

RUH

Information for Patients

Angina and Angioplasty



This booklet is a guide for patients who have been diagnosed with angina and have had coronary angioplasty.

It is meant to be quite general and not a substitute for the individual advice you will receive from all the team involved in your care.

Useful contacts:

Cardiac Rehabilitation Department

C/o Cardiac Ward

RUH 2nd floor central

Royal United Hospital

Combe Park

Bath

BA1 3NG

Tel/Fax/Answer phone: 01225 825028

Your **Coronary Heart Disease Practice Nurse** is:

DSS Benefits Enquiry Line: Freephone 0800 882200

NHS Direct: 0845 4647 www.nhsdirect.nhs.uk

British Heart Foundation: Heart information line: 0300 330 3311

Monday - Friday 9am - 6pm

www.bhf.org.uk

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SECTION 1 : CORONARY HEART DISEASE

♥ What is Angina?

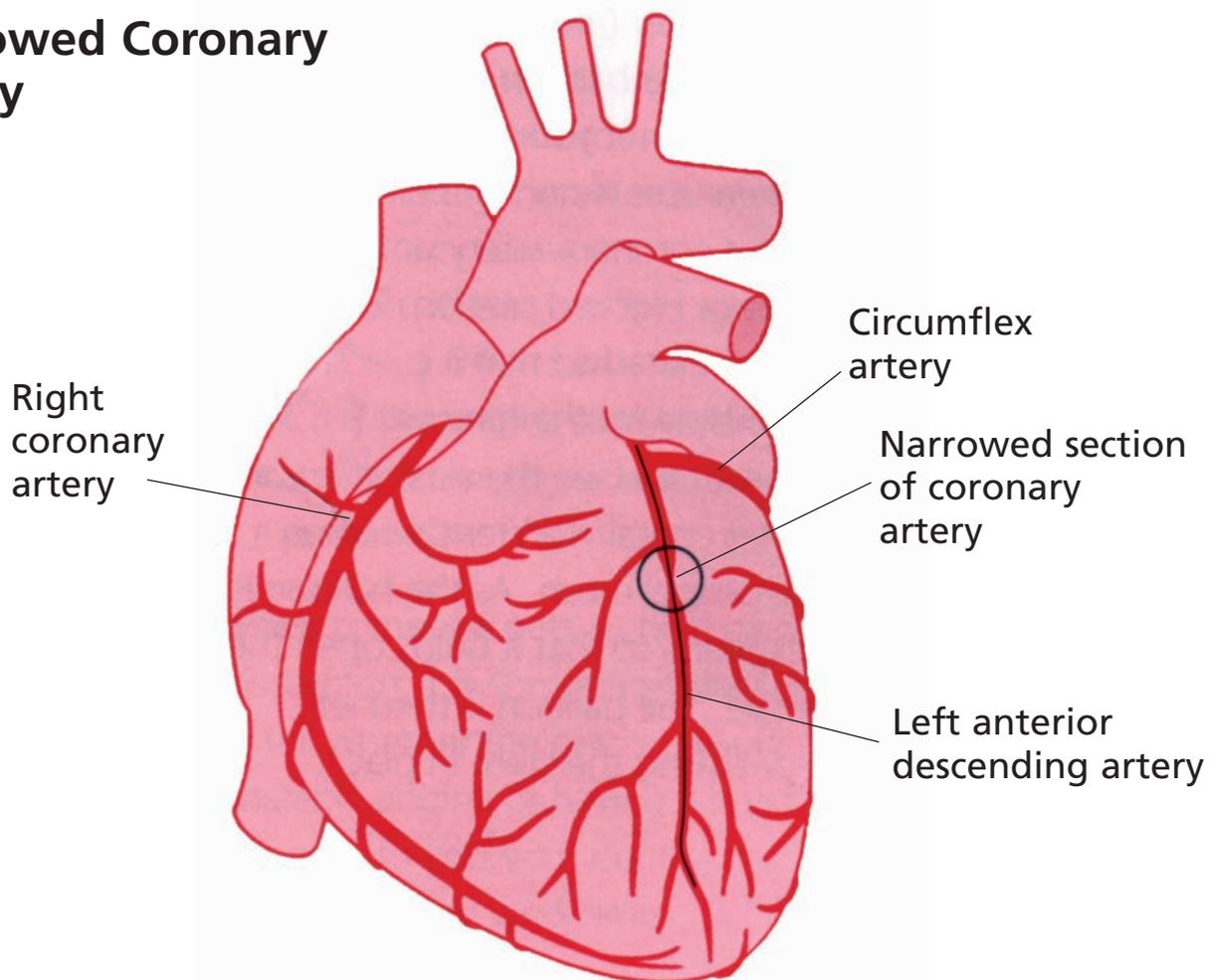
Angina is the name given to describe symptoms that occur when there is a reduction in blood and oxygen getting to the heart muscle.

This normally occurs because of “furred up” coronary arteries, also known as Coronary Artery Disease.

Angina is typically a tightness, pain or heaviness in the chest which may spread to the arms, throat, jaw, teeth, stomach or upper back.

In some people the angina may only be experienced in one of these sites. It may make the arms feel heavy or numb. It may also feel like indigestion. Other symptoms which may be experienced at the same time include belching, nausea, sweating, shortness of breath, dizziness or palpitations.

Narrowed Coronary Artery



♥ What is a Heart Attack?

A heart attack occurs when one of the coronary arteries supplying the heart muscle becomes blocked.

The artery is usually blocked by a thrombus (a blood clot) on top of a narrowed or “furred up” segment, (often called a plaque).

A portion of heart muscle that the artery was supplying then becomes damaged and stops working normally. The damaged area is eventually replaced by scar tissue. It takes about 6 weeks for this process to happen.

Doctors and nurses use the term myocardial infarction (or MI) for a heart attack because it describes what happens to the heart muscle (the **myocardium**) when its blood supply is cut off (a process called **infarction**).

