



CIGNA MEDICAL COVERAGE POLICY

The following Coverage Policy applies to all health benefit plans administered by CIGNA Companies including plans formerly administered by Great-West Healthcare, which is now a part of CIGNA.

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Subject Electromyography Studies

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 Spinal Ultrasound

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Coverage Policy

ELECTROMOGRAPHY

CIGNA covers needle electromyography (NEMG) (including single fiber) as medically necessary when it is conducted and interpreted at the same time as nerve conduction velocity (NCV) studies, for evaluation of ANY of the following conditions:

- myopathy, including but not limited to ANY of the following:
 - polymyositis
 - dermatomyositis
 - myotonic myopathy
 - congenital myopathy
- disorder of brachial or lumbosacral plexus
- plexopathy (e.g., idiopathic, trauma, infiltration)
- focal neuropathy, entrapment neuropathy, compressive lesion/syndrome, including but not limited to ANY of the following:
 - carpal tunnel
 - cubital tunnel syndrome
 - tarsal tunnel syndrome

- peroneal nerve compression
 - thoracic outlet syndrome
- diagnosis or confirmation of a generalized neuropathy, including but not limited to ANY of the following:
 - metabolic and nutritional [diabetic, uremic, amyloidosis, hypothyroidism, immune, vitamin B₁₂ or thiamine deficiency]
 - toxic neuropathy (e.g., vincristine, amiodarone)
 - hereditary polyneuropathy (e.g., Charcot-Marie Tooth disease)
 - infectious neuropathy (e.g., HIV, Lyme disease, Leprosy)
 - demyelinating neuropathy (e.g., Guillain-Barre syndrome)
 - idiopathic peripheral neuropathy
- repetitive stimulation in the diagnosis of a neuromuscular junction disorder (e.g., myasthenia gravis, myasthenic syndrome, botulism)
- neurotrauma (e.g., traumatic nerve lesion)
- symptom-based presentation suggesting nerve root, peripheral nerve, muscle, or neuromuscular junction involvement, when pre-test evaluations are inconclusive and clinical assessment supports the need for the study, such as for ANY of the following:
 - muscle weakness
 - muscle atrophy
 - muscle fasciculation
 - myokymia
 - myotonia
 - loss of dexterity
 - spasticity
 - hyperreflexia
 - sensory deficits
 - diplopia
 - ptosis
 - swallowing dysfunction
 - dysarthria
 - impaired bowel motility
- motor neuron disease (e.g., amyotrophic lateral sclerosis)
- spine disorder and BOTH of the following:
 - appropriate imaging studies (e.g., CT scan, MRI, myelogram) confirm nerve root impingement
 - any one of the following:
 - to differentiate radiculopathy from other neuropathies or non-neuropathic processes
 - to establish whether imaging findings are responsible for reported pain
 - to reconcile when pattern of pain, sensory impairment, or weakness does not match imaging findings
 - to document degree of axonal nerve damage in an individual with weakness
- determination of precise muscle location for an injection such as botulinum toxin or phenol when medical necessity criteria for the injection has been met

CIGNA does not cover NEMG testing when performed for ANY of the following because it is considered not medically necessary:

- screening of the general population, in the absence of related symptoms
- screening, monitoring of disease intensity or monitoring of treatment efficacy for polyneuropathy of diabetes
- screening, monitoring of disease intensity or monitoring of treatment efficacy for end stage renal disease
- testing of intrinsic foot muscles in the diagnosis of proximal lesions
- definitive diagnostic conclusion from paraspinal EMG in regions bearing scars of previous surgeries, such as previous laminectomy
- pattern setting limited limb muscle examinations without paraspinal muscle testing for diagnosis of radiculopathy
- needle EMG testing performed shortly after trauma

CIGNA does not cover the following electromyographic studies, for ANY indication, because each is considered experimental, investigational or unproven (this list may not be all-inclusive):

- macro electromyography (EMG)
- surface electromyography (e.g., surface EMG [SEMG], surface scanning EMG, high-density SEMG, HD-sEMG)
- paraspinal SEMG
- needle electromyography study performed without a nerve conduction velocity study and/or late response study for any indication, other than intraoperative monitoring

INTRAOPERATIVE EMG MONITORING

CIGNA covers intraoperative monitoring* (IOM) of electromyographic responses as medically necessary when ALL of the following conditions are met:

