Intraoperative Neurophysiologic Monitoring

Enterprise Policy

Clinical Guidelines are written when necessary to provide guidance to providers and members in order to outline and clarify coverage criteria in accordance with the terms of the Member’s policy. This Clinical Guideline only applies to PacificSource Health Plans, PacificSource Community Health Plans, and PacificSource Community Solutions in Idaho, Montana, Oregon, and Washington. Because of the changing nature of medicine, this list is subject to revision and update without notice. This document is designed for informational purposes only and is not an authorization or contract. Coverage determination are made on a case-by-case basis and subject to the terms, conditions, limitations, and exclusions of the Member’s policy. Member policies differ in benefits and to the extent a conflict exists between the Clinical Guideline and the Member’s policy, the Member’s policy language shall control. Clinical Guidelines do not constitute medical advice nor guarantee coverage.

Background

Intraoperative neurophysiologic monitoring (IONM) monitoring is a generic term for objective tests performed to identify complications to the nervous system during certain surgical procedures.

Per the American Medical Association, Intraoperative Neuromonitoring (IONM) is the use of electrophysiological methods to monitor the functional integrity of certain neural structures during surgery. The purpose of IONM is to reduce the risk of damage to the patient’s nervous system and to provide functional guidance to the surgeon and anesthesiologist.

Intraoperative monitoring (IOM) includes evoked potential (EP) testing (also called evoked response testing) which refers to measurements of nerve function following artificial sensory stimuli as recorded by electroencephalogram (EEG) electrodes. Peripheral, subcortical or cortical regions may be examined with EPs depending on placement of electrodes and type of stimulus applied. EP testing includes the following studies:

- Central auditory testing (also called brainstem auditory-evoked potentials (BAEP));
- Sensory evoked potential (SEP) testing (include somatosensory-evoked potentials (SSEP));
- Central motor evoked potential study (transcranial motor stimulation);
- Motor-evoked potentials;
- Evoked response audiometry (ERA); and
- Visual evoked potential (VEP).
Reimbursement Criteria

Facility: Intraoperative neurophysiology testing (HCPCS/CPT codes 95940 and G0453), supplies, and technician services cannot be billed by the facility since it is included in the more comprehensive surgical procedure. The use of either modifier 26 or TC does not apply to codes 95940 and G0453.

Provider:

- Monitoring must be performed by a physician, MD or DO trained in clinical neurophysiology (e.g., neurologist, physiatrist). The provider must be solely dedicated to monitoring the neurophysiological tests and available to intervene if necessary.
- The monitoring physician cannot bill for the professional component of monitoring performed by O.R. technicians, nurses, or other professionals employed by the hospital.
- The monitoring physician cannot bill for the technical component of intraoperative monitoring performed by O.R. technicians, nurses, or other professionals whether employed by the hospital, physician, or an intraoperative monitoring vendor.
  - Claim must be supported by attached documentation
- The monitoring physician services are billed with codes 95940, and 95941 and include supervision, interpretation, analysis, and a detailed signed written report of the results.
- The primary physician/surgeon cannot bill for monitoring as it is included in the global package.
- Due to the nature of these services and the potential for significant morbidity, intraoperative monitoring will only be reimbursed for inpatient or outpatient hospital setting procedures.
- Incident to care billing is not allowed.

Criteria

Preauthorization is required.

Intraoperative monitoring (IOM) must be requested by the operating surgeon.

