

CASEREVIEW

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Notice of Independent Review Decision

DATE OF REVIEW: February 5, 2012

IRO CASE #:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:

L2-S1 Revision Lumbar Laminectomy/Discectomy, L4-S1 Fusion w/
Instrumentation, Implantable Bone Growth Stimulator 63042 63044 69990 22612
22614 22851 20938; 2 Days Inpatient Stay 22842 22558 20975 63685 22325
22585 22328

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

This physician is Board Certified by American Board of Orthopedic Surgeons 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:

07/27/10: MRI Lumbar Spine w/o contrast interpreted by MD
09/20/10: Initial Evaluation by MD with Orthopaedic Associates
01/19/11: Follow-up Evaluation by MD with Orthopaedic Associates 02/16/11:
Follow-up Evaluation by MD with Orthopaedic Associates of
03/22/11: Operative Report by MD

04/27/11: Follow-up Evaluation by MD with Orthopaedic Associates
06/08/11: Follow-up Evaluation by MD with Orthopaedic Associates
07/20/11: Follow-up Evaluation by MD with Orthopaedic Associates
08/17/11: Progress Note by MD with Pain Management, PA
09/08/11: MRI Lumbar Spine w/o and w/ contrast interpreted by MD
09/21/11: Progress Note by MD with Pain Management, PA
10/14/11: Designated Doctor Evaluation by MD
10/21/11: Progress Note by MD with Pain Management, PA
12/20/11: New Patient Surgical Consultation by MD
12/30/11: UR performed by MD
01/09/12: UR performed by MD

PATIENT CLINICAL HISTORY [SUMMARY]:

The claimant is a male who was injured on xx/xx/xx while lifting some tires. He initially noticed a big twinge in his back and a week later developed pain down his left leg to the top of his left foot. Treatment has consisted of home exercises, physical therapy, anti-depressants, non-steroidal anti-inflammatories, and surgery.

On July 27, 2010, MRI of the Lumbar Spine without contrast revealed: 1. Large extruded disc herniation present at L4-5 measuring 11 mm in AP dimension producing a severe degree of canal stenosis. 2. Diffuse disc bulging at L2-3, L3-4, and L5-S1. Disc bulges at L3-4 and L5-S1 are asymmetrically more prominent towards the left as discussed above. 3. Mild canal stenosis at L3-4. 4. No fracture, alignment abnormality, or destructive osseous lesion.

On September 20, 2010, the claimant was evaluated by MD. On physical examination he had a list to his gait and limited mobility with flexion versus extension. He had a positive straight leg raise on the left. He had very mild weakness at 4+/5 on the left. He had L5 sensory changes, but no atrophy. Reflexes at the ankle were blunted on the left. Diagnosis: Severe spinal stenosis secondary to a disc herniation. Dr. recommended a microdiscectomy on the left.

On February 16, 2011, the claimant was re-evaluated by MD who noted he developed some right leg pain going down his right leg in the L5 distribution. A microdiscectomy was still recommended.

On March 22, 2011, there is an operative report by MD. Diagnostic Impression: Disk herniation L4-L5 spinal stenosis. Procedure: 1. C-arm use. 2. Left L4 laminectomy. 3. Left L4-L5 foraminotomy. 4. Left L4-L5 microdiscectomy.

On April 27, 2011, the claimant was re-evaluated by MD who reported he was having some difficulty with his back and pain radiating down his bilateral legs. He did have complete resolution of his symptoms four days after surgery. Dr. recommended physical therapy.

On June 8, 2011, the claimant was re-evaluated by MD who noted his left leg was better than it was prior to surgery, but his whole right leg all the way is affected. On physical examination he walked with a cane. He had good mobility of his

lumbosacral junction. He had negative straight leg raise bilaterally and no atrophy. Dr. opined that his injury and the surgery flared up his spinal stenosis and was at MMI for the disc extrusion on the left side. Dr. stated he could not offer him anything else but to place him on Celebrex.

On August 17, 2011, the claimant had a follow-up evaluation with, MD who indicated his current medications included Celebrex, Lyrica, Lisinopril, Metformin, and Hydrocodone. On physical examination he had a positive right SLR and right L4, L5, S1 subjective dysesthetic sensation. Diagnosis: long-term use of medications, back pain-lumbar, back pain-NOS, and radicular pain.

