

In hospital

In this section you'll find:

- ▶ information on medical tests, procedures and medicines
- ▶ reasons why cardiac rehabilitation is important
- ▶ advice to help you with the emotional side of a heart event
- ▶ help for preparing to go home.



A lot can happen in hospital and you may feel shocked, confused, emotional or even angry. It can be hard to remember everything you are told. Ask your health professionals to explain things you're not sure about.

▶ **Checklist: Questions to ask your health professionals while you're in hospital**

- Can you explain what has happened to me?
- How long do I have to stay in hospital?
- How long will it take me to recover?
- What tests will I need to have?
- Will I have any procedures or surgery?
- What medicines will I have to take?
- Are there any risks associated with my treatment?
- What can I do to help improve my recovery?
- How can I access a cardiac rehabilitation program?

Common medical tests

Some of the common tests are explained below. You may have already had these tests in the emergency department or on your way to hospital. Tests involving physical activity are generally done after you have been discharged from hospital.

Blood tests

When your heart muscle has been damaged, as in a heart attack, your body releases substances in your blood. Blood tests can measure the levels of these substances and show if, and how much of, your heart muscle has been damaged. The most common test after a heart attack checks levels of troponin in your blood.

Blood tests are also done to measure the level of other substances in your blood, such as blood fats (e.g. cholesterol and triglycerides) and minerals.

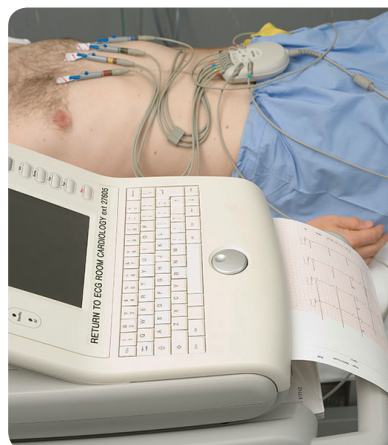
Your blood sample is taken from a vein in your arm. A laboratory then tests it and sends the results to your doctor, who will explain the results to you.

Electrocardiogram (ECG)

An ECG reads your heart's electrical impulses. Small sticky dots and wire leads are put on your chest, arms and legs. The leads are attached to an ECG machine which records the electrical impulses and prints them out on paper.

Your doctor may use an ECG to diagnose a heart attack or abnormal heart rhythms (called 'arrhythmias').

- Your doctor may order medical tests to help find out what your heart condition is and the best way to treat it.
- Ask your doctor if you're not sure about any tests.



Electrocardiogram (ECG)



Exercise stress test

Exercise stress test

A stress test, sometimes called a ‘treadmill’ or an ‘exercise’ test, is a type of ECG that is done while you are exercising. It helps your doctor to find out how well your heart works when you are physically active. This will usually be done after you leave hospital.

Echocardiogram (ultrasound)

An echocardiogram is a common test. It gives a picture of your heart using ultrasound. It uses a probe either on your chest or sometimes can be done down your oesophagus (throat).

It helps your doctor check if there are any problems with your heart’s valves and chambers, and see how strongly your heart pumps blood.

An echocardiogram performed before and after exercise is also used to detect areas of the heart where the blood supply through the coronary arteries to the heart muscle is reduced.

Nuclear cardiac stress test

This test is sometimes called an ‘exercise thallium scan’, a ‘dual isotope treadmill’ or an ‘exercise nuclear scan’.

A tiny dose of a radioactive substance called a ‘tracer’ is injected into your bloodstream. It goes to your heart and releases energy. Special cameras take a picture of this energy from outside your body.

Your doctor uses this picture to see how much blood flows to your heart muscle and how well your heart pumps blood when you are resting and doing physical activity. This test also helps your doctor to see if your heart muscle is damaged.

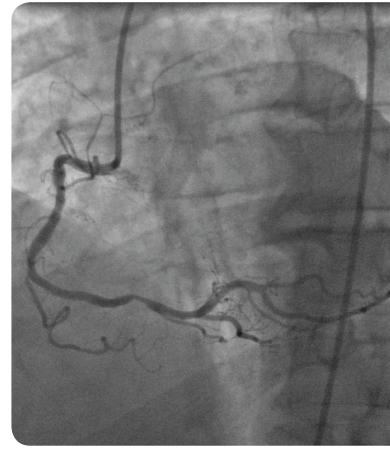
Coronary angiogram

A coronary angiogram may be done during or after a heart attack or angina. It's sometimes called 'cardiac catheterisation'.