I. IOM may be medically necessary for any of the following procedures:

1. Surgery of the aortic arch, its branch vessels, or thoracic aorta, including internal carotid artery surgery, when there is risk of cerebral ischemia;
2. Resection of epileptogenic brain tissue or tumor;
3. Resection of brain tissue close to the primary motor cortex and requiring brain mapping.
4. Protection of cranial nerves:
   - tumors that are optic, trigeminal, facial, auditory nerves;
   - cavernous sinus tumors;
   - oval or round window graft;
   - endolymphatic shunt for Meniere’s disease;
   - vestibular section for vertigo;
   - microvascular decompression of cranial nerves;
5. Correction of scoliosis or deformity of spinal cord involving traction on the cord;
6. Anterior cervical spine surgery associated with any of the following increased risk situations:
   - prior anterior cervical surgery, particularly revision anterior cervical discectomy and fusion,
     revision surgery through a scarred surgical field, reoperation for pseudarthrosis or revision for
     failed fusion
   - multilevel anterior cervical discectomy and fusion
   - time consuming anterior cervical discectomy and fusion (e.g., tumor)
7. Resection of:
   - Spinal cord tumors;
   - Neuromas of peripheral nerves or brachial plexus, when there is risk to major sensory or motor
     nerves;
8. Surgery for:
   - intracranial arteriovenous malformations;
   - arteriovenous malformation of spinal cord;
   - surgery for intractable movement disorders;
   - cerebral vascular aneurysms;
   - surgery for intractable movement disorders
9. Arteriography, during which there is a test occlusion of the carotid artery;
10. Circulatory arrest with hypothermia;
11. Distal aortic procedures, where there is risk of ischemia to spinal cord; and
12. Leg lengthening procedures, where there is traction on sciatic nerve or other nerve trunks;
13. Basil ganglia movement disorders;
14. Surgery as a result of traumatic injury to spinal cord/brain;
15. Deep brain stimulation;

Modifiers

CPTs 95940 and 95941 are add-on codes and therefore not eligible for modifiers.

Medicaid

PacificSource Medicaid follows Oregon Health Plan (OHP) Prioritized List of Health Services,
Diagnostic Procedure Codes Group 1119 and Oregon Administrative Rules (OAR) 410-141-3820 to
3825 for coverage of Intraoperative Neurophysiologic Monitoring (IOM).

PacificSource Medicaid considers CPT codes 95928 & 95929 interventions that are unproven, have no
clinically important benefit, or have harms that outweigh benefits per Guideline Note 173 of the OHP
Prioritized List of Health Services

Medicare

PacificSource Medicare uses Local Coverage Determinations (LCD) L34623 and L35003 for guidance
in coverage decisions for Intraoperative Neurophysiologic Monitoring.
The following list of codes are for informational purposes only and may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

95861 Needle electromyography; 2 extremities with or without related paraspinal areas

- Needle electromyography (EMG) records the electrical properties of muscle using an oscilloscope. Recordings, which may be amplified and heard through a loudspeaker, are made during needle insertion, with the muscle at rest, and during contraction. These codes are reported when there are no nerve conduction studies performed in conjunction with these procedures during the same day. Report 95860 when one extremity (arm or leg) is tested; 95861 for tests of two extremities; 95863 for tests of three extremities; and 95864 for tests of four extremities.

95867 Needle electromyography, cranial nerve supplied muscles, unilateral

- Needle electromyography (EMG) records the electrical properties of muscle using an oscilloscope. Recordings, which may be amplified and heard through a loudspeaker, are made during needle insertion, with the muscle at rest, and during contraction. These codes are specific to the 12 nerves that emerge from or enter the cranium. These codes are reported when there are no nerve conduction studies performed in conjunction with these procedures during the same day. Report 95867 for unilateral studies and 95868 for bilateral studies.

95870 Needle electromyography; limited study of muscles in 1 extremity or non-limb muscles, other than thoracic paraspinal, cranial nerve supplied muscles, or sphincters

- Needle electromyography (EMG) records the electrical properties of thoracic paraspinal muscles, excluding T1 or T12 (95869) using an oscilloscope. Recordings, which may be amplified and heard through a loudspeaker, are made during needle insertion, with the muscle at rest, and during contraction. These codes are reported when there are no nerve conduction studies performed in conjunction with these procedures during the same day. Report 95870 for a limited study of muscles in one extremity or non-limb (axial) muscles other than thoracic paraspinal or cranial supplied muscles or sphincters.

95925 Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves or skin sites, recording from the central nervous system; in upper limbs

- The physician uses somatosensory-evoked potential to provide information about the integrity of the peripheral nerves, spinal cord, brain stem, and the cortex. Evoked potentials require low voltages and the placement of electrodes on the scalp near the parts of the nervous system where the signals are generated. The physician may place electrical stimulation at the median nerve of the wrist or the posterior tibial nerve at the ankle, or the physician may stimulate points between these and the central nervous system. Many applications may be necessary to screen background noise to measure the interval between stimulation and the generated response. Report 95925 if the upper limbs are being tested; 95926 for tests of the lower limbs; 95938 if the upper and lower limbs are being tested; and 95927 for tests of the trunk or head.

