



CLAIMS EVAL REVIEWER REPORT - WCN

DATE OF REVIEW: 4-27-10

IRO CASE #:

CLAIMS EVAL

*Utilization Review and
Peer Review Services*

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE

Anterior Cervical Disc Fusion at C5-C6 63075 22554 22845 20931

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

American Board of Orthopaedic Surgery-Board Certified

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)

Provide a description of the review outcome that clearly states whether or not medical necessity exists for each of the health care services in dispute.

INFORMATION PROVIDED TO THE IRO FOR REVIEW

- 5-26-09 Chest x-rays.
- 5-28-09 CT scan of the abdomen and pelvis.
- 5-28-09 X-rays of the cervical spine.
- MRI of the cervical spine dated 5-28-09.
- An EMG/CS performed by, MD., on 6-25-09.
- MD., office visits on 6-25-09, 7-9-09, 11-5-09, and 1-12-10.
- 1-22-10, MD., performed a Utilization Review.
- 2-25-10, MD., provided a letter of reconsideration.
- 3-24-10, MD., performed a Utilization Review.

PATIENT CLINICAL HISTORY (SUMMARY):

5-26-09 Chest x-rays showed recent transverse rib fractures involving the lateral aspect of the right 6th, 7th and 8th ribs.

5-28-09 CT scan of the abdomen and pelvis shows a small pleural effusion with moderate right and mild left lower lobe atelectasis.

5-28-09 X-rays of the cervical spine shows no abnormality.

MRI of the cervical spine dated 5-28-09 showed posterior disc protrusions noted from C3-C4 to C6-C7. The largest is present at C3-C4 measuring 3-4 mm, causing mild impression upon the ventral cord at the midline. At C4-C5, a 2-3 mm posterior disc

protrusion minimally indents the ventral cord at the midline. At C5-C6, a 2-3 mm left lateralizing disc protrusion causes minimal flattening of the left ventral cord. At C6-C7, a 2mm disc protrusion indents the ventral thecal sac, but does not contact the cord.

An EMG/CS performed by, MD., on 6-25-09 showed bilateral median sensory and motor neuropathy at wrists. The EMG showed evidence of severe bilateral chronic C8-T1 radiculopathy. There is also evidence of moderate acute and chronic right C6 radiculopathy.

Follow up with Dr. on 7-9-09 notes the claimant has tenderness on palpation of paraspinal region at C3 through C7, right greater than left. Spurlings test is positive. Neural foraminal compression test is positive. DTR are 2/4 in bilateral C5 and 1/4 in bilateral C6. There is mild weakness 5-/5. There is no loss of sensation. The evaluator recommended referral to Dr. for possible epidural steroid injection.

Follow up with Dr. on 11-5-09 notes the claimant has weakness and give way sensation. The evaluator reported the claimant had a positive MRI exam as well as EMG testing. The claimant initially noted the pain was on the right upper extremity. However, now the pain is more on the left as compared to the right. The evaluator continued to recommend ACDF at C5-C6 to resolve the upper extremity pain and documented radiculopathy.

On 1-12-10, the claimant was evaluated by MD. It was noted the claimant is a xxxx years old male who sustained work related injury in April 2009 one metal sheet that his chest neck and groups as he was Working on the lift holding doors. Claimant has been under my care at xxxxx clinic's there he was diagnosed with cervical disc herniation with the left upper extremity radiculopathy. He was then referred to Dr. who performed series of injections to the cervical spine without any long-term relief. It was initially anticipated that the claimant might not need surgical intervention however he reports to getting neurologically worse over the period of time. He reports to moderately severe intensity cervical pain with marked weakness in the left upper extremity which is gradually getting worse. On exam, range of motion of the cervical spine is decreased. The claimant has a positive Spurlings sign. Muscle strength was 5/5 at biceps, deltoids, triceps and brachioradialis. Muscle strength was 4+/5 at wrist extensors and flexors. DTR were 2+ at biceps and brachioradialis at 1+ at left triceps. The claimant had a negative impingement sign. The evaluator reported that the claimant does have positive findings an MRI with documented disc herniation at multiple levels extending C3 to C7. On EMG the claimant have positive findings with severe bilateral C8 to T1 radiculopathy. The claimant also has evidence of moderate acute and chronic C6 radiculopathy. Initially the pain was on the right upper extremity however now the pain is more of the left upper extremity as compared to right. The claimant is right-handed gentleman and has not responded to cervical epidurals to the injections performed by Dr, M.D. The most clinically significant pathology is at C5-C6 with 3 mm this protrusion with contact to the ventral cord on the left side and compression off the left C6 nerve root. Even though he has this protrusion at multiple levels however, this level (C5-C6) is the predominant source of the cause of pain radiating to the upper extremity. The evaluator strongly proposes performing ACDF at C5-C6 good result upper extremity pain and documented radiculopathy. This is in compliance with ODG treatment guidelines 2010 website edition, says the claimant has other conservative care in the form of six sessions of physical therapy followed by series of three injections to the cervical spine. The

