

Heart attack and rehabilitation

Including information on acute coronary syndrome

Heart Information Series Number 7



**British Heart
Foundation**

This is one of the booklets in the *Heart Information Series*. For a complete list of booklets, see page 71.

We welcome your comments on this booklet.
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We update this booklet regularly. However, you may
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About this booklet

This booklet is for people who have had a heart attack or who have 'unstable angina', and for their family and friends. It explains:

- what a heart attack is
- what acute coronary syndrome is (a heart attack or unstable angina)
- why heart attacks and episodes of unstable angina happen
- how they are treated
- what happens to your heart after a heart attack
- what you can do in the days and weeks after your heart attack
- how a cardiac rehabilitation programme can help you, and
- what you can do to reduce your risk of further heart problems.

It also offers some information and advice on how to deal with the worries that you may have after having a heart attack.

This booklet is not a substitute for the advice your doctor or cardiologist (heart specialist) may give you based on his or her knowledge of your condition.

What is a heart attack?

Your heart is a powerful muscular pump that drives blood around your body. To keep your heart healthy, the muscles of your heart need to get a supply of oxygen-containing blood from the coronary arteries. If one of the coronary arteries becomes blocked – for example by a blood clot – part of your heart may be starved of oxygen and may become permanently damaged. This is what happens if you have a heart attack.

A heart attack can range from a severe pain in the centre of the chest to having mild chest discomfort or generally feeling unwell. The pain or discomfort caused by a heart attack can last more than 15 minutes, but some heart attacks can last just a few minutes. The pain often feels like a heaviness or tightness which may also spread to the arms, neck, jaw, back or stomach. Or it may affect only the neck, jaw, arms or stomach. Someone who is having a heart attack may also sweat, feel light-headed, feel sick, or be short of breath. In some cases people have mistaken the pain for indigestion. A heart attack may also cause the rhythm of the heart to be disturbed.

However, sometimes a heart attack is 'silent' and produces little discomfort. You may not even know

you have had one until you have a medical test for something else later on or a routine medical examination reveals that you have had a heart attack.

A heart attack is sometimes called a **coronary thrombosis** or **myocardial infarction**.

What is acute coronary syndrome?

When someone has a persistent chest pain or chest discomfort which seems to be coming from the heart, it is sometimes difficult for the doctors and nurses to tell whether the person is having a heart attack or an episode of unstable angina. If this happens, your doctor may tell you that you have 'acute coronary syndrome'. 'Syndrome' means a set of symptoms that occur together, and 'coronary' means to do with the coronary arteries.

So, acute coronary syndrome is a general term that describes a heart attack or unstable angina.

What is unstable angina?

Angina is the symptom you get when the coronary arteries become narrowed by atheroma, and as a result the heart muscle is not getting a good blood supply.

Angina can be a chest pain or discomfort in the chest. **Stable angina** is angina that predictably comes on with a particular amount of exercise or stress, and is well controlled with drugs. **Unstable angina** is angina that has just developed for the first time, or angina which was previously stable but has recently got worse or changed in pattern. For example, with unstable angina your pain may come on after an unpredictable amount of exercise or stress, or even while you are resting. An episode of unstable angina can happen very suddenly and make you feel very unwell. (For more information on angina see our booklet *Angina*.)

What brings on acute coronary syndrome?

Acute coronary syndrome – a heart attack or an episode of unstable angina – can happen to people who seem to have been perfectly well in the past. In other people, it may follow weeks, months or years of stable angina. In many cases, a heart attack happens when a person's pattern of angina has recently changed from stable angina to unstable angina. (This is why, if the pattern of your angina changes in any way, you should tell your doctor about it immediately, as you may need to go and stay in hospital for a while.)

A heart attack can start at any time of the day or night, either when you have been resting or are being active. Occasionally a heart attack can be brought on by doing energetic activity which you are not used to, or by intense physical or emotional stress.

We do not know for certain why heart attacks or episodes of unstable angina happen when they do, but they are usually the result of a process that has been going on for many years. The coronary arteries deliver oxygen-rich blood to the heart's muscle. The inside of the coronary arteries can

become narrowed by a gradual build-up of fatty material within their walls. This process is called 'atherosclerosis' and the fatty material is called 'atheroma'. In time, the artery can become so narrow that it cannot deliver enough oxygen-containing blood to the heart muscle when its demands are high – such as when you are doing exercise. This disease is called **coronary heart disease** or coronary artery disease. People with coronary heart disease are at risk of having a heart attack or angina.

If the inside lining of the narrowed arteries cracks, blood cells called 'platelets' may become attracted to the damaged areas. A blood clot may form over the cracks. Within just a few minutes this can make the artery even narrower and can quickly block off your artery completely. If the artery is blocked for more than a few minutes, the muscle cells in the area of your heart supplied by that artery may become permanently damaged. This is what can happen when someone has a **heart attack**. Often, the amount of muscle damage is small and, once the heart attack is over, there is enough good muscle left for the heart to carry on its work satisfactorily.

What's the difference between a heart attack and unstable angina?

A **heart attack** means that your heart muscle has been starved of oxygen and has been or is being damaged.

Unstable angina means that, although your heart muscle is not getting an adequate blood supply, your heart muscle is not being damaged.

What increases the risk of having coronary heart disease?

The 'risk factors' – things which increase the risk of having coronary heart disease – are:

- physical inactivity
- high blood pressure
- high blood cholesterol (hypercholesterolaemia)
- smoking
- being overweight or obese
- having a family history of heart disease, and
- having diabetes.

We explain more about what you can do about these risk factors on page 54.

Other lifestyle factors also play a part. These include drinking too much alcohol and having too much salt.

Coronary heart disease can run in families. One hereditary condition which causes coronary heart disease is called familial hyperlipidaemia (also called FH or familial hypercholesterolaemia). This is an inherited condition where the level of cholesterol in the blood is very high. For more information on this, see our booklet *Reducing your blood cholesterol*.

For more information on diabetes, see our booklet *Diabetes and your heart*.

What is a cardiac arrest?

During a heart attack, there may be disturbances in the heart rhythm. The most serious form of this is called 'ventricular fibrillation'. This is when the electrical activity of the heart becomes so chaotic that the heart stops pumping and quivers or 'fibrillates' instead. This is a cardiac arrest. It can sometimes be corrected by giving a large electric shock through the chest wall, using a device called a defibrillator. This is often successful in restoring a normal heartbeat and afterwards the person can do just as well as if they had not had the cardiac arrest.

If a person has a cardiac arrest, they lose consciousness almost at once. There are also no other signs of life such as breathing. This is the most extreme emergency. Unless someone starts cardiopulmonary resuscitation (CPR) within three to four minutes, the person may suffer permanent damage to the brain and other organs. CPR means:

- rescue breathing (inflating the lungs by using mouth-to-mouth resuscitation), and
- chest compression (pumping the heart by external cardiac massage), to keep the breathing and circulation going until the ambulance arrives. (See *What to do if someone has a heart attack or cardiac arrest* on page 67.)

Ambulance staff are now trained in advanced resuscitation and all emergency ambulances carry a defibrillator.

What happens when the ambulance comes, and when I first get to hospital?

Acute coronary syndrome – a heart attack or unstable angina – is treated as an emergency because of the severe pain or discomfort some people may have and the risk to your life if your heart stops pumping effectively. The first priority is treatment to relieve the pain or discomfort.

