

**Billing and Coding Guidelines:**  
**NEURO-005 Nerve Conduction Studies and Electromyography**

**Contractor Name**

Wisconsin Physicians Service (WPS)

**Contractor Number**

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

**LCD Database ID Number**

L31346

**LCD Title**

Nerve Conduction Studies and Electromyography

**Contractor's Determination Number**

NEURO-005

**Effective Date**

01/01/2012

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**CMS National Coverage Policy**

Code of Federal Regulations:

42 CFR Section 410.32, indicates that diagnostic tests may only be ordered by the treating physician (or other treating practitioner acting within the scope of his or her license and Medicare requirements) who uses the results in the management of the beneficiary's specific medical problem.

Federal Register:

Federal Register Vol. 62, 59047, Supervision of Diagnostic Tests, describes the degree of physician supervision required for diagnostic tests.

CMS Publications:

CMS Publication 100-03, Medicare National Coverage Determinations (NCD) Manual, Chapter 1, Part 2: 160.23 Sensory Nerve Conduction Threshold Tests (sNCTs)

**Effective Date:**

**I. Coding Guidelines**

It is the position of the American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM [formerly AAEM]) and other organizations that the needle EMG examination must be performed by a physician with special training in electrodiagnostic medicine (generally neurologists or physiatrists).

Performance of needle EMG requires ongoing assessment by the Electrodiagnostic medicine (EDX) provider during the study of each muscle, to ascertain what type of abnormalities exist (if any), their significance, and, based on the results, which other muscles, if any, must be examined. The physician's decision to perform additional or special electromyographic studies is directly guided by the individual results obtained as the physician seeks to establish evidence of a particular medical diagnosis through the studies performed.

Much of the data used to make a final diagnosis is obtained through observations made during performance of the needle EMG examination. It is in the best interest of patients undergoing these evaluations for public policy to define needle EMG as the practice of medicine.

**A. Evaluation/Management (E/M)**

1. Usually an E&M service is included in the exam performed just prior to and during nerve conduction studies and/or electromyography. If the E&M service is a separate and identifiable service, the medical record must document medical necessity and the CPT code must be bill with a modifier 25.
2. A clinical history from the referral source must indicate the need for testing. Such data containing pertinent clinical information must be attainable for review in instances where the need for a test may come under scrutiny. Absolute inclusive or exclusive criteria for performance of a diagnostic test are difficult to enumerate.

**B. Maximum Number of Tests Necessary in 90% of Cases**

1. The table below summarizes the American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM) recommendations regarding a reasonable maximum number of studies per diagnostic category necessary for a physician to arrive at a diagnosis in 90% of patients with that final diagnosis.
2. The numbers in the table are to be used as a tool to detect outlier so as to prevent abuse and overutilization. Each number in the "Maximum Number of Studies Table" represents one study or unit
3. The appropriate number of studies to be performed is left to the judgment of the physician performing the evaluation; however, in the small number of cases, which require testing in excess of the numbers listed in the table, the physician should be able to provide supplementary documentation to justify the additional testing.
4. In some situations it may be necessary to test an asymptomatic contralateral limb to establish normative values for an individual patient. Documentation must support the medical necessity of the additional test.

<http://www.aan.com/globals/axon/assets/4061.pdf>

Maximum Number of Studies						
		Needle Electromyography (EMG) CPT Codes 95860-95866 and 95867-95872, 95885-95887	Nerve Conduction Studies (NCS) CPT Codes 95900,95903, 95904		Other Electromyography Studies CPT Codes 95934, 95936, 95937	
Indications		Number of Services (Tests)	Motor NCS with and/or without F wave	Sensory NCS	H-Reflex	Neuromuscular junction testing (Repetitive simulation)

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Indications		Number of Services (Tests)	Motor NCS with and/or without F wave	Sensory NCS	H-Reflex	Neuromuscular junction testing (Repetitive simulation)
Carpal Tunnel (unilateral)	354.0	1	3	4		
Carpal Tunnel (bilateral)	354.0	2	4	6		
Radiculopathy	732.4	2	3	2	2	
Mononeuropathy	354.0-354.9	1	3	3	2	
Polyneuropathy/ Mononeuropathy Multiplex	355.0-355.9	3	4	4	2	
Myopathy	359.0-359.9	2	2	2		2
Motor Neuropathy (e.g., ALS)	356.0-356.9	4	4	2		2
Plexopathy	953.0-953.9	2	4	6	2	
Neuromuscular Junction Disorder		2	2	2		3
Tarsal Tunnel Syndrome (unilateral)	355.5	1	4	4		
Tarsal Tunnel Syndrome (bilateral)		2	5	6		
Weakness, fatigue, cramps, or twitching (local)	728.87, 728.85	2	3	4		2
Weakness, fatigue, cramps, or twitching (general)	728.87	4	4	4		2
Pain, numbness, or tingling (unilateral)	729.5, 729.82	1	3	4	2	
Pain, numbness, or tingling (bilateral)		2	4	6	2	

