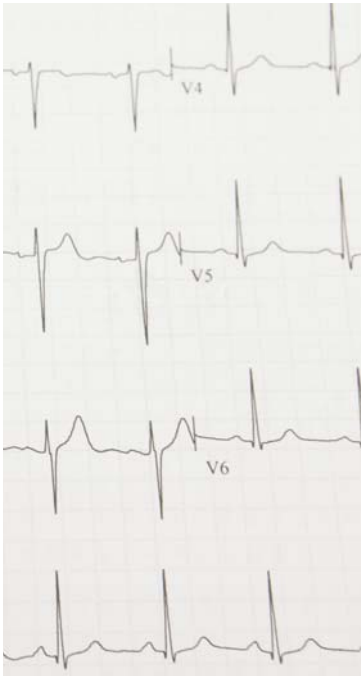
STARS

Syncope Trust And Reflex anoxic Seizures®

Diagnostic tests for syncope



Working together with individuals, families and medical professionals to offer support and information on syncope and reflex anoxic seizures

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Glossary of terms

Cardiac physiologist A specialist doctor skilled in interpreting and providing information on your heart rhythm

Cardiology department An area of a hospital where investigations for your heart and clinic appointments may take place

12-lead electrocardiogram (ECG) A non-invasive painless investigation that records the activity of your heart via electrodes placed on your skin

Implantable loop recorder (ILR) A small thin device inserted under the skin to record your heart's activity

Tilt table test A test used when investigating patients with repeated, unexplained fainting

Important information

This booklet is designed for patients and carers who are undergoing diagnostic tests for unexplained blackouts.

It contains information on a range of diagnostic tests for syncope. Being prepared for these can significantly reduce the anxiety of a hospital visit.

Contents

Electrocardiogram (ECG)

Over the years, the ECG has been developed to become one of the most important tests in the investigation of heart-related problems. It can help a doctor understand the possible role of the heart in a person's symptoms or problem.

If you are suffering with unexplained blackouts or a related condition, then your doctor may ask for this test. Every patient presenting with blackouts should undergo an ECG. A resting ECG is an important test as it may help to rule out many underlying heart conditions.

The test is quick, non-invasive, painless and harmless, recording electrical impulses that come from your heart. At no point does this put electricity into your body, or cause any side effects.

An ECG test takes about five minutes. Electrodes (small sticky pads) are attached to your arms, legs and chest and the wires lead to the ECG machine. The machine can then read what is happening to your heart and record the information onto paper.

Through the different electrodes, the ECG gives 12 different electrical pictures of the heart. For this reason it is often also called a '12 lead ECG'. The ECG will tell the specialist whether your heart rate is too fast, too slow or irregular.

It is common to have more than one ECG recorded while being investigated for blackouts. This gives clinicians a chance to review recordings taken at different times, which can help if the trace changes over time.

24 hour ECG monitor

If you are experiencing unexplained blackouts, 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 will be able to detect any abnormal heart rhythms that may come and go during that period. Sometimes monitoring may continue for up to seven days. If your specialist requires this test you will be given a supply of the electrode stickers so that you can remove the machine to allow you to wash.

It is a good idea during this period to record your activities and any problems that you have. This will enable your doctor to compare your 'diary' with the ECG trace recorded by the monitor. This may identify the reason for your blackouts.

External loop recorder

A soft flexible device applied to the skin of the front of the chest over the heart which is self-adhesive. These monitors can remain in place for 7-14 days. They behave like implantable loop recorders (see page 5) in that they can retain events in their memory by being triggered by the patient or member of the family and send them by the internet to the hospital in some cases. They act as a bridge between the ambulatory 24-hour monitor and the implantable loop recorder. They are most effective in those patients with frequent symptoms (daily or several times per week).

Implantable loop recorder (ILR)

What is an ILR?

