MEDICAL POLICY – 7.01.551

Lumbar Spine Decompression Surgery: Discectomy, Foraminotomy, Laminotomy, Laminectomy

BCBSA Ref. Policies: 7.01.145 & 7.01.146

Effective Date: July 1, 2018
Last Revised: May 1, 2019
Replaces: N/A

RELATED MEDICAL POLICIES:
7.01.18 Automated Percutaneous and Endoscopic Discectomy
7.01.93 Decompression of the Intervertebral Disc Using Laser Energy (Laser Discectomy) or Radiofrequency Coblation (Nucleoplasty)
7.01.107 Interspinous Distraction Devices (Spacers)
7.01.126 Image-Guided Minimally Invasive Lumbar Decompression (IG-MLD) for Spinal Stenosis
7.01.130 Axial Lumbosacral Interbody Fusion
7.01.542 Lumbar Fusion
7.01.560 Cervical Spine Surgeries: Discectomy, Laminectomy, and Fusion in Adults
8.03.501 Chiropractic Services
8.03.502 Physical Medicine and Rehabilitation - Physical Therapy and Medical Massage Therapy
8.03.503 Occupational Therapy
11.01.524 Site of Service: Select Surgical Procedures

Introduction

The spine is a complex combination of tissues, bones, and nerves. The small bones of the back (vertebrae) surround and protect the spinal cord. Disease or injury can affect these bones and tissues, causing them to shift or bulge. This can put pressure on the spinal cord or nerves and cause symptoms like pain, numbness, weakness, or tingling. Physical therapy, chiropractic adjustments, or steroid injections often relieve these symptoms. Surgery may be needed if these treatments don’t work. Decompression surgery is a general term meaning the removal of bone and/or tissue that is pressing on the nerves or spinal cord. These surgeries include removing all or part of a disc that’s pressing on a nerve (discectomy), enlarging the passageway where nerves branch out from the spinal cord (foraminotomy), or removing all or part of the vertebra known
as the lamina (laminotomy or laminectomy). This policy describes when decompression surgery on the lower back may be medically necessary and covered by the health plan.

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.

Policy Coverage Criteria

We will review for medical necessity these elective surgical procedures.

We also will review the site of service for medical necessity. Site of service is defined as the location where the surgical procedure is performed, such as an off campus-outpatient hospital or medical center, an on campus-outpatient hospital or medical center, an ambulatory surgical center, or an inpatient hospital or medical center.

<table>
<thead>
<tr>
<th>Site of Service for Elective Surgical Procedures</th>
<th>Medical Necessity</th>
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</thead>
<tbody>
<tr>
<td>Medically necessary sites of service:</td>
<td>Certain elective surgical procedures will be covered in the most appropriate, safe, and cost effective site. These are the preferred medically necessary sites of service for certain elective surgical procedures.</td>
</tr>
<tr>
<td>• Off campus-outpatient hospital/medical center</td>
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<td>• On campus-outpatient hospital/medical center</td>
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<td>• Ambulatory Surgical Center</td>
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<tr>
<td>Inpatient hospital/medical center</td>
<td>Certain elective surgical procedures will be covered in the most appropriate, safe, and cost-effective site. This site is considered medically necessary only when the patient has a clinical condition which puts him or her at increased risk for complications including any of the following (this list may not be all inclusive):</td>
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<tr>
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<td>• Anesthesia Risk</td>
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<td>o ASA classification III or higher (see definition)</td>
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<td>Site of Service for Elective Surgical Procedures</td>
<td>Medical Necessity</td>
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<td></td>
<td>o Personal history of complication of anesthesia</td>
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<td>o Documentation of alcohol dependence or history of cocaine use</td>
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<td>o Prolonged surgery (&gt;3 hours)</td>
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<tr>
<td>• Cardiovascular Risk</td>
<td>o Uncompensated chronic heart failure (<em>NYHA class</em> III or IV)</td>
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<td></td>
<td>o Recent history of myocardial infarction (MI) (&lt;3 months)</td>
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<td></td>
<td>o Poorly controlled, resistant hypertension*</td>
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<td></td>
<td>o Recent history of cerebrovascular accident (&lt; 3 months)</td>
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<tr>
<td></td>
<td>o Increased risk for cardiac ischemia (drug eluting stent placed &lt; 1 year or angioplasty &lt;90 days)</td>
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<td></td>
<td>o Symptomatic cardiac arrhythmia despite medication</td>
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<td></td>
<td>o Significant valvular heart disease</td>
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<tr>
<td>• Liver Risk</td>
<td>o Advance liver disease (MELD Score &gt; 8)**</td>
</tr>
<tr>
<td>• Pulmonary Risk</td>
<td>o Chronic obstructive pulmonary disease (COPD) (FEV1 &lt;50%)</td>
</tr>
<tr>
<td></td>
<td>o Poorly controlled asthma (FEV1 &lt;80% despite treatment)</td>
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<tr>
<td></td>
<td>o Moderate to severe obstructive sleep apnea (OSA)***</td>
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<tr>
<td>• Renal Risk</td>
<td>o End stage renal disease (on dialysis)</td>
</tr>
<tr>
<td>• Other</td>
<td>o Morbid obesity (BMI ≥ 50)</td>
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<td></td>
<td>o Pregnancy</td>
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<tr>
<td></td>
<td>o Bleeding disorder (requiring replacement factor, blood products, or special infusion product [DDAVP**** does not meet this criteria])</td>
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<td>o Anticipated need for transfusion(s)</td>
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* 3 or more drugs to control blood pressure


