

If you are evaluated for suspected seizures or epilepsy, your doctor will seek to answer several questions:

- Have you had an epileptic seizure or something else?
- What is the cause? If a cause is identified, can it be treated?
- What is the seizure type?
- What is the outlook?

To answer these questions, your doctor will need to take a detailed medical history, including major illnesses or injuries you have suffered and medications you have taken or are currently taking. Your doctor will also need to know about family members who have had seizures or other similar conditions and any medications they are taking.

Diagnostic Steps

Important questions that you should prepare for include:

- At what age did the seizures begin?
- What circumstances surrounded your first seizure?
- What factors seem to bring on the seizures?
- What do you feel before, during and after the seizures?
- How long do the seizures last?
- Have you been treated for epilepsy before?
- Which medications were prescribed and at what dosages?
- Was the treatment effective?

Others who have seen you when you had a seizure, such as family and close friends, should be present to provide details because you may not have been aware of what was happening.

As part of the evaluation, your doctor will need to perform a number of tests, including:

- a complete physical and neurological examination of muscle strength, reflexes, eyesight, hearing and ability to detect various sensations.
- imaging studies of the brain, such as those provided by magnetic resonance imaging (MRI).
- blood tests to measure red and white blood cell counts, blood sugar, and blood calcium and electrolyte levels, and to evaluate liver and kidney function. Blood tests help rule out the presence of other illnesses.
- an electroencephalogram (EEG), which measures electrical impulses in the brain.

The EEG is an especially important part of the evaluation because seizures are defined by abnormal electrical activity in the brain. This test is useful not only to confirm a diagnosis of epilepsy, but also to determine the type of epilepsy. However, it is not uncommon for routine outpatient EEGs to be normal in patients with epilepsy. Repeat EEGs after sleep deprivation can increase the chance of finding an abnormality.

When routine outpatient EEG studies fail to provide the needed information, prolonged EEG monitoring may be necessary. This approach involves continuous EEG recording of brain activity, with simultaneous visual and audio monitoring of body movements and behavior. Prolonged monitoring is the definitive way to diagnose epilepsy because it increases the likelihood that you will be observed during a seizure. This type of EEG may require you to spend several days in a special hospital facility.

Confirming the Diagnosis

Only with complete information can your doctor come to a diagnosis. Sometimes, the tests reveal an abnormality that serves to confirm the diagnosis of a seizure disorder. Many other times, however, the diagnosis must be based on historical features alone. When there is uncertainty, repeat testing may be required.

Conditions that can be confused with epilepsy include fainting (syncope), sleep attacks, anxiety spells and non-epileptic seizures, among others. Getting the right diagnosis is critical because the treatments for these conditions differ from those for epilepsy. Often, an alternative diagnosis is obtained only after seizure-like attacks do not respond to treatment with seizure medications, prompting further testing.

Defining the seizure type requires all available data as well, and is possible in a majority of patients. Knowing the seizure type helps your doctor narrow the choice among anti-epileptic medications.

The more information obtained, and the more accurate the diagnosis of seizure type and epilepsy syndrome, the more likely your doctor can help you know what to expect in terms of treatment length and outcome. Nevertheless, even the most experienced epilepsy specialist will admit that, while we have some knowledge of how certain types of epilepsy affect an average group, it is very difficult to give exact information on an individual.



A patient in Cleveland Clinic's Epilepsy Center (left) undergoes monitoring of electrical activity in the brain. Another diagnostic tool that Cleveland Clinic offers is magnetoencephalography (right), which records and analyzes brain function by measuring magnetic fields produced by electrical activity.

Contact Us

If you have questions or wish to schedule an appointment, please call **866.588.2264**, or visit clevelandclinic.org/epilepsy.



Cleveland Clinic Neurological Institute

The Epilepsy Center is part of the Cleveland Clinic Neurological Institute, a multidisciplinary institute that combines more than 250 medical, surgical and research specialists dedicated to the diagnosis and treatment of adult and pediatric patients with neurological and psychiatric disorders. This structure allows for a disease-specific, patient-focused approach to care. Our unique, fully integrated model is beneficial to our current standard of care, allows us to measure quality and outcomes on a continual basis, and enhances our ability to conduct research.