A catheter (a small tube) is put into an artery in your groin, arm or wrist under local anaesthetic. The catheter is moved up inside the artery until it reaches your heart. You will not feel this.

A special dye is injected into your coronary arteries and an X-ray is taken. It will make you feel hot and flushed for a few seconds. The X-ray shows your doctor where and how much your coronary arteries are narrowed. It also shows how well your heart is pumping.

Coronary angiograms help your doctor decide the best treatment for you. Sometimes it is best to go straight on to coronary angioplasty (see page 23) while you are in the laboratory having a coronary angiogram and the tubes are in place. The cardiologist will discuss this option with you before the procedure and it is your choice whether to proceed.



Coronary angiogram

Visit heartfoundation.org.au/aftermyheartattack
for more information

Magnetic resonance imaging (MRI)

An MRI uses very strong magnets and radio waves to create detailed images of your heart on a computer. It can take still or moving pictures of your heart. It does not involve radiation and the main thing you will notice is a drumming noise while the scanning is being done.

Sometimes a special dye is used to make parts of the heart and coronary arteries easier to see.

This test shows your doctor the structure of your heart and how well it is working, so they can decide the best treatment for you.

Coronary computed tomography angiogram (CCTA)

This is a type of computed tomography (CT) scan that can help diagnose coronary artery disease. It gives a three-dimensional image of the heart chambers and coronary arteries supplying blood to the heart. A CCTA is a non-invasive test for people who may be experiencing unusual cardiac symptoms.

Calcium scoring

Your doctor might also arrange a scan that provides a coronary artery calcium score. This is a measurement of the amount of calcium in the walls of the arteries that supply the heart muscle, using a computed tomography (CT) scan of the heart. It shows the amount of hardening of the artery wall (atherosclerosis).

Common medical procedures

Some common procedures and treatments are explained below.

Coronary angioplasty and stent implantation

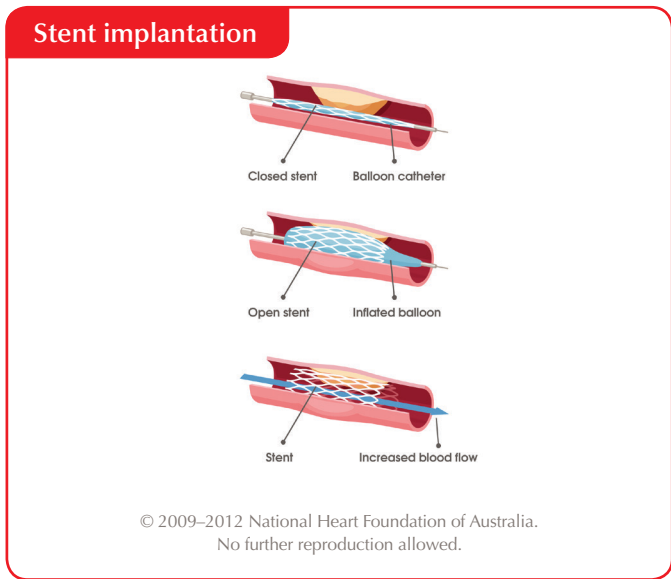
This is a procedure to open a narrowing in your artery. It improves blood flow to your heart.

The cardiologist inserts a small, deflated balloon through a main artery in your groin or wrist, and moves it to the heart's artery, using an X-ray machine to see what they are doing.

The balloon is inflated inside the narrowed part of your artery.

After that, the cardiologist may use a stent to keep the artery open. A stent is a tiny expandable tube. The balloon is deflated and taken out and the stent stays in place to help stop the narrowing recurring.

- Once your doctor knows what your heart condition is, he or she will then decide what treatments or procedures to recommend.
- Ask your doctor if you're not sure about a procedure.





Thrombolytic therapy

Thrombolytic therapy is a treatment in which you are given medicines through a drip to dissolve a blood clot that is narrowing or blocking a coronary artery.

This improves blood flow to your heart muscle and around your body.

