eight-week programme, your exercise should progress, but still include a 15 minute warm-up and 10 minute cool down. You may increase the pace of walking so that you are breathing a little deeper. You should be able to talk easily during this stage of exercise. If you feel 'puffed' when exercising or you can't hold a conversation, you are doing too much – slow down!

Don't exercise if you feel unwell, are short of breath, feel dizzy, or are experiencing chest discomfort or palpitations. Contact your doctor if you are experiencing any of these symptoms.

Don't exercise if you have a temperature or an infection, after eating a heavy meal or drinking alcohol, or if you have injured yourself.

Always:

- warm up and cool down
- exercise within your own limits
- gradually build up your exercise/activities
- wear comfortable clothing and shoes.

Avoid:

- becoming out of breath
- competition with others
- occasional intensive exercise – it's better to do 'little and often'
- lifting heavy weights
- breath holding when exercising.

Remember:

If there are any aspects of exercise you are unsure of, please consult your physiotherapist or your doctor.

Diet

This section outlines the dietary changes that will be beneficial for you to make following a heart attack. Our advice relates to four main themes:

- eat two to four portions of oily fish each week
- reduce saturated fats and increase monounsaturated fats
- have five portions of fruit and vegetables each day
- try to eat more fresh foods than processed foods.

Eat two to four portions of oily fish each week

Oily fish are beneficial because they contain omega 3 fatty acids. These help the heart to beat more regularly, reduce the risk of blood clots forming, and protect from damage the arteries that carry blood to the heart. It is very important for you to include two to four portions of oily fish in your diet each week.

Oily fish that contain good quantities of omega 3 fatty acids are:

- mackerel
- kippers
- pilchards
- salmon
- herring
- trout
- tuna – fresh or frozen, but not tinned, because the canning process reduces the amount of omega 3s.

Other varieties of tinned fish are not affected in the same way.

What is a portion?

A portion, or serving, is approximately 100g (4oz) of fresh, frozen or smoked fish, or 1 small tin, 1/2 medium tin of canned fish or 1/3 large tin.

Try to buy fish canned in water or in tomato sauce, rather than oil. If using canned fish in oil or brine, make sure you drain it well before use.

Meal ideas

Below are some meal suggestions to help you include oily fish in your diet:

Main meals:

- smoked mackerel with salad and wholemeal bread rolls
- fisherman's pie made with salmon and served with vegetables
- steamed salmon steak with salad and new potatoes
- salmon or fresh tuna fish cakes with baked beans and mashed potato
- baked trout garnished with lemon and served with vegetables and jacket potatoes.

Quick snack ideas to try

Fillings:

- canned pilchards in tomato sauce, or mackerel in mustard or curry sauce
- mackerel or tuna pâté
- canned sardines in spicy tomato sauce with canned mixed beans
- flaked mackerel, chopped cucumber and lemon or lime juice.

Served with:

- sandwiches - bread, toast, pittas or tortilla wraps
- crackers
- jacket potatoes.

Omega 3 supplements

If you are unable to consume two to three portions of oily fish each week, you can use a fish oil supplement that is high in omega 3 fats (but not cod liver oil, as this is not a good source of beneficial omega 3 fats).

Aim for a supplement which contains 1.0g of omega 3s (EPA + DHA) daily.

Plant sources of omega 3 fats

If you are vegetarian, try to include the following plant foods in your diet, as they contain small amounts of omega 3 fats:

- rapeseed oil, walnut oil or soya oil - use sparingly in cooking or as a salad dressing
- dark-green leafy vegetables, eg spinach, broccoli, green cabbage
- nuts-walnuts, pecans, peanuts, almonds
- soya-mince, soya beans, tofu
- seeds-ground flax seeds (or linseeds) and flax oil.

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The second main change you could make to your diet is to:

Reduce saturated fats

It is important to reduce your intake of saturated fat as this can help reduce cholesterol levels. Saturated fats are found mainly in animal fats. Examples of foods high in saturated fats are lard, butter, ghee, fat on meat, full-cream milk, and pastry.

Increase monounsaturated fats

Eat plenty of fruit and veg

Partially replace foods that are high in saturated fats with ones that contain monounsaturated fats. Olive oil, rapeseed oil, and products made with these oils are good sources of monounsaturated fats. Avocados also contain them. Small amounts of monounsaturated fats may be helpful for heart health, so try to include them in your diet, however, they do still contain a lot of calories so ensure you use them sparingly.