On September 8, 2011, MRI of the Lumbar Spine with and without contrast revealed: 1. Findings consistent with recurrent disc herniation at the L4-5 level as described in detail above. (There is a recurrent disc herniation present at the midline does not demonstrate a significant degree of enhancement measuring up to 5 mm in AP dimension.) Combines with enhancing granulation tissue present at the level to produce severe canal stenosis at L4-5. 2. Multilevel degenerative disc and facet disease at remaining levels with mild canal stenosis at L2-3 and L3-4. 3. Remaining levels demonstrate no evidence of disc herniation.

On September 21, 2011, the claimant had a follow-up evaluation with MD who recommended a caudal epidural.

On October 14, 2011, the claimant was evaluated by, MD a designated doctor. Dr. opined the claimant reached MMI on September 14, 2011 with a 10% whole person impairment. Dr. also opined that the claimant would require ongoing pain management and should be provided ESI injections as he could barely walk or drive and all ADLs were affected. On physical examination the claimant ambulated into the room with a limp to the left and right and appeared to sit uncomfortably in a seated position. Palpation of the lumbar spine revealed tenderness at L5-S1. Supine straight leg raise was positive at 60 degrees bilaterally. Testing of the spinal dermatomes revealed that the left S1 and right S1 was moderately decreased. Deep tendon reflexes were absent bilaterally at the Achilles, 3 bilaterally at the Patellar. The left thigh was measured to be 41 cm on the left and 44.3 cm on the right indicating Quadriceps atrophy of ~3 cm. Calf measurements were 36 cm on the left and 35.4 on the right. He was unable to perform toe or heel walk.

On December 20, 2011, the claimant was evaluated by MD for failed lumbar spine syndrome and persistent back and bilateral leg pain worse on the left than on the right. X-rays of the pelvis revealed hips without degenerative joint disease, sacroiliac joints without sclerosis or focal findings. X-rays of the lumbar spine, including flexion-extension views, revealed L4-5 left-sided laminotomy with facet subluxation and foraminal stenosis and a functional spine unit collapsed on standing from normal of 11 mm to 3 mm for a total change of 8 mm. L2-3 revealed a functional spine unit collapsed from 11 mm to 4 mm for total change of 7 mm with anterior osteophytic formation, facet subluxation and foraminal

stenosis. L3-4 revealed no functional spine unit collapsed. L5-S1 revealed a functional spine unit collapse from normal of 11 mm to 5 mm for a total collapsed at 6 mm associated with posterior column deficit, facet subluxation, and foraminal stenosis. L2-3, L4-5, and L5-S1 meet the clinical instability criteria of ODG for functional spine unit collapse. On physical examination on his back and lower extremities there was a well-healed incision, mild paravertebral muscle spasm, positive extensor lag, positive sciatic notch tenderness bilaterally although a little bit worse on the left than on the right. Positive flip test bilaterally, positive Lasegue's bilaterally at 45 degrees, positive Bragard's bilaterally, hypoactive knee jerk bilaterally, absent posterior tibial tendon jerks bilaterally, hypoactive ankle jerk on the right, paresthesias in the L3 nerve root distribution anterior thigh bilaterally, paresthesias in the right L5 and S1 and left L5 nerve root with weakness of gastroc-soleus and tibialis anterior on the right, weakness of gastroc-soleus and extensor hallucis longus on the left. Diagnosis: Failed lumbar spine syndrome with recurrent HNP and clinical instability L4-5 and L5-S1 and L2-3 with failure of conservative treatment. Plan: The claimant had two options, accept his current disability as he had failed all forms of conservative treatment or proceed with surgical revision. The revision would include a revision lumbar spine surgery with decompression discectomy and instrumented arthrodesis at L4-5 & L5-S1 with decompression at L3-4 and decompression at L2-3. He does demonstrate instability at L2-3, but to include this in the construct would make this a four level procedure which is not allowed by ODG.

On December 30, 2011, MD performed a UR on the claimant. Rationale for Denial: Conservative treatment has included medications, post-op PT, TENS, HEP, medications, activity modification, and chiropractic. However, there is no documentation of at least 1 imaging (MRI, CT, myelography, or CT myelography & x-ray) finding (nerve root compression, lateral disc rupture, or lateral recess stenosis) at L2-3, L3-4, and L5-S1 levels and a diagnosis/condition (with supportive subjective/objective/imaging findings (per formal report)) for which fusion is indicated (such as instability). Therefore, the medical necessity of the request has not been substantiated.