Angina is different to a heart attack:

| ANGINA | HEART ATTACK |
|---|---|
| <ul style="list-style-type: none">● Caused by narrowed coronary arteries. | <ul style="list-style-type: none">● Caused by completely blocked coronary arteries. |
| <ul style="list-style-type: none">● Causes no heart muscle damage. | <ul style="list-style-type: none">● Causes damage to the heart muscle. |
| <ul style="list-style-type: none">● Pain usually relieved by rest or GTN (spray or tablets) within 5-10 minutes. | <ul style="list-style-type: none">● Pain not relieved by GTN. Pain lasts longer than 15 minutes. |
| <ul style="list-style-type: none">● Pain may be less severe. | <ul style="list-style-type: none">● Pain may be more severe and can be associated with nausea, dizziness or sweating. |
| <ul style="list-style-type: none">● Angina usually brought on during episodes of physical exertion, emotional stress in cold weather. | <ul style="list-style-type: none">● Heart attacks can occur at any time. |

♥ Acute Coronary Syndrome (ACS)

The term Acute Coronary Syndrome is used to describe patients who have a new onset of cardiac chest pain, a marked increase in frequency of chest pain or chest pain at rest.

When you are admitted to hospital your doctor will need to undertake certain tests and you will be treated according to a specific pathway of care in order to deliver the correct treatment for you.

These will include:

1. Listening carefully to your presenting symptoms and medical history.
2. 12 lead ECG (heart tracing).
3. Blood tests for cardiac enzymes called Troponin which may be released when you are having significant angina.

Once you have been diagnosed your treatment may include the following:

- Medication
- Coronary Angioplasty with or without stent
- Coronary Artery Bypass Surgery
- Cardiac rehabilitation

See section 2 for more details.

♥ What causes coronary heart disease?

The coronary arteries can become “furred up” by a gradual build up of fatty material over many years. This process is known as **atherosclerosis**.

The walls of these diseased arteries (or plaques) may crack which then causes blood cells (called platelets) to be attracted to that area. A blood clot may form on top of this, which may block the artery.

There is no single cause for arteries to become narrowed but the more risk factors you can modify the less likely you are to have further heart problems.

There may also be other causes such as spasm of the coronary arteries. Use of illegal drugs such as heroin, cocaine and ecstasy can cause this to happen.

- SMOKING
- HIGH CHOLESTEROL
- DIABETES
- FAMILY HISTORY
- HIGH BLOOD PRESSURE
- LACK OF EXERCISE
- POOR DIET
- BEING OVERWEIGHT
- STRESS
- EXCESS ALCOHOL
- GETTING OLDER
- GENDER
- ETHNICITY



For advice on risk factors specific to you, see page 27

♥ Coronary Angiography

The majority of patients who have been admitted to hospital with a heart attack or unstable angina will have their coronary arteries assessed either during the initial admission or at a later date.

A catheter (a fine hollow tube) is passed into your coronary arteries via an artery at the top of your leg or wrist. A dye is then injected into the arteries and X-rays are taken at different angles.

This allows the network of coronary arteries to be viewed and any narrowed sections to be identified.

You will be awake throughout the procedure so that you can tell the doctor if you have any chest pain. The test should not be painful as you will have had a local anaesthetic first but you may be aware of a hot flush or warm feeling when the dye is being injected. You may also feel pressure around the area where the catheter is inserted.

Your doctor will discuss the findings of the angiogram with you and the treatment which is recommended.

You may wish to record your angiography results here:

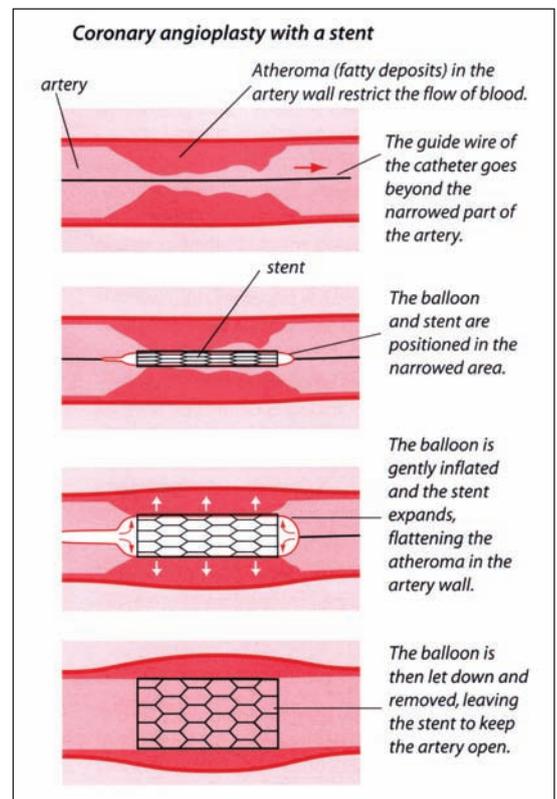
| | Narrowed | Intervention |
|--------------------------|--------------------------|--------------------------|
| Left main stem | <input type="checkbox"/> | <input type="checkbox"/> |
| Left anterior descending | <input type="checkbox"/> | <input type="checkbox"/> |
| Left circumflex | <input type="checkbox"/> | <input type="checkbox"/> |
| Right coronary artery | <input type="checkbox"/> | <input type="checkbox"/> |

A procedure to open the arteries called **PERCUTANEOUS CORONARY INTERVENTION (PCI)** may be carried out at the same time as the investigation or at a later date.

This is a treatment to open the narrowed coronary artery with a balloon and insert a stent to provide a framework to support its newly opened position.

A stent is a very fine tubular framework made of inert metal designed to support the artery in its newly opened position.

A number of stents are available but the ideal choice for you will be made by your cardiologist.



Exercise test / Treadmill test

This test involves a patient walking on a treadmill whilst attached to an ECG machine to assess the heart's response to exercise. Occasionally this test can be carried out on an exercise bike.

Echocardiogram (Echo)

This is a non-invasive ultrasound scan. It is useful to assess the size and pumping action of the heart and the effectiveness of the heart valves.

There are leaflets by the British Heart Foundation explaining these tests if you require additional information.