- There is significant risk of nerve or spinal cord injury during a surgical procedure, such as the following (this list may not be all inclusive):
 - monitoring of a cranial nerve during head and/or neck surgery (e.g., resection of skull base tumor, resection of tumor involving a cranial nerve, cavernous sinus tumor, oval or round window graft, thyroid tumor surgery, neck dissection)
 - risk for cerebral ischemia (e.g., surgery of the aortic arch, thoracic aorta, internal carotid artery endarterectomy, intracranial arteriovenous malformation, bronchial artery arteriovenous malformation or tumor, cerebral aneurysm)
 - monitoring of facial nerve function during surgery (e.g., acoustic neuroma, microvascular decompression of the facial nerve for hemifacial spasm, parotid tumor resection)
 - monitoring of nerve root function during a spinal procedure (e.g., pedicle screw placement, mechanical spinal distraction, correction of scoliosis surgery, spinal cord tumor, spinal fracture)
 - brachial or lumbar plexus surgery, including a decompressive procedure of the spine for myelopathy or claudication when the spinal cord or nerves are at risk
 - the planned surgery poses a potential risk of significant damage to an essential nervous system structure (e.g., neuroma of peripheral nerve, leg lengthening procedure when there is traction on the sciatic nerve)
- IOM is performed by either a licensed physician trained in clinical neurophysiology (e.g., neurologist, physiatrist) or a trained technologist who is practicing within the scope of his/her license/certification as defined by state law or appropriate authorities and is working under the direct supervision of a physician trained in neurophysiology.
- IOM is interpreted by a licensed physician trained in clinical neurophysiology, other than the operating surgeon, who is either physically in attendance in the operating suite or present by means of a real-time remote mechanism for all electroneurodiagnostic (END) monitoring situations and is immediately available to interpret the recording and advise the surgeon.
- Monitoring is conducted and interpreted real-time (either on-site or at a remote location) and continuously communicated to the surgical team.

***Note: IOM for these indications consists of a physician monitoring not more than three cases simultaneously.**

General Background

Electrodiagnostic studies are frequently used to evaluate a subset of patients with suspected neuromuscular disorders and include needle electromyography and other nerve stimulation tests such as nerve conduction studies. Surface electromyography has been utilized by some clinicians. Electrodiagnostic testing may provide an important means of diagnosing conditions attributable to nerve, muscle or neuromuscular junction weakness such as myopathies (muscle weakness), radiculopathies (nerve root disease), plexopathies (peripheral neuropathy), neuropathies (nerve disease), neuromuscular junction disorders, and nerve compression syndromes. In addition, electrodiagnostic testing may be indicated for symptom-based presentations, (e.g., pain in limb, muscle weakness) when appropriate pre-test evaluations are inconclusive and the clinical assessment

unequivocally supports the need for the study (American Association of Neuromuscular and Electrodiagnostic Medicine [AANEM], 2010).

Sensitivity and specificity reports for electrodiagnostic testing methods (in general) vary. A clearly established measure of comparison is lacking in the medical literature, making comparisons across studies difficult. Some studies have compared results with clinical examination findings, imaging studies such as magnetic resonance imaging, computed tomography, myelography, or the observation of nerve root compression during surgery. Interobserver differences, the variety of tests employed, the presence of symptoms that may influence patient outcomes (e.g., pain), the presence of abnormal imaging studies in asymptomatic patients, and the subjectivity of the surgeon's interpretation may all lead to variances in sensitivity and specificity results. Despite these variances however, electrodiagnostic testing is commonly used to assist in diagnosing disorders involving the nerves, muscles and neuromuscular junction.

Electromyography (EMG)

EMG is the study and recording of skeletal muscle reactions to electrical impulses and is also referred to as needle EMG. It is an invasive procedure performed to exclude, diagnose, describe and follow diseases of muscle and the peripheral nervous system. According to the American Academy of Neurology (AAN), "Needle EMG (NEMG), in combination with nerve conduction studies, is the gold standard methodology for assessing the neurophysiologic characteristics of neuromuscular diseases" (Pullman, et al., 2000). Generally, the term EMG is used to encompass nerve conduction studies which measure the action potentials that result from peripheral nerve stimulation. Nerve conduction studies (NCS), also referred to as nerve conduction velocity studies, aid in evaluating a differential diagnosis and complements the EMG studies. EMG is used to assess the integrity of upper motor neurons, lower motor neurons, neuromuscular junction and the muscle tissue using a needle electrode. EMG should always be performed by a physician who is specially trained in electrodiagnostic medicine (neurologist, physiatrist, clinical neurophysiologist) with real-time interpretation, and is part of the complete electrodiagnostic examination (AANEM, 2004).

Except in limited circumstances, the evidence in the published peer-reviewed scientific literature, textbooks and statements by the AANEM indicates that both NCS and NEMG are required to diagnose peripheral nervous system disorders. Circumstances under which NCS and EMG should not be performed together include, but are not limited to, limited follow-up studies of neuromuscular structures that have undergone previous electrodiagnostic evaluation, the current use of anticoagulants, and the presence of lymphedema. The AANEM indicates that for suspected carpal tunnel syndrome, the extent of the NEMG examination depends on the results of the NCSs and the differential diagnosis considered for the individual patient (AANEM, 2004). Furthermore, the AANEM (2010) does not support screening testing, monitoring disease intensity, or monitoring of treatment efficacy for polyneuropathy of diabetes or polyneuropathy of end stage renal disease (ESRD).

