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## What is Epilepsy?

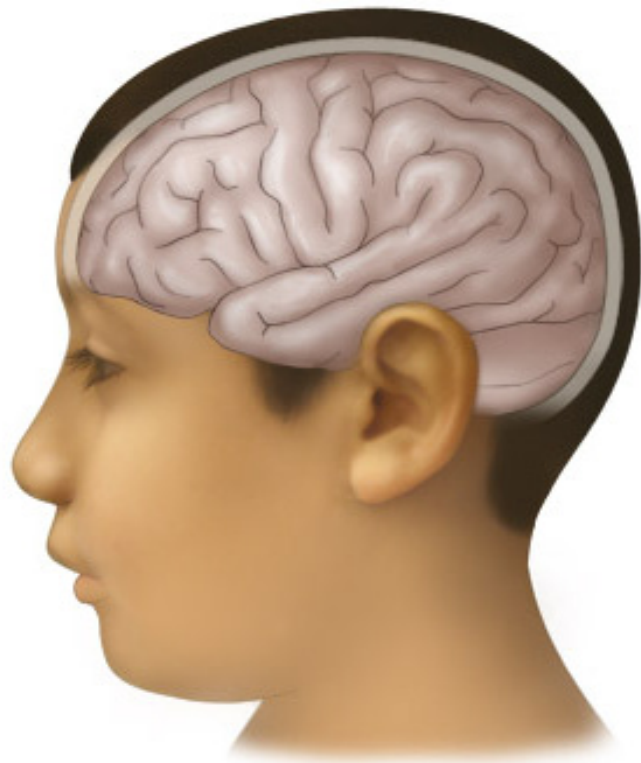
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Epilepsy is having seizures over and over again.

A seizure is repeated abnormal bursts of electricity in the brain.

So, children with epilepsy have repeated abnormal bursts of electricity in their brain over and over again.

The seizures could happen once a month or many times a day.



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## What is Epilepsy?

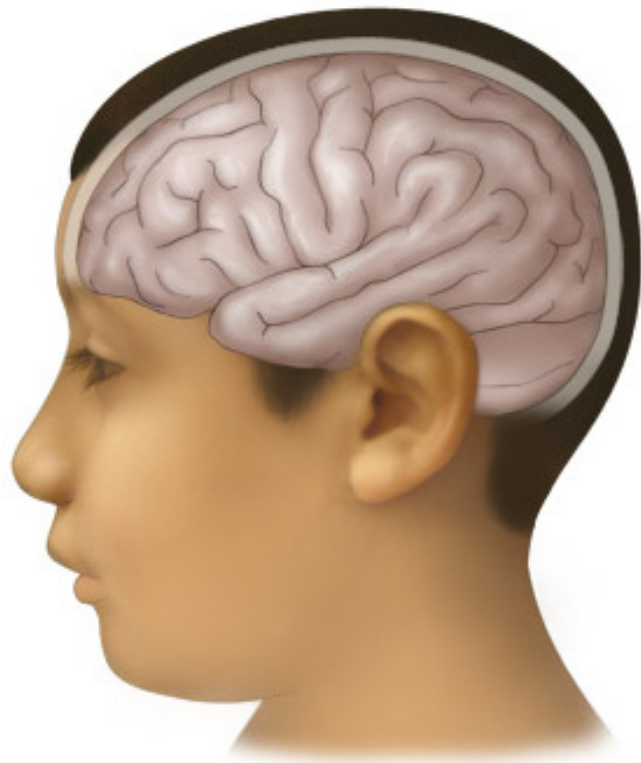
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Not all seizures cause the repetitive body movements known as automatism that most people associate with epilepsy. Not all seizures cause children to lose consciousness either.

Seizures can cause children to have trouble thinking or reacting to things around them.

They may seem like they are daydreaming or not paying attention.

Sometimes these bursts of electricity may not cause any obvious change in your child and may only be seen by doctors during an EEG test.



