Heart attack

BEATING HEART DISEASE TOGETHER

British Heart Foundation

About the British Heart Foundation

The British Heart Foundation (BHF) is the nation's heart charity, saving lives through pioneering research, patient care and vital information.

What you can do for us

We rely on donations of time and money to continue our life-saving work. If you would like to make a donation, please:

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- visit **bhf.org.uk/donate**, or
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For other ways to support our work, see **bhf.org.uk/supportus**

British Heart Foundation website

You may find other useful information on our website at:

bhf.org.uk

Contents

About this booklet

This booklet is for people who have had a **heart attack,** and for their family and friends. A heart attack is sometimes called a **myocardial infarction**.

Is this the right booklet for you?

If you had a **primary angioplasty** as an emergency treatment for your heart attack, please read our booklet ***Primary angioplasty for a heart attack*** instead of this booklet. (A primary angioplasty is sometimes called a primary PCI. 'PCI' stands for percutaneous coronary intervention.)

The doctors may have told you that you've had an **acute coronary syndrome** – or **ACS** for short. The term acute coronary syndrome covers both heart attacks and unstable angina. This booklet is just about heart attacks. If you've been told that you have had acute coronary syndrome but that it was an episode of unstable angina (and not a heart attack), please read our booklet ***Angina*** instead of this booklet.

This booklet explains:

- what a heart attack is
- why heart attacks happen
- the tests you will have, to find out if you have had a heart attack
- the treatment you will have if you have had a heart attack
- what happens to your heart after a heart attack
- what you can do in the days and weeks after your heart attack
- what cardiac rehabilitation is, and
- what you can do to reduce your risk of further heart problems.

This booklet does not replace the advice that your doctor, nurse or any other health professional looking after you may give you, but it should help you to understand what they tell you.

What is a heart attack?

When someone has a heart attack, it means there has been damage to a part of their heart muscle. Before we explain how that damage happens, it helps to know about how the heart works.

How the heart works

Your heart is a muscle that pumps blood around your body, delivering oxygen and other nutrients to all of your cells. Your heart muscle needs its own supply of oxygen and nutrients so that it can pump blood around your body.

Your heart gets its blood supply from its **coronary arteries**, which are on the outside of your heart.

What happens during a heart attack?

A heart attack happens when there is a sudden loss of blood flow to a part of your heart muscle. It usually causes a sudden onset of pain or discomfort in the chest, and it may cause other symptoms which we describe on page 42.

What causes heart attacks?

The cause of a heart attack is nearly always **coronary heart disease**. This is a condition where the inside of one or more of the coronary arteries becomes narrowed because fatty deposits called **atheroma** have built up within the artery walls. The fatty area of atheroma in the artery wall is called a **plaque**.

If a plaque cracks, a blood clot forms to try to repair the damaged artery wall. This blood clot can totally block your coronary artery, causing part of your heart muscle to be starved of blood. If this happens, the affected part of your heart muscle will begin to die, because it is not getting oxygen. This is a **heart attack**.

During a heart attack there is also the risk of having a **cardiac arrest**. This is when the heart stops pumping blood and normal breathing stops. For more on this, see page 12.

What needs to be done if you have a heart attack?

If you have a heart attack, you need to have treatment as soon as possible. This will be to get the blood flowing to the damaged part of the heart muscle again as quickly as possible and to limit the amount of permanent damage to your heart.

Many people who have a heart attack need to have emergency treatment to unblock the coronary artery.

- **Either** you will have a treatment called **primary angioplasty** (sometimes called **primary PCI**) which is a procedure to re-open the blocked coronary artery. (PCI stands for percutaneous coronary intervention.)
- **Or** you will have **thrombolysis**, which means giving you a 'clot-busting' medicine to dissolve the blood clot that is blocking the coronary artery.

For some heart attacks, thrombolysis is not suitable, so either primary angioplasty or certain other medicines are used instead.

We explain more about these treatments on pages 13 and 16. **If you had a primary angioplasty as an emergency treatment for your heart attack**, you will find it more helpful to read our booklet *Primary angioplasty for a heart attack* instead of this booklet.

If you ever think you are having a heart attack, call 999 immediately. Too many people risk their lives by waiting too long to call for an ambulance. If in doubt, call 999. It could save your life.

What happens when the paramedics or other ambulance staff arrive?

A suspected heart attack is treated as an emergency because of the possible damage to your heart, and the risk of death. Early treatment can save your life and can limit the amount of damage to your heart muscle.

The first priorities are to:

- take an ECG to find out whether you could be having a heart attack
- reduce your pain or discomfort
- start treatment to reduce or prevent damage to your heart, and
- resuscitate you if you go into cardiac arrest. (A cardiac arrest can be triggered by a heart attack.)

