



Medical Review Institute of America, Inc.  
America's External Review Network

DATE OF REVIEW: October 31, 2008

IRO Case #:

Description of the services in dispute: Lumbar Discogram with CT scan

A description of the qualifications for each physician or other health care provider who reviewed the decision

The physician who provided this review is a fellow of the American Board of Orthopaedic Surgery. This reviewer is a fellow of the North American Spine Society and the American Academy of Orthopaedic Surgeons. This reviewer has been in active practice since 1990.

Review Outcome

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

be: Upheld

The Lumbar Discogram with CT scan is not supported by evidence based guidelines or supported by the clinical information provided.

Patient clinical history [summary]

The patient is a male who is reported to have sustained injuries to his low back as a result of breaking out some concrete with a sledgehammer on xx/xx/xx. The records indicate that the patient subsequently came under the care of Dr. and was treated conservatively. The record indicates that the patient subsequently has low back pain with radiation to the left inner thigh. He has previously had chiropractic manipulation. An MRI of the lumbar spine performed on 03/01/07 is reported to have revealed multilevel degenerative disc disease and a disc herniation at L5-S1 indenting into the thecal sac, a posterior annular tear or disc protrusions at L4-5 and disc protrusion at L3-4 which resulted in mild narrowing of the left neural foramen. The patient subsequently was referred for provocative discography on 09/20/07. This procedure was performed by Dr. The patient is reported to have had concordant pain at L3-4 and L4-5 but non-concordant pain at L5-S1. The patient subsequently was opined to be a suboptimal candidate for

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fusion and was recommended to undergo pain management. The patient was later seen by Dr. a designated doctor and was found to be at MMI on 04/17/08. The patient subsequently received a 5% whole person impairment. The records indicate that the patient was found to have 8/8 Waddell signs. As previously stated the patient came under the care of Dr. who notes on 04/01/08 that the patient was not a candidate for surgery and he concurs with Dr. discussion on pain management. However he subsequently recommends that the patient undergo a controlled discography at L2-3 given that the initial procedure there was no control. He opines that if a controlled disc can be obtained the patient would then be considered a candidate for surgery at L3-4, L4-5 and L5-S1. Dr. referred the patient for a chronic pain evaluation on 08/06/08. This was performed by Psy. D. A review of Dr. 's notes does not indicate that the patient underwent any significant psychiatric testing to include BDI, BAI or MMPI-2.

On 08/22/08 Dr. reviewed the request. Dr. reports that a discogram would not serve any utility in this case and his fusion has effectively been ruled out with the presence of spine pathology at more than two levels. Therefore this claimant would not be candidate for fusion. There is no evidence of instability in the spine which further obviates the need for fusion. Dr. recommends against the requested procedure.

On 09/22/08 the case was again reviewed by Dr. Dr. opines that the patient would require at least a three level spinal fusion and in essence using the entire spine, as the thoracic spine would result in no motion segment. He opines that the patient is not documented as being a surgical candidate and therefore the requested procedure is not medically necessary.

Analysis and explanation of the decision include clinical basis, findings and conclusions used to support the decision.

ITEMS IN DISPUTE: Lumbar Discogram with CT

The lumbar discogram with CT is not supported by the submitted clinical information. The available medical record indicates that the patient sustained an injury to his low back and subsequently has undergone conservative treatment. The patient has previously undergone lumbar discography and was found to have pain at all levels with concordant pain at L3-4 and L4-5. This study did not include a negative control disc. The patient subsequently came under the care of Dr. who opines that the patient requires a second discography procedure to establish a negative control disc and potentially qualify the patient for surgery. The submitted records indicate that the patient was previously seen by a designated doctor and placed at maximum medical improvement and was noted to exhibit 8 of 8 Waddell signs which is a poor prognostic indicator and would essentially exclude the patient from operative intervention. However despite this report Dr. referred the patient for preprocedure psychiatric evaluation as required under ODG. Dr. 's evaluation does not include any significant psychological testing to include BDI, BAI, or MMPI-2. The very brief

evaluation provided by Dr. does not provide sufficient enough information to overcome the report by Dr. that the patient has 8 of 8 Waddell signs which would certainly result in skewed data from the procedure. Current evidence based guidelines do not support the use of lumbar discography as an indication for the performance of fusion. It further recommends against the performance of discography in patients with comorbid psychiatric issues due to the nature of the testing performed. The accuracy and validity of the patient's responses cannot be judged appropriately in the presence of comorbid psychiatric issues. Therefore, the requested procedure is not supported by evidence based guidelines or supported by the clinical information provided.

A description and the source of the screening criteria or other clinical basis used to make the decision:

The Official Disability Guidelines, 11th edition, The Work Loss Data Institute.