claimant was provided with a prescription for Ambien, Naproxen, Neurontin and Vicodin ES.

1-22-10, MD., performed a Utilization Review. It was his opinion that an anterior cervical discectomy and fusion is not medically indicated and appropriate for one day length of stay. xxxxx typically recommends ambulatory setting for this. There has been no documentation of previous cervical spine surgery. Therefore, ambulatory procedure is favored over one day length of stay. These records do not consistently document a neuro compressive lesion consistent with the advanced imaging. They do document appropriate conservative treatment. They also document multilevel disc disease on imaging, which does not have significant compression, which do not correlate with electrodiagnostics or the examination. Due to these inconsistencies and the variability of subjective complaints, surgery is not supported by these records. This determination was based upon the records reviewed.

On 2-25-10, , MD., provided a letter of reconsideration. He noted the claimant does have positive findings an MRI with documented disc herniation at multiple levels extending C3 to C7. One EMG the claimant has positive findings with severe bilateral C8 to T1 radiculopathy. The claimant also has evidence of moderate acute and chronic C6 radiculopathy. Initially the pain was on the right upper extremity however now the pain is more of the left upper extremity as compared to right. The claimant is right-handed gentleman and has not responded to cervical epidurals to the injections performed by Dr. M.D. The most clinically significant pathology is at C5-C6 with 3 mm this protrusion with contact to the ventral cord on the left side and compression off the left C6 nerve root. Even though he has this protrusion at multiple levels however, this level (C5-C6) is the predominant source of the cause of pain radiating to the upper extremity. The evaluator strongly proposed performing ACDF at C5-C6 good result upper extremity pain and documented radiculopathy. This is in compliance with ODG treatment guidelines 2010 website edition. He agreed to the fact that the surgery can be performed on outpatient basis, but the justification of the physician that there are inconsistencies between the EMG and the MRI findings is absolutely not true. The claimant does have significant disc herniation at multiple levels however, the evaluator recommended surgery at C5-C6 only which is consistent with the neurological findings as well as EMG report. This is a questionable denial in which the reviewing physician either overlooked the EMG report or was biased with the decision of the denial. In either case it is not in the benefit of the claimant or all insurance company because if the surgery is not being performed at the earliest he would stay off work for a prolonged period of time due to deterioration in his neurological status. He completely failed to understand what additional information needs to be provided to give the surgery improved.

3-24-10, MD., performed a Utilization Review. The evaluator noted the efficacy of cervical and lumbar spinal fusion is still unproven after over 50 years of clinical practice. Two of the most well known and used evidence based treatment guidelines do not recommended the use of spinal fusion for axial back pain. The indications for spinal fusion are only instability, tumor, and infection. Under current guidelines, surgery would not be supported except for instability, tumor or infection which are not present in this claimant.

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

The medical records reflect inconsistencies between the clinical complaints, physical exam findings and the diagnostic test.

Initially, claimant had more symptoms on the right than the left. Currently there are more symptoms on left. The EMG/NCV revealed chronic severe changes C8/T1 of radiculopathy. There is a chronic or right C6 radiculopathy.

The cervical spine MRI does not reveal or report severe structural changes at C8/T1 to support the EMG findings. The treating doctor reports there is C5/C6 left-sided disc changes, but this is not consistent with the EMG findings reported on the right side.

The cervical spine MRI also notes multilevel degenerative changes throughout the cervical spine. There appears to be inconsistency with the exam findings, EMG/NCV, and the cervical spine MRI. Therefore, due to these inconsistencies recommend against the anterior cervical fusion at C5/C6.

From my review of the medical records, I did not see the progressive neurological change noted by the treating physician. Based on the records provided, the request for Anterior Cervical Disc Fusion at C5-C6, 63075 22554 22845 20931, is not established as medically necessary and appropriate for the reasons noted above.