CPT code 95905	ICD-9 code	Number of Services (Tests)
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Carpal Tunnel (bilateral)	354.0	2				
Carpal Tunnel (unilateral)	354.0	1				

**C. CPT Codes 95860-95866 - Electromyography and Nerve Conduction Tests**

1. Only one unit of service should be billed. (This covers all muscles tested including the related paraspinal muscles and recording of motor unit recruitment, amplitude, and configuration both at rest and with muscle contraction.)
2. To bill these codes, extremity muscles innervated by three nerves (for example, radial, ulnar, median, tibial, peroneal, femoral, not sub branches) or four spinal levels must be evaluated; a minimum of five muscles must have been studied.

**D. CPT Code 95869 - Needle electromyography; thoracic paraspinal muscles**

1. CPT code 95869 should be used to bill a limited EMG study of specific muscles. Examinations confined to distal muscles only, such as intrinsic foot or hand muscles, will be reimbursed as Code 95869 and not as 95860-95866.
2. Use CPT Code 96869 to study thoracic paraspinal muscles between T3 and T11.
3. One unit can be billed, despite the number of levels studied or whether unilateral or bilateral.

**E. CPT Code 95870 – 95872 95885-95887 (Needle electromyography, other than paraspinal)**

1. CPT code 95870 is used for limited testing of specific muscles during an examination. This code should be used only when the muscles tested do not fit more appropriately under another CPT code.
1. CPT code 95870 can be billed at one unit per extremity (one limb, arm or leg), when fewer than five muscles are examined.
2. It can also be used for examining non-limb (axial) muscles (e.g., intercostal, abdominal wall, cervical and lumbar paraspinal muscles (unilateral or bilateral) regardless of the number of level tested. However, it should not be billed when the paraspinal muscles corresponding to extremity are tested, and when the extremity codes 95860, 95861, 95863, or 95864 are reported.

**F. CPT Codes 95900, 95903, 95904 - Nerve Conduction Studies**

1. The CPT codes 95900, 95903, and/or 95904 are used only once when multiple sites on the same nerve are stimulated or recorded.
2. To qualify as a study of two or more branches of a given motor, sensory, or mixed nerve, both the stimulating and recording electrodes must be moved to different locations; in which case, it is appropriate to bill for the number of multiple units of CPT codes 95900-95904 performed.
3. Most nerves have a contralateral counterpart; bilateral testing is often necessary for comparison purposes. Nerves on each side may be billed separately. In addition, motor CPT code 95900 or 95903, sensory CPT code 95904, and mixed sensory CPT code 95904 studies on an individual nerve are appropriately carried out and billed separately.
4. CPT codes 95903 and 95900 may appropriately be billed together for the same patient on the same day when **multiple** nerves are tested, some with and some without F waves, since, in that case they describe distinct and independent services. However, CPT codes 95903 and 95900 **cannot** be billed together for the **same** nerve in a given patient on a given day.

5. Testing the ulnar nerve at wrist, forearm, below elbow, above elbow, axilla and supraclavicular regions will all be considered as a one-unit test of 95900 or 95904. Different methods of measuring the conduction in the same nerve will not be reimbursed as separate services.

**G. CPT Code 95903 - F-wave study**

1. If a nerve conduction study with F-wave study is performed on a single motor nerve, report the service as 95903. If nerve conduction studies are performed on two different nerves, the first with F-wave study and the second nerve without F-wave study, the first nerve should be reported as 95903 and the second 95900. Append modifier 59 (Distinct Procedural Service) to indicate that a separate, distinct nerve was studied.
2. F-wave studies are billed in combination with the motor nerves that are examined (CPT code 95903). Although the set-up for an F-wave study is similar to the set-up for a motor NCS, the testing is performed separately from motor NCSs, utilizing different machine settings and separate stimulation to obtain a larger number of responses (at least 10).
3. The table above summarizes the AANEM's recommendations regarding a reasonable maximum number of studies per diagnostic category necessary for a physician to arrive at a diagnosis in 90% of patients with that final diagnosis.
4. The appropriate number of studies to be performed should be left to the judgment of the physician performing the electrodiagnostic evaluation. However, in the small number of cases which require testing in excess of the numbers listed in the table (the AANEM estimates 10% of cases), the physician should provide supplementary documentation to justify the additional testing.
5. If nephrologists submit 95900, 95903, 95904, 95934, or 95936 for ESRD, these codes are not separately payable; they are part of the monthly capitation fee. These codes are payable if submitted by other specialties when the indications are appropriate.

