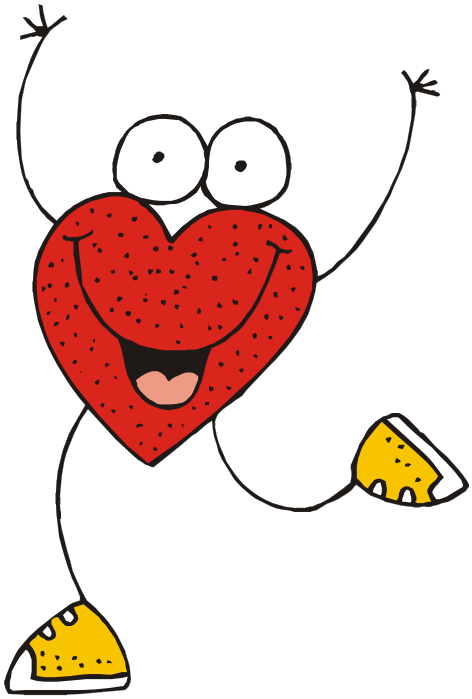
NHS

Wrightington, Wigan and Leigh

NHS Foundation Trust

The Heart Pack



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. If however, you are concerned about your treatment, or the service we provide, it is better if you can speak in the first instance directly to the staff involved, or to the Nurse/Department Manager.

If however, you would prefer not to do this, you can ask to see a member of the Patient Advice and Liaison Service (PALS). PALS are able to provide 'on the spot' help and advice to patients, carers, friends and families. They will listen to you and provide you with relevant information and support to help resolve any concerns or problems you may have. They can be contacted Monday to Friday, 9.00am to 4.00pm on 01942 822376 – outside these hours there is an answerphone service available.

If they are unable to allay your concerns and you feel you would like to take your complaint further, you can write to:

The Patient Relations/PALS Manager
Royal Albert Edward Infirmary
Wigan Lane
Wigan
WN1 2NN
Tel : 01942 822376

Research: is done to add to the existing scientific knowledge on a particular subject. Research may be carried out by both NHS Trusts. It is possible that during the course of 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.

INDEX

USEFUL CONTACTS
Specialist Nurses
Monday-Friday service 9-5

KERRY AUSTIN Cardiac Rehabilitation Specialist Nurse	LONG TERM CONDITIONS BOSTON HOUSE, WIGAN Tel: 07827 859077
JENNIFER HILTON Cardiac Rehabilitation Specialist Nurse	LEIGH INFIRMARY Mob: 07795 017414
GEMMA MURRAY Cardiac Rehabilitation Specialist Nurse	ASHTON CLINIC Tel: 07795 017402
CAROL MILNE Angina Specialist Nurse	ROYAL ALBERT EDWARD INF. Tel: 01942 773237 Pager: 07659 131972

PHYSIOTHERAPY

Leigh Health Centre	Tel: 01942 483413
Boston House Health Centre	Tel: 01942 482260
Platt Bridge Health Centre	Tel: 01942 482403

OCCUPATIONAL THERAPY

Holly Lloyd-Bennett 07795 017752 / Leah Thompson 07920 466174

CARDIOLOGY DEPARTMENT

Wigan Infirmary Tel: 01942 822445
Leigh Infirmary Tel: 01942 264310

CORONARY CARE UNIT	WINSTANLEY WARD	INCE WARD
Tel: 01942 822387	Tel: 01942 822531	Tel: 01942 822533

SMOKING CESSATION SERVICE	HOSPITAL	COMMUNITY
	Tel: 01942 773347	Tel: 0500 7867 669 or 01942 481712

PATIENT SUPPORT GROUP

David Gregson - Treasurer Tel: 01942 512979

CORONARY HEART DISEASE

Fatty plaques form within the coronary arteries causing them to narrow. 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

Coronary heart disease can present as -

- Angina
- Unstable angina
- Heart attack (myocardial infarction)
  (Unstable angina & myocardial infarction 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.

ANGINA

This is a condition that affects the coronary arteries that supply the heart muscle with oxygen and blood. Gradually, over the years the arteries may become narrowed with fatty plaques.

When you exercise, become upset, or after a heavy meal, the heart needs more oxygen and blood in order to work harder for you. However, because of the narrowing of the arteries, the blood cannot flow quick enough to meet your heart's needs. The blood flow through the arteries may be enough while you are resting but not enough during physical exertion.

UNSTABLE ANGINA

This involves the rupture of the fatty plaque, resulting in the coronary arteries narrowing even further, leading to an experience of chest discomfort at rest.

HEART ATTACK

Often called an MI or Myocardial Infarction

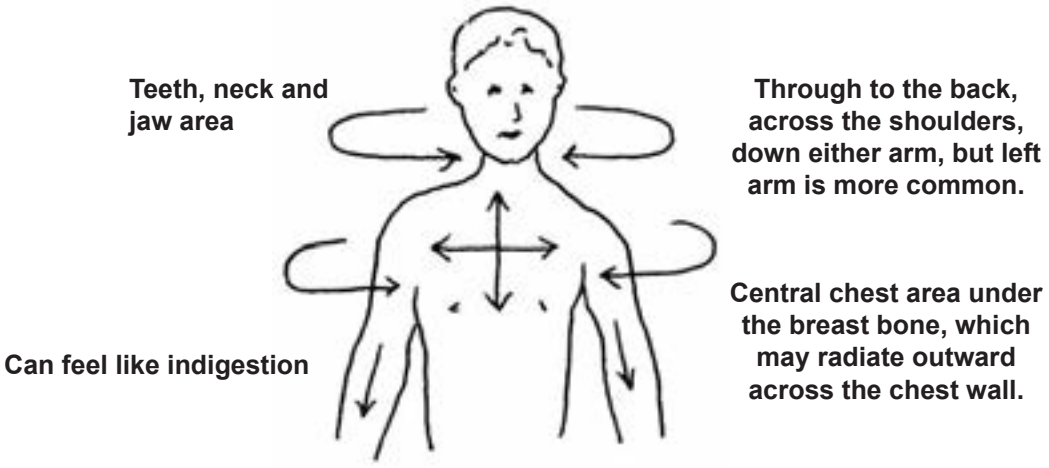
This also involves the rupture of the fatty plaque, but in this case a blood clot forms, leading to the complete blockage of the artery. This prevents blood and oxygen reaching an area of the heart which can cause damage to the heart muscle. Depending on the degree of damage to the heart muscle, this 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 heart failure.

CHEST DISCOMFORT

HEART ATTACK AND ANGINA SYMPTOMS MAY BE SIMILAR

- 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 very bad pain. It may feel heavy, tight or a burning sensation.
- Pallor, nausea, vomiting, breathlessness, or a cold, clammy sweat often accompanies heart attack pain.
- Symptoms may occur during activity, during rest or wake you from sleep. Some people do not get pain but may have any of the other symptoms described.

Pain / discomfort may occur in any of these places



Other symptoms to be aware of:- If you become unduly or increasingly breathless, experience palpitations, or feel dizzy, then you should see your GP.

What to do if you experience chest discomfort

If you experience chest discomfort, or symptoms similar to those you felt with your angina / heart attack:

- Stop what you are doing; sit down if possible.
- Take 1 - 2 puffs of GTN spray under your tongue.
- Wait ten minutes.
- If you still have chest discomfort after ten minutes, take 1 - 2 more puffs of GTN.
- Wait ten minutes.
- If the chest discomfort has not completely gone, **phone 999 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.

CLINICAL INVESTIGATIONS

BLOOD TESTS

1. **Cardiac Enzymes/Troponin**
   To aid diagnosis and establish if any muscle damage has occurred to the heart.

2. **Urea And Electrolytes (U + E's)**
   To ensure that your body salts are in proportion and that your kidneys are working properly.

3. **Full Blood Count (FBC)**
   To check that you are not anaemic and that you have no infection.

4. **Cholesterol / Lipid levels (for further information see page 14)**
   Cholesterol is a fatty substance which is mainly made by your body. This test checks for two types of cholesterol and protein called lipoprotein - Low Density Lipoprotein (LDL), and High Density Lipoprotein (HDL). LDL (or bad cholesterol) can cause fatty cells to stick to the coronary blood vessel walls and cause narrowing. HDL (or good cholesterol) removes cholesterol from the circulation and appears to protect against coronary heart disease. The goal is to have a low level LDL (<2mmol) and a high level HDL (>1mmol).