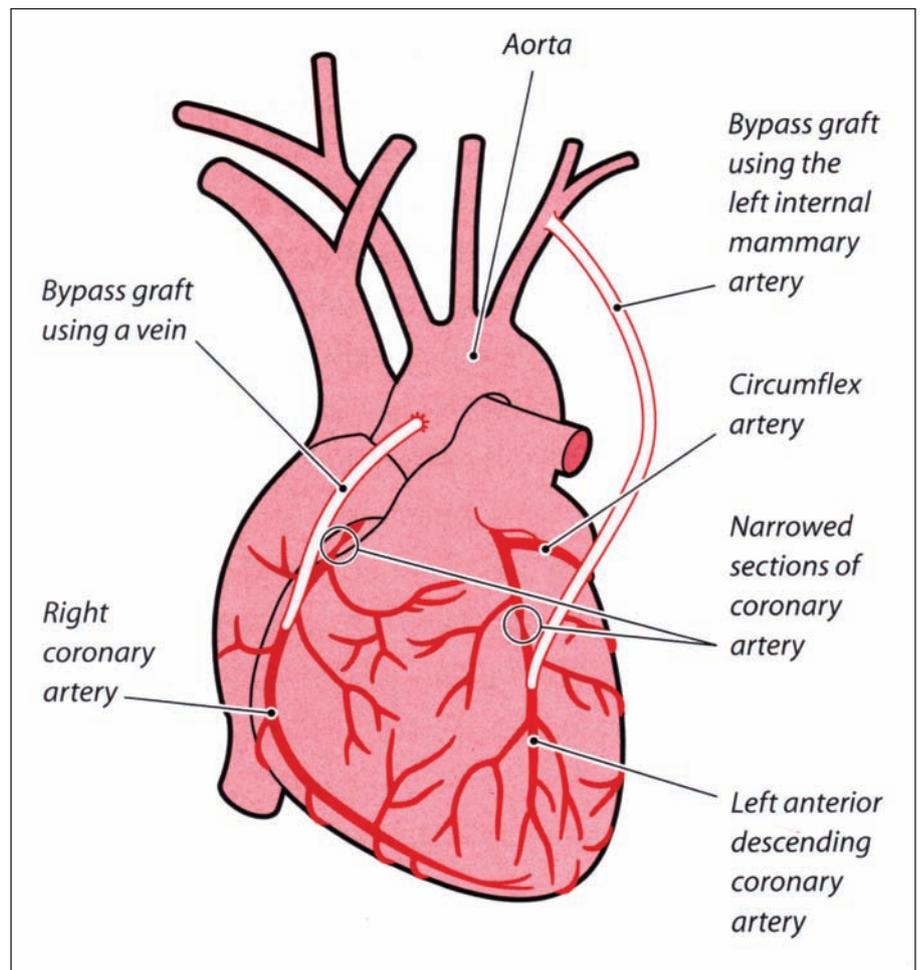
♥ Who has Surgery?

You may be referred for **CORONARY ARTERY BYPASS SURGERY** when one or more of the arteries are significantly narrowed. Sometimes the coronary arteries are too small to allow a stent to be inserted or the narrowed areas may be extensive or in a position which is difficult to reach by a catheter and therefore unsuitable for angioplasty.

Your Cardiologist will discuss how the decision to refer you for bypass surgery has been reached.

The surgery will be performed at a regional Cardiothoracic Centre. You will be given individual advice when you are admitted for your operation.

The British Heart Foundation has produced a detailed booklet about this which you may find useful. There is also a DVD for your reference.



SECTION 2 : TESTS AND TREATMENTS

Medicines

All patients will be on certain medication which we know help your heart to heal and protect it for the future. Some of these have side effects, which we will tell you about. It is **essential** that you keep taking them unless directed otherwise by a doctor.

Commonly prescribed drugs are:

1) Anti-platelet drugs

e.g: Aspirin and Clopidogrel

These drugs work by stopping the platelet cells in the blood sticking together. This helps to prevent abnormal blood clots which can then block narrowed blood vessels. Used together these can also help prevent blood clots forming in newly inserted stents.

2) Nitrates

e.g: Isosorbide Mononitrate, GTN spray or tablets

Nitrates work by dilating the blood vessels. This reduces the work load of the heart. They also open up the coronary arteries allowing blood, oxygen and nutrients to the heart muscle more easily.

They can be taken in the form of a tablet or a patch allowing the drug to be released slowly throughout the day or night. The drug can also be taken as a spray or tablet under the tongue allowing an immediate effect on the arteries.

3) Ace Inhibitors

e.g: Ramipril, Perindopril, Lisinopril

These improve the amount of exercise a patient can take and reduce breathlessness by improving the pumping action of the heart. They work by dilating blood vessels which in turn lowers the blood pressure and off loads pressure from the heart. They also reduce the chance of further cardiac events.

3) Betablockers

e.g: Atenolol, Metoprolol, Bisoprolol

These are given to most patients because they reduce the chance of further angina attacks. They act by lowering the heart rate and blood pressure. This in turn reduces the amount of work the heart needs to do. They may also be used to reduce the risk of abnormal heart rhythms.

4) Calcium channel blockers

e.g: Diltiazem, Verapamil

This group of drugs slow the heart rate and reduce the risk of angina by resting the heart. They may be used if you are unable to take a beta blocker e.g. because of asthma or other chronic lung disease. Amlodipine also belongs to this group of drugs but reduces angina and blood pressure by relaxing the arteries and veins.

5) Potassium channel activators

e.g: Nicorandil

These drugs work by relaxing the walls of the coronary arteries and improving blood flow to the muscle of the heart. They have similar properties to nitrates.

6) Cholesterol lowering drugs

e.g: Simvastatin, Atorvastatin, Pravastatin

These drugs work by reducing the amount of cholesterol produced by your liver. Studies have shown that statins, taken over long periods, can significantly reduce your risk of further cardiovascular events. If you have been started on these drugs your cholesterol level will need to be checked in 2-3 months and then at regular intervals.

Other cholesterol lowering drugs can be prescribed for people who do not tolerate statins or in addition to a statin. These include fibrates and Ezetimibe.

