



**IRO#**  
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**DATE OF REVIEW:** 07/06/2009

**IRO CASE #:**

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

Bilateral Laminectomy Medial Facetectomy and Foraminotomy L1-S1 with 2 Day Inpatient Stay

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

This case was reviewed by a Texas licensed MD, specializing in Orthopedic Trauma, Orthopedic Surgery. The physician advisor has the following additional qualifications, if applicable:

ABMS Orthopaedic Surgery

**REVIEW OUTCOME:**

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

Upheld

<b>Health Care Service(s) in Dispute</b>	<b>CPT Codes</b>	<b>Date of Service(s)</b>	<b>Outcome of Independent Review</b>
Bilateral Laminectomy Medial Facetectomy and Foraminotomy L1-S1 with 2 Day Inpatient Stay	99231, 63047	-	Upheld

**INFORMATION PROVIDED TO THE IRO FOR REVIEW:**

**PATIENT CLINICAL HISTORY [SUMMARY]:**

The patient is a male with a DOI xx-xx-xx. The mechanism of injury involved lifting a heavy tarp, trying to move it from one truck to another, and twisting straining type motion. There was immediate numbness in the left leg and paralysis of right leg which has progressed to a combined numbness and weakness in both legs. The patient has a sensory motor peripheral neuropathy by EMG/NCV study and extensive degenerative disc disease based on MRI findings. His physical examination has not been consistent. Straight Leg Raising has been reported as negative. The MRI scan and the lumbar myelogram confirm canal compromise at L3-L4 and L4-L5. Facet hypertrophy has been demonstrated throughout the lumbar spine. A request has been submitted to perform extensive laminectomy, facetectomies and foraminotomies for decompression from L1-S1. The primary request has been denied and the appeal reconsideration request has also been denied.

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

I reviewed the medical records and the prior letters of denial. There is little or no documentation of radiculopathy. The EMG/NCV study was equivocal and more compatible with a sensory motor peripheral neuropathy than a radiculopathy. Straight leg raising test was bilaterally negative on 02/24/09. There is no documentation of non operative treatment. The criteria that have to be met as published in the ODG, 2009, low back chapter, multiple passages cited below have not been met. The prior denials of the preauthorization request have been appropriate and should be upheld.

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

ODG:

Laminectomy/ laminotomy	Recommended for lumbar spinal stenosis. For patients with lumbar spinal stenosis, surgery (standard posterior decompressive laminectomy alone, without discectomy) offered a significant advantage over nonsurgical treatment in terms of pain relief and functional improvement that was maintained at 2 years of follow-up, according to a new SPORT study. Discectomy should be reserved for those conditions of disc herniation causing radiculopathy. Laminectomy may be used for spinal stenosis secondary to degenerative processes exhibiting ligament hypertrophy, facet hypertrophy, and disc protrusion, in addition to anatomical derangements of the spinal column such as tumor, trauma, etc. ( <a href="#">Weinstein, 2008</a> ) ( <a href="#">Katz, 2008</a> ) This study showed that surgery for spinal stenosis and for disc herniation were not as successful as total hip replacement but were comparable to total knee replacement in their 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. ( <a href="#">Hansson, 2008</a> ) Laminectomy is a surgical procedure for treating spinal stenosis by relieving pressure on the spinal cord. The lamina of the vertebra is removed or trimmed to widen the spinal canal and create more space for the spinal nerves. See also <a href="#">Discectomy/laminectomy</a> for surgical indications, with the exception of confirming the presence of radiculopathy.
Decompression	Definition: Decompression may be a surgical procedure that is performed to alleviate pain caused by pinched nerves (neural impingement). There are two common types of spine surgery decompression procedures: Microdiscectomy or Open decompression (Discectomy/Laminectomy). See <a href="#">Discectomy</a> ; & <a href="#">Microdiscectomy</a> . When decompression therapy is used as a general term, See <a href="#">Powered traction devices</a> ; <a href="#">IDD Therapy</a> (Intervertebral Disc Decompression); <a href="#">Traction</a> ; <a href="#">Vertebral axial decompression</a> (VAX-D); <a href="#">Percutaneous discectomy</a> ; & <a href="#">Nucleoplasty</a> .
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](#)) 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 satisfied 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 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](#))

*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 radiculopathy. (See Indications below.) Laminectomy may be used for spinal stenosis secondary to degenerative processes exhibiting ligamentary hypertrophy, facet hypertrophy, and disc protrusion, in addition to anatomical derangements of the spinal column such as tumor, trauma, etc. ([Weinstein, 2008](#)) ([Katz, 2008](#)) 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](#))

**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. For unequivocal evidence of radiculopathy, see AMA Guides, 5th Edition, page 382-383. ([Andersson, 2000](#)) 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](#) ( $\geq$  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](#))