

INTRAOPERATIVE NEUROPHYSIOLOGY TESTING

Issue Date: June 5, 1995

Authority: [32 CFR 199.4\(b\)\(2\)\(vii\)](#) and [\(b\)\(3\)\(v\)](#)

I. PROCEDURE CODE

92585, 95860 - 95869, 95920, 95925 - 95930

II. DESCRIPTION

Intraoperative neurophysiology testing is a neurophysiologic procedure performed to guarantee the integrity of both cranial and peripheral nerves during surgery. The procedure monitors nerve function by activating or stimulating a nerve or group of nerves primarily to observe the contractions of the muscle groups affected by the stimulation of a nerve or particular group of nerves. Intraoperative monitoring of sensory evoked potentials (SEP) is used during orthopedic or neurologic surgical procedures to reduce surgically induced morbidity and/or to monitor the level of anesthesia. SEP are electrical waves that are generated by the response of sensory neurons to stimuli. Changes in the electrical waves are averaged by a computer and then interpreted by a physician. Computer-averaged SEPs can be used to assist the diagnosis of certain neuropathologic states or to provide information for treatment management.

III. POLICY

A. Intraoperative neurophysiological monitoring may be cost-shared during surgical procedures that could potentially cause harm to the brain, spinal cord or peripheral nerves. Visual, auditory, and somatosensory evoked potential recordings are considered eligible for coverage for the following indications:

1. Visual evoked potentials.
 - a. To diagnose and monitor the acute and chronic phase of multiple sclerosis;and
 - b. To localize visual field defects occurring in the absence of structural lesions, acquired metabolic disease or infectious disease.
2. Auditory evoked potentials.
 - a. To evaluate brainstem function and metabolic disorders;

- b. To identify the presence of brainstem tumor when MRI or CT is ineffective or unavailable;
- c. To diagnose and monitor demyelinating or degenerative brainstem diseases, such as multiple sclerosis, central pontine myelinolysis and olivopontocerebellar degeneration;
- d. To diagnose the presence of lesions in the external auditory system, such as acoustic neuromas;
- e. To assess recovery of brainstem function after removal of space occupying lesions compressing the brainstem.
- f. To supplement the EEG in evaluating brain death or irreversibility of coma;
and
- g. To measure the type and extent of hearing impairment or determine the degree of neural maturation in neonates, infants, and children less than five years of age.

3. Somatosensory evoked potentials.

- a. To assess somatosensory function in unconscious patients who have sustained traumatic damage to the spinal cord which is demonstrated by radiologic examination and who are candidates for emergency surgery of the spinal column;
- b. To diagnose and manage suspected space occupying lesion or demyelinating and degenerative diseases in the somatosensory system not identified by radiologic examination;
- c. To monitor large tumors which may cause significant brainstem compression or ischemia;
- d. Is indicated during operations when surgical intervention/manipulation puts the spinal cord at risk (e.g., scoliosis surgery, resection of spinal arteriovenous malformations, removal of intraspinal tumors and some cervical discectomies); and
- e. To monitor surgery during intracranial aneurysms.

B. Electromyography (EMG).

- 1. To monitor cranial nerves, with recording from muscles innervated by nerves which are in jeopardy, during surgery for removal of tumors of the skull base (e.g., acoustic neuromas, neuromas of other cranial nerves, meningiomas, glomus jugulare tumors);
- 2. To monitor muscles innervated by specific peripheral nerves during surgery that poses risks to nerves and/or spinal roots (e.g., removal of lumbosacral tumors or other lesions in the region of the Cauda Equina, tumors of the brachial or lumbar plexus, repair of peripheral nerve lesions); and

3. To monitor facial nerves in extracranial procedures (e.g., removal of tumors of the parotid gland).

C. Electroencephalogram (EEG) and compressed spectral array (CSA) or EEG may be cost-shared to monitor for carotid endarterectomy and brain surgeries that could potentially compromise cerebral blood flow.

IV. POLICY CONSIDERATIONS

Reimbursement of intraoperative neurophysiology testing is limited to the DRG amount, when billed by an authorized institutional provider, or may be reimbursed separately from the global surgical fee when billed by an authorized professional provider, including the physician performing the surgery.

V. EXCLUSIONS

A. SEP monitoring is not allowed for simple laminectomies or other spinal procedures which do not entail significant risk to the spinal cord.

B. See [Chapter 8, Section 14.1](#) for other uses of sensory evoked potentials that are considered unproven.

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