

MEDICAL POLICY

MEDICAL POLICY DETAILS	
Medical Policy Title	Lumbar Microdiscectomy
Policy Number	7.01.98
Category	Technology Assessment
Original Effective Date	06/21/18
Committee Approval Date	12/20/18, 07/18/19, 01/16/20, 08/20/20, 06/17/21, 06/16/22, 07/20/23, 10/17/24
Current Effective Date	02/01/25
Archived Date	N/A
Archive Review Date	N/A
Product Disclaimer	<ul style="list-style-type: none"> Services are contract dependent; if a product excludes coverage for a service, it is not covered, and medical policy criteria do not apply. If a commercial product (including an Essential Plan or Child Health Plus product), medical policy criteria apply to the benefit. If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit. If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit. If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.

POLICY STATEMENT

Initial Procedures

- I. Based on our criteria and assessment of the peer-reviewed literature, an initial primary lumbar microdiscectomy (laminotomy, laminectomy or hemilaminectomy) has been medically proven to be effective and, therefore, is considered **medically appropriate** when performed for the following conditions and **ALL** the associated criteria have been met:
 - A. Neurogenic Claudication:
 1. Absence of unmanaged significant mental and/or behavioral health disorders (e.g., major depressive disorder, chronic pain syndrome, secondary gain, opioid or alcohol use disorders);
 2. Subjective symptoms, including **BOTH** of the following:
 - a. Significant functional limitations have resulted in diminished quality of life and impaired age-appropriate activities of daily living; **and**
 - b. Pain, cramping, weakness, or tingling in the lower back, buttock(s), and legs brought about by walking or positions that cause thecal sac or nerve root compression (e.g., standing, extension) and **EITHER** of the following:
 - i. Symptoms worsen with standing and/or walking; **or**
 - ii. Symptoms are alleviated with sitting and/or forward flexion;
 3. Objective physical exam findings concordant with MRI/CT;
 4. MRI/CT shows neural structure compression at the requested level(s) that is concordant with patient symptoms and physical exam findings and is caused by **ANY** of the following:
 - a. Herniated disc(s) (retained disc material or recurrent disc herniation);
 - b. Synovial cyst/arachnoid cyst;

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 2 of 14

- c. Central/lateral/foraminal stenosis; **or**
 - d. Osteophytes;
 5. The individual has failed **BOTH** of the following conservative treatments with less than clinically meaningful improvement, unless contraindicated:
 - a. Provider-directed exercise program; **and**
 - b. **ONE** of the following:
 - i. prescription strength analgesics, steroids, gabapentinoids, or NSAIDS for six (6) weeks; **or**
 - ii. epidural steroid injections or selective nerve root block(s) performed at the same level(s) as the requested surgery; **and**
 6. Documentation of nicotine-free status including **EITHER** of the following (unless this is an urgent/emergent request for fusion/ disc arthroplasty or when myelopathy is present);
 - a. Individual is a never smoker; **or**
 - b. Individual has refrained from smoking, use of smokeless tobacco products, and/or nicotine replacement therapy for at least six (6) weeks prior to planned surgery as evidenced by blood cotinine lab results of < 10ng/mL.
- B. Radiculopathy:**
1. Absence of unmanaged significant mental and/or behavioral health disorders (e.g., major depressive disorder, chronic pain syndrome, secondary gain, opioid or alcohol use disorders);
 2. Subjective symptoms include **BOTH** of the following:
 - a. Significant level of pain on a daily basis, defined as clinically significant functional impairment (e.g., inability to perform household chores, prolonged standing, etc.); **and**
 - b. Persistent radiating pain into the buttock(s) and/or lower extremity(ies) resulting in clinically significant functional impairment;
 3. Objective physical exam findings, including **EITHER** of the following are present:
 - a. Nerve root tension sign, including **ANY** of the following:
 - i. positive straight leg raise;
 - ii. crossed straight leg raise; **or**
 - iii. femoral stretch test;**OR**
 - b. Neurologic deficit, including **ANY** of the following:
 - i. dermatomal sensory deficit;
 - ii. functionally limiting motor weakness (e.g., foot drop, quadriceps weakness); **or**
 - iii. reflex changes;
 4. MRI/CT shows neural structure compression at the requested level(s) that is concordant with patient symptoms and physical exam findings and is caused by **ANY** of the following:
 - a. Herniated disc(s) (retained disc material or recurrent disc herniation);
 - b. Synovial cyst/arachnoid cyst;
 - c. Central/lateral/foraminal stenosis; **or**
 - d. Osteophytes;
 5. The individual has failed **BOTH** of the following conservative treatments with less than clinically meaningful improvement, unless contraindicated:
 - a. Provider-directed exercise program; **and**
 - b. **one** of the following:
 - i. prescription strength analgesics, steroids, gabapentinoids, or NSAIDS for six (6) weeks; **or**
 - ii. epidural steroid injections or selective nerve root block(s) performed at the same level(s) as the requested surgery; and
 6. Documentation of nicotine-free status including **EITHER** of the following (unless this is an urgent/emergent request for fusion/ disc arthroplasty or when myelopathy is present);
 - a. Individual is a never smoker; **or**

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 3 of 14

- b. Individual has refrained from smoking, use of smokeless tobacco products, and/or nicotine replacement therapy for at least six (6) weeks prior to planned surgery as evidenced by blood cotinine lab results of < 10ng/mL.