ODG-TWC, last update 4-16-10 Occupational Disorders of the Neck and Upper Back – Cervical Fusion: Recommended as an option in combination with anterior cervical discectomy for approved indications, although current evidence is conflicting about the benefit of fusion in general. (See Discectomy/laminectomy/laminoplasty.) Evidence is also conflicting as to whether autograft or allograft is preferable and/or what specific benefits are provided with fixation devices. Many patients have been found to have excellent outcomes while undergoing simple discectomy alone (for one- to two-level procedures), and have also been found to go on to develop spontaneous fusion after an anterior discectomy. (Bertalanffy, 1988) (Savolainen, 1998) (Donaldson, 2002) (Rosenorn, 1983) Cervical fusion for degenerative disease resulting in axial neck pain and no radiculopathy remains controversial and conservative therapy remains the choice if there is no evidence of instability. (Bambakidis, 2005) Conservative anterior cervical fusion techniques appear to be equally effective compared to techniques using allografts, plates or cages. (Savolainen, 1998) (Dowd, 1999) (Colorado, 2001) (Fouyas-Cochrane, 2002) (Goffin, 2003) Cervical fusion may demonstrate good results in appropriately chosen patients with cervical spondylosis and axial neck pain. (Wieser, 2007) This evidence was substantiated in a recent Cochrane review that stated that hard evidence for the need for a fusion procedure after discectomy was lacking, as outlined below:

(1) Anterior cervical discectomy compared to anterior cervical discectomy with interbody fusion with a bone graft or substitute: Three of the six randomized controlled studies discussed in the 2004 Cochrane review found no difference between the two techniques and/or that fusion was not necessary. The Cochrane review felt there was

conflicting evidence of the relative effectiveness of either procedure. Overall it was noted that patients with discectomy only had shorter hospital stays, and shorter length of operation. There was moderate evidence that pain relief after five to six weeks was higher for the patients who had discectomy with fusion. Return to work was higher early on (five weeks) in the patients with discectomy with fusion, but there was no significant difference at ten weeks. (Jacobs-Cochrane, 2004) (Abd-Alrahman, 1999) (Dowd, 1999) (Martins, 1976) (van den Bent, 1996) (Savolainen, 1998) One disadvantage of fusion appears to be abnormal kinematic strain on adjacent spinal levels. (Ragab, 2006) (Eck, 2002) (Matsunaga, 1999) (Katsuura, 2001) The advantage of fusion appears to be a decreased rate of kyphosis in the operated segments. (Yamamoto, 1991) (Abd-Alrahman, 1999)

(2) Fusion with autograft versus allograft: The Cochrane review found limited evidence that the use of autograft provided better pain reduction than animal allograft. It also found that there was no difference between biocompatible osteoconductive polymer or autograft (limited evidence). (Jacobs-Cochrane, 2004) (McConnell, 2003) A problem with autograft is morbidity as related to the donor site including infection, prolonged drainage, hematomas, persistent pain and sensory loss. (Younger, 1989) (Sawin, 1998) (Sasso, 2005) Autograft is thought to increase fusion rates with less graft collapse. (Deutsch, 2007). See Decompression, myelopathy.

(3) Fusion with autograft with plate fixation versus allograft with plate fixation, Single level: A recent retrospective review of patients who received allograft with plate fixation versus autograft with plate fixation at a single level found fusion rates in 100% versus 90.3% respectively. This was not statistically significant. Satisfactory outcomes were noted in all non-union patients. (Samartzis, 2005)

(4) Fusion with different types of autograft: The Cochrane review did not find evidence that a vertebral body graft was superior to an iliac crest graft. (McGuire, 1994)

(5) Fusion with autograft versus fusion with autograft and additional instrumentation:
Plate Fixation: In single-level surgery there is limited evidence that there is any difference between the use of plates and fusion with autograft in terms of union rates. For two-level surgery, there was moderate evidence that there was more improvement in arm pain for patients treated with a plate than for those without a plate. Fusion rate is improved with plating in multi-level surgery. (Wright, 2007) See Plate fixation, cervical spine surgery.

