

AccuReview

An Independent Review Organization

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Notice of Independent Review Decision

DATE OF REVIEW: May 26, 2012

IRO CASE #:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:

Anterior Cervical Decompression Discectomy with Arthrodesis and Instrumentation C4-5, C5-6, C6-7 (22551, 22552, 22851 x 3) 23 hrs Observation

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

This physician is Board Certified in Neurological Surgery with over 40 years of experience.

REVIEW OUTCOME:

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

Overturned (Disagree)

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:

PATIENT CLINICAL HISTORY [SUMMARY]:

The claimant is a male that sustained an injury on xx/xx/xx while employed as a xx. He was accommodating floor tiles in the back of a truck when he slipped from a 10 feet high loading door of the truck and landed on the cement hitting his left

hand, forehead, front teeth, nose, left shoulder, upper back and neck. He felt immediate pain and was taken by ambulance to the hospital where they did stitches in his forehead and nose. He underwent surgical repair of the left wrist/forearm and then later left shoulder surgery on 11/21/10.

10-19-10: MRI Cervical Spine dictated by MD. Findings: Straightening and mild reversal of the cervical lordosis, centered at C5. C3-C4: Uncovertebral spondylosis and left facet hypertrophy causes severe narrowing of left neural foramen at C3-C4. C4-C5: Moderate facet hypertrophy. Broad-based posterocentral 2.5mm disc protrusion indents the anterior thecal sac and the anterior spinal cord, with mild narrowing of the central canal. C5-C6: Broad-based right paracentral 3.6mm disc protrusion with marginal osteophytes indent the right intrathecal sac and right anterior spinal cord. Moderate narrowing of the cervical canal. Mild narrowing of the neural foramina. Mild facet hypertrophy. C6-C7: 5.5mm right paracentral and foraminal disc protrusion with marginal osteophytes indents the anterior thecal sac. Moderate narrowing of the central canal. Narrowing of the right neural foramen may be severe. C7-T1: Mild posterior spondylosis. Conclusion: Reversal of the cervical lordosis, centered at C5. There appears as to be severe narrowing of the left neural foramen at C3-C4. Oblique radiographs suggesting confirm if desired. Posterocentral C4-C5 and right paracentral C5-C6 disc protrusion. In addition, there appears to be severe narrowing of the right neural foramen at C6-C7 due to disc protrusion. There may be incidental findings since patient's symptoms are on the left.

02-08-11: Initial Medical Report at xxxxxxx by MD. Current Complaints: The pain interferes with the patient's activities of daily living by 72 of 80 as assessed upon the Upper Functional Scale and by 70% as assessed by the Neck Pain Index. The patient rated his pain as follows: Left arm pain 10/10, Neck pain 7/10, Left wrist pain 8/10, Headache 7/10. Physical Examination: Motor: Manual muscle testing of the upper extremity revealed 4/5 muscle grade of the left supraspinatus muscle and a 4/5 muscle grade of the left deltoid muscle.

03-23-11: New Patient Visit note by MD. The claimant presents for further evaluation and recommendations. The patient complains of the following symptom(s) and severity on a scale of 1-10: left arm pain (8), stiffness (8), located on the entire extremity. He is currently working full capacity. Previous studies obtained include X-Ray, MRI. Plan: The chief complaint of left shoulder pain, weakness and inability to make a fist. The exam is consistent with a left frozen shoulder, left hand moderate stiffness with intrinsic tightness and left wrist stiffness. His plain films of the left shoulder and wrist are fine with one anchor in the shoulder and an anatomic wrist fixation. Recommend aggressive therapy for the hand, wrist and shoulder for three months. Will do a left SAI on FU. Pain meds prior to therapy and Celebrex.

08-24-11: Post-Operative Visit note by MD. Noted the claimant presents with the complaints of the following symptoms and severity on a scale of 1-10: left shoulder pain(3), numbness (3), tingling (3), stiffness (3), weakness (3), located on the entire extremity, and occurs with activity predominately during the daytime.

