

Seizures: Focal (Partial)

Seizures occur when nerve cells in the brain send out sudden, excessive, uncontrolled electrical signals. Focal seizures occur when nerve cells in a **part** of the brain are involved. The

way the child acts during a focal seizure depends on the area of the brain that is affected (See page 2). The right side of the brain controls the left side of the body. Therefore, a seizure involving the right side of the brain will affect the left side of the body. A seizure involving the left side of the brain will affect the right side of the body.

During a focal seizure sometimes a child knows what is happening and is somewhat aware of his or her surroundings. He may be able to describe what happened. This type of focal seizure may be referred to as a simple partial seizure. Some things that may happen with this type of seizure are:

- Jerking of the arms or legs on one side of the body
- Tingling or other unusual feeling on one side of the body
- Turning of the head or eyes to one side
- A fearful or "pained" look on the child's face

Sometimes during a focal seizure a child does not know what is happening. The child is not aware of his surroundings. This type of focal seizure may be referred to as a complex partial seizure. When it is over, he usually does not know anything unusual has happened. Some things you may see a child do who is having this type of seizure are:

- Staring into space
- Chewing motions
- Wandering around the room without any purpose
- Picking at his clothing
- Trying to grab for objects out of the air
- Saying words that do not make sense
- Being unable to respond to you

Before this type of seizure, the child may sense a seizure is about to happen. This "sense" or feeling is called an "aura." The aura may be a particular smell and unpleasant taste, seeing flashing lights, a racing heartbeat, feeling "funny," stomach discomfort, headache or dizziness.

After the seizure, the child becomes limp. He may have weakness of one part of his body. He may urinate, have a bowel movement or vomit. This is the start of the post-ictal phase. During this time, the child may be confused, in a "fighting" mood, or hard to wake up, or he may sleep for several hours. When the child wakes up he may not remember anything about the seizure and may complain of tiredness, headache, or sore muscles.

NOTE TO HEALTH PROFESSIONAL

Please also give the Helping Hand: **Seizure Care**, HH-I-61, when using this Helping Hand.

Focal seizure that becomes generalized

A focal seizure that becomes generalized begins with one part of the body and then spreads to the entire body. Unless you watch closely, it may look like the child has had a generalized (whole body) seizure because the focal seizure may be so short that it is missed.

This type of seizure begins with nerve cells having extra discharges in one part of the brain. This then spreads and affects the whole brain. For a more detailed description of the various types of generalized seizures, refer to Helping Hand HH-I-182, *Seizures: Generalized*.

When to get emergency help

It is important to remember that seizures usually stop on their own in a few minutes and do not cause brain damage, unless they last for more than 30 to 60 minutes. However, you should call for emergency help if any of the following occurs:

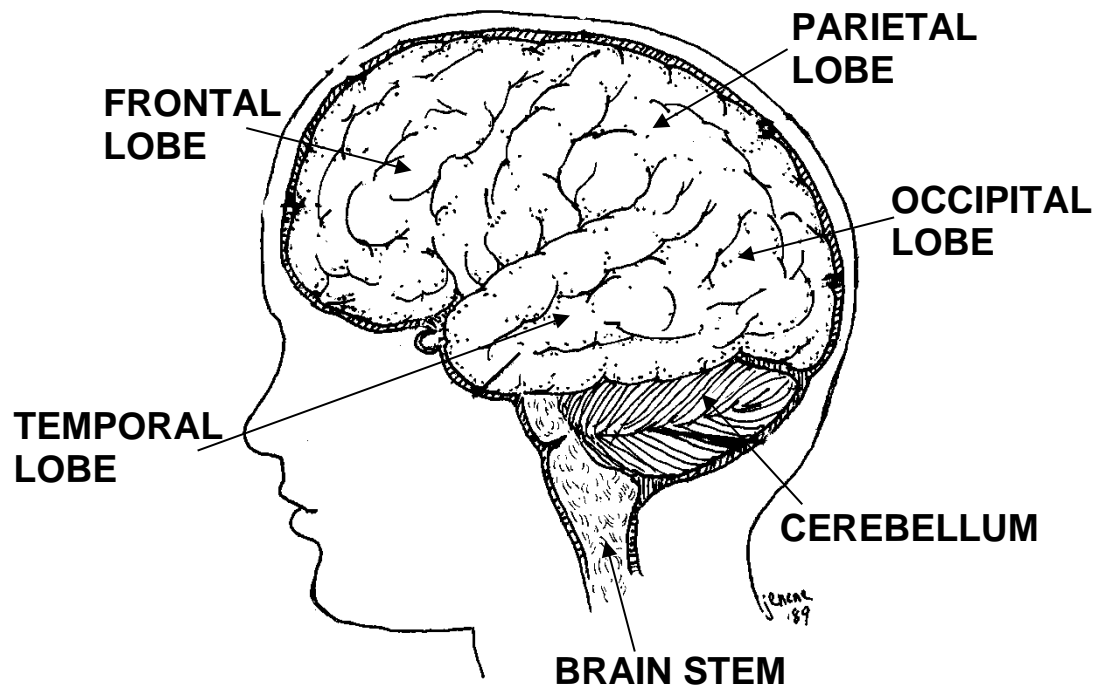
- Your child has trouble breathing during the seizure and the child's color changes.
- The seizure lasts more than 5 minutes, and you do not have a seizure rescue medicine.
- Your child chokes on secretions (blood, vomit, etc.).
- Your child is injured during a fall or during the seizure and requires first aid (a bad cut, broken bone, etc.).

Have someone stay close to your child after the seizure. Within 30 minutes you should be able to get some response from him, such as opening his eyes, pushing you away or beginning to arouse. If you cannot get any response from your child within 30 minutes after the seizure, you should get emergency help.

For more information on how to care for your child during a seizure, refer to Helping Hand HH-I-61, *Seizure Care*.

If you have any questions, please ask your child's doctor or nurse or call _____.

If you need to speak with someone after regular office hours, call the hospital operator at (614) 722-2000 and ask to speak with the neurology physician on call.



Picture 1 Side view of the brain showing its various parts. What you see during a focal seizure depends on the part of the brain involved.

Parts of the brain and their functions

The brain is divided into two halves called the right and left cerebral hemispheres:

- The **left** side of the brain controls the **right** side of the body.
- The **right** side of the brain controls the **left** side of the body.

Each part of the brain controls a different activity.

Frontal (FRON-tal) lobe - Controls muscle movements, thinking, and judgment.

Parietal (pah-RIE-eh-tal) lobe - Controls sense of touch, response to pain and temperature.

Occipital (ok-SIP-eh-tal) lobe - Controls vision.

Temporal (TEM-por-al) lobe - Controls understanding of language and memory.

Cerebellum (ser-eh-BELL-um) - Controls balance.

Brain stem - Controls breathing and regulates heartbeat.