More details information about these and other medications can be found in the British Heart Foundation booklet series.

[You may wish to list your own medications here.](#)

♥ Cardiac Rehabilitation

Your cardiologist would strongly recommend that you attend a cardiac rehabilitation programme. Long term exercise is definitely beneficial. Patients who have had an Angioplasty or Coronary Bypass Surgery will be offered a place on the cardiac rehabilitation programme after recovery at about 6 weeks.

Cardiac Rehabilitation classes will continue for 6-12 weeks and will involve the following elements:

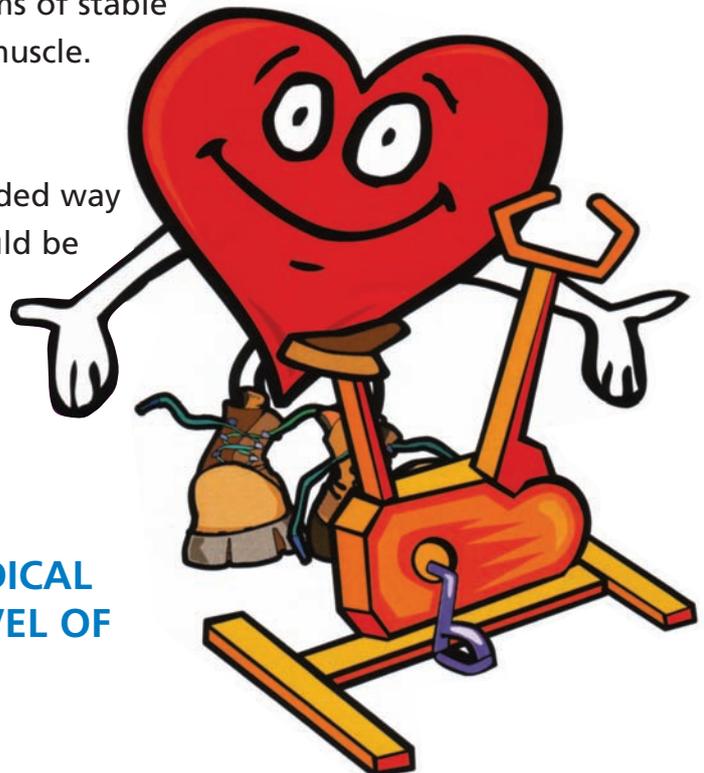
- A progressive exercise programme designed to restore confidence and improve fitness, strength, co-ordination and flexibility.
- An education programme designed to support you in making lifestyle changes and increasing understanding of your condition and related topics.
- Stress management training and learning relaxation techniques

You are encouraged to attend this programme and to then continue to exercise afterwards. It is a great way to increase confidence and to receive ongoing support in all aspects of your recovery.

Evidence suggests that you are less likely to have a further cardiac related admission to hospital, and more likely to return to work if you take part in a rehabilitation programme. Exercise is known to reduce symptoms of stable angina by improving the efficiency of the heart muscle.

If you are unable to attend this programme, it is recommended that you increase exercise in a graded way up to 6 periods of 30 minutes every week. It should be moderate sustainable exercise that makes you puff a bit, making you warm, such as brisk walking, cycling, golf, swimming or dancing. Please refer to page 24 for advice on how to progress with this.

WE RECOMMEND THAT YOU SEEK MEDICAL ADVICE BEFORE INCREASING YOUR LEVEL OF EXERCISE.



♥ What to do if you get angina

If you experience symptoms such as:

- chest pain, heaviness or tightness which may spread to your arms, jaw, throat, neck, upper back or stomach

and could include:

- shortness of breath, nausea or sweating (see page 1)

You may be experiencing angina

Some people can manage angina at home with GTN. GTN works by widening the coronary arteries to improve blood flow to the heart muscle.

Initially - you should stop what you are doing, sit down and rest for up to 5 minutes. This in itself may relieve mild symptoms.

If your symptoms continue follow these guidelines:

- Take your GTN spray or tablets according to the instructions you were given by your doctor or nurse

Rest for up to 5 minutes. The pain will often ease in this time.

- If the pain does not ease. Repeat the GTN.
Rest for up to 5 minutes.

If your pain has continued for a total of up to 15 minutes

- Stay calm and rested
- Dial 999 for an ambulance
- If you are prescribed aspirin, chew 300mg if it is easily accessible

Do not delay in getting medical help, early treatment is essential

You should consult your GP if you are using your GTN with relief of symptoms on a regular basis.

SECTION 3 : THE RECOVERY PHASE

♥ Walking

Walking is a good form of exercise and way of building up your fitness following a cardiac event. You may wish to use these guidelines in your recovery. If you have disease in your arteries we would recommend following a gradual walking programme for the first 4-6 weeks of your recovery.

- You must not push yourself too hard.
- Be prepared to stop and rest.
- Do not ignore symptoms such as chest tightness, undue breathlessness or excessive tiredness.
- Avoid walking for 2 hours after a large meal or when it is very cold or windy.
- Avoid steep inclines.
- It is important to warm up prior to any exercise. You may wish to use the mobility exercises to do this.



A member of the cardiac rehabilitation team or one of the nurses will see you before you leave the hospital to outline your walking programme.

Choose a walking distance that you know you can cover easily without getting angina. Make this your target.

Do this amount twice a day for the next 2 days. Each time assess whether the activity was easy or difficult. If it was easy, gradually increase the distance every couple of days. If it was difficult limit yourself to a shorter distance until you find it easier. Make sure that you are able to do the activity before increasing your target and keep your activity regular, frequent and within rather than beyond your limits.

♥ Driving

If you have an ordinary driving licence you should not drive in the first week after your angioplasty. If you have an LGV (large goods vehicle) or PCV (passenger-carrying vehicle) licence, you must not drive for 6 weeks after the angioplasty. You may need further tests before you resume driving on LGV or PCV licence again. You must contact the DVLA for further advice.

♥ Returning to work

Some patients can return to work within a week of an angioplasty. It is recommended that you avoid heavy lifting for 1-2 weeks to enable the puncture site to heal. You may also need to negotiate time off to complete the cardiac rehabilitation programme.

