

UPMC Health Plan POLICY AND PROCEDURE MANUAL

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SUBJECT: Intraoperative Neurophysiological Testing
INDEX TITLE: Medical Management
ORIGINAL DATE: February 2010

This policy applies to the following lines of business: (Check those that apply.)

Commercial:					
HMO ()		POS ()		PPO ()	
Fully Insured ()		Self-funded/ASO ()		HSA ()	
Medicare Select ()		Medicare Supplement ()			
DPW-MA:					
Health Choices ()			Voluntary ()		All ()
CMS-MA:					
OH ()		WV ()		PA ()	All (X)
HMO (X)	PPO (X)	Specialty Needs Plan (X)		Part D ()	PFFS (X)
PID-CHIP:					
Free ()		Sub ()		Full ()	All (X)
APPLICABLE TO:					
Community Care ()		Work Partners ()			

I. POLICY

It is the policy of UPMC Health Plan to cover Intraoperative Neurophysiological Testing when it is medically necessary as detailed in this policy and covered under the member's specific benefit plan.

II. DEFINITIONS

N/A

III. PURPOSE

The purpose of this policy is to determine the indications for coverage of this service.

IV. SCOPE

This policy applies to various UPMC Health Plan departments as indicated by the Benefit and Reimbursement Committee. These include but are not limited to Medical Management, Benefit Configuration and Claims Departments.

V. PROCEDURE

A. Medical Description / Background

Intraoperative neurophysiological testing describes ongoing electrophysiologic testing and monitoring performed during surgical procedures on the nervous system, its blood supply or adjacent tissue to prevent unintentional damage to critical neurologic structures. It is a recognized medical practice standard for almost 30 years although randomized controlled trials establishing efficacy of it have not been done. Intraoperative neurophysiological monitoring (IONM) consists of the use of electroencephalography (EEG), evoked potentials (such as cranial nerve, brain-stem auditory, motor or somatosensory EP's) and/or electromyography (EMG) to monitor the function of neural structures. The goal is to identify changes in the brain, spinal cord, and peripheral nerve function prior to irreversible damage. It is also used to localize anatomical structures which help guide the surgeon during dissection and can demonstrate which nerves are still functional/compromised.

Monitoring, if used to assess sensory/motor pathways, should access the appropriate pathway as inappropriate monitoring could result in an adverse outcome. Some high risk patients may only be approved for surgery if intraoperative neurophysiologic testing is performed. IONM may be used in neurosurgery, orthopedic, vascular, cardiothoracic, and other surgical specialties. The quality, extent, and type of monitoring are dependent on the nature and location of the lesions. Intraoperative neurophysiologic monitoring by non-physician personnel must be performed under the direct supervision of a physician trained in neurophysiologic techniques who is available to interpret the studies and advise the surgeon during the operative procedure.

B. Indications include any of the following:

- Surgery of the aortic arch, its branch vessels, or thoracic aorta, including carotid artery surgery, when there is a risk of cerebral ischemia
- Resection of epileptogenic brain tissue or tumor
- Resection of brain tissue close to the primary motor cortex and requiring brain mapping
- Protection of cranial nerves:
 1. tumors that affect optic, trigeminal, facial, auditory nerves
 2. cavernous sinus tumors
 3. microvascular decompression of cranial nerves
 4. oval or round window graft
 5. endolymphatic shunt for Meniere's disease
 6. vestibular section for vertigo
 7. laryngeal nerve for thyroid surgeries
- Correction of scoliosis or deformity of spinal cord involving traction on the cord
- Protection of spinal cord where work is performed in close proximity to cord as in the placement or removal of old hardware or where there have been numerous interventions

