

Lumbar Discectomy



**DEFINING APPROPRIATE
COVERAGE POSITIONS**

Introduction

North American Spine Society (NASS) coverage policy recommendations are intended to assist payers and members by proactively defining appropriate coverage positions. Historically, NASS has provided comment on payer coverage policy upon request. However, in considering coverage policies received by the organization, NASS believes proactively examining medical evidence and recommending credible and reasonable positions may be to the benefit of both payers and members in helping achieve consensus on coverage before it becomes a matter of controversy.

Methodology

The coverage policies put forth by NASS use an evidence-based approach to spinal care when possible. In the absence of strict evidence-based criteria, policies reflect the multidisciplinary and non-conflicted experience and expertise of the authors in order to reflect reasonable standard practice indications in the United States.

[NASS Coverage Policy Methodology](#)

Coverage Recommendation(s)

Clinical Criteria for the Procedure

Patients with radiographic evidence of lumbar disc herniation can present with no symptoms, axial pain, radiculopathy, or cauda equina syndrome. Of these, the most presentation is unilateral radiculopathy secondary to a lumbar disc herniation. Recommendations for lumbar discectomy vary based on the clinical presentation rather than the radiographic appearance. Discectomy in combination with fusion will not be discussed in this document (*see lumbar fusion coverage recommendations*).

Lumbar discectomy (which can be performed using a variety of techniques including but not limited to open discectomy, microscope-assisted discectomy, less invasive tube-assisted discectomy) may be indicated for the following diagnoses with qualifying criteria, when appropriate:

1. **Infection** involving the disc space in EITHER of the following cases:

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- a. In order to perform an open disc biopsy and culture when an organism has not been identified by other less invasive means (e.g. blood cultures, percutaneous needle biopsy)
 - b. In order to perform a disc space/spinal canal debridement if ANY of the following is present:
 - lack of clinical response to an appropriate course of antibiotics
 - epidural abscess with associated neurological deficits
 - signs of systemic sepsis associated with the disc space infection
- 2. Cauda equina syndrome** associated with a lumbar disc herniation, defined as any combination of saddle (perineal) anesthesia, new onset loss of bowel and/or bladder control (incontinence or retention), or new onset lower extremity neurological deficits not explained by a more proximal lesion
- 3. Lumbar disc herniation with radiculopathy**
- a. Pattern of radiculopathy explained by imaging
 - b. 6-12 weeks of nonoperative treatment
 - c. The following can mitigate the need for initial nonoperative trial
 - Severity of symptoms cause forced bed rest
 - Severity of symptoms prevent the patient from working
 - Herniation results in functionally limiting motor weakness (e.g. foot drop).
- 4. Recurrent lumbar disc herniation with radiculopathy**
- a. Pattern of radiculopathy explained by imaging
 - b. 6-12 weeks of nonoperative treatment
 - c. The following can mitigate the need for initial nonoperative trial
 - Severity of symptoms cause forced bed rest
 - Severity of symptoms prevent the patient from working
 - Herniation results in functionally limiting motor weakness (e.g. foot drop).

Discectomy is **NOT** indicated in cases that do not fall within the above parameters. In particular discectomy is not indicated for treatment of:

- isolated axial pain in the presence of a disc herniation
- predominant low back pain associated with disc degeneration with or without annular tears in the absence of a disc herniation
- patients who are asymptomatic with a normal physical exam regardless of the size of the disc herniation

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Rationale

In item 1, the rationale for coverage of lumbar fusion for the treatment of spinal infections is based on what most practitioners would consider to be accepted practice patterns. In general, infection of the disc space is usually initially treated medically. Open biopsy of the disc could be considered if neither blood cultures nor interventional percutaneous biopsies yielded positive cultures. In this case either an open biopsy or more extensive biopsy and debridement could be considered if the patient is not improving clinically. Discectomy and debridement would be further appropriate if the condition appears to be progressive and unresponsive to medical therapy, or if there is onset and progression of neurological deficit or deformity. Fusion would sometimes be considered in conjunction with lumbar discectomy (*see Lumbar fusion coverage recommendations*).

In item 2, the present of an acute cauda equine syndrome is considered by most to be a surgical urgency. While there may be some discussion regarding the ideal timing of surgery, which may vary from hours to days, lumbar discectomy, with or without laminectomy, is considered to be the preferred treatment in most cases (Ahn, Qureshi).

In item 3, It is generally agreed that excluding cauda equina syndrome, all patients presenting with symptoms related to lumbar disc herniation should undergo an initial trial of non-operative treatment, as most patients improve without surgery (Saal, Frymoyer, Suri). For patients with radiculopathy, presence of a functionally limiting motor deficit (e.g. foot drop) may be an exception to a trial of nonoperative treatment. Many surgeons would consider this an indication for more immediate surgery, although this remains controversial, as improvement of motor deficits following discectomy is unpredictable (Dubourg). Other indications for more immediate discectomy include patients with such severe sciatica that they are bedbound, or that individual that requires rapid improvement due to unique work or personal requirements, such as a parent of a handicapped child with no other support system. Otherwise, for those patients with radicular complaints unresponsive to non-operative treatment, there is consistent evidence over time that lumbar discectomy provides favorable and sustained outcomes (Weber, Atlas, Weinstein, Buttermann, Osterman). The minimum duration of nonoperative treatment is not well defined but community standards would suggest a minimum of four weeks. Surgery should proceed within 2 to 6 months of onset of symptoms for optimal outcomes (Hakelius, Fisher, Ng, Nygaard). There is also evidence that early surgery leads to faster recovery and better pain relief than prolonged conservative treatment (Peul). The size of the disc herniation may also be a predictor of outcome (Carragee, Carragee). Overall lumbar discectomy appears to offer value to the

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patient and society. For properly indicated patients, outcomes can be expected to be good, and cost effectiveness appears to be favorable (Malter, Hansson, Tosteson, van den Hout). This is particularly true for patients that are able to return to work and productivity.

In item 4, Patients that develop symptoms related to recurrent disc herniations can be managed similarly to patients with primary disc herniations. In particular for those patients with principally radiculopathy who have failed initial non operative treatment; repeat lumbar discectomy can be expected to result in outcomes similar to the index procedure (Wera, Papadopoulos, Suk).

Regarding the cases in which lumbar discectomy should **NOT** be covered; there are a number of supporting data. The incidence of asymptomatic disc herniation is fairly high, and is relatively higher in the elderly. (Boden, Jensen). The presence of a disc herniation does not predict development of clinical symptoms or impairment. Therefore, discectomy is not indicated for asymptomatic disc herniations.

The surgical indications are more controversial for patients with persistent, isolated back pain in the presence of a disc herniation. For this group, in general the threshold to recommend surgery is much higher and the suggested duration of non-operative treatment longer. There are many studies for patients with radicular symptoms and back pain that reveal improved back pain along with the radicular complaints following surgery (Pearson, Ohtori). There are no higher quality studies that evaluate the efficacy of discectomy for the treatment of patients with disc herniations with symptoms limited to axial pain only. Until better studies are available, we are reluctant to recommend coverage of patients with only axial pain secondary to a disc herniation.

For symptomatic patients with degenerative disc disease including annular tears, there is no role for lumbar discectomy. There are reports of back pain improving with discectomy, but these are for patients with true disc herniations. There are no studies that support expected clinical improvement from discectomy for degenerative disc disease including annular tears. Psychiatric illness, depression in particular, as well as dissatisfaction with work and smoking are all associated with back pain and should be optimized or eliminated before considering discectomy for axial pain.

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Author Disclosures

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