It is unusual that patients cannot return to their previous occupation for medical reasons. Talk to your doctor if you are concerned about this. If you need advice on changing your job, this can be obtained from the Medical Social Worker, the Disablement Employment Adviser at the local Job Centre or your Occupational Health Department if you have one.

♥ Holidays

General tips:

- Seek medical advice before you fly.
- Ensure you take a good supply of tablets (STORED IN HAND LUGGAGE)
- The stress of preparing for holidays can worsen existing angina.
- Ensure you have adequate travel insurance. For details of insurance companies that offer cover for heart patients contact the British Heart Foundation.



Sexual Activity

Having sex does not put any more strain on the heart than any other form of exercise. Research has shown that more energy can be used when arguing, driving, or watching exciting television than during sex. Engaging in extra-marital affairs however has been shown to be more risky. If you enjoyed a normal love life prior to your angioplasty, you should be able to return to it again.

There are no firm rules about this, but in general it is usually safe for you and your partner to resume sex when you are comfortably walking about 10 minutes on the flat at a normal pace, or when you can climb two flights of stairs without getting angina or undue breathlessness. It may be possible for you to resume sex about one week after leaving hospital as long as the puncture site has healed.

Some drugs that are prescribed for angina can lessen the desire for sex and cause impotence. It is important not to stop taking them, but to discuss this with your doctor. Lack of desire can also be associated with feeling low or afraid or could be due to your partner's anxiety. These feelings should lessen with time, but there is help available if you are not able to resume your usual sex life. Please discuss this with your G.P or cardiac rehabilitation nurse.

Some couples find it useful to start taking moderate exercise together like walking briskly to restore confidence in their ability to resume sexual activity.

Some tips to help:

- Make sure the environment is warm.
- Start slowly and take a more passive role if necessary. Starting with intimacy before full intercourse may allow you both to calm any fears you may have.
- Communicate with your partner. Fear of being close can be interpreted as rejection. Discuss any fears or concerns together.
- As with any activity, if you develop any symptoms of angina; stop, rest and take appropriate action. (See page 12).
- Avoid sex within two hours of a meal. The digestive system uses a large blood supply in order to digest food.
- Avoid sex after drinking excessive alcohol. This can increase your heart rate and can also cause a degree of impotence.

There is a DVD available produced by the BHF called 'Sex and the heart.' Please speak to one of the nurses if you would like to watch it.

N.B. VIAGRA/CIALIS (and other similar medicines) ARE DANGEROUS WHEN USED WITH ANY FORM OF NITRATE SPRAY, TABLET OR PATCH. Please discuss its use with your GP.

♥ Your Moods / Emotions

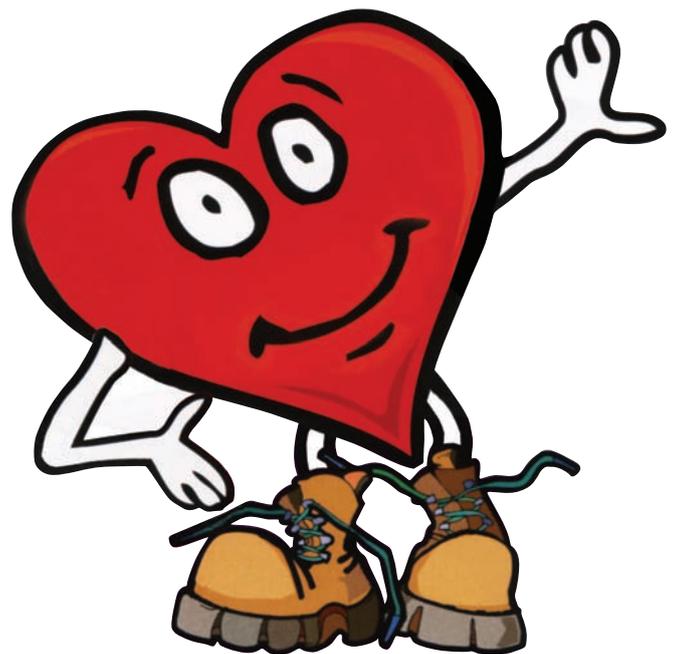
Some people will experience a wide range of emotions after being diagnosed with coronary artery disease. Some common feelings are:

- Despair
- Denial
- Frustration
- Anger
- Tearfulness
- Lack of energy
- Anxiety
- Irritability

These are very normal reactions as you come to terms with what you have been through. These feelings may begin in hospital, but may deepen a little at home when the reality of what has happened begins to sink in.

Most of these reactions will lessen with time. However, if you are feeling low or anxious after being in hospital, it is important that you discuss this with your GP or cardiac nurse. It is also common that partners and family members may experience feelings of fear, anger, or guilt. It may be helpful to talk about these feelings together.

Taking your medication and introducing lifestyle changes are some of the positive steps you can take to reduce your risk of further problems. Some of these ideas are discussed in the next section.



SECTION 4 : LIFESTYLE CHANGES

♥ Smoking

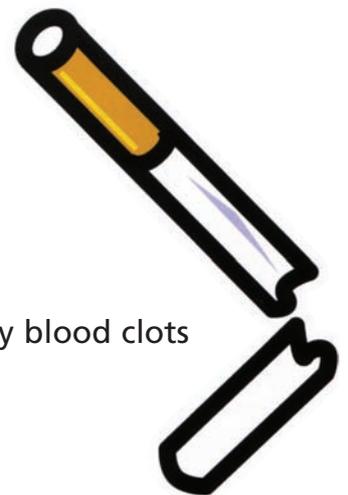
It is essential for you to try to stop smoking altogether. If you continue to smoke your risk of further episodes of acute coronary syndrome is much greater. Changing to a pipe or cigars will not lower the risk. There is also a risk involved with smoking cannabis. We are aware it can be particularly difficult to break a smoking habit, but there is plenty of help available.

What do cigarettes do?