EMG reports should include documentation of the muscle tested, the presence and type of spontaneous activity and the characteristics of the voluntary unit potentials.

Single Fiber EMG: Single fiber EMG uses a very highly selective electrode that can focus on a restricted number of muscle fibers. It is utilized to study neuromuscular jitter and muscle fiber density. Fiber density may be increased in neuromuscular disorders such as myasthenia gravis. Jitter is a measure of variation in neuromuscular transmission times and may be increased in some neuromuscular disorders (Sanders, Howard, 2008; Barboi and Barkhaus, 2004; Sanders, 2004). Single fiber EMG has many uses; however, it is most useful to confirm diagnosis for disorders of the neuromuscular junction in suspected myasthenia gravis when other tests are inconclusive or negative (Sanders, Howard, 2008; Gooch and Pullman, 2004).

Macro EMG: Macro EMG is less selective when compared to standard NEMG or single-fiber EMG and is primarily used in investigational settings. It is a method of analyzing the motor unit quantitatively. A surface electrode is used for reference, and motor unit action potentials (MUAP) are measured from a macro needle. Authors suggest that macro EMG evaluates a large recording area compared to other needle electrodes and is considered representative of the entire MUAP area (Barboi and Barkhaus, 2004).

Surface EMG (SEMG): In contrast to NEMG, SEMG, also referred to as surface scanning EMG, is a non-invasive, computer-based technique that records the electrical impulses using electrodes placed on the surface of the skin overlying the nerve at rest (i.e., static) and during activity (i.e., dynamic). The procedure studies the topography of the motor unit action potential (MUAP) and is assessed by computer analysis of the frequency

spectrum, amplitude or root mean square of the electrical action potential. The SEMG differs from the NEMG with respect to technical requirements and electrical properties. SEMG electrodes measure from a wide area of muscle, have a relatively narrow frequency band (range 20 to 500 Hz), have low-signal resolution, and are highly susceptible to movement artifact (Pullman, 2000). The proposed use for this type of EMG is to aid in the diagnosis of neuromuscular disorders and low back pain, and to aid in assessing the prognosis of disorders involving muscle lesions. The technology has also been used to monitor bruxism (i.e., grinding and clenching of teeth). The electrical activity of muscle may be recorded with surface EMG, although spontaneous electrical activity and voluntary motor units cannot be (Lange and Trojaborg, 2000). Although not widely used as a diagnostic tool, high-density SEMG (HD-sEMG) is a multichannel SEMG that records the input of multiple electrodes placed on one muscle and is being studied as a possible method of detecting single MU characteristics (Drost, et al. 2006). Nonetheless, the clinical utility of surface EMG testing outside of the investigative setting has not been proven in the peer-reviewed scientific literature.

Paraspinal EMG: Paraspinal EMG scanning, a type of surface scanning EMG, also referred to as paraspinal SEMG, has been investigated as a method of assessing the paraspinal muscles of patients which provide support to the spinal column. Impairment of the paraspinal muscles may lead to abnormal motion and pain. The paraspinal SEMG is performed using a single electrode or an array of electrodes placed on the skin surface with recordings that are typically made at rest, in various positions, or after physical activity. The diagnostic utility of paraspinal EMG is not known, and its role in patient management has not been established.

Dynamic EMG: There are two types of dynamic EMG: SEMG using electrodes taped to the skin, and fine-wire EMG (FWEMG) using fine wires inserted into the muscle. During this procedure, electrodes are attached to the patient, and an EMG signal is recorded during physical activity (e.g., a gait cycle). Simultaneous measurements or observations are made of the motions measuring electrical potential generated by a muscle when it is activated. This information is then used to assess gait cycles (i.e., gait analysis) of patients with upper motor neuron diseases such as cerebral palsy.

U.S. Food and Drug Administration (FDA): EMG devices, (i.e., needle or cutaneous electrodes), are neurological devices and are approved by the FDA as Class II medical devices.

Literature Review: Evidence in the peer-reviewed, published scientific literature, textbook sources and professional society recommendations indicate that electrodiagnostic testing (electromyography [EMG] and nerve conduction studies [NCS]) is clinically useful in diagnosing various neuromuscular disorders.

There is insufficient evidence in the peer-reviewed, published scientific literature and textbook sources to permit conclusions regarding the clinical utility of macro EMG or paraspinal EMG.

