

Icon Medical Solutions, Inc.

11815 CR 452
Lindale, TX 75771
P 903.749.4272
F 888.663.6614

Notice of Independent Review Decision

DATE: February 26, 2014

IRO CASE #:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:

EMG/NCV Upper and Lower Extremities

A DESCRIPTION OF THE QUALIFICATIONS FOR EACH PHYSICIAN OR OTHER HEALTH CARE PROVIDER WHO REVIEWED THE DECISION:

The reviewer is certified by the American Board of Physical Medicine and Rehabilitation with over 20 years of experience.

REVIEW OUTCOME:

Upon independent review, the reviewer finds that the previous adverse determination/adverse determinations should be:

Upheld (Agree)

Provide a description of the review outcome that clearly states whether medical necessity exists for each of the health care services in dispute.

INFORMATION PROVIDED TO THE IRO FOR REVIEW:

PATIENT CLINICAL HISTORY [SUMMARY]:

The claimant is a female who injured her bilateral knees, right hip, right shoulder, low back, and neck when she fell while working on xx/xx/xx.

xxxxx: The claimant was evaluated for pain in the right hip, right shoulder, neck, knees, and back. It was noted that when she sustained the injury of xx/xx/xx, she tried to catch herself while falling. It was noted that she was given medications and had several sessions of therapy. She had cortisone injections for trochanteric bursitis. She was found on MRI to have a posterior labral tear and high grade chondromalacia of the right hip. She subsequently underwent right hip arthroscopy and post-op therapy. She was given a shot in her right shoulder for shoulder pain in the past. On this visit, she complained of pain in the right shoulder, neck, right hp, low back, and knees. The pain radiated from low back to the right leg down to right toes. She described her pain as constant, dull aching, sharp, burning, and throbbing. There were times when she had shooting pains

from right gluts to right leg. She rated her pain at 2/10 with medications and 7/10 without medications. She complained of numbness and tingling on right leg down to toes. The pain was aggravated by walking and activities and alleviated by therapy. On exam, she had tenderness and spasms over the right SI region, right hip, back of neck (R>L), and right shoulder. She had tightness on her right hip. She had decreased range of motion in the neck, back, right shoulder, and right hip. She was unstable when she did the heel walk but could do toe walk with no difficulty. There was no swelling. She had dyssomnia. She was returned to work at light duty. She was given a foot test through monofilament, which showed good results. She was to be referred for rehab therapy and EMG/NCV and for neck and lumbar MRI. She was given prescriptions for Tramadol, Lyrica, Flexeril, and Relafen.

11/06/13: MRI Lumbar Spine report. IMPRESSION: At the L3-L3 level, there is a right foraminal disc protrusion measuring 6 mm producing severe right neural foraminal stenosis impinging the exiting right L2 nerve root. At the L3-L4 level, there is a circumferential disc bulge measuring 2 mm producing effacement of the thecal sac and mild bilateral neural foraminal stenosis. At the L4-L5 level, there is a circumferential disc bulge measuring 3 mm producing mild central canal stenosis, mild stenosis of the bilateral lateral recesses, and mild bilateral neural foraminal stenosis. At L5-S1, there is a right foraminal disc protrusion measuring 3.5 mm producing moderate right neural foraminal stenosis touching the exiting right L5 nerve root.

11/14/13: The claimant was evaluated. She complained of numbness and tingling on the right leg down to the toes and weakness of the right leg. She stated that the pain increased after two hours of therapy. On exam, she had tenderness to palpation on right SI, right hip, back of neck, and right shoulder. She had spasms and tightness on her right hip and right glut. Positive shot in right shoulder. She had decreased range of motion in the neck, back, right shoulder, and right hip. It was noted that she had not reached MMI. She was released to work with restrictions. Request for cervical MRI was denied by carrier. It was noted that she was evaluated on 11/04/13 who recommended neck and shoulder therapy and post-injection therapy for her shoulder to decrease pain, muscle spasms, and increase range of motion. She was to be referred for her right shoulder pain. She was to continue therapy.

12/20/13: The claimant was evaluated. reviewed the report of the MRI/arthrogram of the right shoulder performed on 10/17/13, which revealed "severe" distal supraspinatus tendinitis/impingement syndrome. He noted that she was a candidate for subacromial injection and additional one week of physical therapy for range of motion and strengthening instructions.

