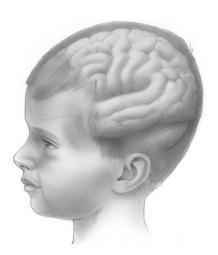
Let's Talk ABOUT...

A child has a **seizure** when brain cells (called neurons) send uncontrolled messages over and over. This is called "misfiring." This may cause a sudden change in a person's consciousness, behavior, actions, or sensation. The person is cannot control these changes.

Epilepsy (EP-ih-lep-see) is when a person has one or more seizures and they do not go away over time. It is also called a "seizure disorder".

Seizures and epilepsy are common. About 1 out of 25 persons have at least one seizure. About 1 in every 100 people has a seizure disorder. Seizures are more common in children and elderly adults. Famous people like Socrates, Tchaikovsky, and Julius Caesar had seizures. The seizure disorder did not prevent them from having a full life.



What are the types of seizures?

There are two types of seizures:

- **1.** In **generalized seizures** the whole brain misfires. Two common types are:
 - **Convulsive seizures** (often called "tonic-clonic" or "grand mal"). These are

Seizures

- generalized seizures that cause stiffening, jerking, limp arms and legs, loss of consciousness, and sometimes loss of bowel and bladder control.
- **Absence seizures** (also called "petit mal"). These are very short, generalized seizures that cause a complete loss of consciousness without a convulsion. The eyes may flutter, blink or have a blank stare.
- **2. Partial seizures** are seizures where only one part of the brain misfires. Some of the common partial seizures are:
 - **Simple partial** (also called "focal"). These cause one-sided jerking, numbness, or limpness. Only one part of the body is affected and consciousness does not change.
 - Complex partial (also called "psychomotor"). These seizures cause a change in consciousness (such as a trance-like state) and a series of automatic movements or behaviors, followed by confusion.

Other problems that may be seizures include staring, brief jerks, brief falls, jack-knifing, and infantile spasms (sudden total body jerks or stiffening spells that happen in clusters in infants under 18 months of age).

What causes seizures?

Seizures are a symptom of an underlying problem. Most seizures can be treated and they are not caused by serious brain problems. Most seizures in children are called "idiopathic." This means:

- The doctor cannot find a definite cause.
- The child can outgrow the seizures.
- The seizures do not cause other problems with the brain.
- The seizures may be passed on within the family.

Other seizures may be caused by a variety of brain disturbances or neurologic diseases. These may include:

- Metabolic problems (chemical imbalances)
- Infections (such as meningitis or encephalitis)
- Abnormal brain development
- Brain injury
- Rarely, difficulties at birth or very early in a baby's life

What tests will my child have?

Your child's doctor will want to know the cause of your child's seizures, so he can treat your child properly. For example, if the seizures are caused by bacterial meningitis, the doctor will treat your child with antibiotic medicine. Your child may need seizure medicine. Every child is different, so her doctor will choose tests needed to find the cause of the seizures and decide the best treatment. In general, the doctor will include the following:

- Medical history: The doctor will ask about your child's past and present health and the seizures. It is important to provide the doctor with as many details as you can.
- Physical exam: The physical exam helps the doctor learn about your child's general health, especially about her nervous system.
- **Developmental exam:** The doctor will ask questions about your child's development such as when she started sitting, crawling, standing, walking, and talking. The doctor will also see how well your child performs some simple tests. These tests are not painful, and give the doctor useful information about your child's nervous system.
- Laboratory tests: Your child will have blood, urine, and sometimes spinal fluid tests to look for chemical imbalance, infection, and other problems that cause seizures. The doctor will try to do only the lab tests your child needs. The doctor may also choose some of the following tests to find out exactly what is happening in your child's brain:

- **Electroencephalogram (EEG):** The EEG may help the doctor learn about what type of seizure your child has and what part of the brain it comes from. Your child will have small disks attached to wires placed on her head to measure electrical waves in her brain. Some children with normal EEGs have seizures and some children with abnormal EEGs do not have seizures. The EEG is not painful, and there is no risk of injury. See the handout *Let's Talk About ... Electroencephalogram (EEG)* for more information.
- CT scan: The CT scan is an x-ray of the brain. It creates a picture of the brain and lets the doctor look for causes of the seizures.
- MRI scan: The MRI scan uses magnetic energy instead of an x-ray to create a picture of the brain. It creates a clearer picture than the CT scan, and in some cases gives better information.

