Family Education Sheet



Evoked Potentials

What are Evoked Potentials?

Evoked Potentials (EP studies) measure electrical activity in the brain in response to stimulation (activity) of:

- vision (Visual Evoked Potentials),
- hearing (Brainstem Auditory Evoked Potentials), or
- sensation (Somatosensory Evoked Potentials).

The stimuli delivered to the brain through each of these senses cause very small electrical signals. Electrodes placed on the head pick up the signals and make them stronger. The signal appears on a monitor and is interpreted by a specially trained physician.

The technologist performing the test locates and marks specific spots on the patient's head for placement of electrodes. These spots are cleaned and an adhesive conducting paste or glue is applied over the cup electrodes. For the Somatosensory test, spots on the arm or leg are also marked and electrodes applied. The patient lies in a bed or reclines in a chair throughout the procedure.

What happens during an Evoked Potential test?

- Visual Evoked Potential/Response (VEP or VER) test: The patient focuses on a TV screen that displays a checkerboard pattern. The eye that is not tested is covered with a patch. Goggles are used which show the pattern to one eye at a time for children or others whose attention may wander, Each eye is usually tested twice, and the entire procedure takes approximately 30-45 minutes to complete.
- Brainstem Auditory Evoked
 Potential/Response (BAER or AEP) test: Headphones are used to deliver a series of clicks to one ear at a time. A masking (or static) sound is played into the other ear. Each ear is usually tested twice, and the entire procedure takes approximately 30-45 minutes to complete.

Somatosensory Evoked

Potential/Response (SSEP or SSER) **test**: Mild electrical stimulation is delivered to the arm or leg. This might cause some finger or toe movement and tingling. The stimulus lasts for about two minutes at a time and the entire procedures takes 1 to 1.5 hours.

How to prepare for the test

- Wash hair the night before the test, but do not use conditioner or apply any hairspray or other hair products.
- Eat normal meals and take regular medications.
- For VEP tests bring glasses or contact lenses to the test.
- For BAER tests you should tell the technologist if a hearing aid is used (bring the hearing aid) or if there are any obvious hearing problems.
- **IMPORTANT:** Be sure to get a full night's sleep if scheduled for **Pattern Reversal Visual (VEP) testing**.

How will we be informed of the result?

• The EP written report will be available in two weeks and mailed to the referring physician. Please contact your physician who ordered the EP for the test results.

Where do I call to get more information?

- Please contact the Division of Epilepsy & Clinical Neurophysiology if you have any questions regarding the EP testing or need to reschedule.
- The phone number is 617-355-2842
- Please allow enough time for travel and parking at the hospital. You must arrive on time for your appointment or it may need to be rescheduled if you are late.

A <u>Spanish</u> version of this education sheet is available from your provider