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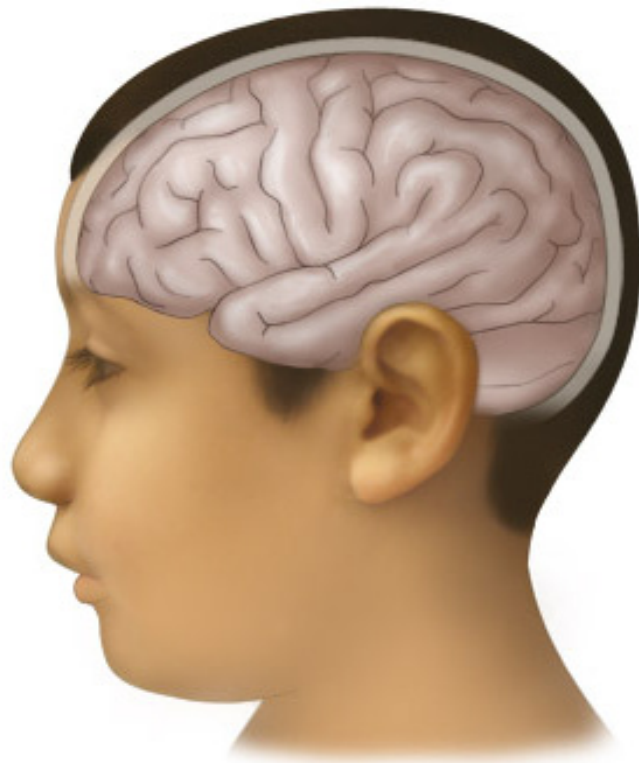
## What Causes Epilepsy?

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The brain is like the body's master computer. It is made of billions of cells that are always talking to each other and other parts of the body.

All of this "talking" is done through electrical bursts that are sent every second so that we can breathe, eat, talk, and walk.

When a part of the brain is injured or doesn't form properly, the brain may send out abnormal bursts of electricity that we call seizures.



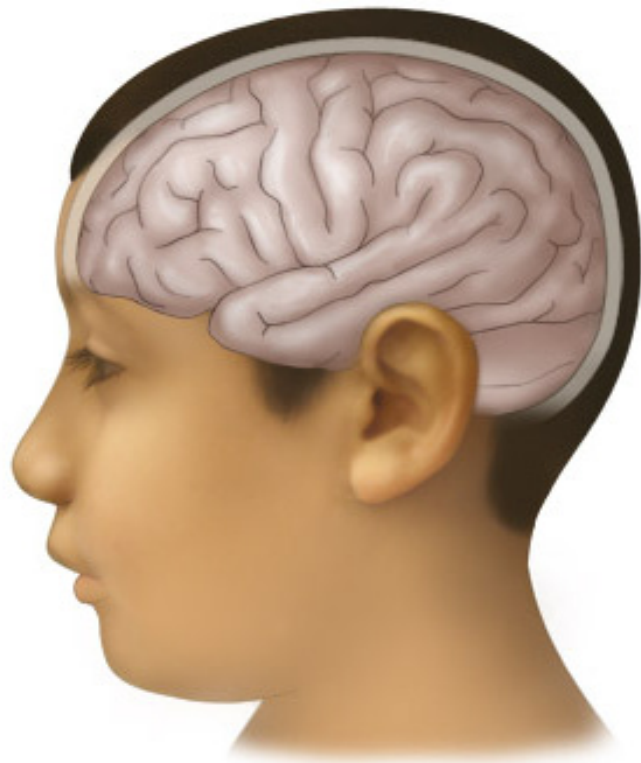
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## What Causes Epilepsy?

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The seizures of epilepsy may be caused by brain abnormalities or injuries such as:

- Strokes
- Tumors (even benign)
- Brain dysplasia
- Improperly formed blood vessels of the brain
- Major head injuries
- Brain infections like meningitis or encephalitis
- Genetic or metabolic syndromes



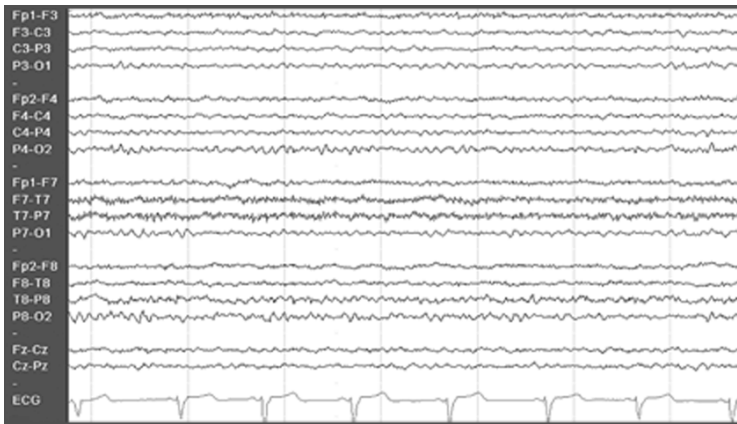
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## What Causes Epilepsy?