An ILR is a small thin device that is inserted under the skin to record the rhythm activity of your heart. The ILR monitors and records your heart's electrical activity over a longer period in order to identify an irregular heart rhythm.

Why has my doctor advised an ILR?

If you suffer symptoms of recurrent blackouts/loss of consciousness, palpitations, light headedness, or dizziness, your doctor might advise that you require an ILR.

If your doctor is unable to diagnose what is causing your symptoms with an ECG and a 24 hour monitor, then they may consider an ILR. An ILR is used to monitor your heart rhythms for months at a time if your episodes are less frequent than every 30 days, enabling your doctor to identify what is causing your symptoms and prescribe appropriate treatment if required. The device can remain in place for up to four years.

How do I capture and record an episode?

To capture and record an episode, you are required to place a hand held activator over the ILR and press a button in order for the device to save the information. Ideally this should be done whilst experiencing symptoms.

However, if recovery time is needed first then activate as near to the event as possible. If required a family member or friend can place the activator over the device to save the information. It is important to carry the activator with you so that any episode can be recorded. A recording will then be stored to help your cardiac physiologist to diagnose or rule out abnormal heart rhythms as the cause of your unexplained fainting.

The ILR can be set to automatically detect an abnormal rhythm without using the activator. It is still useful to use the activator when you have symptoms, as this will show the medical staff what your heart rhythm is doing when you are feeling unwell.

ILR implanted

Fainting spell occurs

Patient activates ILR after episode

Doctor analyses data from the ILR. Heart ruled rhythm in or out. Next steps defined

Patient calls to schedule follow up appointment to have data read

How is the ILR implanted?

The insertion of an ILR can be performed as a day case surgical procedure. The ILR is inserted beneath the skin in the chest area or in some circumstances under the arm. The procedure takes approximately 15 – 20 minutes. A local anaesthetic is used to numb the area of skin. Once the device has been positioned under the skin the wound can then be stitched, usually with dissolvable stitches that do not require removal.

If non-dissolvable stitches are used, your nurse will arrange a district or practice nurse to remove them. A small dressing will be applied and you will be advised when to remove it. You may be given a course of antibiotics to minimise the risk of infection. If children require an ILR, a light general anaesthetic may be used.

The wound should be kept clean and dry until it has fully healed, although it is safe to bathe and shower.

Should you encounter any problems you should seek advice from your GP, nurse or cardiac physiologist.

The procedure carries a small risk of bleeding, bruising and infection to the device site and your doctor or nurse specialist will discuss this with you before asking you to sign a form to obtain your consent for the procedure.

What happens after the ILR is implanted?

A cardiac physiologist will program the ILR to the required settings either at or just after the implant, this only takes a few minutes. Programming and data retrieval is done by radiofrequency which passes painlessly through the skin.

Before you are discharged, the physiologist will explain how and when to use your activator. You will also be provided with an information booklet and an ID card. The physiologist will answer any questions you may have.

You may be given the option to have your device followed up remotely. This option is called REMOTE MONITORING and will allow your doctor to see any stored information within your device without you having to travel into the hospital. You can transmit recordings through your phone line from the comfort of your own home very simply and quickly. If you are given this option the cardiac department will explain how to send your information.

Going home

If you experience any difficulties with your ILR, contact the cardiology department where your device was implanted. You will be given a contact number before you are discharged from hospital.

Removing your ILR

Once your heart's activity has been recorded and the doctor is satisfied that any heart rhythm related causes are identified or ruled out, the device can then be removed.

The removal of the ILR is similar to when you had it implanted and can be performed as a day case procedure. You will be given an appointment for a routine follow-up.

Tilt table test

What is a tilt table test?

A tilt table test is used to help establish the cause of fainting and falls. It may also help the doctor to decide the best treatment. A tilt table test allows the doctor to observe changes in your pulse and blood pressure when you go from lying down to standing up and remain up for a period of up to 35 minutes. The test will normally be done as an outpatient. Prior to the appointment your doctor will advise if you need to stop any tablets and whether you should fast.

