



CLAIMS EVAL

*Utilization Review and
Peer Review Services*

Notice of Independent Review Decision-WC

CLAIMS EVAL REVIEWER REPORT - WC

DATE OF REVIEW: 5-22-12

IRO CASE #:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE

Arthrodesis, posterior or posterolateral technique, single level; lumbar (with or without lateral traverse technique).

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

American Board of Orthopaedic Surgery-Board Certified

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

- 9-27-10 MRI of the lumbar spine performed by
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- 9-27-10 MRI of the thoracic spine performed by
- 11-6-10, office visit.
- 2-21-11, Impairment Rating.
- 7-5-11 office visit.
- 9-15-11 office visit.
- 10-26-11 Medical Review.
- Psychotherapy on 11-8-11.
- 1-3-12 Unknown Provider, office visit.
- 2-23-12 office visit.
- 3-15-12 office visit.
- 4-2-12 Medical Review.
- 4-24-12 Medical Review.

PATIENT CLINICAL HISTORY (SUMMARY):

9-27-10 MRI of the lumbar spine performed by showed broad-based disc herniation at L5-S1.

9-27-10 MRI of the thoracic spine performed by showed central disc protrusion at T5-T6 measuring approximately 2 mm.

11-6-10 the claimant was kindly referred to. He works as a floor hand with. He reports that he was injured on the job on xxxxx. He was performing repetitive reaching and lifting activities when he twisted and felt a sharp pain in his low back. Since that time, he has had mid lumbar pain felt to the left paraspinals and in the midline itself. He has no pain traveling down either lower extremity, but reports that he has experienced numbness and tingling in the thigh, buttock, and sole of the foot. He has no weakness in the lower extremities. Bladder and bowel functions are within normal limits. The

claimant indicated that the majority of his pain was in the mid lumbar area and in the left paraspinal areas. He reports exacerbation of his symptoms with bending backwards into flexion, with lifting, twisting, and turning and in general with heavy activities. There is no exacerbation at this time with a Valsalva maneuver, such as coughing, sneezing or straining. MRI studies of the lumbar spine and thoracic spine have both been done. MRI study of the 11-6-10, done at was reported by was reported as showing evidence of a broad-based disc herniation at the L5-S1 level measuring 4-5 mm. An MRI study of the thoracic spine done on September 27, 2010, at and reported by showed evidence of a 2-mm central disc protrusion at T5-T6. Physical Examination: He stood erect and walked with a normal gait. He was able to heel walk and toe walk without difficulty. He indicated pain in the midline and to the left paraspinals in the mid lumbar area. There was tenderness on palpation in the left paraspinals and in the midline but not on the right side. He could flex and extend within normal range without reproducing pain in the buttocks or legs. The straight leg raising test was negative. The evaluator did not see evidence of nerve root tension signs. The femoral nerve stretch test was also negative. Radiographs of the spine were done today. These were AP and lateral views, right and left oblique views, flexion-extension studies, and a coned lumbosacral view. The study showed five non-rib-bearing lumbar vertebrae. Lumbar lordosis was maintained. Disc space height was preserved. There was no evidence of fracture. No spondylolysis or spondylolisthesis was seen. Between flexion and extension, no abnormal translation or rotation was evident. Assessment: Low back muscular sprain, finding of central disc protrusion, T5-T6 and L5-S1. Plan: The claimant's symptoms are referable primarily to a low back muscular sprain. He should do well with physical therapy and medication management as well as activity modification. The evaluator has recommended physical therapy over the course of next three weeks with an emphasis on core truncal strengthening. Medication management should be done with a combination of an anti-inflammatory, a muscle relaxant, and a pain medication. As far as the finding of the disc protrusion is concerned, they do not appear to be of clinical relevance based upon the history and physical examination findings. The evaluator expects the claimant should do well with these measures. The evaluator will institute physical therapy at once and see claimant again in the office after he has done first two weeks of therapy. He is to remain off work at this time.

2-21-11 performed a Designated Doctor Evaluation. He certified the claimant had not reached MMI and estimated 6-24-11 as the date of MMI. The claimant has not reached a stable clinical condition due to pain in the low back and left thigh atrophy of 1.905 centimeters likely. Based on the medical records received and the objective findings of this examination; the evaluator is of the opinion the claimant's medical condition resulting from this injury prevented him from returning to work from 8-19-10 through 2-21-11.