Ambulance staff may give you oxygen or a mixture of nitrous oxide and oxygen (Entonox) through a mouthpiece to help relieve the chest pain. They may also give you an aspirin to chew. This helps the anti-clotting effect of the ‘thrombolysis’ treatment you may be given later. (We explain what thrombolysis is on page 19.) If the pain is still severe, they will give you more painkillers.

When you get to the hospital, you will have a ‘rapid assessment’. This involves the following.

- A doctor will assess your symptoms and medical history.
- You will also have:
 - a physical examination, including measuring your blood pressure and monitoring your heart rate
 - an ECG (electrocardiogram) to help diagnose your condition, and

- blood tests to check for any damage to the heart muscle.

Meanwhile the nurses will give you immediate treatment to relieve your symptoms and reduce the risk of damage to your heart muscle. Treatment may include painkillers (morphine), oxygen and aspirin. You may also be given a nitrate drug into a vein to ease any chest pain or discomfort. If you have diabetes, you may also receive an insulin-glucose drip.

Next, the doctors and nurses will assess your symptoms again and will look at the results of your ECG and blood tests.

Tests

ECG

The doctors and nurses will look for specific changes on your ECG. They are mainly looking for one of two types of changes:

- changes which show that a blood clot has suddenly and completely blocked one of the coronary arteries, or
- changes which show that a blood clot is partly blocking one of the coronary arteries.

Blood tests

If you have acute coronary syndrome, the most important blood tests you will have are cardiac enzyme tests and troponin tests. These tests can tell whether or not your heart muscle has been damaged and if so how severe that damage is.

Cardiac enzyme tests

Enzymes are proteins that help with chemical actions inside the body, including within heart muscle cells. When heart muscle cells are damaged during a heart attack, certain enzymes leak into the bloodstream. It is usually possible to detect low levels of these enzymes in the blood. The more severely the heart is damaged during a heart attack, the more enzymes are released into the bloodstream. The change in levels can be measured from a number of blood samples taken over several days.

The most commonly measured enzymes are called CPK and CKMB. The levels of these enzymes reach a peak between 12 and 24 hours after a heart attack. However, often it is not possible to say for sure whether there has been a heart attack until the enzyme levels have been measured for several days. Other enzymes can also be measured in this way.

Troponin test

This test measures the level of troponins in the blood. Troponins are another type of protein. They are normally found within the heart muscle cells but not in the blood. If the heart is damaged – for example, by a heart attack – troponins leak into the blood where they can be detected, within 12 hours, by a simple blood test. Troponin tests can tell whether or not the heart muscle is being damaged. In some hospitals they are used instead of cardiac enzyme tests. Often if you are admitted to hospital with chest pains, the troponin test can help doctors to decide whether you are having a heart attack.

If the troponin in the blood is above a certain level, it means that the test is positive. This indicates damage to the heart muscle. A negative troponin test is when the troponin in the blood is below a certain level.

The treatment you are likely to have

What happens if:

- you have chest pain or discomfort, and
- you have a **positive** troponin test indicating heart muscle damage, and
- your ECG shows that a blood clot has suddenly and **completely blocked** one of the coronary arteries?

If all these three things happen, the doctors or nurses will probably tell you that you have had a heart attack. This is because there is a clot in one of your coronary arteries which is completely blocking the blood supply in that artery and is causing ongoing damage to your heart muscle. In this case you are likely to be given thrombolysis. Or, in some hospitals you might be given a coronary angioplasty with stents, instead of thrombolysis. We describe these two treatments below.

Thrombolysis

Thrombolysis is a treatment that helps to dissolve the clot that is blocking the artery. It involves injecting a thrombolytic drug such as streptokinase or tenecteplase into the bloodstream. Ideally the injection should be given as soon as possible –

within one hour of getting the symptoms of the heart attack if possible, and at the latest within six hours. You can receive thrombolysis later than this, but it is less effective as time goes by. This is why it is important to get to hospital as soon as possible. In some parts of the country, thrombolysis is given to people before they reach hospital, to help speed up treatment.

If you have a streptokinase injection, you should be given a card to carry with you because you should not have another dose. If you have another heart attack, you will receive a different thrombolytic drug.

Coronary angioplasty

A coronary angioplasty is a treatment to open up the narrowed artery. When angioplasty is done as an emergency like this, it is called primary angioplasty. The technique is almost the same as a coronary angioplasty which is done as a procedure that has been planned earlier. For more information on angioplasty, see our booklet *Coronary angioplasty and coronary bypass surgery*. When you have a coronary angioplasty as an emergency, you may be given a drug called a glycoprotein IIb/IIIa inhibitor into a vein. This is to reduce the risk of any clots forming.

If you have a coronary angioplasty, you may be discharged from hospital about two or three days after having the procedure. You should then be referred to a cardiac rehabilitation programme. We describe this on page 47.

The doctors or nurses may also give you a combination of drugs which could include:

- heparin (an anticoagulant)
- nitrates
- beta-blockers
- ACE inhibitors.

(The ambulance staff or hospital doctors will already have given you aspirin.)

This combination of either thrombolysis or coronary angioplasty and other drugs will help to:

- dissolve the clot which is completely blocking the artery
- ease your chest pain, and
- reduce the risk of ongoing damage to your heart muscle.

What happens if:

- you have chest pain or discomfort, and
- you have a **positive** troponin test indicating damage to the heart muscle, and
- your ECG shows that a blood clot has **partly blocked** one of the coronary arteries?

If all these three things happen, you may still be told that you have had a heart attack. This is because the positive troponin test shows that there has been some muscle damage. This damage will have happened because one of the coronary arteries became partly blocked by a blood clot and could not supply the heart muscle with enough oxygen-rich blood. The ECG shows that the clot is not completely blocking the artery, so there is no need to give thrombolysis or coronary angioplasty. Instead, the doctors will give you a combination of drugs which could include:

- heparin (an anticoagulant)
- glycoprotein IIb/IIIa inhibitor
- nitrates
- beta-blockers
- ACE inhibitors.

(The ambulance staff or hospital doctors will already have given you aspirin.)

This combination of drugs will help to

- reduce the risk of clots completely blocking the artery
- ease your chest pain, and
- reduce the risk of ongoing damage to your heart muscle.

What happens if:

- you have chest pain or chest discomfort
- you have a **negative** troponin test (which means there is no damage to the heart muscle), and
- your ECG shows that a blood clot has **partly blocked** one of the coronary arteries?

If all these three things happen, the doctors will probably tell you that you have unstable angina. They will give you a combination of drugs which could include:

- heparin (an anticoagulant)
- nitrates
- beta-blockers.

This combination of drugs will help to:

- reduce the risk of clots completely blocking the artery
- ease your chest pain, and
- reduce the risk of the heart muscle getting damaged

On pages 19-24 we have given examples of the most common treatments that are given to people with acute coronary syndrome. However, if your signs and symptoms do not match any of the categories described, you may get a different plan of treatment.

What other care and treatment might I have if I'm admitted to hospital with acute coronary syndrome?

If you have acute coronary syndrome – a heart attack or unstable angina – you may be cared for in the coronary care unit (CCU) of the hospital. Some hospitals care for patients with acute coronary syndrome in a general medical ward or general cardiac ward.

Further tests

Over the days while you are in hospital you will have several ECGs (electrocardiograms) to assess your heart rhythm, and several blood tests. A heart monitor will be attached to you so that the nurses can check for any disturbances in your heart rhythm.

Other tests may be carried out to assess how well your heart is pumping and to help decide on the best form of ongoing treatment. These tests may include:

- a chest x-ray
- an echocardiogram
- an exercise ECG
- a radionuclide scan
- an MRI scan, and
- coronary angiography.