How are seizures treated?

If there is a problem such as a head injury or infection causing the seizures, the doctor will treat those problems. Many children with seizures need medicines to control the seizures. If the first seizure is not severe, your doctor may not order medicine if your child probably will not have another seizure. If your child needs a medicine, then your doctor will choose one based on the type of seizure your child has.

All medicines can have side effects and your child's doctor will select the best medicine for your child with the least side effects.

There are other new ways to treat seizures, but these are not usually recommended until other options have been tried. These include:

- **Vagal (VAY-gul) nerve stimulation.** This is done by a small device placed in the chest that sends an electrical impulse to the vagal nerve in the neck to prevent seizures.
- Surgery



 A special diet called a ketogenic (key-toe-JENick) diet.

Ask your doctor about these treatments if you want more information.

How do I make sure my child is safe?

The seizure itself is rarely a major hazard to a child. The hazards depend on what your child is doing when a seizure happens. If seizures are under control for several months, most activities are safe. It is important not to overprotect a child with seizures. Try the following suggestions to make sure your child is safe:

- Have your child take showers instead of baths to prevent drowning, and lower the temperature of your water heater. During baths, a child of any age who has seizures needs to have constant supervision by an adult.
- Do not allow a child with seizures to swim until
 they have had no seizures for three months.
 They should always be well supervised by a
 responsible adult strong enough to pull your
 child out of the water in an emergency. If your
 child swims in a lake, always have her wear a
 life jacket.
- Bike riding in traffic is dangerous for any child, but especially for children with seizures. After

- your child has no seizures for several months, she can ride her bike in non-traffic areas. Always have her wear a helmet!
- Skiing or any other activity that poses a risk to your child's safety should be avoided until your child's doctor Okays them. This is usually after seizures are controlled for three or more months. Call your doctor if you are unsure about an activity.

How do I help my child if she is having a seizure?

- Help her lay on her right side and turn her head to the side if possible, so that saliva or vomiting doesn't result in choking
- Keep objects away from her face to help breathing and prevent injury.
- **Do not** try to put anything into her mouth or between her teeth. Your child cannot swallow her tongue and tongue biting is rare. If you place an object in her mouth, it may break teeth, causing them to lodge in the lung, which could cause serious problems.
- Protect your child from banging her head or body against sharp or hard objects. If possible, place something soft and flat under her head.
- Do not restrain flailing arms or legs.

If a seizure lasts more than 5 minutes, or seizures are continuous, call the paramedics for transport to the hospital.

After the seizure...

- Allow your child to lie quietly until she wakes up.
- Reorient her to her surroundings and recent events if necessary.
- If your child is not breathing, call 911 and start CPR.
- Record an accurate description of the seizure.
 Include the length of the seizure, and the activity before, during, and after the seizure.
 This helps you and your child's doctor monitor the seizures.
- Call your child's doctor to report the seizure activity.

Are there complications to seizures?

Physical or mental complications from seizures are very rare. Seizures may be a sign of an underlying problem. Physical, mental, or emotional complications are usually caused by the underlying problem.

At times, side effects from seizure medicines may make a learning or behavior problem worse. If you see changes in behavior or learning, or you have concerns about behavior, intelligence, or learning, let your doctor and appropriate school personnel know.

Where can I get more information?

You can get more specific information from your child's doctor.

Information can also be requested from:

The Epilepsy Foundation of America

Phone: 1-800-EFA-1000

Web: http://www.epilepsyfoundation.org/

