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

**Related Policies**

- Artificial Intervertebral Disc: Cervical Spine
- Artificial Intervertebral Disc: Lumbar Spine
- Automated Percutaneous and Endoscopic Discectomy
- Decompression of the Intervertebral Disc Using Laser Energy (Laser Discectomy) or Radiofrequency Coblation (Nucleoplasty)
- Percutaneous Intradiscal Electrothermal Annuloplasty and Percutaneous Intradiscal Radiofrequency Annuloplasty
- Vertebral Axial Decompression

**Policy**

**CURRENT - The following position statement is effective through April 29, 2015**

Lumbar discectomy (see Policy Guidelines) may be considered medically necessary for the treatment of lumbar herniated disc when all of the following criteria are met:

- Signs and symptoms of radiculopathy on history and physical exam (see Policy Guidelines)
- One of the following clinical presentations is present:
  - Rapidly progressing neurologic deficits
  - Persistent debilitating back or leg pain that is refractory to at least 6 weeks of conservative therapy (see Policy Guidelines)
- Documentation of nerve root compression on imaging (magnetic resonance imaging [MRI] or computed tomography [CT]) at a level that corresponds with the patient’s symptoms (see Policy Guidelines)

Lumbar discectomy is considered not medically necessary for the treatment of lumbar herniated disc when the above criteria are not met.
Cervical discectomy (see Policy Guidelines) may be considered medically necessary for the treatment of cervical herniated disc when all of the following criteria are present:

- Signs and symptoms of radiculopathy and/or myelopathy on history and physical exam (see Policy Guidelines)

- **One** of the following clinical presentations is present:
  - Rapidly progressing neurologic deficits
  - Persistent debilitating neck, back, or arm pain that is refractory to at least 6 weeks of conservative therapy (see Policy Guidelines)
  - Persistent or progressive symptoms of myelopathy that are refractory to at least 6 weeks of conservative therapy (see Policy Guidelines)

- Documentation of nerve root compression on imaging (MRI or CT) at a level that corresponds with the patient’s symptoms (see Policy Guidelines)

Cervical discectomy is considered not medically necessary for the treatment of cervical herniated disc when the above criteria are not met.

Thoracic discectomy may be considered medically necessary for patients with any of the following conditions and associated criteria (as applicable):

- Documentation of significant or progressive neurological loss including motor deficits and/or sensory changes/disturbances

- Thoracic radiculopathy and **all** of the following:
  - Documentation of severe intractable pain with debilitating thoracic radiculopathy (e.g., localized or radiating pain in a girdle-like fashion along the intercostal dermatome and/or nocturnal recumbent pain) of at least six (6) weeks in duration with clear evidence of a neural compressive lesion/nerve root compromise which correlates with the clinical examination findings
  - Condition correlates with the diagnostic imaging findings
  - Patient is unresponsive to a course of an active rehabilitative exercise program with appropriate adjunctive care (e.g., physical therapy, chiropractic care, pain management)

Thoracic discectomy is considered not medically necessary when the above criteria specified are not met.

Discectomy is considered investigational for all other indications.

**PREVIEW - The following position statement will take effect on April 30, 2015**

Lumbar discectomy (see Policy Guidelines) may be considered medically necessary for the treatment of lumbar herniated disc when all of the following criteria are met:

- Signs and symptoms of radiculopathy on history and physical exam (see Policy Guidelines)

- **One** of the following clinical presentations is present:
  - Rapidly progressing neurologic deficits
  - Persistent debilitating back or leg pain that is refractory to at least 6 weeks of conservative therapy (see Policy Guidelines)
• Documentation of nerve root compression on imaging (magnetic resonance imaging [MRI] or computed tomography [CT]) at a level that corresponds with the patient’s symptoms (see Policy Guidelines)

Lumbar discectomy is considered **not medically necessary** for the treatment of lumbar herniated disc when the above criteria are not met.

Cervical discectomy (see Policy Guidelines) may be considered **medically necessary** for the treatment of cervical herniated disc when all of the following criteria are present:

• Signs and symptoms of radiculopathy and/or myelopathy on history and physical exam (see Policy Guidelines)

• **One** of the following clinical presentations is present:
  - Rapidly progressing neurologic deficits
  - Persistent debilitating neck, back, or arm pain that is refractory to at least 6 weeks of conservative therapy (see Policy Guidelines)
  - Persistent or progressive symptoms of myelopathy that are refractory to at least 6 weeks of conservative therapy (see Policy Guidelines)

• Documentation of nerve root compression on imaging (MRI or CT) at a level that corresponds with the patient’s symptoms (see Policy Guidelines)

Cervical discectomy is considered **not medically necessary** for the treatment of cervical herniated disc when the above criteria are not met.

Discectomy is considered **investigational** for all other indications.

