

## Heart attack explained

A heart attack occurs when one of the arteries that supply blood to the heart is blocked. This usually occurs as a result of narrowing of these arteries, which is caused by a build-up of fatty deposits. A heart attack is sometimes called myocardial infarction, coronary thrombosis or coronary occlusion.

Heart attack is a medical emergency – immediate action can save a life. Call triple zero (000) for an ambulance if you or someone you are with experiences the warning signs of heart attack. It is always better to go to hospital than to wait until it is too late.

### **The heart needs a constant supply of blood**

The heart is a double pump that circulates blood around the body. It picks up oxygenated blood from the lungs and sends it around the body through blood vessels called arteries. At the same time, the heart pumps deoxygenated blood from the body back to the lungs.

To perform its duties, the heart needs a generous supply of oxygen and nutrients, which it receives from blood pumped through the two coronary arteries and their branches.

### **Coronary heart disease and heart attack**

Over the years, fatty deposits or plaques build up inside one or more of the coronary arteries (a process called atherosclerosis). This results in narrowing of the arteries, which can lead to angina (temporary chest pain or discomfort). This typically occurs during activity or when a person feels strong emotions.

A heart attack occurs when a blood clot forms at a narrowed point in a coronary artery and suddenly blocks the flow of blood to an area of heart muscle. If the artery remains blocked, the lack of blood supply permanently damages the area of heart muscle supplied by that artery. The severity of the heart attack depends on how much heart muscle is permanently damaged.

### **Risk factors for coronary heart disease**

The risk factors for coronary heart disease include:

- Tobacco smoking
- High blood cholesterol levels
- Unhealthy eating
- Lack of regular physical activity
- Excess weight and obesity
- High blood pressure
- Diabetes
- Increasing age
- A family history of heart disease
- Depression and social isolation.

### **Warning signs**

People who have a heart attack usually have some warning signs. Often the person is unsure of what is wrong, is too embarrassed to tell someone about their symptoms or waits too long before getting help. It is always better to go to hospital and be told that it's not a heart attack, than to wait until it is too late.

The warning signs of heart attack vary. The symptoms usually last for at least 10 minutes. You may get more than one of these symptoms:

- Chest pain or discomfort in the centre of the chest. The pain may come on suddenly or can start slowly, developing over minutes. It may feel like tightness, pressure, heaviness, fullness or squeezing. The pain may be severe, moderate or even mild. It is typically not relieved by rest and angina tablets or similar spray (if the person has been prescribed these).
- The pain or heaviness may spread to neck and throat, jaw, shoulders, the back, either or both arms, and into the wrist and hands.
- Some people do not get any chest pain, only discomfort in these parts of the upper body. There may be a choking feeling in the throat. The arms may feel heavy and useless.
- Often there may also be difficulty breathing, nausea or vomiting, sweating or a feeling of being dizzy.
- For some people, collapse is the first warning sign.

### **Heart attack is a medical emergency**

With heart attack, every minute counts. It is important to call triple zero (000) for an ambulance and get to hospital fast.

Most people who act quickly and get to hospital fast receive emergency medical treatment quickly enough to recover and return to living a normal life. However, too many people lose their lives because they take too long deciding to go to hospital.

### **Early treatment can reduce heart damage**

Modern treatments and clot-dissolving medications can prevent permanent damage to your heart. These treatments can prevent serious damage and restore the blood supply to the muscle. Treatments work best if given as soon as possible after the heart attack begins. The longer it takes to get treatment, the poorer the chance of survival and the greater the permanent damage to the heart muscle.

### **Serious disturbances to heart rhythm can be treated**

A heart attack can interrupt the heart's rhythm and its ability to pump blood. Instead of beating normally, the rhythm can become chaotic (ventricular fibrillation), leading to ineffective heart function and cardiac arrest.

Cardiac arrest can follow on from the symptoms of a heart attack or may strike suddenly. Typically, the person falls unconscious, has no pulse and stops breathing. Without immediate help, the person will die.