*** Moderate-AHI≥15 and ≤ 30, Severe-AHI ≥30

****DDAVP-Deamino-Delta-D-Arginine Vasopressin (Desmopressin)
<table>
<thead>
<tr>
<th>Site of Service for Elective Surgical Procedures</th>
<th>Medical Necessity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient hospital/medical center</td>
<td>This site of service is considered NOT medically necessary for certain elective surgical procedures when the site of service criteria listed above are not met.</td>
</tr>
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<table>
<thead>
<tr>
<th>Procedure</th>
<th>Medical Necessity</th>
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<tbody>
<tr>
<td>Lumbar discectomy (diskectomy), foraminotomy, laminotomy</td>
<td>Lumbar discectomy (diskectomy)*, foraminotomy, or laminotomy surgery may be considered medically necessary for the rapid (48 hours or less) progression of neurologic impairment (eg, cauda equina syndrome, foot drop, extremity weakness, saddle anesthesia, sudden onset of bladder or bowel dysfunction).</td>
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</tbody>
</table>

If there is not rapid progression of neurologic impairment, lumbar discectomy (diskectomy), foraminotomy, or laminotomy may be considered medically necessary when ALL of the following criteria are met:

- All other sources of low back pain have been ruled out AND
- A lumbar spine magnetic resonance image (MRI) or lumbar spine computerized tomography (CT) scan with myelogram done within the past 12 months shows nerve root compression that corresponds to symptoms and physical examination findings or there is definitive neurological localization by other means (eg, selective nerve root injections) AND
- Persistent, debilitating pain radiating from the low back down to the lower extremity is present on a daily basis and limits activities of daily living (ADLs) AND
- Neurological deficits (eg, reflex change in the legs, dermatomal sensory loss, motor weakness) or alternative signs of lumbar root irritation (eg, positive leg raising test) are present on physical examination AND
**Procedure** | **Medical Necessity**
---|---

- The member has actively tried and failed at least 6 weeks of conservative medical management such as:
  - Activity modification
  - Oral analgesics and/or anti-inflammatory medications
  - Physical therapy
  - Chiropractic manipulation
  - Epidural steroid injections

* See [Related Information](#) for further description of this procedure

**Lumbar laminectomy**

Lumbar laminectomy may be considered medically necessary for the rapid (48 hours or less) progression of neurologic impairment (e.g., cauda equina syndrome, foot drop, extremity weakness, saddle anesthesia, sudden onset of bowel or bladder dysfunction).

If there is not rapid progression of neurologic impairment, lumbar laminectomy for spinal stenosis may be considered medically necessary when ALL of the following criteria are met:

- All other sources of low back pain have been ruled out
  **AND**
  - Persistent, progressive, debilitating symptoms of neurogenic claudication (numbness, tingling, muscle weakness with or without back pain) are present on a daily basis that limits activities of daily living
  **AND**
  - A lumbar spine MRI or lumbar spine CT scan with myelogram within the past 12 months shows lumbar spine stenosis that corresponds to the clinical findings on physical examination
  **AND**
  - The member has actively tried and failed at least 12 weeks of conservative medical management such as:
    - Activity modification
    - Oral analgesics and/or anti-inflammatory medications
    - Physical therapy
    - Chiropractic manipulation
    - Epidural steroid injections
Lumbar laminectomy may also be considered medically necessary for ANY of the following:

- Dorsal rhizotomy for spasticity in cerebral palsy
- Lumbar spondylolisthesis confirmed by a lumbar MRI study
- Metastatic neoplasm of the spine, non-cancerous spinal tumor, cysts that cause nerve root or spinal cord compression with corresponding neurological deficit, confirmed by a lumbar MRI study
- Spinal infection confirmed by a lumbar MRI study
- Spinal injury confirmed by a lumbar MRI study (e.g., epidural hematoma or foreign body)
- Spinal trauma confirmed by a lumbar MRI study (e.g., spinal fracture, displaced fragment from a spinal fracture, vertebral dislocation together with instability, locked facets)

Lumbar spine decompression surgery is considered not medically necessary when no clinical indication is documented and there are no confirmatory physical and radiologic findings that meet the relevant criteria listed in this policy.