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**Policy Guidelines**

**Lumbar Discectomy**

Lumbar discectomy refers to standard open discectomy or minimally invasive microdiscectomy. Microdiscectomy will be defined for the purpose of this assessment as having the following features:

1. Uses a small surgical incision (as opposed to an endoscopic “port”)
2. Uses a specially designed microscope to achieve direct visualization of the vertebral column (as opposed to indirect visualization with an endoscope or other type of cameras)
3. Removes disc and other surgical products by direct visualization through the surgical incision

**Microdiscectomy**

Microdiscectomy may be done with adjunctive devices, such as tubular retractors to improve visualization, or endoscopy to localize the correct areas to operate. However, removal of the disc itself must be done under direct visualization in order to be considered microdiscectomy.

**Cervical Discectomy**

Cervical discectomy refers to open anterior cervical discectomy (with or without fusion), or minimally invasive posterior cervical discectomy/foraminotomy.
**Alternative Procedures**

There are numerous other alternative procedures for performing discectomy, with uncertain efficacy compared with standard procedures. For the purpose of this reference policy, the following procedures are considered investigational and therefore not valid alternatives for discectomy:

- Artificial intervertebral disc (lumbar and cervical)
- Laser discectomy
- Radiofrequency cobloration (nucleoplasty)
- Automated percutaneous discectomy
- Endoscopic discectomy
- Intradiscal electrothermal annuloplasty (IDET)
- Intradiscal radiothermal annuloplasty
- Chemonucleolysis

**Radiculopathy**

The diagnosis of radiculopathy is typically made by a combination of suggestive signs and symptoms in conjunction with imaging that demonstrates compression of a spinal nerve root. Symptoms are due to irritation of the spinal nerve root (e.g., L4, L5, or S1). For the purpose of this policy, radiculopathy is defined as the presence of any of the following:

1. Loss of strength of specific named muscle(s) or myotomal distribution(s) demonstrated on detailed neurologic examination (within the prior 3 months) concordant with nerve root compression of the involved named spinal nerve root(s).

2. Altered sensation to light touch, pressure, pin prick, or temperature demonstrated on a detailed neurologic examination (within the prior 3 months) in the sensory distribution concordant with nerve root compression of the involved named spinal nerve root(s).

3. Diminished, absent or asymmetric reflex(es) within the prior 3 months concordant with nerve root compression of the involved named spinal nerve root(s).

4. Pain or other dysesthesia/paraesthesia reported by the patient in a sensory distribution(s) (specific dermatone[s]) of the involved named spinal nerve root(s) with either of the following:
   a. A concordant radiologist’s interpretation of an advanced diagnostic imaging study (MRI or CT) of the spine demonstrating compression of the involved named spinal nerve root(s). (Performed within the past 12 months)
   b. Electrodiagnostic studies (EMG/NCV’s) diagnostic of nerve root compression of the involved named spinal nerve root(s). (Performed within the past 12 months)

**Conservative Nonsurgical Therapy**

Conservative nonsurgical therapy for the duration specified should include all of the following:
Use of prescription strength analgesics for several weeks at a dose sufficient to induce a therapeutic response
  - Analgesics should include anti-inflammatory medications with or without adjunctive medications such as nerve membrane stabilizers or muscle relaxants

Participation in at least 6 weeks of physical therapy (including active exercise) or documentation of why the patient could not tolerate physical therapy

Evaluation and appropriate management of associated cognitive, behavioral, or addiction issues

Documentation of patient compliance with the preceding criteria

**Persistent Debilitating Pain**

Persistent debilitating pain is defined as:

- Significant level of pain on a daily basis defined on a visual analog scale (VAS) as greater than 4; AND
- Pain on a daily basis that has a documented impact on activities of daily living in spite of optimal conservative nonsurgical therapy as outlined above and appropriate for the patient

**Medical Necessity Documentation**

Medical necessity is established by documentation of medical history, physical findings, and diagnostic imaging results that demonstrate spinal nerve compression and support the surgical treatment intervention. Documentation in the medical record must clearly support the medical necessity of the surgery and include the following information:

**Medical History**

- Patient has been screened/evaluated for clinically significant medical comorbidities (e.g., morbid obesity, current smoking, diabetes, renal disease, osteoporosis, and severe physical deconditioning) and undergone thorough medical clearance, if applicable
- Documentation from a primary care physician, neurologist, physiatrist, psychiatrist or psychologist, supports the absence of untreated, underlying psychological conditions or psychosocial issues (e.g., depression, drug and alcohol abuse) as contributors to chronic pain
- History of back surgery, including minimally invasive back procedures
- Prior trial, failure, or contraindication to conservative medical/non-operative interventions that may include but are not limited to the following:
  - Activity modification for at least 6 weeks
  - Oral analgesics and/or anti-inflammatory medications
  - Physical therapy
  - Chiropractic manipulation
  - Epidural steroid injections

**Physical Examination**

- Clinical findings including the patient’s stated symptoms and duration
Diagnostic Testing

- Radiologist's report of a magnetic resonance image (MRI) or computerized tomography (CT) scan with myelogram of the lumbar spine within the past 12 months showing a lumbar spine abnormality
- Report of the selective nerve root injection results, if applicable to the patient's diagnostic workup

Benefit Application

Benefit determinations should be based in all cases on the applicable contract language. To the extent there are any conflicts between these guidelines and the contract language, the contract language will control. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

Some state or federal mandates (e.g., Federal Employee Program (FEP)) prohibit Plans from denying Food and Drug Administration (FDA)-approved technologies as investigational. In these instances, plans may have to consider the coverage eligibility of FDA-approved technologies on the basis of medical necessity alone.