Repeat Procedures

II. Based on our criteria and assessment of the peer-reviewed literature, a repeat lumbar microdiscectomy (laminotomy or laminectomy) at the same level has medically been proven to be effective and, therefore, is considered **medically appropriate** for radiculopathy or neurogenic claudication secondary to a herniated disc, synovial cyst, or arachnoid cyst, or central/lateral/foraminal stenosis, when **ALL** of the associated criteria have been met:

A. Neurogenic Claudication:

1. Post-operative MRI /CT shows neural structure compression at the requested level(s) that is concordant with the patient's symptoms and physical exam findings and that is caused by **ANY** of the following:
 - a. Herniated disc(s) (retained disc material or a recurrent disc herniation);
 - b. Synovial cyst or arachnoid cyst;
 - c. Central/lateral/foraminal stenosis; **or**
 - d. Osteophytes;
2. Greater than 12 weeks have elapsed since initial lumbar disc decompression surgery;
3. Subjective symptoms include **BOTH** of the following:
 - a. Significant functional limitations have resulted in diminished quality of life and impaired, age-appropriate activities of daily living; **and**
 - b. Pain, cramping, weakness, or tingling in the lower back, buttock(s), and legs brought about by walking or positions that cause thecal sac or nerve root compression (e.g., standing, extension) **and EITHER** of the following:
 - i. symptoms worsen with standing and/or walking; **or**
 - ii. symptoms are alleviated with sitting and/or forward flexion;
4. Absence of unmanaged significant mental and/or behavioral health disorders (e.g., major depressive disorder, chronic pain syndrome, secondary gain, opioid or alcohol use disorders);
5. Objective physical exam findings are concordant with post-operative MRI/CT;
6. The individual has failed **BOTH** of the following conservative treatments with less than clinically meaningful improvement, unless contraindicated:
 - a. Provider-directed exercise program; **and**
 - b. **ONE** of the following:
 - i. prescription strength analgesics, steroids, gabapentinoids, or NSAIDS for six (6) weeks; **or**
 - ii. epidural steroid injections or selective nerve root block(s) performed at the same level(s) as the requested surgery; **and**
7. Documentation of nicotine-free status including **EITHER** of the following (unless this is an urgent/emergent request for fusion/ disc arthroplasty or when myelopathy is present);
 - a. Individual is a never smoker; **or**
 - b. Individual has refrained from smoking, use of smokeless tobacco products, and/or nicotine replacement therapy for at least six (6) weeks prior to planned surgery as evidenced by blood cotinine lab results of < 10ng/mL.

B. Radiculopathy

1. Post-operative MRI /CT shows neural structure compression at the requested level(s) that is concordant with the patient's symptoms and physical exam findings, and that is caused by **ANY** of the following:
 - a. Herniated disc(s) (retained disc material or a recurrent disc herniation);
 - b. Synovial cyst or arachnoid cyst;
 - c. Central/lateral/foraminal stenosis; **or**
 - d. Osteophytes;
2. Greater than 12 weeks have elapsed since initial lumbar disc decompression surgery;
3. Absence of unmanaged significant mental and/or behavioral health disorders (e.g., major depressive disorder, chronic pain syndrome, secondary gain, opioid or alcohol use disorders);

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 4 of 14

4. Subjective symptoms include **BOTH** of the following:
 - a. Significant level of pain on a daily basis, defined as clinically significant functional impairment (e.g., inability to perform household chores, prolonged standing, etc.); **and**
 - b. Persistent radiating pain into the buttock(s) and/or lower extremity(ies) resulting in clinically significant functional impairment;
 5. Objective physical exam findings including **EITHER** of the following:
 - a. Nerve root tension sign, including during **ANY** of the following:
 - i. positive straight leg raise;
 - ii. crossed straight leg raise;
 - iii. femoral stretch test;**OR**
 - b. Neurologic deficit, including **ANY** of the following:
 - i. dermatomal sensory deficit;
 - ii. functionally limiting motor weakness (e.g., foot drop, quadriceps weakness); **or**
 - iii. reflex changes;
 6. The individual has failed **BOTH** of the following conservative treatments with less than clinically meaningful improvement, unless contraindicated:
 - a. Provider-directed exercise program; **and**
 - b. **ONE** of the following:
 - i. prescription strength analgesics, steroids, gabapentinoids, or NSAIDS for six (6) weeks; **or**
 - ii. epidural steroid injections or selective nerve root block(s) performed at the same level(s) as the requested surgery; **and**
 7. Documentation of nicotine-free status including **EITHER** of the following (unless this is an urgent/emergent request for fusion/ disc arthroplasty or when myelopathy is present):
 - a. Individual is a never smoker; **or**
 - b. Individual has refrained from smoking, use of smokeless tobacco products, and/or nicotine replacement therapy for at least six (6) weeks prior to planned surgery as evidenced by blood cotinine lab results of < 10ng/mL.
- III. Based on our criteria and assessment of the peer-reviewed literature, the performance of lumbar microdiscectomy (laminotomy, laminectomy or hemilaminectomy) with laser technique is considered **not medically necessary**.
- IV. Based on our criteria and assessment of the peer-reviewed literature, initial and repeat lumbar microdiscectomy (laminotomy, laminectomy or hemilaminectomy) performed for **ANY** of the following sole indications is considered **not medically necessary**:
- A. Annular tears;
 - B. Concordant discography;
 - C. Magnetic resonance (MR) spectroscopy results; **or**
 - D. Degenerative disc disease.
- V. Based upon our criteria and assessment of the peer-reviewed literature, devices for disc annular repair (e.g., Barricaid Annular Closure Device [ACD]), have not been medically proven to be effective and, therefore, are considered **investigational**.
- VI. Based upon our criteria and assessment of the peer-reviewed literature, percutaneous lumbar discectomy (i.e., lumbar discectomy performed with indirect visualization of the spine) has not been medically proven to be effective and, therefore, is considered **investigational**.