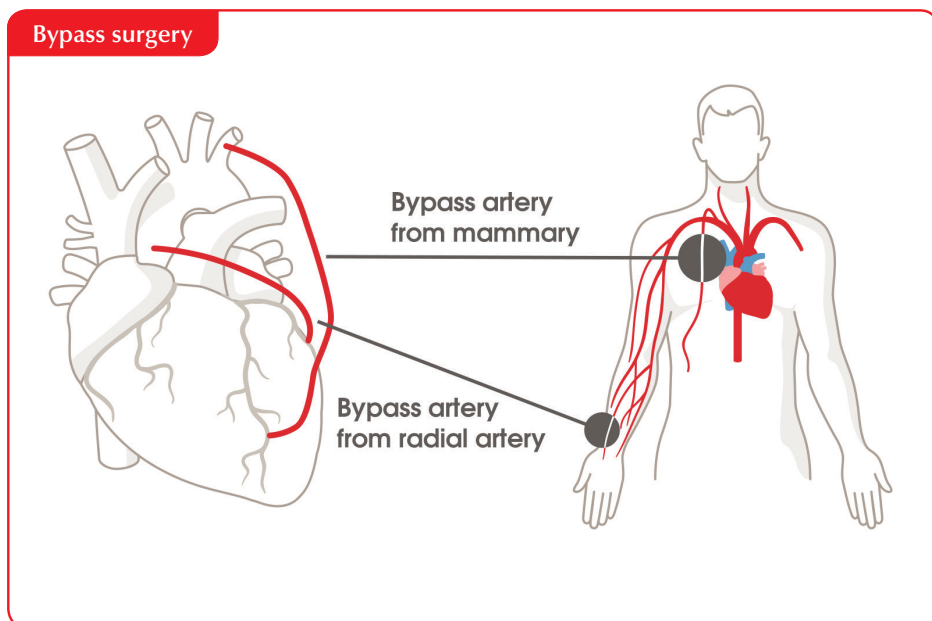
Coronary artery bypass graft surgery (CABG)

Coronary artery bypass graft surgery is also called bypass surgery or 'CABG' (often referred to as 'cabbage').

In bypass surgery, a blood vessel is taken from your chest, leg or arm, and then attached ('grafted') to your coronary artery. This lets blood detour ('bypass') around a narrowing or blockage in this artery.

During this operation, your surgeon will generally cut down the midline of your chest, through your breastbone, to reach your heart.

Bypass surgery improves blood flow to your heart muscle and reduces angina.



Artificial pacemaker - ICD

The heart has a natural pacemaker to make it beat normally. If that's not working reliably, an artificial pacemaker can be inserted to do the same job.

An artificial pacemaker is a small device that is put under the skin of your chest, below your collar bone. One or two wires connect the pacemaker to the chambers of your heart.

A pacemaker makes small electrical currents that stimulate your heart muscle and help it pump regularly. Modern pacemakers are very reliable and sophisticated.

A pacemaker's battery can last up to 10 years. Your doctor will check the battery every year, and replace it when needed.

You may be given an implantable cardiac defibrillator (ICD). This small device is put into your chest and connected to your heart by one or more wire leads. It monitors your heart rhythm and corrects it if it beats too fast or stops beating.

Defibrillation

Defibrillation helps to restore a normal heart rhythm when your heart stops beating during cardiac arrest. It may also be used to treat other heart rhythm problems (e.g. if your heart beats too fast).

Paddles or pads are put on your chest. A regulated electrical current is applied to your heart to make it start beating regularly again. If it is done urgently as a lifesaving measure time is of the essence and you will feel a thumping sensation in the chest. In less urgent situations you will be given a mild anaesthetic.



Artificial pacemaker



Defibrillation

Heart valve surgery

Some valve problems can be treated using catheter techniques similar to a coronary angioplasty described above. However, often surgery is required. Heart valve surgery fixes a damaged or faulty heart valve and helps your heart to pump blood properly.

Your surgeon usually cuts down the midline of your chest, through your breastbone, to reach your heart. The faulty heart valve will then be repaired or replaced. There is emerging use of keyhole or robotic surgery for this procedure.



Visit heartfoundation.org.au/aftermyheartattack for more information

Medicines

There are many medicines that treat heart attack, angina, high blood pressure, high cholesterol and other heart conditions.

Your cardiologist, along with your doctor, will decide the best medicines for you to take at home to help you manage your heart condition.

When you leave hospital, you will only have enough medicine for a short time. It is important that you keep taking these medicines and see your doctor for more prescriptions.

