



MEDICAL COVERAGE POLICY

**SERVICE: Intraoperative
Neurophysiological
Monitoring**

Policy Number: 234

Effective Date: 09/01/2023

Last Review: 07/27/2023

Next Review Date: 07/27/2024

Important note

Unless otherwise indicated, this policy will apply to all lines of business.

Even though this policy may indicate that a particular service or supply may be considered medically necessary and thus covered, this conclusion is not based upon the terms of your particular benefit plan. Each benefit plan contains its own specific provisions for coverage and exclusions. Not all benefits that are determined to be medically necessary will be covered benefits under the terms of your benefit plan. You need to consult the Evidence of Coverage (EOC) or Summary Plan Description (SPD) to determine if there are any exclusions or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and your plan of benefits, the provisions of your benefits plan will govern. However, applicable state mandates will take precedence with respect to fully insured plans and self-funded non-ERISA (e.g., government, school boards, church) plans. Unless otherwise specifically excluded, Federal mandates will apply to all plans. With respect to Medicare-linked plan members, this policy will apply unless there are Medicare policies that provide differing coverage rules, in which case Medicare coverage rules supersede guidelines in this policy. Medicare-linked plan policies will only apply to benefits paid for under Medicare rules, and not to any other health benefit plan benefits. CMS's Coverage Issues Manual can be found on the CMS website. Similarly, for Medicaid-linked plans, the Texas Medicaid Provider Procedures Manual (TMPPM) supersedes coverage guidelines in this policy where applicable.

SERVICE: Neurophysiological Monitoring During Procedure or Intraoperative Neurophysiologic Monitoring (IONM)

PRIOR AUTHORIZATION: **Required.**

POLICY: Please review the plan's EOC (Evidence of Coverage) or Summary Plan Description (SPD) for coverage details.

For Medicare plans, please refer to appropriate Medicare NCD (National Coverage Determination) or LCD (Local Coverage Determination). If there is no applicable NCD or LCD, use the criteria set forth below.

For Medicaid plans, please confirm coverage as outlined in the Texas Medicaid TMPPM.

BSWHP may consider continuous intraoperative neurophysiologic monitoring (IONM) medically necessary when **ALL** of the following criteria are met:

1. Due to the nature of these services and the potential for significant morbidity in procedures requiring intraoperative monitoring, these services may be considered medically necessary in the **inpatient setting ONLY**.
2. IOM is performed by either a licensed physician trained in clinical neurophysiology (e.g., neurologist, physiatrist) or a trained technologist who is practicing within the scope of his/her license/certification as defined by state law (if applicable) or appropriate authorities, is working under the direct supervision of a physician trained in neurophysiology, and is in continuous attendance in the operating room
3. IOM is interpreted by a licensed physician trained in clinical neurophysiology, other than the operating surgeon or anesthesiologist, who is physically present in the operating suite and is immediately available to interpret the recording and advise the surgeon. Continuously communication with the surgical team is a key component of this service.

NOTE: Intraoperative monitoring may be considered reimbursable as a separate service **ONLY** when a licensed physician, other than the operating surgeon, performs the monitoring while physically present in the operating room throughout the procedure.

MEDICAL COVERAGE POLICY

**SERVICE: Intraoperative
Neurophysiological
Monitoring**

Policy Number: 234

Effective Date: 09/01/2023

Last Review: 07/27/2023

Next Review Date: 07/27/2024

4. There is significant risk of nerve or spinal cord injury during a surgical procedure that can be detected and prevented through use of IONM, such as the following (this list may not be all inclusive):
- Recurrent laryngeal nerve monitoring in patients undergoing: high-risk thyroid or parathyroid surgery, e.g., total thyroidectomy, repeat thyroid or parathyroid surgery, surgery for cancer, thyrotoxicosis, retrosternal or giant goiter, thyroiditis; OR
 - 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 pseudoarthrosis, or revision for failed fusion), or
 - ✓ multilevel anterior cervical discectomy and fusion
 - monitoring of a cranial nerve during head and/or neck surgery, e.g., resection of skull base tumor, resection of tumor involving a cranial nerve, cavernous sinus tumor, neck dissection, epileptogenic brain tumor/tissue resection
 - risk for cerebral ischemia. e.g., surgery of the aortic arch, thoracic aorta, internal carotid artery endarterectomy, intracranial arteriovenous malformation, bronchial artery arteriovenous malformation or tumor, cerebral aneurysm
 - monitoring of facial nerve function during surgery, e.g., acoustic neuroma, microvascular decompression of the facial nerve for hemifacial spasm, parotid tumor resection, neurotologic/otologic procedures
 - monitoring of spinal cord function during a spinal procedure when there is risk of cord compression or mechanical spinal distraction, e.g., correction of scoliosis surgery, spinal cord tumor
 - the planned surgery poses a potential risk of significant damage to an essential nervous system structure, e.g., neuroma of peripheral nerve, leg lengthening procedure when there is traction on the sciatic nerve