The limited data available have not demonstrated SEMG to be comparable to or of superior diagnostic value to NEMG for the evaluation of patients with neuromuscular disorders. Few published studies compared the diagnostic utility of SEMG to NEMG, and the evidence does not allow strong conclusions regarding improved health outcomes. Furthermore, definitive patient selection criteria have not been established for SEMG. Technology assessments evaluating the utility of SEMG have provided mixed conclusions (Meekins, et al., 2008; Pullman, et al., 2000; Haig, et al., 1999). In a 1999 assessment (Haig, et al., 1999), the AANEM stated that there were no clinical indications for the use of SEMG in the diagnosis and treatment of disorders of nerve or muscle. The AANEM surface EMG task force (Meekins, et al., 2008) re-evaluated the diagnostic utility of and additional value of SEMG for neuromuscular disease. The task force concluded that further research is needed; however SEMG may be useful for detecting the presence of neuromuscular disease, although there was insufficient data to support the utility for distinguishing between neuropathic and myopathic conditions for the diagnosis of specific neuromuscular disorders. They also reported that SEMG may be useful for additional study of fatigue associated with post-poliomyelitis syndrome and electromechanical function in myotonic dystrophy. Both of these recommendations were based on retrospective trials and were considered "Level C" recommendations, defined as "possibly effective, ineffective or harmful for the given condition in the specified population." Pullman and colleagues (2000) conducted a assessment (approved by the American Academy of Neurology [AAN]) and concluded SEMG is unacceptable as a clinical tool in the diagnosis of neuromuscular disease and low back pain, although there are some applications in which SEMG is utilized rather than NEMG (e.g., for the neurophysiologic analysis of movement disorders such as tremor, myoclonus, dystonia, dyskinesia) and may be useful for evaluating gait and posture.

Professional Societies/Organizations: The AANEM has published guidance for the performance of EMG testing. The AANEM recommends that a typical EMG exam include: development of a differential diagnosis based upon appropriate history and physical, completion of indicated nerve conduction studies (recording and studying of electrical responses from peripheral nerves or muscles), and the completion of indicated needle EMG studies for selected muscles. The needle EMG studies are interpreted in real-time as they are being performed. In addition, the AANEM recommends only one attending physician performs and supervises all components of the electrodiagnostic testing and that the testing occur on the same day. Additionally, both EMG and NCS are required for a clinical diagnosis of peripheral nervous system disorders (AANEM, 2004). EMG results reflect on the integrity of the functioning connection between a nerve and its innervated muscle and also on the integrity of a muscle itself. Performance of one does not eliminate the need for the other. The position of the AANEM regarding the performance and interpretation of electrodiagnostic studies states that the performance of or interpretation of NCS separately from the needle EMG component of the testing should clearly be the exception (AANEM, 2006).

The AANEM provides specific recommendations for reporting needle EMG and NCV results. According to the AANEM, the recommendation for documentation of nerve conduction and EMG testing should include (but are not limited to) a description of the patient's clinical problem (demographics, reason for referral), the electrodiagnostic tests performed (techniques, distances, lab reference values, and temperature monitoring), all relevant data derived from these tests (nerves/muscles tested, numerical values for latencies and action potential), and the diagnostic interpretation of the data, including limitations. Complete NCV test measurements should also include amplitude measurements, normal reference values and criteria for abnormalities (AANEM, 2005).

Intraoperative Monitoring

Intraoperative EMG monitoring is commonly used to monitor the integrity of neural pathways during high-risk neurosurgical, orthopedic, and other surgeries that may result in injury to the nervous system. This type of monitoring is performed in the operating room where the goal is to improve patient safety by identifying nerve impairment early so permanent deficits do not result in injuries to the CNS pathways, thus improving surgical outcomes.

Intraoperative EMG monitoring is often performed with somatosensory evoked potentials. SSEP and EMG monitoring combined allows for an intraoperative evaluation that is both sensitive to damage and specific with regards to predicting outcome. SSEPs have low sensitivity to predict damage but high specificity whereas EMG has high sensitivity to nerve root function but low specificity in terms of predicting a persistent neurological deficit (Gunnarsson, et al., 2004).

Interpretation of IOM of EMG signals primarily relies on the presence or absence of muscle activity in general and not on the specific section of the muscle that is reacting. IOM is distinct from clinical diagnostic needle electromyography and nerve conduction studies (AANEM, 2008). According to the AANEM position statement for IOM, while the electrode placement for IOM can be performed by a technologist under the supervision of a trained physician, diagnostic needle electromyography should be performed personally by a qualified physician.

The AANEM and the AAN published guidance for intraoperative monitoring. According to a position statement by the AANEM (2008) regarding the role of the intraoperative monitoring team, during intraoperative monitoring baseline tracings should be obtained prior to the surgical intervention. Monitoring should continue until closing of the surgical procedure, but may be terminated earlier upon discretion of the surgeon. A logbook should be completed for each patient and include the time of the procedure, the time of each surgical manipulation of the central or peripheral nervous system, and the name, dose and times of anesthetics administered which may affect the central or peripheral nervous system or muscle.

The intraoperative monitoring team should consist of surgeons who have a fundamental background in neurophysiology, a monitoring team with a fundamental background in intraoperative monitoring, and anesthesiologists. In addition, according to the AANEM (2008), the IOM team must include a trained clinical neurophysiologist (MD or DO).

