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IRO CASE #:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:

Cervical myelogram with post-myelogram CT scan

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

Orthopedic Physician

REVIEW OUTCOME:

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

X 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.

PATIENT CLINICAL HISTORY [SUMMARY]:

The patient is a male who injured his right shoulder on XX/XX/XX. The patient was reaching xxxxx and developed pain in his neck and right shoulder.

On xxxxx, evaluated the patient post right shoulder injury after lifting a heavy box and then swinging the freezer door shut. The patient had pain despite working light duty for two days with week off in between. Examination revealed tender right anterior and posterior shoulder areas, limited ROM to 90 degrees abduction, mildly positive impingement, tenderness in the right trapezius into the medial scapula area to shoulder and up to right paracervical areas, and tenderness in the right biceps insertion proximally. The diagnoses were pain involving the shoulder region, sprain/strain of rotator cuff, sprain of shoulder/upper arm, sprain/strain neck and strain of the thoracic spine. the patient had failed to improve with Medrol Dosepak and muscle relaxant. Medications prescribed included ibuprofen, tramadol and Tylenol. An orthopedic consult was recommended as well as x-rays and magnetic resonance imaging (MRI) of the right shoulder.

In a follow-up on xxxxx, noted the patient was working with restrictions. he had intermittent, sharp "needle" pains in the right shoulder from to scapula, right lateral neck and halfway down the arm. emphasized on not using the right upper extremity for now. An MRI of the lumbar spine, orthopedic consultation and probable PT consultation was being awaited.

On xxxxx, the patient underwent a PT evaluation at the.

On xxxxx, an MRI of the cervical spine without contrast was performed. The study demonstrated: Diffuse posterior and right paracentral bulge of the C4-C5 disc, causing mild narrowing of the central canal and neural foramina bilaterally (right more than left). There was diffuse bulge of the C3-C4 and C5-C6 discs causing mild narrowing of the central canal and neural foramina bilaterally; the bulge measuring 3 mm in size. Mild diffuse disc bulge of the C2-C3 and C6-C7 discs measuring approximately 2 mm in size. There was mild facet and uncovertebral arthropathy from C4-C5 to C6-C7 levels.

On xxxxx, saw the patient in a follow-up of right shoulder. reviewed the cervical MRI that showed evidence of C3-C4 to C5-C6 disc bulging with mild central canal and bilateral foraminal stenosis on the right worse than left. The patient continued to complain of right shoulder pain as well as pins and needles and burning sensation. recommended referral to a spine surgeon for further evaluation and treatment.

On xxxx, an orthopaedic surgeon, evaluated the patient for cervical spine pain. His pain level is a 8# on the pain scale. He complained of weakness to his right arm as well as numbness and tingling to his right hand. His pain was worse at night. Bedrest, decreased activity helped to decrease the pain. Increased activity, sitting, walking, bending forward and backwards and going to the bathroom increased the pain. The patient stated he was working in xxxxx but was laid off by the employer. The patient also had difficulty with sleep due to the severe pain. The patient was diagnosed with herniated cervical disc and cervical radiculopathy. A cervical epidural steroid injection (ESI) was recommended at C3-C4 and C4-C5. Cyclobenzaprine and Tylenol with codeine were prescribed.

On xxxxx, reviewed the MRI cervical spine from xxxxx, performed at. Findings: There was mild reversal of the curvature starting at the C3-C4 level. The intracranial structures, as seen, were normal. C2-C3: The disc signal intensity was within normal limits with preservation of the disc height. There was no bulging, spinal stenosis, herniation, or neural foraminal encroachment. Facets were normal. C3-C4: Protrusion/herniation of the disc broad-based, more marked in the midline, compressing and slightly displacing the spinal cord posteriorly without producing a change in the signal. There was mild narrowing of the neural foramina, more on the left than on the right. C4-C5: Mild bulge of the disc and mild narrowing of the neural foramina on the right side. There was some spondylosis present contacting the spinal cord in the midline. C5-C6: The disc signal intensity was within normal limits with preservation of the disc height. There was no bulging, spinal stenosis, herniation, or neural foraminal encroachment. Facets were normal. C6-C7: Minimal bulge of the disc broad-based producing mild narrowing of the neural foramina on the left more than on the right.

On cxxxxxxx, evaluated the patient for right shoulder and neck complaints as well as numbness, tingling and weakness to the right arm and hand. it was noted PT had increased the severity of symptoms, medications were not helping and the ESI was denied as the patient was not felt be a candidate for surgery. believed the patient was a candidate for surgery and ordered a cervical myelogram and an electromyography (EMG) study of the right upper extremity. Medication was changed to Norco.

On xxxxxx, the request for post myelogram CT scan of the cervical spine was non-authorized. Rationale: *“The patient has complaints neck pain. A CT Myelogram is indicated for patients with a CSF leak or there is a need for surgical or radiation planning or the patient's clinical findings do not correlate with previous imaging studies. No information was submitted regarding any significant clinical findings confirming CSF leak or basal cisternal disease. No information was submitted regarding the appropriateness of a pending surgical intervention. No information was submitted regarding the patient's inappropriate physical findings. Given these factors, the request is not indicated.”*

In a letter dated xxxxxx, denied authorization for the myelogram and CT scan of the cervical spine as was out of town and a peer-to-peer contact could not be made.

On xxxxxx, noted the patient’s pain was more marked in the cervical paraspinal area and in the right side with radiation toward the trapezius, reminiscent of a C4 nerve root type of pain. There was a suggestion of some C6 pain in the interscapular area, as well. The patient continued to have some sharp pain in the lumbar spine, but less severe than what he had in the cervical spine. Examination revealed mild pain on ROM of the right shoulder and pain to palpation, some exquisite pain in the acromioclavicular (AC) joint as well in the right side. Norco was continued and a UDS was ordered.

