



PATIENT INFORMATION

Electroencephalogram (EEG)

WHAT IS EEG?

An **electroencephalogram (EEG)** is a recording of the brain's electrical activity. Metal electrodes attached to the scalp transform electrical activity into patterns, that are commonly called brain waves. A basic EEG takes about 1 hour.

HOW IS THE TEST PERFORMED?

A **Neurophysiology** technologist will attach about 23 small metal discs on your head using a sticky paste, after each spot has been rubbed with an abrasive paste. The process is not painful. Your scalp will not be shaved, but the area under the electrodes will be cleaned to remove any excess oils from your scalp. This takes about 10 minutes. After attaching the electrodes, you are asked to relax and lie first with your eyes open, then later with them closed. As the electrodes detect your brain waves and feed them into the EEG machine, several wavy lines (your brain wave patterns) will appear. You will then be encouraged to go to sleep with the lights dimmed. A video recording may be made during the EEG recording which could be helpful while the recorded data is being interpreted. Small children can lie with mum/dad during the procedure or cuddle on their lap if required.

After the test the metal discs are removed from your head with surgical spirit and the hair cleaned. Despite the cleaning, your hair may remain sticky until it is shampooed at home. There are no aftereffects, and you or your child will be able to return home after the test.

WHAT ARE THE INSTRUCTIONS FOR YOU BEFORE COMING FOR THE TEST?

- Do not take any sedatives (sleeping medicine) within 24 hours of the test.
- Continue taking all other prescribed medicines (unless otherwise advised by your physician or nurse).
- Do not take caffeine within 12 hours of the test.
- Before arrival for the test, wash and dry your hair. Do not use styling gels, oils or other products.
- Do NOT allow sleep on the way to the hospital. The test is most useful if it contains drowsiness and sleep.
- Please arrive 15 minutes prior to your appointment time to register in the outpatient registration area.

ARE THERE SPECIAL INSTRUCTIONS FOR INFANTS AND TODDLERS?

- It is helpful if your child is sleepy when you arrive for the appointment. This can be done by keeping them awake far past their routine bedtime and waking them very early in

the morning. Ideally the best way is to let your child sleep at 12:00 midnight and wake them up at 5:00 AM in the morning. If they normally take a morning nap, avoid it.

- Bring one or two prepared bottles (for bottle fed infants) to the appointment to be given during the test (or be prepared to nurse).
- Please feel free to bring along a small stuffed animal or favorite cuddly blanket to help your child feel comfortable during the test.
- Please encourage your child to use the restroom (or please put a fresh diaper on your infant) just before your child's appointment time to help them feel comfortable.
- We recommend you bring something to keep your child busy while the neurophysiology technologist applies electrodes on the head.

WILL THERE BE PROVOCATIVE MANEUVERS?

HYPERVENTILATION: During the recording you or your child (whoever is undergoing the test) will be asked to take deep breaths for about 3-5 minutes. This might cause a lightheaded feeling or tingling of the lips or fingers. This normally passes off when you breathe normally again. This will provoke hidden epileptic activity which may not have been evident during the other part of the EEG recording.

PHOTIC STIMULATION: This is an important part of the investigation for children or adults who may have episodes or seizures caused by flashing lights. You will be shown a bright flashing light and may be asked to open or close your eyes whilst the light is flashing. This procedure may very rarely cause a seizure in people who are very light sensitive.

WHAT IS EEG USED FOR?

Doctors most often order an EEG to help diagnose a seizure disorder or monitor the effectiveness of anti-seizure medicines in people with epilepsy. It also may be used to evaluate someone with confusion, head injuries or other conditions that may be caused by an abnormality in the brain. Occasionally, an EEG may be used to confirm brain death, for example, in someone on life support who is in a deep coma.

RESULTS

Usually within 24 - 48 hours following routine EEG, you would receive a phone call from the hospital notifying you of the result of the test and advising you on the next step in your care. A physical copy of the result can be collected on your next visit.

Reference: Clinical Electroencephalography UK Misra, J Kalita, Current practice of clinical electroencephalography Pedley.