

MEDICAL CONTESTED CASE HEARING NO. 14018

**DECISION AND ORDER**

This case is decided pursuant to Chapter 410 of the Texas Workers' Compensation Act and Rules of the Division of Workers' Compensation adopted thereunder.

**ISSUE**

A contested case hearing was held on June 18, 2013, to decide the following disputed issue:

1. Is the preponderance of the evidence contrary to the decision of the IRO that the Claimant is not entitled to Anterior Discectomy Interbody Fusion, Posterior Decompression at L5/S1 with 3 days Inpatient Hospital Stay for the compensable injury of (Date of Injury)?

**PARTIES PRESENT**

Petitioner/Provider appeared and was represented by KB, M.D., attorney.

Claimant appeared and was represented by TD, attorney.

Respondent/Carrier appeared and was represented by DP, attorney.

**BACKGROUND INFORMATION**

The evidence presented in the hearing revealed that claimant sustained a compensable injury on (Date of Injury), when a motorcycle he was riding collided with another vehicle that turned in front of him. Claimant sustained injuries to his neck, shoulder, and low back. Claimant underwent a lumbar laminectomy and foraminotomy at L5-S1 on November 16, 2011. It is also noted that Claimant underwent a right total hip replacement in February, 2009, an anterior cervical discectomy and fusion at C5-6 and C6-7 in August, 2010. According to Dr. KB, a lumbar MRI on March 5, 2012, showed complete collapse and disc herniation at L5-S1 with disc herniation and bilateral foraminal stenosis. In addition, it was reported that on examination there was diminished sensation along the left L5 distribution and Claimant was recommended by Dr. B to undergo anterior interbody discectomy and interbody fusion.

Texas Labor Code Section 408.021 provides that an employee who sustains a compensable injury is entitled to all health care reasonably required by the nature of the injury as and when needed. Health care reasonably required is further defined in Texas Labor Code Section 401.011 (22a) as health care that is clinically appropriate and considered effective for the injured employee's injury and provided in accordance with best practices consistent with evidence based medicine or, if evidence based medicine is not available, then generally accepted standards of

medical practice recognized in the medical community. Health care under the Texas Workers' Compensation system must be consistent with evidence based medicine if that evidence is available. Evidence based medicine is further defined in Texas Labor Code Section 401.011 (18a) to be the use of the current best quality scientific and medical evidence formulated from credible scientific studies, including peer-reviewed medical literature and other current scientifically based texts and treatment and practice guidelines. The Commissioner of the Division of Workers' Compensation is required to adopt treatment guidelines that are evidence-based, scientifically valid, outcome-focused, and designed to reduce excessive or inappropriate medical care while safeguarding necessary medical care. Texas Labor Code Section 413.011(e). Medical services consistent with the medical policies and fee guidelines adopted by the commissioner are presumed reasonable in accordance with Texas Labor Code Section 413.017(1).

In accordance with the above statutory guidance, the Division of Workers' Compensation has adopted treatment guidelines by Division Rule 137.100. This rule directs health care providers to provide treatment in accordance with the current edition of the Official Disability Guidelines (ODG), and such treatment is presumed to be health care reasonably required as defined in the Texas Labor Code. Thus, the focus of any health care dispute starts with the health care set out in the ODG. Also, in accordance with Division Rule 133.308(s), "A decision issued by an IRO is not considered an agency decision and neither the Department nor the Division are considered parties to an appeal. In a Contested Case Hearing (CCH), the party appealing the IRO decision has the burden of overcoming the decision issued by an IRO by a preponderance of evidence-based medical evidence."

The ODG provides in pertinent part the following:

### **Discectomy/laminectomy**

Recommended for indications below. Surgical discectomy for carefully selected patients with radiculopathy due to lumbar disc prolapse provides faster relief from the acute attack than conservative management, although any positive or negative effects on the lifetime natural history of the underlying disc disease are still unclear. Unequivocal objective findings are required based on neurological examination and testing. (Gibson-Cochrane, 2000) (Malter, 1996) (Stevens, 1997) (Stevenson, 1995) (BlueCross BlueShield, 2002) (Buttermann, 2004) For unequivocal evidence of radiculopathy, see AMA Guides. (Andersson, 2000) Standard discectomy and microdiscectomy are of similar efficacy in treatment of herniated disc. (Bigos, 1999) While there is evidence in favor of discectomy for prolonged symptoms of lumbar disc herniation, in patients with a shorter period of symptoms but no absolute indication for surgery, there are only modest short-term benefits, although discectomy seemed to be associated with a more rapid initial recovery, and discectomy was superior to conservative treatment when the herniation was at L4-L5. (Osterman, 2006) The SPORT studies concluded that both lumbar discectomy and nonoperative treatment resulted in substantial improvement after 2 years, but