Ambulance paramedics or hospital staff will need to use a special device called a defibrillator, which passes an electric shock through the heart to try to get it to start beating again. If such specialised equipment is not available, cardiopulmonary resuscitation (CPR) is crucial. This combines mouth-to-mouth resuscitation and heart massage. CPR can keep the person alive until an ambulance arrives.

### **First aid for heart attack**

If you are experiencing the warning signs of heart attack, you should:

1. Immediately stop what you are doing and rest.
2. Tell anyone you are with what you are experiencing.
3. Get help fast if your symptoms are severe, get worse quickly or last 10 minutes (even if they are mild). This is an emergency. Call triple zero (000) and ask for the ambulance service.
4. Don't hang up. The operator will give you advice before the ambulance arrives.

If you are with someone who is experiencing the warning signs, take charge and help them with the following steps:

1. Have them immediately stop what they are doing and rest.
2. Ask them to describe what they are experiencing.
3. Get help fast if their symptoms are severe, get worse quickly or last 10 minutes (even if they are mild). This is an emergency. Call triple zero (000) and ask for the ambulance service.
4. Don't hang up. The operator will give you advice over the phone to help the paramedics and the person before the ambulance arrives.

Note: Dial triple zero (000) in an emergency. If you can't contact the triple zero operator and you are calling from a mobile phone, try dialling 112.

## Diagnosis

Tests to diagnose a heart attack include:

- Electrocardiogram (ECG) – to track abnormalities of the heartbeat
- Blood tests.

## Treatment

Treatment for heart attack may include:

- Drugs
- Surgery
- A procedure called catheterisation – to remove the blood clot that is causing the blockage
- Long-term use of medications – to lower the risk of further heart problems. Be advised by your doctor, but medications may include a small regular dose of aspirin, a statin (a type of cholesterol-lowering medication), a beta-blocker and an ACE inhibitor.

## Changing your lifestyle can reduce the risk

Addressing the lifestyle factors that contribute to coronary heart disease can help you to prevent a heart attack. These include:

- Avoid smoking.
- Enjoy healthy eating.
- Be physically active.
- Control your blood pressure.
- Achieve and maintain a healthy body weight.

## Where to get help

- Call triple zero (000) for an ambulance immediately – if you, or someone you are with, experience the warning signs of heart attack
- Your doctor
- National Heart Foundation, Heartline Tel. 1300 36 27 87 [www.heartfoundation.com.au](http://www.heartfoundation.com.au)

## Things to remember

- With heart attack, every minute counts. Call triple zero (000) for an ambulance immediately if warning signs of heart attack are experienced. Doing this can save a life.
- A heart attack occurs when the artery or arteries that supply the heart with oxygen and nutrients are blocked.
- Most heart attacks occur as a result of a condition called atherosclerosis, which means the arteries become progressively blocked with fatty deposits.
- Changing your lifestyle can help to reduce your risk of developing coronary heart disease.

## Want to know more?

For references, related links and support group information, go to More information.

**This page has been produced in consultation with, and approved by:**



**Heart Foundation**

National Heart Foundation

**More Information**

All Better Health Channel fact sheets have links to further information. If you want more information on this topic, please visit [www.betterhealth.vic.gov.au](http://www.betterhealth.vic.gov.au) and use the search bar at the top of any page to find extra information on this topic.

**Updates**

This is a copy of a fact sheet from the Better Health Channel website. Fact sheets on the Better Health Channel are updated regularly. For the most recent information on this topic, go to [www.betterhealth.vic.gov.au](http://www.betterhealth.vic.gov.au)

**Quality assurance**

This fact sheet, like all fact sheets on the Better Health Channel, has passed through a rigorous and exhaustive approval process.

**Copyright**

Copyright © 2000/2004 State of Victoria. Reproduced from the Better Health Channel ([www.betterhealth.vic.gov.au](http://www.betterhealth.vic.gov.au)) at no cost with Permission of the Victorian Minister for Health. Unauthorized reproduction and other uses comprised in the copyright are prohibited without permission.