5. **Blood Glucose**
   This test checks the sugar levels in your blood.

OTHER TESTS YOU MAY HAVE

1. **ECG**
   This allows us to see if you have had a heart attack, or whether your existing angina has become worse, by showing the electrical activity of the heart.

2. **Chest X-Ray**
   To look at the lungs and size of your heart.

3. **Echocardiogram (Heart Scan)**
   This is a scan of the heart which shows the valves and chambers in detail, enabling us to check if your heart is pumping effectively.

4. **Stress echocardiogram**
This can be used to help diagnose angina. The heart is stressed with a drug called Dobutamine.We can then test the heart to see which areas of heart muscle are not receiving enough blood and oxygen.

5. **Myocardial perfusion scan**
This is a test to ensure there is enough blood and oxygen getting to your heart muscle when it is working harder.

6. **Exercise Tolerance Test (ETT)**
This test can also be referred to as a Treadmill Test. It is to determine if the heart muscle is functioning adequately during exercise. This is important to determine if you may need further intervention. You may be required to have an ETT before you return to work if you hold a PSV or HGV licence.

7. **Coronary Angiogram (Cardiac Catheterisation)**
During your stay in hospital you may have had an angiogram.This shows if and where your arteries are narrowed, and how narrow they are. If required, you may have had an angioplasty. This is a technique using a balloon on the end of a catheter that 'squashes' the atheroma (fatty plaques) in the narrowed artery, making the inside of the vessel wider and allowing the blood to flow through it more easily. A stent (a short tube of stainless-steel mesh) can be left in place in the narrowed artery. The stent is put in place by inflating the balloon with the stent on, it then expands and holds the narrowed artery wide open. The balloon is then deflated and removed; the stent remains in place. This procedure may be done as an emergency for treatment of a Heart Attack (Primary Angioplasty), or it may be done a few days after admission to hospital or possibly as an out-patient. Sometimes your consultant may decide you require further angioplasty and stent insertion at a later date.

   For the first few days after your angiogram/angioplasty 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. However, if the bruising worsens, if you develop swelling or if the area becomes hard and painful you should contact your GP or the hospital where you had your procedure. If the site leaks blood, apply firm pressure and call the hospital immediately.

Ask your Cardiac Rehabilitation Nurse if you require any further information about cardiac investigations. Information is also available 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 remain the most effective way to stop the disease progressing.

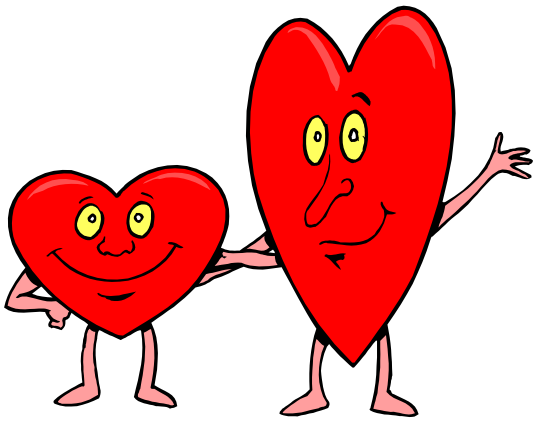
RISKS THAT CANNOT BE CHANGED

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) at a young age: under 65 for women or under 55 for men.

Ethnic Origin
People of South Asian origin have an increased risk of coronary heart disease.



Taking these factors which **cannot** be changed into consideration, it is even more important that you control those factors which can be changed.

RISK FACTORS THAT CAN BE CHANGED

SMOKING

Following your admission to hospital you will have been asked on a number of occasions whether you smoke. This is very important information for helping improve your health, as smoking is directly associated with a number of heart problems including heart disease and heart attacks.

A visit to hospital is very often the trigger for many people to quit smoking, we know that 70% of people that smoke do actually want to quit smoking.

As many people use this opportunity to quit for good, the Hospital Stop Smoking Team are on site to offer specialist stop smoking support during your hospital stay and after you have been discharged.

Hopefully, you have taken up this offer of support when the health professionals you have seen have discussed this with you and the hospital team are already supporting you. If you wish to contact the Hospital Stop Smoking Team about your continued support please phone them at the Royal Albert Edward Infirmary, Wigan on **01942 773347.**

The risks of continuing to smoke

You are probably already aware that smoking is bad for your heart but did you know:

- Smokers are at almost twice the risk of a heart attack compared with those who have never smoked.
- People who smoke have more health issues and many have to go into hospital more often.
- There are over 4000 chemicals in tobacco smoke, the 3 major ones being:
  Carbon Monoxide - this deprives the heart of vital oxygen, it thickens the blood and causes arteries to narrow.
  Nicotine – this stimulates the heart causing it to beat faster and raises blood pressure after each smoke, meaning your heart has to work harder.
  Tar – a large percentage of tar from tobacco that is inhaled settles in the lungs and this also contributes to the risk of cancer.

The health benefits of quitting smoking

To make sure your heart really benefits, it is important that you stop smoking completely rather than just cutting down.

After stopping smoking for:

- **20 minutes**, your blood pressure and pulse rate go back to normal.
- **24 hours,** your body will be clear of carbon monoxide and your lungs will start to clear some of the waste material from smoking.
- **48 hours,** your sense of taste and smell will improve.
- **72 hours,** breathing becomes easier and energy levels increase.
- **3–9 months,** coughs, wheezing and breathing problems improve as lung function is increased by up to 10%.
- **5 years,** the risk of heart attack falls to about half that of a smoker.
- **10 years,** the risk of heart attack falls to the same as someone who has never smoked.

Plus, if you are waiting to have any heart surgery, your recovery will be quicker if you quit smoking as soon as possible and this will reduce your risk of complications.

Remember: you now have an extra reason to stop smoking and this is something you can do to improve your health and your quality of life.

What help is available

Specialist support is available right now to help you quit and stay smoke free for good from trained professionals who provide evidence based information, practical advice and motivation. Important information is discussed about addiction and habit patterns, concentrating on the benefits of quitting with a healthier lifestyle and increased self confidence.

In addition, advice is also given on the most appropriate stop smoking medications: Nicotine Replacement Therapy such as patches, gum, lozenges, sprays along with other therapies such as Zyban and Champix. The NHS does not recommend the use of electronic cigarettes at present. Recommended treatments change over time due to research and studies carried out. The Stop Smoking service can be contacted for up to date support and guidance on medications that can help you stop smoking.

With the correct information and support, stopping smoking can be made easier for you. Smokers who use their local Stop Smoking Service are up to 4 times more likely to quit for good.

Specialist Stop Smoking Support

If you are still an inpatient and aren't already being supported by the hospital team, please ask the ward staff to refer you as soon as possible by ringing **3347** and a member of the team will visit you on the ward.

If you have now been discharged from hospital the Community Stop Smoking Team are available to help you with quitting. They offer one to one appointments in various venues across the borough of Wigan. Home visits can be arranged for people who are housebound.

Please phone the NHS Stop Smoking Service, Wigan:
Freephone 0500 7867 669 or **01942 481712**
to arrange an appointment.

Email: stop.smoking@bridgewater.nhs.uk

Visit www.alwch.nhs.uk/stopsmoking

Choosing to stop smoking can be one of the most important and worthwhile decisions that you can make and specialist help is there for you.

RISK FACTORS THAT CAN BE CHANGED

HIGH BLOOD PRESSURE

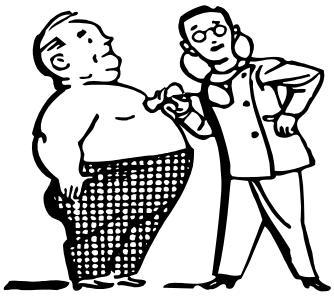
Blood pressure is the force of the blood pushing against the walls of the blood vessels. Uncontrolled high blood pressure greatly increases the workload on the heart, causing the heart to weaken and enlarge over time. This leads to damage of the artery walls, which can cause thickening and can make the blood vessels more prone to the build up of fatty plaques.

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, as in the early stages it causes no obvious symptoms. To be safe, everyone should have their blood pressure checked at least annually.

