True Decisions Inc.

An Independent Review Organization
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Notice of Independent Review Decision

DATE OF REVIEW: October 16, 2008

IRO CASE #:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE
1. EMG/NCV bilateral upper and lower extremities 2. MRI to cervical and lumbar spine

A DESCRIPTION OF THE QUALIFICATIONS FOR EACH PHYSICIAN OR OTHER HEALTH CARE PROVIDER WHO REVIEWED THE DECISION
Board Certified in Physical Medicine and Rehabilitation
Subspecialty Board Certified in Pain Management
Subspecialty Board Certified in Electrodiagnostic Medicine
Residency Training PMR and ORTHOPAEDIC SURGERY

REVIEW OUTCOME

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

☒ Upheld (Agree)

☐ Overturned (Disagree)

☐ Partially Overturned (Agree in part/Disagree in part)

INFORMATION PROVIDED TO THE IRO FOR REVIEW
OD Guidelines
Denial Letters 8/15/08, 10/1/08, 8/25/08
Records from Dr. 10/01 thru 7/29/08
MRI 6/27/00
11/29/06
Peer Review 8/7/08

PATIENT CLINICAL HISTORY [SUMMARY]:

This man apparently sustained a work related injury in xxxx when he had upper and lower back pain. He subsequently had a cervical discectomy and fusion at C6/7 in 1995. He has had ongoing neck and back pain. He saw Dr. at intervals of several years. He has ongoing low back pain and pain to his shoulders. Dr. most recently saw on Jl 29, 2008. He had continued low back pain with lower extremity pain to his feet. He had ongoing neck pain to his shoulders. Dr. wrote that "On the most recent office follow-up visit of 1/14/03, he had complained of the same signs and symptoms…" the examination showed weakness in the deltoids, reduced cervical motion, weakness of the left foot dorsiflexion and quadriceps. He had reduced sensation and reduced SLR. There was reduced right arm circumference compared to the left. I could not determine if he is working, but Dr. wrote that he is "to remain at Off Work Status.". This was also cited in the Peer Review in 2004. The MRI report from 2000 showed degenerative changes and spinal stenosis between L3 and L4, and L4/5 and neural canal narrowing at L4/5. Dr. wrote in 2003 that this man had disc herniations from L3 to S1 based upon the 2000 MRI. Dr. 's IME in 2006 described the prior cervical surgery and the degenerative spinal stenosis. He noted a prior EMG showing a possible right L5 radiculopathy in 2004

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

This man sustained some injury in xxxx. The subsequent records showed degenerative changes in the lumbar spine. He had ongoing symptoms that apparently had not changed in the interval. He was known to have a right L5 radiculopathy. There is nothing to show any disc herniations in the MRI report, but he had degenerative changes with spinal stenosis.

First the upper extremity EMG is of limited value in this case. The clinical findings are compatible with the known C5/6 issue. Sensitivity is limited. Further, the prior lumbar EMG reported a possible right sided L5 radiculopathy. This can revert towards normal or become chr0nic over time. The ODG cites this. The main indications for the EMG would be in the double crush condition of a cervical radiculopathy and CTS, or in a metabolic condition per the ODG. Therefore there is no justification for the upper extremity EMG.

Electromyography (EMG)
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.
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.
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 reinervation is found at about 3-6 months
Acute findings: Identification of fibrillation potentials in dennervated 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).

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.
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.
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.
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.

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.

The cervical MRI is also addressed. It is appropriate for certain circumstances including chronic neck pain with old trauma (surgery is trauma) and neurological signs. The right upper arm has reduced circumference per Dr. in 2008, but not mentioned in 2003. He had subjective reduced sensation in the C5/6 region bilaterally and deltoid weakness, but symmetrical reflexes in 2008, but not mentioned in 2003. Dr. 's 2006 records did not describe atrophy or any neurological loss. Since surgery would count as old trauma and there are symptoms and signs of some neurological loss that apparently developed over time, the MRI would be reasonable. It is possible that other records may have shown no changes over time. In absence that Dr. confirms the neurological loss, the Reviewer must deny the entire request as medically necessary.