12/24/13: The claimant was evaluated. She complained of pain aggravated by right shoulder movements. The pain radiated into her right upper limb. She had pain in the low back which radiated from right glut/hip to the right leg down to right toes. She complained of numbness and tingling in the right thigh. Her exam was unchanged 11/14/13. She was released to work with restrictions. It was noted

that referral was denied due to dispute on extent of injury. She had started her therapy and stated that it helped. She stated that she was very sensitive to Lyrica, and it was advised to discontinue Lyrica. EMG/NCV was pending. She was to be referred for chronic pain management. She was advised to be compliant with her therapy. She was given prescriptions for Tramadol, Relafen, Flexeril, Tylenol, and Lidoderm patch.

01/14/14: UR. RATIONALE: Genex CGT guidelines indicate that EMG/NCV is used for evaluating neurologic function of the cervical spine and differentiate cervical radiculopathy from peripheral conditions. In this case, the claimant has radiating low back pain. However, there is limited evidence of dermatomal sensory changes, myotomal weakness, and abnormal reflexes. Moreover, there is insufficient evidence of peripheral nerve entrapment symptoms in the upper extremities to warrant the request for EMG/NCV. Regarding EMG/NCV of lower extremity, Genex CGT guidelines for lumbar disc herniation notes that EMG/NCV is appropriate for patients with leg symptoms representing specific nerve root levels after lack of improvement with conservative care. In this case, the claimant has radiating low back pain. However, there is limited evidence of dermatomal sensory changes, myotomal weakness, and abnormal reflexes. Moreover, there is insufficient evidence of peripheral nerve entrapment symptoms to warrant the requested EMG/NCV.

01/22/14: The claimant was evaluated for complaints of pain in the right hip, right shoulder, neck, knees, and especially her back. She described her pain as constant, stabbing, throbbing, burning, sharp, and aching. She rated her pain at 2/10. The pain in her neck radiated into her right shoulder down to the right upper limb. She had tingling pain in the right scapula. She had pain in the low back radiating from her right glut/hip into the right thigh. There were times when she had shooting pains from the right gluts to the right leg. She complained of numbness and tingling in her right thigh. She had weakness in the right leg. She had aching pain in the right knee. The pain was aggravated by walking, movement of the right shoulder, and activities. It was alleviated by therapy. She had hip surgery in July of 2013 and completed her therapy. She had disturbed sleep. On exam, her gait was within normal limits. She had tenderness to palpation on the right side of her neck, low back, right hip, back of neck (right greater than left), and right shoulder. She had spasms and tightness on her right hip and right glut. She had decreased range of motion in the neck and back. Straight leg raise of the right leg was 15 degrees and tender on low back while left leg was normal. Reflexes were normal. Muscle strength was 5/5 in the lower extremities. ASSESSMENT/PLAN: She was released to work with restrictions. Pending EMG-NCV. Refer for right hip MRI and cervical spine MRI. Refer orthopedic for low back. Fax post designated doctor evaluation for right shoulder inclusion. Patient does not need medication. Follow up on 02/11/14.

02/03/14: UR. RATIONALE: Regarding EMG/NCV of upper extremity, Genex CGT guidelines note that electrodiagnostic studies are used for evaluating neurologic function of the cervical spine. These studies provide physiologic assessment of cervical nerve root and peripheral nerve function. In this case, a

prior denial was issued on 01/13/14 as there was limited evidence of dermatomal sensory changes, myotomal weakness, and abnormal reflexes. There was also insufficient evidence of peripheral nerve entrapment symptoms in the upper extremities. In this review, there is still insufficient evidence of dermatomal pain, sensory changes and myotomal weakness in the upper extremities to support the requested EMG/NCV. There is also no evidence of peripheral nerve entrapment symptoms and provocative tests. Regarding EMG/NCV of lower extremity, Genex CGT guidelines note that electromyography may be useful to document neurologic deficit and to delineate between specific nerve root compression and generalized peripheral neuropathy, but is not indicated on an emergent basis. NCV is usually performed with EMG. In this case, a prior denial was issued on 01/13/14 as there was limited evidence of dermatomal sensory changes, myotomal weakness, and abnormal reflexes that correlates to the submitted lumbar MRI. There was insufficient evidence of peripheral nerve entrapment symptoms. In this review, there is still insufficient evidence of dermatomal pain, sensory changes and myotomal weakness in the lower extremities to support the requested EMG/NCV. There is also no evidence of peripheral nerve entrapment symptoms and provocative tests.

