



**CLAIMS EVAL**

*Utilization Review and  
Peer Review Services*

Notice of Independent Review Decision-WC

**DATE OF REVIEW: 7-14-09**

**IRO CASE #:**

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

Lumbar laminectomy L2-L3, L3-L4 for removal of foraminal ruptured disc, left L2-L3 and L3-L4 with lumbar fusion L2-L3 and L3-L4.

**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**

- 10-14-07 CT scan post myelogram of the lumbar spine.
- Records from MD., office visit.
- Records from MD.
- 11-19-07 left lumbar sympathetic block at L2 and L4.
- 11-26-07 through 12-3-07 Hospital admission.
- 1-3-08 left lumbar sympathetic block at L2 and L4 and a left SI injection.
- 9-4-08 MRI of the lumbar spine.
- 10-17-08 Surgery performed by Dr.
- 12-18-08 left L3 nerve root block with transforaminal epidural steroid injection.
- 12-23-08 left L4 nerve root block with transforaminal epidural steroid injection.
- 1-15-09 left L3 nerve root block with transforaminal epidural steroid injection.
- Records from MD.
- 3-24-09 Psychological Evaluation performed by PhD.
- 5-28-09 MD., performed a Utilization Review.
- 6-6-09 flexion/extension x-rays of the lumbar spine.
- 6-12-09 MD., performed a Utilization Review.

### **PATIENT CLINICAL HISTORY [SUMMARY]:**

CT scan post myelogram of the lumbar spine dated 10-14-07 shows two potential foci of left sided L3 nerve root compromise. There is an inferiorly directed L2-L3 disc extrusion into the proximal left L3 lateral recess. There is a separate L3-L4 foraminal and far lateral disc protrusion, which appears to be compromising the distal foraminal portion of

the left L3 nerve root. A smaller and potentially insignificant left L4-L5 foraminal and far lateral protrusion should be correlated with a specific L4 radiculopathy.

On 11-7-07, the claimant was evaluated by MD., the claimant had an on-the-job Injury xx/xx/xx and had pain around her left sacroiliac joint. Sometime around August 9th, she had manual therapy for this and developed acute radicular type pain in her left thigh. Imaging studies show disc protrusions at L2-L3 and L3-L4 and she had decompressive surgery on 8-17-07. Unfortunately, she has persistent turning hypersensitive pain in her left thigh, and he agreed with Dr. that there is concern for complex regional pain syndrome type II causing her symptoms. The evaluator recommended the claimant have a left lumbar sympathetic block as quickly as possible. If she does have a sympathetically mediated pain, he would recommend treating this aggressively early on. In the meantime. The claimant was given a prescription for Lyrica 75 mg twice a day for pain, Cymbalta 30 mg once a day and Hydromorphone as needed for pain..

On 11-12-07, Dr. notes the claimant is not better following the surgery she had a couple of weeks ago. The evaluator noted he removed the L2-L3 ruptured disc and explored the left lateral L3-L4 area along with a discectomy of a spondylitic herniated disc on that left lateral sided L3-L4. The claimant reports the claimant has had no improvement. She is having a lot of supersensitivity especially along the inner aspect of the left knee and a lot of numbness in the lateral aspect of the left knee. The claimant was placed on Dilaudid and was referred to Dr. for a left sympathetic block.

On 11-19-07, the claimant underwent a left lumbar sympathetic block at L2 and L4.

Medical records note the claimant was admitted at Hospital from 11-26-07 through 12-3-07. Discharge diagnosis: severe left pelvic and leg pain, etiology uncertain, possible sacroiliac joint dysfunction. On 11-28-07 and 11-29-07, the claimant underwent a sacroiliac joint injection. A lumbar discogram and post CT scan dated 11-28-07 shows successful multilevel discogram with no reproducible discogenic pain at any level. MRI of the lumbar spine shows post laminectomy changes at L3-L4. An approximately 1.5 cm fluid pocket that may represent an abscess.

On 12-17-07, Dr. reported the claimant is doing better from her leg standpoint. She still has pain in the left posterior pelvic area, which very likely is an SI joint pain. She is only on Norco 10 mg, and hopefully over this next month, she will be able to cut down some on that.

