1. **Purpose**

The purpose of this policy is to establish medically necessary diagnostic testing standards.

2. **Definitions**

2.1. **Electrodiagnostic (EDX) medicine** is the subspecialty that applies neurophysiologic techniques to diagnose, evaluate and treat patients with impairments of the neurologic, neuromuscular and/or muscular systems.

3. **Statement of Policy**

3.1. **Minimum Standards Regarding Electrodiagnostic Testing:**

- The provider’s records shall include sufficient documentation to support the medical necessity for the requested electrodiagnostic test. This includes documentation of a thorough neurological evaluation, which clearly defines the clinical need for electrodiagnostic testing in order to localize and objectify the extent of functional deficit in the central and peripheral nervous system, and how the result of such testing will impact the patient’s treatment plan.

- Testing shall be performed using electrodiagnostic equipment that provides assessment of all parameters of the recorded signals. Studies performed with devices designed only for “screening purposes” rather than diagnoses are **not** acceptable under this policy.

- The number of tests performed shall be the minimum needed to establish an accurate diagnosis.

- Electrodiagnostic tests shall be performed directly by a Provider who is considered certified in electrodiagnostic testing by Triad or an accepted credited body. The reporting NCS and EMG study results shall be integrated into a unifying diagnostic impression. In contrast, dissociation of NCS and EMG results into separate reports is inappropriate unless specifically explained by the provider. Performance and/or interpretation of NCSs separately from that of the needle EMG component of the test should clearly be the exception. (e.g., when testing an acute nerve injury).
3.2. Electromyography (EMG) and Nerve Conduction Velocity Studies (NCS):

The use of electrodiagnostic testing is always made on a case by case basis consistent with the applicable standards of care. Every electrodiagnostic examination should be justified by meeting the following clinical criteria:

- The electrodiagnostic examination will provide clinically meaningful information which will either alter the patient’s prognosis or result in alteration of the management of the patient’s condition or complaint.

- The electrodiagnostic examination will be a more useful test to alternative diagnostic procedures.

In general, electrodiagnostic testing is indicated after a trial of conservative treatment has failed to produce adequate improvement. However, there are some clinical presentations (e.g., rapidly progressive neurological deficit) that warrant consideration for earlier electrodiagnostic testing.

Electromyography (needle EMG) and nerve conduction studies (NCS) typically comprise the electrodiagnostic evaluation of function on the motor neurons, nerve roots, the peripheral nerves, the neuromuscular junction and the skeletal muscles. Electromyography and nerve conduction studies may be medically necessary in any of the following indications:

3.2.1. For any diagnosing neuropathy with sensory loss, weakness and/or muscle atrophy for any one of the following indications:

- When there is unexplained peripheral neuropathy with pain of a neuropathic pattern, demonstrated sensory or motor loss on physical examination.

- When there is neuropathy suspected due to a trauma.

3.2.2. When test results are expected to guide management of conditions known to cause neuropathy. These conditions include, but are not limited to:

- HIV positive individuals with symptoms of neuropathy

- Mononeuropathies

- Diabetics with persistent or progressive symptoms refractory to conventional treatments
3.2.3. For patients with suspected neural impingement of entrapment whose symptoms are persistent or unresponsive to initial conservative treatments, as indicated by any of the following:

- Dialysis patients or those considering dialysis.
- Carpal tunnel syndrome [when clinical documentation shows impingement symptoms refractory to activity modifications and at least four (4) weeks of wrist splint use]
- Ulnar neuropathy at the elbow or wrist [when clinical documentation shows impingement symptoms refractory to activity modification and at least four (4) weeks of elbow pad use]
- Cervical/lumbar radiculopathy [when clinical documentation shows at least four (4) weeks of failed conservative treatment]
- Tarsal tunnel syndrome (when clinical documentation shows pain and numbness isolated to the foot)
- Peroneal palsy with foot drop
- Suspected brachial or lumbosacral plexus impingement
- Other peripheral nerve entrapment syndromes.

