

# Electroencephalogram (EEG) (e-lek-tro-en-sef-ah-lo-gram)

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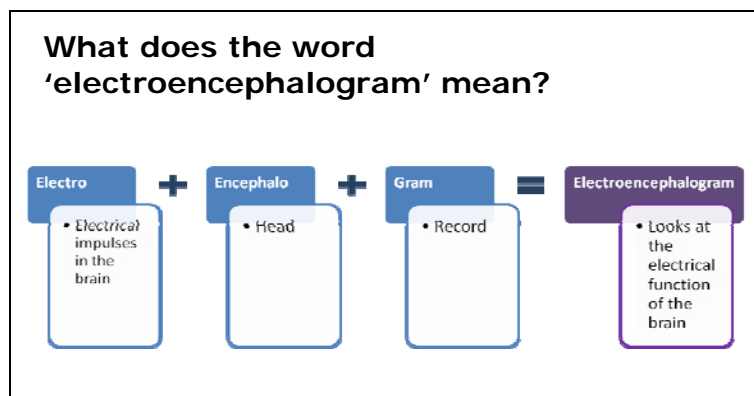
The Neurodiagnostic Unit (4U)  
McMaster Children's Hospital  
1200 Main Street West  
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## What is an EEG?

An EEG or electroencephalogram is a test that records brain waves, the pattern of electrical activity in your child's brain. Small electrodes (buttons with wires) will be placed on your child's scalp to pick up the electrical signals from the nerve cells inside his or her brain.

An EEG takes 60 to 90 minutes. In certain situations, the EEG must be done when your child is asleep.

The EEG shows how the brain is working. It can show changes in the electrical signals that may be caused by a disorder, such as epilepsy. These changes may show where and why seizures occur. An EEG gives the doctor useful information, whether or not a seizure occurs during the test.



## The night before the EEG

If your child does not need a sleep-deprived EEG, there is nothing you need to do the night before.

If your doctor asks that your child have a sleep-deprived EEG, you will need to limit your child's sleep the night before. This makes your child tired and able to sleep during the EEG.

If your child needs to be asleep for the EEG, what you need to do the night before depends on your child's age:

- Under 3 years old – wake your child at 4 am and do not let him or her go back to sleep.
- 4 to 11 years old – your child should not get more than 4 hours sleep. For example, go to bed at midnight and wake at 4 am.
- 12 years or older – keep your child awake from midnight until the test.

## On the day of the EEG

- Your child can eat, drink and take any prescribed medications, unless your doctor has given you other instructions.
- Do not let your child drink or eat anything that contains caffeine. This means no cola or pop, energy drinks, hot chocolate, tea or coffee, or chocolate.
- Wash your child's hair. The hair must be clean and free of any hair products, such as conditioner, hair spray, gel, wax, oil or mousse.
- Please bring your child's Ontario Health Card and a list of your child's medications when you go to the hospital.
- Your child can bring a favorite toy.

## Coming to the hospital

The Neurodiagnostic Unit is in the McMaster University Medical Centre, 1200 Main Street West in Hamilton, Ontario. Please let us know if you need a map, directions or parking information. The phone number is 905-521-5027. Please call the Unit if you need to change your appointment.

When you arrive at the hospital, go to the 4th floor. The Neurodiagnostic Unit is in 4U, between the 'yellow' and 'blue' sections of the hospital.

## During the EEG

As parents or guardians, you are welcome to stay with your child during the EEG. As there is limited space, other family members may be asked to stay in our waiting room nearby.

The EEG is done in a relaxed atmosphere in a darkened room. Your child will be lying down on a bed. The test will be done in 1 to 1½ hours.

The technologist will:

- ask questions about your child's health that relate to the reason for the EEG
- explain the test to your child before and during the EEG
- measure your child's head and make marks on his or her scalp with a non-toxic, washable pencil
- gently scrub the scalp at each mark with a cotton-tipped swab and a cleansing cream
- place 25 electrodes with a soft paste
- reassure your child and help him or her relax and lie still during the test
- ask your child to do different activities during the test, such as breathing deeply for a few minutes or looking at a flashing light

An EEG is a safe test with no side effects. However, it is possible that a child with epilepsy might have a seizure, triggered by the activities during the test such as flashing lights. We do not consider this a complication. A seizure during the EEG can provide more information to the doctor reading the test.

## After the EEG

The electrodes will be taken off, which does not hurt. Then the technologist will clean your child's hair. Some paste may remain, so you may need to wash your child's hair at home.

After the EEG, your child can resume his or her usual activities.

## Getting the results

The technologist cannot give you any results at the time of the EEG. After the EEG, a doctor called a neurologist will read the results and send a report to your doctor within 2 weeks. The doctor will discuss the results at your clinic visit.