You can help to control your blood pressure by changing the parts of your lifestyle that can cause high blood pressure. For example -

- Physical inactivity
- Being overweight
- Too much salt intake
- Too much alcohol



You also need to change parts of your lifestyle that cause extra risk to your heart, such as smoking or a diet that is high in fat.

For more information on reducing relevant factors that reduce blood pressure, please ask either your GP, Practice Nurse or Cardiac Rehabilitation Nurse/Team.

RISK FACTORS THAT CAN BE CHANGED

HIGH CHOLESTEROL

We all need cholesterol in our bodies; without it we would not survive. It circulates in the bloodstream in large complexes called **lipoproteins.** There are five types of lipoproteins - two of them are involved in the development and prevention of heart disease. (Your Nurse checks for these when you have your blood tests approximately 3 months after your heart attack).

- **Low-Density Lipoproteins (LDL)**
  Known as "bad" cholesterol. When too much LDL (bad) cholesterol circulates in the blood, it can slowly build up in the inner walls of the arteries that feed the heart and brain. Together with other substances, it can form plaque, a thick, hard deposit that can narrow the arteries and make them less flexible. This condition is known as atherosclerosis. If a clot forms and blocks a narrowed artery, a heart attack or stroke can result.

  Saturated fats from animal sources such as bacon, butter, cheese, full fat milk, cream and lard cause high levels of LDL in the bloodstream.

- **High-Density Lipoproteins (HDL)**
  Known as "good" cholesterol because it removes excess cholesterol from the bloodstream. HDL sticks to the excess cholesterol in your cells and carries it to the liver where it is broken down and got rid of from your body.

  Women have more HDL than men; this is thought to be one of the main reasons why women suffer fewer heart attacks than men. However, when women reach the menopause their blood levels of HDL fall and their risk of heart attack rises to a similar level to that of men.

  Monounsaturated fats, as found in olive oil and oily fish, not only raise the blood levels of HDL, they also reduce the levels of LDL.

- **Triglycerides**
  Triglycerides are another type of fatty substance in the blood. They are a "bad" fat. Triglycerides are found in foods such as dairy products, meat and cooking oils. They can also 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 and sugary foods, or drink too much alcohol are more likely to have high triglyceride level.

The aim is to have a total cholesterol level below 4 mmol/l
LDL cholesterol below 2 mmol/l
HDL cholesterol above 1 mmol/l
Triglyceride level below 1.7 mmol/l

DIABETES

Diabetes increases the risk of heart disease. If you have this condition it is very important to keep a good control on your blood sugar levels.

- Stick to a strict diet.
- Don’t smoke.
- Take your medication as directed.
- Take regular exercise.

Your Cardiac Rehabilitation Nurse will check your blood glucose levels when you have your cholesterol checked.

If you have diabetes, the aim is to have a total cholesterol level below 4 mmol/l
LDL cholesterol below 2 mmol/l
HDL cholesterol above 1 mmol/l
Triglyceride level below 1.7 mmol/l

If you are worried about your condition, or feel your diabetes is not controlled, speak to your Diabetic Nurse, GP or Cardiac Rehabilitation Nurse/Team.

RISK FACTORS THAT CAN BE CHANGED

LACK OF EXERCISE

Regular, moderate exercise should be part of your daily routine.

Physical activity levels are low in the UK.

About 6 out of 10 men and 7 out of 10 women are not active enough to give themselves protection against coronary heart disease.

Please read the ‘Exercise’ section for more information (page 41)

RISK FACTORS THAT CAN BE CHANGED

BEING OVERWEIGHT

Excess body weight greatly increases the heart's workload, raises blood pressure and cholesterol levels. It can also increase the likelihood of developing diabetes.

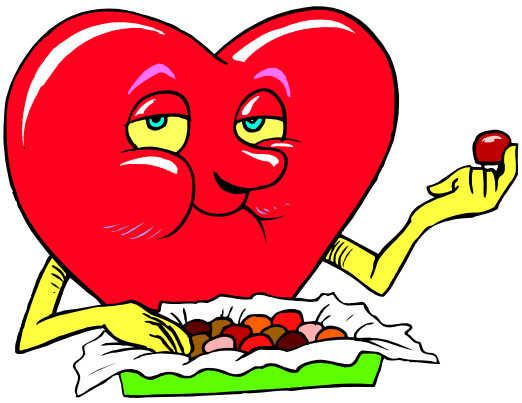
For every extra pound of body fat you carry your heart needs to pump the blood through an extra mile's worth of veins and arteries.

This places a huge burden on the heart, but by reducing your body weight, these risk factors are reduced and you will generally feel much better.

Regular exercise and healthy eating will help you lose weight and keep it off.

If you are overweight, you need to lose some weight. Don't try to lose the extra weight too quickly. Losing weight slowly and steadily (about 1 lb a week) is more healthy 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. Contact your GP, Practice Nurse or Cardiac Rehabilitation Nurse if you would like help, or require more information on losing weight.



RISK FACTORS THAT CAN BE CHANGED

UNHEALTHY EATING

Many common health problems, including coronary heart disease, are linked to what we eat. The food we eat affects our blood lipid levels, so it is important to eat a healthy diet. There is no need to buy special products or have separate meals from other members of the family, in fact a healthy diet is recommended for everyone.

Use the following as a guide –

- **Eat regular meals**, including breakfast (you should take your morning medication after breakfast), and use a wide variety of different foods.

- **Include foods rich in starch and fibre** with 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) (see page 14).

- **Eat five portions of fruit and vegetables each day.** Fruit can be fresh, frozen, dried, 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).

- **Include oily fish** in your diet. Oily fish is rich in Omega three oils which have been proven to decrease the stickiness of the blood, thereby reducing the risk of blood clots, lowering blood pressure and increasing good cholesterol (HDL cholesterol) (see page 14). Examples of oily fish are fresh tuna (not tinned), salmon, trout, sardines, pilchards, mackerel, herring and kippers. All fish except tuna is ok in a tin, choose tomato sauce or brine (drain the brine). Oily fish intake can lead to benefits in as little as three months (for more information see page 20).

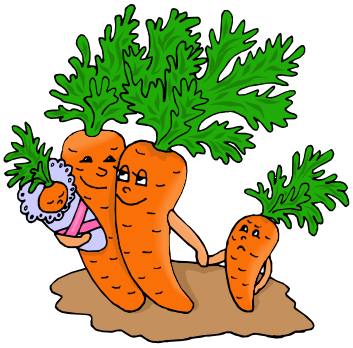
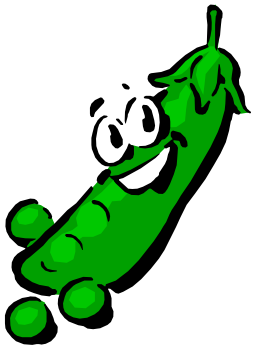
  Oily fish is the best source of Omega three oils. However, if you do not like oily fish, you may get some benefit from taking Omega 3 supplements 1 gram daily (490-900mg EPA/DHA). This is available as tablets or liquid. For further information, see page 22.

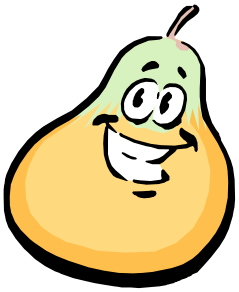
- **Reduce your overall intake of saturated fat.** Too much saturated fat can quickly increase triglycerides and LDL cholesterol levels (see page 14), increasing your risk of blockages in the arteries. Saturated fat is found in red meat and dairy products. Trimming fat off meat can make a significant 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. Like fatty foods, sugary foods can lead to blockages in the arteries. This is because sugar / fructose elevates other fats in the blood called triglycerides. Like cholesterol, triglycerides can be deposited on the walls of the arteries and cause blockages. Having a lot of sugary drinks which contain fructose, and fatty foods can quickly increase triglycerides levels in the blood. Refined carbohydrates such as white bread / crisps can also elevate triglycerides, choose wholegrains instead. Excess alcohol consumption can also cause a rapid increase in triglyceride levels. Diabetes and central obesity can also increase triglyceride levels.
- **Avoid too much salt,** either use salt in cooking or at the table, not both. Eat fewer salty foods such as crisps, bacon and preserved foods. Do not use salt substitutes.
- **Drink plenty of water,** at least 6 glasses a day (unless you have been advised to restrict your fluid intake).