Monitoring must be performed by qualified personnel acting within the scope of his/her license/certification as defined by state law or appropriate authorities. According to a guideline by the AAN (2008), it is expected that a specifically trained technologist or non-physician monitorist, preferably with credentials from the American Board

of Neurophysiologic Monitoring or the American Board of Registration of Electrodiagnostic Technologists (ABRET), will be in continuous attendance in the operating room, with either the physical or electronic capacity for real-time communication with the supervising physician. Although credentialing varies among professional organizations, the AANEM and AAN both provide guidance that the monitoring technologist should be under the direct supervision of a clinical neurophysiologist (AAN, 2008; AANEM, 2008).

Typically the physician acts as a remote backup, with the actual intra-operative monitoring being performed in the operating room by a technologist. Some operating rooms have a central physician monitoring room, where a physician may simultaneously monitor cases. The number of procedures being monitored by the clinical neurophysiologist physician is determined by the nature of the surgical procedure. However, monitoring more than three cases simultaneously is not recommended (AAN, 2008). The severity of the case being monitored may determine the location of the neurophysiologist; they may be located in the operating room, in the same building, monitoring real-time recordings from a remote location, or at a location from which the operating room is accessible within minutes to view the recording procedure.

When performing intraoperative monitoring, the electroneurodiagnostic technologist should monitor only one surgical procedure at a time; multiple monitoring could result in restricted surgical efficiency, prolonged anesthesia, and possible compromise of judgment (American Society of Electroneurodiagnostic Technologists [ASET], 2005).

Real-time monitoring allows for timely intervention to prevent risk of damage. Consequently, it is imperative that either the physical (on-site) or electronic capacity (off-site, remote location) for real-time communication exists between the monitoring team and surgeon.

Indications: Evidence in the published literature (Kinney and Slimp, 2007; Crum and Strommen, 2007, Liem, 2006; Edwards and Kileny, 2005; Lehman 2004; Holland, 2002) and textbook sources (Mahla, et al., 2005; Yingling and Ashram, 2005), indicate assessment of intraoperative EMG responses are recommended for patients undergoing surgical procedures that result in significant risk of damage to nerve structures. However, evidence is not conclusive regarding the impact on surgical and health outcomes. Nonetheless, intraoperative monitoring may provide information that allows for immediate intervention thus preventing or minimizing postoperative neurological deficits. Examples of surgical procedures where there is significant potential risk for nerve injury and where intraoperative EMG monitoring may be recommended include the following (this list may not be all inclusive):

- surgeries that place the facial nerve at risk for injury (e.g., acoustic neuroma, microvascular decompression of the facial nerve for hemifacial spasm, parotid tumor resection)
- other head and/or neck surgery that places the cranial nerves at risk for injury (e.g., resection of skull base tumors, thyroid tumor surgery, neck dissections)
- brachial or lumbar plexus surgery
- spinal surgery, for nerve root monitoring (e.g., pedicle screw placement, mechanical spinal distraction)

Summary

Evidence in the peer-reviewed, published scientific literature, textbook sources and professional society recommendations indicates that electrodiagnostic testing (electromyography [EMG] and nerve conduction studies [NCS]) is useful in diagnosing various neuromuscular disorders when the results of the testing will impact patient management. It is the recommendation of the American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM) that electrodiagnostic testing/consultations, including those performed intraoperatively, are conducted by physicians who have a comprehensive knowledge of neurological and neuromusculoskeletal diseases, and in the application of neurophysiologic techniques for evaluation of those disorders. There is insufficient evidence in the literature to support the use of surface electromyography (SEMG), high-density SEMG, macro EMG or paraspinal SEMG at this time. Well-designed clinical trials are needed to demonstrate the diagnostic utility of these procedures. The scientific literature supports that intraoperative EMG monitoring is indicated for monitoring the integrity of neural pathways during high-risk neurosurgical, orthopedic, and other surgeries that may result in injury to the nervous system.

Coding/Billing Information

Note: This list of codes may not be all-inclusive.

Covered when medically necessary:

Ocular EMG

CPT®* Codes	Description
92265	Needle oculoelectromyography, 1 or more extraocular muscles, 1 or both eyes, with interpretation and report

ICD-9-CM Diagnosis Codes	Description
333.81	Blepharospasm
333.90	Unspecified extrapyramidal disease and abnormal movement disorder
341.0	Neuromyelitis optica
374.30-374.34	Ptosis of eyelid
378.00-378.08	Esotropia disorders
378.10-378.18	Exotropia disorders
378.20-378.24	Intermittent esotropia/exotropia disorders
378.30-378.35	Other and unspecified heterotropia
378.60-378.63	Mechanical strabismus
378.71-378.73	Other specified strabismus
378.81-378.87	Other disorders of binocular eye movements
378.9	Unspecified disorder of eye movements