We describe all these tests in our booklet *Tests for heart conditions*.

When the doctor and nurses are confident that you are making good progress, if you have been in the CCU, they will make arrangements for you to transfer to a general medical ward or general cardiac ward. They will also suggest that you gradually start getting up and about again.

On-going drug treatment

If you have had acute coronary syndrome, your doctor may give you drugs to continue taking after you have been discharged from hospital. The four main reasons for taking these drugs are:

- to prevent a heart attack (aspirin, beta-blockers or anti-arrhythmic drugs)
- to relieve breathlessness and heart failure (diuretics or ACE inhibitors)
- to control risk factors such as high cholesterol levels or high blood pressure (cholesterol-lowering drugs and blood pressure lowering drugs), and
- to treat angina (nitrates, calcium antagonists or beta-blockers).

For more information on all these drugs, see our booklet *Medicines for the heart*.

If you have diabetes, you may be given insulin or tablets to control your blood glucose level.

Other treatment

If the tests show that one or more of your coronary arteries are severely narrowed and that drug treatment is not likely to be successful, your doctors may advise you to have:

- coronary angioplasty with stent, or
- coronary bypass surgery.

To find out more about these procedures, see our booklet *Coronary angioplasty and coronary bypass surgery*.

Before you are discharged from hospital, doctors and other health-care professionals will assess your needs, and discuss and agree with you a written individual plan for cardiac rehabilitation. (We describe rehabilitation in more detail on page 47.)

The British Heart Foundation produces a leaflet called *In hospital after a heart attack or suspected heart attack*, which tells you about the care and treatment you should be offered while you are in hospital (see page 72).

What happens to my heart after a heart attack?

After a heart attack, your body will replace the area of the heart muscle that was damaged with scar tissue. This takes from a few days to a few months.

Within two or three months, the hearts of many heart attack patients are working just as well as they were before their heart attack. However, sometimes a heart attack can cause more severe damage to the heart, with the result that the pumping action of the heart is not as good as before. This can lead to breathlessness, tiredness and swollen ankles. The term used to describe this condition is heart failure. For more information on this, see our booklet *Heart failure*.

Also, some people continue to experience angina (heaviness or tightness in the chest when they exercise) because there is still narrowing of the coronary arteries. If you have any of these symptoms, tell your doctor.

Coming to terms with a heart attack

A heart attack can be a frightening experience, especially if you have, until now, enjoyed excellent health. While in hospital, many people react with fear and anxiety, possibly made worse by pain and the distress of being surrounded by machines in an unfamiliar environment.

Most of the risk to life happens within the first few hours after the heart attack. When the early hours of the heart attack are safely over, most people usually feel less anxious.

Some people may start to feel anxious again when they move to the general ward and lose the relationship that they have built up with nurses on the coronary care unit. In the general ward, there are many new people to get to know and there is not the same intense observation by hospital staff. But moving to the general ward means that the doctors feel that the period of danger has passed and that there is good reason for optimism. (However, more and more hospitals now have specialised cardiac wards where you are looked after by the same nursing team throughout your stay in hospital.)

Many people also worry when the time comes to go home. Away from medical care, you may worry

about being left alone or about what to do if the pain comes back. This early period at home may also be difficult for partners, who have to strike a balance between 'wrapping you up in cotton wool' and allowing you to do too much. Make sure that you have detailed talks with hospital staff, the cardiac rehabilitation team, your GP and the district nurses or cardiac nurses, about what you should be allowed or encouraged to do. Everyone is different and you must get advice which is relevant to you.

Some parts of the UK have 'cardiac liaison nurses'. A cardiac liaison nurse may contact you in the first week after you leave hospital. She or he may visit you at home to offer you reassurance, answer any questions and give advice on how to reduce your risk of further heart disease. In some areas of the UK, the cardiac liaison nurse may be a British Heart Foundation Nurse. See our leaflet *What a BHF Nurse can do for you*, which describes how a British Heart Foundation Nurse can help you.

Feelings and relationships

Fears and changing emotions are normal after a heart attack. After your heart attack you may feel:

- frightened that you may have another heart attack

- afraid of dying, or
- worried that you won't be able to do as much.

All this is normal and is often associated with changing emotions, such as feeling depressed or bad-tempered. These changing emotions can strain even the closest relationships. Both partners may experience feelings of anger or guilt. Bottling up these feelings can lead to resentment and difficulties in the relationship. It is important to talk about these feelings. You can solve many problems by talking about them. For more information, see our booklet *Caring for someone with a heart problem*.

'Will it happen again?'

Many people wonder if they will have another heart attack. Once the first few days are over, the chance of having a second attack is not great and, as time goes by, it becomes less and less. There is still a risk, but it can be greatly reduced by adopting healthy habits and taking suitable medicines. Many people find that going on a cardiac rehabilitation programme gives them and their partners confidence and support to work out ways of having a healthier lifestyle. For more on how to have a healthy lifestyle see page 54.

'I'm afraid to do too much in case it brings on another heart attack.'

It's natural to feel a bit nervous about exercising after your heart attack. However, the heart is a muscle and, like any other muscle in the body, it needs exercise to keep it in tip-top condition. While you are in hospital, the medical team, nurse and physiotherapist will advise you about how much, and what type of, physical activity is suitable for you.

At the beginning they will advise you to do gentle activity. You will then be asked gradually to increase the intensity of your exercise as you become stronger and more confident.

The advice they give you about physical activity may be different to the advice given to other people who have had heart attacks. This is because everyone is different. Follow the advice carefully. After you have left hospital it is important to continue this at home. Pace yourself as you did in hospital, increasing the amount as you progress.

Facing the future

After your heart attack, during your hospital stay and your recovery at home, you will have the chance to think about your lifestyle. There may be

some areas which you will want to change, to reduce the risk of another heart attack. We discuss some of the positive steps you can take on page 54. For many patients, life after a heart attack can be better than it was before.

Going home again after a heart attack

It is always good to get back home after being in hospital. However, you may feel worried when you leave the carefully monitored environment of the hospital ward. It is best if you have someone with you at home for the first week or two.

As soon as you return home, either you or a relative or friend should let your GP know that you have returned from hospital. Also, give your GP the letter the hospital gave you about the medications you need to take.

You will probably have good days and bad days. This is quite normal. You may feel depressed after returning home. You do not need to worry too much about this. It is a natural reaction to the stress of a major illness and it is quite common. If the depression continues, talk to your GP or to one of the staff at the cardiac rehabilitation programme.

As the days pass, you will be able to see that you are making progress and that you can gradually do more and more.

The first few days

For the first two or three days at home, it is best to take things easy. Do about the same amount of

moving around and exercise indoors as you did in your last few days in hospital. Make sure you have enough rest. However, each day try to get up, washed and dressed and do some light household activities such as making drinks and light snacks, going up and down stairs and some gentle walking. If any of these activities make you feel unwell, contact your GP or one of the staff at the cardiac rehabilitation programme.

Remember to get into a routine for taking your medicines. You may find it helps to write a list of the medicines you need to take and how often you need to take them.

The first six weeks after a heart attack

Getting active again

Gradually increase the amount of physical activity you do as the weeks go by. Aim to do a little bit more each day, if you can.

Don't be afraid to go upstairs or out of the house. Many people find that they tire easily in the early stages after a heart attack. This is normal and will pass as your strength and confidence return.