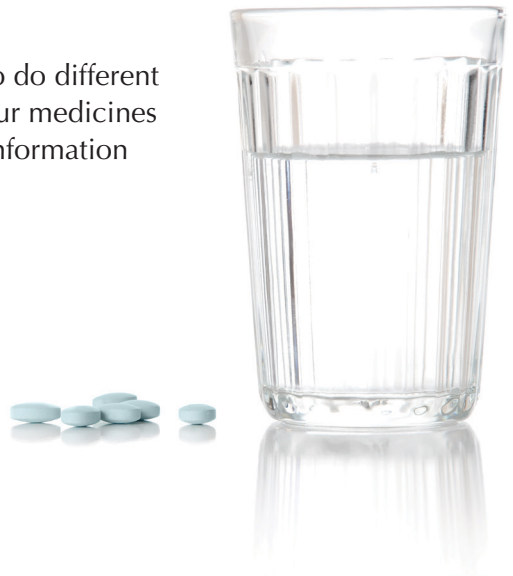
Why are medicines important?

Medicines can help:

- reduce your risk of a future heart attack, angina, heart failure and stroke
- manage your symptoms
- improve your quality of life
- keep you out of hospital
- you live longer.

You may be given different medicines to do different things. You will need to take most of your medicines long term. (See pages 31–34 for more information about particular types of medicines.)

- **Get to know your medicines and why they're important.**
- **Take your medicines exactly as advised by your doctor or pharmacist.**
- **Carry a list of your medicines, doses and instructions for taking them.**





Get to know your medicines

It's important to know what medicine you're taking, what it does, and how it might affect you. Your doctor or pharmacist can give you this information.

- **Name.** The drug name and brand name are different, and some medicines have more than one brand name. Ask your doctor or pharmacist if there are cheaper brands available.
- **How to take the medicine.** Follow your doctor and pharmacist's advice about when and how to take your medicines (e.g. at a particular time of the day, or with food).
- **Possible side effects.** Talk with your doctor about these and what to do if you have side effects. Check if any of your medicines might affect you before driving, operating machinery or doing jobs where you need to be alert. Do not stop your medicine if you feel you have a side effect without first talking to a doctor. Often symptoms are coincidental and due to another cause.
- **What to do if you miss a dose.** Check what the information sheet says or ask your doctor or pharmacist.
- **How to store your medicines.** (e.g. away from direct sunlight).

Other ways to find out about your medicines:

- Medicines often come with an information sheet called 'consumer medicines information' (CMI). If they don't, ask the pharmacist or doctor for it and read all about your medicines.
- Call the Medicines Line on 1300 633 424 or visit nps.org.au.

The internet is a handy source of information about medicines. But it is not as reliable as what your doctor or pharmacist can tell you.

Home Medicines Review

A pharmacist can visit you at home to check your medicines and how you are taking them. Talk to your doctor to arrange a Home Medicines Review.

Over-the-counter medicines

Many people take over-the-counter medicines available from a pharmacy or supermarket. These can affect your prescription medicines. Talk to your cardiologist, doctor or pharmacist about which over-the-counter medicines are safe for you to take.