He is currently off work. Conclusions: Plan: 1 month 1 week post a left shoulder arthroscopic lysis of adhesions with manipulation, and left distal clavicle resection. He is attending therapy and notes improved motion when raising the left arm in front of him. He is having pain when raising left arm to the side and is not able to make a complete fist. The palm of his left hand is numb and tingly which radiates up the forearm. The exam notes markedly improved motion with no impingement but moderate pain on extremes of motion. A HEP for the left hand intrinsic given. Refill pain meds and therapy request.

08-24-11: Therapy Prescription by MD. Indicated to begin therapy ASAP, to attend 3 visits per week for 4 weeks using AROM, AAROM, PROM, muscle stretch, tendon gliding, target, stretching. Comments: Continue to focus on stretching his frozen shoulder and start early stretching.

01-16-12: Initial Consultation at xxxxxx by MD. Chief Complaint: Neck pain, head pain and shoulder pain. Review of Radiological Films: X-Rays: Done at Hospital by report shows 5mm C4/5 spondylolisthesis. This considered significant. MRI: Shows spinal cord compression at multiple levels. Stenosis at C4/5, C5/6, and C6/7. Physical Examination: Noted weakness of handgrip, biceps, and triceps, decreased sensation to left upper extremity, and decreased reflexes at 1+ bilaterally. Diagnosis: Cervical stenosis, cervical herniated discs. Plan: I recommend anterior cervical decompressive discectomy with spacer arthrodesis and instrumentation at C4/5, C5/6 and C6/7.

01-18-12: Subsequent Medical Report at xxxxxxxxxxxx by, MD. Current Complaints: The pain interferes with the patient's activities of daily living by 53 of 80 as assessed by the Upper extremity Functional Scale and by 62% as assessed by the Neck Disability Index. The patient rated his pain as follows: Left wrist 4/10, neck pain 6/10, and left shoulder pain 5/10. Treatment Plan: I recommend that the patient go to work conditioning for is he is a good candidate. This is if he doesn't choose to have neck surgery that Dr. recommended. Patient will come for treatment once a week for four weeks. Patient will be re-evaluated in four weeks.

02-01-12: Progress note at xxxxxxxxxxxx by DC. Cervical: Left C5/6 Subluxation. Comments: Patient is scheduled for ortho consult with Dr. regarding second opinion about neck surgery. We will continue to see him 1 x 1wk. Treatments: Manipulation to cervical spine, Massage to cervical spine, decrease in pain. Recommended heat to increase circulation.

02-03-12: Progress note by MD. Comments: 6.5 months post a left shoulder arthroscopic lysis of adhesions with manipulation and left distal clavicle resection. He is doing HEP for the left shoulder which is helping greatly with his motion. His chief complaint is still his neck that hurts when moving to either side worse on the left. He was referred to Dr. for cervical evaluation who diagnosed him with significant compression of the spinal cord at C4-5, C5-6 and C6-7 with stenosis. He had cervical MRI completed. The shoulder exam is unchanged. The left shoulder is at MMI and he can follow with his treating doctor regarding his neck. FU with me PRN.

02-08-12: Progress note at xxxxxxxxxxxxxxx by DC. Noted cervical pain and restriction, Left C5/6 Subluxation. Comments: Patient went to ortho consult last week and was evaluated for his left shoulder. Patient is seeking a second opinion for pending neck surgery. He continues to have cervical spinal pain that radiates down the left hand. Treatment: Manipulation of cervical spine, Massage to cervical spine and right shoulder, decrease pain. Recommends heat to increase circulation.

02-15-12: Progress note at xxxxxxxxxxxxxxx by DC. Noted cervical pain and restriction, Left C5/6 Subluxation. Comments: Patient will move forward with neck surgery. Treatment: Manipulation to cervical spinal increase ROM, Massage to cervical spine, decrease pain, Myofascial Release. Recommends heat to increase circulation.