Cigarette smoke contains around 4000 chemicals, many of which are known to cause harm to humans. Carbon monoxide and nicotine are particularly harmful to the heart.

Cigarettes:

- Are one of the main causes of heart disease.
- Are highly addictive.
- Decrease oxygen levels in the body.
- Increase the uptake of fats in the arteries causing narrowed arteries.
- Can affect the electrical activity of the heart.
- Increase the heart rate and blood pressure.
- Damage the blood cells causing platelets to stick together so that tiny blood clots are carried around in the blood stream.
- Can make arteries tear, causing blood clots and blockages.
- Can cause cancer.
- Quicken the ageing process.



How can I quit?

Willpower is essential, we would recommend that you obtain specialist advice as this will increase your chances of successfully giving up.

- Contact your GP surgery for information on local smoking cessation groups.
- There are plenty of advice booklets and leaflets available- ask while you are still in hospital.
- Receive a copy of the NHS Stop Smoking booklet
- NHS smoking helpline- 0800 169 0169 provides advice and details of local information.
- Quitline – 0800 002200 provide trained counsellors for advice, support and encouragement.
- Freephone Bengali - 0800 002244, Gujarati - 0800 002255, Hindi - 0800 002266, Punjabi - 0800 002277, Urdu – 0800 002288, Turkish/Kurdish - 0800 002299

♥ Diet and Cholesterol

Cholesterol is a waxy substance which is made in the body. The liver makes it partly from saturated fats in food. Cholesterol plays a vital role in how every cell works throughout the body. However too much cholesterol in the blood will increase your risk of getting further heart problems

- **Decrease your fat intake.** Cut out fried foods and fatty meat products such as sausages, pies, pasties and burgers. Eat fewer cakes, biscuits, crisps, chocolate and nuts. Choose cooking methods where you don't need to add fats and oils to foods. Try boiling, grilling, steaming, baking, casseroles or micro-waving. Switch to semi-skimmed or skimmed milk. Reduce your cheese intake or try half fat cheese or cottage cheese. Check food labels: Less than 5g of fat in 100g (ie <5%) is low in fat; and greater than 20g in 100g (i.e 20%) is high in fat.
- **Reduce your weight if necessary.** You should aim to lose weight gradually. People who lose weight slowly are more successful in maintaining the loss. Talk to your cardiac nurse or a dietician or GP if this is a particular problem for you. Aim for a body mass index of 20-25.
- **Eat plenty of high fibre starchy foods.** Foods such as oats, cereals, baked beans, and other pulses contain soluble fibre which has a slight cholesterol lowering effect.
- **Increase your intake of fruit and vegetables.** Fruit and vegetables contain antioxidants which help to protect against heart disease. The World Health Organisation recommends that we eat at least five portions of fruit and vegetables a day.
- **Eat oily fish at least once a week** such as pilchards, sardines, herring, mackerel, fresh tuna (not tinned) salmon, and trout.
Oily fish provide the richest source of a particular type of Omega 3 polyunsaturated fat that can help to lower blood triglyceride levels. It also helps prevent the blood from clotting and to regulate the heart rhythm.

● Limit your alcohol intake.

The Department of Health recommend that men have no more than 21 units of alcohol a week and that women have no more than 14. Spread your units out over the week and try to keep a couple of days alcohol free.

A unit is:

1 125ml glass wine

1 pub measure of spirits

1 glass sherry

½ pint standard beer, lager, cider.

A diet sheet is included at the back of this booklet.

Please try to follow these guidelines and discuss them with the dietician or cardiac rehabilitation team.



♥ Blood Pressure

It is important that you have your blood pressure monitored regularly by your GP or practice nurse.

The current recommended blood pressure for non-diabetics is less than 140/85, (and less than 130/80 for diabetics).

If you have high blood pressure, (hypertension) you can help yourself by ensuring that you:

- Take the prescribed medication.
- Avoid excessive alcohol.
- Cut down on salt in your diet.
- Eat five portions of fruit and vegetables every day.
- Take regular moderate exercise.
- Try to lose excess weight.
- Stop smoking.
- Have regular blood pressure checks.
- Learn relaxation techniques.

♥ Stress and Relaxation

Most people at some point in their lives will experience a degree of stress or tension. Health can only be achieved by maintaining a good balance between mind, body and environment. It is important to recognise the physical signs of tension and begin to think of ways in which you can reduce your stress. A useful way to do this is through relaxation. Relaxation can be learnt by anyone and it can be applied in everyday living. Relaxation has a number of beneficial effects.

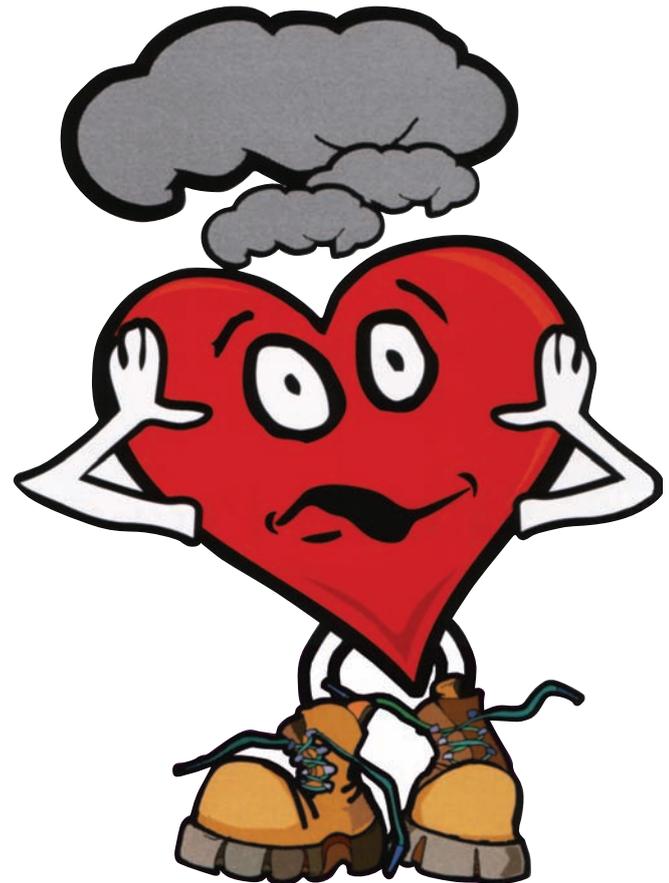
- Reduction in heart rate
- Reduction in blood pressure
- Reduction in breathing rate
- Reduction in muscle tension

It can also:

- Help to reduce adrenaline flow
- Help to reduce pain
- Help to promote sleep
- Help to reduce fatigue

Relaxation can be learnt, but it needs practice. A body that has become used to living under stress will not respond immediately and you will need to teach yourself to get used to a more stress-free lifestyle over a period of time.

