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1.0 Description of the Procedure, Product, or Service

In diagnosing muscle and nerve disorders, physicians often conduct 2 different tests -- a needle electromyogram (an EMG) and a nerve conduction study (NCS). Needle EMGs test the electrical activity of muscles, while NCSs test how fast and well a nerve sends these electrical signals. When functioning correctly, the nerves send electrical impulses to the muscles, which then respond in a particular way. When they do not respond as expected, physicians conduct tests to determine the cause. Typically, needle EMGs and NCSs are conducted in tandem, providing the diagnosing physician a complete picture of the patient's condition.

The electrodiagnostic (EDX) evaluation is an extension of the neuromuscular portion of the physical examination. EDX evaluations are performed by physicians, almost exclusively neurologists or physiatrists. An EDX evaluation requires a detailed knowledge of a patient and his/her disease. During an EDX evaluation, physicians typically perform needle electromyography (EMG) and nerve conduction studies (NCSs).

Training to perform these procedures should occur in conjunction with training in the clinical diagnostic and management aspects of neuromuscular disease. This training allows for the proper performance of an EDX evaluation and the correct interpretation of EDX test results. Physicians performing an EDX evaluation must be aware of the patterns of abnormality observed in different diseases. Physicians must also be able to interpret the results of NCSs and needle EMG and combine these results with the patient's history, physical examination, and other test results to reach a diagnosis.

EDX results may be similar in different diseases therefore a thorough knowledge of EDX evaluation is important to assure quality patient care. Non-physician providers, including physical therapists, chiropractors, physician assistants, and others, do not have the appropriate training and knowledge to perform and interpret EMG studies and interpret NCSs. These providers, along with Electroneurodiagnostic (END) technologists, may perform NCS with direct physician supervision. Both EMGs and NCSs are usually required for a clinical diagnosis of peripheral nervous system disorders.

Performance of one test does not eliminate the need for the other. The number of EMG and NCSs needed to determine a diagnosis are matters of clinical judgment. The complexity and extent of testing needed is determined after the initial pre-test evaluation and often modified during the testing procedure. NCSs may be performed without EMG on some occasions, e.g., entrapment neuropathies, but this should be the exception rather than the normal practice pattern.

NCSs are performed to assess the integrity and diagnose diseases of the peripheral nervous system. Specifically, they assess action potentials resulting from peripheral nerve stimulation which are recordable over the nerve or from an innervated muscle, the speed (conduction velocity and/or latency), size (amplitude), and shape of the response.

2.0 Eligible Recipients

2.1 General Provisions

To be eligible, NC Health Choice (NCHC) recipients must be enrolled on the date of service.

3.0 When the Procedure, Product, or Service Is Covered

3.1 General Criteria

NCHC covers procedures, products, and services related to this policy when they are medically necessary and

- a. the procedure, product, or service is individualized, specific, and consistent with symptoms or confirmed diagnosis of the illness or injury under treatment, and not in excess of the recipient's needs;
- b. the procedure, product, or service can be safely furnished, and no equally effective and more conservative or less costly treatment is available; **AND**
- c. the procedure, product, or service is furnished in a manner not primarily intended for the convenience of the recipient, the recipient's caretaker, or the provider.

3.2 Specific Criteria

- a. NCHC covers EDX studies for the following indications::
 1. Focal neuropathies, entrapment neuropathies, or compressive lesions/syndromes such as carpal tunnel syndrome, ulnar neuropathies, or root lesions, for localization
 2. Traumatic nerve lesions, for diagnosis and prognosis
 3. Diagnosis or confirmation of suspected generalized neuropathies, such as diabetic, uremic, metabolic, or immune
 4. Repetitive nerve stimulation in diagnosis of neuromuscular junction disorders such as myasthenia gravis, myasthenic syndrome
 5. Symptom-based presentations such as "pain in limb", weakness, disturbance in skin sensation or "paraesthesia" when appropriate pre-test evaluations are inconclusive and the clinical assessment unequivocally supports the need for the study
 6. Radiculopathy-cervical, lumbosacral
 7. Polyneuropathy-metabolic, degenerative, hereditary
 8. Plexopathy-idiopathic, trauma, infiltration
 9. Myopathy-including polymyositis and dermatomyositis, myotonic, and congenital myopathies
 10. Precise muscle location for injections such as botulinum toxin, phenol, etc.
- b. NCHC covers EDX studies when all of the following criteria are met:
 1. the testing is medically indicated and guided by a documented neuromuscular history and physical ;

2. the testing is performed using EDX equipment that provides assessment of all parameters of the recorded signals; and
3. the testing is performed by a physician with special training in electrodiagnostic medicine e.g.: neurologists or psychiatrists. Refer to **Subsection 6.1** for provider qualifications.

Note: In some situations it is necessary to test an asymptomatic contralateral limb to establish normative values for an individual patient. Normal values based on the general population alone are less sensitive than this approach; therefore restrictions on contralateral asymptomatic limb testing will reduce the sensitivity of electrodiagnostic tests.

4.0 When the Procedure, Product, or Service Is Not Covered

4.1 General Criteria

Procedures, products, and services related to this policy are not covered when

- a. the recipient does not meet the eligibility requirements listed in **Section 2.0**;
- b. the recipient does not meet the medical necessity criteria listed in **Section 3.0**;
- c. the procedure, product, or service unnecessarily duplicates another provider's procedure, product, or service; or
- d. the procedure, product, or service is experimental or investigational.