3.2.4. Radiculopathies cannot be diagnosed by NCS alone; needle EMG must be performed to confirm a radiculopathy. Therefore, these studies should be performed together by one (1) provider supervising and/or performing all aspects of the study.

3.2.5. In cases of carpal tunnel syndrome or ulnar neuropathy, the requirement for a period of conservative treatment may be waived if the physical exam demonstrated significant atrophy and/or weakness or sensory loss.

3.2.6. When there is significant clinical suspicion of any of the following conditions:

- Amyotrophic Lateral Sclerosis or Post-Polio syndrome
- Inflammatory/idiopathic brachial or lumbosacral plexopathy
- Guillian-Barre Syndrome or a chronic inflammatory neuropathy (CIDP)
- Hereditary neuropathies (e.g., Charcot-Marie – Tooth disease)
• Inflammatory myopathies (e.g., polymyositis, chronic demyelinating polyneuropathy)

• Diseases of the neuromuscular junction (e.g., myasthenia gravis, Eaton Lambert syndrome).

3.2.7. **Not Medically Necessary:** Triad considers Electromyography and Nerve Conduction Studies *not medically necessary* when the criteria listed above are not met, including when used as a scanning tool for the general population, in the absence of related symptoms.

3.3. The use of electromyography *may be considered medically necessary* when used in conjunction with Botulinum Toxin Injections (chemodenervations).

3.4. Intraoperative performance of electromyography *may be considered medically necessary* in lumbar surgeries where pedicle screws are utilized.

3.5. Somatosensory evoked potential (SEPs, SSEPs) or dermatosensory evoked potentials (DSEPs) *may be considered medically necessary* for any of the following indications:

  • Unexplained myelopathy; or
  
  • To localize the cause of a central nervous system deficit seen on exam, but not explained by lesion seen on CT or MRI; or
  
  • To identify clinically nervous system lesions in multiple sclerosis suspects in order to establish the diagnosis, where multiple sclerosis is suspected due to presence of suggestive neurologic symptoms plus one or more other objective findings [brain plaques on MRI, clinical lesion by history and physical examination, and/or positive CSF (determined by oligoclonal bands detected by established methods (isoelectric focusing) different from any such bands in serum, or by an increased IgG index)]; or
  
  • To assess any decline which may warrant emergent surgery in unconscious spinal cord injury persons who show specific structural damage to the Somatosensory system and who are candidates for emergency spinal cord surgery.

3.6. Somatosensory evoked potential and dermatosensory evoked potentials *are considered not medically necessary* for all other indications.
3.7. Intraoperative Somatosensory evoked potentials (SSEPs) performed either alone or in combination with motor evoked potentials (MEPs) may be considered medically necessary for monitoring the integrity of the spinal cord to detect adverse changes before they become irreversible during spinal, intracranial, orthopedic, or vascular procedures, when the following criteria are met:

- The evoked potential monitoring is performed in the operating room by a dedicated trained technician (with a specially trained physician available to provide immediate feedback to the surgeon); and

- A physician performs an interpretation of the intraoperative evoked potentials results to the surgeon.

3.8. Intraoperative SEP monitoring with or without MEPs may be considered medically necessary for certain surgeries including, but not limited to:

- Spinal Surgeries
  - Decompression of the spinal cord where function of the spinal cord is at risk; or
  - Removal of spinal cord tumors; or
  - Surgery as a result of traumatic injury to the spinal cord; or
  - Surgery for arteriovenous (AV) malformation of the spinal cord; or
  - Correction of scoliosis or deformity of the spinal cord involving traction on the cord.

- Intracranial Surgeries
  - Correction of cerebral vascular aneurysms; or
  - Deep brain stimulation; or
  - Endolymphatic shunt for Meniere’s disease; or
  - Microwavable decompression of cranial nerves (e.g. optic, trigeminal, facial, auditory nerves); or
  - Oval or round window graft; or
  - Removal of cavernous sinus tumors; or
  - Removal of tumors that affect cranial nerves; or
3.9. Somatosensory evoked potentials with or without motor evoked potentials are considered not medically necessary for all other indications.