Rationale

Background

Discectomy is a surgical procedure in which 1 or more intervertebral discs are removed. The primary indication for discectomy is herniation, or extrusion, of an intervertebral disc. Extrusion of an intervertebral disc beyond the intervertebral space can compress the spinal nerves and result in symptoms of pain, numbness, and weakness. Discectomy is intended to treat symptoms by relieving pressure on the affected nerve(s).

However, not all disc herniations require surgery. The natural history of untreated disc herniations is not well-characterized, but most disc herniations will decrease in size over time due to shrinking and/or regression of the disc.(1) Clinical symptoms will also tend to improve over time in conjunction with shrinkage or regression of the herniation.

Because most disc herniations improve over time, initial care is conservative, consisting of analgesics and a prescribed activity program tailored to the patient's individual considerations. Other potential nonsurgical interventions include opioid analgesics and chiropractic manipulation. Epidural steroid injections can also be used as a second-line intervention and are associated with short-term relief of symptoms.(2)

However, some disc herniations will not improve over time with conservative care. A small proportion of patients will have rapidly progressive signs and symptoms, thus putting them at risk for irreversible neurologic deficits. These patients are considered to be surgical emergencies and expedient surgery is intended to prevent further neurologic deterioration and allow for nerve recovery.

Other patients will not progress, but will have the persistence of symptoms that require further intervention. It is estimated that up to 30% of patients with sciatica will continue to have pain for more than 1 year.(3) For these patients, there is a high degree of morbidity and functional disability associated with chronic back pain, and there is a tendency for recurrence despite the modality of treatment. Therefore, treatments that have more
uniform efficacy for patients with herniated disc and chronic back pain are needed. In particular, decreased chronic pain and decreased disability is the goal of treatment of chronic low back pain due to herniated disc.

Lumbar Discectomy
Lumbar discectomy can be performed by a variety of surgical approaches. Open discectomy is the traditional approach. In open discectomy, a 2 to 3 cm incision is made over the area to be repaired. The spinal muscles are dissected and a portion of the lamina may be removed to allow access to the vertebral space. The extruded disc is removed either entirely or partially using direct visualization. Osteophytes that are protruding into the vertebral space can also be removed if deemed necessary.

The main alternative to open discectomy is microdiscectomy, which has gained popularity over the last few decades. A microdiscectomy 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. The amount of resection that can be performed in a microdiscectomy is less and therefore is usually reserved for smaller herniations in which a smaller amount of tissue needs to be removed. A few controlled trials of open discectomy versus microdiscectomy have been published, and have reported that neither procedure is clearly superior to the other but that microdiscectomy is associated with more rapid recovery.(4,5)

Cervical Discectomy
The most common procedure for cervical discectomy is anterior cervical discectomy (ACD). This is an open procedure in which the cervical spine is approached through an incision in the anterior neck. Soft tissues and muscles are separated to expose the spine. The disc is removed using direct visualization. This procedure can be done with or without spinal fusion, but most commonly it is performed together with fusion.

An alternate, less invasive procedure for cervical discectomy is posterior cervical discectomy/foraminotomy. This is performed through a small incision in the back of the neck. The nerves and muscles are separated using a small retractor. The spine is visualized with microscopic guidance, and a portion of the spine, the foramen, is removed to expose the spinal canal. Special instruments are used to remove a portion of the disc or the entire disc.

Complications of discectomy in general include bleeding, infections, and inadvertent nerve injuries. Dural puncture occurs in a few percent of patients, leading to leakage of cerebrospinal fluid that can be accompanied by headaches and/or neck stiffness. In a small percentage of cases, worsening of neurologic symptoms can occur postsurgery.

Other variations on discectomy include the following procedures. These procedures do not have high-quality comparative trials compared with standard discectomy, have all been determined investigational in the separate medical policies (see Related Policies), and will therefore not be considered as true alternatives to discectomy for this reference policy:

- Artificial intervertebral disc (lumbar and cervical)
- Laser discectomy
- Radiofrequency coblation (nucleoplasty)
- Automated percutaneous discectomy
- Automated endoscopic discectomy
• Automated percutaneous discectomy
• Intradiscal electrothermal therapy (IDET) annuloplasty
• Intradiscal radiothermal therapy annuloplasty
• Vertebral axial decompression
• Chemonucleolysis

**Regulatory Status**

Discectomy is a surgical procedure and, as such, is not subject to regulation by the U.S. Food and Drug Administration (FDA). Some of the instrumentation used during laminectomy may be subject to FDA approval.