4.2 Specific Criteria

EDX Studies are not covered when the criteria in **Subsection 3.2.a** and **Subsection 3.2.b** are not met and for any of the following:

- a. Use of portable hand-held devices;
- b. Using the studies as screening tests for polyneuropathy of diabetes or end-stage renal disease;
- c. Using the studies for the sole purpose of monitoring disease intensity or treatment effectiveness for polyneuropathy of diabetes or end-stage renal disease;
- d. EDX testing with automated, noninvasive nerve conduction testing devices is considered investigational and not medically necessary for all indications, including as an alternative method of performing NCSs;
- e. Psychophysical measurements (current, vibration, thermal perceptions), even though they may involve delivery of a stimulus, are not covered;
- f. Current Perception Threshold/Sensory Nerve Conduction Threshold Test (sNCT) is investigational and not covered; or
- g. Studies performed with devices designed only for "screening purposes" rather than diagnosis are not acceptable under this policy.

5.0 Requirements for and Limitations on Coverage

5.1 Prior Approval

Prior approval is not required for EDX studies.

6.0 Providers Eligible to Bill for the Procedure, Product, or Service

To be eligible to bill for procedures, products, and services related to this policy, providers shall

- a. meet NCHC qualifications for participation;
- b. be currently enrolled with NCHC; **AND**
- c. bill only for procedures, products, and services that are within the scope of their clinical practice, as defined by the appropriate licensing entity.

6.1 Provider Qualifications

The American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM) has indicated in their position statements that needle EMG must be performed by a physician with special training in electrodiagnostic medicine. This type of training is generally included in the residency or fellowship programs of physicians who specialize in physical medicine and rehabilitation (physiatrists) or neurology (neurologists).

This would provide for direct supervision by experienced physicians in electrodiagnostic studies for a period of at least 6 months full-time or the equivalent. Needle insertion for an EMG requires detailed knowledge of anatomy to prevent injury to anatomical structures, nerves, and arteries.

A qualified physician in electrodiagnostic studies must be knowledgeable regarding the pathology of muscle and nerve, neuromuscular physiology, electrophysiology, and clinical understanding of neurological and musculoskeletal conditions in order to formulate an accurate diagnosis.

The physician must complete at least 200 electrodiagnostic consultations during his/her training program. Full competency is achieved through the experience of completing an additional 200 complete Electrodiagnostic consultations. It is also recommended that the physician be credentialed through the American Board of Electrodiagnostic Medicine or other equivalent examining board.

7.0 Additional Requirements

7.1 Compliance

Providers shall comply with all applicable federal, state, and local laws and regulations, including the Health Insurance Portability and Accountability Act (HIPAA) and record retention requirements.

8.0 Policy Implementation/Revision Information

Original Effective Date: July 1, 2010

Revision Information:

Date	Section Revised	Change
July 1, 2010		Policy Conversion: Implementation of Session Law 2009-451, Section 10.32 "NC HEALTH CHOICE/PROCEDURES FOR CHANGING MEDICAL POLICY."
07/01/11	Section 1.0	Revised description
07/01/11	Subsection 3.2	Revised Specific Criteria
07/01/11	Subsection 4.2	Revised Specific Criteria
07/01/11	Subsection 6.1	Revised Provider qualifications
07/01/11	Attachment A	Updated (C) Procedure Codes and added descriptions
07/01/11	Attachment A	Updated (D) Modifiers and (F)Place of Service

Attachment A: Claims-Related Information

Reimbursement requires compliance with all NCHC guidelines.

A. Claim Type

Professional (CMS-1500/837P transaction)

Institutional (UB-04/837I transaction)

B. Diagnosis Codes

Providers must bill the ICD-9-CM diagnosis codes(s) to the highest level of specificity that supports medical necessity.

C. Procedure Code(s)

CPT Code	Description	Allowable Units
95860	Needle electromyography; one extremity with or without related paraspinal areas	1/day
95861	Needle electromyography; two extremities with or without related paraspinal areas	1/day
95863	Needle electromyography; three extremities with or without related paraspinal areas	1/day
95864	Needle electromyography; four extremities with or without related paraspinal areas	1/day
95867	Needle electromyography; cranial nerve supplied muscle(s), unilateral	1/day
95868	Needle electromyography; cranial nerve supplies muscles, bilateral	1/day
95869	Needle electromyography; thoracic paraspinal muscles (excluding T1 or T12)	1/day
95870	Needle electromyography; limited study of muscles in one extremity or non-limb (axial) muscles (unilateral or bilateral), other than thoracic paraspinal, cranial nerve supplied muscles, or sphincters	4/day
95872	Needle electromyography using single fiber electrode, with quantitative measurement of jitter, blocking and/or fiber density, an/all sites of each muscle studied	1/day
95875	Ischemic limb exercise test with serial specimen(s) acquisition for muscle(s) metabolite(s)	1/day
95900	Nerve conduction, amplitude and latency/velocity study, each nerve; motor, without F-wave study	12/day
95903	Nerve conduction, amplitude and latency/velocity study, each nerve; motor, with F-wave study	12/day
95904	Nerve conduction, amplitude and latency/velocity study, each nerve; sensory	12/day
95920	Intraoperative neurophysiology testing, per hour	1 unit/hour
95937	Neuromuscular junction testing (repetitive stimulation, paired stimuli), each nerve, any one method	12/day

Note: Use of CPT code 95904 is inappropriate coding for Quantitative Sensory Testing.

D. Modifiers

Providers are required to follow applicable modifier guidelines. The technical component or the professional component of a procedure cannot be billed on the same date of service, same or different provider, as the complete component of the procedure.

E. Billing Units

Refer to **Attachment A: Section C** for allowable units.

F. Place of Service

All codes with the exception of 95920 may be performed inpatient, outpatient hospital, and office. 95920 is limited to inpatient and outpatient hospital.

G. Co-payments

Co-payment(s) may apply to covered prescription drugs and services.

H. Reimbursement

Providers must bill their usual and customary charges.