Refer to Corporate Medical Policy #7.01.112 Intradiscal Procedures

Refer to Corporate Medical Policy #11.01.03 Experimental or Investigational Services

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 5 of 14

POLICY GUIDELINES

- I. Minimum documentation requirements needed to complete a spinal surgery prior authorization request include **ALL** of the following:
- A. CPT codes, ICD-10 codes, and disc levels or motion segments involved for planned surgery must be provided;
 - B. Detailed documentation of the type, duration, and frequency of provider-directed non-surgical treatment (e.g., interventional pain management, physical therapy, chiropractic care, or provider-directed active exercise program, etc.) that includes response to each treatment;
 - C. Detailed documentation explaining why a sufficient trial of non-surgical treatment was contraindicated (in applicable);
 - D. Detailed documentation of less than clinically meaningful improvement for each treatment;
 - E. Written reports/interpretations of the most recent advanced diagnostic imaging reports (e.g., computed tomography [CT] scan, magnetic resonance imaging [MRI], or Myelography) performed, read, and interpreted by an independent radiologist. Clinically significant discrepancies in interpretation between the surgeon and the radiologist need to be reconciled prior to the documentation submission; **and**
 - F. The documentation for spinal fusion surgery requests must include flexion-extension plain x-rays based upon indications for instability and/or other plain x-rays that document failure of instrumentation, fusion, etc.
- II. **URGENT/EMERGENT CONDITIONS:** All individuals being evaluated for spine surgery should be screened for the presence of urgent/emergent indications/conditions that warrant definitive surgical treatment. Imaging findings noted in the applicable procedure section(s) (e.g., CT scan or MRI) are required.

The following criteria are **NOT** required for confirmed urgent/emergent conditions:

- A. Provider-directed, non-surgical management;
- B. Proof of smoking cessation;
- C. Absence of unmanaged significant mental or behavioral health disorder (e.g., major depressive disorder, chronic pain syndrome, secondary gain, opioid or alcohol use disorder);
- D. Timeframe for repeat procedure.

Urgent/emergent conditions for lumbar microdiscectomy and/or excision of extradural lesion other than neoplasm include **ANY** of the following:

- A. Cauda equina syndrome (CES);
- B. Documentation of progressive neurological deficit on two (2) separate physical examinations;
- C. **ANY** of the following due to a neurocompressive pathology;
 - 1. motor weakness of grade 3/5 or less of specified muscle(s);
 - 2. rapidly progressive symptoms of motor loss;
 - 3. bowel incontinence;
 - 4. bladder incontinence/retention
- D. Epidural hematoma;
- E. Infection (e.g., discitis, epidural abscess, osteomyelitis);
- F. Primary or metastatic neoplastic disease-causing pathologic fractures, cord compression or instability;
- G. A condition otherwise meeting criteria listed in the applicable procedure section(s) with documentation of severe debilitating pain or dysfunction to the point of being incapacitated.

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 6 of 14

- III. An urgent/emergent request is based on the 2019 NCQA standard for utilization management as is as follows:
- A. A request for medical care or services where application of the time for making routine or non-life-threatening care determinations:
1. Could seriously jeopardize the life or health of the individual or the individual's ability to regain maximum function, based on a prudent layperson's judgment; or
 2. Could seriously jeopardize the life, health, or safety of the individual or others, due to the individual's psychological state, or
 3. In the opinion of a practitioner with knowledge of the individual's medical or behavior condition, would subject the individual to adverse health consequences without the care or treatment that is the subject of the request.

DESCRIPTION

Discectomy is a surgical procedure in which one (1) or more intervertebral discs are removed. Extrusion of an intervertebral disc beyond the intervertebral space can compress the spinal nerves and result in pain, numbness, and weakness. Discectomy is intended to treat symptoms by relieving pressure on the affected nerve root(s). Discectomy can be performed by a variety of surgical approaches, with either open surgery or minimally invasive techniques.

The main alternative to open discectomy is microdiscectomy, which is a minimally invasive procedure that involves a smaller incision, visualization of the disc through a special camera, and removal of disc fragments using special instruments. Because less resection can be performed in a microdiscectomy, it is usually reserved for smaller herniations, in which a smaller amount of tissue needs to be removed. Removal of the disc itself must be done under direct visualization to be considered microdiscectomy.

It has been proposed that annular closure may reduce the risk of disc reherniation and the need for a fusion. Annular closure devices are proposed to be used to reduce the risk of recurrence in patients with large annular defects following discectomy.

