Epilepsy Action Australia

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DIAGNOSING EPILEPSY

FACT SHEET

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DIAGNOSING EPILEPSY

Epilepsy diagnosis is not always straightforward because seizures tend to happen randomly and are short lived. In-between seizures, tests may be normal.

This is a brief guide to the tests that help diagnose epilepsy. Not everyone will need every test.

Going to the specialist

An important part of epilepsy diagnosis is a good eyewitness description of the seizure(s) and your symptoms.

- If possible, when you have your doctor's appointment, take someone who has seen the seizure(s) or events so they can also be asked questions.
- Many people try and capture a video of a seizure. Sometimes this can be helpful.
- Try to find out if anyone in the family has ever had seizures before.
- The doctor may do routine physical and neurological examination which may include blood tests.
- If epilepsy is suspected, there are some tests that may help to diagnose the condition and possibly establish a cause.
- For more information about episodes that could be misdiagnosed or confused with seizures click here.

! If you've had a seizure and seen a doctor or gone to the emergency department, you'll likely be referred for an EEG and a neurologist appointment.

You may also be sent to other specialists or have further tests to rule out other medical conditions that can look like or cause seizures.

THE EEG

An EEG is one of the main tests used to help diagnose epilepsy. Most people who've had a possible seizure will be referred for an EEG.

An electroencephalogram (EEG) is a recording of the brain's electrical rhythms, so it looks at how the brain is working.

It is a simple, painless and harmless procedure.

Small discs are placed on the surface of the scalp and held in place with temporary paste or a special cap. The brain activity is recorded and may show changes or rhythms that are helpful in diagnosing epilepsy.

An EEG can take up to one hour. You need to be relaxed with your eyes closed for most of the test but may be asked to open and close your eyes, breathe deeply for a few minutes and be exposed to a flashing light. These methods may provoke brain wave changes on the EEG.

An EEG done while asleep can give helpful additional information. This may be requested if your awake EEG is normal.

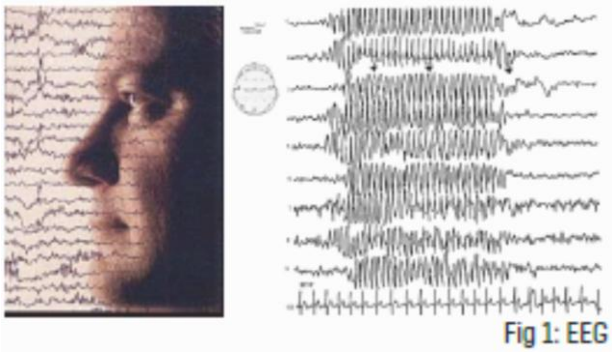
Fig 1: EEG

While many people with seizures or epilepsy have abnormal EEGs, many do not. An EEG is just a snapshot of time, so it's possible for someone with epilepsy to have a normal EEG. Also, occasionally people have an abnormal EEG, but have never experienced a seizure.

TESTS FOR EPILEPSY

EEG ambulatory monitoring (at home)

It is sometimes necessary to have a recording over several days to record an event. This can be done in the home environment.

A compact, portable EEG recorder may be worn. Sometimes video may also be recorded.

This records your brainwaves while you carry out normal activities, day and night.

You will also be asked to keep a diary of any symptoms experienced during this time.

This test can be set up in the clinical setting, then you go home for a few days for the recording process and return to the hospital or clinic to have the device removed.

MRI Scan

Magnetic Resonance Imaging (MRI) looks at the brain structure and produces clear and detailed images of the brain - using strong magnetic fields (no x-rays). MRI may be able to detect lesions or abnormalities in the brain that could be causing seizures.

MRI can be stressful for people who don't like confined spaces.

There is usually a mirror to provide a view, and an intercom to talk with the technician.

During the scan, the machine makes different loud thumping noises, like a jackhammer or drill.

You need to be still during the scan and young children and people with an intellectual disability may require sedation or a light, general anaesthetic. The entire procedure takes 30-60 minutes.

Functional MRI

A functional MRI measures the changes in blood flow that happens when specific parts of the brain are working.

Doctors may use a fMRI prior to epilepsy surgery to identify the locations of critical functions, so the surgeon can avoid those locations during surgery.

! Many tests for epilepsy may be normal. This does not mean you do not have epilepsy. Diagnosis can take time.

Visit our website

Contact us:

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Book a telehealth appointment with an epilepsy nurse