Antioxidants

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. Fruit and vegetables are good sources of antioxidants such as carotene, Vitamin C and Vitamin E.



OMEGA-3 FATS

Oily Fish

Omega-3 fats are healthy fats which protect your heart. They are mainly found in oily fish. They are also known as EPA and DHA. They help the heart to beat more regularly, reduce the ‘stickiness’ of blood, making it less likely to clot and help to keep arteries smooth and supple. Very good sources of Omega-3 fats are herring, kippers, mackerel, pilchards, salmon, sardines and trout. Other sources are rapeseed (or canola) oil, nuts, dark green leafy vegetables and some enriched foods.

If you have had a heart attack, aim for 3 portions of Omega-3 oily fish weekly or take an Omega-3 supplement.

If you have not had a heart attack aim for 1 portion of oily fish and 1 portion of white fish per week. A serving is roughly 100-150g (4-6oz) of fresh, frozen or smoked fish.

Eat a variety of fish - try different fish. If possible, buy local fish or fish from environmentally friendly sources.

If using canned fish in oil or brine - drain well before use. To help lower you salt intake, keep smoked fish to no more than once a week.

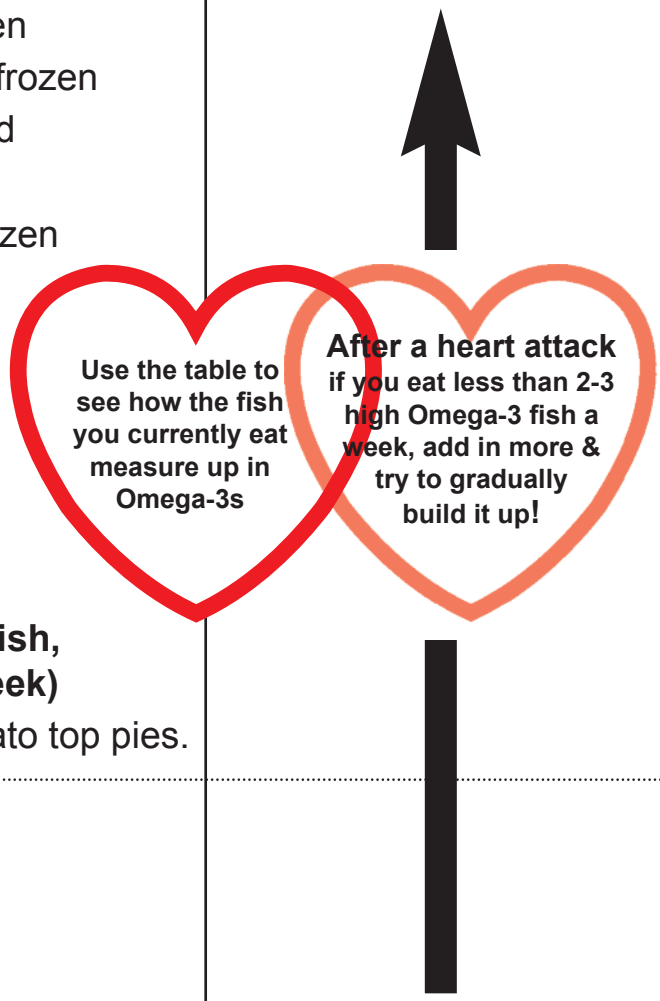
Oily fish does not have to be expensive; canned fish is convenient and cheap. All canned oily fish is high in Omega-3 fats, except canned tuna. If buying fresh fish, it will be cheaper if it is in ‘season’. Look out for special offers for fresh fish or frozen fish.

OMEGA-3 FATS FOUND IN FISH - *per average serving*
High Sources of Omega-3 are above the dotted line

- **Mackerel -** fresh or frozen
- **Kippers -** fresh, frozen or canned
- **Pilchards -** canned in tomato sauce
- **Tuna or Trout -** fresh or frozen
- **Sprats or Salmon -** fresh or frozen
- **Mackerel -** smoked or canned
- **Sardines -** fresh or canned
- **Herring -** pickled, fresh or frozen
- **Sild or Skippers -** canned
- **Salmon -** canned in brine or in pasta dishes or smoked salmon
- **Crab -** fresh
- **Herring -** canned
- **Trout -** smoked
- **Swordfish (only eat Swordfish, Shark and Marlin once a week)**
- **Salmon Fish Cakes -** or potato top pies.

- **Salmon Fish Paté**
- **Tuna -** canned in oil
- **Crab -** canned in brine
- **Eel -** fresh of jellied
- **Fish Paste -** Crab, Salmon, Sardine
- **Cod or Haddock -** fresh or frozen
- **Fish Cakes or Fish Fingers** (white)
- **Tuna -** canned in brine or water

Very High Source



Low Source

Other sources of Omega-3 fats

The body finds it easiest to use Omega-3's (EPA & DHA) from oily fish, however, it can convert a type of fat called ALA into small amounts of the more useful Omega-3 oils.

To help your body convert as much Omega-3 from plants as possible, it is important to eat a varied diet with plant rich sources daily.

- Rapeseed, canola, walnut, soya, flax (or linseed) oil
- Ground or crushed linseeds, flax or pumpkin seeds
- Unsalted nuts - walnuts, pecans, peanuts, almonds
- Soya beans and tofu
- Dark green leafy vegetables, sweet potato & whole grains.

Some foods can be enriched with Omega-3 such as eggs, milk, yoghurt and yoghurt drinks. Omega-3 content (such as EPA, DHA, ALA) varies greatly, so check labels. The target is 1.0g of Omega-3 per day.

Omega-3 Supplements

If you eat enough oily fish you do not need to take a supplement. If you have had a heart attack and don't eat oily fish, either take a supplement containing 1.0g Omega-3's (EPA & DHA) daily or if you are unable to take fish oil capsules, try a supplement derived from algae (good source of DHA).

Recipes to get you started!

Quick Snacks - fillings for sandwiches, crackers, pittas, wraps or jacket potatoes:

- Canned pilchards or mackerel in tomato or mustard sauce
- Canned salmon in low fat salad cream instead of mayonnaise
- Flaked mackerel, chopped cucumber and lemon or lime juice
- Canned sardines in spicy tomato sauce and canned mixed beans
- Mackerel or salmon or tuna paté

Main Meals: to keep as much Omega-3 in the fish, it is best to steam or microwave. However grilled, baked, fried or canned oily fish are all still good Omega-3 sources:

- Steamed salmon steak with salad and new potatoes
- Grilled peppered mackerel with a pasta salad
- Baked trout with lemon, served with jacket potato and vegetables
- Salmon or fresh tuna fish cakes with salad or baked beans
- Herring curry with chapatti or boiled basmati rice and salad

Start experimenting: with fresh, frozen, canned fish or Omega-3 plant foods. Serve the following dishes with salad or fresh, frozen or canned vegetables:

- Stir-fry - toss noodles with salmon, tuna, tofu or pumpkin seeds
- Fish Pie (potato topping) - use a mixture of salmon and white fish
- Pasta - add walnuts or spinach or oily fish to a tomato sauce
- Risotto - try making it with smoked mackerel or unsalted nuts
- Pizza - try sardine or pilchard topping for a change
- Curry - try using mackerel or soya beans and serve with rice
- Chowder Soup - add flaked smoked mackerel or sweet potato
- Kedgeree - use kippers or tofu with a little turmeric powder

RISK FACTORS THAT CAN BE CHANGED

EXCESS ALCOHOL INTAKE

Drinking too much alcohol can raise the blood pressure, cause heart failure and lead to a stroke. It can also contribute to obesity, an increase in cholesterol levels and an irregular heart beat. Alcohol is acceptable in moderation, in fact the risk of heart disease is lower in people who drink **moderate** amounts (one to two units of alcohol a day).

The recommended maximum number of alcohol units per week is no more than 14 units for men and 14 units for women. For every unit you drink over the limit, your systolic blood pressure is likely to increase by 1 mmHg.