Walking is an ideal form of exercise during the early weeks after a heart attack. If the weather is OK, go out with a friend for a short walk, ideally somewhere fairly flat. Getting into the fresh air and doing your deep breathing exercises will help you get better and will help lift your spirits. However, avoid walking outdoors when it is very cold. Instead, try walking on the spot or up and down the hallway at home for the same length of time, or do some walking in your local shopping centre or supermarket.

Gradually increase the amount of walking you do over the first two or three weeks. If you get symptoms such as angina or breathlessness, it is important to stop and rest. After two or three weeks you should be able to walk longer distances.

Different people will be able to do different amounts so it is important to talk to your cardiologist, GP or rehabilitation nurse about how much exercise you can do.

Swimming is fine as long as the pool is reasonably warm. It is also OK to use an exercise bike. Jogging is usually quite harmless except for people with serious heart disease.

Whatever form of exercise you do ...

- Gradually build up the amount of activity you do.
- Rest if you feel very tired or breathless, or if you get chest pains.
- Avoid doing activities after a large meal, when it is very cold or very hot, or at high altitudes. All these put added strain on your heart.
- If you are doing an exercise that you are not used to, do it in moderation.

Housework

Start doing light work in the house as soon as you feel fit and able – for example, washing up and dusting. You can do light gardening, but avoid digging and heavy lifting.

Driving

If you have made an uncomplicated recovery after your heart attack, you will be able to start driving again after four weeks. If you ever have an attack of angina while you are driving, you should stop driving. Once your symptoms are controlled, you can start driving again.

You will need to let your car insurance company know about your heart attack to make sure that your car insurance is still valid.

If you have a licence to drive a large goods vehicle (LGV) or a passenger-carrying vehicle (PCV), you must let the Driver and Vehicle Licensing Authority (DVLA) know about your heart attack (DVLA, Swansea SA99 1TU). The DVLA will ask your local hospital to carry out various tests including an exercise tolerance test – walking on a treadmill. The results of these tests will help the DVLA decide whether you can keep your licence.

Return to work

Most people will be able to go back to their previous job after a heart attack. This may be as early as six weeks after your heart attack if your work is not too physically demanding, or if it only involves light duties. For other people, returning to

work depends on the nature of your job, so talk to your doctor or one of the staff at the cardiac rehabilitation programme about this.

Talk to your employers too. They may be willing to give you lighter work for a while when you first go back. Most large organisations have an occupational health service which may be able to recommend lighter work or a staged return to work.

Going on a cardiac rehabilitation programme (see page 47) can increase the chance of successfully returning to work. However, some people, even if they have fully recovered from their heart attack, feel they have reached the age where early retirement is both possible and welcome.

The Disability Discrimination Act makes it unlawful for employers to discriminate against employees because of a declared disability. This means that they cannot discriminate against you unless they can show that it would be unreasonable to make modifications necessary to allow a disabled person to do a specific job.

Sex

People with heart disease and their partners are often understandably anxious about how sex may

affect the heart. Like any other physical activity, having sex can increase the heart rate and blood pressure. This increases the work of the heart and, in people with coronary heart disease, can lead to breathlessness or chest pain. However, it is usually safe to have sex if you can walk about 300 yards on the level comfortably, or climb two flights of stairs briskly without getting chest pain or becoming breathless.

If you have had a heart attack, you can safely start having sex again two or three weeks after the attack, as long as your recovery is not complicated. The stairs test is a useful guide.

If you tend to have angina attacks brought on by physical exertion, here is some helpful advice.

- Avoid having sex within two hours of a heavy meal.
- Keep the bedroom warm and avoid cold sheets.
- Don't have any alcohol for at least three hours before.
- Choose a relaxing atmosphere. Avoid sex if you are tense or tired.
- Get into a comfortable position. Your partner may take the more active role.
- Take your GTN medicine beforehand and keep it at the bedside just in case you need it.

Remember also that there are alternatives to intercourse for giving and receiving pleasure. Touching and caressing may be a useful start to increase confidence.

Some medicines such as regular beta-blockers and calcium antagonists improve the amount of exercise or activity you can do, and can help relieve symptoms that can be brought on by sex.

Impotence after a heart attack may be the result of the emotional stress you are feeling. However, occasionally it can also be the result of drug treatment, including beta-blockers which can affect your sex drive. Talk to your doctor if you are having difficulties.

Alcohol

During the weeks after your heart attack it is best to limit the amount of alcohol you drink. Small amounts, for example a half pint of beer or a glass of wine a day, will do you no harm. But avoid having too much alcohol.

If you are taking sleeping tablets, remember that alcohol will have a more powerful effect. Everyone should avoid binge drinking but this is particularly important if you are taking anticoagulant tablets.

Too much alcohol can interfere with the anticoagulation process so, if you do drink alcohol, it is better to have a small amount on a regular basis.

Looking after the carer

Often the person who has had the heart attack does very well in the early stages, but the partner or person caring for them gets very tired and run down.

If you are looking after someone who has had a heart attack, try to take a rest yourself while the person you're caring for is resting, and to get a good night's sleep. Don't try to do too much for the person. This is tiring and stressful for both of you and in the end will not help either of you. Try to control how many visitors you have and how long they stay for. It can be exhausting to have too many visitors. Make sure you have time to yourself. For more information see our booklet *Caring for someone with a heart problem*.

Holidays

A holiday can help your recovery as it gives you the chance to relax and laze around. At least that's the idea! However, it is important to plan your holiday carefully to avoid unnecessary problems.

It is best not to travel to countries which are very hot or very cold, or to places at a high altitude. It may be wise to go to a place that you have visited before, because it will be familiar to you and won't produce any unwelcome surprises.

It is not the holiday itself that may cause problems. Getting there and back is not always that simple. Plan your trip carefully. Allow plenty of time for whichever form of transport you are taking. Don't carry heavy bags or rush around. If you are going abroad, check your travel insurance to make sure you have enough cover.

Take plenty of tablets with you. It may be useful to have a supply both in your hand luggage and in your suitcase. And take a list of all drugs and doses with you.

Most airlines allow people to travel 10 days after an acute heart attack, as long as they do not have any complications or symptoms. However, it may be better not to travel until you have fully recovered. If you can walk 100 yards on the flat briskly and without chest pain or too much breathlessness, you may be fit to travel by air. If you are worried about whether you are fit to travel, speak to your doctor or someone at the your cardiac rehabilitation programme.

If you are worried, it may be helpful to warn the airline beforehand. If you get angina, you may be able to get transport within the airport terminal. If you have a pacemaker, it is important to tell the airport staff about it, so that you can bypass any security systems which could affect the pacemaker. If you get angina, it is safe to use your GTN spray in a pressurised container while you are on the plane.

Avoid booking into accommodation that is on a steep hill or slope, unless you are confident that you are fit enough for that level of activity. Find out what local transport is available and how close the hotel is to the local restaurants, shops and entertainment that you are planning to use.

Insurance

If you have any problem with your insurance policies, the British Heart Foundation can send you a list of insurance companies which are 'sympathetic' to heart patients (address on back page). This list gives details of companies which offer travel, life, health and car insurance.

Joining a cardiac rehabilitation programme

Most hospitals invite patients to a cardiac rehabilitation programme. The programme usually includes exercise sessions and advice on lifestyle

including healthy eating and relaxation techniques. It aims to restore you to as full a life as possible. It will also help rebuild your confidence and is good fun to do. For more information on these programmes, see page 47.