those who chose discectomy reported somewhat greater improvements than patients who elected nonoperative care. (Weinstein, 2006) (Weinstein2, 2006) A recent RCT compared decompressive surgery with nonoperative measures in the treatment of patients with lumbar spinal stenosis, and concluded that, although patients improved over the 2-year follow-up regardless of initial treatment, those undergoing decompressive surgery reported greater improvement regarding leg pain, back pain, and overall disability, but the relative benefit of initial surgical treatment diminished over time while still remaining somewhat favorable at 2 years. (Malmivaara, 2007) Patients undergoing lumbar discectomy are generally satisfied with the surgery, but only half are satisfied with preoperative patient information. (Ronnberg, 2007) If patients are pain free, there appears to be no contraindication to their returning to any type of work after lumbar discectomy. A regimen of stretching and strengthening the abdominal and back muscles is a crucial aspect of the recovery process. (Burnett, 2006) According to a major recent trial, early surgery (microdiscectomy) in patients with 6-12 weeks of severe sciatica caused by herniated disks is associated with better short-term outcomes, but at 1 year, disability outcomes of early surgery vs conservative treatment with eventual surgery if needed are similar. The median time to recovery was 4.0 weeks for early surgery and 12.1 weeks for prolonged conservative treatment. The authors concluded, "Patients whose pain is controlled in a manner that is acceptable to them may decide to postpone surgery in the hope that it will not be needed, without reducing their chances for complete recovery at 12 months. Although both strategies have similar outcomes after 1 year, early surgery remains a valid treatment option for well-informed patients." (Peul-NEJM, 2007) (Deyo-NEJM, 2007) A recent randomized controlled trial comparing decompression with decompression and instrumented fusion in patients with foraminal stenosis and single-level degenerative disease found that patients universally improved with surgery, and this improvement was maintained at 5 years. However, no obvious additional benefit was noted by combining decompression with an instrumented fusion. (Hallett, 2007) A recent British study found that lumbar discectomy improved patients' self-reported overall physical health more than other elective surgeries. (Guilfoyle, 2007) Microscopic sequestrectomy may be an alternative to standard microdiscectomy. In this RCT, both groups showed dramatic improvement. (Barth, 2008) There is consistent evidence that for patients with a herniated disk, discectomy is associated with better short-term outcomes than continued conservative management, although outcomes begin to look similar after 3 to 6 months. This is a decision to be made with the patients, discussing the likelihood that they are going to improve either way but will improve faster with surgery. Similar evidence supports the use of surgery for spinal stenosis, although the outcomes look better with surgery out to about 2 years. (Chou, 2008) Standard open discectomy is moderately cost-effective compared with nonsurgical treatment, a new Spine Patient Outcomes Research Trial (SPORT) study shows. The costs per quality-adjusted life-year gained with surgery compared with nonoperative treatment, including work-related productivity costs, ranges from \$34,355 to \$69,403, depending on the cost of surgery. It is wise and proper to wait before initiating surgery, but if the patient continues to experience pain and is missing work, then the higher-cost option such as surgery may be

worthwhile. (Tosteson, 2008) Note: Surgical decompression of a lumbar nerve root or roots may include the following procedures: discectomy or microdiscectomy (partial removal of the disc) and laminectomy, hemilaminectomy, laminotomy, or foraminotomy (providing access by partial or total removal of various parts of vertebral bone). Discectomy is the surgical removal of herniated disc material that presses on a nerve root or the spinal cord. A laminectomy is often involved to permit access to the intervertebral disc in a traditional discectomy.