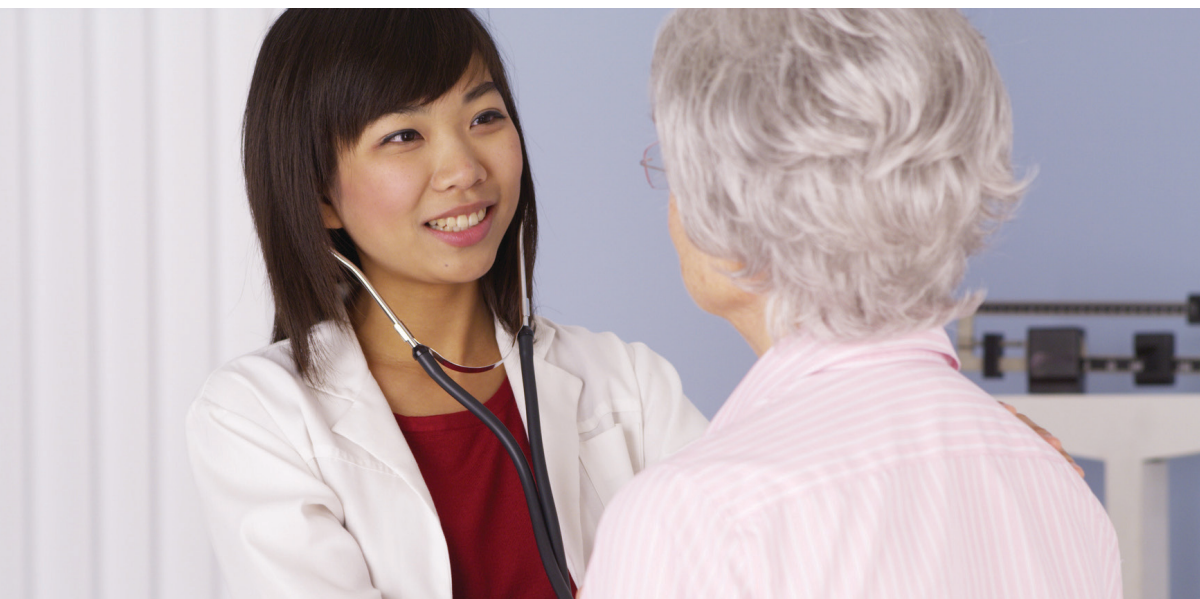
► Checklist: taking your medicines

- Take your medicines exactly as your doctor advises. Get into a routine.
- Don't stop taking medicines or change doses unless your doctor tells you to.
- Talk with your doctor or pharmacist about possible side effects.
- Don't run out of your medicines – keep enough of a supply at home.
- Carry a list of your medicines, doses and instructions for taking them.
- Check with your doctor or pharmacist before taking over-the-counter or complementary medicines (e.g. cold and flu medicine, vitamins or herbs).
- Don't take medicine that's past its 'use by' or 'best before' date.
- See your doctor regularly to check that your medicines are working properly.

► Checklist: questions to ask your doctor

Take your medicine list with you to your medical appointments so your doctor can answer any questions.

- What's the name of the medicine?
- Is it the brand name or the drug name?
- Why am I taking this?
- What is it supposed to do?
- How and when do I take my medicine? For how long?
- How will I know my medicine is working?
- What are the risks of taking this medicine?
- Will I have side effects? If so, what should I do?
- How often should I visit my doctor or other health professional?
- Do I need to avoid any foods, dietary supplements, other prescription or over-the-counter medicines while I'm taking this medicine?



Common medicines

The medicines you take depend on your heart condition and symptoms. For a heart attack or angina, it's normal to take different kinds of medicine.

Below is a list of medicines commonly used to:

- stop blood clots
- manage high blood pressure
- manage high cholesterol
- manage and stop angina.

Anti-clotting (blood-thinning) medicines

Aspirin

You may have to take a small dose of aspirin every day. It can stop blood clots from forming in a narrow artery and reduce the risk of heart attack and stroke.

If you can't take aspirin, you might take another anti-clotting medicine.

Antiplatelet medicines

Antiplatelet medicines include clopidogrel, prasugrel and ticagrelor. They can be used with, or instead of, aspirin. They help to stop blood clots forming in your blood vessels.

You usually need antiplatelet medicines if you've had coronary angioplasty and stent implantation, or have had recurring heart attacks or angina.

If you take an antiplatelet medicine, unless you are suffering severe bleeding **you must not stop taking it** unless your cardiologist or doctor tells you to. This is even more important if you have had a stent implanted.



Anticoagulant medicines

Warfarin

Warfarin helps to prevent blood clots forming and treats existing clots.

If you are taking warfarin you need to have regular blood tests to check you're taking the right dose and that it's working properly.

Other medicines, including some foods, alcohol, herbs and vitamins, can change how warfarin works. Speak to your doctor, nurse or pharmacist about what foods can interact with warfarin. Tell your doctor or pharmacist about any other medicines you take or plan to start taking and read the instructions carefully.

Novel anticoagulant therapies

Some other anticoagulant medicines, called NOACs (novel anticoagulant therapies) include dabigatran, apixaban and rivaroxaban. These do not require blood testing.

Blood pressure medicines

Angiotensin converting enzyme (ACE) inhibitors

ACE inhibitors widen ('dilate') your blood vessels and reduce strain on your heart. They are used to lower blood pressure, make your heart work better and improve your chance of surviving after a heart attack.