The third change you could make is:

Ensure you have at least five portions of fruit and vegetables each day. Increasing your consumption of fruit and vegetables to at least five portions per day can significantly reduce the risk of many chronic diseases, including heart disease. This includes fresh, dried, frozen, and canned, in natural juice, or juices of fruit and vegetables. Include them at every meal, and eat them as snacks between meals.

If at present you are eating only one or two portions of fruit and vegetables each day, increase the number of portions gradually until you reach at least five.

What is a portion?

1 portion is 80g of fruit or vegetables, for example:

- 1 whole fruit, eg 1 banana, 1 orange, 1 apple
- fruit juice: 1 glass (150ml)
- vegetables, raw, cooked, frozen, or canned: 3 tablespoons when cooked
- salad: 1 cereal bowl full

- 2 smaller fruits, eg plums/satsumas
- 1 tablespoon of dried fruit.

Fruit and vegetables are one of the main sections in the 'Eatwell Plate', which indicates the proportions of each of the food groups that it is recommended you consume in a day to ensure that you eat a balanced, healthy diet and receive all the nutrients you need.

The fourth change you could make is:

Try to include more fresh food in your diet and reduce the number of processed foods that you eat. This will help you to reduce your salt intake. Currently, on average, the UK population takes 9g of salt. However, the government recommends 6g of salt per day.

Principles of healthy eating

Breads, cereals and potatoes

These provide you with a good source of energy and are low in fat.

Try to choose high-fibre varieties, and include food from this group at all main meals.

Healthy tips:

- limit the use of cream-based sauces and spreads
- eat baked/new potatoes or mashed potatoes instead of fried chips
- if you are hungry, have cereal, a scone or a teacake as a snack
- boil rice rather than fry it
- oats and barley help to lower cholesterol.

Fish, meat and their alternatives

Fish, meat and their alternatives (beans, pulses, lentils, soya, and tofu) are good sources of protein, iron and omega 3 fats, and you should include items from this group in two of your meals each day. Typical portion sizes are: 60 - 90g (2 - 3oz) of cooked lean meat, or 90 - 120g (3 - 4oz) of cooked poultry or fish.

Healthy suggestions:

- oily fish can be used as a filling for sandwiches or baked potatoes, or try fish cakes or fish pâté
- use healthy cooking methods, such as grilling, microwaving, oven baking, poaching or casseroles
- remove visible fat from meat, or poultry skin, before cooking, and choose lean cuts of meat
- incorporate beans, pulses, nuts, soya, and tofu into your diet and use these as alternatives to meat. They also help to lower cholesterol
- half-fill your plate with vegetables, have plenty of starchy foods, and use smaller portions of meat
- avoid using the drained meat juices from the bottom of your roasting tin in your gravy.

Milk and dairy foods

Milk and dairy foods are good sources of protein and calcium. Aim for two to three servings each day. A serving is: 1/3 pint of milk, 1 pot of low-fat yoghurt/fromage frais, 30g (1oz) of hard cheese, 120g (4oz) of cottage cheese.

- choose semi-skimmed or skimmed milk
- try reduced-fat varieties of hard cheese, eg reduced-fat cheddar or low-fat varieties, such as cottage cheese
- grate cheese or use strong varieties so that you use less
- use natural yoghurt instead of cream for desserts.

Foods containing fat and sugar

These foods make up the smallest section of the 'Eatwell plate', and their intake needs to be limited as they are high in fats and sugar.

Try to reduce the frequency of cakes, biscuits, pies, crisps, chocolates and ice cream, as most of these contain hidden saturated fats. Reduce the quantity of mayonnaise, salad cream and dressings, and use low-fat varieties. Limit the amount of cooking fat and spreading fats that you use. Try to use olive oil or rapeseed-based oils/spreads instead.

Remember, it is still important to enjoy your food. No food should be excluded from your diet; just eat what is good for you and what you enjoy, in the right proportions.

If you are underweight or have specific dietary needs, or if you have any questions, please contact your doctor or cardiac rehabilitation nurse and ask to be referred to a dietitian.

Smoking

Coronary Heart Disease is the single most common cause of death in the United Kingdom and smoking is one of the major risk factors. Smoking kills around 114,000 people in the United Kingdom each year.