*Patient Selection:* Microdiscectomy for symptomatic lumbar disc herniations in patients with a preponderance of leg pain who have failed nonoperative treatment demonstrated a high success rate based on validated outcome measures (80% decrease in VAS leg pain score of greater than 2 points), patient satisfaction (85%), and return to work (84%). Patients should be encouraged to return to their preinjury activities as soon as possible with no restrictions at 6 weeks. Overall, patients with sequestered lumbar disc herniations fared better than those with extruded herniations, although both groups consistently had better outcomes than patients with contained herniations. Patients with herniations at the L5-S1 level had significantly better outcomes than did those at the L4-L5 level. Lumbar disc herniation level and type should be considered in preoperative outcomes counseling. Smokers had a significantly lower return to work rate. In the carefully screened patient, lumbar microdiscectomy for symptomatic disc herniation results in an overall high success rate, patient satisfaction, and return to physically demanding activities. (Dewing, 2008) Workers' comp back surgery patients are at greater risk for poor lumbar discectomy outcomes than noncompensation patients. (DeBerard, 2008) In workers' comp it is recommended to screen for presurgical biopsychosocial variables because they are important predictors of discectomy outcomes. (DeBerard, 2011)

*Spinal Stenosis:* For patients with lumbar spinal stenosis, standard posterior decompressive laminectomy alone (without discectomy) offers a significant advantage over nonsurgical treatment. Discectomy should be reserved for those conditions of disc herniation causing radiculopathy. (See Indications below.) Laminectomy may be used for spinal stenosis secondary to degenerative processes exhibiting ligamentary hypertrophy, facet hypertrophy, and disc protrusion, in addition to anatomical derangements of the spinal column such as tumor, trauma, etc. (Weinstein, 2008) (Katz, 2008) 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) See also Laminectomy.

*Recent Research:* Four-year results for the Dartmouth Spine Patient Outcomes Research Trial (SPORT, n= 1244) indicated that patients who underwent standard open discectomy for a lumbar disc herniation achieved significantly greater improvement than nonoperatively treated patients (using recommended treatments - active physical therapy, home exercise instruction, and NSAIDs) in all primary and secondary outcomes except work status (78.4% for the surgery group compared with 84.4%). Although patients receiving surgery did better generally, all

patients in the study improved. Consequently, for patients who don't want an operation no matter how bad their pain is, this study suggests that they will improve and they will not have complications (e.g., paralysis) from nonoperative treatment, but those patients whose leg pain is severe and is limiting their function, who meet the ODG criteria for discectomy, can do better with surgery than without surgery, and the risks are extremely low. (Weinstein<sup>2</sup>, 2008) In most patients with low back pain, symptoms resolve without surgical intervention. (Madigan, 2009) This study showed that surgery for disc herniation was not as successful as total hip replacement but was comparable to total knee replacement in success. Pain was reduced to within 60% of normal levels, function improved to 65% normal, and quality of life was improved by about 50%. The study compared the gains in quality of life achieved by total hip replacement, total knee replacement, surgery for spinal stenosis, disc excision for lumbar disc herniation, and arthrodesis for chronic low back pain. (Hansson, 2008) For radiculopathy with herniated lumbar disc, there is good evidence that standard open discectomy and microdiscectomy are moderately superior to nonsurgical therapy for improvement in pain and function through 2 to 3 months, but patients on average experience improvement either with or without surgery, and benefits associated with surgery decrease with long-term follow-up. (Chou, 2009) According to a new study, surgery provides better results than non-surgical treatment for most patients with back pain related to a herniated disk, but not for those receiving workers' compensation. (Atlas, 2010) Use of appropriateness criteria to guide treatment decisions for each clinical situation involving patients with low back pain and/or sciatica, with criteria based upon literature evidence, along with shared decision-making, was observed in one prospective study to improve outcomes in low back surgery. (Danon-Hersch, 2010) An updated SPORT trial analysis confirmed that outcomes of lumbar discectomy were better for patients who have symptoms of a herniated lumbar disc for six months or less prior to treatment. Increased symptom duration was related to worse outcomes following both operative and nonoperative treatment, but the relative increased benefit of surgery compared with nonoperative treatment was not dependent on the duration. (Rihn, 2011) Comparative effectiveness evidence from SPORT shows good value for standard open discectomy after an imaging-confirmed diagnosis of intervertebral disc herniation [as recommended in ODG], compared with nonoperative care over 4 years. (Tosteson, 2011)

### **ODG Indications for Surgery -- Discectomy/laminectomy --**

Required symptoms/findings; imaging studies; & conservative treatments below:

- I. *Symptoms/Findings* which confirm presence of radiculopathy. Objective findings on examination need to be present. Straight leg raising test, crossed straight leg raising and reflex exams should correlate with symptoms and imaging.