IONM for is NOT considered medically necessary for ANY of the following because there is insufficient medical literature demonstrating benefit:

- monitoring during lumbar surgery performed below vertebral level L1 - L2
- monitoring during epidural injections
- monitoring during radiofrequency ablation/denervation procedures
- monitoring during placement of spinal cord stimulator or an intrathecal pain pump

IONM has been deemed experimental, investigational and/or unproven for the following:

- Intraoperative EMG and nerve conduction velocity monitoring on the peripheral nerves during surgery
- Intraoperative monitoring of visual-evoked potentials
- IONM of the recurrent laryngeal nerve during anterior cervical spine surgery not meeting the criteria above or during esophageal surgeries

MEDICAL COVERAGE POLICY

**SERVICE: Intraoperative
Neurophysiological
Monitoring**

Policy Number: 234

Effective Date: 09/01/2023

Last Review: 07/27/2023

Next Review Date: 07/27/2024

OVERVIEW:

Intraoperative neurophysiological monitoring has been utilized in attempts to minimize neurological morbidity from operative manipulations. The goal of such monitoring is to identify changes in brain, spinal cord, and peripheral nerve function prior to irreversible damage. Intraoperative monitoring also has been effective in localizing anatomical structures, including peripheral nerves and sensorimotor cortex, which helps guide the surgeon during dissection.

Evoked potential monitoring includes somatosensory evoked potentials (SSEP), brainstem auditory evoked potentials (BAEP), motor evoked potentials (MEP), and visual evoked potentials (VEP). Electromyography (EMG) also is used extensively during operative cases. Scalp electroencephalography (EEG) provides data for analysis in SSEP, BAEP, and VEP. Scalp EEG also can be used to monitor cerebral function during carotid or other vascular surgery. In addition, EEG recorded directly from the pial surface, or electrocorticography (ECoG), is used to help determine resection margins for epilepsy surgery, and to monitor for seizures during electrical stimulation of the brain carried out while mapping cortical function.

Due to the nature of these services and the potential for significant morbidity in some procedures requiring intraoperative monitoring, these services are considered reasonable and necessary in the inpatient setting only. Undivided attention to a unique patient will be required during surgeries covered for this procedure.

Base codes:

- 95813 Electroencephalogram (EEG) extended monitoring; greater than 1 hour
- 95829 Electrocorticogram at surgery
- 95864 EMG, four extremities (five or more muscles)
- 95870 Stimulated EMG (four or fewer muscles in 1 extremity), commonly used for pedicle screw testing
- 95925 Short-latency somatosensory evoked potential study, recording from the central nervous system; in upper limbs
- 95926 Short-latency somatosensory evoked potential study, recording from the central nervous system; in lower limbs
- 95927 Short-latency somatosensory evoked potential study, recording from the central nervous system; in the trunk or head
- 95928 Central motor evoked potential study (transcranial motor stimulation); upper limbs
- 95929 Central motor evoked potential study (transcranial motor stimulation); lower limbs
- 95937 Neuromuscular junction testing
- 95938 Somatosensory evoked potentials (SSEPs), upper and lower limbs
- 95939 Motor evoked potentials (MEPs), upper and lower limbs
- 95865 Needle electromyography; larynx
- 95955 Electroencephalogram (EEG) during non-intracranial surgery

Add-on codes:

MEDICAL COVERAGE POLICY

SERVICE: Intraoperative Neurophysiological Monitoring

Policy Number: 234

Effective Date: 09/01/2023

Last Review: 07/27/2023

Next Review Date: 07/27/2024

- 95940 Continuous IOM intraoperative neurophysiology monitoring in the operating room, one on one monitoring requiring personal attendance, each 15 minutes
- 95885 Needle electromyography each extremity done with nerve conduction, amplitude and latency/velocity study.

Medicare 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

CODES:

Important note:

CODES: Due to the wide range of applicable diagnosis codes and potential changes to codes, an inclusive list may not be presented, but the following codes may apply. Inclusion of a code in this section does not guarantee that it will be reimbursed, and patient must meet the criteria set forth in the policy language.