**Literature Review**

Assessment of efficacy for therapeutic interventions involves a determination of whether the intervention improves health outcomes. The optimal study design for this purpose is a randomized controlled trial (RCT) that includes clinically relevant measures of health outcomes. Intermediate outcome measures, also known as surrogate outcome measures, may also be adequate if there is an established link between the intermediate outcome and true health outcomes. Nonrandomized comparative studies and uncontrolled studies can sometimes provide useful information on health outcomes, but are prone to biases such as noncomparability of treatment groups, placebo effect, and variable natural history of the condition.

The best evidence on the efficacy of discectomy consists of several RCTs comparing discectomy with conservative care, and systematic reviews of these trials. The RCTs form the main body of evidence for evaluating the efficacy of discectomy. However, conducting high-quality RCTs for this condition is challenging due to strong preferences for treatment on the part of both patients and physicians. This leads to difficulty enrolling a population that is representative of patients seen in clinical care, and also to high rates of crossover between treatment groups following randomization. For this reason, it is important to evaluate evidence from nonrandomized comparative trials. Some of the representative, larger nonrandomized comparative studies are also included in the review of evidence.

**Lumbar Discectomy**

**Randomized Controlled Trials**

A total of 6 RCTs of discectomy versus conservative care were initially identified. One of these was from 1983 and was not included because it was unlikely that results reflect current surgical management.(6) Another RCT compared percutaneous discectomy with conservative care.(7) Because percutaneous discectomy is considered investigational (see Blue Shield of California Medical Policy: Automated Percutaneous and Endoscopic Discectomy [7.01.18]), this study was also excluded, leaving 4 RCTs for review.

The SPORT Trial

This moderately large-sized trial compared discectomy with nonoperative care in patients with lumbar disc herniation and included both a randomized and nonrandomized component.(8,9) The randomized component included 501 patients randomly assigned to either discectomy or usual care. Discectomy was performed by the open technique for all patients, and in some cases, the medial border of the superior facet joint was removed. Crossover was allowed, and during the course of the study 107 of 245 (45%) patients assigned to usual care underwent surgery, and 140 of 245 (60%)
patients assigned to the surgery group underwent surgery. The main outcomes were the 36-Item Short-Form Health Survey (SF-36) and the Oswestry Disability Index (ODI) measured at 3 months, 1 year, and 2 years. Secondary outcomes included self-reported improvement, work status, satisfaction with care, and a symptom severity measure (Sciatica Bothersomeness Index).

For the primary outcomes analyzed on intention-to-treat (ITT) analysis, improvement in the ODI was superior for the surgery group at 3 months, but at the 1 year and 2 year time points, there were no significant group differences on any of the primary outcomes. For the 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 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 effect for the SF-36 Bodily Pain and Physical Function scales was 15.0 and 17.5, respectively, on a 0 to 100 scale. The estimated treatment effect on the ODI was -15.0 on a 0 to 100 scale.

Leiden-The Hague Spine Intervention Prognostic Study

This was a multicenter RCT performed at 11 hospitals in the Netherlands comparing immediate surgery with continued conservative care and surgery as necessary.(10) Patients were eligible if they were 18 to 65 years-old, had severe sciatica for between 6 and 12 weeks, and had radiologically confirmed disc herniation. A total of 283 patients were randomized and followed for 1 year. Patients in the surgery group were treated with microdiscectomy, and patients in the conservative care group received continued conservative care from their primary care providers. The primary outcomes were the Roland-Morris Disability Questionnaire for sciatica, leg pain rating on a 0-to-100 visual analog scale (VAS), and self-rating of perceived recovery on a 7-point Likert scale. Secondary outcomes included observational assessment of neurologic status and disability, the SF-36, and sciatica symptom scales.

By the end of the study, 89% of the surgical group underwent surgery, and of the 142 patients assigned to initial conservative care, 55 (39%) had undergone surgery at 1 year. At early follow-up, there were some differences in favor of the surgery group. At 8 and 12 weeks, the surgery group had superior scores on disability and leg pain, and back pain was superior for the surgery group between 2 and 26 weeks. However, at 1-year follow-up, the scores were similar between groups with no significant group differences. For the outcome of perceived recovery, the median time to recovery was shorter in the surgery group (4.0 weeks; 95% confidence interval [CI], 3.7 to 4.4) compared with the conservative care group (12.1 weeks; 95% CI, 9.5 to 14.9). At 1 year, the recovery rates were equivalent between groups, with 95% of patients reporting recovery.

