

UPMC Health Plan POLICY AND PROCEDURE MANUAL

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SUBJECT: Nerve Conduction Velocity Studies
INDEX TITLE: Medical Management
ORIGINAL DATE: March 16, 2007

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 (X)
CMS-MA:					
HMO (X)	PPO (X)	Specialty Needs Plan (X)	Part D ()	PFFS ()	All ()
PID-CHIP:					
Free ()			Sub ()		All (X)

I. POLICY

It is the policy of UPMC Health Plan to recognize Nerve Conduction Velocity Studies (NCV) as appropriate and consistent with good medical practice when medically necessary and when performed according to clinical indications described below. Nerve Conduction Velocity Studies will be covered when conducted according to the standards established by UPMC Health Plan, and the member's individual benefit plan.

UPMC Health Plan considers NCV studies performed on portable devices such as the NC-Stat machine to be experimental/investigational.

II. DEFINITIONS

Electromyography (EMG): A test that measures muscle response to nerve stimulation to evaluate muscle weakness.

III. PURPOSE

The purpose of this policy is to define the appropriate use of Nerve Conduction Velocity Studies to detect motor and sensory functions of a nerve.

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

Nerve conduction studies (NCS) are examples of electrodiagnostic studies that are used to detect both motor and sensory function. With this technique, nerve conduction velocities are measured between two sites of stimulation, or between a stimulus and a recording site. Nerve Conduction Velocity Studies (NCV's) are a form of Nerve Conduction Studies, and are typically performed together with Electromyography (EMG). Because EMG and NCV go hand-in-hand, the term 'EMG' is often used to encompass NCS/NCV also.

The Nerve Conduction Velocity Study is often used to help diagnose nerve disorders, such as Carpal Tunnel Syndrome or Guillain-Barre' Syndrome, or as a follow-up to an existing condition. NCV studies are primarily of three types: motor, sensory and mixed, and are performed by stimulation of the nerve, usually with needle or surface electrodes. These electrodes are used to stimulate the nerve or record the impulse. The distance between electrodes and the time it takes for the electrical impulses to travel between electrodes is used to calculate the nerve conduction velocity. NCV also helps to detect the presence, location and extent of diseases that damage muscle tissue (such as muscular dystrophy) or nerves (such as amyotrophic lateral sclerosis). When damage is a result of trauma, the actual site of nerve damage can be located.

B. Indications

Both Nerve Conduction and Nerve Conduction Velocity studies and EMG are required for a clinical diagnosis of peripheral nervous system disorders.

NCS and NCVs can be of help in localization of an abnormality, and in distinguishing one variety of neuropathy from another. Such distinction has diagnostic value and has a bearing on prognosis and treatment. These include, but are not limited to:

- Focal neuropathies or compressive lesions such as: carpal tunnel syndrome, ulnar neuropathies or root lesions for localization
- Traumatic nerve lesions, for diagnosis and prognosis.

- Diagnosis or confirmation of suspected generalized neuropathies, such as diabetic, uremic, metabolic or immune neuropathies.
- Repetitive nerve stimulation in the diagnosis of neuromuscular junction disorders such as myasthenia gravis, myasthenic syndrome
- Often pain, paresthesia or weakness in an extremity is the reason for an NCV or EMG. These common symptoms result not only from axonal and myelin dysfunction, but also from systemic, non-neurological illnesses. EMG and NCV may help in making this distinction. Therefore, symptom-based diagnoses such as "pains in limb, weakness, disturbance in skin sensation or "paresthesia" are acceptable, provided the clinical assessment unequivocally supports the need for a study.
- Additionally, all of the following apply in relation to Nerve Conduction Studies
 - Must be ordered by a physician:
 - Studies must be conducted along with EMG's
 - Studies must be conducted by an appropriately certified physician or physical therapist. as defined by the Amer. Assoc of Neuromuscular & Electrodiagnostic Medicine (AANEM) guidelines.
 - This information must be reflected in the medical record in order to insure payment.
 - As specified by State law, physical therapists are only permitted to perform the technical component of the study. Study results are reviewed and diagnoses rendered by a Neurologist or Physiatrist, or a physician certified by the by the Amer. Board of Electrodiagnostic Medicine (ABEM). You can obtain the names of these ABEM- certified physicians from the ABEM directory found on their website at: www.abemexam.org.

