

**Contractor Name**

Wisconsin Physicians Service (WPS)

**Contractor Number**

00951, 00952, 00953, 00954  
05101, 05201, 05301, 05401,  
05102, 05202, 05302, 05402,  
52280

**Contractor Type**

Carrier B  
Fiscal Intermediary A  
MAC A  
MAC B

**LCD Database ID Number**

**LCD Version Number**

**LCD Title**

Intraoperative Neurophysiological Testing

**Contractor's Determination Number**

GSURG-034

**AMA CPT/ ADA CDT Copyright Statement**

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**CMS National Coverage Policy**

Title XVIII of the Social Security Act, Section 1862(a)(1)(A) states that no Medicare payment shall be made for items or services which are not reasonable and necessary for the diagnosis or treatment of illness or injury.

Title XVIII of the Social Security Act, Section 1862(a)(7). This section excludes routine physical examinations.

Title XVIII of the Social Security Act, Section 1833(e) states that no payment shall be made to any provider for any claim that lacks the necessary information to process the claim.

**Primary Geographic Jurisdiction**

**Carrier B:** Wisconsin, Illinois, Michigan, Minnesota

**Fiscal Intermediary A:** Alaska, Alabama, Arizona, Arkansas, California - Entire State, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Iowa, Idaho, Illinois, Indiana,

Kansas, Kentucky, Louisiana, Massachusetts, Maryland, Maine, Michigan, Minnesota, Missouri - Entire State, Mississippi, Montana, North Carolina, North Dakota, Nebraska, New Hampshire, New Jersey, New Mexico, Nevada, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Vermont, Washington, Wisconsin, West Virginia, Wyoming, American Samoa, Guam, Northern Mariana Islands, U.S. Virgin Islands

**MAC A/B:** Iowa, Missouri, Nebraska, Kansas

## **Secondary Geographic Jurisdiction**

### **Oversight Region**

### **Original Determination Effective Date**

### **Revision Effective Date**

### **Indications and Limitations of Coverage and/or Medical Necessity**

Intraoperative neurophysiological testing may be used to identify/prevent complications during surgery on the nervous system, its blood supply, or adjacent tissue.

Monitoring can identify new neurologic impairment, identify, or separate nervous system structures (e.g., around or in a tumor), and can demonstrate which tracts or nerves are still functional. Intraoperative neurophysiological testing may provide relative reassurance to the surgeon that no identifiable complication has been detected up to a certain point, allowing the surgeon to proceed further and provide a more thorough or careful surgical intervention than would have been provided in the absence of monitoring.

Some high-risk patients may be candidates for a surgical procedure only if monitoring is available. To establish medical necessity the following guidelines must be followed:

Intraoperative testing may be indicated with the following types of surgery:

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:
  - a. tumors that are optic, trigeminal, facial, auditory nerves
  - b. cavernous sinus tumors
  - c. oval or round window graft
  - d. endolymphatic shunt for Ménière's disease
  - e. vestibular section for vertigo
  - f. microvascular decompression of cranial nerves
5. Correction of scoliosis or deformity of spinal cord involving traction on the cord;
6. Protection of spinal cord where work is performed in close proximity to cord as in the removal of old hardware or where there have been numerous interventions
7. Spinal instrumentation requiring pedicle screws or distraction
8. Decompressive procedures on the spinal cord or cauda equina carried out for telepathy or claudication where function of spinal cord or spinal nerves is at risk;
9. Resection of:
  - a. Spinal cord tumors;

- b. Neuromas of peripheral nerves or brachial plexus, when there is risk to major sensory or motor nerves;
- 10. Surgery for:
  - a. intracranial AV malformations;
  - b. arteriovenous malformation of spinal cord;
  - c. surgery for intractable movement disorders;
  - d. cerebral vascular aneurysms
  - e. surgery for intractable movement disorders
- 11. Arteriography, during which there is a test occlusion of the carotid artery;
- 12. Circulatory arrest with hypothermia;
- 13. Distal aortic procedures, where there is risk of ischemia to spinal cord; and
- 14. Leg lengthening procedures, where there is traction on sciatic nerve or other nerve trunks;
- 15. Basal ganglia movement disorders
- 16. Surgery as a result of traumatic injury to spinal cord/brain
- 17. Deep brain stimulation

### Limitations

This test must be requested by the operating surgeon and the monitoring must be performed by a physician, other than:

The operating surgeon

The technical/surgical assistant; or

The anesthesiologist rendering the anesthesia

The benefits of intraoperative neurophysiologic testing are attainable under optimal recording and interpreting conditions.