CPT Codes:	<p>+95940 Continuous intraoperative neurophysiology monitoring in the operating room, one on one monitoring requiring personal attendance.</p> <p>Other codes that may be associated with IOM:</p> <p>95813 Electroencephalogram (EEG) extended monitoring; greater than 1 hour</p> <p>95829 Electrocorticogram at surgery</p> <p>95864 EMG, four extremities (five or more muscles)</p> <p>95870 Stimulated EMG (four or fewer muscles in 1 extremity), commonly used for pedicle screw testing</p> <p>+95885 Needle electromyography each extremity done with nerve conduction, amplitude and latency/velocity study</p> <p>95925 Short-latency somatosensory evoked potential study, recording from the central nervous system; in upper limbs</p> <p>95926 Short-latency somatosensory evoked potential study, recording from the central nervous system; in lower limbs</p> <p>95927 Short-latency somatosensory evoked potential study, recording from the central nervous system; in the trunk or head</p> <p>95928 Central motor evoked potential study (transcranial motor stimulation); upper limbs</p> <p>95929 Central motor evoked potential study (transcranial motor stimulation); lower limbs</p> <p>95937 Neuromuscular junction testing</p> <p>95938 Somatosensory evoked potentials (SSEPs), upper and lower limbs</p> <p>95939 Motor evoked potentials (MEPs), upper and lower limbs</p> <p>95865 Needle electromyography; larynx</p> <p>95955 Electroencephalogram (EEG) during nonintracranial surgery</p> <p>Medicare ONLY: G0453 Continuous intraoperative neurophysiology monitoring, from outside the operating room (remote or nearby), per patient</p>
CPT Not Covered:	<p>+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,</p> <p>Non-Medicare: G0453 Continuous intraoperative neurophysiology monitoring, from outside the operating room (remote or nearby), per patient</p>
ICD10 codes:	



MEDICAL COVERAGE POLICY

SERVICE: Intraoperative Neurophysiological Monitoring

Policy Number: 234

Effective Date: 09/01/2023

Last Review: 07/27/2023

Next Review Date: 07/27/2024

ICD10 Not covered:

CMS: LCD L35003 Intraoperative Neurophysiological Testing rev 11/14/2019. LCA A56722

POLICY HISTORY:

Status	Date	Action
New	06/13/2017	New policy
Update	08/24/2017	Changed PA status to "Required"
Review	04/24/2018	No changes
Review	07/25/2019	No changes
Review	06/25/2020	Updated language for use across all LOBs
Review	06/24/2021	No changes
Review	06/23/2022	No changes
Updated	09/22/2022	Clarified situations appropriate for IONM
Reviewed	07/27/2023	Minor clarifications

REFERENCES:

The following scientific references were utilized in the formulation of this medical policy. BSWHP will continue to review clinical evidence related to this policy and may modify it at a later date based upon the evolution of the published clinical evidence. Should additional scientific studies become available and they are not included in the list, please forward the reference(s) to BSWHP so the information can be reviewed by the Medical Coverage Policy Committee (MCPC) and the Quality Improvement Committee (QIC) to determine if a modification of the policy is in order.

1. Sutter MA, Eggspuehler A, Grob D, Porchet F, Jeszenszky D, Dvorak J. Multimodal intraoperative monitoring (MIOM) during 409 lumbosacral surgical procedures in 409 patients. *Eur Spine J.* 2007 Nov;16 Suppl 2:S221-8. Epub 2007 Oct 3.
2. Uribe JS, Isaacs RE, Youssef JA, Khajavi K, Balzer JR, Kanter AS, Küelling FA, Peterson MD; SOLAS Degenerative Study Group. Can triggered electromyography monitoring throughout retraction predict postoperative symptomatic neuropraxia after XLIF? Results from a prospective multicenter trial. *Eur Spine J.* 2015 Apr;24 Suppl 3:378-85.
3. Yaylali I, Ju H, Yoo J, Ching A, Hart R. Intraoperative neurophysiological monitoring in anterior lumbar interbody fusion surgery. *J Clin Neurophysiol.* 2014 Aug;31(4):352-5.
4. Pease M, Gandhoke GS, Kaur J, Thirumala P, Balzer J, Crammond D, Okonkwo DO, Kanter AS. Predictive Value of Intraoperative Neurophysiological Monitoring During Spine Surgery: A Prospective Analysis of 4489 Consecutive Patients. *Neurosurgery.* 2016 Aug;63 Suppl 1:192-3.

Note: Health Maintenance Organization (HMO) products are offered through Scott and White Health Plan dba Baylor Scott & White Health Plan, and Scott & White Care Plans dba Baylor Scott & White Care Plan. Insured PPO and EPO products are offered through Baylor Scott & White Insurance Company. Scott and White Health Plan dba Baylor Scott & White Health Plan serves as a third-party administrator for self-funded employer-sponsored plans. Baylor Scott & White Care Plan and Baylor Scott & White Insurance Company are wholly owned subsidiaries of Scott and White Health Plan. These companies are referred to collectively in this document as Baylor Scott & White Health Plans.

RightCare STAR Medicaid plans are offered through Scott and White Health Plan in the Central Managed Care Service Area (MRSA) and STAR and CHIP plans are offered through SHA LLC dba



MEDICAL COVERAGE POLICY

**SERVICE: Intraoperative
Neurophysiological
Monitoring**

Policy Number: 234

Effective Date: 09/01/2023

Last Review: 07/27/2023

Next Review Date: 07/27/2024

FirstCare Health Plans (FirstCare) in the Lubbock and West MRSAs. Individual HMO plans are offered through FirstCare in West Texas.