

## **Video-EEG monitoring 3–8 hours**

You can find illustrated information (for shorter EEG examination) for children at <https://hoito-ohjeet.fi> using the search term "Retki aivojen maailmaan" (PDF, Finnish)

### **Purpose of the video EEG test**

EEG (electroencephalography) is a technique used to record electrical brain activity (brain waves). The test consists of EEG recording combined with video recording. An EEG can be used to help diagnose and monitor a number of conditions affecting the brain. It may help identify the cause of certain symptoms – such as seizures (fits) – or find out more about a condition you've already been diagnosed with. The main use of an EEG is to detect and investigate epilepsy, a condition that causes repeated seizures.

### **How to prepare yourself for the test**

Before the test begins, it is important that your hair is clean and dry. After washing your hair, you are not allowed to use hair spray, hair gel or any other hair styling products.

The hospital provides you with the clothes you will be wearing during the test. However, if you prefer to wear your own clothing, choose cotton clothing that does not collect static electricity. Static electricity may interfere with the operation of the EEG recording device. The shirt should have buttons on the front.

In some cases, you may be asked to stay awake before the test to help ensure you can sleep while it's carried out. This is called a sleep-deprived EEG. In this case, the following awake times are to be followed the night prior to the test:

- Child aged 0-1 year: awake for one feeding interval.
- Child aged 1-2 years: awakened at 5 AM (05:00), no daytime naps before the test.
- Child aged 2-7 years: allowed to sleep between 11 PM and 4 AM (23:00-04:00).
- Child/adolescent aged 8-16 years: allowed to sleep between 11 PM and 2 AM (23:00-02:00).
- Persons older than 16 years: awake the whole night before the test, even dozing off is not allowed.

It is important to stay awake also on the way from home to the hospital. Coffee, tea, cola or other refreshing drinks can be enjoyed in the evening, but no longer after 12 PM (24:00). You are not allowed to drive a car or any other vehicle under any circumstances on the test day. A night spent awake increases the possibility of seizures.

Unless you have received other instructions, you should continue to take your medicines as normal. Having a breakfast before the test is recommended. If the test takes longer than 4 hours, lunch will be served at the department.

For small children, you should bring the items necessary for falling asleep: baby bottle, pacifier, comforter or similar items, which will help the child to calm down and fall asleep. You may also bring along something to entertain the child, e.g. a favorite book or toy. The department has a variety of toys and games, DVDs and books.

## **How the test is done**

You'll feel little or no discomfort during an EEG. The test takes about three to eight hours, depending on the information required.

The skin on your face and head is cleaned at the beginning of the test. A flexible cap with measurement sensors attached to it is placed on your head. In addition, measurement labels are attached on the surface of the skin on your face. Water-soluble conductor paste is applied between the measurement sensors and your skin. The sensors and the cap are attached to an EEG device.

The technician monitors you continuously throughout the test. Technician may also ask you to do some tasks during the test, such as close your eyes for short periods of time, take deep breaths (hyperventilation or 'over-breathing') or look at flashing lights ('intermittent photic stimulation'). If you have symptoms or a seizure during the EEG, the technician will ask you to do some additional tests while taking care of your security. During the test you can watch TV, listen to music, read or play. You are not allowed to leave the room during the test.

## **After the test**

The conductor paste is washed from your hair and face with a moist towel. Possible residue from the conductor paste will be washed away when you next wash your hair. A clinical neurophysiologist will analyze the recording and write a detailed report. The report is directed to the department that ordered the EEG. They will inform you of the test results and any possible follow-ups.

## **Information for the parents**

A parent or other trusted adult must be present with the child undergoing an EEG test. The technician monitors the EEG recording in an adjacent room and cannot be present with the child in the examination room. The parents also help to identify symptoms suggestive of a seizure and create a sense of safety and comfort for the child. Parents also know best their child's habits and their presence promotes the child's ability to cope with the long test. Good cooperation guarantees good data quality.