Osterman et al

A small, single-center RCT comparing discectomy with conservative care was completed in 2006.(11) A total of 56 patients referred to orthopedics for sciatica were eligible for inclusion, as defined by sciatica with pain radiating below the knee, at least 1 specific physical exam sign consistent with sciatica, and radiologic confirmation of a herniated disc. Patients in the surgical group were treated with microdiscectomy, and patients in the conservative care group were enrolled in a structured physiotherapy program. The main outcome measure was intensity of leg pain measured on a 0 to 100 scale, and secondary outcomes were back pain, work ability, general quality of life, disability, depression, and satisfaction with care. Follow-up time points were 6 weeks, 3 months, 1 year, and 2 years.
All 28 patients in the surgery group underwent surgery, and 11 of 28 (39%) patients in the conservative care group underwent surgery by the end of the study. Over the course of the 2-year follow-up, there were no overall differences on any of the primary outcomes between the surgical and conservative care groups. At each time point, the surgery group had numerically superior results, but the differences did not reach statistical significance. On subgroup analysis, there were significant improvements for the surgery group on patients older than 37 years, and on patients with L4-5 herniation.

Butterman et al

An RCT comparing discectomy with epidural steroid injections was published by Butterman in 2004.(12) This trial enrolled 169 patients referred for treatment of disc herniation. All patients had a large disc herniation, defined as greater than 25% the cross-sectional area of the spinal canal, at a single level. Patients with rapidly progressive symptoms and patients with recurrent disc herniation were excluded. Conservative care was administered for the first 6 weeks of the trial, with improvement in symptoms for 69 patients. The remaining 100 patients were randomized to discectomy or epidural spinal injections. Follow-up was for 2 to 3 years, but there was a large decrease in the percent of patients available for follow-up after the 3-month time period, particularly for the injection group, in which only approximately half of the patients were available at any time point longer than 3 months.

At 1- to 3-month follow-up, pain scores, scores on the ODI, and medication use were lower in the surgery group compared with the injection group, but at later time points there were no significant differences between groups. The percent of patients describing their treatment as successful ranged from 92% to 98% at various time points for patients in the surgery group, compared with a range of 42% to 56% percent in the injection group.

Systematic Reviews

A systematic review based on a Cochrane Collaboration review was published by Jacobs et al in 2011.(3) The authors included 5 RCTs, 4 of which were the trials previously discussed, with the additional trial being the older 1983 trial that was excluded from this review. The authors assigned a low risk of bias to 2 of the 4 trials, the SPORT trial(9) and the Leiden-The Hague Spine Intervention Prognostic Study.(10) The authors determined that pooling of the results was not appropriate due to differences in study methodology, and a qualitative synthesis of the data was performed. The review 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. There were no differences demonstrated between surgery and conservative care at time points of 1 year or longer.

Lewis et al performed a network meta-analysis comparing 21 different strategies for treatment of sciatica.(13) This review included a total of 122 comparative studies, 90 of which were RCTs. For disc surgery, there were 8 studies comparing surgery with conservative care (3 RCTs, 1 quasi-RCT, 4 cohort studies), and 34 studies comparing discectomy with other alternative treatments, including other surgical variations. For the main outcome of 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.

Chou et al published a systematic review of the evidence for efficacy of different surgical procedures for back pain, in conjunction with development of clinical guidelines by the American Pain Society.(14) For the question of discectomy versus nonsurgical care, 4 studies were included, 3 of which were previously reviewed. The studies were not pooled. The conclusions of this evidence review were that discectomy, performed either
by open surgery or microdiscectomy, had superior outcomes of pain and disability at up to 3 months, but no definite benefit at longer time points.

**Nonrandomized Comparative Studies**

The observational cohort component of the SPORT trial enrolled patients who met the eligibility criteria for the SPORT RCT but who declined randomization to treatment group. (8) A total of 743 patients were enrolled, 528 underwent discectomy and 191 were treated with conservative care. The primary outcomes (SF-36, ODI) and secondary outcomes (self-reported improvement, work status, satisfaction, symptom severity) were the same as for the RCT, and follow-up was according to same schedule of 3 months, 1 year, and 2 years. Follow-up ranged between 82% and 89% for different time points. Study results reported that the surgery group had superior improvements at 2 years on all primary and secondary outcome measures, except work status. The treatment effect as measured by the SF-36 Bodily Pain was 10.2 (95% CI, 5.9 to 14.5), the treatment effect of the SF-36 Physical Function scale was 12.0 (95% CI, 7.9 to 16.1), and the treatment effect of the ODI was -13.4 (95% CI, -17.0 to -9.7).