Note: For "Frequency of Testing Guidelines", please refer to Attachment A at the end of this policy:

C. Electromyography

Neurogenic disorders are distinguishable from myopathic disorders by a carefully performed EMG. Common disorders where an EMG will be helpful in diagnosis but are not limited to:

- Nerve compression syndromes, including carpal tunnel syndrome and other focal compressions.
- Radiculopathy-cervical, lumbosacral.
- Mono/polyneuropathy-metabolic, degenerative, hereditary.

- Myopathy - including poly- and dermatomyositis, myotonic and congenital myopathies.
- Plexopathy - idiopathic, trauma, infiltration.
- Neuromuscular junction disorders - myasthenia gravis. Single fiber EMG (95872) is of special value here.

D Limitations

1. UPMC Health Plan covers Nerve Conduction Velocity Studies **only when performed with needle electromyogram**.
2. A clinical history from the referral source must clearly document the need for each test. Referral data containing pertinent clinical information must be available for review in instances where the need for a test may come under scrutiny.
3. **Nerve conduction studies are not covered in the following instances:**
 - Examinations using portable hand-held devices, which are incapable of wave-form analysis, are included in the reimbursement for an Evaluation and Management (E & M) visit. They will not be paid separately.
 - Psychophysical measurements (current, vibration, thermal perceptions), even though they may involve delivery of a stimulus.
 - Segmental testing of a single nerve will not be covered on a multiple unit basis. For instance, testing the ulnar nerve at wrist, forearm, below elbow, above elbow, axilla and supraclavicular regions will all be considered as a one unit test.
 - Different methods of measuring the conduction in the same nerve will not be reimbursed as separate services.
 - Narrative reports alluding to “normal” or “abnormal” results without numerical data will not be covered.
 - Regular repeated routine testing is often of questionable benefit and viewed as not medically necessary.
 - Screening testing for polyneuropathy (not mononeuropathies) of diabetes or end-stage-renal-disease (ESRD) is NOT covered.
 - Nerve conduction studies **not performed with the needle electromyogram** studies as NCS alone are considered to be unproven, experimental and investigational.
4. **Electromyography is not covered for these conditions:**
 - Surface and macro EMGs
 - Frequency of testing issues as above for NCS.

5. Certain less-than-optimal practices are discouraged, and may invite review. They include: exclusive testing of intrinsic foot muscles in the diagnosis of proximal lesions; narrative reports without data; and premature EMG testing after trauma when EMG changes may not have taken place.
6. NC-Stat (Neurometrix) and Neurostat are considered experimental and investigative due to lack of scientific evidence to support their effectiveness.

G. Variations

N/A

H. References

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 15. Kimura, J. Electrodiagnosis in Diseases of Nerve and Muscle: Principles and Practice. 2nd ed. Philadelphia: FA Davis, 1989.
 16. Medical Definition of Electromyography (EMG): from Univ of California at San Francisco, California, Directory of Medical Tests & Definitions through Internet/Google
 17. AANEM Recommended Policy for Electrodiagnostic Medicine; American Assoc Of Neuromuscular & Electrodiagnostic Medicine, American Academy of Neurology and American Academy of Physical Medicine and Rehabilitation. Executive Summary. Printed 8/18/08.

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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ATTACHMENT A

Frequency of Testing: Guidelines for a physician to render a diagnosis.
(Recommended by American Association of Neuromuscular & Electrodiagnostic
Medicine)

Indication	Needle Electromyography, CPT 95860-95864 and 95867-95870	Nerve Conduction Studies CPT 95900, 95903, 95904		Other Electromyographic Studies CPT 95934,95936, 95937	
		Number of Services (Tests)	Motor NCS with and/or without F wave	Sensory NCS	H-Reflex
Carpal Tunnel (unilateral)	1	3	4		
Carpal Tunnel (bilateral)	2	4	6		
Radiculopathy	2	3	2	2	
Mononeuropathy	1	3	3	2	
Polyneuropathy/ Mononeuropathy Multiplex	3	4	4	2	
Myopathy	2	2	2		2
Motor Neuronopathy (e.g., ALS)	4	4	2		2
Plexopathy	2	4	6	2	
Neuromuscular Junction	2	2	2		3
Tarsal Tunnel Syndrome (unilateral)	1	4	4		
Tarsal Tunnel Syndrome (bilateral)	2	5	6		
Weakness, Fatigue, Cramps, or Twitching (focal)	2	3	4		2
Weakness, Fatigue, Cramps, or Twitching (general)	4	4	4		2
Pain, Numbness, or Tingling (unilateral)	1	3	4	2	
Pain, Numbness, or Tingling (bilateral)	2	4	6	2	