What you can do to help yourself

- After a heart attack, you can gradually start doing more and more for yourself. Judge your progress from week to week rather than from day to day. Pace yourself, gradually increasing your activities as you get stronger and more confident.
- Keep in contact with your GP.
- Make sure that you get in touch with the cardiac rehabilitation team and join a rehabilitation programme.
- Set up a routine for taking your medicines.
- Use these convalescence weeks to think about how you could improve your overall fitness, reduce your blood cholesterol levels and control your blood pressure. (See *How can I reduce my risk of further coronary heart disease?* on page 54.)
- You may also want to contact a local heart support group (see page 65).
- Remember to talk with other people about your feelings during these weeks, especially with your partner, your family and your friends who will want to be involved in helping you recover.

The British Heart Foundation produces a leaflet called *Heart attack – Home again*, which tells you about the care and treatment you should be offered in the weeks after your heart attack.

Going to a cardiac rehabilitation programme

If you have had a heart attack, your hospital will invite you to a cardiac rehabilitation programme, starting about four to eight weeks after your heart attack. This usually involves going once or twice a week for between six and eight weeks, or longer. The programme might be run either at your local hospital or at a centre near you. Or you may be able to follow a rehabilitation programme at home.

The aim of cardiac rehabilitation is to help you to recover and get you back to as full a life as possible. It can help you whether you are mildly or severely limited by your heart disease. If you have mild heart disease, you may find that following a rehabilitation programme helps you get even fitter than before. If you have more severe heart disease, or if you have another condition that affects your movement – such as arthritis or osteoporosis – you may find that, although your activities are limited, a cardiac rehabilitation programme will help you get your confidence back, help your recovery and improve your quality of life.

What happens on a cardiac rehabilitation programme?

Rehabilitation programmes vary throughout the country, but most programmes cover three areas:

- exercise
- relaxation, and
- information on lifestyles and treatment.

Exercise

Before you start the programme, you will have an initial assessment to find out how much exercise you can safely do. A physiotherapist or an exercise physiologist can then work out a programme of exercises for you, tailoring the programme to your needs.

At the beginning of each session you will do warm-up exercises to stretch your muscles. The physiotherapist will carefully explain all the exercises to you. The main exercises will be 'aerobic'. These are exercises that help to improve your heart and circulation. You will be encouraged to increase your exercise gradually over the weeks of the programme. It is very important that you work within your limits and follow the advice given to you. At the end of each exercise session you will do 'cool-down' exercises to stretch out your

muscles and prevent them from aching the next day.

It is normal to feel anxious about exercising after a heart attack. However, going to rehabilitation classes can help give you the confidence to become active again.

Relaxation

You will be able to practise different relaxation techniques and find one that suits you. You will also find out how important relaxation is for people who have had heart problems.

Information on lifestyles and treatment

The programme may include some sessions on particular topics. Each session may cover one or more topics and you will have the chance to ask any questions. Topics can include the following.

- How the heart works, what can go wrong, and why and how people develop coronary heart disease.
- How to identify your own risk factors relating to coronary heart disease. (For more on risk factors see page 54.)
- Diet and healthy eating. You may also have the chance to discuss your own diet with a dietitian.

- How to recognise your own stress and how to manage it.
- If you are a smoker, you will be encouraged to stop smoking and will be offered advice on how to go about it.
- Medication. You may be able to discuss your medicines with a doctor, nurse or pharmacist.
- What to do in an emergency.
- Practical issues such as driving and holidays.
- Going back to work. People who have had an uncomplicated heart attack will usually be able to return to work. You can talk to a member of the cardiac rehabilitation team about the type of work you do. They will help to assess how easily you might take up your job again and when you should return to work.

Other benefits of a cardiac rehabilitation programme

Going to rehabilitation classes gives you the opportunity to ask questions and talk about any worries you may still have. You can also meet other people who have been through the same thing as you.

If possible, encourage your partner or a family member or friend to go along with you. This will help lessen their fears as well and give them the

chance to ask any questions. They may also benefit from talking to other carers.

The rehabilitation team may include a British Heart Foundation Nurse who can phone you or visit you at home.

How can I find out about my nearest rehabilitation programme?

If you have not already been invited to a cardiac rehabilitation programme, ask at your hospital, or ask your GP. Or you can call the British Heart Foundation on 020 7487 7110 to find out about the nearest rehabilitation programme to you.

What if I cannot get to a rehabilitation programme?

If it is difficult for you to get to the local hospital – for example, if you live in a rural area – you may be given a *Heart Manual*. This includes a six-week recovery plan for people who have had a heart attack as well as relaxation and information tapes for you and your family. The *Heart Manual* helps you to make progress at home, with phone contact with, or visits from, a member of the cardiac rehabilitation team. Before you are discharged from hospital, a rehabilitation nurse may have assessed your ability to do exercise, your anxieties,

and your risk factors, so that your rehabilitation programme can be tailored to meet your needs.

Once your unstable angina has been stabilised, you may be interested in using the *Angina plan*. This is a self-management programme for people with chronic stable angina. To use it, you need to have the help of a trained facilitator. For more information please call 01904 321327, or visit the website www.anginaplan.org.uk

Patient-held record card or diary

Most cardiac rehabilitation programmes provide a patient-held record card or diary. 'Patient-held' means that you keep the card yourself. The card has been designed so that both you and the health professionals involved in your care can write notes in it about your health and your heart.

You can write in the record card or diary any important information that health care professionals give you. You can use it to help you remember the questions you want to ask, to find ways of improving your health, and to share information about your health with your family, friends and carers.

It is important that the record card or diary is updated regularly. This will help you see how well you are progressing in lowering your risk factors and improving your health. Keep your record card or diary in a safe place and take it with you to all your health appointments.

How can I reduce my risk of further coronary heart disease?

The major risk factors for coronary heart disease that you can do something about are:

- physical inactivity
- high blood pressure
- high blood cholesterol
- smoking, and
- being overweight or obese.

Drinking too much alcohol and having too much salt can also increase the risk of coronary heart disease.

Your risk of further coronary heart disease will depend on how many of the above risk factors you have, and how strong each individual risk factor is. Knowing about your risk factors may encourage you to deal with them and help you feel more in control of your heart disease.

Keep active

In the UK, people who are not physically active are twice as likely to have a heart attack compared with active people. Even if you have already had a heart attack, doing a programme of exercise as part of your rehabilitation reduces the risk of dying of a heart attack. The activity needs to be aerobic – that is when you use the muscles of the arms, legs and

back rhythmically and steadily so that your breathing and heart rate increase. Examples of aerobic activity include brisk walking, swimming, cycling and some gardening.

Physical activity has other benefits too. It can:

- reduce your heart rate and lower your blood pressure while you are resting
- improve your cholesterol levels, and
- help to control diabetes.

It can also mean less angina, an earlier return to work, and fewer visits to hospital. These benefits also apply to people who have had heart surgery and to people with heart failure. If you have recently had a heart attack, going on a rehabilitation programme is a very good way of making sure that you exercise at a level that is safe for you. If you have had a heart attack at some time in the past, ask your doctor how much and what sort of activity you can safely do.

If you have angina, you can still exercise, but it is important to limit yourself to what you can easily manage. Avoid getting uncomfortably breathless and do not try to 'walk through' chest pain. Also, avoid very cold and windy weather. Always have your GTN (glyceryl trinitrate) spray or tablets to hand in case you need them.

For more information, see our booklet *Physical activity and your heart*.

Control high blood pressure

High blood pressure increases the risk of a heart attack and of strokes, and over time it can cause the heart muscle to become less efficient. If you have high blood pressure, even a small reduction in blood pressure can lower your risk of having another a heart attack. If you have high blood pressure, it is essential to control it. Your target is to have a blood pressure below 140/85. If you have diabetes and high blood pressure, your target with treatment is below 130/80. Some people can control their blood pressure by losing weight, doing more physical activity and cutting down on alcohol and salt. However, many people need to take medicines too. (For more information on high blood pressure, see our booklet *Blood pressure*.)