95926 Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves or skin sites, recording from the central nervous system; in lower limbs

- The physician uses somatosensory-evoked potential to provide information about the integrity of the peripheral nerves, spinal cord, brain stem, and the cortex. Evoked potentials require low voltages and the placement of electrodes on the scalp near the parts of the nervous system where the signals are generated. The physician may place electrical stimulation at the median nerve of the wrist or the
posterior tibial nerve at the ankle, or the physician may stimulate points between these and the central nervous system. Many applications may be necessary to screen background noise to measure the interval between stimulation and the generated response. Report 95925 if the upper limbs are being tested; 95926 for tests of the lower limbs; 95938 if the upper and lower limbs are being tested; and 95927 for tests of the trunk or head.

95927 Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves or skin sites, recording from the central nervous system; in the trunk or head

95927 - The physician uses somatosensory-evoked potential to provide information about the integrity of the peripheral nerves, spinal cord, brain stem, and the cortex. Evoked potentials require low voltages and the placement of electrodes on the scalp near the parts of the nervous system where the signals are generated. The physician may place electrical stimulation at the median nerve of the wrist or the posterior tibial nerve at the ankle, or the physician may stimulate points between these and the central nervous system. Many applications may be necessary to screen background noise to measure the interval between stimulation and the generated response. Report 95925 if the upper limbs are being tested; 95926 for tests of the lower limbs; 95938 if the upper and lower limbs are being tested; and 95927 for tests of the trunk or head.

95928 Central motor evoked potential study (transcranial motor stimulation); upper limbs

95928 - The physician uses transcranial central motor evoked potential to provide information about the integrity of the peripheral nerves, spinal cord, brain stem, and the cortex. Evoked potentials require low voltages and the placement of electrodes on the scalp near the parts of the nervous system where the signals are generated. Following skin preparation with acetone, the physician places electrodes that provide electrical stimulation at selected sites on the scalp. Cutaneous electrodes are also placed at target sites. Common target sites are the finger, forearm, biceps, and/or leg. The physician uses transcranial motor stimulation to test motor response in target muscles. Responses are recorded in target muscles with surface or coaxial electrodes. Transcranial stimulation cannot target specific muscles; however, it does allow stimulation of specific muscle groups. Report 95928 if the upper limbs are being tested; 95929 for tests of the lower limbs; and 95939 for tests of the upper and lower limbs.

95929 Central motor evoked potential study (transcranial motor stimulation); lower limbs

95929 - The physician uses transcranial central motor evoked potential to provide information about the integrity of the peripheral nerves, spinal cord, brain stem, and the cortex. Evoked potentials require low voltages and the placement of electrodes on the scalp near the parts of the nervous system where the signals are generated. Following skin preparation with acetone, the physician places electrodes that provide electrical stimulation at selected sites on the scalp. Cutaneous electrodes are also placed at target sites. Common target sites are the finger, forearm, biceps, and/or leg. The physician uses transcranial motor stimulation to test motor response in target muscles. Responses are recorded in target muscles with surface or coaxial electrodes. Transcranial stimulation cannot target specific muscles; however, it does allow stimulation of specific muscle groups. Report 95928 if the upper limbs are being tested; 95929 for tests of the lower limbs; and 95939 for tests of the upper and lower limbs.

95937 Neuromuscular Junction Test, Each Nerve, Any One Method

95937 - The physician uses sensors to measure and record nerve functions such as conduction and amplitude. This code applies to measure the junction between nerves and muscles for one nerve.