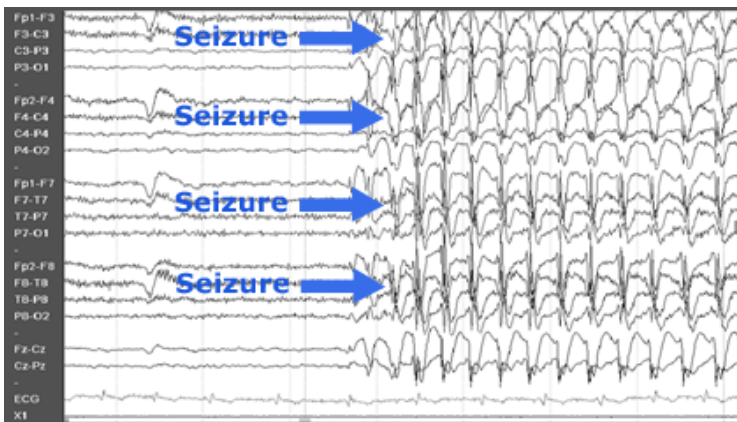
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Sometimes we don't know why your child is having seizures, but we still work very hard to find the best treatment for him or her.

Doctors call these seizures "idiopathic" because there seems to be no clear cause.



This is a normal EEG with a normal pattern of brain waves.



This child has generalized seizures. Surgery would not help.

## Seeing Seizures with an EEG Test

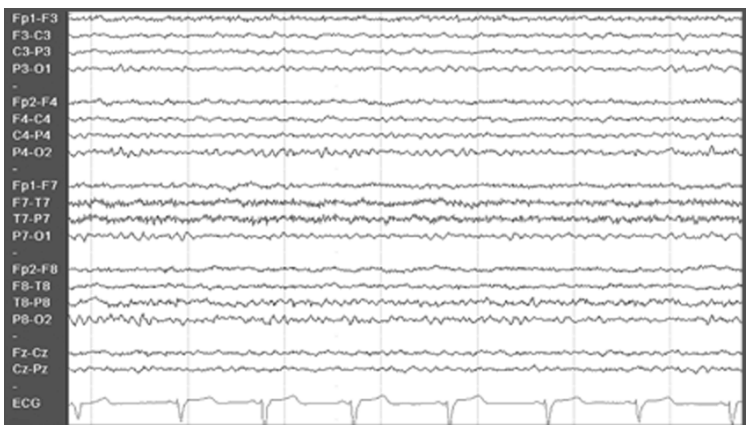
An EEG is the basic test that we use to learn about your child's seizures and what part of the brain might be causing them.

The EEG machine is like a language translator that "listens" to the brain cells as they talk.

The EEG machine translates all of the talking in the brain into rows of wavy lines on a computer screen. Each line represents different areas of the brain.

These rows and patterns of "brain waves" tell us if each part of the brain is talking normally or abnormally.





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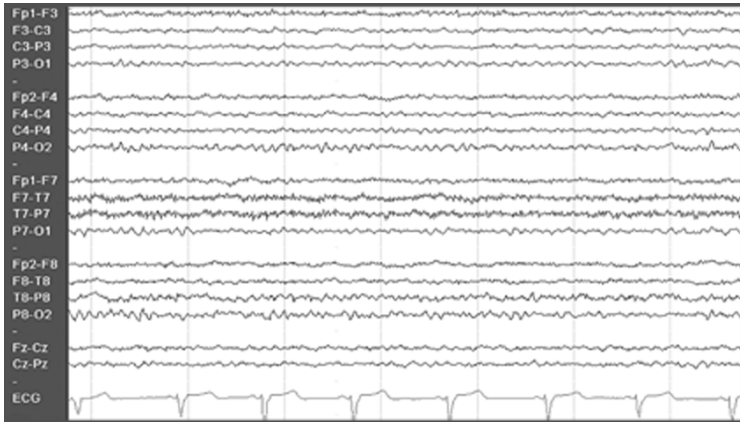
## Generalized Seizures

The Neurologist may describe your child's seizures as either generalized seizures or partial seizures.

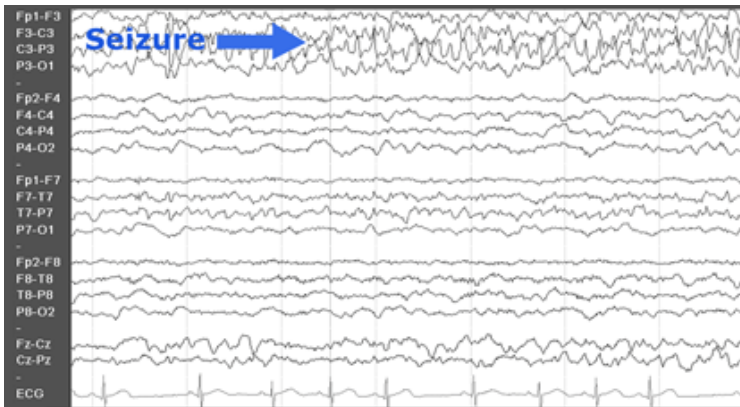
Generalized seizures are repeated abnormal bursts of electricity in the whole brain. They can be treated with:

- Antiepileptic medicines
- Vagus Nerve Stimulation
- Ketogenic Diet

Surgery is not a good treatment for children with generalized seizures.



