

Chest
Heart &
Stroke
Scotland



HEART ATTACK



ESSENTIAL GUIDE

This Essential Guide is about heart attacks.

It explains:

- What a heart attack is.
- How a heart attack is diagnosed and treated.
- What to expect when going home after a heart attack and hospitalisation.
- How to reduce the risk of another heart attack.

What is a heart attack?

Your heart is a muscle like any other. It beats constantly to push blood around the body, providing muscles and organs with oxygen and nutrients.

This includes the muscle of the heart itself, which is supplied by the **coronary arteries**.

If one of these arteries is blocked, usually by a blood clot or a build-up of fatty deposits, the heart is starved of oxygen. This damages the muscle and affects how your heart beats.

This damage caused by a blocked coronary artery is called a **myocardial infarction** or, more commonly, a **heart attack**.

A heart attack is a medical emergency. If you think you or someone else is having a heart attack, **call 999 immediately and ask for an ambulance.**

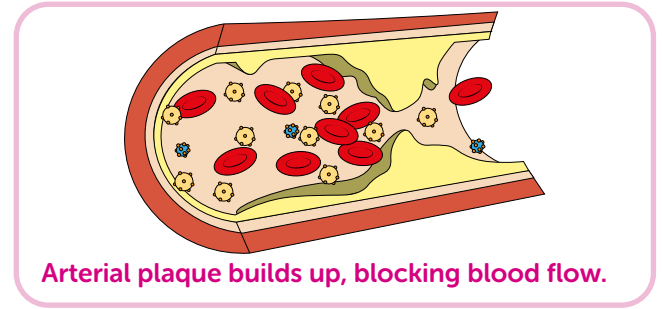
What causes a heart attack?

Heart attacks are usually caused by an underlying long-term condition called **coronary heart disease (CHD)**.

CHD is a condition where there is a build-up of a fatty substance called **plaque** or **atheroma** inside the blood vessels. This narrows the artery, reducing the blood flow in a process called **atherosclerosis**.

The narrowed part of the artery is often weakened by this process, and it can become damaged or inflamed. It can also tear or break, causing a **blood clot** which can block the artery further.

Coronary heart disease is a common condition in older age, and can affect younger people as well, particularly those who have a high-cholesterol, high-fat diet and/or have a family history of CHD.



Other conditions which reduce blood flow can cause heart attacks. For example:

- **Spontaneous coronary artery dissection (SCAD):** a condition where the coronary artery tears, causing blood to build up in the tear and clot.
- **Coronary artery spasm:** a severe spasm (tightening) of a coronary artery cuts off blood flow to the heart.

However, these are a much less common cause of heart attack than CHD.

Note that all of these conditions affect the blood vessels, rather than being a problem with the heart itself!

Risk factors for CHD

Anybody can develop the fatty plaques which block blood flow in coronary heart disease. However, there are some factors which can make you more likely to develop CHD.

Some of these are outside your control:

A family history. If a close relative has had a stroke or heart attack before the age of 55 (in men) or 65 (in women), you may be at higher risk of a heart attack.

Age. Older people have more risk of CHD.

Sex. Men are more likely to have a heart attack than women.

Ethnicity. Central European or South Asian people have more risk of CHD/heart attack.

High blood pressure, high cholesterol, or diabetes can also increase your CHD risk.

Some risk factors are linked to lifestyle and you can take steps to address them:

Smoking encourages the build-up of plaque, and quitting smoking can reduce your risk.

Being overweight can create more fatty buildup, while **being severely underweight or losing weight too quickly** can make heart problems more likely.

Poor diet – a diet with a lot of saturated fat and sugar – can increase the risk of CHD.

Alcohol use. Drinking heavily increases your risk of developing CHD.

Physical inactivity. It is best to aim for 30 minutes of physical exercise on at least 5 days out of every week.

Stress. Mental, emotional, and physical stress are all risk factors for CHD and heart attack.

Symptoms of a heart attack

Chest pain or tightness that doesn't go away

Pain in your neck, jaw or back

Pain down your left arm or down both arms

Sweating

Feeling sick or faint (light-headed), or passing out

Feeling short of breath

A feeling of dread or overwhelming anxiety

All too often, people ignore these symptoms or assume they are symptoms of something less important. **If you experience any of these symptoms, call 999 immediately.**

How is a heart attack diagnosed?

You should be given an **electrocardiogram (ECG)** as soon as possible. This may be done by the ambulance crew when they arrive.

An ECG uses electrodes stuck to your chest to record the electrical activity of your heart. This shows how your heart is beating and can show problems with its function.