On xxxxx, saw the patient for an electrodiagnostic consultation. The patient reported pain consisted of numbness, burning, tingling, aching, weakness, decreased grip strength, radiation of pain from neck into the arms and hands.

On xxxxxx, the appeal for myelogram of the cervical spine and post-myelogram CT scan of the cervical spine was non-authorized with the following rationale: *“Based on the clinical information submitted for this review and using the evidence-based, peer-reviewed guidelines referenced above, this request is non-certified. A recent MRI identified disc bulging with foraminal narrowing at multiple levels. There was no indication of technical issues that would support further evaluation with a myelogram. In addition, the surgery being contemplated was not specified in the submitted reports.”*

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

The evidence-based Official Disability Guidelines discuss the indications for cervical CT

myelography of the spine, one of which would be based on a correlation between the claimant's physical exam findings and previous MRI studies. Of note is the fact that this individual continues to complain of persistent neck and right upper extremity pain. The treating provider raises questions about whether or not the claimant may be a surgical candidate. With that said, the imaging studies do not clearly identify a surgical lesion. EMGs were ordered to try and determine if the claimant continued to have clinical evidence of nerve root irritation. Those studies may have been completed, but the results are not provided within the medical records.

CT myelography is considered an invasive test. Although the claimant has subjective complaints of pain, the objective findings on examination are not well-supported. It would appear that before embarking on more invasive tests such as CT myelography, one would want to know the results of the electromyographic studies. If the electromyographic studies suggest nerve root irritation and/or there are objective findings on examination that would more convincingly suggest that the claimant may have a neurocompressive lesion that was not demonstrated on MRI, then CT myelography would be indicated. However, the information in this particular case is largely subjective. In the absence of well-defined objective findings on examination, the request for CT myelogram at this point would not be considered reasonable or medically necessary.

The above statements are made acknowledging the comments in the preceding paragraphs discussing previous testing that may have been completed and/or additional clinical information that may not be readily available in these records that could support the indications for this study.

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

ODG- OFFICIAL DISABILITY GUIDELINES & TREATMENT GUIDELINES

Official Disability Guidelines (20th annual edition) & *ODG Treatment in Workers' Comp* (13th annual edition), 2015, chapter neck

CT

Not recommended except for indications 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](#)TM. MRI or CT imaging studies are valuable when 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](#)) ([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](#)) CT scan has better validity and utility in cervical trauma for high-risk or multi-injured patients. ([Haldeman, 2008](#)) Repeat CT is not routinely recommended, and should be reserved for a significant change in symptoms and/or findings suggestive of significant pathology (e.g., tumor, infection, fracture, neurocompression, recurrent disc herniation where MRI is contraindicated). ([Roberts, 2010](#))

Indications for imaging -- CT (computed tomography):

- Suspected cervical spine trauma, alert, cervical tenderness, paresthesias in hands or feet
- Suspected cervical spine trauma, unconscious
- Suspected cervical spine trauma, impaired sensorium (including alcohol and/or drugs)
- Known cervical spine trauma: severe pain, normal plain films, no neurological deficit
- Known cervical spine trauma: equivocal or positive plain films, no neurological deficit
- Known cervical spine trauma: equivocal or positive plain films with neurological deficit

Myelography

Not recommended except for selected indications below, when MR imaging cannot be performed, or in addition to MRI. Myelography or CT-myelography may be useful for preoperative planning. ([Bigos, 1999](#)) ([Colorado, 2001](#)) Myelography and CT Myelography has largely been superseded by the development of high resolution CT and magnetic resonance imaging (MRI), but there remain the selected indications for these procedures, when MR imaging cannot be performed, or in addition to MRI. ([Mukherji, 2009](#))

ODG Criteria for Myelography and CT Myelography:

1. Demonstration of the site of a cerebrospinal fluid leak (postlumbar puncture headache, postspinal surgery headache, rhinorrhea, or otorrhea).
2. Surgical planning, especially in regard to the nerve roots; a myelogram can show whether surgical treatment is promising in a given case and, if it is, can help in planning surgery.
3. Radiation therapy planning, for tumors involving the bony spine, meninges, nerve roots or spinal cord.
4. Diagnostic evaluation of spinal or basal cisternal disease, and infection involving the bony spine, intervertebral discs, meninges and surrounding soft tissues, or inflammation of the arachnoid membrane that covers the spinal cord.
5. Poor correlation of physical findings with MRI studies.
6. Use of MRI precluded because of:
 - a. Claustrophobia
 - b. Technical issues, e.g., patient size
 - c. Safety reasons, e.g., pacemaker

d. Surgical hardware

Myelopathy, cervical

Definition -- Diagnosis: This is a difficult diagnosis to make. The clinician generally looks for signs and symptoms of long-tract findings (motor weakness, hyperreflexia, spasticity, ataxia, pathological reflexes, and myelopathic hand findings). In the early stages of cervical spondylotic myelopathy the first signs may be awkwardness of gait and balance. Upper extremity signs may include clumsiness or diffuse numbness of the hands. An area of signal changes in the spinal cord on MRI in an area of stenosis is highly suggestive of developing myelopathy. Treatment: There is no standard treatment algorithm due to the variable presentation and the lack of randomized trials evaluating treatment options. Surgical treatment (decompression) is recommended for patients with severe and/or progressive disease, but there is no established guideline for patients with non-progressive disease. Goal of surgery: The goal of surgical treatment is to decompress the spine and then to stabilize the vertebral segments if there is evidence of segmental instability.