Some facts about smoking:

- smoking increases the amount of carbon monoxide in the bloodstream, thus reducing the amount of oxygen which is vital to the heart's proper function.
- nicotine makes the heart beat faster and raises the blood pressure, causing the heart to work harder.
- because smoking damages the lining of the coronary arteries, there is an increased risk of fatty acids being deposited in the artery walls.
- other chemicals in cigarettes can also damage the lining of the coronary arteries.
- 10 in every one hundred deaths from stroke are caused by smoking.
- cancers of the larynx, bladder, kidneys, cervix, oesophagus, stomach and duodenum can also be linked to smoking.
- four in every five lung cancer deaths are caused by smoking.
- smoking can lead to chronic bronchitis and emphysema.
- if you smoke, STOP! Continued smoking after a heart attack doubles the risk of another attack.
- from the moment you stop, the risk of heart attacks starts to decline and is halved within two years of giving up.
- people who continue to smoke suffer more angina and may be admitted to hospital more often.
- stopping smoking may relieve the symptoms of angina so much that previously planned surgery may not be necessary.
- on average, cigarette smokers die about 10 years younger than non-smokers.

You will feel the benefits of stopping smoking after:

- 20 minutes, the blood pressure and pulse return to normal. Circulation improves, especially to hands and feet.
- 8 hours, the oxygen level in the blood increases to a normal level. The chances of having a heart attack begin to fall.
- 24 hours, carbon monoxide has left the body. The lungs begin to clear out mucus and debris.
- 48 hours, nicotine is no longer present in the body. The senses of taste and smell improve.
- 72 hours, breathing becomes easier, and energy levels increase.
- 2 to twelve weeks, blood circulation improves throughout the body. Walking and exercise become easier.
- 2 and 9 months, breathing problems, coughing, shortness of breath and wheezing diminish. Lung efficiency is increased by 5 - 10%.
- 5 years, the risk of having a heart attack falls to about half that of someone who smokes.
- 10 years, the risk of lung cancer falls to around that of a non-smoker. The risk of a heart attack falls to about that of someone who has never smoked.

How can I quit?

Here are some 'top tips' to help you stop smoking:

- make a date to stop – and stick to it
- keep busy
- drink plenty of fluids
- get more active
- think positive
- change your routine
- make no excuses not to stop
- 'treat' yourself if you don't have a cigarette
- be careful what you eat
- take one day at a time
- get support from family or friends
- remember - it is never too late to stop!

If you need extra help, there are products to help you stop smoking, or alternative therapies such as hypnotherapy or acupuncture, or you can join a 'Stop Smoking' support group.

Numerous smoking cessation products are available; one of these is nicotine replacement. These products contain nicotine and are available as patches, gum, nasal spray, and inhalator.

If you need help contact:

Bassetlaw Stop Smoking Service 0800 2465343

NHS Smoking Helpline 0300 123 1044

You can also refer yourself to the Stop Smoking Service at your local doctors. A practice nurse will run a stop smoking clinic there.

Driving

If you hold an ordinary driving licence

Heart attack - you do not need to inform the DVLA if you have had a heart attack, but you must not drive for one month after your heart attack, and your insurance company must be informed.

However, specific recommendations have been laid down by the DVLA for drivers with certain cardiac conditions:

Angina - if you find you get angina while driving or at rest, you should not drive. You may recommence driving when your symptoms are controlled. The DVLA need not be notified.

Coronary Artery Bypass Graft - you should not drive for four to six weeks after your operation. The DVLA need not be notified if your surgery was uncomplicated.

Valve disease/Surgery - you should not drive for at least four weeks after your operation. There is no need to contact the DVLA.

Angioplasty/Stent insertion - do not drive for one week after this procedure. There is no need to inform the DVLA. In certain circumstances, after stent insertion following a heart attack, you may be permitted to drive before four weeks but please discuss this with your consultant or GP.

Pacemaker - do not drive for one week after this has been fitted. You must inform the DVLA.

If you are in any doubt, contact DVLA, Swansea, SA6 7JL.

Telephone: 0300 7906 806. www.gov.uk/driving-medical-conditions.

Vocational Driving Licence eg LGV/PCV/HGV

Holders of a vocational licence will be disqualified from driving for six weeks. The conditions this applies to are:

- angina
- heart Attack
- angioplasty/Stent insertion
- pacemaker Insertion.

