INDEPENDENT REVIEWERS OF TEXAS, INC.

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Notice of Independent Review Decision

DATE OF REVIEW: 10/17/11

IRO CASE NO.:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:

Item in dispute: Laminotomy (Hemilaminectomy), with Decompression of Nerve Root(s), Including Partial Facetectomy, Foraminotomy And/Or Excision Of Herniated Intervertebral Disc, Reexploration, Single Interspace; Lumba

Dates of Service From 09/06/2011 to 09/08/2011

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

Texas Board Certified Orthopedic Surgeon
Fellowship Trained in Spine Surgery

REVIEW OUTCOME

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

Denial Upheld

INFORMATION PROVIDED TO THE IRO FOR REVIEW

1. Operative note dated 10/21/09
2. MRI scan review dated 07/13/10
3. Lower EMG and nerve conduction study dated 01/11/11
4. Clinic notes dated 08/30/20/11-07/13/10
5. Previous reviews dated 09/21/11 and 09/07/11.
6. **Official Disability Guidelines**

PATIENT CLINICAL HISTORY (SUMMARY):

The employee is a male with low back pain.

On 10/21/09, the employee was taken to surgery where he had lumbar laminectomy at L3-L4 with decompression and neuroforaminotomies at L4-L5 and anterior lateral arthrodesis at L3-L4.

On 07/13/10, a previous MRI was reviewed. This showed an apparent displacement of one of the interbody cages on the left approximately 2 mm to 3 mm causing one deformity of the anterior thecal sac on the left side only. This did not cross the midline. This was changed from the operative status.

On 07/30/10, the employee was seen in-clinic. At that time, he was being evaluated for a dorsal column stimulator in relation to his right leg pain. Medications at that time included Opana. X-rays of the pelvis revealed hips without degenerative joint disease. X-rays of the lumbar spine showed L3-L4 decompression with global instrumented arthrodesis with cross-links well healed with no motion on flexion/extension views. The lateral examination does not give the appearance of any displacement of the cage, which was discernible only on the MRI. Physical examination showed negative flip test bilaterally, negative Lasegue's test bilaterally, and negative Braggart's. The employee had equal and symmetrical knee jerks and ankle jerks. He had absent posterior tibial tendon jerks and no gross motor deficits.

On 01/11/11, the employee had electrodiagnostic studies. There was evidence of both acute and chronic radiculopathy with the chronic changes being primarily in the L3 and L4 distributions; although there were some acute L3 irritability noted on the right. There was also significant acute irritability in the L5 and S1 distributions bilaterally with the right-side being more predominate. A significant involvement of the lower sacrum S2-S4 motor roots on the right greater than left based on the external anal sphincter sampling, which was consistent with his bladder dysfunction from his previous spinal disc injury.

On 08/30/11, the employee returned to clinic. Chief complaint was low back pain and right-sided numbness, tingling, and pain. It was noted he had failed conservative treatment for his adjacent segment disease. The employee wanted surgical intervention to include hardware removal at L3-L4 with instrumented arthrodesis, global in nature at L4-L5 and L5-S1 with bone growth stimulator. X-rays demonstrated that that L4-L5 and L5-S1 levels, the employee had functional spinal unit collapse greater than 5 mm with posterior column deficit, facet subluxation, and foraminal stenosis and lateral recessed stenosis at both levels. He had an anterior column deficits and functional spinal unit collapse and posterior column deficits. On physical examamination, he had a positive extension lag, positive sciatic notch tenderness on the right, negative Fortin finger test. He had a positive flip test on the right. He had a positive Lasegue's on the right at 45 degrees. He had a positive Braggart's sign. Hypoactive knee jerk on the right and absent posterior tibial tendon jerk bilaterally. He had paresthesias in the L4, L5, and S1 nerve root distributions on the right and mild weakness at tibialis anterior and gastroc soleus on the right.

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

On 09/07/11, the initial determination was made. It was noted at that time that imaging studies confirming no significant clinical findings were not provided.