Due to the nature of these services and the potential for significant morbidity in some procedures requiring intraoperative monitoring, Medicare expects to see these services used in the inpatient setting only. As the level of anesthesia may significantly impact the ability to interpret intraoperative studies, continuous communication between the anesthesiologist and the monitoring physician is expected when medically indicated.

It is also expected that a specifically trained technician, preferably registered with one of the credentialing organizations such as the American Board of Neurophysiologic Monitoring or the American Board of Registration of Electrodiagnostic Technologists will be in continuous attendance in the operating room, recording and monitoring a single surgical case, with either the physical or electronic capacity for real-time communication with the supervising neurologist or other physician trained in neurophysiology.

Intraoperative monitoring is not medically necessary in situations where historical data and current practices reveal no potential for damage to neural integrity during surgery. Monitoring under these circumstances will exceed the patient's medical need.

Due to the potential risk for morbidity with many of the above noted surgeries and the need for explicit and focused attention to both the monitoring and the procedure, Medicare does not expect to see operating surgeons submitting claims for this code. Monitoring may be performed from a remote site, as long as a trained technician (see detail above) will be in continuous attendance in the operating room, with either the physical or electronic capacity for real-time communication with the supervising physician (MD/DO). Technical criteria (mandatory) include that at least eight recording channels be available (16 if EEG is

monitored) for all intraoperative neurophysiological monitoring. The remotely supervising physician must have the ability to watch the tracings as they are obtained in real-time in the operating room, as well as the baseline electrophysiological test and the monitoring tracings from earlier in the case.

Technical criteria (mandatory) for remote monitoring also include (a) routine real-time auditory or written communication between the supervising physician and the operating room and (b) the capability for telephone communications as needed between the supervising physician and the monitoring technologist, operating surgeon and the anesthesiologist.

The equipment must also provide for all of the monitoring modalities that may be applied with code 95920 - auditory-evoked response, electroencephalography/electrocorticography, electromyography and nerve conduction and somatosensory-evoked response.

Undivided attention to a unique patient may be required during some surgeries, such as during response to acute events or identification of the cerebral cortex to be resected or spared from resection. The monitoring physician must have a plan in place to transfer care to another physician of any other case during those times. When paying undivided attention to a unique patient, the physician must code and bill only for that one case during those times. For other medically necessary intraoperative neurophysiologic monitoring, a physician may code and bill for up to three cases simultaneously.

Medicare does not provide for reimbursement of "incident to" care in the hospital setting. More than one patient may be monitored at once; however, claims for physician services must be submitted only for the time devoted to monitoring. This time, however, may be cumulative, and does not have to be continuous, i.e., one-half hour of continuous attendance followed by another one-half hour later in the procedure will constitute one hour of monitoring.

### **Bill Type Codes**

Contractors may specify Bill Types to help providers identify those Bill Types typically used to report this service. Absence of a Bill Type does not guarantee that the policy does not apply to that Bill Type. Complete absence of all Bill Types indicates that coverage is not influenced by Bill Type and the policy should be assumed to apply equally to all claims.

11x	Hospital –inpatient(including Part A)
12x	Hospital inpatient or home health visits(part B only)
13x	Hospital –outpatient (HHA-A also) (under OPSS 13X must be used for ASC claims submitted for OPSS payment—eff. 7/00)
83x	Special facility or ASC surgery-ambulatory surgical center (Discontinued for Hospitals Subject to Outpatient PPS; hospitals must use 13X for ASC claims submitted for OPSS payment -- eff. 7/00)
85x	Special facility or ASC surgery-rural primary care hospital (eff 10/94)

### **Revenue Codes**

Contractors may specify Revenue Codes to help providers identify those Revenue Codes typically used to report this service. In most instances Revenue Codes are purely advisory; unless specified in the policy services reported under other Revenue Codes are equally subject to this coverage determination.

Complete absence of all Revenue Codes indicates that coverage is not influenced by Revenue Code and the policy should be assumed to apply equally to all Revenue Codes.

036x	Operating room services-general classifications
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**CPT/HCPCS Codes**

95920	Intraoperative neurophysiological testing, per hour (list separately in addition to code for primary procedure)
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**Does the CPT 30% Rule Apply**

No

**ICD-9 Codes that Support Medical Necessity**

Note: ICD-9 codes must be coded to the highest level of specificity.