One unit is -

- One standard pub measure of spirits
- Half a pint of normal strength beer

- One small glass of table wine (125ml)

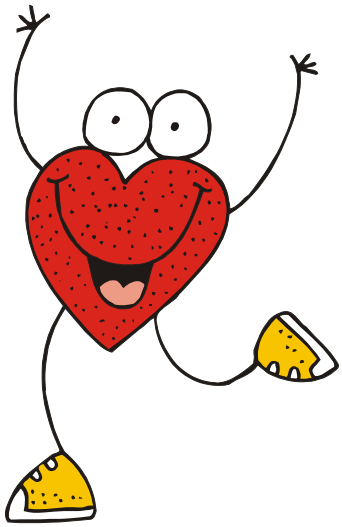
- One standard small sherry

Current daily guidelines for responsible drinking:

2-3 units or less for men and women.

Please note: you should have at least 2 alcohol free days per week

Refraining on one day should not mean excess on another.



RISK FACTORS THAT CAN BE CHANGED

STRESS

Stress is something we are all susceptible to and when it happens several physiological events occur.

When these events occur at a low level it is called **pressure.** Some pressure is good for us; this is what we experience when we feel stimulated, excitement, achievement and success - it allows us to focus and perform in a more efficient way. However, when we are under **too much** pressure this leads to stress, increases the risk of heart disease, and leads to poor performance and frustration.

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:

- Thoughts 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 of 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 risk of heart disease is not in eliminating all stress, but in learning how to manage stressful situations, and in learning how to relax following stressful situations giving your body a chance to recover.

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 have to 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 are able to do and what you may be having difficulty coping with following your cardiac event/diagnosis. Our role is to enable you to improve your confidence and quality of life.

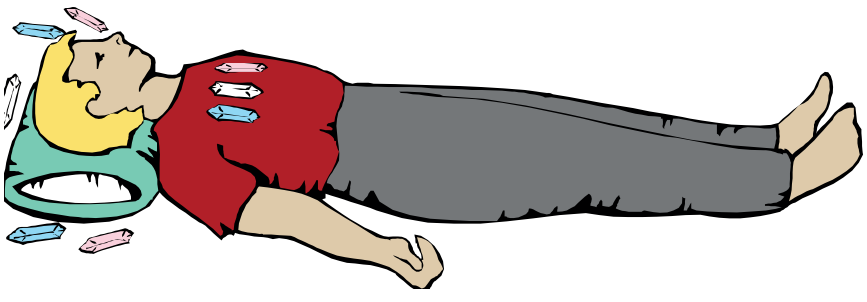
The Occupational Therapy department offers a range of programmes/interventions to equip you with knowledge, skills and techniques, example include:

- 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.

For more information about our service, please contact the Occupational Therapy department on **01942 482249.**



AFTER DISCHARGE FROM HOSPITAL

ANGINA

Week 1

1. If this is a new diagnosis of angina you may feel anxious and frightened. Even if your angina is not new it can bring with it many fears that you may not have had before.

2. Do not try to do too much when you get home - avoid heavy housework, gardening, or lots of ironing. However, you can do light jobs; in fact we encourage you to get back to normal as soon as possible.

Avoid -
- Bathwater which is too hot
- Physical activity after a heavy meal
- Stressful situations
- Heavy manual work

3. Get used to taking your medication and getting into a routine.

Week 2

1. By now you may be starting to feel better. Please understand that people lead completely normal lives with angina. It is important that **you** are in control of your angina, **not** angina in control of you.

2. Remember angina is a warning sign. It's your body's way of telling you that the heart is not receiving enough blood or oxygen at that time. Slow down and stop the activity you are doing.

3. In general, if you can walk briskly up a flight of stairs without getting angina symptoms, then sex should not be a problem. If you find that sex brings on angina symptoms then take GTN spray beforehand. Ensure the room is warm and avoid sex after a heavy meal. You should not take medication for Erectile Dysfunction (ED) if you are on regular nitrates (Imdur, Monit, Ismo, Modisal XL) Potassium Channel Activators (Nicorandil). Speak to your GP if you take Alpha Blockers (Alfuzosin, Doxazosin, Indoramin, Prazosin, Terazosin) as these may interact with ED medication depending on the dose (see page 37).

4. Tell your car insurance company that you have angina. Usually it does not affect your premium.

5. You **can go** out for short journeys. **Do go** shopping. **Do** visit friends.

Week 3

1. You can go away on holiday - this is part of normal life. If you can walk briskly on the flat for about 100 yards then air travel is not likely to be a problem for you. Allow yourself plenty of time for any travelling - avoid stress. Please notify your travel insurance company that you have angina. If you have access to the internet, the British Heart Foundation (www.bhf.org.uk) has information about travel insurance.

2. By now you should try to resume your normal life. However, if your angina does not appear to be settling then seek advice. (See below)

3. You may feel like returning to work, but only if you feel well and your angina is now well controlled. If your job involves heavy lifting or stress then it would be advisable to wait until you have had an exercise tolerance test (if this is necessary), or until you have seen your Angina Specialist Nurse again.

4. Change your eating habits. Help your body by adopting a low fat diet. (See the section on healthy eating in this booklet, or ask your Nurse)

5. Make every effort to give up smoking. By week three you may have felt cravings if you have only recently stopped. Please remember what has happened to you. **DO NOT START SMOKING AGAIN.** Seek help and support from smoking cessation services.

Stop Smoking Team - 01942 773347 (Royal Albert Edward Infirmary)
or Community - 01942 481712 or Freephone 0500 7867 669

What to do if you continue with Angina

1.
   - Stop what you are doing; sit down if possible.
   - Take 1 - 2 puffs of GTN spray under your tongue.
   - Wait ten minutes.
   - If you still have chest discomfort after ten minutes, take 1 - 2 more puffs of GTN.
   - Wait ten minutes.
   - If the chest discomfort has not completely gone, **phone 999 for an ambulance (ask for Paramedic crew).**

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

2. If you are using your GTN spray frequently, or your angina changes character in any way, inform your GP and Angina Specialist Nurse.

3. If angina occurs at rest use your GTN spray as above and ring 999 if your discomfort has not gone away after 20 minutes having used your GTN spray twice. If you manage to control the discomfort with the GTN but your angina continues to occur at rest then it is really important to let your GP / Cardiac Specialist Nurse know.

Please keep yourself safe. If you are at all concerned ring 999.

AFTER DISCHARGE FROM HOSPITAL

UNSTABLE ANGINA

The need for rest

Unstable angina differs from angina. You need to take a little more care on discharge from hospital. This does not mean that you should “wrap yourself in cotton wool” and not do anything - just build up slowly.

Whilst you were in hospital you will probably have been referred to your Angina Specialist Nurse. The Nurse will be there to help you once you have been discharged and you will be followed up in the Angina Clinic.

You will also be under the care of a Consultant Cardiologist. If not, your Angina Specialist Nurse will make this referral, if and when appropriate. So please do not worry - we are here to help and support you in your recovery.

Week 1

We like you to rest a little more after an episode of unstable angina, giving time for the coronary artery to heal and for any of the tiny blood clots to disperse safely. This would happen naturally. However, whilst you were in hospital you were probably given an injection in your tummy which helps to thin your blood and therefore dissolve any clots.

You will be on aspirin unless you cannot tolerate it; this also helps to thin your blood.

Normally you will need to take aspirin for life.

As you have experienced unstable angina you may need to take another tablet similar to aspirin. This could be either Clopidogrel or Ticagrelor. You usually take this for 12 months. If you have had an angiogram and a stent placed in your coronary artery then it is very important for you to take this tablet for 12 months. (see page 48).

No heavy lifting.

You are advised not to drive for 4 weeks after an episode of unstable angina.

If you carry a LGV or PCV licence you will need to tell DVLA about your condition and check with them whether you can continue to drive.

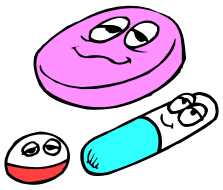
If you are going on holiday it is important to check with your doctor that you are fit to travel. Please let your travel insurance know of your cardiac condition.

Build up slowly and gradually over the next 2-4 weeks.

Eat a healthy low-fat diet. (See section on diet (page 18) for more advice).

Get into a routine of taking your tablets.

Give up smoking immediately. We can help.



Week 2

Remember, after an episode of unstable angina you must not drive for four weeks. However, you can be a passenger in a car.

Do take very short walks around the locality of your home, and visit friends.

Keep as stress free as you can. Maintain a low fat diet, eat plenty of chicken, fish, potatoes, pasta, rice, lean meat, fruit and vegetables. Watch your alcohol intake. If you are diabetic, take good care of your diabetes.