The provider’s choice of interventional surgery depends on the specific member’s symptoms and imaging findings.

See Related Policies for other spinal procedures not addressed in this policy.

Documentation Requirements

Documentation in the medical record must clearly support the medical necessity of the surgery and include the following information:

- Medical History
  - Co-morbid physical and psychological health conditions
  - 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
### Documentation Requirements

- Physical therapy
- Chiropractic manipulation
- Epidural steroid injections

- Physical Examination
  - Clinical findings, including the patient’s stated symptoms and duration

- Diagnostic Test
  - 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.

### Coding

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>CPT</td>
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</tr>
<tr>
<td>62287</td>
<td>Decompression procedure, percutaneous, of nucleus pulposus of intervertebral disc, any method, single or multiple levels, lumbar (eg, manual or automated percutaneous discectomy, percutaneous laser discectomy)</td>
</tr>
<tr>
<td>62380</td>
<td>Endoscopic decompression of spinal cord, nerve root(s), including laminotomy, partial facetectomy, foraminotomy, discectomy and/or excision of herniated intervertebral disc, 1 interspace, lumbar</td>
</tr>
<tr>
<td>63005</td>
<td>Laminectomy with exploration and/or decompression of spinal cord and/or cauda equina, without facetectomy, foraminotomy or discectomy (eg, spinal stenosis), 1 or 2 vertebral segments; lumbar, except for spondylolisthesis</td>
</tr>
<tr>
<td>63012</td>
<td>Laminectomy with removal of abnormal facets and/or pars inter-articularis with decompression of cauda equina and nerve roots for spondylolisthesis, lumbar (Gill type procedure)</td>
</tr>
<tr>
<td>63017</td>
<td>Laminectomy with exploration and/or decompression of spinal cord and/or cauda equina, without facetectomy, foraminotomy or discectomy (eg, spinal stenosis), more than 2 vertebral segments; lumbar</td>
</tr>
<tr>
<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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</tbody>
</table>
| 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 (List separately in addition to code for primary
<table>
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<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<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>
</tr>
<tr>
<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>
</tr>
<tr>
<td>63047</td>
<td>Laminectomy, facetectomy and foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s], [eg, spinal or lateral recess stenosis]), single vertebral segment; lumbar</td>
</tr>
<tr>
<td>63048</td>
<td>Laminectomy, facetectomy and foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s], [eg, spinal or lateral recess stenosis]), single vertebral segment; each additional segment, cervical, thoracic, or lumbar (List separately in addition to code for primary procedure)</td>
</tr>
<tr>
<td>63056</td>
<td>Transpedicular approach with decompression of spinal cord, equina and/or nerve root(s) (eg, herniated intervertebral disc), single segment; lumbar (including transfacet, or lateral extraforaminal approach) (eg, far lateral herniated intervertebral disc)</td>
</tr>
<tr>
<td>63057</td>
<td>Transpedicular approach with decompression of spinal cord, equina and/or nerve root(s) (eg, herniated intervertebral disc), single segment; each additional segment, thoracic or lumbar (List separately in addition to code for primary procedure)</td>
</tr>
<tr>
<td>63185</td>
<td>Laminectomy with rhizotomy; 1 or 2 segments</td>
</tr>
<tr>
<td>63190</td>
<td>Laminectomy with rhizotomy; more than 2 segments</td>
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<tr>
<td>63191</td>
<td>Laminectomy with section of spinal accessory nerve</td>
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<tr>
<td>63267</td>
<td>Laminectomy for excision or evacuation of intraspinal lesion other than neoplasm, extradural; lumbar</td>
</tr>
<tr>
<td>63272</td>
<td>Laminectomy for excision of intraspinal lesion other than neoplasm, intradural; lumbar</td>
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**Note:** CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). HCPCS codes, descriptions and materials are copyrighted by Centers for Medicare Services (CMS).
Lumbar Discectomy

Lumbar discectomy refers to standard open discectomy or minimally invasive microdiscectomy. Microdiscectomy will be defined for the purpose of this policy 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), and (3) removes disc and other surgical products by direct visualization through the surgical incision. 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 to be considered microdiscectomy.