Findings require ONE of the following:

- A. L3 nerve root compression, requiring ONE of the following:
  1. Severe unilateral quadriceps weakness/mild atrophy
  2. Mild-to-moderate unilateral quadriceps weakness

3. Unilateral hip/thigh/knee pain
- B. L4 nerve root compression, requiring ONE of the following:
  1. Severe unilateral quadriceps/anterior tibialis weakness/mild atrophy
  2. Mild-to-moderate unilateral quadriceps/anterior tibialis weakness
  3. Unilateral hip/thigh/knee/medial pain
- C. L5 nerve root compression, requiring ONE of the following:
  1. Severe unilateral foot/toe/dorsiflexor weakness/mild atrophy
  2. Mild-to-moderate foot/toe/dorsiflexor weakness
  3. Unilateral hip/lateral thigh/knee pain
- D. S1 nerve root compression, requiring ONE of the following:
  1. Severe unilateral foot/toe/plantar flexor/hamstring weakness/atrophy
  2. Moderate unilateral foot/toe/plantar flexor/hamstring weakness
  3. Unilateral buttock/posterior thigh/calf pain

(EMGs are optional to obtain unequivocal evidence of radiculopathy but not necessary if radiculopathy is already clinically obvious.)

II. *Imaging Studies*, requiring ONE of the following, for concordance between radicular findings on radiologic evaluation and physical exam findings:

- A. Nerve root compression (L3, L4, L5, or S1)
- B. Lateral disc rupture
- C. Lateral recess stenosis

Diagnostic imaging modalities, requiring ONE of the following:

1. MR imaging
2. CT scanning
3. Myelography
4. CT myelography & X-Ray

III. *Conservative Treatments*, requiring ALL of the following:

- A. Activity modification (not bed rest) after patient education ( $\geq 2$  months)
- B. Drug therapy, requiring at least ONE of the following:
  1. NSAID drug therapy
  2. Other analgesic therapy

3. Muscle relaxants
  4. Epidural Steroid Injection (ESI)
- C. Support provider referral, requiring at least ONE of the following (in order of priority):
1. Physical therapy (teach home exercise/stretching)
  2. Manual therapy (chiropractor or massage therapist)
  3. Psychological screening that could affect surgical outcome
  4. Back school (Fisher, 2004)

For average hospital LOS after criteria are met, see *Hospital length of stay (LOS)*.

### **Fusion (spinal)**

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 orthopedic 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 orthopedic operations, the outcomes of surgery for chronic lower back pain do not even approach those of other orthopedic 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) There is a high rate of complications (56.4%) in spinal fusion procedures, especially related to instrumentation. (Campbell, 2011) The draft AHRQ Comparative Effectiveness Research concluded that limited data suggests that fusion leads to greater improvement in back pain relief and function than physical therapy at 2-year followup, but whether the difference is clinically significant is unclear, and serious adverse events occurred in the fusion group but not the noninvasive-intervention group. (Clancy, 2012) 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) This study demonstrated a significant difference in outcomes after lumbar spinal fusion between workers' comp populations and those on long-term disability insurance. Both populations only achieved marginal improvement, but workers' comp had a clear, negative influence on outcome even when compared to disability patients. (Gum, 2012)

*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).

#### Fusion, endoscopic

Not recommended. At best, endoscopic spinal fusion should be limited to conditions outlined for open fusion above (spinal fracture, dislocation, or spondylolisthesis). (Knight-*Spine*, 2003) (Aryan, 2009) Endius, Inc., Plainville, MA, produces the FDA-approved Atavi™ Atraumatic Spine Fusion System. NuVasive, San Diego, CA, offers the XLIF® procedure for lumbar fusion to overcome the obstacles of anterior and posterior fusion. This minimally invasive lateral access method may provide benefits to patients compared to traditional fusion, including reduced surgery time, less blood loss, shorter hospital stays, and significantly faster recovery time. Return to normal activities is suggested to be 4-6 weeks after XLIF versus 6 months or longer with traditional lumbar fusion. XLIF has a unique set of complications, including neural injuries, psoas weakness, and thigh numbness. Additional studies are required to further evaluate and monitor the short and long-term safety, efficacy, outcomes, and complications of XLIF procedures. (Arnold, 2012)