Watch your cholesterol

If you have had a heart attack, the level of cholesterol in your blood will be measured. The aim is to have a total cholesterol level of under 5 mmol/l. (Mmol/l means millimols per litre.) If your blood cholesterol is even slightly above this level, you can greatly benefit from reducing it.

A healthy diet will help. This means cutting down on fats in general, especially saturated fats, which are found mostly in meat and dairy products. Researchers have found that reducing the amount of saturated fat you eat can help you reduce your risk of dying from coronary heart disease.

Many people with coronary heart disease also need drugs to get their blood cholesterol down to a level which brings the greatest benefit.

For more information on how to lower your cholesterol level, see our booklet *Reducing your blood cholesterol*.

Eat plenty of fruit and vegetables

People who eat at least five portions of fruit and vegetables a day are less likely to have heart disease. We do not know exactly why, but it is thought to be due to the antioxidant vitamins they contain. However, there is not yet enough evidence that taking vitamin tablets has the same effect. Even if you already have coronary heart disease, it is still helpful to eat plenty of fruit and vegetables. They can include fresh, frozen, dried or canned fruits and vegetables, and also salads. For more information, see our booklet *Eating for your heart*.

Fish and fish oils

Eating oily fish once or twice a week can help to improve the chances of survival after a heart attack. It may also help to reduce your level of triglycerides (fatty substances found in the blood), and prevent blood clots from forming in your coronary arteries. The particular oil in fish that has these beneficial effects is known as 'omega-3'. It is found mainly in oily fish such as herring, mackerel, pilchards, sardines, salmon, trout and fresh tuna.

If you smoke, stop smoking

Continuing smoking after a heart attack doubles the risk of having another attack within one year. If you do smoke, now is the time to stop. If you are a smoker, stopping smoking is the single most important step you can take to help you recover from your heart attack. Within one year of stopping smoking, the risk of a heart attack falls to about half that of a smoker.

However, stopping smoking is much easier said than done. Talking to friends and relatives who have stopped, joining a stop-smoking group, and talking to your GP or practice nurse may help you. Your GP, practice nurse or pharmacist can also give you advice including information on nicotine

replacement products such as chewing gum and skin patches, bupropion (Zyban) tablets, and local NHS stop-smoking services.

The NHS Smoking Helpline on 0800 169 0 169 can offer information on stopping smoking, and support for people who are finding it hard to stop. Or you can contact QUIT on 0800 002200 for practical help in stopping. QUIT also has helplines in different languages. See page 73 for details.

For more information on smoking, see our booklet *Smoking and your heart*.

Control your weight

It is important to control your weight, not just to help your heart but also for your general fitness. Keeping close to the recommended weight for your height will help you keep your blood pressure down and reduce the workload of your heart.

If your doctors feel that you are very overweight, they will ask the hospital dietitian to give you advice on how to lose weight. If you have any questions once you get home about what or how much you should be eating, ask your GP, practice nurse or district nurse. You can also ask questions at your cardiac rehabilitation programme.

To find out if you need to lose weight, check the chart on next page. If you fall in the overweight, obese or very obese category, you need to lose some weight.

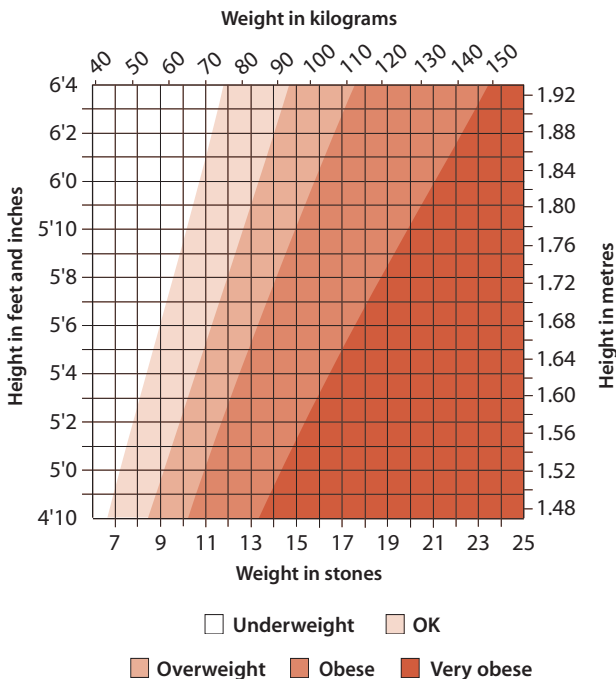
If you have a lot of weight around your waist, you are more at risk of heart disease. To work out your risk, measure your waist at the narrowest part. If it is more than 32 inches (80 centimetres) for a woman, or more than 37 inches (94 centimetres) for a man, your health is at risk. If it is more than 35 inches (88 centimetres) for a woman, or 40 inches (102 centimetres) for a man, your risk is much higher.

If you need to lose weight, don't try to lose the extra weight too quickly. Losing weight slowly and steadily (about a pound a week) is more healthy, and you're more likely to keep the weight off for good. If you are very overweight, losing even 10 kilos (22 pounds) will be good for your health. For more information, see our booklet *So you want to lose weight ... for good – A guide to losing weight for men and women*.

Also, remember that losing weight means both eating healthily and doing more physical activity (see *Keep active* on page 54).

Are you a healthy weight?

Take a straight line up or down from your weight, and a line across from your height (without shoes). Put a mark where the two lines meet to find out if you need to lose weight.



Adapted from *Treat Obesity Seriously*, by J Garrow. 1981.
By permission of Churchill Livingstone

Control diabetes

Men with diabetes that started in adult life have about three times the risk of a heart attack compared to those without diabetes. Women with diabetes have about four times the risk of heart attack. It is very important to make sure you control your blood sugar. Doing more physical activity, controlling your weight and taking your medicines regularly will all help.

Control feelings of stress, anxiety and depression

There is some evidence that stress, anxiety and depression can contribute to coronary heart disease. Also, psychological distress may increase the chances of smoking, becoming overweight or obese, having too much alcohol, and having high blood pressure – which are all risk factors for coronary heart disease. And, for people who already have atherosclerosis (build-up of fatty material within the walls of the coronary arteries) or symptoms of coronary heart disease, psychological distress can make their symptoms worse.

Counselling and a particular type of therapy called ‘cognitive behavioural therapy’ can help people understand and manage the causes of stress, anxiety and depression. Antidepressant medicines

can also help most people. However, medicines for anxiety should only be used for one or two weeks until other treatments are found and in place.

Symptoms of anxiety include sadness and tearfulness, loss of enjoyment with work, leisure, food or sex, a low self-opinion, poor concentration and sleeping problems. Depression and anxiety can also cause physical symptoms which are sometimes very similar to the symptoms of heart disease – for example tiredness, chest pain, breathlessness and palpitation. (Palpitation is the feeling you get when you are aware of your heartbeat. Your heart may be beating at a normal rate and rhythm, quickly, slowly or irregularly, or it may be missing beats.)

Symptoms of stress often include a feeling of frustration, tension, anger, difficulty in sleeping and loss of concentration. Some people find that they get headaches, butterflies in their stomach and a racing heart.

If you think you are depressed or very anxious, talk to your GP who will be able to treat you or refer you for counselling or therapy. However, if you are stressed, there is much that you can do to manage it. Learning to recognise your symptoms of stress

and its causes are the first steps towards managing it effectively.