ECG

When the paramedics arrive, they will do a test on you called an **ECG** (electrocardiogram), to try to find out if your symptoms are due to a heart attack. This has to be done quickly, so as not to delay your transfer to hospital.

Pain relief

If you have a low level of oxygen in your blood when

you're on your way to the hospital, the paramedics will give you **oxygen**. To reduce your pain, they may give you **morphine** intravenously (through a vein), and **glyceryl trinitrate** (GTN) under your tongue. And they will give you **aspirin**, unless they know you are allergic to it or unless you have already taken enough aspirin while waiting for the ambulance.

Deciding which hospital to take you to

If your ECG confirms that you are having a heart attack, you will need urgent treatment in hospital.

The ambulance service works closely with hospitals in their area to try to make sure that people with a suspected heart attack receive the treatment they most need. So the paramedics or other ambulance staff will find out which hospital to take you to based on:

- your ECG reading
- how stable your condition is
- the distance from the hospital, and
- the availability of specialist beds.

The hospital you go to may not be your local hospital.

- If you need a **primary angioplasty**, they will take you to a hospital that can carry out this treatment, as long as the nearest hospital that can do the treatment is not

too far away.

- If you need to have **thrombolysis** – either because it will take too long to get to the hospital with the primary angioplasty service or because that hospital does not have a bed available – you will be given thrombolysis treatment either in the ambulance or at the nearest hospital.
- If you are not having thrombolysis but you are in an unstable condition, they may take you to a hospital with facilities for carrying out a primary angioplasty, just in case you need to have one.
- If you are not having either thrombolysis or primary angioplasty, the paramedics will take you to a hospital for further assessment and treatment.

Cardiac arrest

During a heart attack there is a risk of developing heart-rhythm disturbances, including potentially life-threatening ones which can sometimes cause a cardiac arrest. A cardiac arrest is when the heart stops pumping and the person stops breathing normally. If this happens, resuscitation is needed immediately. This is partly why it is so important to call 999 if you ever think you may be having a heart attack.

The paramedics or ambulance staff have a defibrillator with them. One or more electrical shocks from the defibrillator could restore a normal heart rhythm and save your life. For more on cardiac arrest, see page 45.

What happens next?

If you have had thrombolysis treatment, go to the next page. If you have not had thrombolysis, go straight to *What happens when I first get to the hospital?*, on page 14.

If you have a heart attack and are treated with thrombolysis

If the doctors or paramedics decide that thrombolysis is the best treatment for you, it is given either in the ambulance or at the hospital.

What is thrombolysis?

Thrombolysis is a drug treatment that helps to dissolve the blood clot that is blocking the coronary artery and restore the blood supply to the heart muscle. It involves injecting a medicine such as **recteplase** or **tenecteplase** into the bloodstream, through a vein in the arm.

The injection should be given as soon as possible after the person starts having the symptoms of their heart attack. This is partly why if you ever think you may be having a heart attack, it is vital to call 999 immediately, so that the blood supply to your heart muscle can be restored as quickly as possible.

What happens when I first get to the hospital?

When you get to the hospital, you will have a **rapid assessment**. This involves:

- more ECGs
- an assessment of your symptoms and medical history
- a blood test called a troponin test (see below), and
- physical examinations, including measuring your blood pressure and monitoring your heart rhythm and heart rate.

Troponin test

Troponins are proteins that are normally found within the cells of the heart. If your heart muscle is damaged, troponins leak into your blood, where they can be detected by a blood test. They are released into your bloodstream quite slowly, and so the level of troponin in your blood rises gradually over a few hours. This means that the troponins may only be detected several hours after the start of the symptoms of a heart attack. This is why the troponin test is not used as a way to decide on immediate treatment.

If you've had a heart attack, a troponin test can help show

if there is damage to your heart.

- **If your troponin test is positive** – that is, if you have a **high level of troponins** in your blood – it means that you have had a **heart attack.**
- **If the troponin test is negative hours after your symptoms first started** – that is, if you don't have a high level of troponins in your blood – it means that your heart muscle was not damaged. This would confirm a diagnosis of **unstable angina**. For more information on this, see our booklet *Angina*.

You may have more than one troponin test, especially if your first test is negative. This is because it can take some time for the troponins to be released into the bloodstream.

Cardiac enzyme tests

You may also have some other blood tests called cardiac enzyme tests. For information about these tests, see our booklet *Tests for heart conditions*.

What treatment and other tests will I need while I'm in hospital?

Medicines

As you have had a heart attack, you will need to start taking medicines every day. If you already had a heart condition before you had your heart attack, you may already be taking some or all of these medicines.

The five main reasons for taking the medicines are to:

- help prevent another heart attack
- help reduce the risk factors for coronary heart disease – such as high cholesterol levels or high blood pressure (a risk factor is something that increases your chance of getting a disease)
- prevent or treat the symptoms of angina
- help strengthen the pumping action of your heart, and
- help reduce the risk of heart failure.