ANALYSIS AND EXPLANATION OF THE DECISION INCLUDE CLINICAL BASIS, FINDINGS, AND CONCLUSIONS USED TO SUPPORT THE DECISION:

The previous adverse decisions are upheld. Records have limited documentation of specific dermatomal changes, sensory changes, abnormal reflexes, and myotomal weakness in the upper and lower extremities. Additionally, note dated 12/20/13 reports 5/5 muscle strength in the bilateral lower extremities, normal reflexes, and negative straight leg raising tests bilaterally. There is no documentation of positive provocative tests as well. This case does not meet ODG criteria. The request for EMG/NCV Upper and Lower Extremities is not medically necessary.

ODG:

| | |
|--------------------------------|---|
| EMGs (electromyography) | Recommended as an option (needle, not surface). EMGs (electromyography) may be useful to obtain unequivocal evidence of radiculopathy, after 1-month conservative therapy, but EMG's are not necessary if radiculopathy is already clinically obvious. (Bigos, 1999) (Ortiz-Corredor, 2003) (Haig, 2005) No correlation was found between intraoperative EMG findings and immediate postoperative pain, but intraoperative spinal cord monitoring is becoming more common and there may be benefit in surgery with major corrective anatomic intervention like fracture or scoliosis or fusion where there is significant stenosis. (Dimopoulos, 2004) EMG's may be required by the AMA Guides for an impairment rating of radiculopathy. (AMA, 2001) (Note: Needle EMG and H-reflex tests are recommended, but Surface EMG and F-wave tests are not very specific and therefore are not recommended. See Surface electromyography .) |
| Nerve conduction studies (NCS) | Not recommended. There is minimal justification for performing nerve conduction studies when a patient is presumed to have symptoms on the basis of radiculopathy. (Utah, 2006) This systematic review and meta-analysis demonstrate that neurological testing procedures have limited overall diagnostic accuracy in detecting disc herniation with suspected radiculopathy. (Al Nezari, 2013) In the management of spine trauma with radicular symptoms, EMG/nerve conduction studies (NCS) often have low combined sensitivity and specificity in confirming root injury, and there is limited evidence to support the use of often uncomfortable and costly EMG/NCS. (Charles, 2013) See also the Carpal Tunnel Syndrome Chapter for more |

| | |
|-------------------------------|--|
| | <p>details on NCS. Studies have not shown portable nerve conduction devices to be effective. EMGs (electromyography) are recommended as an option (needle, not surface) to obtain unequivocal evidence of radiculopathy, after 1-month conservative therapy, but EMG's are not necessary if radiculopathy is already clinically obvious.</p> |
| <p>Electromyography (EMG)</p> | <p>Recommended (needle, not surface) as an option in selected cases. The American Association of Electrodiagnostic Medicine conducted a review on electrodiagnosis in relation to cervical radiculopathy and concluded that the test was moderately sensitive (50%-71%) and highly specific (65%-85%). (AAEM, 1999) EMG findings may not be predictive of surgical outcome in cervical surgery, and patients may still benefit from surgery even in the absence of EMG findings of nerve root impingement. This is in stark contrast to the lumbar spine where EMG findings have been shown to be highly correlative with symptoms.</p> <p>Positive diagnosis of radiculopathy: Requires the identification of neurogenic abnormalities in two or more muscles that share the same nerve root innervation but differ in their peripheral nerve supply.</p> <p>Timing: Timing is important as nerve root compression will reflect as positive if active changes are occurring. Changes of denervation develop within the first to third week after compression (fibrillations and positive sharp waves develop first in the paraspinals at 7-10 days and in the limb muscles at 2-3 weeks), and reinnervation is found at about 3-6 months</p> <p>Acute findings: Identification of fibrillation potentials in denervated muscles with normal motor unit action potentials (usually within 6 months of symptoms: may disappear within 6 weeks in the paraspinals and persist for up to 1-2 years in distal limbs).</p> <p>Chronic findings: Findings of motor unit action potentials with increased duration and phases that represent reinnervation. With time these become broad, large and polyphasic and may persist for years.</p> <p>Anatomy: The test primarily evaluates ventral (anterior) root function (motor) and may be negative if there is dorsal root compression (sensory) only. Only C4-8 and T1 in the neck region have limb representation that can be tested electrodiagnostically. The anatomic basis for this lies in the fact that the cervical nerve roots have a motor and a sensory component. It is possible to impinge the sensory component with a herniated disc or bone spur and not affect the motor component. As a result, the patient may report radicular pain that correlates to the MRI without having EMG evidence of motor loss.</p> <p>Paraspinal fibrillation potentials: May be seen in normal individuals and are nonspecific for etiology. The presence of these alone is insufficient to make a diagnosis of radiculopathy and they may be absent when there is a diagnosis of radiculopathy secondary to sampling error, timing, or because they were spared. They may support a diagnosis of radiculopathy when corresponding abnormalities are present in the limb muscles.</p> <p>Indications when particularly helpful: EMG may be helpful for patients with double crush phenomenon, in particular, when there is evidence of possible metabolic pathology such as neuropathy secondary to diabetes or thyroid disease, or evidence of peripheral compression such as carpal tunnel syndrome.</p> <p>H-reflex: Technically difficult to perform in the upper extremity but can be derived from the median nerve. The test is not specific for etiology and may be difficult to obtain in obese patients or those older than 60 years of age.</p> <p>(Negrin, 1991) (Alrawi, 2006) (Ashkan, 2002) (Nardin, 1999) (Tsao, 2007) See Discectomy-laminectomy-laminoplasty. (Surface EMG and F-wave tests are not very specific and therefore are not recommended. For more information on surface EMG, see the Low Back Chapter.)</p> <p>While cervical electrodiagnostic studies are not necessary to demonstrate a cervical radiculopathy, they have been suggested to confirm a brachial plexus abnormality or some problem other than a cervical radiculopathy, but these studies can result in unnecessary over treatment. (Plastaras, 2011) (Lo, 2011) (Fuglsang-Frederiksen, 2011)</p> |