Laryngeal EMG

CPT®* Codes	Description
95865	Needle electromyography; larynx
95866	Needle electromyography; hemidiaphragm

ICD-9-CM Diagnosis Codes	Description
478.30-478.34	Disorders of vocal cords or larynx
478.75	Laryngeal spasm
478.79	Other diseases of larynx
784.40	Voice disturbance, nonspecific
784.42	Dysphonia
784.49	Other voice and resonance disorders

Cranial /Noncranial EMG

CPT®* Codes	Description
95860	Needle electromyography; 1 extremity with or without related paraspinal areas
95861	Needle electromyography; 2 extremities with or without related paraspinal areas
95863	Needle electromyography; 3 extremities with or without related paraspinal areas
95864	Needle electromyography; 4 extremities with or without related paraspinal areas
95866	Needle electromyography; hemidiaphragm
95867	Needle electromyography; cranial nerve supplied muscle(s), unilateral

95868	Needle electromyography; cranial nerve supplied muscles, bilateral
95869	Needle electromyography; thoracic paraspinal muscles (excluding T1 or T12)
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
95872	Needle electromyography using single fiber electrode, with quantitative measurement of jitter, blocking and/or fiber density, any/all sites of each muscle studied
95920	Intraoperative neurophysiology testing, per hour (List separately in addition to code for primary procedure)

ICD-9-CM Diagnosis Codes	Description
053.13	Postherpetic polyneuropathy
072.72	Mumps polyneuropathy
138	Late effects of acute poliomyelitis
249.60-249.61	Secondary diabetes mellitus with neurological manifestations
250.60-250.63	Diabetes with neurological manifestations
330.2	Cerebral degeneration in generalized lipidoses
333.0	Other degenerative diseases of the basal ganglia
333.2	Myoclonus
333.6	Genetic torsion dystonia
333.71	Athetoid cerebral palsy
333.72	Acute dystonia due to drugs
333.79	Other acquired torsion dystonia
333.81	Fragments of torsion dystonia
333.82	Orofacial dyskinesia
333.83	Spasmodic torticollis
333.84	Organic writers' cramp
333.89	Other fragments of torsion dystonia
333.90	Unspecified extrapyramidal disease and abnormal movement disorder
333.99	Other extrapyramidal disease and abnormal movement disorder
334.1	Hereditary spastic paraplegia
334.2	Primary cerebellar degeneration
335.0	Werdnig-Hoffmann disease
335.10-335.19	Spinal muscular atrophy
335.20-335.9	Motor neuron disease
336.0-336.9	Other diseases of spinal cord
337.00-337.9	Disorders of the autonomic nervous system
340	Multiple sclerosis
341.0-341.9	Other demyelinating diseases of central nervous system
342.00-342.92	Hemiplegia and hemiparesis
343.0-343.9	Infantile cerebral palsy
344.00-344.9	Other paralytic syndromes
345.90-345.91	Epilepsy, unspecified
348.1	Anoxic brain damage
348.4	Compression of brain
349.82	Toxic encephalopathy
350.1-350.9	Trigeminal neuralgia
351.0-351.9	Facial nerve disorders
352.0-352.9	Disorders of other cranial nerves

353.0-353.9	Nerve root and plexus disorders
354.0-354.9	Mononeuritis of upper limb and mononeuritis multiplex
355.0-355.9	Mononeuritis of upper limb and unspecified site
356.0-356.9	Hereditary and idiopathic peripheral neuropathy
357.0-357.9	Inflammatory and toxic neuropathy
358.00-358.9	Myoneural disorders
359.0	Congenital hereditary muscular dystrophy
359.1	Hereditary progressive muscular dystrophy
359.21-359.29	Myotonic disorders
359.3	Periodic paralysis
359.4	Toxic myopathy
359.5	Myopathy in endocrine diseases classified elsewhere
359.6	Symptomatic inflammatory myopathy in diseases classified elsewhere
359.81-359.89	Other myopathies
359.9	Unspecified myopathy
368.2	Diplopia
374.30-374.34	Ptosis of eyelid
378.00-378.9	Strabismus and other disorders of binocular eye movements
384.20-384.25	Perforated tympanic membrane
385.30-385.35	Cholesteatoma of middle ear and mastoid
434.00-434.91	Occlusion of cerebral arteries
438.20-438.32	Monoplegia of upper limb
438.40-438.42	Monoplegia of lower limb
478.30-478.34	Paralysis of vocal cords or larynx
596.51	Hypertonicity of bladder
596.54	Neurogenic bladder, NOS
625.6	Stress incontinence, Female
646.40-646.44	Peripheral neuritis in pregnancy
710.3	Dermatomyositis
710.4	Polymyositis
715.90-715.98	Osteoarthritis, unspecified whether generalized or localized
717.9	Unspecified internal derangement of knee
719.40-719.49	Pain in joint
721.1	Cervical spondylosis with myelopathy
721.2	Thoracic spondylosis without myelopathy
721.41-721.42	Thoracic or lumbar spondylosis with myelopathy
721.7	Traumatic spondylopathy
721.91	Spondylosis of unspecified site with myelopathy
722.0	Displacement of cervical intervertebral disc without myelopathy
722.10-722.11	Displacement of thoracic or lumbar intervertebral disc without myelopathy
722.2	Displacement of intervertebral disc, site unspecified, without myelopathy
722.4	Degeneration of cervical intervertebral disc
722.51-722.52	Degeneration of thoracic lumbar intervertebral disc
722.6	Degeneration of intervertebral disc, site unspecified
722.70-722.73	Intervertebral disc disorder with myelopathy
722.80-722.83	Postlaminectomy syndrome
722.90-722.93	Other and unspecified disc disorder
723.0	Spinal stenosis in cervical region
723.1	Cervicalgia
723.4	Brachial neuritis or radiculitis nos.

