

**AccuReview**  
An Independent Review Organization  
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Notice of Independent Review Decision

November 13, 2011 AMENDED November 20, 2011

**DATE OF REVIEW:** November 13, 2011, AMENDED November 20, 2011

**IRO CASE #:**

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

LOS 2 days L4-5-S1 Lumbar Laminectomy, Discectomy, Fusion Instrumentation, Implantation Bone Growth Stim EBI 63030 63035 69990 22614 22851 20938 22558 20975 63685 22325 22585 22328

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

Board Certified Orthopedic Surgeon with over 40 years experience.

**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)

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:**

11-04-2010: Office Visit with Dr. MD at Medical Centers

11-09-2010: Physical Therapy session with at Medical Centers

11-17-2010: Physical Therapy session with at Medical Centers

11-19-2010: Physical Therapy session with at Medical Centers

11-24-2010: Physical Therapy session with at Medical Centers

12-21-2010: Office Visit with Dr. DO at Medical Centers

12-24-2010: MRI of the Lumbar Spine without Contrast at Imaging

01-17-2011: MRI Scan Review by M.D.

01-18-2011: New Patient Surgical Consultation with Dr. Orthopedic Surgeon

03-01-2011: Follow Up Office Visit with Dr. Orthopedic Surgeon

03-23-2011: Operative Report by M.D. from Health Care System

04-13-2011: Office Visit with Dr M.D. at Physical Medicine and Rehabilitation

05-10-2011: Follow Up Office Visit with Dr. Orthopedic Surgeon

07-11-2011: EMG by M.D., P.A. at Rehabilitation Medicine

07-12-2011: Follow Up Office Visit with Dr., Orthopedic Surgeon  
Electromyography

08-12-2011: Physical Therapy session by at Medical Centers

08-24-2011: Follow up Visit with Dr. at Medical Centers

09-23-2011: Psychological EvaluatioN, Examining Clinician: M.P. Psychologist:  
Ph.D.

10-11-2011: Utilization Review by MD from

10-19-2011: Utilization Review by MD from

## **PATIENT CLINICAL HISTORY:**

Claimant is a male employee of xx. On xx/xx/xx, Claimant was going up and down a ladder with mannequins, when claimant felt a pull from his lower back all the way to his knees.

11-04-2010: Office Visit with Dr. MD at Medical Centers. Chief Complaint: Lower back with numbness in left leg and pain on posterior aspect of left knee, 7/10 on pain scale. Symptoms are exacerbated by bending, twisting or manipulation. X-Rays on lumbar spine where negative, assessment was, lumbar strain. Plan: Rx Ibuprofen and physical therapy were prescribed.

11-09-2010: Physical Therapy session with at Medical Centers. Therapy was indicated to address deficits and the patient demonstrated good prognosis for improvement. Claimant tolerated the evaluation process and initial treatment well with no adverse side effects.

11-17-2010: Physical Therapy session with at Medical Centers. Claimant reported with lower back pain that radiated down left leg. Discussed with claimant pathology and normal healing process of current injury, no objective changes where noted from initial evaluation.

11-19-2010: Physical Therapy session with at Medical Centers. Claimant reported he was feeling worse, and attributes this change in symptoms to beginning exercises from last visit. Claimant rates his low back pain 10/10 with paraesthesias into the left thigh. Claimant had fair exercise performance and self limits activities due to reports of pain/symptoms.

11-24-2010: Physical Therapy session with at Medical Centers. Claimant reports no change in injury status and continues with pain in the left lower back with radiating into the left lateral leg. Claimant also states he has numbness in his left leg. Assessment: Claimant was reported to have slow progression, but did tolerate treatment without adverse reactions.

12-21-2010: Office Visit with Dr. DO at Medical Centers. Claimant feels the pattern of symptoms is no better, and that physical therapy is not helping. On Physical exam claimant had a decrease in active and passive range of motion. Claimant states he has difficulty with his left foot, and is unable to lift foot. Plan: Referral to a spinal surgeon was giving.