Not recommended for low back pain in the absence of major trauma (i.e., acute spinal fracture, spinal cord injury, or nerve root injury), acute or progressive neurologic deficit, or the patient's inability to manage basic ADLs at home and alternative placement in a Skilled Nursing Facility

is not available or appropriate. These recommendations are based on medical practice and are consistent with other evidence-based guidelines. (Washington, 2002) (ICSI, 2004)

### **Criteria for Hospital Admissions:**

- I. *Acute Major Back Trauma is Suspected:* Back injury occurred within the past 7 days; & Major trauma was sustained (e.g., fall from a height or back crushed by heavy object); & Examining physician documents or suspects acute spinal fracture, spinal cord injury, or nerve root injury. *Hospital Admission Criteria:* May be individualized.
- II. *Acute Major Back Trauma Not Suspected; Patient Has Neurologic Findings Suspected to be Acute or Progressive:* No history of recent major injury; & Patient complains of symptoms suggesting acute or progressive neurologic deficit [typically these include: (1) progressive weakness or numbness in one leg (and occasionally both legs), or (2) loss of control of bowel or bladder function, or (3) progressive numbness in the perineal region]; & The examining physician indicates that the patient has (or probably has) an acute or progressive neurologic deficit. *Hospital Admission Criteria:* If a patient has a new or progressive neurologic deficit, he/she may be hospitalized in order to facilitate surgical decision-making, to provide close observation of further progression, or to help the patient compensate for neurological deficits (e.g., to determine whether the patient needs to learn intermittent catheterization). If a patient does NOT have a new or progressive neurologic deficit, the only valid reason for hospitalization is that he/she cannot manage basic ADLs at home. Duration of hospitalization should be brief. The great majority of these patients who are admitted to a hospital can be discharged in 1 to 3 days (if spine surgery is not performed). Prolonged bed rest usually does more harm than good in a patient with low back pain. Admission for the purpose of bed rest is not acceptable.
- III. *Acute Major Back Trauma Not Suspected; Patient Has Back Pain without Evidence of Acute or Progressive Neurologic Findings:* No history of recent major trauma; & Patient complains of back pain with or without symptoms in the legs (occasionally patients will complain mainly of symptoms in the legs but the evaluating physician concludes that symptoms are not caused by lumbar radiculopathy); & No evidence of acute or progressive neurologic deficit. *Hospital Admission Criteria:* The primary valid reason for hospitalizing these patients is that they cannot manage basic ADLs at home. Example, the patient lives alone and is unable to get to the bathroom. If a patient is admitted through the emergency department, the decision to admit should be made with the concurrence of the attending physician, unless the attending physician cannot be reached. *Duration of hospitalization should be brief.* The great majority of these patients who are admitted to a hospital can be discharged in less than 24 hours. Admission for the purpose of bed rest or traction alone is not acceptable. The need for parenteral narcotics is a valid admission

criteria. A patient should not be admitted to a hospital that does not have the capacity to assess ADLs, develop a treatment plan, and provide physical therapy within the first 24 hours. For hospital LOS after admission criteria are met, see Hospital length of stay (LOS).

#### Hospital length of stay (LOS)

Recommend the median length of stay (LOS) based on type of surgery, or best practice target LOS for cases with no complications. For prospective management of cases, median is a better choice than [sic] mean (or average) because it represents the mid-point, at which half of the cases are less, and half are more. For retrospective benchmarking of a series of cases, mean may be a better choice because of the effect of outliers on the average length of stay. Length of stay is the number of nights the patient remained in the hospital for that stay, and a patient admitted and discharged on the same day would have a length of stay of zero. The total number of days is typically measured in multiples of a 24-hour day that a patient occupies a hospital bed, so a 23-hour admission would have a length of stay of zero. (HCUP, 2011) Of recent lumbar discectomy cases, 62% underwent an inpatient hospital stay after surgery, whereas 38% had outpatient surgery, and outpatients had lower overall complication rates than those treated as inpatients. (Pugely, 2013)