Cage: Donor site pain may be decreased with the use of a cage rather than a plate, but donor site pain was not presented in a standardized manner. At two years pseudoarthrosis rate has been found to be lower in the fusion group (15%) versus the cage group (44%). A six-year follow-up of the same study group revealed no significant difference in outcome variables between the two treatment groups (both groups had pain relief). In the subgroup of patients with the cage who attained fusion, the overall outcome was better than with fusion alone. Patients treated with cage instrumentation have less segmental kyphosis and better-preserved disc height. This only appears to affect outcome in a positive way in cage patients that achieve fusion (versus cage patients with pseudoarthrosis). (Poelsson, 2007) (Varuch, 2002) (Hacker 2000) See also Adjacent segment disease/degeneration (fusion).

(6) Fusion with allograft alone versus with allograft and additional instrumentation:

Plate Fixation: Retrospective studies indicate high levels of pseudoarthrosis rates (as high as 20% for one-level and 50% for two-level procedures) using allograft alone. In a recent comparative retrospective study examining fusion rate with plating, successful fusion was achieved in 96% of single-level cases and 91% of two-level procedures. This could be compared to a previous retrospective study by the same authors of non-plated cases that achieved successful fusion in 90% of single-level procedures and 72% of two-level procedures. ([Kaiser, 2002](#)) ([Martin, 1999](#)) See [Plate fixation, cervical spine surgery](#).

Complications:

Collapse of the grafted bone and loss of cervical lordosis: collapse of grafted bone has been found to be less likely in plated groups for patients with multiple-level fusion. Plating has been found to maintain cervical lordosis in both multi-level and one-level procedures. ([Trojanovich, 2002](#)) ([Herrmann, 2004](#)) ([Katsuura, 1996](#)) The significance on outcome of kyphosis or loss of cervical lordosis in terms of prediction of clinical outcome remains under investigation. ([Peolsson, 2004](#)) ([Haden, 2005](#)) ([Poelsson, 2007](#)) ([Hwang, 2007](#))

Pseudoarthrosis: This is recognized as an etiology of continued cervical pain and unsatisfactory outcome. Treatment options include a revision anterior approach vs. a posterior approach. Regardless of approach, there is a high rate of continued moderate to severe pain even after solid fusion is achieved. ([Kuhns, 2005](#)) ([Mummaneni, 2004](#)) ([Coric, 1997](#))

Anterior versus posterior fusion: In a study based on 932,009 hospital discharges associated with cervical spine surgery, anterior fusions were shown to have a much lower rate of complications compared to posterior fusions, with the overall percent of cases with complications being 2.40% for anterior decompression, 3.44% for anterior fusion, and 10.49% for posterior fusion. ([Wang, 2007](#))

Predictors of outcome of ACDF: Predictors of good outcome include non-smoking, a pre-operative lower pain level, soft disc disease, disease in one level, greater segmental kyphosis pre-operatively, radicular pain without additional neck or lumbar pain, short duration of symptoms, younger age, no use of analgesics, and normal ratings on biopsychosocial tests such as the Distress and Risk Assessment Method (DRAM). Predictors of poor outcomes include non-specific neck pain, psychological distress, psychosomatic problems and poor general health. ([Peolsson, 2006](#)) ([Peolsson, 2003](#)) Patients who smoke have compromised fusion outcomes. ([Peolsson, 2008](#))

See [Plate fixation, cervical spine surgery](#). See also [Adjacent segment disease/degeneration \(fusion\)](#) & [Iliac crest donor-site pain treatment](#).

Use of Bone-morphogenetic protein (BMP): FDA informed healthcare professionals of reports of life-threatening complications associated with recombinant human Bone Morphogenetic Protein (rhBMP) when used in the cervical spine for spinal fusion. The safety and effectiveness of rhBMP in the cervical spine have not been demonstrated, and these products are not approved for this use. These complications were associated with swelling of neck and throat tissue, which resulted in compression of the airway and/or neurological structures in the neck. ([FDA MedWatch, 2008](#)) Bone-morphogenetic

protein was used in approximately 25% of all spinal fusions nationally in 2006, with use associated with more frequent complications for anterior cervical fusions. No differences were seen for lumbar, thoracic, or posterior cervical procedures, but the use of BMP in anterior cervical fusion procedures was associated with a higher rate of complication occurrence (7.09% with BMP vs 4.68% without BMP) with the primary increases seen in wound-related complications (1.22% with vs 0.65% without) and dysphagia or hoarseness (4.35% with vs 2.45% without). (Cahill-JAMA, 2009)

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)