If any of the above conditions applies to you, the DVLA must be contacted and you must not drive using your vocational driving licence.

Re-licensing may be permitted following a specific exercise test, arranged by the DVLA, and supervised by a cardiologist. This will be arranged after the six-week disqualifying period.

However, if you have had a pacemaker fitted you will not need an exercise test and re-licensing will be permitted providing there are no other disqualifying conditions.

If you have had a Coronary Artery Bypass Graft, you are disqualified from driving for at least three months. After this time you should speak to your doctor/consultant to discuss re-licensing. If you are unsure about whether you are permitted to drive if you hold a vocational licence, you can contact DVLA, details above.

Holidays and flying

A holiday can help your recovery, as it provides an opportunity to relax.

It is not the holiday itself that may cause problems - it is the getting there and back that causes stress. Plan your trip carefully. Allow plenty of time, and do not carry heavy bags or rush around.

You can usually travel by air within two to three weeks of a heart attack. However, this depends on your speed of recovery and whether you have experienced any problems after the attack.

It is best to check with your travel operator, airline and travel insurance company before you plan to fly. Getting adequate travel insurance is essential prior to travelling, some insurers may refuse insurance in the early weeks following a heart attack.

For up-to-date sympathetic insurance companies, contact the British Heart Foundation on 0300 330 3311 or by logging on to www.bhf.org.uk

Before you travel:

- make sure you carry your medicines in your hand luggage
- arrive in plenty of time for your flight
- try not to carry heavy bags – use the airport facilities.

Returning to work

Most people will be able to return to work about six to 12 weeks after their heart attack. However, this will depend on the type of work you do, how severe the heart attack was, and your rate of recovery. People whose job consists of light duties may be able to return to work earlier than those with heavier duties, who may need guidance from their doctor. If you require a sick note, please ask the staff on the ward, who will provide one.

If your employer will allow it, try going back to work part-time and gradually increase your hours until you are back to full-time.

You should aim to be back at work three months after the heart attack, but try to avoid working in stressful conditions or working extra hours.

Cardiac Rehabilitation

For further advice on the benefits to which you may be entitled after a heart attack, you can contact the Citizens Advice Bureau on 0300 456 8369.

Sexual activity

Sexual relationships are no different from any other type of exercise and is usually no more strenuous than climbing two flights of stairs. However, it is advisable to avoid sex for at least two weeks after a heart attack, but preferably for four weeks.

If you suffer with angina during intercourse, then your doctor should be consulted. He may suggest using a GTN spray or tablets prior to intercourse to prevent chest discomfort.

Some drugs prescribed for angina may have side-effects that affect sexual function. Beta-blockers are among these. However, not all patients experience side-effects, so do consult your doctor if you are having problems.

Don't:

- have sexual activities after a heavy meal or alcohol (this increases the work of the heart as it pumps blood to help with digestion). Sexual activity should be delayed for two hours after eating
- have sexual activities if you are already tired
- have sexual activities if there is anxiety or stress.

Erectile dysfunction or impotence is a problem that men with coronary heart disease may encounter. There are various reasons for this problem, including:

- anxiety - anxiety after a heart attack is common. During sexual activity there may be a fear of having an angina attack or another heart attack
- diabetes, high blood pressure and neurological problems
- heart disease - this is due to the disease process of 'furring-up' of the arteries.
- this 'furring-up' reduces the blood supply to tissues and can also occur in the penis, as it has a very rich arterial blood supply
- medicines - some medicines that you have been prescribed after a heart attack may cause impotence, e.g. beta-blockers (Atenolol).

It is very important not to stop taking your medication because you feel it is affecting your sex life. You should speak to your GP/practice nurse or cardiac rehabilitation nurse to discuss alternative medicines or even other methods of treatment.

Treatment of impotence with medicines

Some of the medicines used to treat impotence may not be suitable for use with some of the heart tablets - for example, Viagra (Sildenafil) - should not be taken by anyone who is taking nitrates. These include GTN spray, GTN patches, GTN tablets, or isosorbide mononitrate tablets. Don't take Viagra with Nicorandil (Ikorel).

If you were taking any tablets before your heart attack to help with impotence, please check with your doctor before re-starting the tablets. Your doctor will advise you on alternative treatments.

Stress

Recent research suggests that there is a connection between stress, high blood pressure and heart disease.

