HEART RX
CARDIOLOGY
www.heartrx.com.au

ELECTROCARDIOGRAM

What is an ECG?

The electrocardiogram, or ECG, is a diagnostic tool that measures and records the electrical activity of the heart in exquisite detail. Interpretation of these details allows diagnosis of a wide range of heart conditions. These conditions can vary from minor to life threatening.

The standard 12-lead ECG that is used throughout the world was introduced in 1942. It is called a 12-lead ECG because it examines the electrical activity of the heart from 12 points of view. This is necessary because no single point (or even 2 or 3 points of view) provides a complete picture of what is going on.

What to expect:

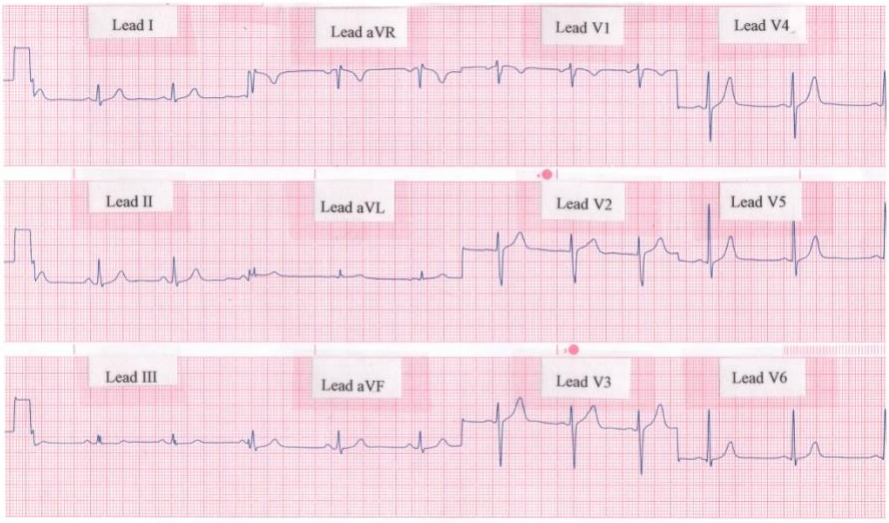
Few procedures in medicine are easier than an ECG. It is completely painless. You will lie down quietly on a bed or stretcher. A nurse or doctor will place 6 small adhesive electrode pads across your chest from your lower breast bone (sternum) to an area below your left armpit. Other pads will be placed on each of your arms and legs. Insulated wires will connect each of these 10 pads to the ECG machine.

How does it work?

Once the wires, called "leads," are attached, the ECG records a few heartbeats on a single sheet of graph paper. Each heartbeat produces a set of P-QRS-T waves. This set of waves, in turn, is recorded and analysed from each of 12 points of view. Six of these points of view are the locations of the 6 pads placed across your chest. These are called V1, V2, V3, V4, V5, and V6.

The other points of view represent combinations of the pads placed on the arms and legs. These are called I, II, III, aVR, aVL, and aVF. The interpretation of the waves produced by each of these 12 views provides valuable information about the functioning of your heart.

In some circumstances, medical illnesses elsewhere in the body or various drugs affect an otherwise healthy heart in ways revealed by diagnostic or suggestive changes in to the ECG changes.



In addition to the 12-lead ECG, an additional "rhythm strip" may be taken. This represents only one point of view but is a good way to see important changes that may be occurring over longer periods of time. These may be changes that are hard to interpret or are not even detected in the handful of heartbeats recorded in the standard 12-lead ECG. This is especially useful when the heart is beating slower or faster than normal.

What if my symptoms are not present at the time of the ECG?

Some people with heart rhythm disorders (arrhythmias) or coronary heart disease have symptoms that come and go. These symptoms may include brief chest pain or angina, palpitations, dizziness, or weakness.

If you are not having symptoms when you see your doctor, your ECG result may be perfectly normal. This is a common occurrence, and it is frustrating because your doctor cannot properly diagnose or treat your problem until it has been documented on ECG. This is where ECG monitoring over longer periods of time with a portable *Event Recorder* or *Holter Monitor* can be utilised by your Cardiologist to accurately diagnose your condition.