723.5	Torticollis, unspecified
723.9	Unspecified musculoskeletal disorders and symptoms referable to neck
724.00	Spinal stenosis, unspecified region
724.01	Spinal stenosis of thoracic region
724.03	Spinal stenosis of lumbar region, with neurogenic claudication
724.09	Spinal stenosis , other region other than cervical
724.1	Pain in thoracic spine
724.2	Lumbago
724.3	Sciatica
724.4	Thoracic or lumbosacral neuritis or radiculitis, unspecified
724.5	Backache, unspecified
724.6	Disorders of sacrum
725	Polymyalgia rheumatica
726.2	Other affections of shoulder region, not elsewhere classified
728.0	Infective myositis
728.2	Muscular wasting and disuse atrophy, not elsewhere classified
728.87	Muscle weakness (generalized)
728.9	Unspecified disorder of muscle, ligament, and fascia
729.0	Rheumatism, unspecified and fibrositis
729.1	Myalgia and myositis, unspecified
729.2	Neuralgia, neuritis, and radiculitis, unspecified
729.4	Fasciitis, unspecified
729.5	Pain in limb
729.82	Other musculoskeletal symptoms referable to limbs, Cramp
729.89	Other musculoskeletal symptoms referable to limbs
736.05	Wrist drop (acquired)
736.06	Claw hand (acquired)
736.09	Other acquired deformities of forearm, excluding fingers
736.79	Other acquired deformities of ankle and foot
737.30	Scoliosis (and kyphoscoliosis), idiopathic
738.4	Acquired spondylolisthesis
747.81	Anomalies of cerebrovascular system
747.82	Spinal Vessel anomaly
756.11	Spondylolysis, lumbosacral region
756.12	Spondylolisthesis
767.4	Injury to spine and spinal cord
767.5	Facial nerve injury
767.6	Injury to brachial plexus
767.7	Other cranial and peripheral nerve injuries
781.2	Abnormality of gait
781.3	Lack of coordination
781.4	Transient paralysis of limb
781.6	Meningismus
781.7	Tetany
781.93	Ocular torticollis
781.99	Other symptoms involving nervous and musculoskeletal systems
782.0	Disturbance of skin sensation
784.42	Dysphonia
784.49	Other voice and resonance disorders
784.51	Dysarthria

784.59	Other speech disturbance
787.20-787.29	Dysphagia
787.60-787.63	Incontinence of feces
788.21	Incomplete bladder emptying
788.30-788.39	Urinary incontinence
796.1	Abnormal reflex
951.0-951.9	Injury to other cranial nerve(s)
952.00-952.9	Spinal cord injury without evidence of spinal bone injury
953.0-953.9	Injury to nerve root and spinal plexus
954.0-954.9	Injury to other nerve(s), excluding shoulder and pelvic girdles
955.0-955.9	Injury to peripheral nerve(s) of shoulder girdle and upper limb
956.0-956.9	Injury to peripheral nerve(s) of pelvic girdle and lower limb
957.0-957.9	Injury to other and unspecified nerves

EMG Injection Localization

CPT®* Codes	Description
95873	Electrical stimulation for guidance in conjunction with chemodenervation (List separately in addition to code for primary procedure)
95874	Needle electromyography for guidance in conjunction with chemodenervation (List separately in addition to code for primary procedure)

ICD-9-CM Diagnosis Codes	Description
333.6	Genetic torsion dystonia
333.71	Athetoid cerebral palsy
333.72	Acute dystonia due to drugs
333.82	Orofacial dyskinesia
333.83	Spasmodic torticollis
333.84	Organic writers' cramp
333.89	Other fragments of torsion dystonia
340	Multiple sclerosis
341.9	Demyelinating disease of central nervous system, unspecified
342.11	Spastic hemiplegia affecting dominant side
342.12	Spastic hemiplegia affecting nondominant side
343.0-343.9	Infantile cerebral palsy
351.8	Other facial nerve disorders
625.6	Stress incontinence, female
728.85	Spasm of muscle

