

Electroencephalogram (EEG), Sleep Deprived EEG, Evoked Potentials, 24-hour Ambulatory EEG

□ **An EEG (electroencephalogram)** is a recording of the electrical activity of the brain. This is done to evaluate:

- Stroke
- Seizure disorders
- Brain tumors
- Head trauma (accidents),
- Headaches
- Degenerative disorders (alzheimer's, parkinson's),
- Metabolic disorders (liver, kidney),
- Infections of the nervous system (encephalitis, abscess, etc.),

What To Expect

Small gold discs (electrodes) are attached to your scalp with a paste or glue. The electrodes “pick-up” the electrical activity of the brain. The activity is transmitted through wires to the EEG machine and recorded on paper. The EEG test is a painless test which takes about 1 1/2 hours.

During the test you may:

- Sleep during part of the test.
- Be asked to hyperventilate (breath deep and fast through the mouth).

- Be shown a strobe light, flashing at different speeds for a brief time.
- These activities may activate abnormal brain activity not otherwise seen in the tracing.

□ **Sleep Deprived EEG** is a test that records electrical activity of the brain both awake and during sleep to look for abnormal brain wave patterns.

To Prepare

- Remain awake after midnight the day before the test.
- You should arrange to be driven to and from the hospital.
- Do not have caffeine or chocolate after dinner the day before the test.
- Arrive for your test with clean, dry hair without hairspray, gel or mousse.
- You may eat breakfast the day of the test.
- Continue to take your regular medication.
- If you are having this test done as an outpatient, arrive at Registration at least 30 minutes before your test.

What To Expect

- The staff will measure your head and determine where electrodes will be placed.
- Each area will be rubbed with a liquid and then electrodes will be placed on your scalp with washable paste or glue.
- During the test, you will need to lie still. You may be asked to open and close your eyes, count or do deep breathing exercises to look at brain activity under different conditions.
- When the test is done, the staff will remove the paste or glue.

□ **Evoked Potentials (EPS)** are electrical responses of the nervous system to specific stimuli. Hundreds of responses are received, and analyzed by a special computer. The average response, in a form of a wave or waves, is plotted on a graph which is later evaluated by a doctor trained to read and interpret Evoked Potentials.

Types of Evoked Potentials:

Visual Evoked Potentials study the visual (seeing) nervous system and looks for optic nerve disorders. Three or more electrodes are attached to your head with glue. You will be asked to stare at a strobe light or a pattern on a TV screen. The light is the stimulus.

Brainstem Auditory Evoked Potentials study the auditory (hearing) nervous system to look for auditory tumors and brain diseases. Two electrodes are attached to your scalp and one is attached to each ear lobe. Ear phones placed over your ears deliver a series of tones or clicks to each ear separately. The sound is the stimulus.

Somatosensory Evoked Potentials study the nerve pathway that travels from your arm and leg through the spine to the brain. This test looks at injuries or diseases of the spinal cord, nervous or muscular system or to monitor nerves during spinal surgery. Electrodes are attached to your scalp and various points along the nerve pathway from your arm/leg to the brain. A small electrical current is applied to the skin over a nerve(s) on the arms or legs. The electrical current is the stimulus.

□ **The 24-Hour Ambulatory EEG** is worn to record the brain's electrical pattern 24 hours a day. This painless test looks for epilepsy or for people who need continuous monitoring.

What to expect

- It takes about 1 1/2 hours for hook-up
- 8 to 15 electrodes are attached to the scalp and an EKG lead attached to their chest. Wires run from the electrodes to the monitor which is worn on a belt and recorded on an audio tape.
- You will get a diary to write down your activity.

For More Information

If you have questions, please call your doctor or the department at:

Grant	566-9890
Riverside	566-5270