95938 Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves or skin sites, recording from the central nervous system; in upper and lower limbs

95938 - The physician uses somatosensory-evoked potential to provide information about the integrity of the peripheral nerves, spinal cord, brain stem, and the cortex. Evoked potentials require low voltages and the placement of electrodes on the scalp near the parts of the nervous system where the signals are generated. The physician may place electrical stimulation at the median nerve of the wrist or the
posterior tibial nerve at the ankle, or the physician may stimulate points between these and the central nervous system. Many applications may be necessary to screen background noise to measure the interval between stimulation and the generated response. Report 95925 if the upper limbs are being tested; 95926 for tests of the lower limbs; 95938 if the upper and lower limbs are being tested; and 95927 for tests of the trunk or head. Central motor evoked potential study (transcranial motor stimulation); in upper and lower limbs

95939 - The physician uses transcranial central motor evoked potential to provide information about the integrity of the peripheral nerves, spinal cord, brain stem, and the cortex. Evoked potentials require low voltages and the placement of electrodes on the scalp near the parts of the nervous system where the signals are generated. Following skin preparation with acetone, the physician places electrodes that provide electrical stimulation at selected sites on the scalp. Cutaneous electrodes are also placed at target sites. Common target sites are the finger, forearm, biceps, and/or leg. The physician uses transcranial motor stimulation to test motor response in target muscles. Responses are recorded in target muscles with surface or coaxial electrodes. Transcranial stimulation cannot target specific muscles; however, it does allow stimulation of specific muscle groups. Report 95928 if the upper limbs are being tested; 95929 for tests of the lower limbs; and 95939 for tests of the upper and lower limbs.

95940 Continuous Intraop Neurophysiology Monitoring in the operating Room, One On One Requiring Personal Attendance, each 15 Min

95940 - Continuous intraoperative neurophysiology monitoring (IONM) is performed by a qualified health care provider other than the surgeon or anesthesiologist involved in the surgical procedure. IONM may include various electrophysiologic modalities, such as electroencephalography (EEG), electromyography (EMG), and evoked potentials. The provider must be solely dedicated to monitoring the neurophysiological tests and available to intervene if necessary. Report 95940 for each set of 15 minutes that the monitoring is done from within the operating room in a one-on-one setting. Report 95941 for each hour of monitoring done from a remote or nearby location for one or more overlapping operative sessions.

95941 Continuous intraoperative neurophysiology monitoring, from outside the operating room (remote or nearby) or for monitoring of more than one case while in the operating room, per hour (List separately in addition to code for primary procedure)

95941 - Continuous intraoperative neurophysiology monitoring, from OUTSIDE the operating room (remote or nearby) or for monitoring of more than one case while in the operating room, per hour (List separately in addition to code for primary procedure Continuous intraoperative neurophysiology monitoring (IONM) is performed by a qualified health care provider other than the surgeon or anesthesiologist involved in the surgical procedure. IONM may include various electrophysiologic modalities, such as electroencephalography (EEG), electromyography (EMG), and evoked potentials. The provider must be solely dedicated to monitoring the neurophysiological tests and available to intervene if necessary. Report 95940 for each set of 15 minutes that the monitoring is done from within the operating room in a one-on-one setting. Report 95941 for each hour of monitoring done from a remote or nearby location for one or more overlapping operative sessions.

95955 Electroencephalogram (EEG) During Non-intracranial Surgery

95955 - The physician places sensors on a patient’s head in an electroencephalogram (EEG) to measure and record the brain’s electrical activity. This code applies to an EEG during surgery exclusive of surgery to the brain.

95999 Unlisted Neurological/Neuromuscular Diagnosis procedure - (an unlisted code – will require documentation to support the use of this code during a procedure)

HCPCS Code - G0453 - Continuous intraoperative neurophysiology monitoring, from outside the operating room (remote or nearby), per patient, (attention directed exclusively to one patient) each 15 minutes (list in addition to primary procedure)
Continuous intraoperative neurophysiology monitoring (IONM) is performed by a qualified health care provider other than the surgeon or anesthesiologist involved in the surgical procedure. IONM may include various electrophysiologic modalities, such as electroencephalography (EEG), electromyography (EMG), and evoked potentials. The provider must be solely dedicated to monitoring the neurophysiological tests and available to intervene if necessary.

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**References**

- AAPC ICD10 Expert for Providers and Facilities (2020)
- AMA Professional CPT Manual CPT Copyright American Medical Association (2020)
- Optum MRE 360/ Optum Professional Edition HCPCs Level II (2020)

**Appendix**

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