ELECTROMYOGRAPHY (EMG) AND NERVE CONDUCTION STUDIES (NCS)

Coverage for services, procedures, medical devices and drugs are dependent upon benefit eligibility as outlined in the member’s specific benefit plan. This Medical Coverage Guideline must be read in its entirety to determine coverage eligibility, if any.

This Medical Coverage Guideline provides information related to coverage determinations only and does not imply that a service or treatment is clinically appropriate or inappropriate. The provider and the member are responsible for all decisions regarding the appropriateness of care. Providers should provide BCBSAZ complete medical rationale when requesting any exceptions to these guidelines.

The section identified as “Description” defines or describes a service, procedure, medical device or drug and is in no way intended as a statement of medical necessity and/or coverage.

The section identified as “Criteria” defines criteria to determine whether a service, procedure, medical device or drug is considered medically necessary or experimental or investigational.

State or federal mandates, e.g., FEP program, may dictate that any drug, device or biological product approved by the U.S. Food and Drug Administration (FDA) may not be considered experimental or investigational and thus the drug, device or biological product may be assessed only on the basis of medical necessity.

Medical Coverage Guidelines are subject to change as new information becomes available.

For purposes of this Medical Coverage Guideline, the terms "experimental" and "investigational" are considered to be interchangeable.

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Description:

Electromyography (EMG) and Nerve Conduction Studies (NCS), when properly performed by a trained practitioner, are considered the gold standard of electrodiagnostic assessment for evaluating the electrical function of peripheral nerves and muscles.

NCS should typically be performed together with a needle EMG and performed by a properly trained provider trained in electrodiagnostic medicine. Specialties with this training are neurology, physical medical and rehabilitation and physiatry.
ELECTROMYOGRAPHY (EMG) AND NERVE CONDUCTION STUDIES (NCS) (cont.)

Description: (cont.)

Electrodiagnostic assessment components include:

1. Needle Electromyography (EMG):
   EMG refers to the recording and study of electrical activity of muscles using a needle electrode inserted into the muscle. Needle EMG procedures include the interpretation of electrical waveforms measured by equipment that produces both visual and auditory components of electrical signals recorded from the muscle(s) studied by the needle electrode. Single fiber EMG records the response of a single muscle fiber.

2. Nerve Conduction Studies (NCS):
   NCS evaluate both motor and sensory nerve conduction by means of electrodes on the skin, or, in some cases, needle electrodes. The nerve is stimulated with a mild electrical impulse and the resulting electrical activity is recorded by other electrodes. The distance between electrodes and the time it takes for electrical impulses to travel between them are used to calculate the nerve conduction velocity. NCS may also be referred to as nerve conduction velocity tests (NCV).

3. Repetitive Nerve Stimulation (RNS) Studies:
   RNS studies are intended to evaluate the integrity and function of the neuromuscular junction (NMJ). The test involves stimulating a nerve repetitively at variable rates and recording the response of the corresponding muscle(s). Disorders of the NMJ will show a diminished muscular response to repetitive stimulation.

4. Somatosensory Evoked Potentials (SEP):
   SEP's evaluate nerve conduction in various sensory fibers of both the peripheral and central nervous system, and are used to test the integrity and function of these nerve pathways. They are typically used to assess nerve conduction in the spinal cord and other central pathways that cannot be assessed by standard NCS.

5. Blink Reflexes:
   The blink reflexes, which are analogs of the corneal reflex, are evaluated by stimulating the orbicularis orbis muscle at the lower eyelid. They are used to localize lesions in the fifth or seventh cranial nerves.
ELECTROMYOGRAPHY (EMG) AND NERVE CONDUCTION STUDIES (NCS) (cont.)

Description: (cont.)

Automated Point-of-Care Nerve Conduction Tests:
Automated nerve conduction tests are performed with portable devices that allow NCS to be done in an office without specialized training rather than performed in conjunction with a needle EMG in a laboratory. The need for specialized equipment and personnel may limit the availability of electrodiagnostic testing for some individuals. The automated devices use computer software to deliver, measure and analyze the responses from conduction studies and provide a detailed report for review by the physician.