The Maine Lumbar Spine Study was a prospective cohort study that compared 10-year outcomes of discectomy with conservative care. (15) There were 507 patients enrolled in the study, with 477 patients that survived until 10 years, and 10-year outcome data was available for 400/477 (84%), 217 who were treated surgically and 183 treated conservatively. Approximately 25% of patients who were originally treated with conservative care underwent a surgical procedure during the 10-year period. Baseline data were obtained from a physician questionnaire, and outcome data were obtained from questionnaires mailed to patients. Patients treated with surgery had worse symptoms and decreased functional status compared with patients treated conservatively. At 10 years, there was no difference in the percent of patients who reported improvement in their predominant symptom, no difference in the modified Roland functional status index, and no difference in work or disability status. There were significant differences in favor of surgery in the percent of patients who reported that their back or leg pain was completely gone or much better (56% vs 40%, p=0.006), and on the percent of patients who were satisfied with their care (71% vs 56%, p=0.002).

**Section Summary**

The comparative evidence on lumbar discectomy versus conservative care consists of a small number of RCTs and nonrandomized comparative studies. The RCT evidence is limited by a lack of high-quality trials. In most trials, there is a high percentage of patients in the conservative group who crossover to receive surgery. This high degree of contamination leads to reduced power to detect a difference when an ITT analysis is used. Analysis by treatment received is also flawed because of the potential noncomparability of groups resulting from the high crossover.

Despite the methodologic limitations of the evidence, the RCTs are consistent in demonstrating a probable benefit for surgery in more rapid resolution of pain and disability. For the ITT analyses, there are small differences in favor of surgery that, which sometimes reach statistical significance and other times do not. In contrast, on analysis by treatment received and in the nonrandomized comparative studies, there are larger differences in favor of surgery that exceed the threshold for clinical significance. At time points of 1 year or longer, outcomes from surgery and conservative care appear to be equivalent.
Cervical Discectomy

There is considerably less evidence available for cervical discectomy compared with lumbar discectomy. Two small RCTs were identified comparing cervical discectomy with conservative care. In 2013, Peolsson et al published an RCT of 63 patients from 3 centers in Sweden randomized to structured exercise alone or structured exercise with cervical discectomy. The surgical procedure consisted of anterior cervical discectomy with fusion (ACDF). The primary outcomes were functional measures, including range of motion for the neck, neck muscle endurance, and hand-related functions such as manual dexterity and grip strength. Follow-up was at 3, 6, 12, and 24 months.

During the study there were 2 crossovers from the exercise group to surgery. At 2-year follow-up, there were no differences on any of the main outcomes. There were improvements for both groups on multiple measures of functional status, but no significant group differences. This study did not include any outcome measures of pain or disability.

An earlier trial compared surgery with conservative care in 81 patients with longstanding cervical radiculopathy. Patients were randomized to surgery or 1 of 2 control groups, an active exercise program and use of a cervical collar. Outcome measures included a VAS for pain with a 0 to 100 range, muscle strength in the upper extremities, and sensation in the upper extremities. Follow-up time points were 4 months and 12 months. Three patients in the surgery group declined surgery because of improvement in symptoms, and there were no crossovers from conservative care to surgery. At the 4-month follow-up, the surgery group had less pain, less sensory loss, and better muscle strength. By 1 year, there were no group differences on any of the main outcomes.

A Cochrane collaboration systematic review was published in 2010. This review included the 2 RCTs previously summarized, and identified no further trials for inclusion. The authors judged both trials to have significant risk of bias and concluded that there was low-quality evidence for a short-term benefit of surgery and no evidence for a long-term benefit. However, they also stated that the risk/benefit ratio of surgery is unclear and that is not certain that the short-term benefits outweigh the risks.

Section Summary

There is considerably less evidence on cervical discectomy compared with lumbar discectomy. Two small trials with methodologic limitations were identified. These trials report results that are not different from the lumbar discectomy trials, but the trials are smaller and, as a result, have less power to detect a statistical difference. Although the evidence for cervical discectomy is limited, it is likely that outcomes of lumbar discectomy can be extrapolated to cervical discectomy, and it is unlikely that there are large differences in outcomes between lumbar and cervical discectomy.

Ongoing and Unpublished Clinical Trials

An online search of ClinicalTrials.gov in July 2014 found 1 ongoing trial for discectomy. NCT01335646 is a randomized Canadian study comparing surgery with standardized nonoperative care for the treatment of lumbar disc herniations. The estimated enrollment for this trial is 140 with an estimated completion date of March 2016.

Summary of Evidence

The evidence on the efficacy of discectomy versus conservative care consists of a small number of randomized controlled trials (RCTs) and nonrandomized, comparative studies. For lumbar discectomy, 4 RCTs were identified, 2 of which were moderately large in size. There is less evidence for cervical discectomy, and only 2 small RCTs were identified for
this review. The RCT evidence is limited by a high rate of crossover from the conservative care to the surgery group in nearly all trials. This rate of crossover was 40% or higher in some trials, thereby greatly limiting the power to detect a difference when using an intention-to-treat (ITT) analysis. Despite the methodologic limitations, the results from these comparative studies are fairly consistent. They report that on ITT analysis, the direction of short-term benefit favors surgery for almost all comparisons, but the group differences in many cases do not reach statistical significance. Analysis by treatment received shows larger, clinically significant differences in outcomes favoring surgery, and a similar magnitude of effect is reported in nonrandomized, comparative trials. However, these analyses are limited by potential noncomparability of treatment groups.