The test is painless and is used to help identify symptoms and reach a diagnosis. Some hospitals advise that the patient should attend the test with a family member or friend as it may be nicer for the patient to be accompanied home after the test.

Who may need a tilt table test?

Patients who experience symptoms of loss of consciousness (blackouts), dizziness or severe light-headedness may need a tilt table test if a doctor suspects that a drop in blood pressure or heart rate may be involved. Normally blood pressure and heart rate will change according to the body's needs (sleeping or exercising) but if it is thought that your body is not responding properly, causing loss of consciousness (syncope) or symptoms of dizziness and nausea (pre-syncope), then a tilt table test may be requested.

What is involved?

When you arrive, you will be asked to change into a hospital gown and possibly remove any make up. This is so the practitioner monitoring your test can note the pallor of your skin should the test induce a drop in your blood pressure/heart rate. Safety belts will be placed around your body to make you feel secure as you are tilted to an upright position. There will be a footplate at the bottom of the bed to rest your feet.

Electrode stickers and leads will be attached to your chest in order to monitor your heart rate and rhythm during the test. A small cuff to measure your blood pressure will also be placed around your arm or finger. You will feel the cuff inflate and deflate throughout the test. Your tilt table test will be performed in a quiet, warm room and it will be monitored by a medical professional who is experienced in this test.

While you lie quietly on the table, recordings of your blood pressure and heart rhythm will be taken and monitored during the test. The table will then move slowly up and forwards until you are in an almost upright position. The test will last for up to 45 minutes.

Most procedures today will include a drug challenge. You will be supine (lying down) for five minutes, upright at 60 – 70 degrees for around 20 minutes and then a drug such as nitroglycerine may be sprayed under the tongue, whilst the upright position is maintained for a further 15 minutes. This is to improve the sensitivity of the test (make it more likely to give a diagnosis).

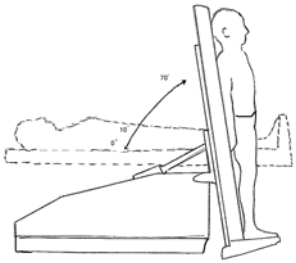
How do you feel during the test?

The symptoms that you may experience during the test include:
Light-headedness, nausea, feeling cold and clammy, sweating, a 'spacey' feeling or the sensation that you are about to faint/blackout (pre-syncope symptoms). If you do lose consciousness (syncope) this normally will only last for a short period of time and the bed will be lowered whilst you recover.

Some people will develop symptoms even though their blood pressure remains normal. This would be considered a negative test but still may be helpful. Others lose consciousness without being aware of having done so. This is also a helpful result. You can ask for the test to be stopped at any time.

How long will the test take?

The length of time the test will take depends on when, or if, you experience a drop in blood pressure or heart rate. Some people will demonstrate this within the first few minutes, whilst others may finish the complete test without any reaction. This would be classed as a negative test. If no response is recorded, the bed will be lowered and the test finished. You will be allowed to fully recover before standing up and getting dressed.



What happens after the test?

If you develop a drop in blood pressure/heart rate with associated symptoms, your test will be classed as positive. You may experience all the usual sensations that occur during and after a natural syncope episode. Even if you have a negative test, it is common to report feeling tired but otherwise fine.

The results of your test will be reported to your doctor. An appointment will be made for you to return to discuss these and any further treatment options that may be appropriate.

Going home

It is recommended that you are accompanied by a friend or relative so they can drive you home after the test. You may also wish to bring a change of clothes as some people may, very occasionally, experience loss of bladder control during the test.

STARS

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Please remember that this publication provides general guidelines only. Individuals should always discuss their condition with a healthcare professional.

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Arrhythmia Alliance
www.heartrhythmalliance.org
Affiliate

If you would like further information or would like to provide feedback please contact STARS.