

Electrocardiogram (ECG)

An electrocardiogram (ECG) is a simple test. It is used to check your heart's rhythm and electrical activity.

Sensors attached to the skin detect the electrical signals produced by your heart each time it beats.

These signals are recorded by a machine and are looked at by a doctor to see if they're unusual.

A heart specialist (cardiologist) may ask you to have an ECG if they think you might have a problem with your heart.

The test can be carried out by a trained healthcare professional at a hospital or clinic.

Despite having a similar name, an ECG isn't the same as an echocardiogram, which is a scan of the heart.

Read more about [echocardiograms](#)

When an ECG is used

An ECG is often used to help diagnose and check conditions affecting the heart.

It can be used to investigate symptoms of a possible heart problem. These could be chest pains, palpitations, dizziness and shortness of breath. Palpitations are suddenly noticeable heartbeats.

An ECG can help detect:

- arrhythmias – where the heart beats too slowly, too quickly, or irregularly
- coronary heart disease – where the heart's blood supply is blocked or interrupted by a build-up of fatty substances
- heart attacks – where the supply of blood to the heart is suddenly blocked
- cardiomyopathy – where the heart walls become thickened or enlarged

A series of ECGs can also be taken to check a person already diagnosed with a heart condition. It's also used to check on someone taking medication that is known to affect the heart.

How an ECG is carried out

Small, sticky sensors called electrodes are attached to your arms, legs and chest. These are

connected by wires to an ECG recording machine.

You do not need to do anything special to prepare for the test. You can eat and drink as normal beforehand.

Before the electrodes are attached, you'll usually need to remove your upper clothing. Your chest may need to be shaved or cleaned. Once the electrodes are in place, you may be offered a hospital gown to cover yourself.

The test itself usually only lasts a few minutes. You should be able to go home soon afterwards or return to the ward if you're already staying in hospital.

Types of ECG

There are 3 main types of ECG:

- a resting ECG – carried out while you're lying down in a comfortable position
- a stress or exercise ECG – carried out while you're using an exercise bike or treadmill
- an ambulatory ECG – the electrodes are connected to a portable machine worn at your waist - your heart can be monitored at home for 1 or more days. This type of ECG is usually called a Holter monitor.

The type of ECG you have will depend on your symptoms and the heart problem suspected.

An exercise ECG may be recommended if your symptoms are triggered by physical activity. An ambulatory ECG may be more suitable if your symptoms are unpredictable and occur in random, short episodes.

Getting your results of your ECG

An ECG will show your heart rhythm and electrical activity as a graph displayed electronically or printed on paper.

For an ambulatory ECG, the ECG machine will store the information about your heart electronically. This can be checked by a doctor when the test is complete.

You may not be able to get the results of your ECG immediately. The recordings may need to be looked at by a specialist doctor to see if there are signs of a potential problem. Other tests may also be needed before it's possible to tell you if there's a problem.

You may need to visit the hospital, clinic or your GP a few days later to discuss your results with a doctor.

Risks and side effects of an ECG

An ECG is a quick, safe and painless test. No electricity is put into your body while it's carried out.

There may be some slight discomfort when the electrodes are removed from your skin. It will be like removing a sticking plaster. Some people may develop a mild rash where the electrodes were

attached.

An exercise ECG is performed under controlled conditions. The person carrying out the test will watch you. They'll stop the test if you experience any symptoms or start to feel unwell.

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