12-24-2010: MRI of the Lumbar Spine without Contrast at Imaging. Impression: Lumbar degenerative disc disease, most severe at L4-L5 with mild to moderate effacement to the lateral recesses and displacement of the L5 roots by a central

broad-based disc protrusion. There is also minimal bilateral L4-L5 foraminal stenosis.

01-17-2011: MRI Scan Review by M.D. reports the MRI scan reveals L3-4 and L4-5 contained disc herniation rating at stage II with annular herniation, nuclear protrusion, and spinal stenosis. There was also noted a slightly bulging disc at L2-3.

01-18-2011: New Patient Surgical Consultation with Dr., Orthopedic Surgeon. Claimant reported with low back pain and left lower extremity pain and weakness. It was noted by Dr., claimant had failed conservative treatment over the last three months. Claimant is scheduled for epidural steroid injection by Dr.. X-rays of pelvis and lumbar spine were again negative. Physical Examination revealed positive extensor lag, positive spring test at anterior iliac crest line, negative Fortin finger test bilaterally, and positive sciatic notch tenderness on the left. It was also noted claimant had positive flip test on the left, positive Lasegue's on the left at 45 degrees contralateral, positive straight leg raising on the right at 75 degrees with pain referral to the back and left lower extremity, positive Bragard's on the left, equal and symmetrical knee jerks, absent posterior tibial tendon jerks, hypoactive ankle jerk on the left, weakness to tibialis anterior, extensor hallucis longus, and gastroc-soleus without atrophy. Claimant has paresthesias to light touch at L5 and S1. Assessment: Lumbago with lumbar radiculopathy and discogenic pain. Plan: Hydrocodone for the pain and epidural steroid injection and to review EMG/NCV to make sure the profound amount of leg weakness is radicular and not peripheral neuropathy in nature.

03-01-2011: Follow Up Office Visit with Dr., Orthopedic Surgeon. Claimant returned reporting he feels overall his back pain is better. Claimant does not have a lot of left leg pain, but he has significant left leg weakness with drop foot on the left. Plan: Wait one month further and continue his exercise program and medications. Claimant did not receive ESI and was again advised to.

03-23-2011: Operative Report by M.D. from Health Care System. Claimant had a Left transforaminal L4-5 epidural steroid injection by M.D. Claimant tolerated well, without complications.

04-13-2011: Office Visit with Dr M.D. at Physical Medicine and Rehabilitation. Claimant had 50% reduction in his pain complaints after ESI on 03-23-2011. Impression: L4-5 disc protrusion with radiculopathy. Plan: Dr. noted the claimant not benefit from additional conservative measures and recommend the claimant return to see Dr. so that the decision can be made whether or not he receive spine surgery.

05-10-2011: Follow Up Office Visit with Dr., Orthopedic Surgeon. Assessment: Lumbar HNP L4-L5 with clinical instability L4-5 and L5-S1 with significant lower extremity weakness and failure of conservative treatment. Plan: Proceed with surgical correction and claimant agrees.

07-11-2011: EMG by M.D., P.A. at Rehabilitation Medicine and Electromyography. Interpretation: Minimal but definite abnormalities bilaterally, primarily in the L4-5 and S1 myotomes, the left worse than the right. This is suggestive of bilateral and multi-level nerve root irritation worse of the L4-5 nerve roots bilaterally.

07-12-2011: Follow Up Office Visit with Dr. Orthopedic Surgeon. It was noted by Dr., claimant was seen by doctor, Dr., who told claimant he did not need surgery, only core exercises for three weeks. Claimant reports no changes since last consultation with Dr. Plan remains the same.

08-12-2011: Physical Therapy session by at Medical Centers. Claimant reports doing better and tolerated the treatment without adverse reactions.

08-24-2011: Follow up Visit with Dr. at Medical Centers. No change from previous visit noted.

09-23-2011: Psychological Evaluation, Examining Clinician: M.P. Psychologist: Ph.D. Diagnostic Impression: Axis I: Pain disorder associated with both psychological factors and general medical condition, Axis II: No dx, Axis III Deferred to physician, Axis IV: Injury related Biopsychosocial Stressors: Chronic pain, reduced ability to complete activities of daily living. Level: Moderate. Axis V: GAF: 68. Recommendations: Claimant is considered to be a good risk for the surgical procedure, from a psychological perspective.

