

EEG examination with sphenoidal electrodes

Purpose of the Examination

The electrical activity of the cortex is recorded in an EEG (electroencephalography). EEG examination with sphenoidal electrodes is used, for example, to diagnose seizure symptoms when a regular EEG examination has not revealed the cause of the symptoms. You must stay awake for one night before the recording. It is important to have a clear view of the electrical activity of the brain during intense states of tiredness, especially in diseases that cause seizures.

Preparing for the Examination

- You must stay awake for the whole night before the examination day. Not even dozing off is allowed.
- You can eat normally before the examination. Coffee, tea, cola and other refreshing beverages are not allowed after midnight.
- Take any regularly taken medicine normally, unless you have received any other instructions. Bring along information about any medication you are taking.
- Temporary sedative medication, sleeping pills and alcohol need to be avoided 24 hours before the examination. However, if you cannot avoid using the temporary medication mentioned above, please inform the EEG technician before the examination. You should report any recent seizures or injuries as well.
- You should have clean and dry hair when coming to the examination. Do not apply hair spray, gel, or any other styling products after washing your hair. If your work includes welding, wash your hair especially carefully. Accumulated metallic dust in your hair can cause several technical disturbances during the examination.

You are not allowed to drive a car under any circumstances on the examination day. A night spent awake increases the possibility of seizures.

Examination Process

The examination begins by attaching the sphenoidal electrodes. The electrodes are two silver wires that the physician inserts beneath the skin, under both of the cheek bone curves, with a needle. Please inform the physician before attaching the electrodes if you use a blood thinner, such as Marevan, or if you have an increased bleeding risk.

The examination proper is performed an hour and a half later. Altogether, the visit lasts for about three and a half hours.

The skin on your face and head is cleaned at the beginning of the examination. 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 machine. The electrical activity of your brain, your eye movements, your heart rate, and the muscle tension in your jaw muscles, are recorded in the examination. The examination is also recorded on video.

During the recording, you will rest on a bed, eyes closed, and you are occasionally requested to open your eyes. In addition, you may be requested to watch a bright light blinking at various frequencies, and to breathe deep briefly. You must stay awake during the beginning of the examination, but you are allowed to sleep later on.

After the Examination

The wires are removed from your cheeks and 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 specialized doctor in clinical neurophysiology will analyse the recording and write a report about the examination. The report is directed to the ward or clinic that commissioned the examination, who will inform you of the examination results and any possible follow-ups.