You will need to take some medicines from each of these four groups:

- aspirin
- beta-blockers
- either ACE inhibitors or ARBs (angiotensin receptor blockers), and

- statins.

You will need to continue taking these medicines after you leave hospital, and will need to take most of them for the rest of your life. You may also need to take some other medicines, depending on your condition.

For more information on the medicines your doctor prescribes for you, see our booklet *Medicines for your heart*. You may also find it helpful to talk to your pharmacist about your medicines.

Tests

Because you have had a heart attack, you will need to have more tests over the days while you are in hospital.

You will have more **ECGs** to look for any changes in the electrical activity of your heart. And you are likely to be attached to a **heart monitor** most of the time, to find out if there are any problems with your heart rhythm. Heart-rhythm problems can sometimes happen if you have had a heart attack.

You may also have some other tests, to look more closely at your heart and how it is working and to help decide on the best form of treatment for you. These tests may include the following.

- **Chest X-ray** – A chest X-ray can show if there is

enlargement of your heart and fluid around your heart. It also shows your lungs.

- **Echocardiogram** – This is an ultrasound picture of your heart which can give accurate information about the pumping action of your heart, and about the structure of your heart and its valves.
- **Exercise ECG** – This is an ECG that is recorded continually, usually while you are walking on a treadmill. This can help to decide whether you need to have a coronary angiogram (see below). Later on, an exercise ECG can help decide what level of physical activity you can start doing when you begin cardiac rehabilitation.
- **Coronary angiogram** – See below.

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

Coronary angiogram

One of the tests you will probably have while you are in hospital is a coronary angiogram.

You will be given a local anaesthetic in your groin or your wrist. An incision (cut) is made and a catheter (a fine, flexible, hollow tube) is passed into an artery in your groin or wrist. During the procedure, some dye is injected into the catheter to make your coronary arteries show up

on the X-ray. You may feel a warm flushing feeling when this happens. The doctor will pass the catheter into your coronary arteries, to see if there are narrowings within them.

If the coronary angiogram shows that a section of one or more of your coronary arteries is severely narrowed, your cardiologist may advise you to have either:

- a **coronary angioplasty** – also called a PCI (percutaneous coronary intervention), **or**
- **coronary bypass surgery**.

We explain more about coronary angioplasty below. To find out more about these two types of treatments, see our booklets *Coronary angioplasty* or *Having heart surgery*.

Coronary angioplasty

If there are narrowings within one or more of your coronary arteries and they are suitable for treatment by coronary angioplasty, this is usually done during the same procedure as the coronary angiogram.

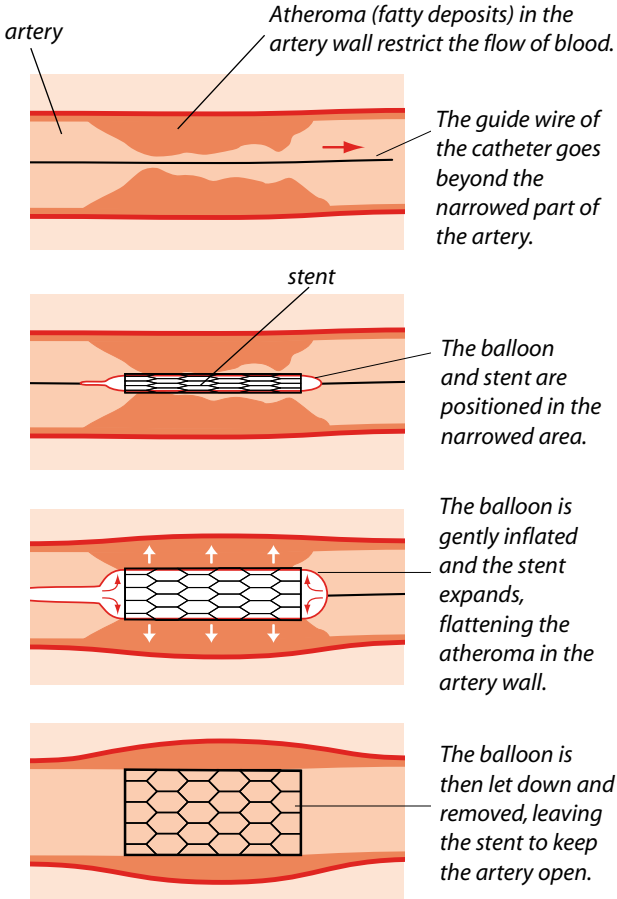
The catheter with a balloon at its tip is passed through to the part of the coronary artery that is to be treated, until the tip of the catheter lies inside this narrowed part of the artery. (See the diagram on page 21.) The balloon is

then gently inflated so that it squashes the fatty tissue that is causing the narrowing, flattening it within the walls of the artery. As a result, this widens the narrowing so that the blood can flow through it more freely to the part of your heart muscle it supplies.