Furthermore, the documentation of 08/30/2011 indicates surgical intervention via L4-L5 and L5-S1. The request is for surgery at the L3-L4, L4-L5, and L5-S1 levels. Therefore,

there was discrepancy in the request and in the clinical documentation. This was given as the reason for the denial.

On 09/21/11, an appeal review was performed. At that time, it was noted that the employee had not exhausted all conservative care. Furthermore, it was noted that the employee had symptoms being ongoing with imaging pathology on the left side. Therefore, the appeal was upheld. In reviewing the available medical records, the imaging studies had not been provided. Furthermore, the employee does have a hypoactive knee jerk on the right, absent posterior tibial tendon jerk bilaterally with paresthesias in the L4, L5, and S1 nerve root distribution on the right.

On 07/13/2010, the provider did a review of the MRI scan, which apparently showed placement of one of the interbody cages on the left with approximately 2-3 mm causing deformity of the anterior thecal sac on the left side only. Therefore, the initial review and the appeal are upheld.

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

Official Disability Guidelines, Low Back chapter, Online Version:
Discectomy/ laminectomy

Recommended for indications below. Surgical discectomy for carefully selected patients with radiculopathy due to lumbar disc prolapse provides faster relief from the acute attack than conservative management, although any positive or negative effects on the lifetime natural history of the underlying disc disease are still unclear. Unequivocal objective findings are required based on neurological examination and testing. (Gibson-Cochrane, 2000) (Malter, 1996) (Stevens, 1997) (Stevenson, 1995) (BlueCross BlueShield, 2002) (Buttermann, 2004) For unequivocal evidence of radiculopathy, see AMA Guides. (Andersson, 2000) Standard discectomy and microdiscectomy are of similar efficacy in treatment of herniated disc. (Bigos, 1999) While there is evidence in favor of discectomy for prolonged symptoms of lumbar disc herniation, in patients with a shorter period of symptoms but no absolute indication for surgery, there are only modest short-term benefits, although discectomy seemed to be associated with a more rapid initial recovery, and discectomy was superior to conservative treatment when the herniation was at L4-L5. (Osterman, 2006) The SPORT studies concluded that both lumbar discectomy and nonoperative treatment resulted in substantial improvement after 2 years, but those who chose discectomy reported somewhat greater improvements than patients who elected nonoperative care. (Weinstein, 2006) (Weinstein2, 2006) A recent RCT compared decompressive surgery with nonoperative measures in the treatment of patients with lumbar spinal stenosis, and concluded that, although patients improved over the 2-year follow-up regardless of initial treatment, those undergoing decompressive surgery reported greater improvement regarding leg pain, back pain, and overall disability, but the relative benefit of initial surgical treatment diminished over time while still remaining somewhat favorable at 2 years. (Malmivaara, 2007) Patients undergoing lumbar discectomy are generally satisfied with the surgery, but only half are satified with preoperative patient information. (Ronnberg, 2007) If patients are pain free, there appears to be no contraindication to their returning to