Sex can also resume now as you feel comfortable and you are not having any angina. You should not take medication for Erectile Dysfunction (ED) if you are on regular nitrates (Imdur, Moni, Ismo, Modisal XL), Potassium Channel Activators (Nicorandil). Speak to your GP if you take Alpha Blockers (Alfuzosin, Doxazosin, Indoramin, Prazosin, Terazosin) as these may interact with ED medication depending on the dose (see page 37).

Week 3

By now you should be feeling better. Start getting back to your normal routine, but be governed by how you feel, listen to your body. Lengthen your walks a little - as long as you feel comfortable.

If your condition is newly diagnosed you may still be feeling frightened or anxious and you may have lost some of your confidence. These are normal feelings; as you begin to feel better and return to normal, these feelings will go.

Week 4
You should now be starting to get back to normal.
You can resume driving by the end of this week.
Gradually build up your activities until you feel back to normal.
Your Cardiac Specialist Nurse will see you in the Cardiology Clinic usually between 3 and 6 weeks after discharge.
If you have any concerns or worries, ring your Cardiac Specialist Nurse.

Exercise is an important part of your recovery; it helps keep your heart muscle strong, helps lose weight and gives you a feeling of well-being.

Remember, at this stage, exercise is for leisure and pleasure, but not necessarily a challenge. Adhere to the exercise guidelines in your Heart Pack (see page 41).
If you are concerned ring your Cardiac Specialist Nurse.

Depending on your circumstances you may have been referred to the Cardiac Physiotherapist to commence rehabilitation.

Follow-Up Care:
You will be followed up by the Angina Specialist Nurse.
This will be to check on your progress and ensure you are recovering well, both physically and psychologically.
We will also check your pulse and blood pressure, fine tuning medications where appropriate.
We will give you life-style advice.
You may be referred to a cardiac physiotherapist for rehabilitation if you have a stent placed.
If you need advice or help, then please contact the Cardiac Rehabilitation Nurses for angina and unstable angina on:
01942 822425

Angina Clinics are held :
Monday mornings clinics at the Thomas Linacre Centre Suite 1.
Tuesday morning clinic at Leigh Infirmary Clinic Area 6.
Normally all other clinic sessions are held in the Cardiology Department Level 0.
Other clinics may also run depending on demand.

RECOVERING FROM A HEART ATTACK

The Cardiac Rehabilitation Programme is not only aimed at helping patients regain physical fitness and return to a good quality life, but also, and very importantly, helps to reduce the risk of a further heart attack.

During your stay in hospital you will most likely meet the Cardiac Rehabilitation Nurse who will be responsible for your care when you return home on discharge from hospital. The Nurse is there to advise you and your partner/family during your recovery. You will be given a contact number for the Nurse before discharge. The Cardiac Rehabilitation Nurse will advise you on the best way to recover and on any lifestyle changes you may need to make.

Recovery from a heart attack can take several weeks. Patients' recovery rates vary on the severity of the heart attack and previous levels of fitness - **don't compare your recovery rate to that of others.**

Having a heart attack can be a frightening experience. For many people it is the first time that they have been in hospital, or even suffered any illness, so it is only natural that you may feel anxious and vulnerable. You may even feel a little emotional and a little weepy. This is a perfectly normal reaction so do not feel embarrassed. None of us know how we would react in the same circumstances.

Do tell your fears and anxieties to the Doctors or Nurses - they are there to help you. It is important that you tell the nursing staff if you experience any further symptoms - do not suffer quietly with a pain/discomfort in your chest.

As the days go by your level of mobility will increase to the point where we will assess your fitness level and identify any potential difficulties by asking you to climb a flight of stairs.

RECOVERING FROM A HEART ATTACK

Your practical questions explained on:

Work

Following a heart attack you will need a sick note. The ward clerk on your ward can provide this, but you will need to get one from your GP after discharge from hospital. Typically you would be off work for six to twelve weeks after your hospital stay, although this can vary and is dependent on your recovery and the type of work you do.

Driving

The DVLA stipulate you cannot drive for either 1 or 4 weeks after a heart attack depending on whether you have had a stent and need further stents and if you have heart failure. If you have not had any stents inserted (medical treatment) or you are waiting for stents as an out patient and/or if you have heart failure following your heart attack, you cannot drive for 4 weeks.

If you have had a stent inserted and do not require any further stents and do not have heart failure, you can drive after 1 week. If you are unsure, please check with the hospital staff before discharge or ask your Cardiac Rehabilitation Nurse.

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

If you are an HGV driver or Public Service Vehicle driver you must notify the DVLA as they need to contact your consultant to arrange for you to have an exercise tolerance test off medication to determine your fitness to drive.

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 and also upon what your consultant cardiologist advises.

Take precautions in hot climates -

- Drink plenty of non-alcoholic fluids
- Wear a sun hat
- Stay out of the hot sun, sit in the shade
- Avoid strenuous exercise when it is hot
- Use adequate sun protection

Check that your holiday medical insurance covers you.
You are advised to tell the insurance company of your heart condition.
A list of Insurance Companies is available on request (the BHF website www.bhf.org.uk has information on travel insurance).

Sex

It is advisable to refrain from sex for a couple of weeks until the heart has had time to recover and you are feeling more confident. If you are not experiencing any symptoms of chest discomfort or pain then you may resume sex when you and your partner feel ready. Avoid sex after a heavy meal.

Men may experience Erectile Dysfunction (ED) after an acute cardiac event. ED is more commonly known as impotence. This is when a man experiences difficulty 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 recent hospital admission due to anxiety. It is normal to feel anxious initially, however, if ED persists or was a problem before your recent cardiac event, 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.

You should not take any medication for ED (Viagra [Sildenafil]), Cialis [Tadalafil] and Levitra [Vardenafil]) **that has not been prescribed for you by a doctor.** Medication for ED cannot be taken if you are on regular nitrates 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.

If you have used GTN spray you should not take medication for ED for at least 24 hours (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 20 minutes. You must inform the paramedics and the medical team that you have taken medication for ED so they can treat you safely.

Your GP or a specialist in ED can assess your suitability for other treatments for ED that may suit you better.

RECOVERING FROM A HEART ATTACK

Although you will inevitably be happy to be at home you may feel anxious, panicky and lacking a little confidence. You may experience mood swings and feelings of frustration and anger - “Why me?” This is perfectly natural. Your partner and family may also experience these feelings. Talk to your Cardiac Rehabilitation Nurse; she will be able to advise and reassure you. Your level of concentration may not be as good as usual; this improves with time, so do not worry.

Once you are discharged home you should phone your Cardiac Rehabilitation Nurse (contact number on page 2), she will arrange a suitable date and time to visit you at home to commence your cardiac rehabilitation. Please leave a message on the phone if there is no reply. Your Cardiac Rehabilitation Nurse will phone you back as soon as possible. Your Cardiac Rehabilitation Nurse may see you at home a couple of times in the first few weeks following your heart attack, 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 further 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 Cardiac Rehabilitation Nurses are non-medical prescribers and 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 over the next few weeks. Your Cardiac Rehabilitation Nurse will provide you information about the medication you are taking.

You will be discharged from Cardiac Rehabilitation approximately 3 months after your heart attack. You may be asked to attend the cardiac rehabilitation clinic with your Cardiac Rehabilitation Nurse and a General Practitioner (GP) in cardiac rehabilitation if appropriate. Your Cardiac Rehabilitation Nurse will discuss this with you. You will be asked to have a fasting blood test at this point to check the function of your kidneys, liver, thyroid, full blood count and your cholesterol / lipid levels. If you are diabetic, you will have your glucose levels checked also. You will then be discharged back to your GP’s care. Your GP should review you every year to check your fasting bloods and check your blood pressure and weight.

ADVISED ACTIVITIES ON RETURNING HOME

- Remember that these are guidelines only, and each person must reach their own level of recovery and fitness at their own pace.
- While some people will recover very quickly, others will take much longer. Use common sense and allow yourself the best chance of a smooth recovery.
- In the early stages of recovery, you may find that you are more tired than usual but this should pass as you regain fitness and confidence.
- You may feel well and be tempted to do more than advised. Try to follow these guidelines to allow the heart time to recover.