In almost all coronary angioplasties, a stent is inserted in the widened artery. A stent is a short tube of stainless-steel mesh. An unexpanded stent is in position on the end of the balloon catheter when the catheter is inserted into the artery. When the balloon is inflated, the stent expands. When the balloon is deflated, the catheter with the deflated balloon is removed, leaving the expanded stent in place inside the artery to hold the artery open.

For more information on this procedure, see our booklet *Coronary angioplasty*.

Coronary angioplasty with a stent



For more information about your treatment

If you want to find out more about the treatment you are having and why you are having it, ask the doctors and nurses who are looking after you.

Moving to another ward

If you are in a cardiac care unit to start with, when the doctors and nurses are confident that you are making good progress, you may be moved to a different ward with fewer nurses. You will be encouraged to do more for yourself and to move about more.

How long will I need to stay in hospital for?

People who have had a heart attack and have had the treatment described on pages 13 to 21 usually stay in hospital for about five days.

Before you leave hospital

Before you leave hospital, doctors, nurses, other healthcare professionals, and sometimes a social worker, will assess your care needs and plan your discharge. You should also be referred to a **cardiac rehabilitation service** (see below).

The staff at the hospital will also give you a discharge letter for you to give to your GP. This letter has details of your diagnosis, the treatment you had while you were in hospital, and the medicines you will need to take.

Cardiac rehabilitation

*Also called **cardiac rehab**.*

When you leave hospital after having a heart attack, you should be referred for specialist advice and physical activity to a **cardiac rehabilitation service**, if there is one available in your area. Everyone's needs are different and the service you are offered will depend on what has happened to you. Do try and accept a place in cardiac rehabilitation. If you turn it down, you may not be able to get a place later on and may regret it.

Going to cardiac rehabilitation can reduce the risk of dying after a heart attack and helps improve some of the

risk factors for coronary heart disease. Cardiac rehabilitation aims to help you recover and get back to as full a life as quickly as possible after a heart attack. It also aims to promote your health and keep you well.

For more information, see our booklets *Cardiac rehabilitation* and *What should I expect from cardiac rehabilitation? A guide for heart patients in England.*

The first few days after you leave hospital

It is good to get back home after being in hospital. However, you may feel worried when you leave the safe and monitored environment of the hospital. It is best if you have someone with you at home for the first few days or weeks, depending on how well you are recovering. This will help to improve your confidence.

It is best to take things easy for the first few days after you get home after a heart attack. Make sure you have enough rest, but do get up, wash and get dressed. Also, do some light household activities such as making drinks and light snacks, going up and down stairs a few times a day, and some gentle walking. If any of these activities makes you feel unwell, contact your GP. Or, if you are already in contact with a cardiac rehabilitation team, you could contact one of the staff there.

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.

As soon as possible, either you, or a relative or friend, should take your discharge letter to your GP. Your GP will

need the information in this letter so he or she can give you a repeat prescription for the medicines you'll need to take.

What happens to my heart after a heart attack?

A heart attack always causes some permanent damage to the heart muscle, but the sooner treatment is given, the more muscle it is possible to save. Many people still have good quality of life and health after a heart attack.

If a heart attack damages a significant amount of heart muscle, this can affect the pumping action of the heart. Symptoms of this can be breathlessness, tiredness and swollen ankles. The term used to describe this condition is **heart failure**. For more information on this, see our booklets *Living with heart failure* or *An everyday guide to living with heart failure*.

Also, some people continue to get **angina** after they have had treatment for their heart attack, because there is still narrowing of one or more of the coronary arteries.

Contact your GP if:

- you have any of the symptoms of heart failure listed above
- you get any new symptoms, or
- your doctors said you probably would not get angina after having your coronary angioplasty, but you do get it.

Coming to terms with a heart attack

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

Most of the risk to life happens within the first few hours after the heart attack, which is the time when the heart is vulnerable to serious heart-rhythm problems. (See the information about cardiac arrest, on page 45.)

Once you're back home, it is normal to worry about being left alone, or about what to do if the pain comes back. The people you live with need to strike a balance between 'wrapping you up in cotton wool' and allowing you to do more than you are able to. If you feel unsure about what you can do, talk to the cardiac rehabilitation team or your GP. Everyone is different and you should get advice that is relevant to you.

You will probably have good days and bad days. This is quite normal. You may feel low or depressed after returning home. This is a natural reaction to the stress of a major illness and it is quite common. If these feelings

continue, talk to your GP or practice nurse, or to one of the staff in the cardiac rehabilitation team.

Worry and stress can affect your life, making you feel anxious, panicky and depressed.

Anxiety, stress and depression can cause sleep problems – such as waking early in the morning and not getting back to sleep. Sleeping problems can also be caused by some medications. If you feel that anxiety is affecting your quality of life, talk to your GP about it.