Try this simple technique: (Or try the longer version on page 22).



For a quick release of tension:

Take 2 or 3 deep breaths, with a slower breath out. Notice your tummy rising as you breathe in and falling as you breathe out.

Return to normal breathing

Repeat the 2 or 3 slower deep breaths

Carry on more calmly.

Or try:

A sigh

A drop of the shoulders

A mental decision of "who cares"

Exercise

Exercise is beneficial and can address your risk factors in many ways:

- People who are inactive are twice as likely to have a heart attack, compared to somebody who is regularly active.
- It keeps your muscles, including your heart muscle, in good condition.
- It helps with blood pressure and diabetes control.
- It helps improve your cholesterol profile.
- It reduces the risk of developing stroke, osteoporosis and diabetes.
- It is essential for weight management.
- Exercise also gives us more energy, a feeling of wellbeing and relief from stress.

It is recommended that all of us perform moderate exercise for at least 30 minutes, 6 days a week. You may need to see this as a long term aim and build up gradually to the recommended targets.

It is advisable to attend a cardiac rehabilitation programme, if you are unable to attend, it is important to seek advice from your GP or practice nurse about the best way to progress onto more moderate exercise.

For a healthy heart, it is recommended that you participate in moderate intensity 'cardiovascular' or 'aerobic' exercise such as: **brisk walking, jogging, cycling, dancing, swimming**. (You should avoid any sport that brings on angina, exercise such as weight lifting and press ups or moving from floor to standing exercises too quickly).

It is important to warm up for at least 20 minutes prior to any exercise to prepare the body and the heart for work. A cool down and stretch afterwards for another 10 minutes is also important to prevent muscle stiffness and to bring the heart rate down gradually.

FOR MORE DETAILS ON HOW TO EXERCISE, PLEASE REFER TO PAGE 24

Appendix i

Relaxation

Find somewhere quiet where you will not be disturbed. Make sure you are warm and comfortable. Turn the light down.

- Loosen tight clothing
- Ease your shoulders down
- Rest your arms by your sides or across your body
- Be aware of the parts of your body that are touching the floor or the chair
- Slowly close your eyes
- Sigh to ease tension and let your body sink into the floor or the chair

Stage 1: BREATHING AWARENESS

Pay attention to the rhythm of your breathing, be aware of your tummy rising when you breathe in and falling when you breathe out.

Try to breathe more slowly, emphasise the breath out before breathing in again. Be aware of a slight pause after breathing out before you breathe in.

Stage 2: MUSCLE RELAXATION

In turn, concentrate on relaxing the groups of muscles listed below. You might need to tense the muscle a little first so that you can feel the difference between tension and relaxation.

- Relax your feet and your lower legs
- Relax your thighs
- Relax your tummy making sure that you are not pulling it in or pushing it out too far
- Relax your fingers and your forearms
- Relax the muscles in your back and chest
- Relax your upper arms and your shoulders
- Relax the muscles in your neck and the back of your head

- Relax your facial muscles - smooth your forehead, relax the muscles around your eyes and mouth, and relax your jaw so your teeth fall slightly apart
- Let the chair or the floor take your whole body weight

Repeat the breathing awareness above.

Be aware now of the feeling of total body relaxation.

Lie quietly for a short time.

Stage 3: RECOVERY

- Wiggle your fingers and your toes to bring back some tension to the muscles
- Stretch your arms and your legs
- Open your eyes
- If you are lying, bend your knees and roll over onto your side for at least a minute before slowly getting up

Appendix ii

♥ How to exercise safely

'The How it Feels Scale'

The scale is also known as 'The Scale of Perceived Exertion' and can be used as a guide for ensuring that you are exercising at the right intensity to gain maximum benefits.

| | |
|-----|---------------------------------------|
| 1. | VERY, VERY LIGHT / NO PROBLEM |
| 2. | VERY LIGHT / VERY EASY |
| 3. | FAIRLY LIGHT / EASY |
| 4. | MODERATE / BEGINNING TO FEEL PUFFED |
| 5. | FAIRLY HARD / FEELING A BIT PUFFED |
| 6. | HARD, FEELING PUFFED |
| 7. | VERY HARD / TIRING |
| 8. | VERY, VERY HARD / VERY TIRING |
| 9. | EXHAUSTED / OUT OF BREATH / SHATTERED |
| 10. | MAXIMUM / EXHAUSTED |

No. 1 - relates to sitting in a chair doing nothing at all.

No. 10 - relates to the hardest exercise you have ever done.

In the first week of recovery you may wish to stay within levels **1-3** on the scale and not participate in prolonged activities.

After this you can progress to more moderate exercise, ensuring that you gradually warm up and remain within levels **4 to 6** on the scale. If at any time you find that you are unable to get your breath or that the workload is too hard (i.e **7-10** on the scale); then ease back until you find that you are less puffed and back in the 4-6 zone on the scale. If you are so short of breath that you cannot speak, you are working too hard.