Definition of Terms

American Society of Anesthesiologists (ASA) Score:

ASA 1 A normal healthy patient.
ASA 2 A patient with mild systemic disease.
ASA 3 A patient with severe systemic disease.
ASA 4 A patient with severe systemic disease that is a constant threat to life.
ASA 5 A moribund patient who is not expected to survive

Cauda equina: The nerve roots resembling a horse’s tail that hang from the tip of the spinal cord where it ends in the lower back. These nerve roots dangle in the spinal canal before exiting through the vertebral foramen and go to out to the lower part of the body. (Cauda equina is Latin for horse’s tail).

Cauda equina syndrome: Cauda Equina Syndrome (CES) is a serious condition caused by compression of the cauda equina nerves of the lower spine; it is considered a surgical emergency. CES may be caused by a herniated disk, infection, cancer, trauma, or spinal stenosis. A rapid progression of neurologic symptoms is seen that may include but are not limited to severe sharp/stabbing debilitating low back pain that starts in the buttocks and travels down one or both legs. It is often accompanied by severe muscle weakness, inability to start/stop urine flow, inability to start/stop bowel movement, loss of sensation below the waist and absence of lower extremity reflexes.

Disc (intervertebral): Round flat “cushions” between each vertebra of the spine.
**Discectomy (diskectomy):** The removal of herniated disc material/disc fragments that are compressing a nerve root or the spinal cord. A discectomy may be done to treat a ruptured disc. (Percutaneous discectomy is addressed in a separate policy (see Related Policies)).

**Dorsal rhizotomy:** The cutting of selected nerves in the lower spine to reduce leg spasticity in patients with cerebral palsy.

**Foraminotomy (foraminectomy):** The removal of bone and tissue to enlarge the opening (foramen) where a spinal nerve root exits the spinal canal.

**Hemilaminectomy:** The removal of only one side (left or right) of the posterior arch (lamina) of a vertebra.

**Lamina:** Bony arch of the vertebra that helps to cover and protect the spinal cord running through the spinal canal. Each spinal vertebra has two laminae (left and right).

**Laminectomy:** The removal of the whole posterior arch (lamina) of a vertebra.

**Laminotomy:** The removal of a small portion of a lamina of a vertebra.

**Lumbar spinal stenosis:** Abnormal narrowing of the spinal canal which puts pressure on the spinal cord and the nerve roots leaving the spinal cord. Spinal stenosis may cause pain, numbness or weakness in the legs, feet or buttocks.

**Lumbar spondylolisthesis:** A condition where one of the vertebrae slips out of place by moving forward or backward on an adjacent vertebra. Usually occurs in the lumbar spine. Isthmic spondylolisthesis is the most common form of spondylolisthesis due to a defect or fracture of the bone that connects the upper and lower facet joints (the pars interarticularis). The disorder may be congenital when the bone fails to form properly or acquired due to a stress fracture and slippage of part of the spinal column. (Some athletes, such as gymnasts, football players, and weightlifters may suffer from this disorder.)

**Myelopathy:** Refers to any neurologic deficit related to the spinal cord. It could be caused by trauma, inflammation, vascular issues, arthritis in the spine, or other causes.

**Neurogenic claudication (or pseudoclaudication):** Symptoms of pain, paresthesia (numbness, tingling, burning sensation) in the back, buttocks and lower limbs and possible muscle tension, limping or leg weakness that worsens with standing/walking and is relieved by rest, sitting or leaning forward – usually associated with lumbar spinal stenosis.

**New York Heart Association (NYHA) Classification:**
Class I  No symptoms and no limitation in ordinary physical activity, eg, shortness of breath when walking, climbing stairs etc.

Class II  Mild symptoms (mild shortness of breath and/or angina) and slight limitation during ordinary activity.

Class III  Marked limitation in activity due to symptoms, even during less-than-ordinary activity, eg, walking short distances (20–100 m). Comfortable only at rest.

Class IV  Severe limitations. Experiences symptoms even while at rest. Mostly bedbound patients

Paresthesia: Abnormal sensations of the skin including burning, prickling, pricking, tickling, or tingling, and are often described as “pins and needles.”

Radicular pain: Pain that radiates down a compressed or irritated nerve root that connects to the spinal cord, also known as radiculitis. A common form is sciatica.

Radiculopathy: A progressive neurologic deficit caused by compression or irritation of a nerve root as it leaves the spinal column. The compression may be caused by disc material or boney changes like spurs. Symptoms may include pain radiating from the spine, a motor deficit, reflex changes or EMG changes.

Saddle anesthesia: A loss of feeling in the buttocks, perineum and inner thighs frequently related to cauda equina syndrome.

Spinal cord/nerve roots: The spinal cord runs down through the spinal canal in the vertebral column. The spinal cord gives off pairs of nerve roots that extend from the cord, pass through spaces in between the vertebrae, and go out to the body.