Fears and changing emotions are normal after a heart attack. Some people worry about having another heart attack, or about dying. Or they may worry that they won't be able to do as much as before.

'Will it happen again?'

Many people wonder if they will have another heart attack. Having one heart attack does increase the risk of having another, but this risk is greatly reduced by appropriate treatment. And, if you take the medicines your doctors have prescribed for you and follow a healthy lifestyle, you can significantly reduce your risk. Many people find that going to cardiac rehabilitation gives them – and their partners – confidence and support to work out ways of having a healthier lifestyle. For more information on how to have a healthy lifestyle, see page 39.

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

It’s natural to feel a bit concerned about exercising after your heart attack. But your heart is a muscle and, like any other muscle in the body, it needs physical activity to keep it in good condition.

While you are in hospital, the nurses, physiotherapists and doctors will advise you about how much, and what type of, physical activity is suitable for you. At first this will be gentle activity. But you will then gradually do more activity for longer, as you become physically 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. After you have left hospital, it is important to continue at home with the level of physical activity they have advised you to do.

It is important for you and those around you to be able to talk about your feelings. For more information, see our booklet *Caring for someone with a heart condition*.

Facing the future

After your heart attack, and 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 having another heart attack. We discuss some of the positive steps you can take on page 39. For many patients, life after a heart attack can be better than it was before.

The first few 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. As the days and weeks pass, you will hopefully be able to see the progress you're making, and that you can gradually do more and more. Once you have recovered from your heart attack, aim to do some physical activity every day.

Many people find that they get tired easily in the first weeks after a heart attack. This is normal and will usually pass as your strength and confidence return.

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 a chest pain. See your GP if these are new symptoms for you.
- Avoid doing activities after a large meal, or when it is very cold or very hot, or at high altitudes.
- If your doctor has prescribed GTN for you, take it with you when you exercise.

For more information on GTN, see our booklet *Medicines for your heart*.

Housework

You can start doing light housework as soon as you feel fit and able – for example, washing up and dusting. After a few weeks, you may feel well enough to do other heavier housework, such as vacuuming.

You can also do light gardening, but avoid digging and heavy lifting in the first few weeks. If in doubt, ask your GP or practice nurse for advice.

Driving

If you have had a heart attack, you should stop driving for at least one month after your heart attack.

To find out if you need to tell the DVLA (Driver and Vehicle Licensing Agency) about your heart condition or about a treatment you have had for it, visit www.direct.gov.uk/driverhealth. Or call the DVLA on 0300 790 6806, or write to them at DVLA, Swansea SA99 1TU.

If you have an LGV or a PCV licence

If you have an LGV (large goods vehicle) or a PCV (passenger-carrying vehicle) licence, special regulations apply. You will need to tell the DVLA about your heart attack and check with them whether you can continue to drive. Visit www.direct.gov.uk/driverhealth. Or call the DVLA on 0300 790 6807, or write to them at DVLA, Swansea SA99 1TU.

Telling your motor insurance company about your heart condition

Whatever sort of driving licence you have, you need to tell your motor insurance company that you have a heart condition and about any treatment that you have had for it. If you don't, your insurance may not be valid.

Going back to work

If you have a job, you may need to get a medical certificate of illness from the hospital or from your GP surgery, to give to your employer. Usually the hospital gives you a certificate for the time you are in hospital, and the GP gives you one to cover the following few weeks if you need to stay off work for longer.

Most people will be able to go back to their previous job within four to six weeks after having a heart attack, depending on how well their heart is working, and the type of work they do. Some people may go back earlier than this. If you have a heavy manual job, you may be away from work for a few months. Or, you may decide to change job or take early retirement.

You can talk to your doctor or one of the staff at the cardiac rehabilitation service about when to go back to work.

Attending cardiac rehabilitation (see page 23) can

increase the chance of successfully returning to work. For more information, see our booklet *Returning to work with a heart condition*.

Sex

People with heart disease and their partners are often understandably anxious about how sex may affect the heart. However, most people can return to having sex after a heart attack. Like any other physical activity, having sex can temporarily increase the heart rate and blood pressure. This increases the work of the heart and, in people with coronary heart disease, may occasionally lead to breathlessness or chest pain. However, sex is just as safe as other equally energetic forms of physical activity or exercise.

Men and women can have a loss of sex drive or sexual dysfunction after a heart attack. Sexual dysfunction is when it is difficult to have sex – for example, a man being unable to get or maintain an erection. This may be the result of the emotional stress you are feeling or the effect of the heart attack on the relationship. Sometimes it can also be the result of taking certain medicines, including beta-blockers, which can affect sex drive, especially in men. Or it may be the result of diabetes or a disease of the circulation. If you are having difficulties, talk to your GP or the cardiac rehabilitation team about it.