Discography Not recommended. In the past, discography has been used as part of the pre-operative evaluation of patients for consideration of surgical intervention for lower back pain. However, the conclusions of recent, high quality studies on discography have significantly questioned the use of discography results as a preoperative indication for either IDET or spinal fusion. These studies have suggested that reproduction of the patient's specific back complaints on injection of one or more discs (concordance of symptoms) is of limited diagnostic value. (Pain production was found to be common in non-back pain patients, pain reproduction was found to be inaccurate in many patients with chronic back pain and abnormal psychosocial testing, and in this latter patient type, the test itself was sometimes found to produce significant symptoms in non-back pain controls more than a year after testing.) Also, the findings of discography have not been shown to consistently correlate well with the finding of a High Intensity Zone (HIZ) on MRI. Discography may be justified if the decision has already been made to do a spinal fusion, and a negative discogram could rule out the need for fusion (but a positive discogram in itself would not allow fusion). (Carragee-Spine, 2000) (Carragee2-Spine, 2000) (Carragee3-Spine, 2000) (Carragee4-Spine, 2000) (Bigos, 1999) (ACR, 2000) (Resnick, 2002) (Madan, 2002) (Carragee-Spine, 2004) (Carragee2, 2004) (Maghout-Juratli, 2006) (Pneumatics, 2006) (Airaksinen, 2006) 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) Positive discography was not highly predictive in identifying outcomes from spinal fusion. A recent 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) The prevalence of positive discogram may be increased in subjects with chronic low back pain who have had prior surgery at the level tested for

lumbar disc herniation. (Heggeness, 1997) Invasive diagnostics such as provocative discography have not been proven to be accurate for diagnosing various spinal conditions, and their ability to effectively guide therapeutic choices and improve ultimate patient outcomes is uncertain. (Chou, 2008) Discography involves the injection of a water-soluble imaging material directly into the nucleus pulposus of the disc. Information is then recorded about the pressure in the disc at the initiation and completion of injection, about the amount of dye accepted, about the configuration and distribution of the dye in the disc, about the quality and intensity of the patient's pain experience and about the pressure at which that pain experience is produced. Both routine x-ray imaging during the injection and post-injection CT examination of the injected discs are usually performed as part of the study. There are two diagnostic objectives: (1) to evaluate radiographically the extent of disc damage on discogram and (2) to characterize the pain response (if any) on disc injection to see if it compares with the typical pain symptoms the patient has been experiencing. Criteria exist to grade the degree of disc degeneration from none (normal disc) to severe. A symptomatic degenerative disc is considered one that disperses injected contrast in an abnormal, degenerative pattern, extending to the outer margins of the annulus and at the same time reproduces the patient's lower back complaints (concordance) at a low injection pressure. Discography is not a sensitive test for radiculopathy and has no role in its confirmation. It is, rather, a confirmatory test in the workup of axial back pain and its validity is intimately tied to its indications and performance. As stated, it is the end of a diagnostic workup in a patient who has failed all reasonable conservative care and remains highly symptomatic. Its validity is enhanced (and only achieves potential meaningfulness) in the context of an MRI showing both dark discs and bright, normal discs -- both of which need testing as an internal validity measure. And the discogram needs to be performed according to contemporary diagnostic criteria -- namely, a positive response should be low pressure, concordant at equal to or greater than a VAS of 7/10 and demonstrate degenerative changes (dark disc) on MRI and the discogram with negative findings of at least one normal disc on MRI and discogram. See also Functional anesthetic discography (FAD). Discography is Not Recommended in ODG.

Patient selection criteria for Discography if provider & payor agree to perform anyway:

- Back pain of at least 3 months duration
- Failure of recommended conservative treatment including active physical therapy
- An MRI demonstrating one or more degenerated discs as well as one or more normal appearing discs to allow for an internal control injection (injection of a normal disc to validate the procedure by a lack of a pain response to that injection)
- Satisfactory results from detailed psychosocial assessment (discography in subjects with emotional and chronic pain problems has been linked to reports of significant back pain for prolonged periods after injection, and therefore should be avoided)
- Intended as a screen for surgery, i.e., the surgeon feels that lumbar spine fusion is

appropriate but is looking for this to determine if it is not indicated (although discography is not highly predictive) (Carragee, 2006) NOTE: In a situation where the selection criteria and other surgical indications for fusion are conditionally met, discography can be considered in preparation for the surgical procedure. However, all of the qualifying conditions must be met prior to proceeding to discography as discography should be viewed as a non–diagnostic but

confirmatory study for selecting operative levels for the proposed surgical procedure. Discography should not be ordered for a patient who does not meet surgical criteria.

- Briefed on potential risks and benefits from discography and surgery
- Single level testing (with control) (Colorado, 2001)
- Due to high rates of positive discogram after surgery for lumbar disc herniation, this should be potential reason for non–certification

The American College of Occupational and Environmental Medicine Guidelines; Chapter 12.

Recent studies on diskography do not support its use as a preoperative indication for either intradiskal electrothermal (IDET) annuloplasty or fusion. Diskography does not identify the symptomatic high intensity zone, and concordance of symptoms with the disk injected is of limited diagnostic value (common in non back issue patients, inaccurate if chronic or abnormal psychosocial tests), and it can produce significant symptoms in controls more than a year later. Tears may not correlate anatomically or temporally with symptoms. Diskography may be used where fusion is a realistic consideration, and it may provide supplemental information prior to surgery. This area is rapidly evolving, and clinicians should consult the latest available studies. Despite the lack of strong medical evidence supporting it, diskography is fairly common, and when considered, it should be reserved only for patients who meet the following criteria:

- Back pain of at least three months duration.
- Failure of conservative treatment.
- Satisfactory results from detailed psychosocial assessment. (Diskography in subjects with emotional and chronic pain problems has been linked to reports of significant back pain for prolonged periods after injection, and therefore should be avoided.)
- Is a candidate for surgery.
- Has been briefed on potential risks and benefits from diskography and surgery.