What is stress?

A person feels stress when his or her physical and emotional demands exceed their ability to cope with them. What is stressful for one person may not be so for another. We can all live under a certain amount of stress, but if stress is allowed to build up, it can have harmful mental and physical effects.

Physical signs of stress

Prolonged intense stress causes the release of adrenaline into the bloodstream. Adrenaline prepares the body for 'fight or flight' - heart rate increases, breathing quickens, and the muscles start to tense in preparation for action. Any stressful situation can cause this reaction to occur - even thinking about things that have happened in the past, or worrying about something in the future, can trigger this 'adrenaline rush'.

These situations put an extra burden on the heart because the blood vessels become narrower and the heart is forced to pump faster and harder. Where stress exists, there is an increased risk of heart disease because the heart's arteries are not equipped to deal with the prolonged action of adrenaline on the heart.

Stress management

Having a heart attack or any kind of heart condition is a life-changing event. The key to avoiding or combating stress when it arises is by learning to relax.

The benefits of relaxation are that it:

- reduces stress response
- reduces pain
- reduces fatigue
- promotes sleep.

Being able to control or even avoid stress can also lead to improved personal relationships and increased self-esteem.

The life guide to managing your own stress

Here are some tips on managing stress:

- develop your own understanding about stress. What causes you to be stressed? Make a list, then note how you react to the items you have listed
- identify what you can change and what you can't change. Some things will be difficult or impossible to change, so learn to accept those things that you can't alter
- recognise when pressure is building up within you and do something about it before it gets too bad
- watch for early-warning signs of stress in yourself and in others – your colleagues and family members
- listen to your body. Review how you treat it – do you take regular meal breaks and not rush your food? Do you eat the correct food? Are you getting enough exercise/sleep?
- review how you spend your time and energy at work and at home, and achieve a sensible balance between work and home
- decide where your priorities lie and set yourself some realistic goals
- learn to relax – find your best method of relaxing and do it several times a day, if possible. Build in short relaxation breaks during the day
- learn to breathe properly and practise this technique regularly during each day
- take care of your body by doing yoga or body-work exercises daily
- develop your relationships and build in more time with family and friends
- make more time for yourself by taking part in sport, leisure activities, or self-development programmes
- build in some time for reflection. Make an 'appointment' with yourself every day
- learn to say 'NO'!
- recognise your strengths and achievements
- do not sit on problems – discuss them and encourage other people to do the same
- accept professional counselling services when things become overwhelming.

If you would like to discuss any of the above further please contact Insight Healthcare who provide free talking therapies on behalf of the NHS. You can call them on Tel: 0300 300 0033 or email: bassetlaw@insighthealthcare.org or alternatively talk to your GP regarding a referral.

Relaxation

Tips for beginners

- don't think you should be doing something else - relaxation will increase your energy and mental efficiency.
- don't try to relax - just let go of tension and enjoy the comfortable feeling.
- don't think you can only relax when lying down in quiet surroundings. Practice relaxation whenever you can. Learn to withdraw from irritating happenings and difficult people, if necessary.
- don't think you can make your mind a blank. You have spent many years filling it with information – useful and otherwise! Allow thoughts to come and go without reacting to them. If you feel an increase in tension when a particular thought comes into your mind, let it go, reminding yourself to deal with it later when you have renewed your energy. When you are more practiced at the skill of relaxation, you will find it possible to reduce tension but retain thoughts and deal with them while remaining completely relaxed. All your energy will be available to help your concentration. None will be wasted on coping with anxiety, as you will have taught yourself to reduce anxiety when it occurs.
- don't confuse relaxation with recreation. They are both important to all of us, but recreation (playing games, watching television, reading, etc) always uses energy and can reduce or increase tension. Only relaxation reduces tension and provides more energy.

Don't feel guilty. You need to relax - we all do

Try to relax before you sleep, especially if you are over-tired. Otherwise, you may wake up still fatigued and unrefreshed.

When you are quite relaxed, your blood pressure is lowered and the blood circulation slows down. You should feel quite at ease.

Get up slowly after relaxing, or you may feel dizzy. Stretch and yawn. You will feel refreshed, alert and ready to carry on with your activities.

Medications

Useful Contact Numbers

If you have any queries about your medicines the doctor, pharmacist, or rehabilitation nurses will be happy to help.