The evidence is also consistent in reporting that the benefits are mainly short term, lasting for weeks to months. At follow-up time points of 1 year or longer, the best evidence reports equivalent outcomes for surgery and conservative care. This supports the conclusion that surgery will result in more rapid recovery of symptoms and disability, but that there is no definite long-term advantage to surgery.

Based on the available evidence, it is possible to conclude that lumbar discectomy improves symptoms and disability in patients with hemiated disc and radiculopathy who are refractory to conservative care. Therefore, the use of discectomy for lumbar hemiated disc may be considered medically necessary when criteria are met. For cervical hemiated disc, the evidence is less but not substantially different from lumbar hemiated disc. Based on the available evidence and extrapolation from studies of lumbar hemiated disc, the use of discectomy for cervical hemiated disc may be considered medically necessary when criteria are met.

Practice Guidelines and Position Statements

The North American Spine Society issued 2012 evidence-based clinical guidelines on the diagnosis and treatment of lumbar disc herniation with radiculopathy. The guidelines state that discectomy is suggested to provide more effective symptom relief than medical/interventional care for patients with lumbar disc herniation with radiculopathy whose symptoms warrant surgical intervention. In patients with less severe symptoms, surgery of medical/interventional care appears to be effective for both short- and long-term relief (grade B recommendation). There is also a grade C recommendation stating that endoscopic percutaneous discectomy may be considered for the treatment of lumbar disc herniation with radiculopathy.

The National Institute for Health and Care Excellence issued a 2005 guidance (IPG141) on automated percutaneous mechanical lumbar discectomy. The guidance states that current evidence suggests that there are no major safety concerns associated with automated percutaneous mechanical lumbar discectomy; however, there is limited evidence of efficacy. Evidence from small RCTs shows conflicting results, and the procedure should not be performed without special arrangements for consent and for audit or research.

U.S. Preventive Services Task Force Recommendations

Not applicable.

Medicare National Coverage

There is no national coverage determination (NCD). In the absence of an NCD, coverage decisions are left to the discretion of local Medicare carriers.
References


Documentation Required for Clinical Review

- History and physical and/or consultation notes including:
  - Clinical findings and duration of pain
  - Comorbidities
  - Activity and functional limitations
  - Pertinent past procedural and surgical history
  - Prior diagnostic testing and results
  - Prior conservative treatments, duration, and response
  - Psychological and psychosocial assessment
- If significant comorbidities, consultation and medical clearance report(s) (if indicated)
- Other pertinent multidisciplinary notes/reports: (e.g., psychological or psychiatric evaluation, physical therapy, multidisciplinary pain management) when applicable
- Radiology report(s) and interpretation (i.e., MRI, CT, discogram)

Post Service
- Operative report(s)

Coding

This Policy relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore, contract language should be reviewed before applying the terms of the Policy. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement.

MN/IE

The following service/procedure may be considered medically necessary in certain instances and investigational in others. Services may be medically necessary when policy criteria are met. Services are considered investigational when the policy criteria...
are not met or when the code describes application of a product in the position statement that is investigational.

<table>
<thead>
<tr>
<th>Type</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>63020</td>
<td>Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc; 1 interspace, cervical</td>
</tr>
<tr>
<td></td>
<td>63030</td>
<td>Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc; 1 interspace, lumbar</td>
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<tr>
<td></td>
<td>63035</td>
<td>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 (List separately in addition to code for primary procedure)</td>
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<td>63040</td>
<td>Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc, reexploration, single interspace; cervical</td>
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<tr>
<td></td>
<td>63042</td>
<td>Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc, reexploration, single interspace; lumbar</td>
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<tr>
<td></td>
<td>63043</td>
<td>Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc, reexploration, single interspace; each additional cervical interspace (List separately in addition to code for primary procedure)</td>
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<td></td>
<td>63044</td>
<td>Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disc, reexploration, single interspace; each additional lumbar interspace (List separately in addition to code for primary procedure)</td>
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<tr>
<td></td>
<td>63055</td>
<td>Transpedicular approach with decompression of spinal cord, equina and/or nerve root(s) (e.g., herniated intervertebral disc), single segment; thoracic</td>
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<tr>
<td></td>
<td>63056</td>
<td>Transpedicular approach with decompression of spinal cord, equina 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)</td>
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<tr>
<td>Code</td>
<td>Description</td>
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<tr>
<td>63057</td>
<td>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 (List separately in addition to code for primary procedure)</td>
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<tr>
<td>63064</td>
<td>Costovertebral approach with decompression of spinal cord or nerve root(s) (e.g., herniated intervertebral disc), thoracic; single segment</td>
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<tr>
<td>63066</td>
<td>Costovertebral approach with decompression of spinal cord or nerve root(s) (e.g., herniated intervertebral disc), thoracic; each additional segment (List separately in addition to code for primary procedure)</td>
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<tr>
<td>63075</td>
<td>Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophytectomy; cervical, single interspace</td>
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<tr>
<td>63076</td>
<td>Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophytectomy; cervical, each additional interspace (List separately in addition to code for primary procedure)</td>
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<td>63077</td>
<td>Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophytectomy; thoracic, single interspace</td>
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<td>63078</td>
<td>Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophytectomy; thoracic, each additional interspace (List separately in addition to code for primary procedure)</td>
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<td>C2614</td>
<td>Probe, percutaneous lumbar discectomy</td>
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<td>S2350</td>
<td>Diskectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophytectomy; lumbar, single interspace</td>
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<tr>
<td>S2351</td>
<td>Diskectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophytectomy; lumbar, each additional interspace (List separately in addition to code for primary procedure)</td>
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<tr>
<td>80.51</td>
<td>Excision of intervertebral disc</td>
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**HCPCS**