Some useful tips for managing stress are given below.

- Learn relaxation skills.
- Practise deep breathing.
- Take more exercise – for example, walking, swimming or cycling. Exercise is a good way of releasing tension.
- Get enough sleep.
- Take time to relax every day.
- Don't take on too much. Learn to say 'No'.

You can find out more about these and other techniques for managing stress at your cardiac rehabilitation programme.

Heart support groups

You may find it helpful to join a 'heart support group'. A heart support group gives you, your partner and family the chance to meet and talk to people who have gone through similar experiences. Groups vary. They may meet every week, every fortnight or every month. Some hold exercise classes or invite speakers to talk on medical as well as general topics. They are quite informal and sociable too.

There is a possible danger that people who have made an excellent recovery may continue to think of themselves as 'patients' at a time when they should be trying to put the heart attack behind them. The organisers of good self-help groups recognise this and can help people who have had heart attacks to take a positive approach to life, and to play a part in helping others through their difficulties.

How to find out where your nearest heart support group is

The British Heart Foundation keeps an up-to-date list of all heart support groups in England and Wales which are linked to the British Heart Foundation. To find out the nearest one to you, call 0207 487 7110.

If you are interested in setting up a local heart support group

If there is not a heart support group near you, you may like to be involved in setting one up. For more information, contact one of the following organisations.

In **England and Wales** – British Heart Foundation.
Phone: 020 7487 7110.

In **Scotland** – Chest, Heart and Stroke Scotland.
Phone: 0131 225 6963. Website: www.chss.org.uk

In **Northern Ireland** – Northern Ireland Chest, Heart and Stroke Association. Phone: 028 9032 0184.
Website: www.nichsa.com

What to do if someone has a heart attack or cardiac arrest

Ideally, everyone should know what to do if someone has a heart attack or cardiac arrest. About three in every four cardiac arrests happen away from hospital and there may be nobody else around to help.

The British Heart Foundation co-ordinates courses around the country, called *Heartstart UK*, to train people in emergency life support. For more details see page 74.

If someone has a heart attack

- 1 Get help immediately.
- 2 Get the person to sit back in a comfortable position.
- 3 Phone 999 for an ambulance.

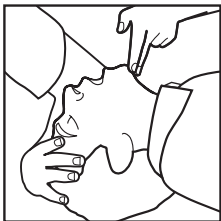
If a person seems to be unconscious

- Approach with care. To find out if the person is conscious, gently shake him or her, and shout loudly, 'Are you all right?'
- If there is no response, shout for help.
- You will need to assess the casualty and take suitable action. Remember **A, B, C – Airway, Breathing, Circulation.**

A

Airway

Open the person's airway by tilting the head back and lifting the chin.



B

Breathing

Check

Look, listen and feel for signs of breathing for up to 10 seconds.

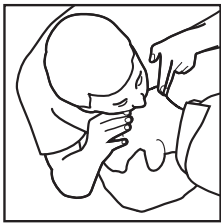
Action: Rescue breathing

If the person is unconscious and not breathing, phone 999 for an ambulance.

Put the person face upwards on the floor.

Open the airway again and give two of your own breaths to the person. This is called 'rescue breathing'.

Close the person's nostrils with your fingers and thumb and blow into the mouth. Make sure that no air can leak out and that the chest rises and falls.



C

Circulation

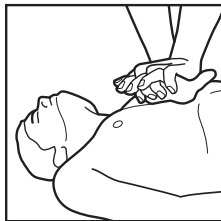
Check

Check for signs of circulation. This means checking for signs of normal breathing, coughing or movement. Take no more than 10 seconds doing this.

Action: Chest compression

If there are no signs of a circulation, or if you are at all unsure, start chest compression.

Find the notch at the bottom of the breastbone. Measure two fingers' width above this. Place the heel of one hand there. Place your other hand on top. Press down firmly and smoothly 15 times. Do this at a rate of about 100 times a minute – that's faster than one each second.



Repeat 2 rescue breaths and then 15 chest compressions. Keep doing the 2 rescue breaths followed by 15 chest compressions until:

- the casualty shows signs of life, or
- professional help arrives, or
- you become exhausted.

For more information

British Heart Foundation website

bhf.org.uk

For up-to-date information on the BHF and its services.

Heart Information Line 08450 70 80 70

(A local rate number.)

An information service for the public and health professionals on issues relating to heart health.

Publications and videos

The British Heart Foundation (BHF) also produces other educational materials that may interest you.

To find out about these or to order your

Publications and videos catalogue, please go to **bhf.org.uk/publications**, call the **BHF Orderline on 0870 600 6566** or e-mail **orderline@bhf.org.uk**.

You can download many of our publications from **bhf.org.uk/publications**

Our publications are free of charge, but we would welcome a donation.

Heart Information Series

This booklet is one of the booklets in the *Heart Information Series*. The other titles in the series are as follows.

- 1 Physical activity and your heart
- 2 Smoking and your heart
- 3 Reducing your blood cholesterol
- 4 Blood pressure
- 5 Eating for your heart
- 6 Angina
- 7 Heart attack and rehabilitation
- 8 Living with heart failure
- 9 Tests for heart conditions
- 10 Coronary angioplasty and coronary bypass surgery
- 11 Valvular heart disease
- 12 Having heart surgery
- 13 Heart transplantation
- 14 Palpitation
- 15 Pacemakers
- 16 Peripheral arterial disease
- 17 Medicines for the heart
- 18 The heart – technical terms explained
- 19 Implantable cardioverter defibrillators (ICDs)
- 20 Caring for someone with a heart problem

In hospital after a heart attack or suspected heart attack

A leaflet describing the care and treatment you should be offered when in hospital after a heart attack or suspected heart attack.

Heart attack – Home again

A leaflet describing the care and treatment you should be offered in the weeks after your heart attack.

What a BHF Nurse can do for you

This leaflet describes how a British Heart Foundation Nurse can help people who have recently had a heart attack.

So you want to lose weight ... for good: A guide to losing weight for men and women

Heart health *magazine*

Heart health is a free magazine, produced by the British Heart Foundation especially for people with heart conditions. The magazine, which comes out four times a year, includes updates on treatment, medicines and research and looks at issues related to living with heart conditions, like healthy eating and physical activity. It also features articles on topics such as travel, insurance and benefits. To subscribe to this **free** magazine, call 0870 600 6566.

Video – Let's talk about sex

A video with information on sex for people who have coronary heart disease.

You can get this video from the British Heart Foundation. A £5 donation is suggested.

For more information on smoking

QUITLINE® – Freephone 0800 00 22 00

A free telephone helpline, staffed by trained counsellors. For help and advice about stopping smoking.

The following helplines in different languages are available.

Bengali 0800 00 22 44 (Mondays 1pm to 9pm)

Gujerati 0800 00 22 55 (Tuesdays 1pm to 9pm)

Hindi 0800 00 22 66 (Wednesdays 1pm to 9pm)

Punjabi 0800 00 22 77 (Thursdays 1pm to 9pm)

Urdu 0800 00 22 88 (Sundays 1pm to 9pm)

Turkish and Kurdish 0800 00 22 99 (Thursdays and Sundays 1pm to 9pm)

The NHS Smoking Helpline 0800 169 0 169

Can offer information on stopping smoking, and support for people who are finding it hard to stop.