For any general drug information enquiries you can also call the Trusts Medicines Helpline:

2.00 to 4.00pm Monday to Friday, on Tel: 01302 644324.

Bassetlaw Hospital, Pharmacy Department

(01909) 572476 between 9.00am - 5.00pm Monday to Friday.

Aspirin

Aspirin in low doses makes some cells in the blood less 'sticky'. This reduces the risk of blood clots forming. Aspirin reduces, by a quarter, the risk of a heart attack in patients with a history of heart problems.

Possible side-effects of aspirin

If you find you suffer from any indigestion or stomach irritation after taking aspirin tablets, even after food, inform your doctor.

Inform your doctor if you develop wheeziness after taking aspirin.

Cardiac Rehabilitation

General information

Low-dose aspirin is not advised for everyone. If you or your family are worried about the risk of a heart attack, you should talk to your doctor. Low-dose aspirin taken by patients without proper assessment can cause side-effects that could be dangerous. Patients who have had a heart attack or heart surgery should take aspirin for the rest of their lives, unless told otherwise by their doctor.

Clopidogrel/Prasugrel or Ticagrelor

Clopidogrel/Prasugrel or Ticagrelor, like aspirin is an anti-platelet drug. It is sometimes used in conjunction with aspirin. It is useful for people with unstable angina, people who have had a heart attack or for those who have recently had a coronary angioplasty (a procedure which helps to keep the coronary artery open). Sometimes they are used for people who can't take aspirin because they have a condition such as asthma. Most patients need to take them, they are given for 12 months after a heart attack. If you are unsure how long you should be taking them for, please consult your doctor.

Possible side-effects of Clopidogrel/Prasugrel or Ticagrelor

The most common side-effect is bleeding, which may be seen as bruising, nose bleed, blood in the urine or bleeding in the stomach or bowels. If you experience any of these side-effects, please consult your doctor. Do not stop taking the medication without your doctor's advice.

Ace-inhibitors (e.g. Captopril, Lisinopril, Enalapril, Ramipril, Perindopril).

Ace-inhibitors can be used for many things, including:

- lowering blood pressure
- reducing the risk of heart problems following certain kinds of heart attack
- helping the heart to work better.
- helps prevent future strokes, heart attacks and kidney problems

How to take Ace-inhibitors

The first time you take an Ace-inhibitor, make sure you are sitting or lying down, and remain so for a little while afterwards. This is because the first time you take these tablets, they may lower your blood pressure quickly and make you feel dizzy. This effect should pass after the first few doses.

Possible side-effects of Ace-inhibitors

Dry tickly cough:

- usually lasts about two to three months after starting these tablets. If it continues or is troublesome, inform your doctor.

Altered taste:

- usually lasts about two to three months after starting these tablets. If it continues or is troublesome, inform your doctor.

Feverish symptoms:

- inform your doctor. You may need a blood test to check that the cells which fight infection have not decreased. This is a rare reaction.

Skin reactions:

- inform your doctor if you develop any swellings or skin rashes.

General information

You will have a blood test before and after starting Ace-inhibitor tablets. This is to check that the drug has not changed the way in which your kidneys work or altered the level of potassium in your blood. Check with your doctor or pharmacist if you feel you need any painkillers or anti-inflammatory medicines while taking these tablets, since some of these types of medicines may interfere with the action of your Ace-inhibitor. It is acceptable to take Paracetamol with Ace-inhibitors.

Beta-blockers (e.g. Atenolol, Metoprolol, Bisoprolol).

Beta-blockers can be used to treat many illnesses, including:

Heart attacks: Beta-blockers reduce the risks associated with heart attack and reduce the risk of having another one.

Angina: Beta-blockers reduce the workload of the heart and help to treat angina.

High blood pressure: Beta-blockers reduce blood pressure.

Heart rhythm: Beta-blockers slow down the heart rate.

Possible side-effects of Beta-blockers

Tingling/cold hands/feet:

- this can usually be minimised by keeping warm. If it becomes troublesome, contact your doctor.

Wheeziness:

- some people, particularly those with existing breathing problems, are very prone to this side-effect. If you become breathless after taking these tablets, consult your doctor.

Blood sugar changes:

- diabetics may need to alter their insulin regime. Diabetics who suffer from 'hypos' may notice a reduction in their usual warning symptoms.