7-5-11 the claimant presents for a Psychological Evaluation. Diagnosis: Axis I: Rule out adjustment disorder with anxiety. Axis II: (No diagnosis). Axis III: Chronic spine pain. Axis IV: Psychosocial stressors: xxxx, xxxxx xx xxxxx. A Axis V: GAF=65. Plan: It is recommended that then claimant be seen for a course of individual psychotherapy.

9-15-11 the evaluator noted that he had last seen claimant in 11-10. The claimant experienced low back pain after work injury and is known to have a broad-based disc

herniation at the L5-S1 level. The claimant had recommended treatment with physical therapy. He has had the physical therapy as well as pain management, but this has not given him any improvement in the symptoms. He presents today with waist level low back pain without radiation down either lower extremity. His pain is entirely mid axial. He denies pain traveling down either lower extremity in true radicular fashion and also denies no peripheral numbness, tingling, pins and needles, burning or other forms of paresthesias. He has no weakness in the lower extremities. His back pain is centrally located and is exacerbated by mechanical type activities, such as bending, lifting, twisting, and turning. In particular, he has considerable pain when he sits for a long time or stands for long time. When he sits down, he constantly has to shift and change positions. He has more pain with flexion than he does with extension. His pain is uncontrolled despite completing physical therapy and despite appropriate medication management. The MRI study of 11-6-10, done at and reported by showed a broad-based central disc herniation at the L5-S1 level measuring 4-5 mm. The claimant reports that his life has come to a virtual standstill. He is unable to go back to work on the oil rigs and is unable to enjoy recreational activities. The evaluator's examination showed a healthy appearing male claimant who stood erect and walked with a normal gait. He was able to heel walk and toe walk. Any attempt at bending forward into flexion resulted in increase in his pain. There was marked tenderness in the lower lumbar spine at the lumbosacral junction. The straight leg raising test was negative. Neurologic testing showed full power in all lower extremity myotomes tested including L2, L3, L4, L5, and S1. Dermatome sensory testing was within normal limits in all lower extremity dermatomes tested including L2, L3, L4, L5, and S1. Deep tendon reflexes were within normal limits. All individual myotomes and all individual dermatomes were examined. The claimant has a central disc herniation at the L5-S1 level with primarily mid axial low back pain. The most appropriate method of management would be through a localized fusion at the L5-S1 level, which would include an interbody technique to relieve him of his discogenic pain. The evaluator has discussed all that is involved in doing this including the risks and benefits of surgery and the reasonable have expectations of surgery. The evaluator will arrange for this to be done at the earliest opportunity with clinical review to follow.

10-26-11 performed a Medical Review. It was his opinion that the requested posterior Lumbar Fusion with pedicle screws and rods. ICBG. Anterior Lumbar Fusion, CCALIF, AOI Screws. Stage I: ALIF L5-S1 Stage II: Facet Fuse L5-S1 to include 22612, 22842, 20937, 63090, 63091, 22558, 22851, 22845 is not medically necessary and/or appropriate. The claimant is a man with a date of injury 8-19-10 that occurred while lifting. He has current back pain at 7-10. On psychological evaluation, he is noted to have mild anxiety. As well he is noted to have poor impulse control, significant anger, and possible psychosomatic symptoms under periods of stress. Given the provided documentation, there is no medical information provided other than the psychological evaluation. There is a Psych evaluation there but it is recommending individual psych therapy and unclear that this has been done. As such, the requested procedure is not medically necessary at this time.

Psychotherapy on 11-8-11.

1-3-12 Unknown Provider, lower and middle back. The claimant states the Nucynta

makes him irritable. He will resume Lorcet (bleeding was hemorrhoidal). The claimant is doing well with his current medications. Assessment-Plan: Missing Pages.

2-23-12 the claimant presents for a Psychiatric Evaluation. The evaluator did not find any evidence of long-term personality pathology or of any chronic pre-existing mental disorder. The evaluator also found no current syndrome of mental distress or impairment of function and can't be sure about the transitory manifestations of anxiety and anger alluded to in the records, but the evaluator can speculate that the situational elements that prevailed at the time regarding the employer, the loss of health insurance, the uncertainty, of finding the right doctor etc. could have generated a transient adjustment disorder that resolved as expected over a period of weeks. He spoke as if that experience never even occurred which suggests that he probably functions characteristically by denying problems, which is an ideal mode of healthy mental functioning. The evaluator has a slightly uneasy feeling, though, that the claimant's close relationship with an attorney might introduce a litigious element at some point. Claimant did not give the impression that he was more deeply disturbed than he appeared, or that he was concealing any substance abuse or similar behavioral pathology. Based on the records and the interview, the evaluator found no reason to think that claimant will have any unusual difficulty enduring the procedure, the recuperative interval, and the return to whatever level of work exertions that he can sustain. His shoulder problem, which may involve something like a rotator cuff injury and shoulder impingement, has taken a lower priority for the time being, but it will probably require some kind of definitive treatment before he is restored to working status.