Angiotensin II receptor blockers (ARB)

ARBs are sometimes used instead of ACE inhibitors if you get side effects, such as a persistent cough, from taking ACE inhibitors. ARBs work like ACE inhibitors; they widen your blood vessels and reduce strain on your heart.

Beta-blockers

Beta-blockers can make your heart beat more slowly, and lower your blood pressure and risk of a heart attack. You may sometimes be given a beta-blocker for arrhythmias (abnormal heart rhythms) or angina.

Cholesterol medicines

Statins

Statins reduce your risk of heart attack and stroke by helping to lower your cholesterol. They also sometimes lower your triglycerides (see pages 89–90 for more about cholesterol and triglycerides).

Statins help to stabilise plaque in arteries. They are often given to people after they have had a heart event (e.g. heart attack, stroke or angina) – even if the person’s cholesterol is in the ‘normal’ range.

Statins are recommended for almost everyone with coronary heart disease.

You will usually be given a statin when you are in hospital. You will need to keep taking it when you go home.

Your doctor may change the dose or type of statin you are taking, to make sure it is working properly and not causing side effects.



Anti-anginal medicines

Nitrates

Nitrate medicines increase blood flow to your heart by widening blood vessels. They prevent or treat angina. See 'What to do if you have angina' on page 13 for more information.

There are two types of nitrate medicines.

- **Short-acting nitrate medicines** relieve angina symptoms within a few minutes. These medicines are a spray or tablet that goes under your tongue. They are absorbed through the lining of your mouth into your bloodstream. The most common short-acting nitrate medicine is glyceryl trinitrate (sometimes called 'GTN').
- **Long-acting nitrate medicines** prevent angina symptoms. They do not relieve an angina episode within a few minutes. These are usually tablets that you swallow whole (you do not put them under your tongue like short-acting nitrate medicines).

Nitrate medicines may also come as patches, and you gradually absorb the medicine through your skin.

Men should not take erectile dysfunction drugs with nitrate medicines. This can have serious consequences or even cause death.

Other medicines

Your cardiologist or doctor may prescribe you other drugs. These may be for a range of conditions such as high blood pressure or irregular heartbeats.

Cardiac rehabilitation

What is cardiac rehabilitation?

Cardiac rehabilitation is a program where health professionals support you and your carers with your heart disease. It's a valuable part of your recovery, and recommended for all eligible patients.

It can support you to:

- understand coronary heart disease and how it's treated
- manage your risk factors
- get back to your usual activities (e.g. work, driving, having sex)
- cope with fear, stress, depression and anxiety
- understand medicines, tests and procedures
- know heart attack warning signs and what to do in an emergency
- have a healthy lifestyle.

You still need to visit your doctor regularly while you're doing cardiac rehabilitation.

- **It's really important to complete cardiac rehabilitation.**
- **Cardiac rehabilitation gives you and your carers professional support in your recovery.**
- **Ask your nurse or doctor to refer you to a program, or call our Heart Foundation Helpline on 13 11 12 to find one.**



Why attend cardiac rehabilitation?

Cardiac rehabilitation will help you recover, make you feel better sooner and help prevent further heart problems.

Some of the benefits include:

- getting back to your usual activities more quickly
- increasing your social independence and confidence
- reducing depression and anxiety
- increasing your ability to be physically active
- making you less likely to start smoking again (if you smoked before)
- helping you meet other people in a similar situation.

Ask if you can bring your partner or carer along. It can help them understand what you have gone through and what you need to do to get better.

How is cardiac rehabilitation run?

Cardiac rehabilitation usually runs for six to 10 weeks. It often starts in hospital and continues when you go home. Programs can be run in different ways and places, for example:

- over the telephone
- on the internet
- face-to-face
- in a group
- in hospitals, community centres and clinics
- in your home.

Finding a cardiac rehabilitation program

Ask your nurse or doctor to refer you to a cardiac rehabilitation program in your local area or call our Heart Foundation Helpline on 13 11 12 (cost of a local call). See the services and support section on page 106 for more information.



- A heart attack can affect you emotionally as well as physically.
- It's normal to have lots of different feelings after a heart event.
- Talk with family, friends or professionals about how you're feeling.

Managing your emotions

Some people worry about whether they will ever get 'back to normal'. You may have many different feelings after a heart attack or heart surgery. You may feel sad, worried, shocked, stressed, angry, lonely or guilty. These feelings can be common and usually don't last long.