RATIONALE

Overall, the literature suggests that lumbar discectomy provides effective clinical benefit in carefully selected patients with sciatica. There is strong evidence in favor of microdiscectomy surgery over conservative treatment at short-term follow-up. The comparative evidence on lumbar discectomy versus conservative care consists of a small number of randomized, controlled trials (RCTs) and non-randomized comparative studies. The RCT evidence is limited by a lack of high-quality trials. In most, a high percentage of patients in the conservative care group crossed over to receive surgery. This high degree of contamination reduced the ability to detect a difference when assessed by intention-to-treat (ITT) analysis. Analysis by treatment received was also flawed because of the potential noncomparability of groups, resulting from the high volume of crossover. Despite the methodologic limitations of the evidence, the RCTs are consistent in demonstrating a probable short-term benefit for surgery and a more rapid resolution of pain and disability. For the ITT analyses, there were small differences in favor of surgery, which sometimes were statistically significant and at other times, were not. In contrast, on analysis by treatment received and in the non-randomized comparative studies, there were larger differences in favor of surgery that exceeded the threshold for clinical significance. At one year or longer, outcomes from surgery and conservative care appear to be equivalent.

In 2015, Lewis and colleagues published a network meta-analysis comparing 21 different strategies for treatment of sciatica. Reviewers included a total of 122 comparative studies, 90 of which were RCTs. For disc surgery, eight studies compared surgery with conservative care (three RCTs, one quasi-RCT, four cohort studies), and 34 studies compared discectomy with alternative treatments, including other surgical variations. For the main outcome (overall recovery), surgery was better than exercise therapy, traction, and percutaneous discectomy. However, for the outcome of pain, disc surgery was not found to be better than alternative treatments.

A systematic review based on a Cochrane review was published by Jacobs, et al. in 2011. Reviewers evaluated surgery and conservative management of sciatica due to lumbar herniated disc. They included five (5) RCTs, four (4) of which are discussed below, with the additional trial being a 1983 trial excluded from this review. Reviewers assigned a low risk of

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 7 of 14

bias to two of the four trials: the randomized Spine Patient Outcomes Research Trial (SPORT) and the Leiden-The Hague Spine Intervention Prognostic Study. They determined that pooling of the results was not appropriate, due to differences in study methodologies, so a qualitative synthesis of the data was performed. Reviewers concluded that surgery was likely to lead to better short-term control of leg pain, but that the overall quality of the body of evidence for this outcome was low. No differences were demonstrated between surgical and conservative care outcomes at one year and beyond.

Chou et al. (2009) published a systematic review of the evidence for efficacy of different surgical procedures for back pain, in conjunction with development of clinical guidelines for the American Pain Society. For the comparison of discectomy with nonsurgical care, four (4) studies were included, three (3) of which are reviewed below. Studies were not pooled. Reviewers found that discectomy, performed either by open surgery or microdiscectomy, had superior outcomes for pain and disability at up to three months, but no definite benefits at longer time points.

Weinstein et al. (2006) reported on SPORT, a moderately-large trial that compared discectomy to non-operative care in patients with lumbar disc herniation and included both a randomized and a non-randomized component. The RCT included 501 patients randomized to discectomy or to usual care. Discectomy was performed by the open technique, and, in some cases, the medial border of the superior facet joint was removed. Crossover was allowed during the trial; 107 of the 245 patients assigned to usual care underwent surgery, and 140 of the 245 patients assigned to surgery underwent surgery. The main outcomes were changes from baseline in the bodily pain and physical function subscales of the SF-36, and the modified Oswestry Disability Index (ODI) measured at time points up to two years. Secondary outcomes included self-reported improvement, work status, satisfaction with care, and a symptom severity measure (Sciatica Bothersomeness Index). For the primary outcomes evaluated using ITT analysis, improvements in ODI scores were superior for the surgery group at three months, but, at the one- and two-year follow-ups, there were no significant group differences on either primary outcome. For secondary outcomes, there were significant improvements for the surgery group on the Sciatica Bothersomeness Index at all time points, and satisfaction with care was superior for the surgery group at three (3) months, but not at longer time points. A secondary analysis was performed on a treatment-received basis, and this analysis showed significantly greater improvements for the surgery group at all time points. The estimated treatment effects for the SF-36 bodily pain and physical function subscales were 15.0 and 17.5, respectively, on a 0-to-100 scale. The estimated change in the ODI score was -15.0 on a 0 to 100 scale.

Devices for Annular Repair Following Spinal Surgery

For individuals who have a lumbar herniated disc and undergo discectomy, use of a bone-anchored annular closure device has been evaluated as a means to reduce reherniation and reoperation in a systematic review and RCTs. Although a key RCT found beneficial effects in terms of reoperation and reherniation, the evidence is limited by a lack of blinding. In patients with lumbar radiculopathy with disc herniation who receive discectomy and an annular closure device, the evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Thome and colleagues (2018) conducted a randomized, controlled trial at 21 European centers, to determine whether use of a bone-anchored ACD, in addition to lumbar microdiscectomy, resulted in lower reherniation and reoperation rates and increased overall success, compared to lumbar microdiscectomy alone. A total of 554 patients were randomized to the ACD group (n=267) and the control (N=283). Enrolled patients were 21 to 75 years of age, with imaging confirmation of single-level disc herniation between L1 and S1, disc height 5mm or greater, who had attempted nonsurgical treatment for six (6) weeks or more. Results at 2 years showed symptomatic reherniation was lower in the ACD group (12% versus 25%, p<.001). Reoperation was also lower in the ACD group (5% versus 13%; p=.0001). There were no differences in all-cause serious adverse events when ACD was compared to controls.