10-11-2011: Utilization Review by MD from. Rational of Decision: Claimant meets specific criteria to include significant clinical findings that are corroborated by imaging studies, the patient has exhausted conservative treatments, and the claimant has undergone a psychological assessment. The imaging studies revealed DDD at the L4-5 and displacement of the L5 nerve root by the central broad based protrusion and L4-5 stenosis. However, no documentation was submitted regarding the S1 involvement. Given the lack of corroborating evidence involving the S1 level, this request did not meet guideline recommendations.

10-19-2011: Utilization Review by MD from. Rational of Decision: The latest records show that the claimant as having improvement with his back pain. The records also indicate that besides physical therapy, the claimant has had an injection, medications, and activity modification as part of his conservative care. However, the clinical information did not provide objective documentation of the claimant's clinical and functional response. Also the radiologist's analyses of the imaging studies (x-rays) are not submitted for review.

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

The prior decisions are upheld. Per the Official Disability Guidelines (ODG) claimant does not meet the criteria for a two level lumbar fusion. Claimant no longer has back pain and there were no radiology reports submitted for the lumbar flexion/extension x-rays that would suggest instability.

### **PER ODG**

Not recommended for patients who have less than six months of failed recommended conservative care unless there is objectively demonstrated severe structural instability and/or acute or progressive neurologic dysfunction, but recommended as an option for spinal fracture, dislocation, spondylolisthesis or frank neurogenic compromise, subject to the selection criteria outlined in the section below entitled, "[Patient Selection Criteria for Lumbar Spinal Fusion](#)," after 6 months of conservative care. For workers' comp populations, see also the heading, "[Lumbar fusion in workers' comp patients](#)." After screening for psychosocial variables, outcomes are improved and fusion may be recommended for degenerative disc disease with spinal segment collapse with or without neurologic compromise after 6 months of compliance with recommended [conservative therapy](#). [For spinal instability criteria, see AMA Guides ([Andersson, 2000](#))] For complete references, see separate document with all studies focusing on [Fusion \(spinal\)](#). There is limited scientific evidence about the long-term effectiveness of fusion for degenerative disc disease compared with natural history, placebo, or conservative treatment. Studies conducted in order to compare different surgical techniques have shown success for fusion in carefully selected patients. ([Gibson-Cochrane, 2000](#)) ([Savolainen, 1998](#)) ([Wetzel, 2001](#)) ([Molinari, 2001](#)) ([Bigos, 1999](#)) ([Washington, 1995](#)) ([DeBarard-Spine, 2001](#)) ([Fritzell-Spine, 2001](#)) ([Fritzell-Spine, 2002](#)) ([Deyo-NEJM, 2004](#)) ([Gibson-Cochrane/Spine, 2005](#)) ([Soegaard, 2005](#)) ([Glassman, 2006](#)) ([Atlas, 2006](#)) According to the recently released AANS/NASS Guidelines, lumbar fusion is recommended as a treatment for carefully selected patients with disabling low back pain due to one- or two-level degenerative disc disease after failure of an appropriate period of conservative care. This recommendation was based on one study that contained numerous flaws, including a lack of standardization of conservative care in the control group. At the time of the 2-year follow up it appeared that pain had significantly increased in the surgical group from year 1 to 2. Follow-up post study is still pending publication. In addition, there remains no direction regarding how to define the "carefully selected patient." ([Resnick, 2005](#)) ([Fritzell, 2004](#)) A recently published well respected international guideline, the "European Guidelines," concluded that fusion surgery for nonspecific chronic LBP cannot be recommended unless 2 years of all other recommended conservative treatments – including multidisciplinary approaches with combined programs of cognitive intervention and exercises – have failed, or such combined programs are not available, and only then in carefully selected patients with maximum 2-level degenerative disc disease. ([Airaksinen, 2006](#)) For chronic LBP, exercise and cognitive intervention may be equivalent to lumbar fusion without the potentially high surgical complication rates. ([Ivar Brox-Spine, 2003](#)) ([Keller-Spine, 2004](#)) ([Fairbank-BMJ, 2005](#)) ([Brox, 2006](#)) In acute spinal cord injury (SCI), if the spine is unstable following injury, surgical fusion and bracing may be necessary. ([Bagnall-Cochrane, 2004](#)) ([Siebenga, 2006](#)) A study on improving quality through identifying inappropriate care found that use of guideline-based Utilization Review (UR) protocols resulted in a denial rate for lumbar fusion 59 times as high as denial rates using non-guideline based UR. ([Wickizer, 2004](#)) The profit motive and market medicine have had a significant impact on clinical practice and research in the field of spine surgery. ([Weiner-Spine, 2004](#)) ([Shah-Spine, 2005](#)) ([Abelson, 2006](#)) Data on geographic variations in medical procedure rates suggest that there is significant variability in spine fusion rates, which may be interpreted to suggest a poor professional consensus on the appropriate indications for performing spinal fusion. ([Deyo-Spine, 2005](#)) ([Weinstein, 2006](#)) Outcomes from complicated surgical fusion techniques (with internal fixation) may be no better than the traditional posterolateral fusion. ([van Tulder, 2006](#)) ([Maghout-Juratli, 2006](#)) Despite the new technologies, reoperation rates after lumbar fusion have become higher. ([Martin, 2007](#)) According to the recent Medicare Coverage Advisory Committee Technology Assessment, the evidence for lumbar spinal fusion does not conclusively demonstrate short-term or long-term benefits compared with nonsurgical