02-24-12: Progress note at xxxxxx by DC. Noted cervical pain and restriction, Left C4/5 Subluxation. Comments: Patient has an exacerbation of neck pain. Neck surgery pending. Treatment: Manipulation to cervical spinal, Massage to left SH, decrease pain, Myofascial Release. Recommends heat to increase circulation.

03-02-12: Progress note at xxxxxxxxx by DC. Noted cervical pain and restriction, Left C5/6 Right C4 Subluxation. Comments: Patient has sharp pain in neck and left shoulder. Neck surgery still pending. I agree that patient should undergo surgery for the cervical spine. Treatment: Manipulation to cervical spinal, Massage to left SH and cervical spine. Recommends heat to increase circulation.

03-09-12: Progress note at xxxxxxxxxxxxxxx by DC. Noted Left C5/6 Subluxation. Comments: Patient has pain and stiffness in neck. His left shoulder and arm had radicular pain that was constant since yesterday. Neck surgery pending. Treatment: Manipulation to cervical spinal, Massage to cervical spine, decrease pain. Recommends heat to increase circulation.

03-16-12: Progress note at xxxxxx by DC. Noted cervical pain and restriction. Comments: Patient continues to have pain and stiffness in neck and left shoulder. Neck surgery is pending. Treatment: Manipulation to cervical spinal, Extraspinal Manipulation to left SH mobilization, Massage to facial muscles, Myofascial Release. Recommends heat to increase circulation.

03-26-12: Progress note at xxxxx by DC. Noted cervical pain and restriction, Right C5/6 and Left C3 Subluxation. Comments: Patient has sharp pain neck that radiates down the left arm. Neck surgery is pending. Treatment: Massage to cervical muscles. Heat to increase circulation.

03-30-12: Progress note at xxxxxx by DC. Commented that patient re-evaluated today. Neck surgery still pending. Heat to increase circulation.

04-06-12: UR preformed by MD. Reason for Denial: Rationale: Guidelines indicate that there must be evidence of radicular pain and sensory symptoms in a cervical distribution that correlate with the involved cervical level or presence of a positive Spurling's test. There should be evidence of motor deficits or reflex changes or a positive EMG that correlate with the cervical level. The evidence that the patient has received and failed at least 6-8 week trial of conservative care. The recommend demonstrate that this patient has radiculopathy that is consistent with imaging studies. However, medical records do not indicate significant current conservative care for the cervical spine. Additionally, there is documentation of a previous rotator cuff repair on the left shoulder that was performed on 11/24/2010, with postoperative request for physical therapy. There is lack of documentation to indicate the patient received significant physical therapy for that postoperative care and this may represent some of the sequelae from the left shoulder procedure on exam, specifically the weakness in the biceps and triceps. As such, there is a lack of objective indicating a need for surgery and lack of objective evidence of significant conservative care prior to surgery. I called the provider and discussed this case. He stated that he did not have information on the conservative care, but thought his patient was demonstrating early myelopathy. Therefore, the request is non-certified.

05-01-12: UR for performed by MD. Reason for Denial: The documentation provided indicates the patient had initially had ongoing shoulder complaints and subsequently developed neck pain. Physical examinations noted that the patient had decreased reflexes bilaterally, decreased sensation in the left upper extremity, and weakness with hand grip, biceps, and triceps. It was noted that as x-ray of the cervical spine indicated 5 mm C4-5 spondylolistesis, which was considered to be significant, and it was also noted the patient had a recent MRI of the spinal cord, which indicated spinal cord compression at C4-C7 levels as well as stenosis at C4-C7. The guidelines recommend that a patient meet specific criteria prior to undergoing a cervical decompression, discectomy, and arthrodesis in the cervical spine. There is lack of documentation indicating that the patient has received any recent conservative care to the cervical spine to include physical therapy, activity modification, medication regiment, and possible physical therapy. It is noted the patient may benefit from a cervical decompression, discectomy, and arthrodesis at the C4-C7 levels due to the spinal cord compression; however, there is lack of conservative treatment. Given the above indications, the request for appeal anterior cervical decompression, discectomy, with arthrodesis and instrumentation at C4-C7 with 23 hours of observation is non-certified.

