Epilepsy

A seizure (*convulsion*) is a sudden change in brain function that causes a change in behavior, muscle activity, or ability to remain awake and alert. If a person has recurring seizures, this is called epilepsy.

CAUSES

Epilepsy is a disorder with many possible causes. Anything that disturbs the normal pattern of brain cell activity can lead to seizures. Seizure can be caused from illness to brain damage to abnormal brain development.
Epilepsy may develop because of:

- An abnormality in brain wiring.
- An imbalance of nerve signaling chemicals (*neurotransmitters*).
- Some combination of these factors.

Scientists are learning an increasing amount about genetic causes of seizures.

SYMPTOMS

The symptoms of a seizure can vary greatly from one person to another. These may include:

- An aura, or warning that tells a person they are about to have a seizure.
- Abnormal sensations, such as abnormal smell or seeing flashing lights.
- Sudden, general body stiffness.
- Rhythmic jerking of the face, arm, or leg – on one or both sides.
- Sudden change in consciousness.
  - The person may appear to be awake but not responding.
  - They may appear to be asleep but cannot be awakened.
- Grimacing, chewing, lip smacking, or drooling.
- Often there is a period of sleepiness after a seizure.

DIAGNOSIS

The description you give to your caregiver about what you experienced will help them understand your problems. Equally important is the description by any witnesses to your seizure. A physical exam, including a detailed neurological exam, is necessary. An EEG (*electroencephalogram*) is a painless test of your brain waves. In this test a diagram is created of your brain waves. These diagrams can be interpreted by a specialist.
Pictures of your brain are usually taken with:

- An MRI.
- A CT scan.

Lab tests may be done to look for:

- Signs of infection.
- Abnormal blood chemistry.

PREVENTION

There is no way to prevent the development of epilepsy. If you have seizures that are typically triggered by an event (such as flashing lights), try to avoid the trigger. This can help you avoid a seizure.

PROGNOSIS

Most people with epilepsy lead outwardly normal lives. While epilepsy cannot currently be cured, for some people it does eventually go away. Most seizures do not cause brain damage. It is not uncommon for people with epilepsy, especially children, to develop behavioral and emotional problems. These problems are sometimes the consequence of medicine for seizures or social stress. For some people with epilepsy, the risk of seizures restricts their independence and recreational activities. For example, some states refuse drivers licenses to people with epilepsy.

Most women with epilepsy can become pregnant. They should discuss their epilepsy and the medicine they are taking with their caregivers. Women with epilepsy have a 90 percent or better chance of having a normal, healthy baby.

RISKS AND COMPLICATIONS

People with epilepsy are at increased risk of falls, accidents, and injuries. People with epilepsy are at special risk for two life-threatening conditions. These are status epilepticus and sudden unexplained death (extremely rare). Status epilepticus is a long lasting, continuous seizure that is a medical emergency.

TREATMENT

Once epilepsy is diagnosed, it is important to begin treatment as soon as possible. For about 80 percent of those diagnosed with epilepsy, seizures can be controlled with modern medicines and surgical techniques. Some antiepileptic drugs can interfere with the effectiveness of oral contraceptives. In 1997, the FDA approved a pacemaker for the brain the (*vagus nerve stimulator*). This stimulator can be used for people with seizures that are not well-controlled by medicine. Studies have shown that in some cases, children may experience fewer seizures if they maintain a strict diet. The strict diet is called the ketogenic diet. This diet is rich in fats and low in carbohydrates.

HOME CARE INSTRUCTIONS

- Your caregiver will make recommendations about driving and safety in normal activities. Follow these carefully.
- Take any medicine prescribed exactly as directed.
- Do any blood tests requested to monitor the levels of your medicine.
- The people you live and work with should know that you are prone to seizures. They should receive instructions on how to help you. In general, a witness to a seizure should:
  - Cushion your head and body.
  - Turn you on your side.
  - Avoid unnecessarily restraining you.
  - Not place anything inside your mouth.
  - Call for local emergency medical help if there is any question about what has occurred.
- Keep a seizure diary. Record what you recall about any seizure, especially any possible trigger.
- If your caregiver has given you a follow-up appointment, it is very important to keep that appointment. Not keeping the appointment could result in permanent injury and disability. If there is any problem keeping the appointment, you must call back to this facility for assistance.

SEEK MEDICAL CARE IF:

- You develop signs of infection or other illness. This might increase the risk of a seizure.
- You seem to be having more frequent seizures.
- Your seizure pattern is changing.

SEEK IMMEDIATE MEDICAL CARE IF:

- A seizure does not stop after a few moments.
- A seizure causes any difficulty in breathing.
- A seizure results in a very severe headache.
- A seizure leaves you with the inability to speak or use a part of your body.

MAKE SURE YOU:

- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

Adapted from The National Institute of Neurological Disorders and Stroke

Document Released: 12/18/2006 Document Re-Released: 10/15/2010
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