♥ Eating Plan

| | Go Ahead | Eat in Moderation | Avoid |
|--|---|---|--|
| Cereals, biscuits, cakes, crackers. | Bread and flour (preferably wholegrain). Reduced fat cream crackers, crispbreads, most breakfast cereals, oatmeal. Porridge, muesli, rice, pasta, pudding cereals, cornmeal, cornflour. | Homemade cakes and biscuits made with suitable fats. Commercial reduced fat biscuits and cakes. | Croissants, pastries, cakes and biscuits made with unsuitable fats. Granola type cereals containing oil and muesli containing coconut, cheese biscuits, ordinary biscuits. |
| Fruit and Vegetables | All fresh, frozen, dried or tinned fruit in juice. All fresh, frozen dried or tinned vegetable. Boiled or jacket potatoes. Baked beans, peas, beans and lentils. | Avocado pears, olives, oven chips (once a week) Roast potatoes cooked in suitable oil (once a week). | Deep fried chips, crisps. Fried vegetables or vegetables with added fats. |
| Nuts | Chestnuts. | Peanuts, almonds, walnuts, brazil nuts, cashew nuts and other nuts. | Coconut. |
| Fish | All fresh and frozen fish e.g. cod, plaice, coley, mackerel and salmon. Tinned fish in brine or tomato sauce. | Crab, lobster, prawns, shrimps, cockles, mussels, squid, whelks, winkles Fish fried in suitable oil. | Fish fried, fish roes, taramasalata. Fish canned in oil. |
| Meat and meat substitutes | Chicken and turkey without skin, veal, rabbit, game, ostrich, venison, very lean beef or pork. Quorn, Tofu. | Lean lamb, lean back bacon, liver, kidney, heart, other offal. Duck without skin. Low fat pate Low fat sausages. | Luncheon meat, corned beef, salami, pate, streaky bacon, sausages, black pudding, pies, pasties, sausage rolls, faggots, haggis, goose. |
| Eggs | Up to six eggs over a week. Unlimited egg whites. | | Fried eggs. |
| Dairy Foods | Skimmed milk, up to 1/2 pint of semi-skimmed milk a day. Low fat yoghurt, cottage cheese, or fromage frais. Curd cheese or quark. | 2oz ordinary cheese a week. OR up to 4 ounces of half fat Cheddar/ Edam a week. | Whole milk, evaporated and condensed milk, cream, full fat yoghurt. Hard or soft cheeses in large quantities e.g. Cheddar, Stilton, Brie. Coffee whiteners. |

| | Go Ahead | Eat in Moderation | Avoid |
|---|---|--------------------------|--|
| Fats | Use in small amounts: Margarines labelled high in poly or mono-unsaturates, low-fat spreads, corn oil, sunflower oil, soya oil, rapeseed oil, olive oil. | | Butter, margarines not labelled high in poly or mono-unsaturates. Lard, dripping, suet, blended vegetable oils, hydrogenated vegetable oils. |
| Preserves, spread and sweets | Marmite, Bovril, low sugar jams, jellies and marmalades. | Lemon curd. | Chocolate spreads, chocolate, toffee, peanut butter, fudge and butterscotch. |
| Drinks | Tea, coffee, mineral water, low calorie squash and fizzy drinks, malted milk or hot chocolate drinks made with skimmed milk. | Alcohol | Drinks made with whole milk. Cream based liqueurs. |
| Herbs, spices, dressings miscellaneous | Pepper, herbs, spices, Worcester sauce, soy sauce, vinegar, lemon juice, sweeteners, mustard. | Low calorie dressings. | Ordinary salad cream and mayonnaise. |

If you have other dietary considerations such as diabetes, high blood pressure, or coeliac disease please discuss this with a dietician or the rehabilitation team.

Give me 5 – portions of fruit and vegetables every day

What is a portion?

Examples of the amount of fruit and vegetables in a portion are given

| | |
|---|-----------------|
| Apple, orange or banana | 1 fruit |
| Very large fruit e.g. melon, pineapple | 1 large slice |
| Small fruits e.g. plums, kiwis, satsumas | 2 fruits |
| Raspberries, strawberries, grapes | 1 cupful |
| Fresh fruit salad, stewed, canned fruit | 2-3 tablespoon |
| Dried fruit | 1 tablespoon |
| Fruit Juice | 1 glass (150ml) |
| Vegetables, raw, cooked, frozen or canned | 2 tablespoon |
| Salad | 1 dessert bowl |

Potatoes count as a starchy food not as a vegetable.

♥ Risk factor management plan

| Y/N | RISK FACTOR | GOAL | LIFESTYLE ADAPTION | INDIVIDUAL ACTIONS |
|-----|----------------------------|---|--|---|
| | SMOKING | Stop smoking | Cut down if you can't stop. Try smoking cessation groups. Use the help of family and friends. | |
| | LACK OF EXERCISE | Build up to at least 30 mins 6x a week. | Introduce regular moderate intensity physical activity. (See page 24). Plan daily activities. | |
| | HIGH BLOOD PRESSURE | Aim for <140/85 or <135/80 if diabetic | Regular checks at GP. Medication. Dietary changes | |
| | DIABETES | Blood sugar levels within advised limits | Dietary changes. Medication if applicable. Regular checkups with your diabetes nurse at your surgery | |
| | HIGH CHOLESTEROL | Aim for <4.0mmol | Regular checks at the GP. Medication. Dietary changes. | See your practice nurse for a repeat check in 2 months. |
| | BEING OVERWEIGHT | Aim for body mass index of 20-25 | Weight loss programme. Regular exercise. | |
| | STRESS | To identify and modify where possible | Recognise triggers. Reduce avoidable stress. Relaxation. | |
| | POOR DIETARY HABITS | To introduce healthy foods. To identify, and cut down on unhealthy foods. | Dietary changes. See pages 18, 19, 25, 26. | |
| | EXCESS ALCOHOL | Aim for 21 units or less/week men, 14 units or less/week women. | Assess drinking habits. | |

♥ Progress Diary

Week 1

Week 2

♥ Progress Diary

Week 3

Week 4

Images on Pages 3, 7 and 8 courtesy of the British Heart Foundation

This booklet is also available to download on the RUH website www.ruh.nhs.uk

**If you need this booklet in an alternative format such
as large print then please contact us.**

We hope the information contained in this booklet has been useful.
Please do not hesitate to raise any specific questions you may have with any
of the staff involved in your care. The guidelines are current practice at the time of publishing,
but may change in light of new research.

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