Intraoperative Monitoring

CPT®* Codes	Description
95860	Needle electromyography; one extremity with or without related paraspinal areas
95861	Needle electromyography; 2 extremities with or without related paraspinal areas
95867	Needle electromyography; cranial nerve supplied muscle(s), unilateral
95868	Needle electromyography; cranial nerve supplied muscles, bilateral
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
95920	Intraoperative neurophysiology testing, per hour (List separately in addition to code for primary procedure)

ICD-9-CM Diagnosis Codes	Description
170.2	Malignant neoplasm of vertebral column, excluding sacrum and coccyx
192.0-192.9	Malignant neoplasm of other and unspecified parts of nervous system
193	Malignant neoplasm of thyroid gland
198.3	Secondary malignant neoplasm of brain and spinal cord
198.4	Secondary malignant neoplasm of other parts of nervous system
210.2	Benign neoplasm major salivary glands
225.0-225.9	Benign neoplasm of brain and other parts of nervous system
226	Benign neoplasm of thyroid glands
237.4	Neoplasm of uncertain behavior, of endocrine glands and nervous system, other and unspecified endocrine glands
237.70-237.79	Neurofibromatosis disorders
237.9	Neurofibromatosis, other and unspecified parts of nervous system
239.6	Neoplasm of brain
324.1	Intraspinal abscess
343.8-343.9	Infantile cerebral palsy
348.4	Compression of brain
350.1	Trigeminal neuralgia
350.2	Atypical face pain
352.9	Unspecified disorder of cranial nerves
353.0	Brachial plexus lesions
353.1	Lumbosacral plexus lesions
353.2	Cervical root lesions, not elsewhere classified
353.3	Thoracic root lesions, not elsewhere classified
353.4	Lumbosacral root lesions, not elsewhere classified
384.20-384.25	Perforation of tympanic membrane
385.30-385.35	Cholesteatoma of middle ear and mastoid
430	Subarachnoid hemorrhage
431	Intracerebral hemorrhage
432.1	Subdural hemorrhage
432.9	Unspecified intracranial hemorrhage
433.00-433.01	Occlusion and stenosis of basilar artery
433.10-433.11	Occlusion and stenosis of carotid artery
433.20-433.21	Occlusion and stenosis of vertebral artery
433.30-433.31	Occlusion and stenosis of multiple and bilateral precerebral arteries
433.80-433.81	Occlusion and stenosis of other specified precerebral arteries
433.90-433.91	Occlusion and stenosis of unspecified precerebral arteries
434.00-434.01	Cerebral thrombosis
434.10-434.11	Cerebral embolism
434.90-434.91	Cerebral artery occlusion
435.0-435.9	Transient cerebral ischemia
437.3	Cerebral aneurysm, nonruptured
437.5	Moyamoya disease
441.00-441.9	Dissection of aorta
443.21-443.29	Arterial dissection
721.1	Cervical spondylosis with myelopathy
721.41	Thoracic spondylosis with myelopathy
721.91	Spondylosis of unspecified site, with myelopathy
722.70-722.73	Intervertebral disc disorder with myelopathy
737.10-737.19	Kyphosis (acquired)
737.20-737.22	Lordosis (acquired)
737.30-737.39	Kyphoscoliosis and scoliosis
737.40-737.43	Curvature of spine associated with other conditions

737.8	Other curvatures of spine
741.00-741.03	Spina bifida with hydrocephalus
741.90-741.93	Spina bifida without mention of hydrocephalus
747.81	Anomalies of cerebrovascular system
747.82	Spinal vessel anomaly
767.4	Injury to spine and spinal cord
767.5	Facial nerve injury
767.6	Injury to brachial plexus
767.7	Other cranial and peripheral nerve injuries
806.01-806.39	Fracture of vertebral column with spinal cord injury; cervical, thoracic
806.4-806.5	Fracture of vertebral column with spinal cord injury, lumbar
806.70-806.9	Fracture of vertebral column with spinal cord injury; sacrum, coccyx
850.4	Concussion with prolonged loss of consciousness, without return to pre-existing conscious level
953.0-953.9	Injury to nerve roots and spinal plexus

Not Medically Necessary /Not Covered:

ICD-9-CM Diagnosis Codes	Description
	All other codes

Experimental/Investigational/Unproven/Not Covered:

HCPCS Codes	Description
S3900	Surface electromyography (EMG)

ICD-9-CM Diagnosis Codes	Description
	All codes

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Policy History

<u>Pre-Merger Organizations</u>	<u>Last Review Date</u>	<u>Policy Number</u>	<u>Title</u>
CIGNA HealthCare	7/15/2008	01111	Electromyography Studies

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