Magnetic resonance imaging (MRI)
Not recommended except for indications list below. Patients who are alert, have never lost consciousness, are not under the influence of alcohol and/or drugs, have no distracting injuries, have no cervical tenderness, and have no neurologic findings, do not need imaging. Patients who do not fall into this category should have a three-view cervical radiographic series followed by computed tomography (CT). In determining whether or not the patient has ligamentous instability, magnetic resonance imaging (MRI) is the procedure of choice, but MRI should be reserved for patients who have clear-cut neurologic findings and those suspected of ligamentous instability. (Anderson, 2000) (ACR, 2002) See also ACR

Appropriateness Criteria™. MRI imaging studies are valuable when physiologic evidence indicates tissue insult or nerve impairment or potentially serious conditions are suspected like tumor, infection, and fracture, or for clarification of anatomy prior to surgery. MRI is the test of choice for patients who have had prior back surgery. (Bigos, 1999) (Bey, 1998) (Volle, 2001) (Singh, 2001) (Colorado, 2001) For the evaluation of the patient with chronic neck pain, plain radiographs (3-view: anteroposterior, lateral, open mouth) should be the initial study performed. Patients with normal radiographs and neurologic signs or symptoms should undergo magnetic resonance imaging. If there is a contraindication to the magnetic resonance examination such as a cardiac pacemaker or severe claustrophobia, computed tomography myelography, preferably using spiral technology and multiplanar reconstruction is recommended. (Daffner, 2000) (Bono, 2007)

Indications for imaging -- MRI (magnetic resonance imaging):

- Chronic neck pain (= after 3 months conservative treatment), radiographs normal, neurologic signs or symptoms present
- Neck pain with radiculopathy if severe or progressive neurologic deficit
- Chronic neck pain, radiographs show spondylosis, neurologic signs or symptoms present
- **Chronic neck pain, radiographs show old trauma, neurologic signs or symptoms present**
- Chronic neck pain, radiographs show bone or disc margin destruction
- Suspected cervical spine trauma, neck pain, clinical findings suggest ligamentous injury (sprain), radiographs and/or CT "normal"
- Known cervical spine trauma: equivocal or positive plain films with neurological deficit

The lumbar spine has a chronic right L5 radiculopathy as cited in the older records. The MRI showed spinal stenosis. His symptoms apparently had not changed over time. The ODG addresses the EMG for acute back pain, rather than chronic conditions in the back pain section.

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.)

The pain section approves the study to determine a radiculopathy, but that has been previously done.

Electrodiagnostic testing (EMG/NCS)

Recommended. Electromyography (EMG) and Nerve Conduction Studies (NCS) are generally accepted, well-established and widely used for localizing the source of the neurological symptoms and establishing the diagnosis of focal nerve entrapments, such as carpal tunnel syndrome or radiculopathy, which may contribute to or coexist with CRPS II (causalgia), when testing is performed by appropriately trained neurologists or physical medicine and rehabilitation physicians (improperly performed testing by other providers often gives inconclusive results). As CRPS II occurs after partial injury to a nerve, the diagnosis of the initial nerve injury can be made by electrodiagnostic studies. The later development of sympathetically mediated symptomatology however, has no pathognomonic pattern of abnormality on EMG/NCS. (Colorado, 2002)

The MRI is considered appropriate in the ODG under certain circumstance. Repeat MRI only if there is a "progression of neurologic deficit(s)." There were no reported

neurological changes per Dr. The MRI is justified with progressive myelopathy. There were no new changes per Dr.

MRI's (magnetic resonance imaging)
Recommended for indications below. MRI's are test of choice for patients with prior back surgery. Repeat MRI's are indicated only if there has been **progression of neurologic deficit**. (Bigos, 1999) (Mullin, 2000) (ACR, 2000) (AAN, 1994) (Aetna, 2004) (Airaksinen, 2006) (Chou, 2007) Magnetic resonance imaging has also become the mainstay in the evaluation of myelopathy. An important …
Indications for imaging -- Magnetic resonance imaging:
- Thoracic spine trauma: with neurological deficit
- Lumbar spine trauma: trauma, neurological deficit
- Lumbar spine trauma: seat belt (chance) fracture (If focal, radicular findings or other neurologic deficit)
- Uncomplicated low back pain, suspicion of cancer, infection
- Uncomplicated low back pain, with radiculopathy, after at least 1 month conservative therapy, sooner if severe or progressive neurologic deficit. (For unequivocal evidence of radiculopathy, see AMA Guides, 5th Edition, page 382-383.) (Andersson, 2000)
- Uncomplicated low back pain, prior lumbar surgery
- Uncomplicated low back pain, cauda equina syndrome
- Myelopathy (neurological deficit related to the spinal cord), traumatic
- Myelopathy, painful
- Myelopathy, sudden onset
- **Myelopathy, stepwise progressive**
- **Myelopathy, slowly progressive**
- Myelopathy, infectious disease patient
- Myelopathy, oncology patient

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)**