



Ambulatory Electroencephalogram (EEG)

What is Ambulatory Electroencephalogram?

An ambulatory electroencephalogram is also called an ambulatory EEG. It is a test that measures electrical activity in the brain for 24, 48 or 72 hours while your child is at home, school or work.

Why is it necessary?

- An EEG looks at your child's electrical brain wave activity.
- Electrical activity in the brain can be different when a person is awake compared with when a person is asleep.
- An overnight ambulatory EEG is a continuous recording of brain waves and helps the doctors determine if your child is having abnormal activity in the brain at different times of the day and night, including while your child is doing normal daily activities such as eating, playing, sleeping.

How is the test done?

- A specially trained EEG technologist will put on the EEG equipment and explain each step.
- Your child will be asked to lie down on a stretcher or bed.
- Your child's head will be measured with a measuring tape. The technologist will mark locations on your child's head with a washable pencil.
- Small circular shaped electrodes are placed on your child's scalp using removable glue.
- The electrodes are connected to a small EEG computer machine that is carried in a backpack.
- Your child's head will be wrapped in a soft stocking cap to protect the soft electrode wires.
- You will be given instructions about how to keep the electrodes intact.

- You will be given instructions about how to push the event marker and to complete the event log (diary).



How do I get my child ready?

- Your child's hair must be clean, without any gel, oil, or hairspray.
- All routine medications and meals are given at normal times.
- Your child does not need to change sleep patterns.
- Button front or zipper front tops are recommended.
- Tell your child that you will stay with him/her while the electrodes are placed.
- Plan to be with your child or make arrangements for adult family members to be with your child at all times while the EEG is on, as you will be asked to keep a diary of events.
- Your child may attend school. You should discuss and make a plan ahead of time with the school teacher and nurse.

What happens the day the ambulatory EEG begins?

- Your child will come to Children's Hospital Boston Division of Epilepsy & Clinical Neurophysiology (EEG) located on Fegan 9 for a scheduled appointment.
- The ambulatory EEG electrodes and equipment will be set-up. This usually takes about 60-90 minutes.

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- The technologist will review home instructions and the date and time for a return appointment.
- You will be given instructions on how to push the event marker and to fill out the event log (diary) at home. This will help the doctors when they read the EEG brain wave and make their report.

What can a parent and child expect when we are at home?

- The EEG will record brain wave activity continuously
- We encourage your child to participate in most normal daily activities while wearing the EEG leads and ambulatory equipment in the backpack (see restrictions below).
- When your child has an event, spell or seizure, you **MUST** press the "gray event marker" on the machine.
- You **MUST ALSO** write the date, time and a description of the event, spell or seizure on the event description log (diary). This is very important, as the log will help the technologist and doctors who read and interpret the computer data to make an accurate report.
- It is important that the electrodes remain intact. Do not allow any of the equipment to get wet, bent, pulled or unplugged.
- Your child **should not** shower, take a bath, swim, or participate in contact sports and other playground activities where the cap may be caught or pulled.
- Your child **should not** chew gum as this may cause "artifact" in the recording.
- Your child **should not** scratch his/her head or remove the stocking cap.

What happens the day the test ends?

- You will be given an appointment date, time and location to return to Children's Hospital to have the stocking cap and electrodes removed according to the length of time your doctor ordered the test.

- You will be asked to give the technologist the completed written Event Description Log (diary).
- The technologist will remove the electrodes with a special liquid remover and wash the hair with shampoo
- Your child should not touch the hair until it is clean as the liquid remover will sting if the hands then touch the eyes.
- Some of the glue or a greasy feeling from the remover solution may remain in the hair or on the scalp, it may be necessary to re-wash your child's hair at home.

How and when do I get the results?

- The information in the ambulatory EEG computer needs to be down-loaded to another computer by a specially trained technologist. This may take several days.
- The information is then given to a pediatric epilepsy specialist who will review the EEG recordings and the descriptions of the events that you wrote in the event log (diary).
- A written report will be prepared and sent to your child's doctor who ordered the Ambulatory EEG. Please contact him/her to review the results. This is generally completed within two weeks.

What number do I call if I have questions while my child is having the test?

- If you have a concern about your child's medical condition, call your child's doctor who ordered the study
- If you have a question about the equipment, call the EEG Department
- Monday-Friday 8:00am - 4:30pm
(617) 355-2842

A **Spanish** version of this education sheet is available from your provider