Motor, sensory, and mixed NCSs and late responses (F-wave and H-reflex studies) are frequently complementary and performed during the same patient evaluation

**H. CPT Code 95933 - Blink Reflexes**

1. Recordings should be made bilaterally with both ipsilateral and contralateral stimulation.
2. The report of this study should include the presence or absence of the R1 and R2 components.

**I. CPT Codes 95934 and 95936 - H-Reflex Studies**

1. CPT codes 95934 and 95936 are defined as unilateral H-reflex study codes and are intended to be reported per study. Typically, only 2 H-reflex studies are performed in a given examination.
2. H-reflex studies usually must be performed bilaterally because symmetry of responses is an important criterion for abnormality. When a bilateral H-reflex study is performed, the entire procedure must be repeated, increasing examiner time and effort; there are no economies of scale in multiple H-reflex testing. A bilateral H-reflex study should be reported by appending modifier "-50, Bilateral Procedure", to the CPT code reported or by the use of the separate 5-digit modifier code 09950.
3. H-reflex studies usually involve assessment of the gastrocnemius/soleus muscle complex in the calf (CPT code 95934). Bilateral gastrocnemius/ soleus H-reflex abnormalities are often early indications of spinal stenosis, or bilateral S1 radiculopathies.
4. In rare instances, H reflexes need to be tested in muscles other than the gastrocnemius/soleus muscle, for example, in the upper limbs. In conditions such as cervical radiculopathies or brachial plexopathies, an H-reflex study can be performed in

the arm (flexor carpi radialis muscle). Other muscles that may be tested, although rarely, are the intrinsic small muscles of the hand and foot. These cases would be coded using CPT code 95936.

## **J CPT Code 95937 - Neuromuscular Junction Studies**

1. Repetitive stimulation studies are used to identify and to differentiate disorders of the NMJ. This test consists of recording muscle responses to a series of nerve stimulus (at variable rates), both before, and at various intervals after, exercise or transmission of high-frequency stimuli.
2. These codes may be used in association with motor and sensory NCSs of the same nerves and are reimbursed separately.
3. When this study is performed, the physician's report should note characteristics of the test, including the rate of repetition of stimulations, and any significant incremental or decremental response.

## **II. Reasons for Denial**

### **A. Electromyography**

1. Narrative reports alluding to "normal" or abnormal" results without numerical data.
2. Descriptions of F-wave without reference to a corresponding motor conduction data; pattern-setting unilateral H-reflex measurements; separate E/M consultation charges without documentation requested from the referral source.
3. Screening testing for polyneuropathy (not mononeuropathies) of diabetes or end-stage-renal-disease (ESRD) is not covered. Testing for the sole purpose of monitoring disease intensity or treatment efficacy in these two conditions is also not covered.
4. Surface and macro EMGs will not be paid.
5. Failure to submit, upon request or when request an informal review, a clinical history indication the need for testing.

### **B. Nerve Conduction Studies**

1. Narrative reports alluding to "normal" or abnormal" results without numerical data.
2. Examination using portable hand-held devices, which are incapable of waveform analysis, will be included in a visit. They will not be paid separately.
3. Psychophysical measurements (current, vibration, thermal perceptions) even though they may involve delivery of a stimulus, are not covered.
4. Absence of a clinical history, preferable written by the referral source, indicating the need for the test.
5. Absence of documentation to support repeated testing on the same beneficiary or testing every beneficiary referred for pain.
6. Screening testing for polyneuropathy (not mononeuropathies) of diabetes or end-stage-renal-disease (ESRD) is not covered. Testing for the sole purpose of monitoring disease intensity or treatment efficacy in these two conditions is also not covered.
7. Even if two or more methods of testing are used (as orthodromic and antidromic testing) to obtain results from a single nerve, only one unit of charge will be paid unless clear reasons and evident value for performing both studies are documented.
8. Segmental testing of a single nerve will not be reimbursed on a multiple unit basis.
9. Failure to submit, upon request or when requesting an informal review, a clinical history indication the need for testing.
10. NCSs are performed by applying electrical stimulation at various points along the course of a motor nerve while recording the electrical response from an appropriate muscle.

Since the NC-stat® System and similar automated devices cannot support testing of other locations and other nerves as needed depending on the concurrent results of testing

11. For beneficiaries with a high pre-test or a priori probability of the diagnosis of Carpal Tunnel Syndrome, the NC-stat® System will be allowed, one service per arm, using CPT code 95905. The diagnosis ICD-9 354.0 should be used.