First week at home

- Take things easy around the house - light washing up or making a snack is fine.
- Avoid heavy housework, such as cleaning or vacuuming or cooking a large meal.
- You may feel the need to rest on the bed after lunch and/or have early nights.
- Take the stairs gently in the first few days, stopping to rest if you become short of breath or experience any pain/discomfort.
- No moving or lifting heavy objects.
- Have visitors, but not too many and not for too long.
- Resume gentle hobbies such as sewing, painting and puzzles.
- Start your walking programme (see page 43).

Second week at home

- Become more active around the house.
- Begin short periods of light housework such as dusting and washing up.
- Take shorter afternoon rests in the chair.
- Continue to have visitors as long as you are able to cope with them.
- No moving or lifting heavy objects.
- Avoid public transport if possible, but you may be taken out in the car for a drive.
- **Remember:** You should avoid going out if you feel tired or unwell or if it is very cold or very windy.
- Continue with your walking programme.

Third week at home

- Increase household tasks to include mopping floors, light hand and machine washing and ironing.
- Begin light social activities such as going out for a meal, or to the pub, but do not stay out long or go out too often.
- Rest when necessary.
- Visit friends or relatives.
- You can go to the supermarket and make short visits into town, but do not carry heavy shopping.
- Begin light gardening such as pruning and weeding, if weather permits.
- Make beds, but not stripping and changing sheets.
- Continue with your walking programme.

Fourth - sixth weeks at home

- Household tasks can now include vacuuming in stages i.e. one room a day. Ask someone to carry the vacuum upstairs to avoid lifting or moving heavy objects.
- Trips to the cinema and other social events.
- Rest when necessary.
- You can take children/grandchildren out in a pushchair.
- Normal supermarket shopping may now be carried out, but do not overload your bags.
- Access public transport as usual.
- Gardening can now include light digging, hoeing and raking.
- Light D.I.Y.

EXERCISE

Exercise is essential for a healthy heart and regular moderate exercise should be part of your daily routine.

Exercise has many benefits, it will help to:

- Build up your physical fitness, gradually enabling you to do more with less effort.
- Give you a feeling of well-being and satisfaction (this is thought to be due to an increase in certain chemicals in the body called endorphins and encephalins).
- Make you feel less tense and help you relax and sleep better.
- Help you to lose/maintain a healthy weight.
- Keep your blood pressure within normal limits.
- Lower total cholesterol level by increasing good cholesterol.
- Decrease the “stickiness” of small blood cells called platelets. This helps to prevent clogging up of the arteries.

Do’s and Don’ts for exercise

- Do remember to start any exercise or activity slowly and gradually build up.
- Do “warm up” before exercise. This will help prevent muscular strains and allow time for your body to adapt to exercise.
- Do “cool down” after exercise. This will allow your body to return to rest safely by gradually reducing the speed and intensity of the exercise.
- Do not continue to exercise if you have symptoms of chest pain, dizziness, palpitations, nausea, muscle cramps, excessive shortness of breath or extreme fatigue.

- Do not exercise during illness or infection (including the common cold). If you have a temperature, the body uses more energy and your heart has to work harder.

- Do make sure the intensity and duration of exercise is reduced after illness, or when you have a break from regular exercise.

- Do take care when exercising outdoors on very cold or windy days, as the heart has to work much harder in these conditions. Avoid extremes of temperature and wear appropriate clothing.

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

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

- Do not drink alcohol before exercise.

Walking Programme Guide

Regular walking is recommended as the best way to regain physical fitness and maintain fitness in the future.

Some breathlessness with exercise is normal, but you should not feel exhausted. Practise using the scale below during your walk. Consider how short of breath you are, as well as how your muscles are feeling when deciding on the 'Rate of Perceived Exertion' (RPE) score.

RATE OF PERCEIVED EXERTION: Intensity of effort experienced

6	No exertion at all	
7	Very very light	'Just noticeable'
8		
9	Very light	'No problem'
10		
11	Fairly light	'Beginning to feel a bit puffed but happy to continue'
12		
13	Somewhat hard	'Feeling puffed; warm but able to speak in full sentences'
14		
15	Hard	'Tiring; you have to push yourself to continue'
16		
17	Very hard	'Out of breath; shattered'
18		
19	Extremely hard	
20	Maximal exertion	'As hard as most people have experienced'

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** **Extreme fatigue**

Walking programme guidance

The following levels are a guide to help you progress with your walking.

Level	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 as this will help with confidence.
- Start at level 1 on the above chart. Walk at your own steady pace on the flat building up to 'beginning to feel a bit puffed' (RPE 11-13). Remember you should always be able to walk and talk at the same time. Feeling slightly breathless on returning home is normal, but you should not feel exhausted.
- Once you can manage this comfortably you can either progress onto the next level, which increases your walk time, or stay at the same level but increase the number of walks per day before moving onto the next level.
- If you have other conditions that affect your mobility e.g., arthritis, bronchitis, you may find increasing the number of walks rather than the time is more suitable.
- 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.
- It is advisable to wrap up in bad weather, as the heart works much harder in cold or windy conditions. Patients with angina or in the first few weeks after a heart attack should avoid extremes of temperature.

Cardiac Physiotherapy Assessment

You will be referred to the cardiac physiotherapist by your Cardiac Rehabilitation Nurse. This is an individual assessment to discuss returning to or commencing regular activity or exercise. Following the assessment there is an opportunity to attend a twice weekly exercise programme for six weeks to:

- Improve fitness.
- Improve understanding of safe exercise.
- Increase confidence in activity/exercise.

For some patients an individual or home exercise programme is more appropriate and this will be discussed with you following the assessment.

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 attend the exercise programme but may answer some of your worries or concerns about exercise or future activity levels.

The assessment and exercise programmes are held in the physiotherapy departments at:

- Leigh Health Centre
- Platt Bridge Health Centre
- Wigan Health Centre (Boston House)

The assessment and classes both take approximately one hour. 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

Regular moderate exercise should continue to be part of your daily routine.
Think FITT

Frequency:	Exercise on most days of the week. Build up from 3 to 5 times a week.
Intensity:	Aim for moderate exertion, increasing RPE to 12- 14. "Feeling puffed but able to speak in full sentences".
Time:	Exercise for 30 – 60 minutes, depending on your fitness.
Type:	Cardiovascular exercise e.g. walking, swimming, cycling, dancing.

- Choose something you enjoy.
- Any new exercise should be increased slowly and gradually, both in intensity and duration.
- Sports which are highly competitive or impose a sudden severe load on the heart should be avoided unless you are extremely fit e.g. squash, weight training.

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 actually doing any activity or exercise can lead to your heart working much harder than it does on dry land.

Speak to your cardiac physiotherapist

If you are thinking of restarting or taking up swimming, please speak to your Cardiac Physiotherapist who 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 we 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.

MEDICATION

After a heart attack you will be given medication to treat your condition and to prevent further problems developing. Some of this medication will be life-long.

Medication is prescribed in many forms - tablets, medicines, inhalers, sprays, patches and creams.

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.
- 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, then make a chart of the drug and the times you take them and tick them off as you go.
- If you pay for your prescription it is advisable/cheaper to obtain a pre-pay prescription.

Pre-payment prescription helpline **0845 850 0030**
Website: **www.nhs.bsa.uk**

- Most medication for heart disease is life-long, unless you have problems / side effects. Please discuss 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 or your Cardiac Rehabilitation Nurse if you use any herbal or supplementary medicines.
- Carry and up-to-date list of your medication with you at all times.

TYPES OF DRUGS

After a heart attack, the following drugs are commonly prescribed:

Anti-Platelets

How they work:

- Prevent a heart attack by reducing the “stickiness” of blood
- Prevent blood clots forming and blocking the coronary arteries

Examples:

- Aspirin
- Clopidogrel
- Ticagrelor
- 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 12 months. After that you will remain on Aspirin long-term unless you are advised otherwise by your doctor.

Uses:

- Taken after a heart attack
- Taken for angina
- Taken after angioplasty and stent
- Taken after coronary artery bypass graft

Possible side effects:

- 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).

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

Beta-Blockers

How they work:

- They block the action of adrenaline on the heart causing it to beat more slowly, so reducing the amount of work the heart has to do.
- They increase the amount of blood that the heart is able to pump with each beat.
- Research has shown that these drugs help to prevent further heart attacks.