| | |
|--------------------------------|---|
| Nerve conduction studies (NCS) | <p>Not recommended to demonstrate radiculopathy if radiculopathy has already been clearly identified by EMG and obvious clinical signs, but recommended if the EMG is not clearly radiculopathy or clearly negative, or to differentiate radiculopathy from other neuropathies or non-neuropathic processes if other diagnoses may be likely based on the clinical exam. There is minimal justification for performing nerve conduction studies when a patient is already presumed to have symptoms on the basis of radiculopathy. (Utah, 2006) (Lin, 2013) While cervical electrodiagnostic studies are not necessary to demonstrate a cervical radiculopathy, they have been suggested to confirm a brachial plexus abnormality, diabetic neuropathy, or some problem other than a cervical radiculopathy, with caution that these studies can result in unnecessary over treatment. (Emad, 2010) (Plastaras, 2011) (Lo, 2011) (Fuglsang-Frederiksen, 2011) See also the Shoulder Chapter, where nerve conduction studies are recommended for the diagnosis of TOS (thoracic outlet syndrome). Also see the Carpal Tunnel Syndrome Chapter for more details on NCS. Studies have not shown portable nerve conduction devices to be effective.</p> |
|--------------------------------|---|

A DESCRIPTION AND THE SOURCE OF THE SCREENING CRITERIA OR OTHER CLINICAL BASIS USED TO MAKE THE DECISION:

- ACOEM- AMERICAN COLLEGE OF OCCUPATIONAL & ENVIRONMENTAL MEDICINE UM KNOWLEDGEBASE**
- AHCPR- AGENCY FOR HEALTHCARE RESEARCH & QUALITY GUIDELINES**
- DWC- DIVISION OF WORKERS COMPENSATION POLICIES OR GUIDELINES**
- EUROPEAN GUIDELINES FOR MANAGEMENT OF CHRONIC LOW BACK PAIN**
- INTERQUAL CRITERIA**
- MEDICAL JUDGEMENT, CLINICAL EXPERIENCE, AND EXPERTISE IN ACCORDANCE WITH ACCEPTED MEDICAL STANDARDS**
- MERCY CENTER CONSENSUS CONFERENCE GUIDELINES**
- MILLIMAN CARE GUIDELINES**
- ODG- OFFICIAL DISABILITY GUIDELINES & TREATMENT GUIDELINES**
- PRESSLEY REED, THE MEDICAL DISABILITY ADVISOR**
- TEXAS GUIDELINES FOR CHIROPRACTIC QUALITY ASSURANCE & PRACTICE PARAMETERS**
- TEXAS TACADA GUIDELINES**
- TMF SCREENING CRITERIA MANUAL**
- PEER REVIEWED NATIONALLY ACCEPTED MEDICAL LITERATURE (PROVIDE A DESCRIPTION)**
- OTHER EVIDENCE BASED, SCIENTIFICALLY VALID, OUTCOME FOCUSED GUIDELINES (PROVIDE A DESCRIPTION)**