This is a normal EEG with a normal pattern of brain waves.



This EEG shows a partial seizure. Surgery might help.

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## Partial Seizures

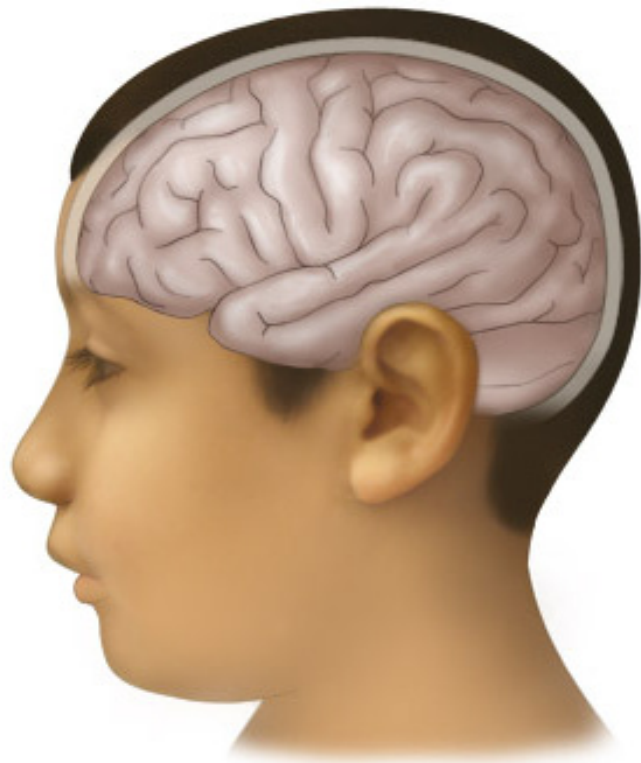
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Partial seizures are repeated abnormal bursts of electricity in one part of the brain.

Partial seizures can be treated with:

- Antiepileptic medicines
- Ketogenic Diet
- Vagus Nerve Stimulation
- Epilepsy Surgery





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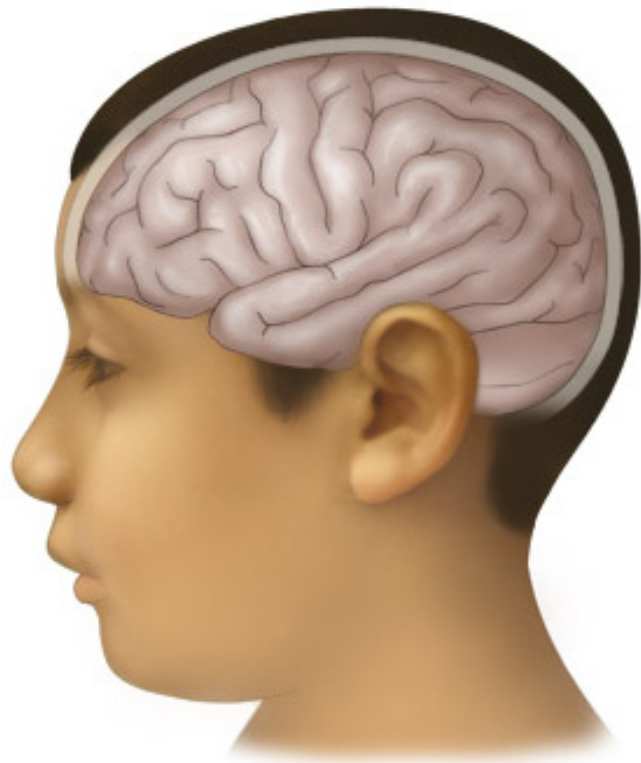
## Medicines for Epilepsy

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Most partial and generalized seizures can be well controlled with medicines alone.

Medicines are usually the first treatment that we try.

Medicines are also the safest treatment.



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### When Medicines are Not Working

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However, some children have seizures that can not be controlled after trying two antiepileptic medicines. This is called intractable or refractory epilepsy.

If your child has tried two antiepileptic medicines without good results, then your child probably has intractable epilepsy.

The Neurologist may want to do tests to see if surgery might help.

Epilepsy surgery can help children with partial seizures coming from an area of the brain that can be safely removed.