**C. Non-coverage of Perception Sensory Threshold/Nerve Conduction Threshold Test (sNCT)**

*The Current Perception Threshold/Sensory Nerve Conduction Threshold (sNCT) test is a diagnostic test used to diagnose sensory neuropathies. It is a noninvasive test that used transcutaneous electrical stimulus to evoke neuropathies. There is insufficient scientific or clinical evidence to consider this device reasonable and necessary within the meaning of §1862(a)(1)(A) of the Social Security Act. Therefore, effective for dates of service on or after October 1, 2002, this test will not be covered by Medicare.*

<http://cms.hhs.gov/transmittals/downloads/AB02066.pdf>

- D.** Nerve conduction studies performed independent of needle electromyography (EMG) may only provide a portion of the information needed to diagnose muscle, nerve root, and most nerve disorders. When the nerve conduction study (NCS) is used on its own, without integrating needle EMG findings, or when an individual relies solely on a review of NCS data, the results can be misleading, and important diagnoses may be missed.

**III. Comments**

1. 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; definitive diagnostic conclusions based on paraspinal EMG in regions bearing scar of past surgeries (e.g., previous laminectomies); pattern-setting limited limb muscle examinations, without paraspinal muscle testing for diagnosis of radiculopathies, narrative reports without data, and premature EMG testing after trauma when EMG changes may not have taken place.
2. There are situations in which EMG and nerve conduction studies can be valuable in a relatively acute situation with or without trauma, even though full-blown EMG changes may not yet have taken place. An example is, to assess the presence of pre-existing injury or disease after trauma or in the evaluation of some non-traumatic conditions, such as suspected Guillain-Barré syndrome.
3. Frequency of testing is a difficult issue to answer. Clinical justification, rather than an algorithm, should be the determinant in these instances. While this removes any recipe-style limits, it also calls for clear responsible and evidence-based documentation for any repeat study. Such a guideline applies to all studies including those for patients(s) under medical, surgical or rehabilitative treatment, (ii) for neuropathy and (iii) for patients with chronic renal failure and/or dialysis.

**IV. Providers performing Nerve Conduction Studies and Electromyography**

**A. All Providers**

1. Nerve Conduction Studies and Electromyography studies are performed by physicians (generally neurologists or physiatrists) as part of a consultation. The consultations include history-taking, appropriate physical examination, and the design, performance, and interpretation of studies. These consultations usually take a minimum of 30 minutes to perform and can take up to 2 hours or more in particularly complicated clinical situations.
2. Other healthcare professionals performing electrodiagnosis should be appropriately trained and qualified. They must have a detailed knowledge of neuromuscular diseases

and awareness of the influence of age, temperature, and body height on the results. Since these tests may produce anxiety and stress, an exquisite awareness of patient's comfort and sensitivity are essential.

3. Individuals without medical education in neuromuscular disorders and without special training in electrodiagnostic procedures typically are not qualified to interpret the waveforms generated by NCS and needle EMG or to correlate the findings with other clinical information to reach a diagnosis. (American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM), 2006)

**B. Physical Therapists Performing NCS and EMGs**

1. Program Memorandum Transmittal B-01-28/Change Request 850 sets forth revised levels of physician supervision required for diagnostic tests payable under the Medicare Physician Fee Schedule. Effective July 1, 2001, certain codes in the range of CPT 95860-95937 were assigned new supervision levels (21, 22, 6a, 66, 77 or 77a). This implementation date would make it possible for physical therapists to acquire the certification required to perform these services without supervision. A physical therapist who is presently certified by the American Board of Physical Therapy Specialties can perform procedures assigned level of 21, 22, 66, 6a, 77, or 77a without supervision. These numeric levels assigned to the CPT codes are listed in the Medicare Physician Fee Schedule Database (MFSDB). *Physical therapists who do not possess the ABPTS (American Board of Physical Therapy Specialties) certification by July 1, 2001, may continue to furnish those tests that require the certification if they have been furnishing such diagnostic tests prior to May 1, 2001.*

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**Revision**

**Revision Effective Date**

07/16/2012

**Revision History and Explanation**

06/01/2012 -This guideline is effective for J-8 providers in Michigan MAC B 07/16/12, Michigan MAC A 07/23/12, Indiana MAC A 07/23/12 and Indiana MAC B 08/20/12.

1/1/2012, one, added CPT codes 95885-95887, \_\_\_\_\_

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An asterisk (\*) indicates the most current revision.