#### **ODG hospital length of stay (LOS) guidelines:**

##### **Discectomy** (*icd 80.51 - Excision of intervertebral disc*)

Actual data -- median 1 day; mean 2.1 days ( $\pm 0.0$ ); discharges 109,057; charges (mean) \$26,219

Best practice target (no complications) -- *Outpatient*

##### **Laminectomy** (*icd 03.09 - Laminectomy/laminotomy for decompression of spinal nerve root*)

Actual data -- median 2 days; mean 3.5 days ( $\pm 0.1$ ); discharges 100,600; charges (mean) \$34,978

Best practice target (no complications) -- *1 day*

*Note: About 6% of discharges paid by workers' compensation.*

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

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

Best practice target (no complications) -- *3 days*

*Note: About 15% of discharges paid by workers' compensation.*

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

Actual data -- median 3 days; mean 4.2 days ( $\pm 0.2$ ); discharges 33,521; charges (mean) \$110,156

Best practice target (no complications) -- *3 days*

##### **Lumbar Fusion, lateral** (*icd 81.07 - Lumbar fusion, lateral transverse process technique*)

Actual data -- median 3 days; mean 3.8 days ( $\pm 0.2$ ); discharges 15,125; charges (mean) \$89,088

Best practice target (no complications) -- *3 days*

**Thoracic Fusion, posterior** (81.05 - Dorsal and dorsolumbar fusion, posterior technique)

Actual data -- median 6 days; mean 8.1 days ( $\pm 0.2$ ); discharges 20,239; charges (mean) \$159,420

Best practice target (no complications) -- 5 days

**Artificial disc** (84.65 - Insertion of total spinal disc prosthesis, lumbosacral)

Actual data -- median 3 days; mean 2.6 days ( $\pm 0.1$ ); discharges 1,653; charges (mean) \$65,041

Best practice target (no complications) -- Never recommended

*Note: About 30% of discharges paid by workers' compensation.*

**Artificial disc revision** (84.68 - Revision/replacement artificial spinal disc prosthesis, lumbar)

Actual data -- median 3 days; mean 4.4 days ( $\pm 0.8$ ); discharges 169; charges (mean) \$58,355

Best practice target (no complications) -- Never recommended

**X-Stop** (84.80 - Insertion or replacement of interspinous process device)

Actual data -- median 1 days; mean 1.8 days ( $\pm 0.1$ ); discharges 4,177; charges (mean) \$47,339

Best practice target (no complications) -- Never recommended

**Kyphoplasty** (81.66 - Percutaneous vertebral augmentation)

Actual data -- median 4 days; mean 5.4 days ( $\pm 0.2$ ); discharges 23,458; charges (mean) \$46,593

Best practice target (no complications) -- 3 days

**Vertebroplasty** (81.65 - Percutaneous vertebroplasty)

Actual data -- median 5 days; mean 6.3 days ( $\pm 0.2$ ); discharges 13,694; charges (mean) \$37,444

Best practice target (no complications) -- 3 days

**IDET** (80.54 - Other and unspecified repair of the annulus fibrosus)

Actual data -- no overnight stays

Best practice target (no complications) -- Never recommended

**PIRFT** (80.59 - Other destruction of intervertebral disc)

Actual data -- median 3 days; mean 6.6 days ( $\pm 1.8$ ); discharges 196; charges (mean) \$41,249

Best practice target (no complications) -- Never recommended

**SCS** (03.93 Implantation or replacement of spinal neurostimulator leads)

Actual data -- median 1 day; mean 2.3 days ( $\pm 0.2$ ); discharges 3,998; charges (mean) \$68,730

Best practice target (no complications) -- 1 day

**Intrathecal Pump** (86.06 - Insertion of totally implantable infusion pump)

Actual data -- median 3 days; mean 5.4 days ( $\pm 0.4$ ); discharges 6,995; charges (mean) \$62,325

Best practice target (no complications) -- 3 days

**Fracture of vertebral column** (03.53 - Repair of vertebral fracture)

Actual data -- median 9 days; mean 13.4 days ( $\pm 0.6$ ); discharges 3,458; charges (mean) \$156,940

Best practice target (no complications) -- 9 days

## **Decompression**

### Decompression

Definition: Decompression may be a surgical procedure that is performed to alleviate pain caused by pinched nerves (neural impingement). There are two common types of spine surgery decompression procedures: Microdiscectomy or Open decompression (Discectomy/Laminectomy). See Discectomy; & Microdiscectomy. When decompression therapy is used as a general term, See Powered traction devices; IDD Therapy (Intervertebral Disc Decompression); Traction; Vertebral axial decompression (VAX-D); Percutaneous discectomy; & Nucleoplasty.