**ICD-9 Procedure**

For dates of service on or after 10/01/2015

**ICD-10 Procedure**

- 0RB30ZZ: Excision of Cervical Vertebral Disc, Open Approach
- 0RB33ZZ: Excision of Cervical Vertebral Disc, Percutaneous Approach
- 0RB34ZZ: Excision of Cervical Vertebral Disc, Percutaneous Endoscopic Approach
- 0RBB0ZZ: Excision of Thoracolumbar Vertebral Disc, Open Approach
- 0RBB3ZZ: Excision of Thoracolumbar Vertebral Disc, Percutaneous Approach
Medical Policy

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<tr>
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<th>Description</th>
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<td>0RBB4ZZ</td>
<td>Excision of Thoracolumbar Vertebral Disc, Percutaneous Endoscopic Approach</td>
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<td>Excision of Lumbar Vertebral Disc, Open Approach</td>
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<tr>
<td>0SB23ZZ</td>
<td>Excision of Lumbar Vertebral Disc, Percutaneous Approach</td>
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<tr>
<td>0SB24ZZ</td>
<td>Excision of Lumbar Vertebral Disc, Percutaneous Endoscopic Approach</td>
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<td>0SB40ZZ</td>
<td>Excision of Lumbosacral Disc, Open Approach</td>
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<td>0SB43ZZ</td>
<td>Excision of Lumbosacral Disc, Percutaneous Approach</td>
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<td>0SB44ZZ</td>
<td>Excision of Lumbosacral Disc, Percutaneous Endoscopic Approach</td>
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<table>
<thead>
<tr>
<th>ICD-9 Diagnosis</th>
<th>All Diagnoses</th>
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<tbody>
<tr>
<td>ICD-10 Diagnosis</td>
<td>For dates of service on or after 10/01/2015</td>
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<tr>
<td>All Diagnoses</td>
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</table>

**Policy History**

This section provides a chronological history of the activities, updates and changes that have occurred with this Medical Policy.

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>Action</th>
<th>Reason</th>
</tr>
</thead>
</table>

**Definitions of Decision Determinations**

**Medically Necessary:** A treatment, procedure or drug is medically necessary only when it has been established as safe and effective for the particular symptoms or diagnosis, is not investigational or experimental, is not being provided primarily for the convenience of the patient or the provider, and is provided at the most appropriate level to treat the condition.

**Investigational/Experimental:** A treatment, procedure or drug is investigational when it has not been recognized as safe and effective for use in treating the particular condition in accordance with generally accepted professional medical standards. This includes services where approval by the federal or state governmental is required prior to use, but has not yet been granted.

**Split Evaluation:** Blue Shield of California / Blue Shield of California Life & Health Insurance Company (Blue Shield) policy review can result in a Split Evaluation, where a treatment, procedure or drug will be considered to be investigational for certain indications or conditions, but will be deemed safe and effective for other indications or conditions, and therefore potentially medically necessary in those instances.
**Prior Authorization Requirements**

This service (or procedure) is considered *medically necessary* in certain instances and *investigational* in others (refer to policy for details).

For instances when the indication is *medically necessary*, clinical evidence is required to determine *medical necessity*.

For instances when the indication is *investigational*, you may submit additional information to the Prior Authorization Department.

Within five days before the actual date of service, the Provider MUST confirm with Blue Shield that the member's health plan coverage is still in effect. Blue Shield reserves the right to revoke an authorization prior to services being rendered based on cancellation of the member's eligibility. Final determination of benefits will be made after review of the claim for limitations or exclusions.

Questions regarding the applicability of this policy should also be directed to the Prior Authorization Department. Please call 1-800-541-6652 or visit the Provider Portal www.blueshieldca.com/provider.

The materials provided to you are guidelines used by this plan to authorize, modify, or deny care for persons with similar illness or conditions. Specific care and treatment may vary depending on individual need and the benefits covered under your contract. These Policies are subject to change as new information becomes available.