treatment for elderly patients. (CMS, 2006) When lumbar fusion surgery is performed, either with lateral fusion alone or with interbody fusion, unlike cervical fusion, there is no absolute contraindication to patients returning even to contact sports after complete recovery from surgery. Like patients with a thoracic injury, those with a lumbar injury should be pain free, have no disabling neurological deficit, and exhibit evidence of bone fusion on x-ray films before returning. (Burnett, 2006) 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) Discography may be supported if the decision has already been made to do a spinal fusion, and a negative discogram could rule out the need for fusion on that disc (but a positive discogram in itself would not justify fusion). Discography may help distinguish asymptomatic discs among morphologically abnormal discs in patients without psychosocial issues. Precise prospective categorization of discographic diagnoses may predict outcomes from treatment, surgical or otherwise. (Derby, 2005) (Derby2, 2005) (Derby, 1999) New research shows that healthcare expenditures for back and neck problems have increased substantially over time, but with little improvement in healthcare outcomes such as functional disability and work limitations. Rates of imaging, injections, opiate use, and spinal surgery have increased substantially over the past decade, but it is unclear what impact, if any, this has had on health outcomes. (Martin, 2008) The efficacy of surgery for nonspecific back pain is uncertain. There may be some patients for whom surgery, fusion specifically, might be helpful, but it is important for doctors to discuss the fact that surgery doesn't tend to lead to huge improvements on average, about a 10- to 20-point improvement in function on a 100-point scale, and a significant proportion of patients still need to take pain medication and don't return to full function. (Chou, 2008) This study showed that fusion for chronic lower back pain was the least successful common orthopaedic surgery. 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. For chronic lower back pain, improvements were statistically significant but clinically negligible. Although pain was reduced and function improved slightly, outcomes remained in the moderately affected range, quality of life was not improved and rendered worse, on average. While surgery for spinal stenosis and for disc herniation compare well with archetypical orthopaedic operations, the outcomes of surgery for chronic lower back pain do not even approach those of other orthopaedic procedures, and the data show that patients with back pain are rendered worse off by surgery. (Hansson, 2008) Recent studies document a 220% increase in lumbar spinal fusion surgery rates, without demonstrated improvements in patient outcomes or disability rates. (Deyo, 2009) In a study of 2,378 Washington State workers' compensation claimants who underwent fusion to assess the frequency, timing, and causes of death, the 3-year cumulative mortality rate post-fusion was 1.93% and analgesic-related deaths were responsible for 21% of all deaths and 31.4% of all potential life lost. (Juratli, 2009) A study to compare the surgical experience, clinical outcomes, and effect on body weight between obese and morbidly obese patients undergoing lumbar spine fusion surgery concluded that clinical outcomes were independent of the BMI of the patient, but the incidence of postoperative complications was significant in 45% of morbidly obese and 44% of obese patients. The authors proposed that morbidly obese patients should undergo bariatric surgery before spine surgery in nonemergent situations. (Vaidya, 2009) For nonradicular low back pain with common degenerative changes, there is fair evidence that fusion is no better than intensive rehabilitation with a cognitive-behavioral emphasis for improvement in pain or function, and less than half of patients experience optimal outcomes (defined as no more than sporadic pain, slight restriction of function, and occasional analgesics) following fusion. (Chou, 2009) Posterolateral bone-grafting fusion is not necessary when a Denis type-B thoracolumbar burst fracture associated with a load-sharing score of  $\leq 6$  is treated with short-segment pedicle screw fixation. (Dai, 2009) Discography (and not merely the fusion) may actually be the cause of adjacent segment disc degeneration. This study suggested that the phenomenon of accelerated adjacent segment degeneration adjacent to fusion levels may be, in part, explained by previous disc puncture if discography was used in segments adjacent to the fusion. (Carragee, 2009) Among Medicare recipients, the frequency of complex fusion procedures for spinal stenosis increased 15-fold in just 6 years. The introduction and marketing of new surgical devices and financial incentives may stimulate more invasive surgery. (Deyo-JAMA, 2010) Results of this study suggest that postmenopausal female patients who underwent lumbar spinal instrumentation fusion were susceptible to subsequent vertebral fractures within 2 years after surgery (in 24% of patients). (Toyone, 2010) A four-year follow-up of an RCT of instrumented transpedicular fusion versus cognitive intervention and exercises for disc degeneration with chronic low back pain concluded that this invasive and high-cost procedure does not afford better outcomes compared with the conservative