Three-year findings were published by Kienzler et al. (2019). Results demonstrated that lumbar discectomies using ACD resulted in fewer symptomatic reherniations than discectomies without ACD implantation (15% vs. 30%), as well as fewer reoperations (11% versus 19%). Disability and quality of life scores demonstrated modest improvement in the ACD group over the control group at three years. Four-year reoperation rates were 14.4% with ACD and 21.1% with controls (Nanda et al. 2019). The study was funded by Intrinsic Therapeutics.

Five-year follow-up outcomes remained lower in patients receiving an annular closure device, with the risk of symptomatic reherniation (18.8% vs. 31.6%; p<.001) and reoperation (16.0% vs. 22.6%; p=.03) (Thome et al., 2021). None of the investigators were blind to treatment assignment, and only patients at specific sites were blind.

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 8 of 14

Cho et al (2019) published a smaller (n=60) RCT conducted solely in Korea. Patients were randomized (n=30 ACD and n=30 conventional lumbar discectomy and were followed for 24 months. The primary endpoint of the trial was disc height. Patients treated with an annular closure device had maintained disc height at 24-months to a greater extent than those with discectomy alone (86.3% vs. 79.2%; p=.04). Back pain and leg pain were similarly improved in both treatment groups, without a statistical difference between the two groups. Recurrent herniation was more common with discectomy alone. The study is limited by a small sample size, large loss to follow-up ($\leq 70\%$ at 2-year follow-up), and unclear blinding limit the validity of this trial.

Miller et al. (2020) published a systematic review and meta-analysis of the Barricaid annular device in patients at high risk for lumbar disc reherniation. Four trials (2 RCTs) were included in the meta-analysis (Cho et al., 2019, Thome et al., 2018, Barth et al., 2016, Vukas et al, 2013). The 2018 trial by Thome, summarized above, was the only trial to find a significant decrease in symptomatic reherniation or reoperation at 2 years. The other 3 trials all indicated nonsignificant reduction for both outcomes. The authors reported overall results of the meta-analysis favored the use of an annular device for post-discectomy patients with large annular defects.

The International Society for the Advancement of Spine Surgery (ISASS) policy state for the surgical treatment of lumbar disc herniation with radiculopathy concluded that current level 1 evidence demonstrates that, in appropriately selected patient populations, implantation of a bone-anchored ACD reduces the risk of symptom recurrence and revision surgery compared to discectomy alone (Lorio et al., 2020).

The Barricaid ACD (Intrinsic Therapeutics, Woburn, MA) received FDA pre-market approval in February 2019. It is implanted during a lumbar discectomy procedure, to act as a barrier to block the annular defect and reduce reherniation and reoperation. The device is a permanent implant, consisting of titanium and a flexible woven polymer fabric component intended to close an annular defect with a bone anchor to affix the device in place.

Barricaid is FDA indicated for reducing the incidence of reherniation, and reoperation in skeletally mature patients with radiculopathy (with or without back pain) attributed to a posterior or posterolateral herniation, and confirmed by history, physical examination and imaging studies which demonstrate neural compression using MRI to treat a large annular defect (between 4-6 mm tall and between 6-10 mm wide) following a primary discectomy procedure (excision of herniated intervertebral disc) at a single level between L4 and S1.

Other FDA approved closure devices lack peer-reviewed published literature, including the Xclose Tissue Repair System (Anulex Technologies, Inc. Minnetonka, MN) approved in August 2006, and the Inclose Surgical Mesh Ssystem, approved in August 2005.

CODES

- Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.
- **CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.**
- Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.
- Code Key: Experimental/Investigational = (E/I), Not medically necessary/ appropriate = (NMN).

CPT Codes

Code	Description
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
63030	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc; 1 interspace, lumbar

Medical Policy: LUMBAR MICRODISCECTOMY**Policy Number: 7.01.98****Page: 9 of 14**

Code	Description
63035	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc; each additional interspace, cervical or lumbar [when specified as lumbar]
63042	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc, re-exploration, single interspace; lumbar
63044	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc, re-exploration, single interspace; each additional lumbar interspace
63056	Transpedicular approach with decompression of spinal cord, equine and/or nerve root(s) (e.g., herniated intervertebral disc), single segment; lumbar (including transfacet, or lateral extraforaminal approach) (e.g., far lateral herniated intervertebral disc)
63057	Transpedicular approach with decompression of spinal cord, equina and/or nerve root(s) (e.g., herniated intervertebral disc), single segment; each additional segment, thoracic or lumbar [when specified as lumbar]
63267	Laminectomy for excision or evacuation of intraspinal lesion other than neoplasm, extradural; lumbar
63272	Laminectomy for excision of intraspinal lesion other than neoplasm, intradural; lumbar
63277	Laminectomy for biopsy/excision of intraspinal neoplasm; extradural, lumbar

*Copyright © 2024 American Medical Association, Chicago, IL***HCPSC Codes**

Code	Description
C9757 (E/I)	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and excision of herniated intervertebral disc, and repair of annular defect with implantation of bone anchored annular closure device, including annular defect measurement, alignment and sizing assessment, and image guidance; 1 interspace, lumbar
S2350	Discectomy, anterior with decompression of spinal cord and/or nerve root(s); including osteophytectomy; lumbar, single interspace
S2351	Discectomy, anterior with decompression of spinal cord and/or nerve root(s); including osteophytectomy; lumbar, each additional interspace