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

After reviewing the medical records, I disagree with the previous determinations that there is no evidence of conservative therapy. The documentation submitted and reviewed clearly indicates that the claimant underwent recent conservative therapy with DC, including: manipulation, massage, myofascial release and heat therapy. The claimant has also received medication for pain. The claimant's MRI

showed spinal cord compression at multiple levels and stenosis at C4/5, C5/6, and C6/7. On January 16, 2012, the physical examination by MD documented weakness of handgrip, biceps, and triceps, decreased sensation to left upper extremity, and decreased reflexes at 1+ bilaterally. The claimant has definitive clinical findings of radiculopathy that correlate with involved cervical levels found on MRI. The medical records sent for review adequately demonstrated the claimant failed a conservative trial of treatment and that he meets all of ODG criteria. The request for 23 hours of observation is also within ODG guidelines. Therefore, the request for Anterior Cervical Decompression Discectomy with Arthrodesis and Instrumentation C4-5, C5-6, C6-7 23 hrs Observation is approved.

Per ODG:

Fusion, anterior cervical

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, gainful employment, higher preoperative NDI 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, litigation and workers' compensation. ([Anderson, 2009](#)) ([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](#))

For hospital LOS after admission criteria are met, see [Hospital length of stay \(LOS\)](#).

ODG Indications for Surgery -- Discectomy/laminectomy (excluding fractures):

Washington State has published guidelines for cervical surgery for the entrapment of a single nerve root and/or multiple nerve roots. ([Washington, 2004](#)) Their recommendations require the presence of all of the following criteria prior to surgery for each nerve root that has been planned for intervention (but ODG does not agree with the EMG requirement):

- A. There must be evidence of radicular pain and sensory symptoms in a cervical distribution that correlate with the involved cervical level or presence of a positive Spurling test.
- B. There should be evidence of motor deficit or reflex changes or positive EMG findings that correlate with the cervical level. *Note:* Despite what the Washington State guidelines say, ODG recommends that EMG is optional if there is other evidence of motor deficit or reflex changes. EMG is useful in cases where clinical findings are unclear, there is a discrepancy in imaging, or to identify other etiologies of symptoms such as metabolic (diabetes/thyroid) or peripheral pathology (such as carpal tunnel). For more information, see [EMG](#).
- C. An abnormal imaging (CT/myelogram and/or MRI) study must show positive findings that correlate with nerve root involvement that is found with the previous objective physical and/or diagnostic findings. If there

is no evidence of sensory, motor, reflex or EMG changes, confirmatory selective nerve root blocks may be substituted if these blocks correlate with the imaging study. The block should produce pain in the abnormal nerve root and provide at least 75% pain relief for the duration of the local anesthetic.

D. Etiologies of pain such as metabolic sources (diabetes/thyroid disease) non-structural radiculopathies (inflammatory, malignant or motor neuron disease), and/or peripheral sources (carpal tunnel syndrome) should be addressed prior to cervical surgical procedures.

E. There must be evidence that the patient has received and failed at least a 6-8 week trial of conservative care.

For hospital LOS after admission criteria are met, see [Hospital length of stay \(LOS\)](#).

ODG hospital length of stay (LOS) guidelines:

Discectomy/ Corpectomy (*icd 80.51 - Excision of intervertebral disc*)

Actual data -- median 1 day; mean 2.1 days (± 0.0); discharges 109,057; charges (mean) \$26,219

Best practice target (no complications) -- 1 day

Laminectomy (*icd 03.09 - Laminectomy/laminotomy for decompression of spinal nerve root*)

Actual data -- median 2 days; mean 3.5 days (± 0.1); discharges 100,600; charges (mean) \$34,978

Best practice target (no complications) -- 1 day

Cervical Fusion, Anterior (*81.02 -- Other cervical fusion, anterior technique*)

Actual data -- median 1 day; mean 2.2 days (± 0.1); discharges 161,761; charges (mean) \$50,653

Best practice target (no complications) -- 1 days

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)**