02-61000-32

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Subject: Automated Percutaneous Discectomy, Laser Discectomy, Percutaneous Endoscopic Discectomy, and DISC Nucleoplasty™

THIS MEDICAL COVERAGE GUIDELINE IS NOT AN AUTHORIZATION, CERTIFICATION, EXPLANATION OF BENEFITS, OR A GUARANTEE OF PAYMENT, NOR DOES IT SUBSTITUTE FOR OR CONSTITUTE MEDICAL ADVICE. ALL MEDICAL DECISIONS ARE SOLELY THE RESPONSIBILITY OF THE PATIENT AND PHYSICIAN. BENEFITS ARE DETERMINED BY THE GROUP CONTRACT, MEMBER BENEFIT BOOKLET, AND/OR INDIVIDUAL SUBSCRIBER CERTIFICATE IN EFFECT AT THE TIME SERVICES WERE RENDERED. THIS MEDICAL COVERAGE GUIDELINE APPLIES TO ALL LINES OF BUSINESS UNLESS OTHERWISE NOTED IN THE PROGRAM EXCEPTIONS SECTION.

Position Statement	Billing/Coding	Reimbursement	Program Exceptions	Definitions	Related Guidelines
Other	References	Updates			

DESCRIPTION:

Back pain or radiculopathy related to herniated discs is an extremely common condition and a frequent cause of chronic disability. Although many cases of acute low back pain and radiculopathy will resolve with conservative care, a surgical decompression is often considered when the pain is unimproved after several months and is clearly neuropathic in origin, resulting from irritation of the nerve roots.

Surgical management of herniated intervertebral discs most commonly involves discectomy or microdiscectomy. Traditionally, discectomy is performed manually through an open incision, using cutting forceps to remove nuclear material from within the disc annulus.

Automated percutaneous discectomy involves placement of a probe within the intervertebral disc under image guidance with aspiration of disc material using a suction cutting device.

Laser discectomy involves insertion of a needle or catheter under fluoroscopic guidance into the disc nucleus, with laser energy directed through it to vaporize tissue.

Percutaneous endoscopic discectomy involves the percutaneous placement of a working channel under image guidance, followed by visualization of the working space and instruments through an endoscope, and aspiration of disc material. Endoscopic techniques may be intradiscal or may involve extraction of noncontained and sequestered disc fragments from inside the spinal canal using an interlaminar or transforaminal approach. Disc nucleoplasty (radiofrequency coblation) uses bipolar radiofrequency energy directed into the disc to ablate tissue.

Summary and Analysis of Evidence: The evidence for automated percutaneous discectomy in individuals who have herniated intervertebral disc(s) includes a small RCT (LAPDOG Trial; Haines et al, 2002) and systematic reviews. No additional RCTs have been identified since the LAPDOG trial. The trial was designed to recruit 330 patients but enrolled 36 patients for reasons not readily apparent. Twenty-seven patients were available at follow-up, with efficacy reported by 41% of those undergoing automated percutaneous discectomy and by 40% of those undergoing conventional discectomy. The trialists concluded that "It is difficult to understand the remarkable persistence of percutaneous discectomy in the face of a virtually complete lack of scientific support for its effectiveness in treated lumbar disc herniation."

Well-designed and executed RCTs are needed to determine the benefits and risks of this procedure. Systematic reviews have included generally small patient populations and inconsistent results (Lewis et al, 2015).

The evidence for percutaneous endoscopic discectomy in individuals who have herniated intervertebral disc(s) includes a number of RCTs, systematic reviews, and comparative observational studies with at least 2 years of follow up. Many of the more recent RCTs are conducted at institutions within China. There are few reports from the United States. Overall, results from RCTs and systematic reviews reveal a significantly reduced length of hospitalization with endoscopic discectomy and occasionally significant improvements in VAS or ODI, but only at specific time points. No consistently significant improvement in VAS, ODI, total complication rate, reoperation, or recurrence was observed with percutaneous endoscopic discectomy versus other interventions (Ma et al, 2022; Zhao et al, 2022; Wang et al, 2021; Shi et al, 2019; Phan et al, 2017).

Evidence on decompression of the intervertebral disc using laser energy consists of observational studies (Tassi et al, 2006) and case series (Menchetti et al, 2011). Given the variable natural history of back pain and the possibility of placebo effects with this treatment, observational studies and case series are insufficient to permit conclusions concerning the effect of this technology on health outcomes. An updated systematic review of current evidence on percutaneous laser disc decompression included 17 observational studies (Singh et al, 2013). Due to the lack of RCTs, a meta-analysis could not be conducted, and evidence was considered limited, as rated using U.S. Preventive Services Task Force criteria.