170.2	MALIGNANT NEOPLASM OF VERTEBRAL COLUMN EXCLUDING SACRUM AND COCCYX
192.0-192.9	MALIGNANT NEOPLASM OF CRANIAL NERVES - MALIGNANT NEOPLASM OF NERVOUS SYSTEM PART UNSPECIFIED
198.3	SECONDARY MALIGNANT NEOPLASM OF BRAIN AND SPINAL CORD
198.4	SECONDARY MALIGNANT NEOPLASM OF OTHER PARTS OF NERVOUS SYSTEM
225.0 - 225.9	BENIGN NEOPLASM OF BRAIN - BENIGN NEOPLASM OF NERVOUS SYSTEM PART UNSPECIFIED
237.0	NEOPLASM OF UNCERTAIN BEHAVIOR OF PITUITARY GLAND AND CRANIOPHARYNGEAL DUCT
237.1	NEOPLASM OF UNCERTAIN BEHAVIOR OF PINEAL GLAND
237.5	NEOPLASM OF UNCERTAIN BEHAVIOR OF BRAIN AND SPINAL CORD
237.6	NEOPLASM OF UNCERTAIN BEHAVIOR OF MENINGES
237.70- 237.72	NEUROFIBROMATOSIS UNSPECIFIED - NEUROFIBROMATOSIS TYPE 2 ACOUSTIC NEUROFIBROMATOSIS
237.9	NEOPLASM OF UNCERTAIN BEHAVIOR OF OTHER AND UNSPECIFIED PARTS OF NERVOUS SYSTEM
239.6	NEOPLASM OF UNSPECIFIED NATURE OF BRAIN
324.1	INTRASPINAL ABSCESS
336.0	SYRINGOMYELIA AND SYRINGOBULBIA
343.8	OTHER SPECIFIED INFANTILE CEREBRAL PALSY
343.9	INFANTILE CEREBRAL PALSY UNSPECIFIED
348.4	COMPRESSION OF BRAIN
350.1	TRIGEMINAL NEURALGIA
350.2	ATYPICAL FACE PAIN
352.9	UNSPECIFIED DISORDER OF CRANIAL NERVES
353.0	BRACHIAL PLEXUS LESIONS
353.1	LUMBOSACRAL PLEXUS LESIONS
353.2	CERVICAL ROOT LESIONS NOT ELSEWHERE CLASSIFIED
353.3	THORACIC ROOT LESIONS NOT ELSEWHERE CLASSIFIED
353.4	LUMBOSACRAL ROOT LESIONS NOT ELSEWHERE CLASSIFIED
385.30-385.35	CHOLESTEATOMA UNSPECIFIED - DIFFUSE CHOLESTEATOSIS OF MIDDLE EAR AND MASTOID