On 1-3-08, the claimant was provided with a left lumbar sympathetic block at L2 and L4 and a left SI injection.

On 2-27-08, Dr. notes the claimant is quite miserable with a lot of pain to the left posterior pelvic area. She also has quite a bit of pain and numbness down into her left leg. The claimant takes two Norco along with Soma in the morning and again at nighttime before she goes to bed. The claimant was given Cataflam and a prescription for Xanax. The claimant was told that workers compensation would probably not

approve the Xanax, but he felt it was indicated due to her anxiety related to her son's problems. The evaluator did not feel the claimant can work at this point. S he is not at MMI.

On 5-28-08, the claimant was evaluated by Dr. The claimant continued with have pain, which apparently was to the sacroiliac joint on the left side. The claimant has had some sympathetic blocks and sacroiliac joint injections, all with transient relief. The claimant feels that her left DI joint clicks and pops. The claimant's medications include Norco, Soma, and Xanax. The evaluator felt the claimant was not at MMI. He felt the claimant needed more physical therapy for the sacroiliac joint. The claimant was going to be tried on Lidoderm patches.

On 7-31-08, Dr. reports the claimant was seen by a Designated Doctor who awarded the claimant a 10% impairment rating, which he disagreed. The evaluator noted the claimant is miserable without her medications. The claimant needed a repeat lumbar MRI.

MRI of the lumbar spine dated 9-4-08 shows significant compression of the left lateral recess and left neural foramen at L2-L3 due to a broad base, left side disc protrusion. There is no other evidence of disc herniation or any other significant compression of the spinal canal or neural foraminal throughout the lumbar region.

On 10-17-08, the claimant underwent posterior left L2-L3 lumbar laminectomy with medial facetectomy and foraminotomy with exploration and excision of herniated disc at L2-L3, with left L3-L4 far lateral exploration with excision of far lateral spondylitic herniated lumbar disc, L3-L4.

On 10-23-08, Dr. reports the claimant is seen for further evaluation. The claimant continues to have a lot of left sided posterior pelvic pain and a burning pain down into the left anterior and somewhat lateral left thigh. Her date of injury was xx/xx/xx and prior to her surgery of 10/14/2007, the claimant had a ruptured disc on the left side at the L2-L3 level that had migrated inferiorly little bit, almost certainly causing compression of the left L3 nerve root, and he knew that she had far left lateral L3-L4 foraminal and extra-foraminal herniated disc, all based upon myelographic studies. The evaluator also noted he knew that size had an L4-L5 foraminal and extra foraminal herniated disc based on the same studies, but at that time, the L4-L5 level was left unoperated upon. The evaluator noted he performed a laminectomy on the left side at the L2-L3 level and removed the herniated L2 disc fragment that had migrated inferiorly and also with into the left lateral extra-foraminal area at L3-L4 and partially excised a spondylitic or herniated disc at far left lateral foraminal and extra-foraminal level. Any one that does surgery, however, will know that sometimes this type of a disc is very difficult to excise adequately from this type of approach. The claimant has gone through physical therapy for both routine physical therapy and sacroiliac join therapy. She has been on both Neurontin and Lyrica separately in the past all without any benefit. She continues to be miserable and for that reason, the evaluator felt that he needed to study her further and get spine additional information on the "pain generator" in regards to her specific pain.

The reason that the evaluator had initially requested an L2 nerve root block was based upon a MRI scan study done on 9-4-08 that failed to show a foraminal herniated disc at L2-L3. The evaluator remained very concerned at this point about the foraminal-ruptured disc at both L3-L4 and L4-L5. Certainly, especially the L3-L4 level can cause a lot of the particular pain that the claimant continues to have. The evaluator recommended both the L3 nerve to lateral to the L3-L4 disc segment and the evaluator recommended also evaluate the L4 nerve root lateral to the L4-L5 disc segment, both with separate injections staged at least a week apart.

On 12-18-08, the claimant underwent left L3 nerve root block with transforaminal epidural steroid injection.

On 12-23-08, the claimant underwent a left L4 nerve root block with transforaminal epidural steroid injection.