Heartstart UK

For information about a free, two-hour course in emergency life-support, contact Heartstart UK at the British Heart Foundation. The course teaches you to:

- recognise the warning signs of a heart attack
- help someone who is choking or bleeding
- deal with someone who is unconscious
- know what to do if someone collapses, and
- perform cardiopulmonary resuscitation (CPR) if someone has stopped breathing and his or her heart has stopped beating.

For more information on statistics quoted in this booklet

Statement	Where you can find out more about this
<p>Page 54 In the UK, people who are not physically active are twice as likely to have a heart attack compared with active people.</p>	<p>From 'Physical activity and the incidence of coronary heart disease', by KE Powell et al. Published in the <i>Annual Review of Public Health</i> in 1987, volume 8, pages 253-287.</p>
<p>Page 54 Even if you have already had a heart attack, doing a programme of exercise as part of your rehabilitation reduces the risk of dying of a heart attack.</p>	<p>From 'An overview of randomized trials of rehabilitation with exercise after myocardial infarction' by GT O'Connor, JE Buring, S Yusuf et al. Published in <i>Circulation</i> in 1989, volume 80, pages 234-44.</p>
<p>Page 56 If you have high blood pressure, even a small reduction in blood pressure can lower your risk of having another heart attack.</p>	<p>From: 'New meta-analysis of treatment trials of hypertension improving the estimate of therapeutic benefit', by F Geuffier, A Froment and M Grouton. Published in 1996, in the <i>Journal of Human Hypertension</i>, volume 10, pages 1-8.</p>

Page 56*Blood pressure*

Your target is to have a blood pressure below 140/85. If you have diabetes and high blood pressure, your target with treatment is below 130/80.

From 'Joint British recommendations on prevention of coronary heart disease in clinical practice', by D Wood, P Durrington, N Poulter et al. Published in 1998 in *Heart*, volume 80 (supplement 2), pages S1-S29.

Page 56*Blood cholesterol levels*

The aim is to have a total cholesterol level of under 5 mmol/l.

From 'The cholesterol papers', by M Marmot. Published in the *British Medical Journal* in 1994, volume 308, pages 351-352.

Page 57

Researchers have found that reducing the amount of saturated fat you eat can help you reduce your risk of dying from coronary heart disease.

Page 58

Eating oily fish once or twice a week can help to improve the chances of survival after a heart attack. It may also help to reduce your level of triglycerides (fatty substances found in the blood), and prevent blood clots from forming in your coronary arteries.

From: *Nutritional Aspects of Heart Disease* by the Cardiovascular Review Group, Committee on Medical Aspects of Food Policy, Department of Health. Published in 1994 by HMSO, London; and, 'Effects of changes in fat, fish and fibre intakes on death and myocardial reinfarction: death and reinfarction trial (DART)', by ML Burr, JF Gilbert, RM

	<p>Holliday et al. Published in 1989 in the <i>Lancet</i>, volume 2, pages 757-761.</p>
<p>Page 58 Continuing smoking after a heart attack doubles the risk of having another attack within one year.</p>	<p>From 'Joint British recommendations on prevention of coronary heart disease in clinical practice', by D Wood, P Durrington, N Poulter et al. Published in 1998 in <i>Heart</i>, volume 80 (supplement 2), pages S1-S29.</p>
<p>Page 58 Within one year of stopping smoking, the risk of a heart attack falls to about half that of a smoker.</p>	<p>From <i>The Health Benefits of Smoking Cessation – A Report of the Surgeon General</i> (pages 239-240). Published in 1990 by the United States Department of Health and Human Services, Maryland.</p>
<p>Page 60 If you are very overweight, losing even 10 kilos (22 pounds) will be good for your health.</p>	<p>From <i>Obesity in Scotland. Integrating Prevention with Management</i>. Published in 1996 by the Scottish Intercollegiate Guidelines Network, Edinburgh.</p>

Page 62

Men with diabetes that started in adult life have about three times the risk of a heart attack compared to those without diabetes. Women with diabetes have about four times the risk of heart attack.

From 'Morbidity and mortality in diabetics in the Framingham population. Sixteen year follow-up', by MJ Garcia, PM McNamara, T Gordon and WB Kannell. Published in 1974 in *Diabetes*, volume 23, pages 105-111.

Page 62

There is some evidence that stress, anxiety and depression can contribute to coronary heart disease.

From 'Psychological factors in the aetiology and prognosis of coronary heart disease: systematic review of prospective studies', by H Hemmingway and M Marmot. Published in 1999 in the *British Medical Journal*, volume 318, pages 1460-7.

For your notes:

About the British Heart Foundation

The British Heart Foundation (BHF) is the leading national charity fighting heart and circulatory disease – the UK's biggest killer. The BHF funds research, education and life-saving equipment and helps heart patients return to a full and active way of life.

We rely on donations to continue our vital work. If you would like to make a donation, please ring our **credit card hotline on 0870 606 3399**. Or fill in the form opposite.



Please send me information about the following.

- BHF publications**
- Giving regular donations**
Regular donations through a standing order give us the long-term support we need. Just tick for information on how to set up a standing order.
- Remembering us in your Will**
Many people choose to leave a gift to their favourite charities in their Will. We can send you a useful information pack to tell you how to go about it.
- Local fundraising activities and sponsored events**
- Payroll giving**
How you and your work colleagues can donate from your salaries before tax.
- Buying BHF Christmas cards and gifts**
- Becoming a volunteer in a British Heart Foundation shop**

Please send your form to the British Heart Foundation. The address is over the page.

Technical terms

angina	Heaviness or tightness in the centre of the chest which may spread to the arms, neck, jaw, back or stomach.
antioxidants	Vitamins, found mainly in fruit and vegetables.
atheroma	Fatty material that can build up within the walls of the arteries.
atherosclerosis	The build-up of fatty material within the walls of the arteries.
cardiac arrest	When the heart stops pumping.
cardiopulmonary resuscitation	Action to restore the breathing and circulation.
CCU	Coronary care unit – a unit in a hospital which specialises in patients with heart conditions.
cholesterol	A fatty substance mainly made in the body by the liver.
coronary arteries	The arteries that supply the blood to the heart muscle.
coronary heart disease	When the walls of the coronary arteries become narrowed by a gradual build-up of fatty material called atheroma.
coronary thrombosis	When a blood clot forms in a coronary artery and causes a heart attack.

defibrillator	A device which delivers a large electric shock through the chest wall to the heart, to restore a normal heartbeat.
familial hyperlipidaemia	A condition which is hereditary and causes an increased blood cholesterol level. It is also called familial hypercholesterolaemia or FH.
fibrillation	See 'ventricular fibrillation'.
fibrin	Fibrous material that may contribute to a clot in the arteries.
glyceryl trinitrate	A drug to relieve angina.
hypercholesterolaemia	Raised blood levels of cholesterol.
myocardial infarction	A heart attack.
nitrate	A drug to relieve angina.
thrombolysis	Treatment to help dissolve a clot blocking an artery.
thrombosis	See 'coronary thrombosis'.
thrombus	A clot.
ventricular fibrillation	A disturbance in the heart rhythm which causes the heart to stop pumping effectively and to quiver or 'fibrillate'.

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For your notes:

Your comments please

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Acknowledgements

The British Heart Foundation would like to thank all the GPs, cardiologists and nurses who helped to develop the booklets in the *Heart Information Series* and all the patients who commented on the text and design.

Particular thanks are due to:

- Dr Tim Bowker
- Susie May
- Martin Melville, and
- Catriona McLeod.

Edited by Wordworks.





Heart health is a free magazine produced by the British Heart Foundation especially for people with heart conditions. See page 72 for more information.

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