



**CLAIMS EVAL**

Utilization Review and  
Peer Review Services

Notice of Independent Review Decision-WC

**CLAIMS EVAL REVIEWER REPORT - WC**

**DATE OF REVIEW: 3-16-10**

**IRO CASE #:**

**DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE**

Surgical decompression with a C6-C7 anterior cervical discectomy and fusion and 2 days inpatient stay

**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**

- 11-30-09 MRI of the cervical spine.
- MD., office visits on 12-3-09, 12-17-09, and 2-9-10.
- 12-15-09 cervical functional exam.
- 12-22-09 DO., office visits on 12-22-09, and 1-19-10.
- 12-28-09 MD., performed a Utilization Review.
- 1-14-10 cervical epidural steroid injection performed by Dr..
- 2-17-10 MD., performed a Utilization Review.

### **PATIENT CLINICAL HISTORY [SUMMARY]:**

MRI of the cervical spine shows diffuse spurring of C2-3 without stenosis; diffuse spurring of C3-C4 with minimal contact with the right nerve root sleeve, posterior spurring C4-05 with bilateral foraminal narrowing. This could be the level of the claimant's discomfort. Suggest CT with myelogram if warranted clinically or if the claimant is a surgical candidate, 3 mm spur C5-C6 in the midline without definite foraminal stenosis, and diffuse spurring C6-C7 without evidence of foraminal or spinal stenosis.

12-3-09 MD., the claimant complains of neck pain radiating into his left upper extremity. He has weakness associated with a large C6-C7 left-sided paracentral disc protrusion causing significant neural foraminal narrowing. He has a positive shoulder abduction sign. He has weakness of his triceps associated with the disc herniation. He is taking a significant amount of Hydrocodone at this point. I have recommended Ultracet, continued prednisone, as well as Soma to help with the pain. He will get in as soon as possible for a C6-C7 left-sided epidural. The claimant is on prednisone 10 mg 4x daily for inflammation and also on Soma twice a day for spasm. He is taking 2 tablets of Hydrocodone 3x daily for pain. He has had a cervical MRI done on 11/30/09 which will be reviewed today. The claimant's primary care physician is Dr. who sent him to evaluate his neck pain and upper extremity symptoms and to provide treatment options. The claimant has not had any other directed treatment for his current symptoms including epidural steroid injections, formal physical therapy, or previous surgeries. The evaluator recommended steroid injection as well as physical therapy. If he has

continued weakness associated with this, the evaluator would recommend an anterior cervical discectomy and fusion. The evaluator discussed this at length with the claimant. He understands and wishes to proceed.\

On 12-15-09, the claimant underwent a cervical functional exam.

12-17-09 MD., the claimant comes in with a large C6-7 left-sided disk protrusion causing neuroforaminal narrowing and spinal cord compression. He has continued weakness in his triceps. He has been unable to get in for the epidurals at this point. He has continued weakness and severe pain. He comes in for followup with his wife. On exam, He has 4/5 triceps strength on the left compared with the right He has difficulty with overhead reach and has a positive shoulder abduction test. He has decreased light touch in a C7 distribution on the left compared with the right. The evaluator recommended at this point, as he has continued neurologic deficit and excruciating pain that he proceed with surgical decompression with a C6-7 anterior cervical discectomy and fusion. The evaluator reported he is an excellent candidate for this given his neurologic deficit and a large disk herniation with neural compression on MRI. The evaluator discussed this with him and his wife. He understands and wishes to proceed. He will plan on a C6-7 ACDF upon approval from Workers Compensation.

12-22-09 , DO., the claimant was involved in a work-related injury dated xx/xx/xx. He presents today with complaints of pain in his neck, shoulder, and left arm with weakness and numbness. He has been unable to work since November 30, 2009, due to the numbness and weakness. He did undergo MRI evaluation of the cervical spine which reveals a left C6-7 disc protrusion as well as spondylitic changes at C4-5. There does appear to be some osteophyte spur formation at C4-5 as well. His medications include Darvocet, Xanax, insulin, and Soma. On exam, there is minimal tenderness to palpation in the left posterior cervical and thoracic spine, tenderness noted in the medial scapular border and trapezial region. Extremities: He has altered sensation to his left thumb with significant weakness with triceps testing, left arm. Lower extremities are unremarkable for motor or sensory changes. The evaluator recommended a trial of epidural steroid injection under IV sedation and fluoroscopy. He will follow up after procedure for benefit of radiculitis improvement. He will have the claimant discontinue any anti-inflammatory medications in the interim.