If you use GTN or take nitrates, you should not take PDE-5 inhibitors, such as Viagra.

For more information, see our DVD *Sex and heart disease*.

Alcohol

During the weeks after your heart attack, it is best to limit the amount of alcohol you drink. Ask your doctor how much it is OK for you to drink.

The general advice to the public is that men should have no more than 3 to 4 units of alcohol a day, and women no more than 2 to 3 units a day. (1 unit of alcohol = half a pint of ordinary-strength beer, or a small glass of wine, or a pub measure of spirits.)

Carers

Often the partner or person caring for the person who had the heart attack gets very tired and run down. For information for carers, see our booklet *Caring for someone with a heart condition*.

Holidays

Most people prefer to wait until they feel fully recovered from a heart attack before they go on holiday. Others may find that a holiday gives them the chance to relax and unwind and that this helps their recovery.

When you go on holiday, you might want to think about staying in accommodation that is easily accessible. Avoid places at high altitudes or countries that are very hot or very cold. And avoid hilly destinations, unless you are fit enough for that level of activity. Keep an up-to-date list of all your medicines with you, just in case you lose any of them. And make sure you have travel insurance. For a list of insurers, see *Insurance* below.

Flying

People who have had a heart attack without complications can usually travel by air two to three weeks after their heart attack. However, it may be better not to travel unless it is essential, until you feel fully recovered. The best thing is to ask your cardiologist, a nurse in the cardiac rehabilitation team or your GP about when it is OK for you to fly, as the advice will depend on your health and recovery.

If you do fly, you may need to check with the airline whether you need to tell them about your heart condition.

Insurance

If you have any problem with your insurance policies, the BHF can give you a list of insurance companies that may

be useful to heart patients. This list gives details of companies which offer travel, life, health and car insurance. You can get the list direct from the BHF website at **www.bhf.org.uk**. Or, to order a copy, call the Heart Helpline on **0300 330 3311** or write to us at the address on the back cover.

How can I reduce my risk of further heart problems?

Keeping your heart healthy after your heart attack is vital, as it helps to reduce your risk of heart problems in the future. The following are all very important.

- If you smoke, stop smoking.
- Keep physically active.
- Keep to a healthy weight and body shape.
- Keep your total cholesterol level below 4mmol/l and your blood pressure below 130/80mmHg. It is important to get these checked regularly at your GP's surgery.
- Eat a healthy balanced diet, including at least five portions of fruit and vegetables a day and two to three portions of oily fish a week – for example, herring, mackerel, pilchards, sardines, salmon or trout. If you don't want to (or can't) eat fish, your doctor should prescribe a fish-oil supplement for you after your heart attack.
- If you have diabetes, control your blood glucose level.

For more detailed information about all these things, see our booklet *Cardiac rehabilitation*, or our other booklets and resources (see page 53).

Heart support groups

Many people with heart conditions can benefit from meeting other people who have had similar experiences. Heart support group activities vary from group to group, and may include:

- sessions where you can talk about your own experience with other heart patients and their carers
- exercise classes
- talks by guest speakers.

The BHF has resources and holds networking events to help new and existing heart support groups. For more details, or to find out about your local support group, contact the Heart Helpline on **0300 330 3311**.

How your support helps

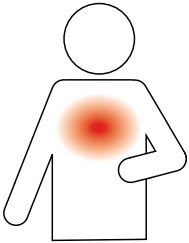
Over recent decades, research funded by the BHF has contributed to a substantial reduction in the number of people dying from heart attacks and strokes. For example, researchers have proved that a combination of a clot-busting medicine and aspirin, given quickly during a heart attack, saves lives. This new combination treatment reduces deaths among heart attack patients by around 40%.

The next big challenge is to discover how to help the heart repair itself so that heart failure can be cured rather than treated. Visit the *Research* pages on our website **bhf.org.uk** to see how your support can make a difference.

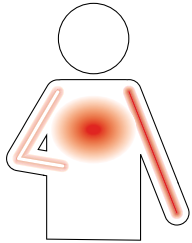
What to do if you think you or someone else is having a heart attack

A heart attack is when a part of the heart muscle suddenly loses its blood supply. This is usually due to coronary heart disease.

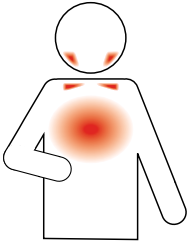
Heart attack? Know these symptoms



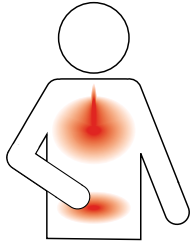
Pain or discomfort in the chest that doesn't go away.



The pain may spread to the left or right arm …



… or may spread to the neck and jaw.



You may feel sick or short of breath.