ICD10 Codes

Code	Description
D16.6	Benign neoplasm of vertebral column
D32.1	Benign neoplasm of spinal meninges
D33.4	Benign neoplasm of spinal cord
M51.06	Intervertebral disc disorders with myelopathy, lumbar region
M51.16-M51.17	Intervertebral disc disorders with radiculopathy, lumbar/lumbosacral regions
M51.26-M51.27	Other intervertebral disc displacement, lumbar/lumbosacral regions

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 10 of 14

Code	Description
M51.36-M51.37	Other intervertebral disc degeneration, lumbar/lumbosacral regions
M51.46-M51.47	Schmorl's nodes, lumbar/lumbosacral regions
M51.86-M51.87	Other intervertebral disc disorders, lumbar/lumbosacral regions
M54.16-M54.17	Radiculopathy, lumbar/lumbosacral regions

REFERENCES

Ammerman J, et al. Closing the treatment gap for lumbar disc herniation patients with large annular defects: a systematic review of techniques and outcomes in this high-risk population. Cureus 2019 May 7;11(5):e4613.

Ardehshiri A, et al. Surgical experience, and complications in 50 patients treated with an annular closure device following lumbar discectomy. Orthop Surg 2019 Jun;11(3):431-437.

Arts MP, et al. Comparison of treatments for lumbar disc herniation: systematic review with network meta-analysis. Medicine (Baltimore) 2019 Feb;98(7):e14410.

Bailey, CS et al. Discectomy compared with standardized nonoperative care for chronic sciatica due to a lumbar disc herniation. JBSJ 2021;103(23):2161-2169.

Bailey CS, et al. Surgery versus conservative care for persistent sciatica lasting 4 to 12 months. N Engl J Med 2020 Mar 19;382(12):1093-1102.

Barber SM, et al. Outcomes of endoscopic discectomy compared with open microdiscectomy and tubular microdiscectomy for lumbar disc herniations: a meta-analysis. J Neurosurg Spine 2019 Sep 6;1-14.

Barth M, Fontana J, Thome C, et al. Occurrence of discal and non-discal changes after sequestrectomy alone versus sequestrectomy and implantation of an annulus closure device. J Clin Neurosci 2016 Dec;34: 288-293. PMID 27742376

*Best NM, et al. Success and safety in outpatient microlumbar discectomy. Journal of Spinal Disorders and Techniques 2009;19(5):334-7.

*Boonstra AM, et al., Cut-off points for mild, moderate, and severe pain on the visual analogue scale for pain in patients with chronic musculoskeletal pain. Pain 2014;155(12):2545-2550.

Bouma GJ, et al. Does patient blinding influence clinical outcomes after annular closure device implantation? A propensity score-matched analysis. Orthop Res Rev 2019 Nov 8;11:177-182.

Bouma GJ, et al. Clinical performance of a bone-anchored annular closure device in older adults. Clin Interv Aging 2019 Jun 19;14:1085-1094.

*Chen X, et al. Complication rates of different discectomy techniques for symptomatic lumbar disc herniation: a systematic review and meta-analysis. Eur Spine J 2020 Jul;29(7):1752-1770.

*Chen Z, et al. Percutaneous transforaminal endoscopic discectomy compared with microendoscopic discectomy for lumbar disc herniation: 1-year results of an ongoing randomized controlled trial. J Neurosurg Spine Mar 2018;28(3):300-310.

*Chen Z, et al. Percutaneous transforaminal endoscopic discectomy versus microendoscopic discectomy for lumbar disc herniation: two-year results of a randomized controlled trial. Spine (Phila Pa 1976) 2020 Apr 15;45(8):493-503.

*Cho PG, et al. Efficacy of a novel annular closure device after Lumbar Discectomy in Korean Patients : A 24-Month Follow-Up of a Randomized Controlled Trial. J Korean Neurosurg Soc 2019 Nov;62(6):691-699.

*Chou R, et al. Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society. Annals of Internal Medicine 2007;147(7):478-91.

*Chou R, et al. Interventional therapies, surgery, and interdisciplinary rehabilitation for low back pain: an evidence-based clinical practice guideline from the American Pain Society. Spine 2009;34(10):1066-77.

