

EPILEPSY

Patient Information Fact Sheet

What is epilepsy?

Epilepsy is a disease of the central nervous system (CNS) that can cause excess electrical activity in the brain. This excess activity can lead to sudden loss of consciousness, often accompanied by abnormal sensations or movements. These episodes are usually referred to as seizures. In the U.S., around 3 million people are thought to suffer from epilepsy. The disease affects people of all ages; many develop epilepsy in childhood and people over the age of 60 are also more likely to develop the condition. Although epilepsy is often thought of as a single condition, there are in fact as many as 40 different types of seizures. Seizures are individual and affect everyone differently. Recovery time after a seizure will also vary from person to person.

There are two different categories of epilepsy: idiopathic epilepsy, where there is no clear cause for the epilepsy; and symptomatic epilepsy, which results from some abnormality in the brain that is present at birth or occurs later.

What are the symptoms of epilepsy?

The occurrence of a single seizure does not necessarily indicate that a person has epilepsy. However, if a person has a tendency to experience regular seizures, then this may be epilepsy. Tests can be carried out to confirm whether or not this is the case. There are many different types of seizures; some of the more common are listed here:

Tonic-clonic seizures. These used to be called “grand-mal” and are the most common type. These are generalized seizures and involve the whole brain and can last a few minutes, although the person may sleep for several hours afterwards. Typically, during a tonic-clonic seizure, the person will go stiff, fall to the ground, and then remain still before slowly coming round. In most cases, there is no warning that a seizure is about to occur.

Absence seizures. Previously known as “petit-mal” fits, these seizures occur commonly in children. As the name suggests, these seizures cause a momentary lapse or absence of awareness, and the child may appear as if he or she is daydreaming. Girls are more often affected than boys. Often the child will grow out of this type of epilepsy, although in some cases they will go on to develop tonic-clonic seizures later in life.

Partial seizures. During a simple partial seizure the person remains conscious. This type of seizure affects a particular part of the brain and can cause different symptoms depending on which area of the brain is affected. Symptoms can include twitching, numbness and disturbances of hearing, vision, smell or taste. During a complex partial seizure (also



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known as temporal lobe epilepsy), the person's consciousness is impaired and they may not be aware of their actions. They may not remember the seizure, or their memory of it may be confused. Complex partial seizures can cause symptoms such as chewing and swallowing, repeatedly scratching the head or searching for an object. Occasionally, a person may wander off, recovering full awareness minutes or even hours later, unable to remember anything. Partial complex seizures can spread to the rest of the brain, becoming a secondary generalized tonic-clonic seizure.

Sleep seizures. These are often missed as they occur while the person is asleep and are not witnessed by others.

Status epilepticus. While fairly rare, it is a medical emergency. This is a prolonged seizure or a series of seizures occurring without any recovery in between. Immediate medical treatment is necessary to stop the seizures.

What causes epilepsy?

Six out of 10 people have idiopathic epilepsy, that is, epilepsy of no known cause. Symptomatic epilepsy has an identifiable cause such as brain damage at birth, a stroke, meningitis or very occasionally, a brain tumor. The tendency for seizures can run in families.

Most seizures can occur at any time but in some people with epilepsy, seizures can be triggered by certain events. Common triggers include: stress; anxiety or excitement; late nights and lack of sleep; illness; hormonal changes, such as at puberty, menopause and pregnancy; diet, particularly a lack of food leading to low blood sugar; and alcohol. About 5% of people with epilepsy are affected by patterns of light such as on a TV screen or when playing video games.

It is possible to suffer a seizure that is not caused by epilepsy. Young children and babies can have febrile convulsions that are caused by high fevers rather than epilepsy. Long-term abuse of alcohol can also cause seizures.

What tests confirm a diagnosis of epilepsy?

A single seizure does not necessarily indicate epilepsy, but if you have more than one, you will be referred to a neurologist who may arrange a number of painless tests. An electroencephalogram (EEG) monitors the electrical activity of your brain. It takes less than 30 minutes and indicates the activity in the brain at that particular time. Sometimes you may be given a small monitor to measure your brain waves over 24 hours. This is known as ambulatory monitoring. A computerized tomographic (CT) scan can show up any areas of damage to the brain that could be causing the epilepsy. A magnetic resonance imaging (MRI) scan is a more sophisticated version of a CT scan. In addition, a blood sample will usually be taken to check your overall health and to look for any other possible causes of the epilepsy.



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How is epilepsy treated?

Drug therapy can control seizures completely in up to 80% of people. It may be necessary to take the medication(s) for a number of years, but treatment can often be stopped when you have been free from seizures for two or more years. Treatment must not be stopped suddenly as this can trigger a seizure. Your doctor will wean you off your medicine slowly to prevent this.

For a few people, drug treatment is not able to control their epilepsy completely, but is still beneficial in preventing some seizures. Neurosurgery may be a possibility for those people whose epilepsy is caused by an abnormality in one particular area of the brain.

The dosages of drugs given need to be adjusted to individual patients in order to avoid unwanted side effects such as drowsiness. The ideal dosage is the lowest dose necessary to stop the seizures occurring. Drugs that may be given include **carbamazepine** (Tegretol), **clonazepam** (Klonopin), **ethosuximide** (Zarontin), **gabapentin** (Neurontin), **lamotrigine** (Lamictal), **oxcarbazepine** (Trileptal), **phenytoin** (Dilantin), **primidone** (Mysoline), **valproate sodium** (Depacon), **acetazolamide** (Diamox), **tiagabine** (Gabitril), **topiramate** (Topamax), **valproic acid** (Depakene), **divalproex sodium** (Depakote), **vigabatrin** (Sabril), **levetiracetam** (Keppra), **pregabalin** (Lyrica) and **zonisamide** (Zonegran).

Regular check-ups are necessary in people taking long-term drug therapy. These may be carried out in hospital for people whose epilepsy is difficult to control.

Self-help measures

- Try to avoid the known trigger factors for seizures. This may mean eating regular meals, trying to control stress, avoiding becoming overtired, and taking your medication regularly.
- Always tell the pharmacist you are taking medication for epilepsy before buying over-the-counter (OTC) medicines. Some of these can interact with your treatment.
- If your epilepsy cannot be controlled completely, try to think about safety in your surroundings and possible changes you can make.
- Try not to let epilepsy prevent you from doing everyday things in your life, most people with epilepsy lead full and active lives.

Further information

Epilepsy Foundation: www.epilepsyfoundation.org

Last reviewed: May 2011



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