Follow-up with Dr. on 1-6-09 notes the claimant had a very dramatic response to the isolated left-sided L3 nerve root block carried out several weeks ago in December. She did not have any significant pain relief with the left L4 nerve root block that was done about a week later. The evaluator felt that all of this is strongly leading him to the opinion that she will need a L3-L4 lumbar fusion, so that he could resect the joint on the left side and take out some more of the foraminal spondylotic herniated disc. However, prior to doing that the evaluator requested a repeat single-level left-sided L3 nerve root block to be done again. On examination today, she again is somewhat limited in forward flexion and extension to about one-half of normal. The straight leg raising test on the right is negative, but on the left at about 60 degrees she has quite a bit of pain in the back and down into the left hip and lateral and anterior thigh area. She has a positive femoral straight leg-raising test on the left with pain in the similar area. She has decreased left knee jerk, but a normal right knee jerk ant normal ankle reflexes. Her strength is good, but proximal strength is somewhat limited to evaluate because of pain. A repeat L3 nerve root block is not being requested in order to treat this pain. This is being done in order to help him properly determine the proper level of the patient's spine abnormality (which he strongly feels is that the L3-L4 level).

On 1-15-09, the claimant underwent a left L3 nerve root block with transforaminal epidural steroid injection.

Follow up with Dr. dated 1-19-09 notes the claimant had a left L3 repeat nerve block, which apparently hit "the nerve" and the pain is identical to what she had been dealing with. After the injection, the claimant was better the next day. The evaluator felt that a fusion would be necessary because he would need to resect the facet joint and the left side at L3-L4 in order to get the nerve adequately decompressed. She probably has a foraminal herniated disc that will require this type of procedure in order to get the nerve adequately decompressed, and that would require a fusion.

Follow-up with Dr. dated 1-22-09 notes the claimant had another selective left sided L3 nerve root injection. The particular injection was very painful to the claimant

reproducing her pain. The injection did provide her some relief. The evaluator noted that this clearly demonstrates the L3-L4 disc, with a foraminal rupture disc, is the culprit. This is going to require a repeat laminectomy with facet removal and for proper resection of the foraminal rupture disc, and nerve decompression and that will need to be coupled with a single level L3-L4 lumbar fusion. The evaluator would like to refer the claimant to Dr. for consideration of that fusion. On exam, the claimant can flex her back quite well on examination, to about 70 degrees, but she is very slow in standing back up and she really cannot extend her back at all because of left-sided back and pelvic pain. In the supine position, her straight leg-raising test is fairly unremarkable but she does have a markedly positive Ice-sided femoral stretch test, compatible with an L3-L4 problem. Her left knee jerk is present, but significantly decreased as compared to that on the right. Her ankle reflexes are normal. The strength testing does seem to reveal mild weakness in the proximal muscles of the left leg with the hip flexors. She continues to have decreased sensation to pinprick in the left anterior thigh, all totally compatible with L3 radiculopathy.

On 2-5-09, the claimant was evaluated by MD., it was his considered opinion that this lady needs to have her nerve root decompressed through this area and stabilize with fusion and internal fixation. The evaluator felt the claimant would get an excellent result from this.

A Psychological Evaluation performed by PhD., dated 3-24-09 notes the claimant's history and clinical interview data is most consistent with a diagnosis of pain disorder with psychological and medical factors. The claimant has some mild depressive and anxiety symptoms, but her symptoms do not appear to be severe enough to preclude her candidacy for elective surgery.

Office evaluation by MD., dated 5-6-09 notes the claimant has back pain and left leg radicular pain. This pain goes into the left anterior thigh compatible with an L2-L3 and L3-L4 disc level. Therefore, she does in fact have lumbar radiculopathy, which is important for worker's comp. She has had psychological testing, which is cleared for lumbar fusion, which is required by workers comp. She has symptomatology that is compatible with an L2-L3 and L3-L4 disc problem. She has a lot of left-sided lower back pain and pelvic pain with pain that continues into the left anterior thigh. On her examination, she has restricted range of motion of her back in forward flexion and especially lumbar extension. She has a positive left-sided straight leg raising rest and a positive femoral stretch test on the left. She has a significant reduction in her left knee jerk, which is required to be compatible with a lumbar radiculopathy. She has hypersensitivity in the left anterior thigh on her examination, which is compatible with a lumbar radiculopathy. She has continued to hurt since October of 2007 and has failed physical therapy, the use of neuropathic agents including Neurontin and Lyrica, and she has gone through physical therapy without any relief. The evaluator noted he had absolutely no idea why worker comp will deny this patient at this point, but I am sure that they will. They will come up with some particular reason that she does not comply with workers comp guidelines even though she has x-ray study that revealed foraminal rupture disc at L2-L3 and L3-L4. she has symptomatology compatible with both, she