Vertebrae: The individual bones of the spinal column that consist of the cervical, thoracic and lumbar regions. The vertebrae in the spinal column surround and protect the spinal cord.

Evidence Review

Description

Back pain, with and without radicular symptoms, is one of the most common medical reasons that members seek medical care and may affect 8 out of 10 people during their lifetime. Most back pain will improve over 2 months with minimal intervention. The pain can vary from mild to disabling. Back pain is considered to be chronic if it lasts more than three months. Age-related
disc degeneration, facet joint arthrosis and segmental instability are leading causes of chronic back pain.

The most common symptoms of spinal disorders are regional pain and range of motion limitations. A small subset of patients may experience radiating pain in addition to decreased range of motion and low back discomfort. For the majority of patients, pain characteristics depend on activity levels. For example, the pain intensity changes with increased physical activity, certain movements or postures and decreases with rest. However, night-time back pain may be present in the absence of serious specific spinal disorders. The precise location and originating point of back pain is often difficult for patients to describe.

There are many potential causes for low back pain. Several conditions may cause pinched or compressed nerves in the low back area putting pressure on the spinal cord that may cause tingling, muscle weakness and sudden loss or impairment of bowel and bladder function. Intervertebral disc herniation, spinal stenosis, and degenerative spondylolisthesis with stenosis are the most common conditions that have low back pain and leg symptoms and may require surgery to relieve the compression according to the findings in the Spine Patient Outcomes Research Trial (SPORT).

Normally, the spinal cord is protected by the back bones (vertebrae) that form the spine, but certain injuries to and disorders of the spine may cause cord compression, affecting its normal function. The spinal cord may be compressed by bone, the collection of blood outside a blood vessel (hematomas), pus (abscesses), tumors (both noncancerous and cancerous), or a herniated/ruptured or malformed disc. These injuries and disorders may also compress the spinal nerve roots that pass through the spaces between the back bones or the bundle of nerves that extend downward from the spinal cord (cauda equina). The spinal cord may be compressed suddenly, causing symptoms in minutes or over a few hours or days, or slowly, causing symptoms that worsen over many weeks or months.

Lumbar spine decompression is a broad definition of surgical procedures performed on the bones in the lower (lumbar) spine to relieve the pinched or compressed spinal cord and/or nerve(s). The goal is to “decompress” the spinal cord and/or nerve root(s) that are causing disabling pain and/or weakness due to damage to the spinal cord (myelopathy).

During a lumbar decompression surgery the surgeon removes portions of the intervertebral disc and/or adjacent bone and tissue in the lower spine to give the nerve root more space. Surgical procedures for spinal decompression include lumbar discectomy, foraminotomy, laminotomy, and lumbar laminectomy.
Background

**Lumbar Discectomy (Diskectomy)**

Discectomy is a surgical procedure in which one 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.

**Disc Herniation**

Extrusion of an intervertebral disc beyond the intervertebral space can compress the spinal nerves and result in symptoms of pain, numbness, and weakness.

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

**Treatment**

Because most disc herniations improve over time, initial care is conservative, consisting of analgesics and a prescribed activity program tailored to patient 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.

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. For these patients, there is a high degree of morbidity and functional disability associated with chronic back pain, and there is a tendency for recurrent pain despite
treatment. Therefore, treatments that have more uniform efficacy for patients with a herniated disc and chronic back pain are needed. In particular, decreased chronic pain and decreased disability are the goals of treatment of chronic low back pain due to a herniated disc.

Surgical Treatment

Discectomy is a surgical procedure in which one or more intervertebral discs are removed. The primary indication for discectomy is herniation (extrusion) of an intervertebral disc. Discectomy is intended to treat symptoms by relieving pressure on the affected nerve(s).

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. 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. 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. A few controlled trials comparing open discectomy with microdiscectomy have been published and reported that neither procedure is clearly superior to the other, but that microdiscectomy is associated with more rapid recovery. Systematic reviews and meta-analyses have also concluded that the evidence does not support the superiority of 1 procedure over another.

Adverse Events

Complications of discectomy generally include bleeding, infections, and inadvertent nerve injuries. Dural puncture occurs in a small percentage 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 Surgical Alternatives

Other variations on discectomy include the following. These procedures do not have high-quality comparative trials vs standard discectomy, and will therefore not be considered as true alternatives to discectomy for this policy:

- Laser discectomy
- Radiofrequency coblation (nucleoplasty)
- Automated percutaneous discectomy
- Automated endoscopic discectomy
- Intradiscal electrothermal annuloplasty
- Intradiscal radiofrequency therapy
- Vertebral axial decompression
- Chemonucleolysis.