Dr. KB, a board certified orthopedic surgeon, and Petitioner/Provider, testified that the IRO had missed the complete collapse at L5-S1 because it is not indicated on the radiology report. In addition, Dr. B noted that Claimant had undergone a psychological evaluation in 2009, which should be sufficient to meet the criteria for the proposed surgical procedures.

The IRO indicated there was no evidence of motion segment instability as documented by flexion/extension views and no pre-surgical psychological evaluation addressing confounding issues was documented. In addition, it was reported that there was reference to the Claimant's tobacco use in medical documents provided but no explanation was given by Dr. B and the Claimant did not provide any testimony regarding his tobacco use. Lastly, it was determined that any fusion procedure at L5-S1 will create increased stresses at the adjacent levels which were already abnormal. It was also noted there was no instability or evidence of fracture on the imaging studies and all pain generators had not been identified or treated. There was no documentation of epidural steroid injections and no recent documentation of any anti-inflammatory muscle relaxants. Based upon these clinical data medical necessity was not established for the proposed surgical procedure.

Dr. VH conducted a preauthorization review for anterior discectomy and interbody fusion, posterior decompression at L5-S1 with 3 day inpatient hospital stay on April 16, 2012. Dr. VH recommended non-authorization because the decompressive surgery performed on November 16, 2011, allegedly did foramen enlargement. However, Dr. VH noted the MRI conducted on March 15, 2013, showed osteophytes and foraminal narrowing residuals. In addition, the L4-5 level now has a size 7mm and L3-4 was interpreted by the radiologist to be borderline stenotic.

The medical documentation and testimony was insufficient to establish that the medical treatment requested was medically necessary. Therefore, the Petitioner and Claimant have failed to meet their burden that the decision of the IRO should be reversed that Claimant is not entitled to Anterior Discectomy Interbody Fusion, Posterior Decompression at L5/S1 with 3 days Inpatient Hospital Stay for the compensable injury of (Date of Injury).

Even though all the evidence presented was not discussed, it was considered. The Findings of Fact and Conclusions of Law are based on all of the evidence presented.

### **FINDINGS OF FACT**

1. The parties stipulated to the following facts:
  - A. Venue is proper in the (City) Field Office of the Texas Department of Insurance, Division of Workers' Compensation.
  - B. On (Date of Injury), Claimant was the employee of (Employer), Employer.
  - C. On (Date of Injury), Claimant sustained a compensable injury.
2. Carrier delivered to Claimant and Provider a single document stating the true corporate name of Carrier, and the name and street address of Carrier's registered agent, which document was admitted into evidence as Hearing Officer's Exhibit Number 2.
3. Anterior Discectomy Interbody Fusion, Posterior Decompression at L5/S1 with 3 days Inpatient Hospital Stay is not health care reasonably required for the compensable injury of (Date of Injury).

### **CONCLUSIONS OF LAW**

1. The Texas Department of Insurance, Division of Workers' Compensation, has jurisdiction to hear this case.
2. Venue is proper in the (City) Field Office.
3. The preponderance of the evidence is not contrary to the decision of the IRO that the Anterior Discectomy Interbody Fusion, Posterior Decompression at L5/S1 with 3 days Inpatient Hospital Stay is not health care reasonably required for the compensable injury of (Date of Injury).

### **DECISION**

Claimant is not entitled to Anterior Discectomy Interbody Fusion, Posterior Decompression at L5/S1 with 3 days Inpatient Hospital Stay for the compensable injury of (Date of Injury).

### **ORDER**

Carrier is not liable for the benefits at issue in this hearing. Claimant remains entitled to medical benefits for the compensable injury in accordance with §408.021.

The true corporate name of the insurance carrier is **(SELF-INSURED)** and the name and address of its registered agent for service of process is

**(SELF-INSURED)**  
**(ADDRESS)**  
**(CITY), TEXAS (ZIPCODE)**

Signed this 21st day of October, 2013.

Jacqueline Harrison  
Hearing Officer