On 12-28-09, MD., performed a Utilization Review. He noted that the request for surgical decompression at the C6-7 level with anterior cervical discectomy and fusion and 2 day inpatient stay is not recommended as medically necessary. The MRI study submitted for review does not demonstrate any significant focal disc herniations at the C6-7 level that would require surgical correction to include discectomy and fusion. The MRI study demonstrates diffuse spur formation with a minimal right pre foraminal focal spur. There is no evidence of significant nerve root or cord compression. Additionally, there is limited clinical documentation regarding prior conservative care. It is noted that the claimant has been unable to obtain epidural steroid injections and was evaluated for physical therapy; however, it is unclear if the claimant actually attended any physical therapy or had any benefits from physical therapy. As the submitted clinical

documentation does not support the request for surgery, medical necessity is not established at this time.

On 1-14-10, the claimant underwent a cervical epidural steroid injection performed by Dr. .

1-19-10, DO., notes the claimant returns today following epidural steroid injection #1 with 50-60% improvement. He admits his neck, shoulder, and arm pain have improved tremendously. He continues to have some paresthesias in his left thumb. On exam, the claimant has no palpable tenderness in the spine or paraspinous regions of the cervical spine, minimal myofascial pain in the left posterior shoulder girdle and thoracic spine. Left upper extremity reveals less sensitivity to touch and deep pressure. He continues to have some increased sensitivity in the left thumb only. Lower extremities are unremarkable. Impression: Cervical radiculitis improved with epidural steroid injection, 50-60%. The evaluator recommends repeat epidural steroid injection under IV sedation and fluoroscopy.

2-9-10 MD., the claimant is a gentleman who comes in with a C6-7 large left-sided disk protrusion causing neuroforaminal narrowing and weakness in his triceps. He has had several denials of both surgery and now epidurals by work comp. He comes in with continued symptomatology and is unable to get back to work with significant weakness in his left arm. On exam, he has restricted range of motion of his cervical spine. He has a positive Spurling on the left. He has positive shoulder abduction sign. He also has 4/5 weakness in his triceps, 4+/5 biceps, and 4/5 grip on the left compared with the right. He has decreased light touch in a C7 distribution on the left when compared with the right. MRI findings dated 11-30-09 demonstrate a large C6-7 disk bulge. There is also mild foraminal stenosis at C4-5 but clearly C6-7 has a larger disk herniation causing neuroforaminal stenosis and impingement on the C7 exiting nerve root. The evaluator discussed with the radiologist at Diagnostic Health a re-review, as another radiologist reviewed this and the evaluator discussed it with him, and he is sending a new report demonstrating clearly a C6-7 disk herniation and impingement. The evaluator discussed this with the claimant. Once again, the evaluator recommended that he still recommended C6-7 anterior cervical discectomy and fusion. The evaluator recommended the claimant obtain legal counsel to try to move forward wit this if not approved again.

On 2-17-10, MD., performed a Utilization Review. He discussed the case with Dr.. The claimant has suffered loss of function and decrease of sensation. The requesting provider states he will fax an amended MRI showing the large disc herniation at C7. The request is not indicated at this time. After he reviews the faxed documents I will submit an addendum. Determination: The request is not certified.

Based on the clinical information submitted for this review and using the evidence-based, peer-reviewed guidelines referenced above, this request for appeal for C6-C7 surgical decompression, anterior cervical discectomy, fusion, and appeal for two days in-claimant stay is not medically necessary.

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

Reviewing the medical records there appears to be different interpretations of the clinical examinations and correlating these with the imaging studies. The treating surgeon has documented physical exam findings consistent with a C6/C7 disc herniation. The radiologist interpretation of the MRI of the cervical spine notes changes at C6/C7, but these are interpreted as a large disc herniation by the surgeon.

Based on the medical records provided and without further diagnostic testing, the request for decompression with a C6-C7 anterior cervical discectomy and fusion and 2 days inpatient stay is not reasonable or medically necessary at this time.

**ODG-TWC, last update 1-21-10 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)