Lumbar Laminectomy

Lumbar laminectomy is a surgical procedure in which a portion of the lumbar vertebra (the lamina) is removed to decompress the spinal cord. Removal of the lamina creates greater space for the spinal cord and the nerve roots, thus relieving compression on these structures. Lumbar laminectomy is typically performed to alleviate compression due to lumbar spinal stenosis or a space-occupying lesion.

Associated Disorders

The most common diagnosis treated with laminectomy is spinal stenosis. In spinal stenosis, the spinal canal (vertebral foramen) is narrowed, thus compressing the spinal cord. Narrowing of the spinal canal may be congenital or degenerative in origin. Other conditions that cause pressure on the spine and spinal nerve roots include those where a mass lesion is present (eg, tumor, abscess, other localized infection).
Surgical Techniques

Laminectomy is an inpatient procedure performed under general anesthesia. An incision is made in the back over the affected region, and the back muscles are dissected to expose the spinal cord. The lamina is then removed from the vertebral body, along with any inflamed or thickened ligaments that may be contributing to compression. Following resection, the muscles are reapproximated and the soft tissues sutured back into place. The extent of laminectomy varies, but most commonly extends 2 levels above and below the site of maximal cord compression.\(^1\)

There are numerous variations on the basic laminectomy procedure. It can be performed by minimally invasive techniques, which minimizes the extent of resection. Laminoplasty is a more limited procedure in which the lamina is cut but not removed, thus allowing expansion of the spinal cord. Foraminotomy and/or foramenectomy, which involve partial or complete removal of the facet joints, may be combined with laminectomy when the spinal nerve roots are compressed at the foramen. Spinal fusion is combined with laminectomy when instability of the spine is present preoperatively, or if the procedure is sufficiently extensive to expect postoperative spinal instability.

Surgical Variations

Hemilaminotomy and laminotomy, sometimes called laminoforaminotomy, are less invasive than laminectomy. These procedures focus on the interlaminar space, where most of the pathologic changes are concentrated, minimizing resection of the stabilizing posterior spine. A laminotomy typically removes the inferior aspect of the cranial lamina, the superior aspect of the subjacent lamina, the ligamentum flavum, and the medial aspect of the facet joint. Unlike laminectomy, laminotomy does not disrupt the facet joints, supra- and interspinous ligaments, a major portion of the lamina, or the muscular attachments. Muscular dissection and retraction are required to achieve adequate surgical visualization.

Microendoscopic decompressive laminotomy is similar to laminotomy but uses endoscopic visualization. The position of the tubular working channel is confirmed by fluoroscopic guidance, and serial dilators (METRx™ lumbar endoscopic system, Medtronic) are used to dilate the musculature and expand the fascia. For microendoscopic decompressive laminotomy, an endoscopic curette, rongeur, and drill are used for the laminotomy, facetectomy, and foraminotomy. The working channel may be repositioned from a single incision for multilevel and bilateral dissections.
Adverse Events

Complications of laminectomy can include spinal cord and nerve root injuries, which occur at rates from 0% to 10%. Worsening myelopathy and/or radiculopathy can occur in a small percentage of patients independent of surgical injuries. Worsening of symptoms is usually temporary, but in some cases has been permanent. Infection and bleeding can occur; hematomas following surgery often require reoperation if they are close to critical structures. Leakage of spinal fluid may occur and occasionally be persistent requiring treatment. Instability of the spine can result from extensive laminectomy involving multiple levels. This is usually an indication for spinal fusion as an adjunct to laminectomy, but if fusion is not performed, the instability may lead to progressive symptoms and additional surgery. Specific complication rates depend on the indication and location treated, surgical approach, and extent of surgery.

Summary of Evidence

Lumbar Discectomy (Diskectomy)

For individuals who have lumbar herniated disc(s) and symptoms of radiculopathy rapidly progressing or refractory to conservative care who receive lumbar discectomy, the evidence includes RCTs, nonrandomized comparative studies, and systematic reviews. Relevant outcomes are symptoms, functional outcomes, health status measures, quality of life, and treatment-related mortality and morbidity. Four RCTs were identified for inclusion in this policy, two of which were moderately large. The RCT evidence is limited by high rates of crossover from the conservative care to the surgery group in most trials. Crossover rates were 40% or higher in some trials, including the largest trial (SPORT), thereby greatly limiting the power to detect differences when using an intention-to-treat analyses. Despite the methodologic limitations, results from these comparative studies are fairly consistent. They have reported that, on intention-to-treat analysis, the direction of short-term benefit favors surgery for almost all comparisons, but group differences in many cases were not statistically significant. Analysis by treatment received has shown larger, clinically significant differences in outcomes favoring surgery, and a similar magnitude of effect has been reported in nonrandomized, comparative trials. However, these analyses are limited by potential noncomparability of treatment groups. Thus, it is likely that there is a true short-term benefit for surgery, and that the true treatment effect lies between the values reported for the intention-to-treat analyses and the treatment-received analyses. The evidence is also consistent in reporting that the benefits are mainly short-term, lasting for weeks to months. At follow-up of 1 year or more, the best evidence has reported equivalent outcomes for surgery and conservative care. This supports the conclusion
that surgery will result in more rapid recovery of symptoms and disability, but no definite long-term advantage. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