Not everyone who has had a heart attack will have an abnormal ECG.

When you arrive at the hospital, the doctor or nurse will take blood for tests.

The main blood test for a suspected heart attack measures the amount of **troponin** in your blood. Troponin is a protein found in your heart muscle, which leaks into the blood if the heart is damaged - for example, by a heart attack.

Types of heart attack

There are **two types** of heart attack, based on what is seen on your ECG. Unstable angina can also be mistaken for a heart attack.

ST-elevation myocardial infarction (STEMI)

The artery supplying an area of the heart muscle is completely blocked, and the whole thickness of the heart muscle is affected.

Non-ST-elevation myocardial infarction (NSTEMI)

The artery is only partly blocked, so only part of the heart muscle supplied by the affected artery is affected.

In **unstable angina** the artery is also only partly blocked, but to a lesser extent than NSTEMI. There is no increase in troponin levels.

The type of heart attack you have (STEMI or NSTEMI) will affect what treatment you get.

How is a heart attack treated in hospital?

It is important to treat a heart attack as quickly as possible, to prevent further damage to the heart muscle.

The main aim of emergency treatment is to restore blood flow to your heart muscle as quickly as possible. The sooner this is done, the less damaged your heart will be.

The treatment you receive will depend on:

- **What type of heart attack you have had** (a STEMI or an NSTEMI).
- **How stable your condition is.**
- **How far it is to the hospital** and what facilities are available.

The two main treatments used are **primary (emergency) angioplasty** or **thrombolysis**. You may also be given **medications** in the first 12 hours after your heart attack.

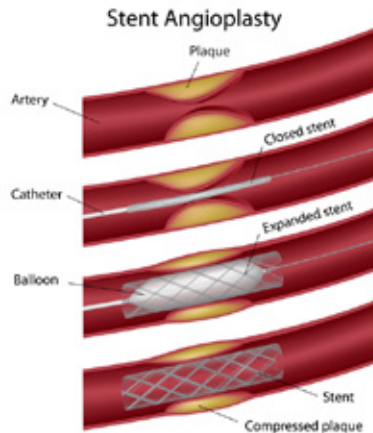
Primary angioplasty

If you have had a STEMI and your symptoms began within the previous 12 hours, angioplasty is the recommended treatment.

A tiny wire with a balloon at the end is put into a large artery in the groin or arm, then passed up into the blocked section of a coronary artery. X-ray is used to guide this process.

The balloon is blown up inside the blocked part of the artery to open it wide again.

A stent - an expanding wire mesh tube - may be placed to ensure the artery stays open.



Thrombolysis

If you cannot have an angioplasty within 2 hours, you may be given "clot-busting" drugs which prevent the blood from clotting and blocking your artery further. This is called thrombolysis.

The thrombolytic medicine is given through a vein in your arm.

Side effects of thrombolytic medicines include nausea, sickness and bleeding. Thrombolysis can also slightly raise your risk of a haemorrhagic stroke.

You should not be given thrombolysis if you have certain pre-existing conditions.



Medications

Within the first twelve hours after your heart attack, you may be given one or more of:

Aspirin. You should be given aspirin as soon as a heart attack is diagnosed. Aspirin is an “antiplatelet” - it prevents blood clots.

Other antiplatelets (clopidogrel, prasugrel, ticagrelor) used with or instead of aspirin.

Heparin, an anticoagulant which prevents blood clotting. You may be given heparin injections for a few days after angioplasty.

Beta-blockers (atenolol, bisoprolol, metoprolol, propranolol) help protect the heart muscle and prevent abnormal heart rhythms from developing

Pain relief, such as morphine.

Insulin. Even without diabetes, many people have high blood sugar after heart attack, which can be lowered with insulin.

Monitoring your condition

The first two days after a heart attack are when you are at most risk of complications.

Because of this, while you are in hospital, you will be closely monitored in a coronary care unit (CCU) or medical admissions ward.

The staff will take regular measurements of your heart rate and other key information, as well as asking you about your symptoms.

How long you are in hospital will depend on your general health, any complications, and the severity of your heart attack.

However, you should expect to be in hospital for **at least 3-5 days** after a heart attack, even if you feel fairly well.



Leaving hospital

When you leave hospital, you should receive:

Information about cardiac rehabilitation and when you will be contacted by the cardiac rehabilitation team.

A discharge letter for your GP, with details of your diagnosis, treatment and medications.

Details of any follow-up appointments with the cardiac team.

