

(5) Parents: Diagnosing epilepsy

Your child's GP or A&E department at your local hospital are usually your first point of contact after a suspected seizure.

Your child's GP or A&E doctor will want a detailed account of what happened before, during and after a suspected seizure. The more information about your child's suspected seizure you can give, the quicker a diagnosis can be made. A mobile phone recording of the seizure can also be helpful. Write down everything you observed while it is still fresh in your mind as stressful situations can often make you forget important points.

Appointment with the specialist

Once the doctor has ruled out other causes for the suspected seizure, your child should be referred to a specialist. This is usually a paediatric neurologist or paediatrician with expertise in epilepsy at your hospital or nearest paediatric clinic.

The specialist will take your child's medical history and will look at other possible causes such as a faint or a breath-holding attack, which can sometimes be confused with a seizure. They will want to know details of what happened before, during and after the episode such as:

- ✧ What happened just before the episode? Where was your child, what was your child doing just before?
- ✧ What time of day was it?
- ✧ Was your child tired?
- ✧ Did your child have a fever or other illness?
- ✧ Did you notice a change in your child's mood before the episode? Was your child unusually quiet, anxious or excited?
- ✧ Did your child tell you they were feeling unwell?

- * Did they mention anything else to you, such as smelling, tasting or hearing anything unusual?
- * What happened during the episode?
- * What happened afterwards?
- * How long was it before your child felt well again?

You will want to make the most of your time with the specialist at hospital but having a small child with you can often make this difficult. A favourite toy, game, colouring in book, tablet or smartphone can help keep your child occupied while you talk to the specialist.

What tests will be done?

There is no single test to diagnose epilepsy. The specialist will largely base a diagnosis on your account of what happened. An EEG (electroencephalogram) can help with a diagnosis if the specialist suspects epilepsy. Other tests such as an MRI scan can also help find the possible cause and type of epilepsy or rule it out. This will allow the specialist to choose the most suitable treatment for your child.

None of the tests mentioned below are painful.

EEG (electroencephalogram)

An EEG records the electrical activity in the brain which is shown on a screen or printed on paper. It usually takes around 45 minutes. Other EEG types, such as a **sleep-deprived EEG**, may be necessary. The child is deliberately kept awake before the test, and once the EEG starts, ideally the child will fall asleep, which can sometimes show up more useful information, helping with the diagnosis of epilepsy. Another type of EEG is **video telemetry**. A camera records any seizure or episode the child has while the EEG machine records the brain's electrical activity at the same time.

Brain scans

These show the structure of the brain but not all children will need a brain scan. Whether this is needed will depend on what type of seizure the specialist thinks your child has had. The scan will show if there is anything that could be causing seizures such as a tumor or scarring from a head injury. There are two main types of brain scan – **CT / CAT** (computed tomography/ computer-assisted tomography) and **MRI** (magnetic resonance imaging) scans. MRI scans are much more detailed than CT /CAT scans and most children will have an MRI rather than a CT / CAT scan. A brain scan will last approximately 15 to 35 minutes.

During a brain scan, the child has to lie very still in an enclosed space. Most scanning departments will offer headphones so that the child can listen to music to keep them calm and drown out the noise of the scanner. If a child, particularly a younger child, is unable to lie still, a general anaesthetic may be given.

ECG (electrocardiography)

An ECG (electrocardiography) test is sometimes done to rule out other causes of seizures, such as an irregular heartbeat.

Blood tests

A blood test may be done to rule out chemical imbalances or vitamin deficiencies. It may also be done to check liver function before starting the child on anti-epileptic drugs.

Where will the tests be done?

Most hospitals will be able to carry out this kind of assessment. The more complex assessments are usually done at epilepsy specialist centres.

If your child is 16 or over, residential assessments for more complex epilepsies can be carried out at the William Quarrier Scottish Epilepsy Centre

www.scottishepilepsycentre.org.uk. A younger child can be referred to one of two

specialist centres in England. A consultant will need to make any such referral as their health board area has to cover the cost. A referral to an assessment centre is usually only done at a much later stage if more in-depth tests are required.

Genetic testing

Over the past decade there has been significant progress in identifying genes linked to certain types of epilepsy. Scientists hope that learning about the cause of these epilepsies will improve treatment. Your child's specialist will advise whether genetic testing would be appropriate for your child.

Could it be something else?

A seizure can have many different causes. The following conditions can easily be confused with epilepsy by a non-medical person:

Syncope (fainting)

This usually happens when the blood flow to the brain is reduced. It can often cause shaking or jerking. In rarer cases, it can also have other causes, such as a heart problem.

Migraine

Many symptoms for focal seizures such as experiencing strange smells, or visual disturbances can be the same for migraines. A doctor or specialist will be able to tell whether it is epilepsy or a migraine, but this can sometimes be unclear.

Breath-holding attack

This is a common cause for non-epileptic seizures in young children. They happen when a child becomes upset or has hurt themselves. It starts with crying, followed by breath-holding. The child can become floppy and lose consciousness. This is quite common and there are usually no underlying health conditions, such as

epilepsy. There is no treatment required for most children.

Non-epileptic attack disorder

This is also known as non-epileptic seizures. These seizures usually have a psychological cause. The reasons for this should be explored by a psychologist or psychiatrist who will support the child to manage these seizures. To the non-expert, they can look the same as epileptic seizures and it sometimes takes a while for this to be diagnosed. A child's epilepsy specialist nurse can often help parents and schools to deal with these episodes. These seizures are more common in teenagers and can occur in children who also have epileptic seizures.

Febrile seizures

Some young children have a seizure as a result of a high temperature. This is known as a febrile seizure or convulsion and is fairly common. Although they are the same as an epileptic seizure, they are not classified as epilepsy. A small proportion of children who have febrile seizures will also develop epilepsy.