Talking to others may help you to feel better. You could talk to your doctor, nurse, cardiac rehabilitation team, family or friends.

What can I do to manage my emotions?

- Think about how you have handled other stresses in your life. Remember what got you through the hard times – and what didn't.
- Get support from friends and family and learn as much about heart disease and its management as you can.
- Do the things you enjoyed doing before your heart attack.
- Try and be physically active.
- Join a cardiac rehabilitation program to get support and learn more about your heart disease and what you can do about it. You will be with other people who have had a heart attack or heart surgery.
- Speak with your doctor about how you are feeling. They will be able to provide the help you need.

For more information on depression, see page 94.



Personal accounts

“Unless you’ve had a heart attack and survived you really honestly don’t know how painful the experience is. And I don’t mean just the physical pain – it’s the emotional pain. I was a mess because everyone was saying ‘Oh, at 45 you’re very young to have a heart attack, let alone two’. So I got to the stage where for a long time I didn’t even get out of bed. I never went outside my front door because I was frightened – what if I have another heart attack?”

– Kathleen, 52

“I was working pretty hard, I knew I was stressed, I knew the depression was there. I was eating poorly. I had a silent heart attack – there was no pain, no symptoms. I had artery blockages just near the heart and I had three stents inserted over a two-year period.”

– Richard, 64

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- Your doctor will only let you leave hospital when you're well enough to continue recovering at home.
- Talk to your health professionals about what you will need to take home, and what to expect.

Leaving hospital

When can I go home?

Your doctor will let you go home when:

- you feel better
- your symptoms have gone
- your condition is being well managed.

This usually happens within two to seven days after your treatment or operation. But it can be longer and it's different for everyone. It depends on how serious your heart condition is, what treatment you need to have and what your tests results are.

Leaving hospital can be hard

Many people feel a little anxious and depressed about leaving hospital care. But your doctor will only let you leave hospital if you are well enough to continue your recovery at home.

Have you got questions? Speak with a health professional. Call 13 11 12



▶ Checklist: before leaving hospital

Make sure that you have:

- information on your diagnosis
- enough medicines and information on how to take them
- talked with a pharmacist if you have any questions about your medicines
- a written plan for what to do if you have more symptoms (see the Warning signs action plan on page 137)
- follow-up appointments with specialists, your general practitioner (GP) or other health professionals
- instructions on how to look after your wound(s) if you have had any procedures or surgery
- information about lifestyle changes you need to make to reduce your risk of more heart problems
- a referral to a cardiac rehabilitation program.

▶ Checklist: Questions to ask your health professionals about going home

- What happens when I get home?
- What should I eat?
- When can I be more physically active?
- When can I have sex?
- When can I drive, and can I wear a seatbelt?
- What if I have to travel on public transport?
- When can I go back to work?
- Why do I feel okay one day, but awful the next?

What happens when I get home?

For the first few weeks, it may be good to have someone close by to support and help you.

If you live alone, someone may need to stay with you during this time, depending on how serious your health condition is. If you don't have family or friends who can be with you, you can get help from a home care agency.

If you need extra community services, such as Meals on Wheels, ask your doctor or cardiac rehabilitation team for information.

You will need lots of rest, but try to get back into a normal routine as soon as possible, including:

- get up at a normal time
- have a bath or shower if possible
- get dressed for the day – don't stay in your sleeping clothes during the day
- rest at mid-morning, mid-afternoon and after any physical activity.

You should be able to:

- do light work around the house
- go to places, such as a theatre, restaurant or church
- visit friends
- travel in a car but not drive a car until your doctor has given you approval to do so (for more information on driving see page 50)
- climb stairs slowly.

You may feel weak at first, but this isn't necessarily serious. It is normal because you didn't use your muscles much when in hospital.





Caring for someone after a heart attack



Caring for someone you love after their heart event can be daunting. But we're behind you from the first days in hospital, and for as long as you need us.



Information at your fingertips

Explore heartfoundation.org.au/aftermyheartattack to learn more about your loved one's condition and how you can help them return to an active and healthy life.



Personalised support is just a phone call away

Qualified health professionals are available to speak with you, or your loved one – with no appointment necessary. Call us on **13 11 12**.



Let us help you along the way

Sign up to receive regular emails at heartfoundation.org.au/aftermyheartattack and we'll provide you with information and guidance to help you help your loved one return to an active and healthy lifestyle.