Three unblinded RCTs have assessed nucleoplasty with coblation. Chitragran et al (2012) compared nucleoplasty with conservative therapy. The nucleoplasty group was reported to have a reduction in pain and medication use compared with conservatively treated controls at 1, 3, 6, and 12 months posttreatment, although the data were not presented. Gerszten et al (2010) was an industry-sponsored comparison of coblation nucleoplasty with epidural steroid injections in a group of patients who had already failed the control intervention. At the 6-month follow-up, scores for pain and functional status were superior in the nucleoplasty group, but a similar percentage of patients in the 2 groups had unresolved symptoms and received a secondary procedure. In the observational phase of the trial (2-year follow-up), 50% of patients in the epidural steroid group crossed over to nucleoplasty. The manner in which alternative interventions were offered in the observational phase is uncertain. Overall, the interpretation of these study results is limited. de Rooij et al (2020) compared nucleoplasty to anterior cervical discectomy in patients with cervical radicular pain. Overall, no significant differences between the groups were observed at 1 year. Additionally, the RCT was terminated early as the enrollment rate was low, resulting in the study being underpowered. Further prospective controlled trials comparing nucleoplasty with microdiscectomy are needed to evaluate efficacy and time to recover in patients with disc protrusion.

Morimnoto et al (2025) compared the 1-year clinical outcomes and disc degeneration rates after transforaminal full-endoscopic lumbar discectomy (TF-FED), condoliase injection, open discectomy (OD), and microendoscopic discectomy (MED) for lumbar disc herniation (LDH). In total, 279 patients with LDH were divided into four treatment groups: TF-FED, OD, MED, and condoliase injection. Outcomes were evaluated on the basis of the complication rate, Japanese Orthopaedic Association Back Pain Evaluation Questionnaire (JOABPEQ), visual analog scale (VAS) scores, and the modified MacNab criteria. Disc degeneration and endplate bone marrow edema were evaluated using magnetic resonance images. The mean postoperative JOABPEQ, VAS, or modified MacNab scores among the four groups had no significant differences. Additionally, the nerve injury or reoperation rate among the TF-FED, OD, and MED groups had no significant difference. With TF-FED … the Pfirrmann grade progressed, and the disc height was significantly smaller than that with OD and MED. Endplate bone marrow edema was more common with … TF-FED. All groups had good outcomes. TF-FED … may reduce the burden of surgery because they can be performed under local anesthesia with little blood loss … but tend to be associated with disc degeneration and endplate bone marrow edema. The authors concluded “(a) randomized controlled study with a larger sample is needed.”

UpToDate review “Subacute and chronic low back pain: Surgical treatment” (Chou, 2025) states, “(minimally invasive surgical approaches that utilize techniques to further reduce incision size and the area of dissection have been introduced as potential alternatives to standard open discectomy and

microdiscectomy. Until more definitive evidence is available showing clear advantages for alternative surgical techniques, our preference is for standard microdiscectomy or open discectomy for patients with lumbar disc herniation and radiculopathy who are appropriate surgical candidates." The review further states "(o)ne small (n = 62) trial compared percutaneous disc decompression with conservative therapy (medications, physical therapy, education, counseling). Percutaneous disc decompression was associated with higher pain scores at three months, but lower pain scores at one year and at two years. Challenges in interpreting this trial are that it used an inadequate randomization method (alternate allocation), and it is unclear why decompression would have a delayed effect, as most trials have shown that benefits of discectomy are most pronounced at short-term follow-up."

POSITION STATEMENT:

Automated percutaneous discectomy, laser discectomy, percutaneous endoscopic discectomy (e.g., Deuk Laser Disc Repair®), DISC nucleoplasty™ (radiofrequency coblation), image-guided minimally invasive lumbar decompression, and all other methods of percutaneous disc decompression are considered **experimental or investigational.** The evidence is insufficient to permit conclusions on safety, effectiveness, and net health outcomes.

BILLING/CODING INFORMATION:

CPT Coding

62287	Decompression, percutaneous, of nucleus pulposus of intervertebral disc, any method utilizing needle-based technique to remove disc material under fluoroscopic imaging or other form of indirect visualization, with discography and/or epidural injection(s) at the treated level(s), when performed, single or multiple levels, lumbar **(Investigational)**
62330	Decompression, percutaneous, with partial removal of the ligamentum flavum, including laminotomy for access, epidurography, and imaging guidance (ie, CT or fluoroscopy), bilateral; one interspace, lumbar **(Investigational)**
62331	Decompression, percutaneous, with partial removal of the ligamentum flavum, including laminotomy for access, epidurography, and imaging guidance (ie, CT or fluoroscopy), bilateral; additional interspace(s), lumbar (List separately in addition to code for primary procedure**) (Investigational)**
62380	Endoscopic decompression of spinal cord, nerve root(s), including laminotomy, partial facetectomy, foraminotomy, discectomy and/or excision of herniated intervertebral disc, 1 interspace, lumbar (**Investigational**)
0274T*	Percutaneous laminotomy/laminectomy (interlaminar approach) for decompression of neural elements, (with or without ligamentous resection, discectomy, facetectomy and/or foraminotomy), any method, under indirect image guidance (eg, fluoroscopic, CT), single or multiple levels, unilateral or bilateral, cervical or thoracic **(Investigational)**

*Note: Percutaneous discectomy is also a component of 0274T.