treatment approach to low back pain, and this study should give doctors pause when recommending lumbar fusion surgery without compelling indications, particularly when strong back rehabilitation programs are available. (Brox, 2010) The ECRI health technology assessment concluded that the evidence is insufficient to support lumbar fusion being more effective (to a clinically meaningful degree) than nonsurgical treatments (intensive exercise and rehabilitation plus cognitive behavioral therapy) in patients with and without prior surgery. (ECRI, 2007) Lumbar spinal fusion surgeries use bone grafts, and are sometimes combined with metal devices, to produce a rigid connection between two or more adjacent vertebrae. The therapeutic objective of spinal fusion surgery for patients with low back problems is to prevent any movement in the intervertebral spaces between the fused vertebrae, thereby reducing pain and any neurological deficits. See also [Adjacent segment disease/degeneration](#) (fusion) & [Iliac crest donor-site pain treatment](#).

*Lumbar fusion in workers' comp patients:* 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. Until further research is conducted there remains insufficient evidence to recommend fusion for chronic low back pain in the absence of stenosis and spondylolisthesis, and this treatment for this condition remains "under study." It appears that workers' compensation populations require particular scrutiny when being considered for fusion for chronic low back pain, as there is evidence of poorer outcomes in subgroups of patients who were receiving compensation or involved in litigation. (Fritzell-Spine, 2001) (Harris-JAMA, 2005) (Maghout-Juratli, 2006) (Atlas, 2006) Despite poorer outcomes in workers' compensation patients, utilization is much higher in this population than in group health. (Texas, 2001) (NCCI, 2006) Presurgical biopsychosocial variables predict patient outcomes from lumbar fusion, which may help improve patient selection. Workers' compensation status, smoking, depression, and litigation were the most consistent presurgical predictors of poorer patient outcomes. Other predictors of poor results were number of prior low back operations, low household income, and older age. (DeBerard-Spine, 2001) (DeBerard, 2003) (Deyo, 2005) (LaCaille, 2005) (Trief-Spine, 2006) Obesity and litigation in workers' compensation cases predict high costs associated with interbody cage lumbar fusion. (LaCaille, 2007) A recent study of 725 workers' comp patients in Ohio who had lumbar fusion found only 6% were able to go back to work a year later, 27% needed another operation, and over 90% were in enough pain that they were still taking narcotics at follow-up. (Nguyen, 2007) A recent case-control study of lumbar fusion outcomes in worker's compensation (WC) patients concluded that only 9% of patients receiving WC achieved substantial clinical benefit compared to 33% of those not receiving WC. (Carreon, 2009) This large historical cohort study suggests that lumbar fusion may not be an effective operation in workers' compensation patients with disc degeneration, disc herniation, and/or radiculopathy, and it is associated with significant increase in disability, opiate use, prolonged work loss, and poor RTW status. (Nguyen, 2011) After controlling for covariates known to affect lumbar fusion outcomes, patients on workers' comp have significantly less improvement. (Carreon, 2010) The presidents of AAOS, NASS, AANS, CNS, and SAS issued a joint