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 11 of 14

- *Chou R, et al. Medications for acute and chronic low back pain: a review of the evidence for an American Pain Society/American College of Physicians clinical practice guideline. Annals of Internal Medicine 2007;147(7):505-14.
- *Choy WJ, et al. Annular closure device for disc herniation: meta-analysis of clinical outcome and complications. BMC Musculoskelet Disord 2018 Aug 16;19(1):290.
- *Conn A, et al. Systematic review of caudal epidural injections in the management of chronic low back pain. Pain Physician 2009;12(1):109-35.
- *Desai A, et al. Outcomes after incidental durotomy during first-time lumbar discectomy. Journal of Neurosurgery: Spine 2011;14(5):647-53.
- *Eliyas JK, Karahalios D. Surgery for degenerative lumbar spine disease. Disease-a-Month 2011;57(10):592-606.
- *German JW, et al. Perioperative results following lumbar discectomy: comparison of minimally invasive discectomy and standard microdiscectomy. Neurosurgical Focus 2008;25(2):E20.
- *Gibson JN, Waddell G. Surgical interventions for lumbar disc prolapse. Cochrane Database of Systematic Reviews 2007 (verified by Cochrane 2008 Oct) Issue 2. Art. No.: CD001350.
- *Gross D, et al. Acute opioid administration improves work-related exercise performance in patients with chronic back pain. The Journal of Pain: Official Journal of the American Pain Society 2008; 9(9):856-62 .
- *Hahne AJ, et al. Conservative management of lumbar disc herniation with associated radiculopathy: a systematic review. Spine 2010;35(11):E488-504.
- Hamawandi SA, et al. Open fenestration discectomy versus microscopic fenestration discectomy for lumbar disc herniation: a randomized controlled trial. BMC Musculoskelet Disord 2020 Jun 15;21(1):384.
- *Harrington JF, French P. Open versus minimally invasive lumbar microdiscectomy: comparison of operative times, length of hospital stay, narcotic use and complications. Minimally Invasive Neurosurgery 2008;51(1):30-5.
- *Hayden J, et al. Exercise treatment effect modifiers in persistent low back pain: an individual participant data meta-analysis of 3514 participants from 27 randomised controlled trials. British Journal of Sports Medicine 2019;54:1277-1278.
- *Hutchins TA, Peckham M, Shah LM, et al. ACR Appropriateness Criteria Low back pain. American College of Radiology (ACR). Revised 2021. [<https://acsearch.acr.org/docs/69483/narrative/>] accessed 08/29/24.
- *Jacobs WC. et al. Surgery versus conservative management of sciatica due to a lumbar herniated disc: a systematic review. European Spine Journal 2011.
- *Jarvik JG, et al. Three-year incidence of low back pain in an initially asymptomatic cohort: clinical and imaging risk factors. Spine (Phila Pa 1976) 2005; 30:1541.
- *Jarvik JJ, et al. The Longitudinal Assessment of Imaging and Disability of the Back (LAIDBack) Study: baseline data. Spine (Phila Pa 1976) 2001; 26:1158.
- *Kanayama M, et al. Effective prevention of surgical site infection using a Centers for Disease Control and Prevention guideline-based antimicrobial prophylaxis in lumbar spine surgery. Journal of Neurosurgery: Spine 2007;6(4):327-9.
- *Kienzler JC, et al. Three-year results from a randomized trial of lumbar discectomy with annulus fibrosus occlusion in patients at high risk for reherniation. Acta Neurochir (Wien) 2019 Jul;161(7):1389-1396.
- *Kienzler JC, et al. Risk factors for early reherniation after lumbar discectomy with or without annular closure: results of a multicenter randomized controlled study. Acta Neurochir (Wien) 2021 Jan;163(1):259-268.
- *Kienzler JC, et al. Intraoperative findings, complications, and short-term results after lumbar microdiscectomy with or without implantation of annular closure device. Acta Neurochir (Wien) 2021 Feb;163(2):545-559.

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 12 of 14

- *Klassen PD, et al. Bone-anchored annular closure following lumbar discectomy reduces risk of complications and reoperations within 90 days of discharge. J Pain Res 2017 Aug 26;10:2047-2055.
- *Krutko AV, et al. Predictors of treatment success following limited discectomy with annular closure for lumbar disc herniation. Int J Spine Surg 2020 Feb 29;14(1):38-45.
- *Kuršumović A and Rath S. Performance of an annular closure device in a 'real-world', heterogeneous, at-risk, lumbar discectomy population. Cureus 2017 Nov 6;9(11):e1824.
- *Koc Z, et al. Effectiveness of physical therapy and epidural steroid injections in lumbar spinal stenosis. Spine 2009;34(10):985-9.
- *Lorio M, et al. International Society for the Advancement of Spine Surgery policy 2019-surgical treatment of lumbar disc herniation with radiculopathy. Int J Spine Surg 2020 Feb 29;14(1):1-17.
- *Martens F, et al. Implantation of a bone-anchored annular closure device in conjunction with tubular minimally invasive discectomy for lumbar disc herniation: a retrospective study. BMC Musculoskelet Disord 2018 Jul 27;19(1):269.
- Miller LE, et al. Expert review with meta-analysis of randomized and nonrandomized controlled studies of Barricaid annular closure in patients at high risk for lumbar disc reherniation. Expert Rev Med Devices 2020 May;17(5):461-469.
- *Munter FM, et al. Serial MR Imaging of Annular Tears in Lumbar Intervertebral Disks. AJNR Am J Neuroradiol 2002; 23:1105.
- *Muthu S, et al. Is endoscopic discectomy the next gold standard in the management of lumbar disc disease? systematic review and superiority analysis. Global Spine J 2020 Sep 16;2192568220948814.
- *Nanda D, et al. Annular closure device lowers reoperation risk 4 years after lumbar discectomy. Med Devices (Auckl) 2019 Sep 4;12:327-335.
- North American Spine Society (NASS). Coverage Policy Recommendations Endoscopic Decompression. 2019 Feb. Burr Ridge, IL. North American Spine Society (NASS). [<https://www.spine.org/coverage>] accessed 10/01/24.
- North American Spine Society (NASS). Coverage Policy Recommendations Laser Spine Surgery. 2014 May. Burr Ridge, IL. North American Spine Society (NASS). [<https://www.spine.org/coverage>] accessed 10/01/24.
- North American Spine Society (NASS). Coverage Policy Recommendations Lumbar Decompression: Laminectomy, Laminotomy & Foraminotomy. 2022 Jan. Burr Ridge, IL. North American Spine Society (NASS). [<https://www.spine.org/coverage>] accessed 10/01/24.
- Panagopoulos J, Hush J, Steffens D, Hancock MJ. Do MRI findings change over a period of up to 1 year in patients with low back pain and/or sciatica? Spine 2017;42(7):504-512.
- Park SM, et al. Biportal endoscopic versus microscopic lumbar decompressive laminectomy in patients with spinal stenosis: a randomized controlled trial. Spine J. 2020 Feb;20(2):156-165.
- *Peul W.C. et al. Prolonged conservative care versus early surgery in patients with sciatica caused by lumbar disc herniation: two-year results of a randomised controlled trial. BMJ 2008 336(7657):1355-8.
- *Peul WC, et al. Surgery versus prolonged conservative treatment for sciatica. New England Journal of Medicine 2007;356(22):2245-56.
- *Podichetty VK, et al. Complications associated with minimally invasive decompression for lumbar spinal stenosis. J Spinal Disorders and Techniques 2006;19(3):161-6.
- *Rampersaud YR, et al. Intraoperative adverse events and related postoperative complications in spine surgery: implications for enhancing patient safety founded on evidence-based protocols. Spine 2006;31(13):1503-10.
- Ray M, et al. Endoscopic decompression of spinal cord for adults with sciatica or low back pain (CPT code 62380). Portland, OR: Center for Evidence-based Policy, Oregon Health & Science University