Examples:

- Bisoprolol
- Carvedilol
- Nebivolol
- Atenolol
- Metoprolol
- Propranolol
- Sotalol
- Celiprolol

Uses: may be used for conditions other than a heart attack

- Heart Failure
- High blood pressure
- Angina
- Abnormal / fast heart rhythm
- Over-active thyroid gland
- Anxiety

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 from getting worse.
- Cold hands and feet.
- Disturbed sleep.
- Erectile dysfunction.

If you are concerned about any side effects talk to your Cardiac Rehabilitation Nurse or GP.

Do not stop taking beta blockers suddenly unless on the advice of your doctor or Cardiac Rehabilitation Nurse.

ACE Inhibitors

How they work:
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
- Perindopril
- Captopril
- Cilazapril
- Trandolapril

Uses:
- Helps to reduce the risk of another heart attack.
- Treating heart failure.
- Treating high blood pressure.

Possible side effects:
- Dizziness - this can be a sign of low blood pressure. In some people ACE inhibitors can cause a significant drop in blood pressure when first taken. To avoid this the first dose is often taken at night.
- Persistant 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. This is rare, but if it occurs, seek medical advice immediately.

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

Cholesterol Lowering Drugs

Statins

How they work:

- They lower the cholesterol level in the blood by acting on the enzyme in the liver which produces cholesterol. They are usually taken at night as this is when the liver produces the most cholesterol.

Examples:

- Atorvastatin
- Simvastatin
- Pravastatin
- Rosuvastatin

Uses:

- These are used mainly to lower the cholesterol level in the blood and so prevent further narrowing of the arteries.
- They also help to stabilise fatty plaques in the arteries, reducing the risk of further heart attacks.
- Many people who have risk factors for cardiovascular disease (e.g. diabetes or previous heart attack) are also prescribed cholesterol lowering medication even if they have a normal cholesterol level.

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, 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 level needs to be further reduced.

Fibrates
Sometimes used if you cannot take statins. These drugs work in a different way to a statin. They may sometimes be used if you have a high level of both cholesterol and triglyceride.

In addition to the medicines commonly prescribed to all patients after a heart attack, there are other medicines which may be added onto your prescription.

Nitrates

How they work:
Dilate both arteries and veins, thereby increasing blood supply to the heart muscle and reducing the work load on the heart.

Examples:
- GTN spray
- Buccal tablets (placed between to top lip and the gum)
- Isosorbide Mononitrate (Imdur, Monit, Ismo, Modisal XL)
- Isosorbide Dinitrate

Uses:
To prevent angina and may also be used after a heart attack.

Possible side effects:
- Headaches (often these are worse when you first start using the medicine but ease with time). Headache caused by GTN sprays/tablets can often be relieved by taking Paracetamol.
- Dizziness (which may be due to a reduction in blood pressure).
- Flushing.

Medication for Erectile Dysfunction cannot be taken if you are on Nitrates (see page 37).

Potassium Channel Activators

How they work:
They do a similar job to nitrates. They cause the coronary arteries to dilate and therefore improve the blood flow to the heart muscle.

Examples:
- Nicorandil

Uses:
To prevent angina and may also be used after a heart attack.

Medication for Erectile Dysfunction cannot be taken if you take Nicorandil (see page 37).

Possible side effects:
- Headaches (often these are worse when you first start using the medicine but ease with time). Headache caused by GTN sprays/tablets can often be relieved by taking Paracetamol.
- Dizziness (which may be due to a reduction in blood pressure).
- Flushing.
- Gastro intestinal disturbances (nausea/vomiting). If you notice any rectal bleeding or get mouth ulcers which don't seem to clear within a week then advice should be sought from your GP/specialist nurse.

Calcium Channel Blockers

How they work:
These drugs reduce the workload on the heart by reducing the force of contraction of the muscles in the heart and in the walls of the blood vessels, thus helping to prevent angina and high blood pressure developing. Some calcium channel blockers also work on the electrical activity of the heart and help to prevent an irregular heartbeat (Verapamil and Diltiazem).

Examples:
- Verapamil
- Diltiazem
- Amlodipine
- Nicardipine
- Lercardipine

Uses:
- To treat angina
- To treat high blood pressure
- To treat abnormal heart rhythms

Every calcium channel blocker acts differently and the one you are prescribed will depend on the condition which it is being used to treat.

Possible side effects:
- Headaches
- Dizziness
- Flushing
- Swelling of the ankles
- Gastro-intestinal disturbances (eg indigestion, constipation).

Diuretics (Water Tablets)

How they work:
They help rid the body of excess fluid by excreting more urine through the kidneys. Sometimes, following a heart attack, the heart may not pump quite as strongly as before. This is known as heart failure. This can cause a backlog of fluid in the lungs leading to breathlessness and can cause swelling of the feet and ankles. Diuretics help to manage this.

Examples:
- Furosemide
- Bumetanide
- Bendroflumethiazide
- Amiloride
- Metolazone

Uses:
- To treat heart failure/ reduce swelling of the ankles.
- To control blood pressure.

Possible side effects:

- Going to the toilet more frequently. Diuretics should be taken preferably in the morning and if taking twice daily no later than 2pm in the afternoon to reduce the need to go to the toilet in the night.
- Dizziness.
- Some diuretics may cause low potassium levels in the blood so a blood test may be occasionally required.
- Diabetics may find that their blood sugar levels increase (inform your Cardiac Rehabilitation Nurse / Diabetic Nurse or Practice Nurse if this occurs).
- Can cause or worsen gout.

Aldosterone antagonists

How they work:
Reduce the fluid retention associated with heart failure.

Examples:
- Spironolactone
- Eplerenone

Uses:
- Heart failure.

Possible side effects:
- Gastro-intestinal disturbances.
- Raised potassium levels in the blood (more common if used in combination with ACE inhibitors).
- Spironolactone can cause breasts to become larger and painful in both men and women. Speak to your Cardiac Rehabilitation Nurse or GP if this occurs.

Anti-Arrhythmics

How they work:
Control and regulate the rhythm of the heartbeat.

Examples:
- Amiodarone
- Digoxin
- Flecainide
- Propafenone

Uses:
To control irregular heart rhythms e.g. Atrial Fibrillation (AF).

Possible side effects:
- Headaches
- Flushing
- Dizziness

When taking Amiodarone be careful to use a sun block and stay out of direct sunlight as the skin becomes very sensitive and may burn. This can be obtained on prescription. Blood tests will be required at regular intervals to check your liver and thyroid function.

Anticoagulants

How they work:
They thin the blood and so prevent harmful blood clots from developing.

Example:
- Warfarin
- Sinthrome (Acenocoumarol)
- There are some new oral anticoagulant drugs which do not require the same monitoring as Warfarin or Sinthrome. These drugs however are not suitable for everyone and can only be started by a specialist following strict criteria. If you would like more information on the please discuss with your consultant or GP.

Uses:
To reduce the normal clotting properties of blood when there is a danger of clots forming in the blood stream; for example in patients who have abnormal heart rhythm (AF) or who have an artificial heart valve.

When you take Warfarin or Sinthrome you must have a regular blood test called an INR test. INR stands for International Normalised Ratio. This test checks that the level of the anticoagulant in your blood is within an effective but safe range. You will be given a yellow anticoagulant book which will have your current dose of warfarin written in it. It is important to attend regular anticoagulant clinic appointments or to have your blood checked at home by the District Nurse if needed. This will help prevent the level of anticoagulant from becoming too high in your blood.

Possible side effects:
- Bleeding. The increased risk of bleeding is the most serious side effect with Warfarin.

If you experience any of the following you are advised to seek medical attention and have an urgent INR check.
- Prolonged nosebleeds (more than 10 minutes)
- Blood in vomit
- Blood in sputum
- Passing blood in your urine or faeces
- Passing black faeces
- Severe or spontaneous bruising
- Unusual headaches
- For women, heavy or increased bleeding during your period or any other vaginal bleeding that is not caused by periods.

Alcohol can increase the effect of Warfarin so it is important to avoid excessive or binge drinking.

Remember to tell your doctor, dentist or pharmacist that you are on anticoagulants. If you buy over the counter medicines e.g. flu remedies, check with the pharmacist that they are suitable as some treatments can effect the anticoagulant levels. Cranberry juice can increase the level of anticoagulants in the blood so must be avoided.