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Diagnostic tests for syncope - Patient information

Electrocardiogram (ECG)

An ECG is used to monitor the electrical activity of the heart. Each heartbeat is triggered by an electrical impulse normally generated from pacemaker cells in your heart. An ECG records these electrical signals as they travel through your heart, producing a waveform that a doctor can use to diagnose various heart conditions. An electrocardiogram is a non-invasive, painless test. At no point does this put electricity into your body, or cause any side effects.

An ECG test takes about five minutes. Twelve electrodes (small sticky pads) are attached to your arms, legs and chest and the wires connect to the ECG machine. The recorded information is printed onto paper and the doctor can immediately look at the results.

An ECG can help diagnose many heart conditions:

- Irregular heart rhythms (arrhythmias)
- Structural heart defects
- Problems with your heart's valve
- Blocked or narrowed arteries (coronary artery disease)
- A heart attack, in emergency situations
- A previous heart attack

It is common to have more than one ECG recorded while being investigated for blackouts. This gives individual clinicians a chance to review a fresh test to give their own opinion on the heart trace. This also can help if the trace is slowly changing over time.

24 Hour ECG Monitor

If you are experiencing irregular or unexplained symptoms then it may be necessary for you to have a continuous ECG over a longer period of time, often 24 - 72 hours. You will be given a small monitor to wear all the time and this is able to detect any abnormal heart rhythms during that period. You can maintain all normal activity during this time.

During this period you should note down your activities and any symptoms that you may have. This will enable your doctor to compare your 'diary' with the ECG trace recorded by the monitor which may help with making a diagnosis.

Implantable Cardiac Monitor (ICM)

If a doctor is unable to diagnose what is causing your symptoms with an ECG and a 24 hour monitor, then they may consider an Implantable Cardiac Monitor (ICM).

An ICM is used to monitor heart rhythms for months at a time if the episodes are less frequent than every 30 days. The device can remain in place for up to three years.

The ICM can determine whether your fainting is related to a heart rhythm problem. It is a small device and is inserted just beneath the skin in the chest area. This procedure is carried out in an outpatient clinic under local anaesthetic and will take 15 - 20 minutes.

An ICM records your heart rate and rhythm and captures your heart's activities during an actual blackout. This will help the doctor to rule in or rule out an abnormal heart rhythm and other cardiac conditions. When you have experienced a blackout or pre blackout symptom, you either need to return to the hospital for the results to be downloaded, or if you have received a cardiac monitor with remote capabilities, you can send the stored information to your doctor via a phone line from home. In some instances, these results may produce a diagnosis. If so, the ICM may be removed and appropriate treatment given. However, it is not uncommon for the ICM to remain in place for up to three years.

If the results show that your episodes are nothing to do with your heart rhythm, then the doctor can consider other reasons for your symptoms.

Affiliated to Arrhythmia Alliance

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Tilt Table Test

A tilt table test is a diagnostic test to help establish the cause of unexplained fainting, which will then help doctors find the best treatment for you.

The reason for the test is to reproduce your symptoms, pre-syncope (sweating, nausea, dizziness) and syncope (fainting/blacking out) to determine the underlying cause.

In preparation for the test, you will be asked not to eat or drink for several hours beforehand, and your doctor will clarify which of your medications to take or omit on the day of the tilt table test.

During the procedure you will lie on a bed (tilt table). Your feet will be on a footplate and two straps will be placed around you to prevent you from falling. The bed will gradually be adjusted to an upright position whilst your blood pressure and ECG measurements are recorded. A healthcare professional will be with you during the entire procedure.

If you faint at any time during the test while you are in the vertical position, the table is returned to horizontal immediately. Most people regain consciousness almost immediately. If you feel faint or your blood pressure and heart rate change indicating you are about to faint, the table is returned to a horizontal position, and you may not actually lose consciousness.

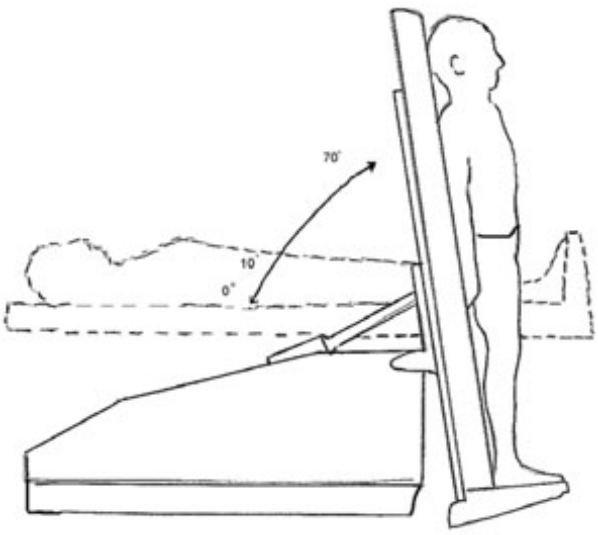
The test could last up to 45 minutes and you may feel tired and exhausted afterwards - as you perhaps do following a normal syncopal episode. When your tilt table test is complete, you may return to your normal activities for the remainder of the day.

If you do not faint or experience any other symptoms during the initial test, isoproterenol medication may be given through an IV line. Isoproterenol works similarly to adrenaline and may make your heart beat stronger and faster. It may make you more sensitive to the tilt table test and elicit syncopal symptoms.

You then remain in the upright position and are monitored for another 15 - 20 minutes to see how your body responds.

Results

Results are based on your heart rate and blood pressure changes during the test, and whether or not you faint. If your blood pressure does not fall during the test, and you have no other symptoms, the results are negative (normal). Further investigations may then be required. If your blood pressure drops during the test and you feel faint or dizzy, the result is positive. Your doctor may suggest changing your medicines or having more tests. If your fainting is due to a slow heart rate (bradycardia), your doctor may recommend a pacemaker.



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