has find a psychological clearance, she has an examination compatible with lumbar radiculopathy and has absolutely nothing else that can be done for her other than lumbar fusion of L2-L3 and L3-L4.

On 5-28-09, MD., performed a Utilization Review. He noted that attempts for peer-to-peer contact were not successful with regard to this request. Medical necessity is not established for the proposed 2-level lumbar decompression and fusion. The patient is status post lumbar surgery at L2-3 and L3-4 on 10/17/07. Lumbar MRI from 09/08 showed L2-3 significant compromise of the left lateral recess and left neural foramen due to a broad based left lateral disc herniation, with no evidence of disc herniation or any other significant compromise throughout the lumbar region. Discogram was negative for discogenic pain. There is no evidence of instability of the lumbar spine at any level. The clinical data presented does not support a determination of medical necessity for a requested surgical intervention. The request for the 2 level lumbar decompression and fusion is not medically necessary. Addendum: the reviewer spoke with Dr. on 6-1-09 at 2:10pm CST. Dr. indicated that he does not have good flexion/extension views and will get more. Dr. indicated that he would re-submit the request. Decision unchanged.

On 6-1-09, Dr. noted that he spoke with Dr. today in regards to the request for the claimant's surgery. One concern is that he has a request only for a lumbar laminectomy and fusion of L3-L4, but he knows (in regards to Dr. 's note) that he would also like to include the L2-L3 level. Dr. explained to Dr. somewhere that is just a mistake and we can resubmit our request for a laminectomy and fusion of both L2-L3 and L3-L4. Also, we will obtain some repeat lumbar spine flexion and extension views to see if there is any instability. He also asked about a psychiatric review and he explained that we do in fact have a psyche review already and we will send a report of that to their office.

Flexion/extension x-rays of the lumbar spine dated 6-6-09 was unremarkable.

On 6-12-09, MD., performed a Utilization Review. It was her opinion that the requested lumbar laminectomy, L2-3 and L3-4 for removal of foraminal ruptured disc, left L2-3, L3-4 with lumbar fusion L2-3, L3-4 is not supported by the submitted clinical information. The records received only include lumbar flexion and extension radiographs and a psychological evaluation. The record does not contain any other additional clinical including the previous operative report, imaging studies, electrodiagnostic studies, or procedure notes. In the absence of the clinical information, a determination of medical necessity cannot be made. A telephonic conversation was held between Dr. and I on 08/10/2009 at 10:40AM CST, Dr. indicated he would fax additional clinical information. However, at the time of submission no additional clinical was received, therefore the request is denied.

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

Most patients with a "far lateral disc" very seldom need a fusion. Either the disc can be removed from a medical approach (laminectomy/laminotomy, mesial facetectomy and disc herniation removal) or via a MIS approach coming from lateral to medial. Based on the claimant's presentation, I find it difficult to justify the fusion at these levels. There is no evidence of instability on flexion extension films. Therefore, certification is provided for lumbar laminectomy L2-L3, L3-L4 for removal of foraminal ruptured disc, left L2-L3 and L3-L4. However, non-certification is provided for lumbar fusion L2-L3 and L3-L4.

**ODG-TWC, last update 6-25-09 Occupational Disorders of the Lumbar Spine –**

**Lumbar 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  $\leq 6$  is treated with short-segment pedicle screw fixation. ([Dai, 2009](#)) 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)

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)

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 disectomy. [For

excessive motion criteria, see AMA Guides, 5th Edition, page 384 (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. [For spinal instability criteria, see AMA Guides, 5th Edition, page 379 (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)

**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)