**Lumbar Laminectomy**

For individuals who have lumbar spinal stenosis and spinal cord or nerve root compression who receive lumbar laminectomy, the evidence includes RCTs and nonrandomized comparative studies. Relevant outcomes are symptoms, functional outcomes, health status measures, quality of life, and treatment-related mortality and morbidity. For this indication, 2 RCTs have reported that laminectomy is superior to nonsurgical management for reducing pain and improving functional status. These RCTs have methodologic limitations, but both reported significant benefits for surgery for their main outcomes. Most nonrandomized comparative studies have also reported greater benefits for surgery than for conservative management. Generally, among published studies and clinical practice guidelines, there is consistency in the indications for surgery, including those with progressive or persistent neurologic deficits despite conservative therapy. However, beyond broad guidelines, there is little uniformity in recommendations for specific procedures in specific patient groups, lack of standardized severity measures to judge thresholds for surgical intervention, and lack of good predictive models to assess the risks of laminectomy. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

**Ongoing and Unpublished Clinical Trials**

A currently unpublished trial that might influence this review is listed in Table 1.

**Table 1. Summary of Key Trials**

<table>
<thead>
<tr>
<th>NCT No.</th>
<th>Trial Name</th>
<th>Planned Enrollment</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NCT01335646</td>
<td>Surgery Versus Standardized Non-operative Care for the Treatment of Lumbar Disc Herniations: A Canadian Trial</td>
<td>140</td>
<td>Aug 2018</td>
</tr>
</tbody>
</table>
Practice Guidelines and Position Statements

**North American Spine Society (NASS)**

**NASS Clinical Guidelines – Lumbar Herniated Disc with Radiculopathy**

The North American Spine Society published evidence-based clinical guidelines in 2014 on the diagnosis and treatment of lumbar disc herniation with radiculopathy. Table 2 summarizes the recommendations specific to open discectomy or microdiscectomy.

**Table 2. Recommendations for Treating Lumbar Disc Herniation With Radiculopathy**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>GOR&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endoscopic percutaneous discectomy is suggested for carefully selected patients to reduce early postoperative disability and reduce opioid use compared with open discectomy.</td>
<td>B</td>
</tr>
<tr>
<td>There is insufficient evidence to make a recommendation for or against the use of automated percutaneous discectomy compared with open discectomy.</td>
<td>I</td>
</tr>
<tr>
<td>Discectomy is suggested to provide more effective symptom relief than medical/interventional care for patients whose symptoms warrant surgical care. In patients with less severe symptoms, both surgery and medical/interventional care appear to be effective in short and long term relief.</td>
<td>B</td>
</tr>
<tr>
<td>Use of an operative microscope is suggested to obtain comparable outcomes to open discectomy for patients whose symptoms warrant surgery.</td>
<td>B</td>
</tr>
<tr>
<td>There is insufficient evidence to make a recommendation for or against the use of tubular discectomy compared with open discectomy.</td>
<td>I</td>
</tr>
</tbody>
</table>
GOR: grade of recommendation.

a Grade B: fair evidence (level II or III studies with consistent findings); grade I: insufficient evidence.

The North American Spine Society issued evidence-based guidelines (2011) on the diagnosis and treatment of degenerative lumbar spinal stenosis. The guidelines stated that patients with mild symptoms of lumbar spinal stenosis are not considered surgical candidates; however, decompressive surgery was suggested to improve outcomes in patients with moderate-to-severe symptoms of lumbar spinal stenosis (grade B recommendation). The Society also indicated that current evidence was insufficient to recommend for or against the placement of interspinous process spacing devices to treat spinal stenosis.

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.

Regulatory Status

Discectomy and laminectomy are surgical procedures and, as such, are not subject to regulation by the U.S. Food and Drug Administration. Some instrumentation used during laminectomy may be subject to Food and Drug Administration approval.

