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February 10, 2016

IRO CASE #:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:

CT scans cervical, thoracic and lumbar spine

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:

☒ 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 was injured on XX/XX/XX. He was loading some water at his job and developed back pain.

On XX/XX/XX, XX evaluated the patient for low back pain. The patient mainly had low back pain but would get pain in his legs more so in the left leg. The patient had been seeing XX and had epidural steroid injection (ESI), physical therapy (PT) and chiropractic treatment. The injections did help his leg symptoms. XX had recommended a discogram but needed a neurosurgical approval. A magnetic resonance imaging (MRI) of the lumbosacral spine was done on XX/XX/XX, and showed most remarkable findings of L4-L5 and L5-S1 disc desiccation. XX felt it was reasonable to obtain a discogram. XX also ordered a CT scan of the lumbosacral spine with reconstruction to look for any evidence of fusion as well as for evidence of prior surgery. Lumbar spine series were also ordered.

On XX/XX/XX, XX noted the discogram was performed at L3-L4, there was puffball appearance according to

XX with no evidence of extravasation. At L4-L5, there appeared to be some extravasation and it reproduced his discomfort and pain down his left leg. He also had some discomfort at L5-S1 but no lateralization into the leg. XX recommended exploration from L4 to S1 with fusion of L4-L5-S1.

From XX/XX/XX, through XX/XX/XX, the patient was admitted for surgical management.

On XX/XX/XX, XX performed L4-L5 posterolateral fusion, bilateral L4 laminectomies, bilateral L4 laminotomies and exploration of the L5-S1 fusion. The pre and postoperative diagnosis was L4-L5 spondylosis, degenerative disc disease (DDD), adjacent level disease and L5-S1 fusion. On XX/XX/XX, the patient was discharged with the discharge diagnoses of L4-L5 spondylosis, DDD, and adjacent level disease. Discharge medications were Vicodin and Robaxin.

On XX/XX/XX, XX removed the staples and sutures and applied Steri-Strips. Hydrocodone and Robaxin were refilled.

On XX/XX/XX, the patient reported continued back and left leg pain. Imaging studies were reviewed. The MRI showed satisfactory postoperative appearance. The lumbar x-rays showed everything in good position. Left femur and left hip x-rays showed no significant bony abnormalities. XX prescribed Neurontin and referred the patient to Pain Management.

On XX/XX/XX, the patient reported improvement of his symptoms. X-rays showed the hardware to be in good position. XX recommended following up in three months.

On XX/XX/XX, and XX/XX/XX, the patient reported continued left hip and left upper leg pain. The patient had an epidural steroid injection (ESI) on XX/XX/XX. XX felt there was no neurologic reason for the continued pain. He recommended following up with Pain Management and orthopedic evaluation.

On XX/XX/XX, the patient reported continued pain. He had been seeing XX who ordered a bone scan. XX felt depending on XX recommendation; the next step would be a spinal cord stimulator (SCS) or a morphine pump trial. The patient was advised to obtain a bone scan and then follow up with XX.

A follow-up visit dated XX/XX/XX, indicated the patient had a psychological review and was found to be a good candidate for SCS. XX had performed an SCS trial. The patient stated he had dramatic relief of the left leg pain with the stimulator trial. XX recommended obtaining MRI and x-rays before SCS placement.

On XX/XX/XX, XX performed the SCS placement. The pre and postoperative diagnosis was intractable back pain and chronic neuropathic leg pain.

On XX/XX/XX, XX recommended follow-up for fine-tuning of the stimulator.

XX evaluated the patient on XX/XX/XX. The patient reported chronic moderate-to-severe back pain. The pain scale was rated 7-8/10. XX diagnosed mechanical complication of nervous system device implant and graft, fusion of spine lumbar region, sprain of sacrum, postlaminectomy syndrome of lumbar region, myalgia and myositis unspecified. XX prescribed baclofen and ibuprofen.

On XX/XX/XX, the patient reported 6/10 back pain. XX continued baclofen.

On XX/XX/XX, the patient continued to have moderate-to-severe chronic pain. The pain level was reported as 7. XX continued baclofen.

Per office notes of XX/XX/XX, the patient had two implantations of SCSs. Each one had malfunctioned and caused very unpleasant shocking sensation in his ribcage. The patient rated the pain level as 6/10. XX (Neurology) had started the patient on Ultram 50 mg for neck problems. The patient reported overall pain relief except where the dead battery of the stimulator was. XX continued baclofen and Ultram and referred the patient to XX for explantation of nonfunctioning SCS.

On XX/XX/XX, the patient stated the stimulator had not worked for him, and caused dysesthesias up his spine. It had been non-effective and painful. The patient continued with multiple regions of bony pain and multiple joint related pains. The pain was 6/10. The patient had neck, lumbar and bilateral lower extremity pain. He had numbness and tingling. XX diagnosed lumbago, postlaminectomy syndrome lumbar region, other chronic postoperative pain and cervical pain. XX recommended SCS removal and then obtaining MRI of the brain, cervical spine, thoracic spine and lumbosacral spine because of headaches, neck pain, low back pain and bilateral lower extremity symptoms. XX recommended rheumatology evaluation and bone scan.

On XX/XX/XX, x-rays of the lumbar spine showed lumbar fusion, which appeared solid at L4-L5. The SCS appeared intact. The battery was on the right side. The patient did have some slight L3 retrolisthesis.

On XX/XX/XX, the patient reported back pain at 7-8/10. XX continued baclofen and Ultram.