any type of work after lumbar discectomy. A regimen of stretching and strengthening the abdominal and back muscles is a crucial aspect of the recovery process. (Burnett, 2006) According to a major recent trial, early surgery (microdiscectomy) in patients with 6-12 weeks of severe sciatica caused by herniated disks is associated with better short-term outcomes, but at 1 year, disability outcomes of early surgery vs conservative treatment with eventual surgery if needed are similar. The median time to recovery was 4.0 weeks for early surgery and 12.1 weeks for prolonged conservative treatment. The authors concluded, "Patients whose pain is controlled in a manner that is acceptable to them may decide to postpone surgery in the hope that it will not be needed, without reducing their chances for complete recovery at 12 months. Although both strategies have similar outcomes after 1 year, early surgery remains a valid treatment option for well-informed patients." (Peul-NEJM, 2007) (Deyo-NEJM, 2007) A recent randomized controlled trial comparing decompression with decompression and instrumented fusion in patients with foraminal stenosis and single-level degenerative disease found that patients universally improved with surgery, and this improvement was maintained at 5 years. However, no obvious additional benefit was noted by combining decompression with an instrumented fusion. (Hallett, 2007) A recent British study found that lumbar discectomy improved patients' self-reported overall physical health more than other elective surgeries. (Guilfoyle, 2007) Microscopic sequestrectomy may be an alternative to standard microdiscectomy. In this RCT, both groups showed dramatic improvement. (Barth, 2008) There is consistent evidence that for patients with a herniated disk, discectomy is associated with better short-term outcomes than continued conservative management, although outcomes begin to look similar after 3 to 6 months. This is a decision to be made with the patients, discussing the likelihood that they are going to improve either way but will improve faster with surgery. Similar evidence supports the use of surgery for spinal stenosis, although the outcomes look better with surgery out to about 2 years. (Chou, 2008) Standard open discectomy is moderately cost-effective compared with nonsurgical treatment, a new Spine Patient Outcomes Research Trial (SPORT) study shows. The costs per quality-adjusted life-year gained with surgery compared with nonoperative treatment, including work-related productivity costs, ranges from $34,355 to $69,403, depending on the cost of surgery. It is wise and proper to wait before initiating surgery, but if the patient continues to experience pain and is missing work, then the higher-cost option such as surgery may be worthwhile. (Tosteson, 2008) Note: Surgical decompression of a lumbar nerve root or roots may include the following procedures: discectomy or microdiscectomy (partial removal of the disc) and laminectomy, hemilaminectomy, laminotomy, or foraminotomy (providing access by partial or total removal of various parts of vertebral bone). Discectomy is the surgical removal of herniated disc material that presses on a nerve root or the spinal cord. A laminectomy is often involved to permit access to the intervertebral disc in a traditional discectomy.

Patient Selection: Microdiscectomy for symptomatic lumbar disc herniations in patients with a preponderance of leg pain who have failed nonoperative treatment demonstrated a high success rate based on validated outcome measures (80% decrease in VAS leg pain score of greater than 2 points), patient satisfaction

(85%), and return to work (84%). Patients should be encouraged to return to their preinjury activities as soon as possible with no restrictions at 6 weeks. Overall, patients with sequestered lumbar disc herniations fared better than those with extruded herniations, although both groups consistently had better outcomes than patients with contained herniations. Patients with herniations at the L5-S1 level had significantly better outcomes than did those at the L4-L5 level. Lumbar disc herniation level and type should be considered in preoperative outcomes counseling. Smokers had a significantly lower return to work rate. In the carefully screened patient, lumbar microdiscectomy for symptomatic disc herniation results in an overall high success rate, patient satisfaction, and return to physically demanding activities. (Dewing, 2008) Workers' comp back surgery patients are at greater risk for poor lumbar discectomy outcomes than noncompensation patients. (DeBerard, 2008) In workers' comp it is recommended to screen for presurgical biopsychosocial variables because they are important predictors of discectomy outcomes. (DeBerard, 2011)

Spinal Stenosis: For patients with lumbar spinal stenosis, standard posterior decompressive laminectomy alone (without discectomy) offers a significant advantage over nonsurgical treatment. Discectomy should be reserved for those conditions of disc herniation causing radiculopahy. (See Indications below.) Laminectomy may be used for spinal stenosis secondary to degenerative processess exhibiting ligamental hypertrophy, facet hypertrophy, and disc protrusion, in addition to anatomical derrangements of the spinal column such as tumor, trauma, etc. (Weinstein, 2008) (Katz, 2008) A comparison of surgical and nonoperative outcomes between degenerative spondylolisthesis and spinal stenosis patients from the SPORT trial found that fusion was most appropriate for spondylolisthesis, with or without listhesis, and decompressive laminectomy alone most appropriate for spinal stenosis. (Pearson, 2010) See also Laminectomy.