On January 9, 2012, MD performed a UR on the claimant. Rationale for Denial: A complete physical examination to include special test such as straight leg raise test was not provided. Furthermore, the imaging studies do not support the need for the multi-level decompression procedure proposed. Lastly, psychosocial evaluation was not provided which is recommended based on the referenced guidelines. Hence, the medical necessity of the requested service has not been established. Consequently, the request for implantable Bone Growth Stimulator and two day inpatient stay is deemed not substantiated.

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

The previous decisions are overturned. It has been demonstrated by MRI, x-ray and physical examination that the claimant has suffered a recurrence of his herniated disc at L4/5, multilevel degenerative disc and facet disease and radicular symptoms.

On 10/14/11, the claimant was evaluated by MD, a designated doctor, who on physical examination found that supine straight leg raise was positive at 60 degrees bilaterally, testing of the spinal dermatomes revealed that the left S1 and right S1 was moderately decreased, and deep tendon reflexes were absent bilaterally at the Achilles. The left thigh was measured to be 41 cm on the left and 44.3 cm on the right indicating Quadriceps atrophy of ~3 cm. On 12/20/11, MD found on physical examination positive flip test bilaterally, positive Lasegue's bilaterally at 45 degrees, positive Bragard's bilaterally, hypoactive knee jerk bilaterally, absent posterior tibial tendon jerks bilaterally, hypoactive ankle jerk on the right, paresthesias in the L3 nerve root distribution anterior thigh bilaterally, paresthesias in the right L5 and S1 and left L5 nerve root with weakness of gastroc-soleus and tibialis anterior on the right, weakness of gastroc-soleus and extensor hallucis longus on the left. The MRI on 09/08/11 revealed findings consistent with recurrent disc herniation at the L4-5 level present at the midline measuring up to 5 mm in AP dimension, combined with enhancing granulation tissue present at the level to produce severe canal stenosis at L4-5. There was also multilevel degenerative disc and facet disease at remaining levels with mild canal stenosis at L2-3 and L3-4. Dr. Earle also had x-rays of the lumbar spine performed on 12/20/11, including flexion-extension views, which revealed L4-5 left-sided laminotomy with facet subluxation and foraminal stenosis and a functional spine unit collapsed on standing from normal of 11 mm to 3 mm for a total change of 8 mm. L2-3 revealed a functional spine unit collapsed from 11 mm to 4 mm for total change of 7 mm with anterior osteophytic formation, facet subluxation and foraminal stenosis. L3-4 revealed no functional spine unit collapsed. L5-S1 revealed a functional spine unit collapse from normal of 11 mm to 5 mm for a total collapsed at 6 mm associated with posterior column deficit, facet subluxation, and foraminal stenosis.

Based on the information above, I would recommend lumbar spine surgery which would include revision lumbar laminectomy/discectomy L2-S1, L4-S1 fusion with instrumentation. The claimant meets the ODG indications for discectomy/laminectomy. He does have symptoms/findings which confirm radiculopathy, including positive straight leg raise, absence of reflexes and quadriceps atrophy. He has a positive MRI and has failed conservative treatment including home exercises, physical therapy, anti-depressants, and non-steroidal anti-inflammatories. The claimant also meets the ODG criteria for fusion as he has failed previous discectomy and had functional spine unit collapsed demonstrated on the 12/20/11 x-rays. I would also recommend implantation of the bone growth simulator to ensure a better chance of a stable arthrodesis. The claimant is undergoing a multilevel fusion and is diabetic, therefore, meeting the ODG criteria. I would also approve the 2 days of inpatient stay as it is within the ODG guidelines.

ODG:

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).

Patient Selection Criteria for Lumbar Spinal Fusion:

For chronic low back problems, fusion should not be considered within the first 6 months of symptoms, except for fracture, dislocation or progressive neurologic loss. Indications for spinal fusion may include: (1) Neural Arch Defect - Spondylolytic spondylolisthesis, congenital neural arch hypoplasia. (2) Segmental Instability (objectively demonstrable) - Excessive motion, as in degenerative spondylolisthesis, surgically induced segmental instability and mechanical intervertebral collapse of the motion segment and advanced degenerative changes after surgical discectomy, with relative angular motion greater than 20 degrees.