Impotence:

- discuss the possibility of changing to another beta-blocker with your doctor.

Tiredness:

- this usually goes away after a few days and could be caused by many things. Discuss this with your doctor if it becomes troublesome.

General information

Do not stop taking your beta-blockers, except on your doctor's advice. If this medicine is stopped too soon, your original symptoms may worsen.

Lipid-lowering drugs (e.g. Simvastatin, Pravastatin, Fluvastatin, Atorvastatin, Rosuvastatin).

These drugs are used to lower the amount of cholesterol in your blood. Reducing cholesterol levels in people with previous cardiac problems can reduce the risk of further problems. If your medicine needs to be taken only once daily, take the dose at night-time. This is because it works better at this time of the day.

Possible side-effects of lipid-lowering drugs

• **Unexplained muscle pain:**

- this is a rare side-effect. A test can be done which will detect if the drug is the cause. Consult your doctor if this occurs.

• **Stomach problems:**

- such as indigestion, altered bowel habit, stomach pain, sickness.

• **Rashes**

• **Headache**

• **Dizziness.**

General information

Lipid-lowering tablets should be used in conjunction with a low-fat diet. Because these tablets can change the way in which your liver works, your doctor will test your blood before and after you start taking the tablets, to check whether or not the functioning of your liver has been affected. Altered liver function is a very rare side-effect.

Glyceryl trinitrate (GTN)

This drug widens the blood vessels. This widening increases the blood supply to the heart and thus relieves angina pain. GTN should be taken whenever angina pain occurs that is not relieved by resting for one to two minutes. Angina pain is usually felt as a tight/gripping/central pressure, pain or ache across the chest, sometimes spreading to the arms or up into the jaw or neck.

If you develop sudden central chest pain along with shortness of breath, nausea, vomiting or sweating, you should call for assistance immediately by dialling 999.

GTN is available in tablet form and as a spray. Both of these are equally effective. Different people prefer to use one rather than the other for various reasons:

If you take tablets:

- place one or two tablets under your tongue and allow them to dissolve.

If the chest discomfort goes, you can spit out the tablet. You must remember to replace the tablets eight weeks after opening the packet; this is because once the tablets are open, they can slowly lose their strength. If these tablets are not replaced after eight weeks, there is a risk that they will not work when you need them. Unopened, they will last until the manufacturer's expiry date, which is shown on the bottle.

If you use a spray:

- spray once or twice under the tongue. The spray can be used until the manufacturer's expiry date, which is shown on the spray. It does not need to be replaced after eight weeks.

Possible side-effects of Glyceryl Trinitrate (GTN)

Headache:

- this is very common. If you are using the medication in tablet form and the discomfort has gone, you can spit out the tablet. This will reduce the risk of side-effects.

Flushing:

- this is also very common. Sit or lie down until the flushing stops. If you are using the medication in tablet form and the discomfort has gone, you can spit out the tablet.

Dizziness:

- this, too, is very common. Sit or lie down until the dizziness has gone. If you are using the medication in tablet form and the discomfort has gone, you can spit out the tablet.

General information

- always keep your GTN with you
- always have a spare supply in case you run out
- always keep your tablets in their original container
- if you run out of tablets or spray and cannot get to your doctor straight away, you can purchase a supply from your local chemist
- if you find you are using your tablets or spray more than usual, inform your doctor. You may need to have your usual prescription altered.

Use of Glyceryl Trinitrate (GTN) Tablets or Spray

STEP 1 - sit down and rest.

After 1-2 minutes, is the pain better? _____ **YES**

NO

STEP 2 - place a tablet under your tongue and allow it to dissolve, or use one or two puffs of your spray under the tongue. Wait 3-5 minutes.

Is the pain better? _____ **YES**

NO

STEP 3 - repeat Step 2 (your second tablet or use of spray).

Is the pain better? _____ **YES**

NO

STEP 4 - repeat Step 2 (your third tablet or use of spray).

Is the pain better? _____ **YES**

NO

STEP 5 - If you have used your spray three times within 15 minutes and the pain is still present (or getting worse) and you feel sweaty, nauseous or short of breath,

CALL AN AMBULANCE

Continue to rest. When you feel able to stand up, do so carefully.
Rest again if you feel pain or dizziness. Take things easy.