3.10. The following sensory evoked potential studies are considered not medically necessary:

- SEPs in conscious persons with severe spinal cord or head injuries (the standard neurologic exam is the most direct way to evaluate any deficits); or
- SEPs in the diagnosis of cervical spondylytic myeloradiculopathy; or
- SEPs in the of thoracic outlet syndrome; or
- SEP for radiculopathies and peripheral nerve lesions where standard nerve conduction velocity studies are diagnostic; or
- SEP for the diagnosis of carpal tunnel syndrome/ulnar nerve entrapment.

3.11. The report submitted by the physician for sensory evoked potentials should note which nerves were tested, latencies at various testing points, and an evaluation of whether the resulting values are normal or abnormal.

3.12. Surface Scanning Electromyography:
Triad considers Surface Scanning Electromyography (sEMG) or paraspinal surface EMG experimental and investigation as a diagnostic test for evaluating neck pain, low back pain, or other thoracolumbar segmental abnormalities such as soft tissue injury, intervertebral disc disease, nerve root irritation and scoliosis, and for all other indications because the reliability and validity of these tests have not been established. As a result, Triad considers the use of Surface Scanning (sEMG)_not medically necessary._

**Note:** Surface scanning EMG should not be confused with conventional needle EMG, or with the use of surface electrodes in EMG biofeedback techniques, which are considered medically necessary for appropriate indications.

### 3.13. Quantitative Sensory Testing (QST) and Current Perception Threshold Testing (CPT):

Triad considers QST testing experimental and investigational for the management of individuals with neuropathy or any other diagnoses because its diagnostic value has not been established. As a result, Triad considers the use of QST testing not medically necessary.

Triad considers CPT testing experimental and investigational because the effectiveness and clinical applicability of this testing in diagnosing and/or managing peripheral neuropathy, radiculopathy or other diseases has not been established. As a result, Triad considers the use of CPT testing not medically necessary.

### 4. References

#### 4.1. The following scientific references were utilized in the formulation of this medical policy. Triad Healthcare, Inc. will continue to review clinical evidence surrounding electrodiagnostic testing and may modify this policy at a later date based upon the evolution of the published clinical evidence. Should additional scientific studies become available and they are not included in the list, please forward the reference(s) to Triad Healthcare, Inc. so the information can be reviewed by the Academic Advisory Committee (AAC) and the Medical Quality Improvement Committee (MQIC) to determine if a modification of the policy is in order.

<table>
<thead>
<tr>
<th>Policy Library: Medical</th>
<th>Doc. Control #: PRV.MQ.MP.011.007</th>
</tr>
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<tbody>
<tr>
<td>Title/Subject:</td>
<td>TMMP 25 - USE OF ELECTRODIAGNOSTIC TESTING</td>
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</table>


4.2. Related Triad Medical Policies:

- TMMP 18 - Medical Necessity
- TMMP 15 - Minimal Clinical Progress / Improvement

**CPT Codes**

This policy relates to the use of the following CPT Codes:

<table>
<thead>
<tr>
<th>CPT Codes</th>
<th>Description (AMA CPT Guide)</th>
</tr>
</thead>
<tbody>
<tr>
<td>51785</td>
<td>Needle electromyography studies (EMG) of anal or urethral sphincter, any technique</td>
</tr>
<tr>
<td>95860</td>
<td>Needle electromyography; one (1) extremity with or without related paraspinal areas</td>
</tr>
<tr>
<td>95861</td>
<td>Needle electromyography; two (2) extremity with or without related paraspinal areas</td>
</tr>
<tr>
<td>95863</td>
<td>Needle electromyography; three (3) extremity with or without related paraspinal areas</td>
</tr>
<tr>
<td>95864</td>
<td>Needle electromyography; four (4) extremity with or without related paraspinal areas</td>
</tr>
<tr>
<td>95865</td>
<td>Needle electromyography; larynx</td>
</tr>
<tr>
<td>CPT Codes</td>
<td>Description (AMA CPT Guide)</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>95866</td>
<td>Needle electromyography; hemidiaphragm</td>
</tr>
<tr>
<td>95867</td>
<td>Needle electromyography; cranial nerve supplied muscle(s), unilateral</td>
</tr>
<tr>
<td>95868</td>
<td>Needle electromyography; cranial nerve supplied muscle(s), bilateral</td>
</tr>
<tr>
<td>95869</td>
<td>Needle electromyography; thoracic paraspinal muscles (excluding T-1 to T-12)</td>
</tr>
<tr>
<td>95870</td>
<td>Needle electromyography; limited study of muscles in 1 extremity or non-limb (axial) muscles (unilateral or bilateral), other than thoracic paraspinal, cranial nerve supplied muscles, or sphincters</td>
</tr>
<tr>
<td>95872</td>
<td>Needle electromyography using single fiber electrode, with quantitative measurement of jitter, blocking and/or fiber density, any/all sites of each muscle studied</td>
</tr>
<tr>
<td>95885</td>
<td>Needle electromyography, each extremity, with related paraspinal areas, when performed, done with nerve conduction, amplitude and latency/velocity study; limited (List separately in addition to code for primary procedure)</td>
</tr>
<tr>
<td>95886</td>
<td>Needle electromyography, each extremity, with related paraspinal areas, when performed, done with nerve conduction, amplitude and latency/velocity study; complete, 5 or more muscle studies, innervated by 3 or more nerves or 4 or more spinal levels (List separately in additional to code for primary procedure)</td>
</tr>
<tr>
<td>95887</td>
<td>Needle electromyography, non-extremity (cranial nerve supplied or axial) muscle(s) done with nerve conduction, amplitude and latency/velocity study (list separately in addition to code for primary procedure)</td>
</tr>
<tr>
<td>95907</td>
<td>Nerve conduction studies; 1-2 studies</td>
</tr>
<tr>
<td>95908</td>
<td>Nerve conduction studies; 3-4 studies</td>
</tr>
<tr>
<td>95909</td>
<td>Nerve conduction studies; 5-6 studies</td>
</tr>
<tr>
<td>95910</td>
<td>Nerve conduction studies; 7-8 studies</td>
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<tr>
<td>95911</td>
<td>Nerve conduction studies; 9-10 studies</td>
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<tr>
<td>95912</td>
<td>Nerve conduction studies; 11-12 studies</td>
</tr>
<tr>
<td>95913</td>
<td>Nerve conduction studies; 13 or more studies</td>
</tr>
<tr>
<td>95921</td>
<td>Testing of autonomic nervous system function; cardiovagal innervation (parasympathetic function), including 2 or more of the following: heart rate response to deep breathing with recorded R-R interval, Valsalva ratio, and 30:15 ratio</td>
</tr>
</tbody>
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<tr>
<th>CPT Codes</th>
<th>Description (AMA CPT Guide)</th>
</tr>
</thead>
<tbody>
<tr>
<td>95922</td>
<td>Testing of autonomic nervous system function; vasomotor adrenergic innervation (sympathetic adrenergic function), including beat-to-beat blood pressure and R-R interval changes during Valsalva maneuver and at least 5 minutes of passive tilt</td>
</tr>
<tr>
<td>95923</td>
<td>Testing of autonomic nervous system function; sudomotor, including 1 or more of the following: quantitative sudomotor axon reflex test (QSART), silastic sweat imprint, thermoregulatory sweat test, and changes in sympathetic skin potential</td>
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<tr>
<td>95925</td>
<td>Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves of skin sites, recording from the central nervous system; in the upper limbs</td>
</tr>
<tr>
<td>95926</td>
<td>Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves of skin sites, recording from the central nervous system; in the lower limbs</td>
</tr>
<tr>
<td>95927</td>
<td>Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves of skin sites, recording from the central nervous system; in the trunk or head</td>
</tr>
<tr>
<td>95933</td>
<td>Orbicularis oculi (blink) reflex, by electrodiagnostic testing</td>
</tr>
<tr>
<td>95937</td>
<td>Neuromuscular junction testing (repetitive stimulation, paired stimuli), each nerve, any 1 method</td>
</tr>
<tr>
<td>95938</td>
<td>Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves of skin sites, recording from the central nervous system; in upper and lower limbs</td>
</tr>
<tr>
<td>95939</td>
<td>Central motor evoked potential study (transcranial motor stimulation); in upper and lower limbs</td>
</tr>
<tr>
<td>S3900</td>
<td>Surface electromyography (EMG)</td>
</tr>
</tbody>
</table>