Recent Research: Four-year results for the Dartmouth Spine Patient Outcomes Research Trial (SPORT, n= 1244) indicated that patients who underwent standard open discectomy for a lumbar disc herniation achieved significantly greater improvement than nonoperatively treated patients (using recommended treatments - active physical therapy, home exercise instruction, and NSAIDs) in all primary and secondary outcomes except work status (78.4% for the surgery group compared with 84.4%). Although patients receiving surgery did better generally, all patients in the study improved. Consequently, for patients who don't want an operation no matter how bad their pain is, this study suggests that they will improve and they will not have complications (e.g., paralysis) from nonoperative treatment, but those patients whose leg pain is severe and is limiting their function, who meet the ODG criteria for discectomy, can do better with surgery than without surgery, and the risks are extremely low. (Weinstein2, 2008) In most patients with low back pain, symptoms resolve without surgical intervention. (Madigan, 2009) This study showed that surgery for disc herniation was not as successful as total hip replacement but was comparable to total knee replacement in success. Pain was reduced to within 60% of normal levels, function improved to 65% normal, and quality of life was improved by about 50%. The study compared the gains in quality of life achieved by total hip replacement,

total knee replacement, surgery for spinal stenosis, disc excision for lumbar disc herniation, and arthrodesis for chronic low back pain. (Hansson, 2008) For radiculopathy with herniated lumbar disc, there is good evidence that standard open discectomy and microdiscectomy are moderately superior to nonsurgical therapy for improvement in pain and function through 2 to 3 months, but patients on average experience improvement either with or without surgery, and benefits associated with surgery decrease with long-term follow-up. (Chou, 2009) According to a new study, surgery provides better results than non-surgical treatment for most patients with back pain related to a herniated disk, but not for those receiving workers' compensation. (Atlas, 2010) Use of appropriateness criteria to guide treatment decisions for each clinical situation involving patients with low back pain and/or sciatica, with criteria based upon literature evidence, along with shared decision-making, was observed in one prospective study to improve outcomes in low back surgery. (Danon-Hersch, 2010)

ODG Indications for Surgery -- Discectomy/laminectomy --

Required symptoms/findings; imaging studies; & conservative treatments below:

I. Symptoms/Findings which confirm presence of radiculopathy. Objective findings on examination need to be present. Straight leg raising test, crossed straight leg raising and reflex exams should correlate with symptoms and imaging.

Findings require ONE of the following:

A. L3 nerve root compression, requiring ONE of the following:

1. Severe unilateral quadriceps weakness/mild atrophy

2. Mild-to-moderate unilateral quadriceps weakness

3. Unilateral hip/thigh/knee pain

B. L4 nerve root compression, requiring ONE of the following:

1. Severe unilateral quadriceps/anterior tibialis weakness/mild atrophy

2. Mild-to-moderate unilateral quadriceps/anterior tibialis weakness

3. Unilateral hip/thigh/knee/medial pain

C. L5 nerve root compression, requiring ONE of the following:

1. Severe unilateral foot/toe/dorsiflexor weakness/mild atrophy

2. Mild-to-moderate foot/toe/dorsiflexor weakness

3. Unilateral hip/lateral thigh/knee pain

D. S1 nerve root compression, requiring ONE of the following:

1. Severe unilateral foot/toe/plantar flexor/hamstring weakness/atrophy

2. Moderate unilateral foot/toe/plantar flexor/hamstring weakness

3. Unilateral buttock/posterior thigh/calf pain

(EMGs are optional to obtain unequivocal evidence of radiculopathy but not necessary if radiculopathy is already clinically obvious.)

II. Imaging Studies, requiring ONE of the following, for concordance between radicular findings on radiologic evaluation and physical exam findings:

A. Nerve root compression (L3, L4, L5, or S1)

B. Lateral disc rupture

C. Lateral recess stenosis

Diagnostic imaging modalities, requiring ONE of the following:

1. MR imaging

2. CT scanning

3. Myelography

4. CT myelography & X-Ray

III. Conservative Treatments, requiring ALL of the following:

A. Activity modification (not bed rest) after patient education (>= 2 months)

B. Drug therapy, requiring at least ONE of the following:

1. NSAID drug therapy

2. Other analgesic therapy

3. Muscle relaxants

4. Epidural Steroid Injection (ESI)

C. Support provider referral, requiring at least ONE of the following (in order of priority):

1. Physical therapy (teach home exercise/stretching)

2. Manual therapy (chiropractor or massage therapist)

3. Psychological screening that could affect surgical outcome

4. Back school (Fisher, 2004)

For average hospital LOS after criteria are met, see Hospital length of stay (LOS).