Automated point-of-care nerve conduction tests have been investigated to assist in the diagnosis of carpal tunnel syndrome and peripheral neuropathy, and in particular, for detecting diabetic neuropathy. These tests include but are not limited to: Axon-II™, Brevio®, NC-stat®, Neurometer®, NeuroMetrix ADVANCE™, The Neural-Scan™ and XLTek Neuropath.

Criteria:

- Electrodiagnostic assessment, consisting of EMG, NCS and related measures is considered medically necessary as an adjunct to history, physical exam (PE) and imaging studies with documentation of ALL of the following:

  1. Signs and symptoms of neuropathy and/or myopathy are present (numbness/tingling, pain, muscle weakness, atrophy, depression of deep tendon reflexes or sensory impairment to pin prick, 2 point discrimination or light touch)
  2. Definitive diagnosis cannot be made by PE and imaging studies alone
  3. Failure of medically supervised conservative treatment (e.g., rest, analgesics, NSAIDS, physical therapy, spinal manipulation, if appropriate) specific to the individual’s symptoms for 30 days or greater
  4. Work-up for ONE or more of the following categories of disease is indicated:

    - Compressive neuropathies
    - Focal neuropathies/myopathies, generalized
    - Motor neuron diseases
    - Nerve root compression
    - Neuromuscular junction disorders
    - Plexopathies
    - Traumatic nerve injuries
ELECTROMYOGRAPHY (EMG) AND NERVE CONDUCTION STUDIES (NCS) (cont.)

Criteria: (cont.)

- Repeat electrodiagnostic assessment consisting of EMG, NCS and related measures is considered *medically necessary* with documentation of *ANY* of the following:
  1. Development of new signs or symptoms suggesting a second diagnosis in an individual who has received an initial diagnosis
  2. Interim progression of disease following an initial test that was inconclusive, such that a repeat test is likely to elicit additional findings
  3. Unexpected change(s) in the course of disease or response to treatment, suggesting that the initial diagnosis may be incorrect and that re-examination is indicated
  4. Repeat evaluations may be needed to monitor recovery, to help establish prognosis and/or to determine the need for and timing of surgical intervention (e.g., traumatic nerve injury) and to assess recovery over time following peripheral nerve surgery

- Electrodiagnostic assessment, consisting of EMG, NCS and related measures performed on an individual with chronic medical conditions with known complications of neuropathy are considered *not medically necessary* and *not eligible for coverage*.

  These chronic conditions include, *but are not limited to*:
  - Diabetic neuropathy
  - End-stage renal disease
  - HIV neuropathy

- Electrodiagnostic assessment, consisting of EMG, NCS and related measures to diagnose a neuropathy in an individual without signs or symptoms of a neuropathy is considered *screening* and, therefore, a *benefit plan exclusion* and *not eligible for coverage*.

- Electrodiagnostic assessment, consisting of EMG, NCS and related measures for all other indications not previously listed or if above criteria not met is considered *experimental or investigational* based upon:
  1. Insufficient evidence to support improvement of the net health outcome, and
  2. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives.

  These indications include, *but are not limited to*:
  - Screening of asymptomatic individuals
  - Serial assessments to evaluate progression of disease in individual with previously diagnosed neuropathy or myopathy
  - Evaluation of treatment response in an individual with previously diagnosed neuropathy or myopathy
  - Evaluation of severity of disease in an individual with previously diagnosed neuropathy or myopathy
ELECTROMYOGRAPHY (EMG) AND NERVE CONDUCTION STUDIES (NCS) (cont.)

Criteria: (cont.)

- NCS performed without an EMG are considered experimental or investigational based upon:
  1. Insufficient evidence to support improvement of the net health outcome, and
  2. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives.

- Automated nerve conduction tests are considered experimental or investigational based upon:
  1. Insufficient evidence to support improvement of the net health outcome, and
  2. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives.

Resources:

Literature reviewed 09/07/16. We do not include marketing materials, poster boards and non-published literature in our review.

The BCBS Association Medical Policy Reference Manual (MPRM) policy is included in our guideline review. References cited in the MPRM policy are not duplicated on this guideline.


7. InterQual® Care Planning Criteria Procedures. Electromyography (EMG) and Nerve Conduction Studies (NCS).