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 13 of 14

[https://www.health.ny.gov/health_care/medicaid/ebbrac/docs/2017-12-08_endoscopic_decompression.pdf] accessed 05/15/24.

Ren C, et al. Microendoscopic discectomy combined with annular suture versus percutaneous transforaminal endoscopic discectomy for lumbar disc herniation: a prospective observational study. *Pain Physician* 2020 Nov;23(6):E713-E721.

*Ries ZG, Glassman SD, Vasilyev I, Metcalfe L, Carreon LY. Updated imaging does not affect revision rates in adults undergoing spine surgery for lumbar degenerative disease. *J Neurosurg Spine* 2019;30(2):228-223. Published online 2018 Nov.

Simpson AK et al. Spinal endoscopy: evidence, techniques, global trends, and future projections. *Spine J* 2022;22(1):64-74.

*Shafshak TS and Elnemr R. The visual analogue scale versus numerical rating scale in measuring pain severity and predicting disability in low back pain. *J Clin Rheumatol* 2021 Oct 1;27(7):282-285.

Shariff S, et al. Acute back pain: the role of medication, physical medicine, and rehabilitation: WFNS spine committee recommendations. *World Neurosurgery* 2024 July;23:1-11.

*Song Q, et al. Full-Endoscopic lumbar decompression versus open decompression and fusion surgery for the lumbar spinal stenosis: a 3-year follow-up study. *J Pain Res* 2021 May 20;(14):1331-1338.

*Thomas JG, et al. Minimally invasive lumbar microdiscectomy in pediatric patients: a series of 6 patients. *Journal of Neurosurgery Pediatrics* 2011;7(6):616-9.

*Thomé C, et al. Annular closure in lumbar microdiscectomy for prevention of reherniation: a randomized clinical trial. *Spine J* 2018 Dec;18(12):2278-2287.

Thomé, C, et al. Effectiveness of an annular closure device to prevent recurrent lumbar disc herniation: a secondary analysis with 5 years of follow up. *Jama Network Open* 2021;4(12):e2136809.

*Tran de QH, et al. Lumbar spinal stenosis: a brief review of the nonsurgical management. *Canadian Journal of Anaesthesia* 2010;57(7):694-703.

*Van den Brink W, et al. Lumbar disc reherniation prevention with a bone-anchored annular closure device: 1-year results of a randomized trial. *Medicine (Baltimore)* 2019 Nov;98(44):e17760.

*Vukas D, Ledić D, Grahovac G, et al. Clinical outcomes in patients after lumbar disk surgery with annular reinforcement device: two-year follow up. *Acta Clin Croat* 2013 Mar; 52(1): 87-91. PMID 23837277

*Weinstein JN, et al. Surgical vs nonoperative treatment for lumbar disk herniation: the Spine Patient Outcomes Research Trial (SPORT): a randomized trial. *JAMA* 2006; 296:22441-2450.

*Weinstein JN, et al. Surgical versus nonoperative treatment for lumbar disc herniation: four-year results for the Spine Patient Outcomes Research Trial (SPORT). *Spine* 2008;33(25):2789-800.

Wilby MJ, et al. Microdiscectomy compared with transforaminal epidural steroid injection for persistent radicular pain caused by prolapsed intervertebral disc: the NERVES RCT. *Health Technol Assess* 2021 Apr;25(24):1-86.

*Winters ME, et al. Back pain emergencies. *Med Clin North Am* 2006;90(3):505-523.

*Young K, et al. Clinical inquiries. When is discectomy indicated for lumbar disc disease? *Journal of Family Practice* 2011;60(8):490.

*Key Article

KEY WORDS

Hemilaminectomy, laminectomy, laminotomy, microdiscectomy, endoscopic decompression

Medical Policy: LUMBAR MICRODISCECTOMY

Policy Number: 7.01.98

Page: 14 of 14

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

Based upon review, lumbar microdiscectomy is not specifically addressed in a National or Regional Medicare coverage determinations or policies.