HCPCS Coding:

S2348	Decompression procedure, percutaneous, of nucleus pulposus of intervertebral disc, using radiofrequency energy, single of multiple levels, lumbar (**Investigational**)

REIMBURSEMENT INFORMATION:

Refer to section entitled **POSITION STATEMENT**.

PROGRAM EXCEPTIONS:

Federal Employee Program (FEP): Follow FEP guidelines.

State Account Organization (SAO): Follow SAO guidelines.

Medicare Advantage products: The following National Coverage Determinations (NCD) were reviewed on the last guideline reviewed date: Laser Procedures (140.5); Thermal Intradiscal Procedures (TIPS) (150.11); and Percutaneous image-guided lumbar decompression for lumbar spinal stenosis (150.13), located at cms.gov.

If this Medical Coverage Guideline contains a step therapy requirement, in compliance with Florida law 627.42393, members or providers may request a step therapy protocol exemption to this requirement if based on medical necessity. The process for requesting a protocol exemption can be found at Coverage Protocol Exemption Request.

DEFINITIONS:

Annulus: a ring of fibrous or fibrocartilaginous tissue (as of an intervertebral disk or surrounding an orifice of the heart).

Deuk Laser Disc Repair®: an anterior, full endoscopic, transdiscal, laser-assisted surgery during which a selective partial discectomy, foraminoplasty, and annular debridement are performed under direct visualization of the local anatomy. The entire procedure is performed on the cervical spine without the use of implants, biologics, or fusion.

Discectomy: surgical removal of an intervertebral disk.

Nucleus pulposus: an elastic pulpy mass lying in the center of each intervertebral fibrocartilage and regarded as a remnant of the notochord.

RELATED GUIDELINES:

Percutaneous Intradiscal Electrothermal Annuloplasty, Radiofrequency Annuloplasty, Biacuplasty and Intraosseous Basivertebral Nerve Ablation, 02-61000-20

OTHER:

None applicable.

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COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 07/23/26.

GUIDELINE UPDATE INFORMATION:

05/15/04	New Medical Coverage Guideline. Investigational.
11/15/04	Revision to guideline; consisting of the addition of CPT code 62287.
01/01/05	Annual HCPCS update: consisting of the addition of S2348.
08/15/05	Scheduled review and revision of guideline; consisting of updated references.
08/15/06	Scheduled review and revision of guideline consisting of updated references.

07/15/07	Annual review; investigational status maintained; reformatted guideline, references updated.
07/15/08	Review and revision of guideline consisting of updated references.
01/01/09	Annual HCPCS coding update: revised descriptor for code 62287.
09/15/09	Scheduled review; no change to position statement; references updated.
07/15/10	Scheduled review; position statement unchanged, references updated.
01/01/12	Annual HCPCS coding update: revised descriptor for code 62287.
07/15/12	Scheduled review; position statement revised to include additional methods of percutaneous disc decompression; policy title revised: references updated.
07/15/13	Scheduled review; position statement unchanged; Program Exceptions section updated; references updated.
07/15/14	Scheduled review; position statement unchanged; CPT codes 0274T and 0275T added; references updated.
11/01/15	Revision: ICD-9 Codes deleted.
01/01/17	Annual CPT/HCPCS update. Revised descriptors for 62287, 0274T, and 0275T. Revised Program Exceptions section.
09/15/18	Scheduled review. Revised description section. Maintained position statement. Revised program exceptions section. Updated references.
10/03/18	Revision: added CPT code 62380.
05/15/19	Unscheduled review. Revised description. Maintained position statement and updated references.
06/15/19	Unscheduled review. Maintained position statement and updated references.
12/15/19	Revision: maintained position statement and updated references.
11/15/20	Scheduled review. Maintained position statement and updated references.
12/15/21	Scheduled review. Maintained position statement and updated references.
04/01/23	Revision. Added reference to Deuk Laser Disc Repair®. Updated Definitions section and references.
08/21/23	Update to Program Exceptions section.
11/15/23	Scheduled review. Maintained position statement and updated references.
08/15/24	Scheduled review. Revised description, maintained position statement and updated references.
08/15/25	Scheduled review. Revised description, maintained position statement and updated references.
01/01/26	Annual CPT/HCPCS coding update. Added 62330, 62331; revised 62287, 0274T; deleted 0275T.
08/15/26	Annual review: Position statement maintained; references updated.