statement to BlueCross BlueShield recommending patient selection criteria for lumbar fusion in degenerative disc disease. The criteria included at least one year of physical and cognitive therapy, inflammatory endplate changes (i.e., Modic changes), moderate to severe disc space collapse, absence of significant psychological comorbidities (e.g. depression, somatization disorder), and absence of litigation or compensation issues. The criteria of denying fusion if there are compensation issues may apply to workers' compensation patients. (Rutka, 2011) On the other hand, a separate policy statement from the International Society for the Advancement of Spine Surgery disagrees that worker's compensation should be a contraindication for lumbar fusion. (ISASS, 2011)

*Lumbar fusion for spondylolisthesis:* Recommended as an option for spondylolisthesis. Patients with increased instability of the spine after surgical decompression at the level of degenerative spondylolisthesis are candidates for fusion. (Eckman, 2005) This study found only a 27% success from spinal fusion in patients with low back pain and a positive single-level low-pressure provocative discogram, versus a 72% success in patients having a well-accepted single-level lumbar pathology of unstable spondylolisthesis. (Carragee, 2006) Unilateral instrumentation used for the treatment of degenerative lumbar spondylolisthesis is as effective as bilateral instrumentation. (Fernandez-Fairen, 2007) Patients with degenerative spondylolisthesis and spinal stenosis who undergo standard decompressive laminectomy (with or without fusion) showed substantially greater improvement in pain and function during a period of 2 years than patients treated nonsurgically, according to the recent results from the Spine Patient Outcomes Research Trial (SPORT). (Weinstein-spondylolisthesis, 2007) (Deyo-NEJM, 2007) For degenerative lumbar spondylolisthesis, spinal fusion may lead to a better clinical outcome than decompression alone. No conclusion about the clinical benefit of instrumenting a spinal fusion can be made, but there is moderate

evidence that the use of instrumentation improves the chance of achieving solid fusion. ([Martin, 2007](#)) A recent systematic review of randomized trials comparing lumbar fusion surgery to nonsurgical treatment of chronic back pain associated with lumbar disc degeneration, concluded that surgery may be more efficacious than unstructured nonsurgical care but may not be more efficacious than structured cognitive-behavior therapy. Methodological limitations of the randomized trials prevented firm conclusions. ([Mirza, 2007](#)) 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](#)) The latest SPORT study concluded that leg pain is associated with better surgical fusion outcomes in spondylolisthesis than low back pain. ([Pearson, 2011](#))

***Lumbar fusion for Scheuermann's kyphosis:*** Recommended as an option for adult patients with severe deformities (e.g. more than 70 degrees for thoracic kyphosis), neurological symptoms exist, and pain cannot be adequately resolved non-operatively (e.g. physical therapy, back exercises). Good outcomes have been found in a relatively large series of patients undergoing either combined anterior-posterior or posterior only fusion for Scheuermann's kyphosis. ([Lonner, 2007](#))

#### **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; & (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).

**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)**