430	SUBARACHNOID HEMORRHAGE
431	INTRACEREBRAL HEMORRHAGE
432.0 - 432.9	NONTRAUMATIC EXTRADURAL HEMORRHAGE - UNSPECIFIED INTRACRANIAL HEMORRHAGE
433.00- 433.91	OCCLUSION AND STENOSIS OF BASILAR ARTERY WITHOUT CEREBRAL INFARCTION - OCCLUSION AND STENOSIS OF UNSPECIFIED PRECEREBRAL ARTERY WITH CEREBRAL INFARCTION
434.00- 434.91	CEREBRAL THROMBOSIS WITHOUT CEREBRAL INFARCTION - CEREBRAL ARTERY OCCLUSION UNSPECIFIED WITH CEREBRAL INFARCTION
435.0 - 435.9	BASILAR ARTERY SYNDROME - UNSPECIFIED TRANSIENT CEREBRAL ISCHEMIA
437.3	CEREBRAL ANEURYSM NONRUPTURED
437.5	MOYAMOYA DISEASE
441.00- 441.03	DISSECTION OF AORTA ANEURYSM UNSPECIFIED SITE - DISSECTION OF AORTA THORACOABDOMINAL
441.1 - 441.9	THORACIC ANEURYSM RUPTURED - AORTIC ANEURYSM OF UNSPECIFIED SITE WITHOUT RUPTURE
443.21	DISSECTION OF CAROTID ARTERY
443.24	DISSECTION OF VERTEBRAL ARTERY
443.29	DISSECTION OF OTHER ARTERY
721.1	CERVICAL SPONDYLOSIS WITH MYELOPATHY
721.41 - 721.42	SPONDYLOSIS WITH MYELOPATHY THORACIC REGION - SPONDYLOSIS WITH MYELOPATHY LUMBAR REGION
721.91	SPONDYLOSIS OF UNSPECIFIED SITE WITH MYELOPATHY
722.70 - 722.73	INTERVERTEBRAL DISC DISORDER WITH MYELOPATHY UNSPECIFIED REGION - INTERVERTEBRAL DISC DISORDER WITH MYELOPATHY LUMBAR REGION
737.10 - 737.19	KYPHOSIS (ACQUIRED) (POSTURAL) - OTHER KYPHOSIS ACQUIRED
737.20	LORDOSIS (ACQUIRED) (POSTURAL)
737.22	OTHER POSTSURGICAL LORDOSIS
737.30 - 737.39	SCOLIOSIS (AND KYPHOSCOLIOSIS) IDIOPATHIC - OTHER KYPHOSCOLIOSIS AND SCOLIOSIS
737.40 - 737.43	UNSPECIFIED CURVATURE OF SPINE ASSOCIATED WITH OTHER CONDITIONS - SCOLIOSIS ASSOCIATED WITH OTHER CONDITIONS
737.8	OTHER CURVATURES OF SPINE ASSOCIATED WITH OTHER CONDITIONS
741.00 - 741.03	SPINA BIFIDA UNSPECIFIED REGION WITH HYDROCEPHALUS - SPINA BIFIDA LUMBAR REGION WITH HYDROCEPHALUS
741.90 - 741.93	SPINA BIFIDA UNSPECIFIED REGION WITHOUT HYDROCEPHALUS - SPINA BIFIDA LUMBAR REGION WITHOUT HYDROCEPHALUS
747.81	CONGENITAL ANOMALIES OF CEREBROVASCULAR SYSTEM
747.82	SPINAL VESSEL ANOMALY
767.4	INJURY TO SPINE AND SPINAL CORD DUE TO BIRTH TRAUMA
767.5	FACIAL NERVE INJURY DUE TO BIRTH TRAUMA
767.6	INJURY TO BRACHIAL PLEXUS DUE TO BIRTH TRAUMA
767.7	OTHER CRANIAL AND PERIPHERAL NERVE INJURIES DUE TO BIRTH TRAUMA
806.01 - 806.09	CLOSED FRACTURE OF C1-C4 LEVEL WITH COMPLETE LESION OF CORD - CLOSED FRACTURE OF C5-C7 LEVEL WITH OTHER SPECIFIED SPINAL CORD INJURY

806.10 - 806.19	OPEN FRACTURE OF C1-C4 LEVEL WITH UNSPECIFIED SPINAL CORD INJURY - OPEN FRACTURE OF C5-C7 LEVEL WITH OTHER SPECIFIED SPINAL CORD INJURY
806.20 - 806.29	CLOSED FRACTURE OF T1-T6 LEVEL WITH UNSPECIFIED SPINAL CORD INJURY - CLOSED FRACTURE OF T7-T12 LEVEL WITH OTHER SPECIFIED SPINAL CORD INJURY
806.30 - 806.39	OPEN FRACTURE OF T1-T6 LEVEL WITH UNSPECIFIED SPINAL CORD INJURY - OPEN FRACTURE OF T7-T12 LEVEL WITH OTHER SPECIFIED SPINAL CORD INJURY
806.4	CLOSED FRACTURE OF LUMBAR SPINE WITH SPINAL CORD INJURY
806.5	OPEN FRACTURE OF LUMBAR SPINE WITH SPINAL CORD INJURY
806.70 - 806.79	OPEN FRACTURE OF SACRUM AND COCCYX WITH UNSPECIFIED SPINAL CORD INJURY - OPEN FRACTURE OF SACRUM AND COCCYX WITH OTHER SPINAL CORD INJURY
806.8	CLOSED FRACTURE OF UNSPECIFIED VERTEBRA WITH SPINAL CORD INJURY
806.9	OPEN FRACTURE OF UNSPECIFIED VERTEBRA WITH SPINAL CORD INJURY
850.4	CONCUSSION WITH PROLONGED LOSS OF CONSCIOUSNESS WITHOUT RETURN TO PRE-EXISTING CONSCIOUS LEVEL
953.0 - 953.9	INJURY TO CERVICAL NERVE ROOT - INJURY TO UNSPECIFIED SITE OF NERVE ROOTS AND SPINAL PLEXUS
955.0 - 955.9	INJURY TO AXILLARY NERVE - INJURY TO UNSPECIFIED NERVE OF SHOULDER GIRDLE AND UPPER LIMB
956.0 - 956.9	INJURY TO SCIATIC NERVE - INJURY TO UNSPECIFIED NERVE OF PELVIC GIRDLE AND LOWER LIMB