This list may not be all inclusive and is not intended to be used for coding/billing purposes.

**Table of Revisions**

<table>
<thead>
<tr>
<th>Revision Date</th>
<th>Modified By</th>
<th>Description</th>
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<tbody>
<tr>
<td>01/07/2015</td>
<td>Level 1, 2, 3</td>
<td>Annual Review. §3.2.3., 3rd bullet changed from “cervical/lumbar radiculopathy [when clinical documentation shows four to six (4-6) weeks of failed conservative treatment]” to “cervical/lumbar radiculopathy [when clinical documentation shows at least four (4) weeks of failed conservative treatment].” CPT Codes table changes included deletion of 95900, 95903, 959904, 95934, 95936 and inclusion of 95907, 95908, 95909, 95910, 95911, 95912, 95913.</td>
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<tr>
<td>Revision Date</td>
<td>Modified By</td>
<td>Description</td>
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<tr>
<td>12/09/2013</td>
<td>Level 1, 2, 3</td>
<td>Annual Review. §3.1., 4th bullet, revised from “Electrodiagnostic tests shall be either (a) performed directly by a Provider who is considered certified in electrodiagnostic testing by Triad or (b) performed by a trained individual under the direct supervision of a doctor who demonstrates competency in the ability to advise, guide and evaluate the performance and interpretation of such testing. Direct supervision means that the physician is in close physical proximity to the electrodiagnostic laboratory while testing is underway, is immediately available to provide the trained individual with assistance and direction, and is responsible for selecting the appropriate studies to be performed” to “Electrodiagnostic tests shall be performed directly by a Provider who is considered certified in electrodiagnostic testing by Triad or an accepted credited body.” Reformatted and revised to meet Document Controls Standards.</td>
</tr>
<tr>
<td>11/16/2012</td>
<td>Level 1, 2, 3</td>
<td>Annual Review. Added definition section. Added CPT code table.</td>
</tr>
<tr>
<td>05/20/2011</td>
<td>Level 1, 2, 3</td>
<td>Annual Review. No changes.</td>
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<tr>
<td>05/07/2010</td>
<td>Level 1, 2, 3</td>
<td>No changes.</td>
</tr>
<tr>
<td>03/14/2009</td>
<td>Level 1, 2, 3</td>
<td>Section 2.4 through 2.10 added. References for evoked potentials added.</td>
</tr>
<tr>
<td>02/18/2009</td>
<td>Level 1, 2, 3</td>
<td>Section 2.3 added to policy: “The use of electromyography may be considered medically necessary when used in conjunction with Botulinum Toxin injections (chemodenervation).” TMMP 205 – Botulinum Toxin Injections (Chemodenervation (64612 – 64614) added as related Triad medical policy.</td>
</tr>
</tbody>
</table>

Triad’s Medical Policies are not recommendations for treatment and providers are expected to exercise their clinical judgment in providing the most appropriate care. Health care providers and patients should not rely on these Medical Policies in making health care decisions. These Medical Policies are guidelines and do not constitute an authorization, certification, explanation of benefits or guarantee of payment. Applications of Triad’s Medical Policies are determined by the enrollee’s benefit documents and contracts and as such individual benefits must be verified. Determinations of medical necessity apply only if the benefit exists and no contract exclusions are applicable. In the event of a conflict, a participant’s benefit plan document shall supersede the information contained in Triad’s Medical Policies.