([Andersson, 2000](#)) ([Luers, 2007](#))] (3) Primary Mechanical Back Pain (i.e., pain aggravated by physical activity)/Functional Spinal Unit Failure/Instability, including one or two level segmental failure with progressive degenerative changes, loss of height, disc loading capability. In cases of workers' compensation, patient outcomes related to fusion may have other confounding variables that may affect overall success of the procedure, which should be considered. There is a lack of support for fusion for mechanical low back pain for subjects with failure to participate effectively in active rehab pre-op, total disability over 6 months, active psych diagnosis, and narcotic dependence. Spinal instability criteria includes lumbar inter-segmental movement of more than 4.5 mm. ([Andersson, 2000](#)) (4) Revision Surgery for failed previous operation(s) if significant functional gains are anticipated. Revision surgery for purposes of pain relief must be approached with extreme caution due to the less than 50% success rate reported in medical literature. (5) Infection, Tumor, or Deformity of the lumbosacral spine that cause intractable pain, neurological deficit and/or functional disability. (6) After failure of two discectomies on the same disc, fusion may be an option at the time of the third discectomy, which should also meet the ODG criteria. (See [ODG Indications for Surgery -- Discectomy](#).)

Pre-Operative Surgical Indications Recommended: Pre-operative clinical surgical indications for spinal fusion should include all of the following: (1) All pain generators are identified and treated; & (2) All physical medicine and manual therapy interventions are completed; & (3) X-rays demonstrating spinal instability and/or myelogram, CT-myelogram, or discography (see [discography criteria](#)) & MRI demonstrating disc pathology correlated with symptoms and exam findings; & (4) Spine pathology limited to two levels; & (5) [Psychosocial screen](#) with confounding issues addressed. (6) For any potential fusion surgery, it is recommended that the injured worker refrain from smoking for at least six weeks prior to surgery and during the period of fusion healing. ([Colorado, 2001](#)) ([BlueCross BlueShield, 2002](#)) For average hospital LOS after criteria are met, see [Hospital length of stay](#) (LOS).

Bone growth stimulators (BGS)	<p>Under study. There is conflicting evidence, so case by case recommendations are necessary (some RCTs with efficacy for high risk cases). Some limited evidence exists for improving the fusion rate of spinal fusion surgery in high risk cases (e.g., revision pseudoarthrosis, instability, smoker). (Mooney, 1990) (Marks, 2000) (Akai, 2002) (Simmons, 2004) There is no consistent medical evidence to support or refute use of these devices for improving patient outcomes; there may be a beneficial effect on fusion rates in patients at "high risk", but this has not been convincingly demonstrated. (Resnick, 2005) Also see Fusion for limited number of indications for spinal fusion surgery. See Knee & Leg Chapter for more information on use of Bone-growth stimulators for long bone fractures, where they are recommended for certain conditions.</p> <p>Criteria for use for invasive or non-invasive electrical bone growth stimulators: Either invasive or noninvasive methods of electrical bone growth stimulation may be considered medically necessary as an adjunct to spinal fusion surgery for patients with any of the following risk factors for failed fusion: (1) One or more previous failed spinal fusion(s); (2) Grade III or worse spondylolisthesis; (3) Fusion to be performed at more than one level; (4) Current smoking habit (Note: Other tobacco use such as chewing tobacco is not considered a risk factor); (5) Diabetes, Renal disease, Alcoholism; or (6) Significant osteoporosis which has been demonstrated on radiographs. (Kucharzyk, 1999) (Rogozinski, 1996) (Hodges, 2003)</p>
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ODG hospital length of stay (LOS) guidelines:

Discectomy (*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

Lumbar Fusion, posterior (*icd 81.08 - Lumbar and lumbosacral fusion, posterior technique*)

Actual data -- median 3 days; mean 3.9 days (±0.1); discharges 161,761; charges (mean) \$86,900

Best practice target (no complications) -- 3 days

Lumbar Fusion, anterior (*icd 81.06 - Lumbar and lumbosacral fusion, anterior technique*)

Actual data -- median 3 days; mean 4.2 days (± 0.2); discharges 33,521; charges (mean) \$110,156
Best practice target (no complications) -- 3 days
Lumbar Fusion, lateral (*icd 81.07 - Lumbar fusion, lateral transverse process technique*)
Actual data -- median 3 days; mean 3.8 days (± 0.2); discharges 15,125; charges (mean) \$89,088
Best practice target (no complications) -- 3 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 KNOWLEDGBASE**
- 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)**