- Spinal instrumentation requiring pedicle screws or distraction
- Decompression procedures on the spinal cord or cauda equine carried out for myelopathy or claudication where function of spinal cord or spinal nerves is at risk
- Spinal cord tumors
- Neuromas of peripheral nerves of brachial plexus, when there is risk to major sensory or motor nerves
- Surgery or embolization for intracranial AV malformations
- Surgery for arteriovenous malformation of spinal cord
- Cerebral vascular aneurysms
- Surgery for intractable movement disorders
- Arteriography, during which there is a test occlusion of the carotid artery
- Circulatory arrest with hypothermia (does not include surgeries performed under circulatory bypass (e.g., CABG, ventricular aneurysm)
- Distal aortic procedures, where there is risk of ischemia to spinal cord
- Leg lengthening procedures, where there is traction on sciatic nerve or other nerve trunks
- Basal ganglia movement disorders
- Surgery as a result of traumatic injury to spinal cord/brain
- Deep brain stimulation

C. Limitations include all of the following:

- The test must be requested by the operating surgeon and the monitoring must be performed by a clinically trained neurophysiologist (MD/DO) other than the operating surgeon, the surgical assistant or the anesthesiologist rendering the anesthesia, who can not be supervising more than 3 cases simultaneously. **Claims submission must include documentation for the time devoted to direct monitoring of each patient (time may be cumulative).**
- A technologist should be present continuously in the operating suite recording and monitoring a single case under the neurophysiologist's supervision. This technologist is preferably credentialed by the American Board of Neurophysiologic Monitoring (ABNM) or the American Board of Registration of Electrodiagnostic Technologists (ABRET) and must have either the physical or electronic capacity for real-time communication with the supervising neurophysiologist or other physician trained in neurophysiology.
- The surgical team and the monitoring staff must always be able to be in immediate contact with each other.
- Services must be performed in the inpatient setting only.
- Intraoperative monitoring is not medically necessary in situations where historical data and current practices reveal no potential to neural integrity during surgery.

- Due to the high potential for morbidity, these services should not be performed by the operating physician.
- For coverage of remote monitoring (as mentioned above) the neurophysiologist must have immediate physical or real-time communication with the operating room. He/she 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.
- For unique cases that require undivided attention from the monitoring physician- he/she must have a plan in place to transfer care to another physician of any other cases in his care during those times.
- Technical criteria – it is mandatory that at least 8 recording channels (16 if EEG is monitored) be available for all intraoperative neurophysiologic monitoring. The equipment utilized must also provide for all of the monitoring modalities that may be applied with code 95920.

D. Variations

N/A

E. Quality Audit

Quality Audit may monitor policy compliance or billing accuracy at the request of the UPMC Health Plan's Technology Assessment Committee or the Benefits Reimbursement Committee.

F. Records Retention

Records Retention for UPMC Health Plan documents, regardless of medium are provided within the UPMC Health System Policy and as indicated in the UPMC Insurance Services Division Policy and Procedure.

G. References

1. Highmark Medicare Services, LCD L27499 – *Intraoperative Neurophysiological Testing*, 05/28/2009
2. American Academy of Neurology (AAN), *Principles of Coding for Intraoperative Neurophysiologic Monitoring and Testing- AAN Model Medical Policy*, 04/23/2008
3. ECRI Institute, *Intraoperative Neurophysiologic Monitoring for Minimizing Neurologic Injury*, 04/30/2008
4. American Society of Electroneurodiagnostic Technologists, Inc, *Position Statement: Unattended Intraoperative Neurophysiologic Monitoring*, 2003-2007
5. American Medical Association- House of Representatives Handbook Summary (A-

2008) reference Committee B- Legislation, *Resolution 201- Intraoperative Neurophysiologic Monitoring*, 2008

Disclaimer:

UPMC Health Plan medical payment and prior authorization policies do not constitute medical advice and are not intended to govern or otherwise influence the practice of medicine. The policies constitute only the reimbursement and coverage guidelines of UPMC Health Plan and its affiliated managed care entities. Coverage for services varies for individual members in accordance with the terms and conditions of applicable Certificates of Coverage, Summary Plan Descriptions, or contracts with governing regulatory agencies.

UPMC Health Plan reserves the right to review and update the medical payment and prior authorization guidelines in its sole discretion. Notice of such changes, if necessary, shall be provided in accordance with the terms and conditions of provider agreements and any applicable laws or regulations.

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