What to do if you think someone is having a heart attack

1. Send someone to call 999 for an ambulance immediately.
2. If you are alone, go and call 999 immediately and then come straight back to the person.
3. Get the person to sit in a comfortable position, stay with them and keep them calm.
4. If the person is not allergic to aspirin, give them an adult aspirin tablet (300mg) to chew if there is one easily available. If you don't have an aspirin next to you, or if you don't know if the person is allergic to aspirin, just get him or her to stay resting until the ambulance arrives.

The information below is for people who already have coronary heart disease and are being treated for it with GTN (glyceryl trinitrate) spray or tablets.

As you already have coronary heart disease, you may get chest pain or discomfort now and then. Sometimes this will be angina, which you will be able to manage at home with your GTN. However, it could also be a symptom of a heart attack.

This is what to do.

1 **Stop** what you are doing.

2 **Sit down** and rest.

3 **Use your GTN spray or tablets.** Take the GTN as your doctor or nurse has told you. The pain should ease after a few minutes. If it doesn't, take your GTN again.

4 If the pain does not ease within a few minutes of taking the GTN the second time, **call 999 immediately.**

5 If you're not allergic to aspirin, chew an adult aspirin tablet (300mg) if there is one easily available. If you don't have an aspirin next to you, or if you don't know if you are allergic to aspirin, just stay resting until the ambulance arrives.

If you have symptoms that do not match the ones we have described above but you think that you are having a heart attack, call 999 immediately.

What's the difference between a heart attack and a cardiac arrest?

A **heart attack** is when one of the coronary arteries supplying blood to the heart muscle becomes blocked. If this happens, the affected part of the heart muscle will begin to die because it is not getting oxygen.

A **cardiac arrest** is when a person's heart stops pumping blood round their body and they stop breathing normally.

Many cardiac arrests in adults happen because the person is having a heart attack. A person who is having a heart attack may develop a dangerously fast heart rhythm which can cause a cardiac arrest and be fatal.

If someone has a cardiac arrest, it is sometimes possible to shock the heart back into a normal heart rhythm by giving the heart an electrical shock using a defibrillator.

Defibrillation needs to happen very quickly. A cardiac arrest is the most serious medical emergency. For every minute that a person is in cardiac arrest before defibrillation, their chances of survival are reduced by about 10%.

All frontline ambulance staff are trained in resuscitation, and all emergency ambulances, cars and bikes carry a defibrillator. Ambulance services also have community

first responders. These are local volunteers who are specially trained in life-saving skills and in how to use a defibrillator. These people can often get to a scene more quickly than an ambulance. They work alongside the core ambulance staff.

Buying time before defibrillation by doing CPR (cardiopulmonary resuscitation) can double someone's chance of survival. CPR involves giving **chest compressions** and **rescue breaths**. (We explain how to do this on page 50.)

What to do if someone has collapsed and is not responding, and may be in cardiac arrest

Think DRS, ABC.

D = Danger

Check for **danger**. Approach with care, making sure that you, the person and anybody nearby are safe.

R = Response

Check for **response**. To find out if the person is conscious, gently shake him or her, and shout loudly, 'Are you all right?'

S = Shout

If there is no response, **shout** for help.

You will need to assess the person and take suitable action. Now, remember **ABC – airway, breathing, CPR**.

A = Airway

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

B = Breathing

Look, listen and feel for signs of normal breathing. Only do this for up to 10 seconds. Don't confuse gasps with normal breathing. If you're not sure if their breathing is normal, act as if it is not normal.

C = CPR

If the person is unconscious and is not breathing normally, they are in **cardiac arrest**.

Call 999 immediately.

- Send someone else to call 999 for an ambulance while you start CPR.
- **Or, if you are alone with the person, call 999 before you start CPR.**

If you have not been trained to do CPR, or if you're not able, or not willing, to give rescue breaths, give chest compressions only. This is described in step 1 on the next page. Keep doing the chest compressions – at a rate of about 100 to 120 times a minute – until:

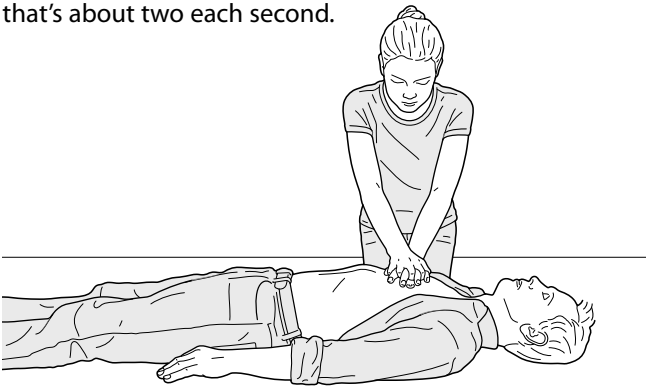
- the ambulance crew arrives and takes over, or
- the person starts to show signs of regaining consciousness, such as coughing, opening their eyes, speaking, or moving purposefully **and** starts to breathe normally, or
- you become exhausted.