3-15-12 the claimant came for follow-up. The evaluator saw him in 10-11 and recommended surgical treatment in the form of a fusion at the L5-S1 level. His insurance carrier has asked that he obtain a psychological evaluation and this was duly performed on 2-27-12. The study was reported by psychiatrist. performed a full psychiatric evaluation. He reported no psychopathology and provided the opinion that the claimant should not have any unusual difficulty enduring the procedure, the recuperative interval or the return to the level of work exertions he could sustain. With this in mind, then it is appropriate to move forward with resubmitting the request for surgical treatment for the claimant as his clinical picture remains the same.

4-2-12 performed a Medical Review. The evaluator recommends an adverse determination. He noted that 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. In this patient's case, there is documentation that the patient does smoke. There is no indication that he has stopped smoking. Also, there is no positive physical findings that correlate with the level that is being requested. Regarding the 3 day length of stay, according to the Official Disability Guidelines regarding lumbar fusion, the median is a 3 day stay. Therefore, had the surgery been approved, the length of stay would have been appropriate. Regarding the orthosis and bone growth stimulator, as the surgery is not medically necessary, the post-operative orthosis and osteogenesis stimulator are also not medically necessary.

4-24-12 performed a Medical Review. He made two phone calls to the doctor. On 04/23/12, he called at 4:30 p.m. CT and spoke with xxxxx. He spoke with on 04/24/12

at 11:12 p.m. CT. The doctor said that the osteogenic stimulator is a mistake although he would like the postoperative orthosis.

The patient is a male with a date of injury of xx/xx/xx that involved performing repetitive reaching and lifting activities as well as twisting and felt a sharp pain in his low back. The patient underwent an MRI of the lumbar spine on 09/27/10 which showed a broad-based disc herniation at L5-S1 and an MRI of the thoracic spine on 09/27/10 which showed a central disc protrusion at C5-6. The patient has been to physical therapy and has taken anti-inflammatories, muscle relaxants, and pain medication. The patient underwent psychological evaluation on 02/27/12 at which time it was noted the patient should not have any unusual difficulty enduring the surgical procedure, the recuperative interval or return to the level of work exertions he could sustain. It was felt that it is appropriate to move forward with submitting the request for surgical treatment. There is indication that the patient is a smoker of at least one pack of cigarettes per day. The request is for L5-S1 posterior fusion with pedicle screws and a 3-day inpatient stay and purchase of an orthosis and osteogenic stimulator. Recommendation is for an adverse determination. A non-certification disclaimer was provided.

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

REVIEW OF THE MEDICAL RECORDS REVEAL A CLAIMANT WITH LOW BACK PAIN AND SOME LEG PAIN WITHOUT OBJECTIVE SIGNS OF RADICULOPATHY. THERE IS NO DOCUMENTATION OF AN INSTABILITY. PSYCHOLOGICAL EVALUATION REVEALS INITIAL CONCERNS WHICH WOULD HAVE A NEGATIVE IMPACT ON ANY SURGICAL OUTCOME. RECENT EVALUATION BY A PSYCHIATRIC INTERVIEW EXPRESSED AN OPPOSITE OPINION THAN THE PRIOR EVALUATION. BASED ON THE RECORDS PROVIDED, THE REQUEST FOR ARTHRODESIS, POSTERIOR OR POSTEROLATERAL TECHNIQUE, SINGLE LEVEL; LUMBAR (WITH OR WITHOUT LATERAL TRAVERSE TECHNIQUE) IS NOT MEDICALLY NECESSARY DUE TO A LACK OF STRONG OBJECTIVE MEDICAL INDICATIONS.

ODG-TWC, last update 2-20-12 Occupational Disorders of the Low Back –

Spinal Fusion: 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 ≤ 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) There is a

high rate of complications (56.4%) in spinal fusion procedures, especially related to instrumentation. (Campbell, 2011) 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) Comparative effectiveness evidence from SPORT shows good value for laminectomy and/or bilateral single-level fusion after an imaging-confirmed diagnosis of degenerative spondylolisthesis [as recommended in ODG], compared with nonoperative care over 4 years. (Tosteson, 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 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).

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)**