

2 Diagnosing epilepsy

Is it epilepsy?

- People can have seizures, faints or “funny turns” for many different reasons—epilepsy is just one of them.
- All of the above can be difficult to diagnose.
- It is therefore important to ask your GP to refer you to a doctor who specialises in the diagnosis and treatment of epilepsy.
- The specialist (epileptologist) could be a neurologist, clinical pharmacologist, psychiatrist or general physician.
- It helps if the specialist can speak to someone who has seen what happens. If possible, take an eye witness to your appointment.
- An early and accurate diagnosis is important to:-
 - enable people to come to terms with the diagnosis
 - ensure appropriate treatment and support
 - enable appropriate information to be given on epilepsy, lifestyle and risk reduction
 - promote prospects for best quality of life.
- However, an early diagnosis is not always possible—tests may be inconclusive and time may be needed to record and monitor further events to enable a fuller assessment before confirming a diagnosis.

The tests

- There is no single test to confirm or rule out a diagnosis of epilepsy. Tests are a tool or a guide to formulating a complete picture. Most of them will take place in a hospital setting.
- In most cases of suspected epilepsy an EEG test is likely to be recommended. Other tests are likely if early tests are inconclusive and seizure activity continues.
- Not everyone will need any or all of the tests described below.
- **EEG (Electroencephalograph)** - traces the brain’s electrical activity and can identify disruptions. EEG is the most frequently used test. It takes up to an hour and is pain free.

- **MRI Scan** (Magnetic Resonance Imaging) - uses magnetic fields and radio waves to penetrate the brain in a non-invasive way to identify very small lesions and scars in the brain. It is very useful in cases where surgery is a possibility.
- **CT Scan** (Computer Assisted Tomography) - X-rays of the brain are taken, providing cross-section images of the brain, which are stored on a computer. Sometimes a dye is injected into a vein to enhance images and highlight suspected areas of brain damage.
- **Ambulatory EEG**—the person wears a tape cassette recorder to provide up to several days' and nights' recording of the brain's electrical activity.
- **Video telemetry**—simultaneous EEG recording of the brain's electrical activity and video recording of seizures.
- **PET Scan** (Positron Emission Tomography) - a non-invasive process that creates 3-dimensional images of the brain. EEG is used during a PET Scan.
- **SPECT Scan** (Single Photo Emission Tomography) - similar process to PET scan, it highlights "hot spots" of seizure activity. No EEG is used.

Steps to an accurate diagnosis

- Person's own account of what happened.
- Written and verbal eyewitness accounts of what happened before, during and after the episode.
- Initial medical assessment by GP as soon as possible after the episode.
- Investigation by epilepsy specialist (epileptologist).
- Detailed medical history of the person and their family.
- Appropriate diagnostic tests.
- Close monitoring by individual/family/carer following the episode.
- Written record and if possible home video of all subsequent unusual activity, e.g. behaviour, feelings, sensations, movements, faints, funny turns, seizures.
- Understanding that an accurate diagnosis may take time to determine.

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