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NOTICE OF INDEPENDENT REVIEW DECISION

DATE OF REVIEW:

Mar/23/2009

IRO CASE #:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:

Anterior C4/5 and C5/6 Discectomy Fusion and Plate (95937, 22585, 22845, 95920, 63075, 63076, 22554)

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

M.D., Board Certified Orthopedic Surgeon

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

ODG Guidelines and Treatment Guidelines

Peer review, Dr. 09/05/08, 11/06/08

Peer review, Dr. 01/12/09

Incident report, 1/2/07

Cervical spine, 01/02/07

Office notes, Dr. 01/10/07, 01/25/07, 02/22/07, 03/22/07, 04/27/07, 05/30/07, 06/27/07, 07/25/07

MRI cervical spine, 01/19/07

Office note, Dr. 02/07/07, 03/21/07

PT notes, 02/28/07 to 3/30/07

Office note, Dr. 03/01/07

Dr. 03/19/07

Office note, Dr. 03/28/07

Office note, Dr. 08/30/07

Cervical spine X-rays, 12/10/07

Office notes, Dr. 12/10/07, 01/14/08, 02/27/08, 07/02/08, 01/21/09

Letter, Dr. 12/19/07, 02/29/08

MRI cervical spine, 12/28/07

FCE, 01/03/08, 07/11/08
Office notes, Dr. 04/24/08, 08/21/08, 10/27/08, 01/12/09
Chart note, Dr. 04/29/08, 05/23/08
DDE, Dr. 07/11/08
Computerized muscle testing, 10/02/08, 11/05/08
MRI cervical spine, 02/10/09

PATIENT CLINICAL HISTORY SUMMARY

This is a female with complaints of neck pain and bilateral shoulder pain since a lifting injury on xx/xx/xx. The claimant has been seen by multiple providers. Dr. evaluated the claimant on 01/14/08. Dr. had reviewed x-rays from a previous provider Dr. 's office. Dr. stated that the x-rays showed retrolisthesis in extension and flexion at C4-5 and C5-6. Dr. felt that the MRI from 12/28/07 showed at C4-5 minimal retrolisthesis of approximately 2 millimeter and dessication of the disc, a broad based disc bulge as well as osteophytic ridge which abutted the cervical spinal cord, very mild deformity of the cord and at C5-6 no significant stenosis and some very early degeneration seen with anterior osteophytic spurring. Dr. commented that there was not a retrolisthesis on the MRI but it was clearly present on extension views of the cervical spine by Dr. 's office and at C6-7 there was a right paracentral disc protrusion with high signal intensity to the right of the midline. Examination revealed positive Spurling's in the right and biceps weakness on the right of 5-/5. Cervical epidural steroid injection was recommended but was denied by the insurance carrier. Dr. evaluated the claimant on 10/27/08. Examination revealed reduced cervical range of motion, normal strength to the upper extremities and decreased sensation to the C6 dermatome bilaterally. Dr. recommend C4-6 anterior cervical discectomy and fusion. Dr. evaluated the claimant on 01/21/09. Examination revealed tenderness over the cervical muscles, decreased range of motion of the cervical spine, negative Spurling and Lhermitte's. Strength to the upper extremities was 5/5. Sensation and reflexes were intact. Impression was cervical radiculopathy on the left. Dr. stated that since the claimant had been denied surgery and injections she was at maximum medical improvement. The claimant has had three cervical MRI's with the most recent one on 02/10/09 revealing at C4-6 a posterior protrusion, subligamentous disc herniation in the central and paracentral region measuring 2.8-3.2 millimeter in AP diameter indenting the thecal sac and slightly indenting the spinal cord, straightening of the cervical lordotic curve due to muscle spasm.

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

The requested C4 through C6 fusion cannot be justified based on the information provided. The claimant does not have documented symptoms in a specific dermatomal pattern. The claimant has no objective signs of radiculopathy or myelopathy. The MRI does not clearly show symptomatic neural compressive pathology. It is not clear that the claimant has dynamic instability on flexion/extension views. The records indicate varying levels of concern from C4 through C7 with varying levels of plans for surgical intervention. Without further information, the request for surgery cannot be justified. It is noted there may be slight impression on the cord at C4-5, but there is no apparent mass effect and no symptomatic or examination evidence of myelopathy. There is insufficient information to justify surgery at this time. The reviewer finds that medical necessity does not exist for Anterior C4/5 and C5/6 Discectomy Fusion and Plate (95937, 22585, 22845, 95920, 63075, 63076, 22554).

Official Disability Guidelines Treatment in Workers' Comp 2009 Updates, neck and upper back, fusion, anterior cervical spin

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. (Poelsson, 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

Note: 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)

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

ACOEM-AMERICA 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 ERVIEWED NATIONALLY ACCEPTED MEDICAL LITERATURE (PROVIDE A DESCRIPTION)

OTHER EVIDENCE BASED, SCIENTIFICALLY VALID, OUTCOME FOCUSED GUIDELINES (PROVIDE A DESCRIPTION)