### **Diagnoses that Support Medical Necessity**

### **ICD-9 Codes that DO NOT Support Medical Necessity**

### **Diagnoses that DO NOT Support Medical Necessity**

### **Documentation Requirements**

All documentation must be maintained in the patient's medical record and available to the contractor upon request.

Every page of the medical record must be legible and include appropriate patient identification information (e.g. complete name, dates of service). The record must include the physician or non-physician practitioner responsible for providing the care of the patient.

The patient's medical record should document the time spent in monitoring in correlation to the surgery performed.

The submitted Medical record should support the use of the selected ICD-9-CM code(s).  
The submitted CPT/HCPCS code should describe the service performed.

### **Utilization Guidelines**

**Sources of Information and Basis for Decision**

Other Contractor's policy which included the following references

Lesser, R. P., Raudzens, P., Luders, H., Nuwer, M. R., Goldie, W.D., Morris III, H. H., Dinner, D. S., Klem, G., Hahn, J.F., Shetter, A. G., Ginsburg, H. H., Gurd, A. R. Postoperative neurological deficits may occur despite unchanged intraoperative somatosensory evoked potential. *Annals of Neurology*, 1986; 19, 22-25.

Leung Y.L., Grevitt M., Henderson L., Smith J., Cord monitoring changes and segmental vessel ligation in the "at risk" cord during anterior spinal deformity surgery. *Spine* 2005; 30 (16): 1870-1874.

Nuwer, M. R., Dawson, E. G., Carlson, L. G., Kanim, L. E. A., Sherman, J. E. Somatosensory evoked potential spinal cord monitoring reduces neurologic deficits after scoliosis surgery: Results of a large multicenter survey. *Electroencephalography and Clinical Neurophysiology* 1995; 96:6-11.

Fan, Dapeng; Schwartz, Daniel; Vaccaro, Alexander; Hilibrand, Alan; Albert, Todd  
Intraoperative Neurophysiologic Detection of Iatrogenic C5 Nerve Root Injury During Laminectomy for Cervical Compression Myelopathy. *Spine* 2002; 27 (22): 2499-2502.

Bose, Bikash; Wierzbowski, Lawrence R.; Sestokas, Anthony K. Neurophysiologic Monitoring of Spinal Nerve Root Function During Instrumented Posterior Lumbar Spine Surgery. *Spine* 2002; 27 (13): 1444-1450

Bose, Bikash; Sestokas, Anthony K.; Schwartz, Daniel M. Neurophysiological Detection of Iatrogenic C-5 Nerve Deficit During Anterior Cervical Spinal Surgery. *J Neurosurg: Spine* 2007; 6:381-385.

Devlin, Vincent J.; Schwartz, Daniel M. Intraoperative Neurophysiologic Monitoring During Spinal Surgery. *Journal of the American Academy of Orthopaedic Surgeons* 2007; 15 (9):549-560.

Principles of Coding for Intraoperative Neurophysiologic Monitoring (IOM) and Testing.  
American Academy of Neurology Professional Association May, 2008

**Advisory Committee Meeting Notes**

Meeting Date:

Wisconsin:	02/12/2010
Illinois:	01/13/2010
Michigan:	01/27/2010
Minnesota:	01/14/2010
J5 MAC	02/19/2010
IA, KS, MO, NE	

Open Meeting 01/06/2010

**Start Date of Comment Period**

02/19/2010

**End Date of Comment Period**

04/05/2010

**Start Date of Notice Period**

(Published)

**Revision History Number/Explanation**

**Last Reviewed On**

**Related Documents**

**LCD Attachments**

**Notes**

\*- An asterisk indicates a revision to that section of the policy.

This policy does not reflect the sole opinion of the contractor or Contractor Medical Director. Although the final decision rests with the MAC contractor this policy was developed in cooperation with advisory groups which include representatives from various specialties, and adapted for the purpose of converting to MAC jurisdiction.

**Does this LCD contain a "Least Costly Alternative" Provision?**

No