

Inpatient EEG Tests

Long-term Video Monitoring on the EMU

What to expect during
your child's inpatient
EEG test

What is long-term video monitoring?

Long-term video monitoring is an EEG (electroencephalogram) test that looks at your child's brain waves over a long period of time. The test requires your child to stay in the hospital on the Epilepsy Monitoring Unit (EMU) for 24 hours or longer. This helps the doctor to get a more complete picture of your child's condition.

What happens during the test?

The process for getting hooked up for an inpatient EEG test is very similar to an outpatient EEG test, with a few differences.

- A specially trained EEG technologist will apply the electrodes and the EEG equipment that is required. **This will take about 60 minutes from start to finish.** (For an outpatient EEG, this takes about 20 minutes.) Your child's hair does not need to be cut or shaved.
- Your child will be asked to lie down on a stretcher or bed.
- Your child's head and body need to be completely still when the electrodes are placed. You may be asked to help your child stay still so that the process can go as quickly and easily as possible. If your child is 4 or younger and still moves too much, their arms may be wrapped snugly so that the electrode application can go as quickly and easily as possible. **If your child is 5 or older, your child cannot be held still by anyone** (parent or staff). They must be able to stay still on their own if they are going to be awake during the electrode placement. If they are not able to be still, your doctor may order sedation for the electrode placement.
- Your child's head will be measured with a measuring tape.
- The EEG technologist will mark 30 locations on your child's head with a washable, red pencil.



Inpatient EEG: Long-term Video Monitoring

- The EEG technologist will rub a sandy cleanser on the places where the electrodes will attach before putting them on.



- Small circular shaped electrodes will be placed on your child's scalp using removable glue and an air gun to help them stay on. The glue is smelly and the air gun makes noise. This is different than the paste that is used for an outpatient EEG test, which is not as smelly and does not require an air gun.
- Your child's head will be wrapped in gauze and a soft stocking cap to protect the electrode wires.



- The electrodes are connected to a small EEG computer machine that is carried in a small backpack.
- Then you will go into a hospital room where the special monitoring equipment will be used.
- The staff will explain the EEG, video camera equipment and your important role in keeping a record of your child's seizure episodes.
- You will be given instructions about how to keep the electrodes intact and how to push the event marker. The staff on the unit will be available to help if anything comes up. If any electrodes come loose, they may be able to reapply them if your child did not require sedation for electrode placement.
- The EEG staff will help you to fill out an Episode Description Sheet that describes your child's episodes. You will also be given an Event Log and instructions about when to fill it in. The Episode Description Sheet and Event Log will help your child's doctors read and interpret the computer data to make an accurate report.

What happens if my child requires sedation for the electrode placement?

For safety reasons, children 5 and older cannot be restrained during electrode placement. To be awake, children age 5 and over must be able to lie down for 60 minutes and follow simple directions while the electrodes are being put on.

If your child is 5 or older and would have difficulty doing this, your child's medical provider may say that your child needs sedation for electrode placement. Even though the electrode placement does not hurt, being awake for the electrode placement may be unnecessarily stressful and difficult for some children.

If your child is sedated, the electrodes are applied while your child is asleep in the same way as listed above. After the electrodes and the head wrap are put on, the EEG technologist will put a soft helmet and arm boards on your child. This is to minimize the chance of electrodes being pulled off and to maximize the opportunity to collect data for this study.

You will be reunited with your child in their room on the EMU when they wake up from the sedation. The helmet and arm boards have to stay on the whole time your child is being monitored.

If some of the electrodes come off during the EEG monitoring, your child will not be sedated again to have them reapplied. The test will continue with fewer electrodes.

What will I do during the EEG for my child?

While your child is being monitored, you will stay in their room and monitor them closely. If they have an event, you will push the event button and fill out the episode description sheet. **For this reason, you or another caregiver familiar with your child's events must stay in the room at all times.**

How do I prepare my child for the test?

- Talk with your child about what to expect. Visit www.seattlechildrens.org/eeg. The page has links to videos and other materials, including the children's book "What to Expect During your Inpatient EEG at Seattle Children's." If you have questions, you can contact the Surgical Unit Child Life at 206-987-1826.
- Plan extra time for arrival. Aim to check in at the greeter desk 30 minutes before your appointment so you have time to get settled into your child's room before the EEG hookup. Allow an additional 15 minutes for parking and badging. If you are late, we may need to reschedule.
- Wash your child's hair the night before or morning of the admission. Do not use creme rinse, conditioner or styling products (they prevent the electrodes from sticking).
- Bring any special equipment (helmet, wheelchair, car seat) that your child uses at home.
- If your child is in school, have the teacher give homework so that your child does not fall behind.

To Learn More

- Neurodiagnostic Services
206-987-2081
- Neurology
206-987-2078
- Surgical Unit Child Life
206-987-1826
- seattlechildrens.org/EEG

Free Interpreter Services

- In the hospital, ask your child's nurse.
- From outside the hospital, call the toll-free Family Interpreting Line 1-866-583-1527. Tell the interpreter the name or extension you need.

What else do I need to know?

- During the admission, a team of pediatricians, neurologists, nurses, certified nursing assistants (CNA), EEG technologists, physician assistants and nurse practitioners will care for your child. They will make daily rounds to ensure that your child's hospital stay is going well and to answer any questions or concerns you have.
- Your child may need other tests, like blood work, cognitive testing, PET (positron emission tomography) scan or an MRI (magnetic resonance imaging) scan. We will explain these to you and your child if they are needed.
- Planning ahead will help you and your child during your stay. Read our handout "Epilepsy Monitoring Unit Family and Visitor Guidelines" and visit www.seattlechildrens.org/patients-families/hospital-stay/.
- When you get home after your EEG test, your child may have some glue stuck in their hair. We will give you directions to remove it using conditioner, lotion or oil, a fine-toothed comb, and a small amount of nail-polish remover on a cotton ball. It can be helpful to get these supplies organized ahead of time. Please ask us if you need help getting these items.

When do we get the results?

It can take 2 to 3 weeks from when you go home for your child's doctor to get the results. The amount of time it takes depends on the length of the test. When the results are back, your child's doctor will explain the results, or you may be asked to make an appointment in the Neurology Clinic at Children's. To get results, you must call the doctor's office that referred your child for the test.