Advice about practical issues like how much physical activity you should be doing, driving, and returning to work.

A supply of medicines, and information on when to take each of these.

Instructions about what to do if you have any more chest pain.

Details of where you can get more support.

What follow-up should I receive?

Cardiac rehabilitation. Cardiac rehabilitation is a programme that supports your recovery with information, exercises, and advice.

You should hear from your cardiac rehab team soon after leaving hospital. If you have not heard from the team within 2-3 weeks, speak to your GP.

Specialist cardiac team. You should be given a follow-up appointment with a member of the hospital cardiac team, usually a few months after your cardiac event.

GP or practice nurse. Your GP or practice nurse will review you regularly. Each practice will have its own system for follow-up. They will check any risk factors you might have and monitor the medicines that you are taking.

Going home after a heart attack

Leaving hospital after a heart attack can be a difficult and emotional thing. It is important to be gentle with yourself and get support from the people around you where possible.

If you can, get someone to stay at home with you for a few days after hospital. This not only means that someone is there to help you if you need it, but it can also make the transition easier emotionally.

When you first get home from the hospital, it is important to take things easy. Do not try to do more than you were doing in hospital.

You will probably find that you get tired quickly in the first few weeks. This is normal and will usually pass as you get better

Around 10 days after a heart attack, most people can start returning to physical activity.

Walking after a heart attack

Walking is a great way to start getting physically active after a heart attack. You can go at your own pace, you don't need any special equipment, you can walk on your own or with others, and best of all it is free!

On your first day out walking, just walk between 50-100 metres. If this feels okay then the next day you can go a little further.

With time, you will be able to gradually increase the distance you walk, and then start to increase your speed.

Don't push yourself too hard. When walking, you should be able to hold a conversation without being out of breath.

If you have chest pain or get too breathless while walking, stop. Rest for a few minutes and then start again slowly if you feel better.

If you cannot walk you should still try to get out of the house if you can.

After you go home, you should:



Get up and get dressed every day.

This helps with your mental health and can get you back into a routine.



Walk around the house. In the first days after a heart attack, this is a good way to gently keep yourself moving.



Walk up and down the stairs a few times every day if you live somewhere where this is possible.



Carry out light activities yourself, like making drinks or snacks, or folding clothes.



Have a few visitors. Seeing other people and spending time socialising is often helpful for your emotional state.



Get plenty of rest.

You should NOT:



Drive a car. You may be able to get back to driving with time, but not immediately. Find more information in the CHSS booklet "Driving with a Medical Condition."



Do gardening or heavy housework, such as cleaning, hoovering, or making beds.



Play sports.



Lift, push, or drag heavy objects.



Stand for long periods of time, or go for long walks without somebody with you.



Do any activity that makes you out of breath.

Cardiac rehabilitation

Cardiac rehabilitation (**cardiac rehab**) is a service which will help you with a personalised plan for:

- exercise
- education
- relaxation
- emotional and practical support

You will probably be referred to a cardiac rehabilitation team as soon as you leave hospital. This is a multidisciplinary team which might include cardiac nurses, physiotherapists, and occupational therapists.

Your cardiac rehab team will talk to you about your experience and symptoms, and may take physical measurements to help them develop a plan suited to you.

If you have not been referred to a cardiac rehab team within 2-3 weeks of leaving hospital, speak to your doctor about it.

Programmes usually run for about six weeks, with 1-2 sessions per week. Your friends and family can be included in these sessions, which helps them to know how to help you.

The information and support you get from the programme will help you and your family understand your condition, make healthy lifestyle choices and reduce the risk of another heart attack in the future.

Research has shown that cardiac rehab can reduce your risk of having to go back into hospital with a further cardiac event.

People who follow a cardiac rehab programme usually get fitter and recover more quickly.

You may not always be able to attend, or a programme may not be appropriate for you. Your cardiac rehab team will still be there to support you on your road to recovery.



Coming to terms with a heart attack

A heart attack is a stressful, traumatic experience and there are many ways you may find yourself reacting. Some people feel shocked by the experience or worried that it will happen again, while others feel relieved to have survived, or take their heart attack as a trigger to re-focus on the things that matter.

All these reactions are quite normal, but can be difficult to deal with. Some things that you can do to help you cope with your feelings:

- Talk openly with trusted people about your feelings and experiences.
- Find ways to relax. Relaxation and breathing techniques, yoga, Tai Chi, gentle gardening, reading a book... whatever helps you to relax.
- Joining a support group to find out how other people cope after a heart event.