Start CPR

1 Chest compressions

Start chest compressions.

Place the heel of one hand in the centre of the person's chest. Place the heel of your other hand on top of your first hand and interlock your fingers. Press down firmly and smoothly on the chest 30 times, so that the chest is pressed down between 5 and 6 centimetres each time. Do this at a rate of about 100 to 120 times a minute – that's about two each second.



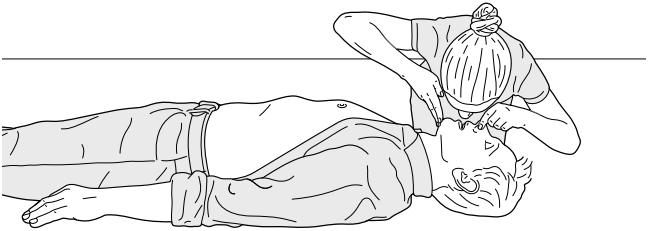
2 Rescue breaths

After 30 compressions, open the airway again by tilting the head back and lifting the chin, and give two rescue breaths to the person.

To do this, pinch the soft part of the person's nose closed.

Take a normal breath, make a seal around their mouth with your mouth, and then breathe out steadily. The person's chest should rise and fall with each breath. It should take no more than 5 seconds to give the two rescue breaths.

Then give another 30 chest compressions and then 2 rescue breaths.



3 Continue CPR

Keep doing the 30 chest compressions followed by 2 rescue breaths until:

- the ambulance crew arrives and takes over, or
- the person starts to show signs of regaining consciousness, such as coughing, opening their eyes, speaking, or moving purposefully **and** starts to breathe normally, or
- you become exhausted.

Emergency life-support skills

For information about a free, two-hour course in emergency life-support skills, contact **Heartstart** at the British Heart Foundation (see page 53 for contact details). The course teaches you how to:

- recognise someone who may be having a heart attack
- deal with someone who is choking
- deal with someone who is bleeding seriously
- deal with someone who is unconscious but breathing normally, and
- do cardiopulmonary resuscitation (CPR), if someone has a cardiac arrest.

For more information

British Heart Foundation website

bhf.org.uk

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

Heart Helpline

0300 330 3311 (a similar cost to 01 and 02 numbers)

For information and support on anything heart-related.

Genetic Information Service

0300 456 8383 (a similar cost to 01 and 02 numbers)

For information and support on inherited heart conditions.

Booklets and DVDs

To order our booklets or DVDs:

- call the BHF Orderline on **0870 600 6566**, or
- email **orderline@bhf.org.uk** or
- visit **bhf.org.uk/publications**

You can also download many of our publications from our website. For a list of resources available from the BHF, ask for a copy of *Our heart health catalogue*. Our booklets are free of charge, but we would welcome a donation. (See page 2 for how to make 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.

Angina
Atrial fibrillation
Blood pressure
Cardiac rehabilitation
Caring for someone with a heart condition
Coronary angioplasty
Diabetes and your heart
Having heart surgery
Heart attack
Heart rhythms
Heart transplantation
Heart valve disease
Implantable cardioverter defibrillators (ICDs)
Keep your heart healthy
Living with heart failure
Medicines for your heart
Pacemakers
Peripheral arterial disease
Physical activity and your heart
Primary angioplasty for a heart attack
Reducing your blood cholesterol
Returning to work with a heart condition
Tests for heart conditions

My progress record

This is a personal health record for people with a heart condition. You can use it to keep a record of important information, and to chart the progress you are making in tackling your risk factors for coronary heart disease. You can order a copy from the BHF (see page 53), and work through it with your health professional. A short version, *My progress card*, is also available.

Heart Matters

Heart Matters is the BHF's **free**, personalised service to help you live with a healthy heart. Join today and enjoy the benefits, including *heart matters* magazine, a Heart Helpline and an online members' area with articles, recipes and lifestyle tips. You can join online at **bhf.org.uk/heartmatters** or call **0300 330 3300** (a similar cost to 01 and 02 numbers).

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Have your say

We would welcome your comments to help us produce the best information for you. Why not let us know what you think? Contact us through our website **bhf.org.uk/contact**. Or, write to us at the address on the back cover.

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Edited by Wordworks.

This booklet was last updated in September 2011.

We are the nation's heart charity, dedicated to saving lives through pioneering research, patient care, campaigning for change and by providing vital information. But we urgently need your help. We rely on your donations of time and money to continue our life-saving work. Because together we can beat heart disease.

bhf.org.uk

Heart Helpline
0300 330 3311
bhf.org.uk

Information & support on anything heart-related. Phone lines open 9am to 5pm Monday to Friday.
Similar cost to 01 or 02 numbers.

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