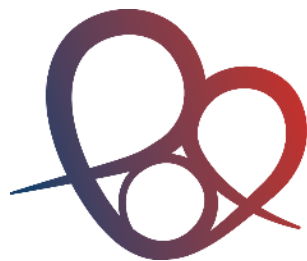


**Cardiac Health Diagnostics**  
**Heart Screening**  
**Fact Sheets**



**Cardiac Health**  
Diagnostics Ltd

## **Electrocardiogram (ECG)**

### **What is an Electrocardiogram (ECG)?**

An ECG is a test which looks at the electrical activity of the heart. The heart produces small electrical impulses which spread through the heart muscle to make the heart contract. These impulses are measured by the ECG, which takes approximately 5-10 minutes to perform.

### **How is an ECG test carried out?**

Small electrodes are attached to the arms, legs and chest. Wires from these electrodes are then connected to the ECG machine, which detects and amplifies the electrical impulses that occur at each heartbeat and records them on a computer, which is printed out on paper.

### **What can an ECG result show?**

The electrodes on different parts of the body detect electrical impulses coming from the different parts of the heart. There are a number of characteristic patterns in the ECG that are used to assess whether the heart's electrical activity is 'normal' or if there appears to be a problem. Heart disorders which can be detected from an ECG test include the following:

- Reduced blood flow to the heart muscle
- An excessively thick heart muscle or other parts of the heart that are too big
- Signs of a new or previous injury to the heart
- A heartbeat that is too fast, too slow, or irregular
- Abnormal electrical conduction (pattern and duration) in the heart

### **Limitations**

An ECG is a very helpful test for assessing the heart's function and identifying possible underlying problems. However, the results of an ECG examination are often unspecific, meaning that abnormal findings do not point to a specific problem or disease. Furthermore, a normal ECG does not rule out heart disease completely. For these reasons, additional tests are often necessary to provide a more complete evaluation of heart function.

### **For more information visit:**

[www.nhs.uk](http://www.nhs.uk)  
[www.corience.org](http://www.corience.org)  
[www.nhlbi.nih.gov/  
patient.info](http://www.nhlbi.nih.gov/patient.info)  
[www.cpmc.org/](http://www.cpmc.org/)

## **Echocardiogram (ECHO)**

### **What is an Echocardiogram?**

An echocardiogram is a test that uses sound waves to produce moving images of your heart. The procedure looks at the size and structure of the heart and allows the doctor to assess how well your heart is pumping blood. The test is safe, simple and takes approximately 15-30 minutes to perform.

### **How is an Echocardiogram carried out?**

An echocardiogram is carried out by a doctor or technician who has been specially trained to do this. The doctor/technician will place some clear gel on your chest and then move a small scanning device around your chest (in contact with the gel). As it moves across the chest the scanner uses sound waves to create pictures of the inside of your heart, which will be displayed on a monitor. These pictures are constantly updated, so the scan can show the movement of your heart too.

### **Why is an Echocardiogram used for screening?**

An ECG is good for identifying electrical problems in the heart, whereas an echocardiogram provides pictures of the heart's structure. If your ECG result suggests that there might be a problem then, if appropriate, you will also have an echocardiogram scan. The echocardiogram can help the doctor to make a diagnosis or to confirm that your heart is fine.

### **What can an Echocardiogram scan show?**

An echocardiogram test will be undertaken during the screening process if there are any potential abnormalities identified on the ECG result. An echocardiogram can help your doctor check the following:

- The overall size and shape of the heart
- The size, thickness and movement of the heart walls
- How the heart moves during each heartbeat
- The heart's pumping strength
- If the heart valves are working correctly
- If blood is 'leaking' through the heart valves
- If the heart valves are too narrow
- If there are problems with the outer lining of the heart
- If there are problems with the large blood vessels that enter and leave the heart
- If there are blood clots in the chambers of the heart
- If there are abnormal holes between the chambers of the heart

### **For more information visit:**

[www.heart.org/www.bupa.co.uk/](http://www.heart.org/www.bupa.co.uk/)  
[www.bhf.org.uk](http://www.bhf.org.uk)