References


Appendix

Figure 1. Lumbosacral dermatome innervations

Labels indicate the innervation of each lumbosacral dermatome. L=lumbar, S=sacral

| L1,2,3,4 – front and inner surfaces of legs | L4 – inner (medial) side of the great toe |
| L4,5, S1 – foot | L5, S1,S2 – back and outer surfaces of legs, buttocks |
| S1 – outer (lateral) margin of foot and little toe | S2,3,4 – perineum (urogenital and anal areas of pelvis) |
## History

<table>
<thead>
<tr>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/13/14</td>
<td>New policy. Lumbar decompression surgery may be considered medically necessary when applicable criteria are met. Effective May 18, 2014 with 90-day hold for provider notification.</td>
</tr>
<tr>
<td>01/14/14</td>
<td>Replace policy. Policy criteria revised for lumbar discectomy MRI sub-bullet to add “nerve root compression that corresponds to symptoms and physical examination findings or there is definitive neurological localization by other means (eg, selective nerve root injections)” and the neurological deficits sub-bullet add “to include alternative signs of lumbar root irritation (eg, positive leg raising test)”. ICD-10 CM and ICD-10 PCS codes removed. Policy statements changed as noted.</td>
</tr>
<tr>
<td>02/10/14</td>
<td>Replace policy. Policy statement revised: deleted cauda equina syndrome (CES) as an indication since “the rapid progression of symptoms” includes CES, added lumbar spine CT myelogram to diagnostic imaging criteria, minor edits for readability. Related policies list revised. In the Policy Guidelines, added information about pre-service requests, added selective nerve root injections to the diagnostic test reports, expanded definition of CES. Reference 16 added for Figure 1, second graphic removed. Policy</td>
</tr>
<tr>
<td>Date</td>
<td>Comments</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>02/27/14</td>
<td>Updated Related Policies. Add 8.03.501.</td>
</tr>
<tr>
<td>04/04/14</td>
<td>Minor rewording of not medically necessary policy statement for clarity, intent is unchanged.</td>
</tr>
<tr>
<td>05/02/14</td>
<td>Update Related Policies. Add 7.01.537 and 8.03.503.</td>
</tr>
<tr>
<td>05/20/14</td>
<td>Update Related Policies. Remove 7.01.116 as it was deleted, and replace with 7.01.555.</td>
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<tr>
<td>06/26/14</td>
<td>Update Related Policies. Add 7.01.18.</td>
</tr>
<tr>
<td>09/25/14</td>
<td>Update Related Policies. Add 8.03.502.</td>
</tr>
<tr>
<td>12/22/14</td>
<td>Interim Update. Updated Related Policies added 8.03.09. Reference 7 removed from the additional resources and websites section; others renumbered. Policy statement unchanged.</td>
</tr>
<tr>
<td>01/06/15</td>
<td>Update Related Policies. Add 8.01.40.</td>
</tr>
<tr>
<td>09/24/15</td>
<td>Coding update; ICD-9 diagnosis and procedure codes removed. These were for informational purposes only.</td>
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<tr>
<td>10/13/15</td>
<td>Annual update. Reference 8 added. Policy statements unchanged. Coding update: Removed CPT codes 63200, 63252, 63277, 63282, 63287 and 63290; these are not specific to the procedures addressed in this policy.</td>
</tr>
<tr>
<td>11/10/15</td>
<td>Interim Review. Policy guidelines update to reflect imaging timeline of 12 from 6 to be consistent with all policies within documentation requirements.</td>
</tr>
<tr>
<td>03/21/16</td>
<td>Interim Update. Removed related policy 8.01.40 as it was archived.</td>
</tr>
<tr>
<td>07/01/16</td>
<td>Annual Review, approved June 14, 2016. Policy updated with literature review; references added. Policy statements unchanged but added clarification that &quot;rapid&quot; progression is defined as 48 hours or less.</td>
</tr>
<tr>
<td>11/24/16</td>
<td>Policy moved into new format; no change to policy statements.</td>
</tr>
<tr>
<td>01/01/17</td>
<td>Coding update; added new CPT 62380 effective 1/1/17.</td>
</tr>
<tr>
<td>07/01/17</td>
<td>Annual review, approved June 22, 2017. Minor language update in policy statement for clarification purposes. No major change to policy statements.</td>
</tr>
<tr>
<td>03/01/18</td>
<td>Note added that this policy has been revised. Added link to revised policy that will become effective June 1, 2018. Added Documentation Requirements section.</td>
</tr>
<tr>
<td>06/01/8</td>
<td>Minor update; removed note and link to updated policy. Surgery Site of Service criteria becomes effective.</td>
</tr>
<tr>
<td>02/01/19</td>
<td>Minor update, added 7.01.560 to related policies.</td>
</tr>
</tbody>
</table>
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Email AppealsDepartmentInquiries@Premera.com

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U.S. Department of Health and Human Services
200 Independence Avenue SW, Room S09F, HHH Building
Washington, D.C. 20201, 1-800-368-1019, 800-537-7697 (TDD)

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