Returning to normal

Returning to normal life after a heart attack can be a slow and unsteady process, with setbacks along the way.

However, over time, most people are able to return to normal life activities, and some even feel better as a result of lifestyle changes made through cardiac rehab!

For more information on returning to specific activities, you can check out CHSS' booklets and factsheets on:

Driving with a Medical Condition
Returning to Work
Employment Rights
Educational Support
Life and Income Insurance
Holiday Services
Physical Activity
Mental Wellbeing



Lifestyle changes to reduce future risk

There are changes you can make to your lifestyle that will help in your recovery and help to reduce your risk of coronary heart disease. This makes it less likely that you will have another heart attack:



Stop smoking. If you smoke, quitting is the most valuable thing you can do to reduce your CHD risk.

Check the CHSS booklet on **Stopping Smoking** for more.



Keep active. Physical activity improves circulation and heart tone, as well as making it easier to maintain a healthy weight.

Check the CHSS booklet on **Physical Activity** for more.



Eating a healthy, balanced diet, with low levels of LDL cholesterol and fat, and high levels of protein and fibre.

Check the CHSS booklets on **Healthy Eating** and **Healthy Weight** for more.



Limiting your alcohol intake to less than 14 units per week.

Check the CHSS booklet on **Alcohol** for more.



Taking medication as prescribed.

Speak to your GP or cardiac team if you are unsure of how to take your medicine or what it is for.



Controlling your cholesterol and blood pressure levels by managing your diet, exercise, and stress levels.

Check the CHSS booklets on **High Blood Pressure** and **Cholesterol** for more.

Common questions after a heart attack

It is normal to have a lot of questions after a heart attack. We cannot answer them all here, but some common questions are below.

Will it happen again?

Having one heart attack does make it more likely that you will have another. However, depending on what caused your heart attack, you can reduce this risk with exercise, good diet, and other lifestyle changes. Another heart attack is not inevitable!

Can I still exercise?

Not only can you still exercise, it is very important to do so! Exercise and activity improve your mood, strengthen your heart, and help to lower your cholesterol. Speak to an occupational therapist or physiotherapist if you are nervous about exercising.

What if I have chest pain?

After a heart attack, you may get chest pain sometimes. This can be part of the normal healing process, or it can be a related condition called **angina**. However, it could also be a symptom of another heart attack.

Try not to worry about every twinge in your chest, but if you frequently get chest pain, speak to your doctor about angina treatment.

If your pain is unbearable, gets worse or you develop other symptoms, phone 999 for an ambulance straight away.

When will I be fully recovered?

There is no 'normal' time for recovery from a heart attack. Some people feel fully recovered within weeks, while for others recovery can take several months. Week by week, you will be getting stronger. Try not to worry if you have any setbacks. Just think about the progress you have been making, and don't rush your recovery.

Advice and support

Besides your health team, friends and family, you can find advice and support through:

Chest Heart and Stroke Scotland

Call 0808 801 0899 to speak to one of our trained Advice Line practitioners, who can give you personalised support and information, as well as directing you to other services.

CHSS also provides:

- Support groups throughout Scotland for people who have had a heart attack.
- Information and education through our Resources Hub: www.chss.org.uk/resources-hub.
- Political advocacy for people with heart problems.

www.chss.org.uk

Email: adviceline@chss.org.uk

Tel: 0808 801 0899

British Heart Foundation

A UK-wide charity which can provide a range of information and support after heart attack.

www.bhf.org.uk

Helpline: 0808 802 1234

NHS Inform

NHS Scotland's information service, which provides in-depth online information on a range of conditions.

www.nhsinform.scot

NHS 24

A **non-emergency** phone line to call if you need support outside of regular clinical hours.

Tel: 111

St John's Ambulance

This factsheet offers information on how to respond if you think someone else is having a heart attack.

www.sja.org.uk/get-advice/first-aid-advice/heart-conditions/heart-attack/

Our publications are available for free to anyone in Scotland who needs them. Go to www.chss.org.uk/resources-hub for all our resources, including other Essential Guides in this series.

For free, confidential advice and support from our **Advice Line nurses**, call: 0808 801 0899 (Mon-Fri 9.30am-4pm), text: NURSE to 66777 or email: adviceline@chss.org.uk.

Across Scotland, over one million people – that's one in five of us – are living with the effects of a chest, heart or stroke condition. We are here to help everyone who needs us. But we need your support to do this. Go to www.chss.org.uk/supportus to find out how you can help more people in Scotland.

If you would like this resource in an alternative format, please contact our Advice Line nurses.

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