On XX/XX/XX, XX performed removal of Medtronic SCS system including removal of electrodes and battery/generator. Postoperative diagnosis was status post SCS, ineffective and painful SCS, chronic pain syndrome, status post L4-L5 fusion in the past, failed lumbar laminectomy syndrome with painful stimulator, ineffective stimulator, continued pain, need for MRI.

On XX/XX/XX, the patient returned for an 8-week postoperative visit. He was doing a little better but continued to have some pain in both hips, left calf, and lower back. He was taking tramadol but was trying not to take too much. The patient had some frequent urination. On examination, the patient had motor strength 4/5 with left hip flexion and knee extension. DTRs were 0/4 at the bilateral knees. XX noted the request for MRI was denied and hence ordered CT scans of the cervical, thoracic and lumbar spine without contrast to evaluate his symptoms.

On XX/XX/XXXX, a utilization review and denied the request for CT scan of the thoracic, cervical and lumbar spine 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. Clarification is needed regarding the rationale of the requested advanced imaging. Cervical, thoracic, and lumbar radiographs post surgery, if any, were not provided for review."*

On XX/XX/XX, the patient followed up for low back pain and joint pain. The reported pain level was 6/10. The patient also reported joint pain in the wrists, shoulders and hips. The pain level was 7/10. On examination, there was moderate-to-severe tenderness of the lumbar paravertebral muscles surrounding the area on the right where the SCS was palpable. There was moderate tenderness of the muscles of the buttocks bilaterally. Passive hip ROM on the right and left flexion was reduced with moderate pain. There was moderate-to-severe tenderness of the thoracic paravertebral muscles bilaterally, left greater than right. The SCS was no longer palpable. Sensation to touch was diminished in the L5 dermatome on the left.

DTRs were 3+/4 patellar reflex bilaterally. XX diagnosed fusion of the lumbar spine, postlaminectomy syndrome of lumbar region, myalgia and myositis unspecified, sprain of the sacrum, mechanical complication of nervous system device implant and graft, myalgia, sprain of other parts of lumbar spine and pelvis, spinal enthesopathy of the sacral and sacrococcygeal region, postlaminectomy syndrome not elsewhere classified, other mechanical complication of other implanted electronic stimulator of nervous system. XX prescribed Ultram.

XX performed a reconsideration review on XX/XX/XX. The appeal for CT cervical, thoracic and lumbar spine was denied 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. Given the lack of objective data regarding the patient ongoing functional deficits in the cervical thoracic and lumbar regions, the request is not indicated."*

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

This claimant has been recommended for a CT scan of the cervical, thoracic, and lumbar spine. This is a XX-year-old male who has undergone nonsurgical care for a period of time. On XX/XX/XX, he underwent L4 through S1 spinal fusion. He has since been on a spinal cord stimulator trial and implantation. He has been taken back on narcotic medications. There is request for MRI which has been denied; therefore, CT scan of the cervical, thoracic, and lumbar spine has been ordered for further assessment. It is unclear what information or benefit CT scan of the cervical, thoracic, and lumbar spine would provide since there is no reference of radiographs having been performed which may be concern for adjacent disease following a lumbar fusion. It is unclear why the cervical CT scan has been ordered as there is no reference in the medical records of cervical spine abnormality. It is unclear why a thoracic CT scan is ordered. For these reasons, CT scan of the spine cannot be indicated.

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 Treatment in Workers Comp, 21th Edition, 2016 Updates:
Low back chapter (updated 12/02/15)
CT (computed tomography)
Not recommended except for indications below for CT. (Slebus, 1988) (Bigos, 1999) (ACR, 2000) (Airaksinen, 2006) (Chou, 2007) Magnetic resonance imaging has largely replaced computed tomography scanning in the noninvasive evaluation of patients with painful myelopathy because of superior soft tissue resolution and multiplanar capability. (Seidenwurm, 2000) The new ACP/APS guideline as compared to the old AHCPR guideline is more forceful about the need to avoid specialized diagnostic imaging such as computed tomography (CT) without a clear rationale for doing so. (Shekelle, 2008) A new meta-analysis of randomized trials finds no benefit to routine lumbar imaging (radiography, MRI, or CT) for low back pain without

indications of serious underlying conditions, and recommends that clinicians should refrain from routine, immediate lumbar imaging in these patients. (Chou-Lancet, 2009) Primary care physicians are making a significant amount of inappropriate referrals for CT and MRI, according to new research published in the Journal of the American College of Radiology. There were high rates of inappropriate examinations for spinal CTs (53%), and for spinal MRIs (35%), including lumbar spine MRI for acute back pain without conservative therapy. (Lehnert, 2010) For suspected spine trauma (i.e., fractures, lumbar or cervical), thin-section CT examination with multiplanar reconstructed images may be recommended. Image software postprocessing capabilities of CT, including multiplanar reconstructions and 3-dimensional display (3D), further enhance the value of CT imaging for reconstructive trauma surgeons. (Daffner, 2009)

Indications for imaging -- Computed tomography:
- Thoracic spine trauma: equivocal or positive plain films, no neurological deficit
- Thoracic spine trauma: with neurological deficit
- Lumbar spine trauma: trauma, neurological deficit
- Lumbar spine trauma: seat belt (chance) fracture
- Myelopathy (neurological deficit related to the spinal cord), traumatic
- Myelopathy, infectious disease patient
- Evaluate pars defect not identified on plain x-rays
- Evaluate successful fusion if plain x-rays do not confirm fusion (Laasonen, 1989)

Official Disability Guidelines (21st annual edition), 2016, chapter neck and upper back
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™. 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 (eg, 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