Information for patients attending for an exercise test

People are invited to come for this test for many reasons, to:

- to see if the heart struggles to get enough oxygen when it is asked to work harder. This is sometimes referred to as 'angina'
- to see if the medication being taken is working as it should
- to assess how well the heart is after a heart attack
- to screen the patient for any possible future problems that may develop, particularly if there is a family history of heart disease.

Is there anything I need to do or bring for the test?

The main thing is to wear comfortable clothing and shoes.

The doctor may want you to stop some of your medication for a time before the test, as some medications can interfere with the results. If this is the case, the name of the medication you will need to stop taking will be written on your appointment letter. You should not stop taking any medication unless it has been specifically requested by the doctor.

Please bring an up-to-date list of any medication you are taking, a recent prescription will be sufficient.

Please do not smoke for at least two hours before the test.

What will I be asked to do?

The test may be supervised by a Cardiac Physiologist (a specialist in this type of test), or a doctor. One other member of staff may also be present.

You will be asked to remove your clothes from above your waist. You will be fitted with a monitor that records your heartbeat and a blood pressure cuff will be put on your arm. Ladies will be asked to remove their bra, but will be provided with a gown for the test. You will then be asked to walk at a steady pace on the treadmill. The physiologist will adjust the speed and the incline of the treadmill every three minutes in order to increase your heart rate.

You will be asked to let the physiologist know of any symptoms you may develop, and the test can be stopped at any point if you become uncomfortable. How long you are on the treadmill is dependent upon your fitness, age, the results obtained, etc. You should expect to be at the hospital for about 30 minutes in total.

What are the risks/benefits of the test?

This is a relatively simple test that can provide a great deal of accurate information about the health of your heart. Armed with such information, your consultant will be able to appropriately direct any further treatment, prescribe relevant medication, or simply put your mind at ease about your condition.

The test is very safe, but there is a slight associated risk. One in 2500 people who undergo this test either goes on to have a heart attack, or their heart starts to beat in an erratic or undesirable manner. You can rest assured that the physiologist who performs your test is appropriately trained and that the department is fully equipped to deal with such a situation, in the unlikely event that it should happen.

What results will the test give, and will I get the results on the day?

The test results tell the doctor how well your heart can cope with exercise. The exact information the doctor needs depends on the reason for your being referred.

For most patients, the results will not be available on the day. The physiologist will send a report to the consultant at the hospital and they will then interpret the results in light of your individual history and the results of any other tests you have had. It is likely that the consultant will then write to you, inviting

you to see him/her in the hospital clinic.

They will also write to your family doctor (GP) with the results. This usually takes a few weeks.

What next?

The results of your exercise test and any possible further treatment will be discussed with you at your next appointment with the consultant and will naturally depend upon the original reason for your referral.

In the meantime, it is important that you remain on any prescribed medication and inform your GP of any changes in your general state of health.

If you have any further questions, please feel free to contact the Cardio-respiratory Department at Bassetlaw Hospital Tel: 01909 572761.

Cardiac Support Groups

Cardiac support groups aim to provide support and information, not only for those affected by heart conditions, but also for their partners and families as well. Between them, our members have experience of:

- heart attacks
- heart by-pass
- angina
- heart transplant
- valve replacements.

The advantage of meeting other people who have been through similar circumstances is that they can tell you how they overcame their problems. This, in turn, will give you confidence so that you and your partner will be able to overcome your own problems, allowing you to live the best possible life.

Guest speakers maybe invited to attend, and social events are arranged. Mainly, it is a social gathering for you to have a good 'natter' and, we hope, you gain from it.

Come along and enjoy a social evening with a group of friendly people. The groups are affiliated to the British Heart Foundation, whose website is www.bhf.org.uk

Bassetlaw Cardiac Support Group

The Bassetlaw Cardiac Support Group meets in the The Sanctuary The Crossing Newcastle Street Worksop and the Collinson Room at Retford Hospital (alternately) on the first Friday of every month. The meeting starts at 2.00pm till 4.00pm.

For more information contact Barry and Chris Coldwell

Tel: 01909 730629

Email: chriscoldwell@talktalk.net

Patient Experience Team

The team are available to help with any concerns/complaints you may have about your experience at the Trust. Their office is in the Main Foyer (Gate 4) of Doncaster Royal Infirmary. Contact can be made either in person, by telephone or email.

The contact details are:

Telephone: 01302 642764

Email: dbth.pals.dbh@nhs.net