Lumbar Diskectomy, Foraminotomy, or Laminotomy

MCG Health
Inpatient & Surgical Care
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ORG: S-810 (ISC)
Link to Codes

Care Planning - Inpatient Admission and Alternatives

Clinical Indications for Procedure

- Procedure is indicated for **1 or more** of the following(1)(2)(3)(4)(5):
  - Cauda equina or spinal cord compression (myelopathy), as indicated by **ALL** of the following(6)(7)(8):
    - Progressive or severe neurologic deficits consistent with cauda equina or spinal cord compression (eg, bladder or bowel incontinence)
    - Imaging findings of compression that correlate with clinical findings
  - Lumbar radiculopathy and **ALL** of the following:
    - Patient has unremitting radicular pain or progressive weakness secondary to nerve root compression.(9)
    - Failure of 6 weeks of nonoperative therapy that includes **1 or more** of the following:
      - Medication (eg, NSAIDs, analgesics)
      - Physical therapy
      - Epidural or oral corticosteroid(10)(11)(12)
    - MRI or other neuroimaging finding correlates with clinical signs and symptoms.
  - Lumbar spondylolisthesis, as indicated by **1 or more** of the following(13):
    - Rapidly progressive or very severe neurologic deficits (eg, bowel or bladder dysfunction)
    - Symptoms requiring treatment, as indicated by **ALL** of the following:
      - Patient has persistent disabling symptoms, including **1 or more** of the following:
        - Low back pain
        - Neurogenic claudication
        - Radicular pain
      - Treatment is indicated by **ALL** of the following:
        - Listhesis demonstrated on imaging
        - Symptoms correlate with findings on MRI or other imaging.

- Failure of 3 months of nonoperative therapy

Alternatives to Procedure

- Alternatives include(1)(2)(3)(4)(14):
  - Nonoperative measures, including(18):
    - Medication (eg, NSAIDs, analgesics)
    - Physical therapy
    - Epidural or oral corticosteroid (eg, for disk herniation)(10)(11)(12)
  - Laminectomy. See Lumbar Laminectomy ISC guideline.

Operative Status Criteria

- Ambulatory(19)(20)(21)

Preoperative Care Planning

- Preoperative care planning needs may include(1)(2)(3)(7):
  - Routine preoperative evaluation. See Preoperative Education, Assessment, and Planning Tool SR.
  - Diagnostic test scheduling, including:
    - Imaging (eg, MRI, CT myelogram)(22)
    - Electromyography
  - Preoperative treatment, procedures, and stabilization, including:
    - Physical and occupational therapy consultation for development of rehabilitation plan, including progressive exercises, muscle strengthening, and activity pacing(23)
    - Preoperative analgesia[A]
  - Preoperative discharge planning as appropriate. See Discharge Planning in this guideline.

Hospitalization

Optimal Recovery Course

Day	Level of Care	Clinical Status	Activity	Routes	Interventions	Medications
1	• Social Determinants of Health Assessment • OR to floor to discharge[B] • Discharge planning	• **Procedure completed** • **No new neurologic deficits** • **No new voiding difficulty** • **No evidence of infection** • **Pain absent or managed** • **Discharge plans and education understood**	• **Ambulatory or acceptable for next level of care**	• IV fluids and medications for procedure • **Oral hydration[C]** • **Oral medications or regimen acceptable for next level of care** • **Oral diet or acceptable for next level of care**	• Neurologic checks of lower extremities	• Prophylactic antibiotics[D] • Oral analgesics

(1)(7)(19)(20)(21)

Recovery Milestones are indicated in **bold**.

Goal Length of Stay: Ambulatory

Note: Goal Length of Stay assumes optimal recovery, decision making, and care. Patients may be discharged to a lower level of care (either later than or sooner than the goal) when it is appropriate for their clinical status and care needs.

Extended Stay

Minimal (a few hours to 1 day), Brief (1 to 3 days), Moderate (4 to 7 days), and Prolonged (more than 7 days).

- Inpatient stay may be needed for(1)(5)(20)(26)(27)(28):

- Older patients (ie, older than 65 years) with active comorbidities requiring longer postoperative care
  - Expect brief stay extension.
- Dural tear, cerebrospinal fluid leak(29)(30)(31)(32)
  - Anticipate possible cerebrospinal fluid drainage, surgical repair, and bed rest.
  - Expect brief to moderate stay extension.
- Extraspinal hemorrhage
  - Anticipate possible evacuation and surgical repair.
  - Expect brief to moderate stay extension.
- Intraspinal hemorrhage
  - Intraspinal hemorrhage may need surgical repair.
  - Expect brief to moderate stay extension.
- Nerve root injury
  - Nerve root injury may need physical therapy and rehabilitation.
  - Expect brief to moderate stay extension.

See Common Complications and Conditions ISC for further information.

Hospital Care Planning

- Hospital evaluation and care needs may include(1)(7):
  - Consultation, assessment, and other services scheduling and completion, including(23):
    - Physical therapy
    - Occupational therapy
  - Monitoring patient's status for deterioration and comorbid conditions (see Inpatient Monitoring and Assessment Tool SR); key items include:
    - Neurovascular status of lower extremities
    - Pain management(33)
    - New-onset headache suspicious for dural tear or cerebrospinal fluid leak
    - Urinary retention
    - Hemodynamic stability
    - Wound management, observing for healing at spine

Discharge

Discharge Planning

- Discharge planning includes[E]:
  - Assessment of needs and planning for care, including(35):
    - Develop treatment plan (involving multiple providers as needed).
    - Evaluate and address preadmission functioning as needed.
    - Evaluate and address psychosocial status issues as indicated. See Psychosocial Assessment SR for further information.
    - Evaluate and address social determinants of health (eg, housing, food). See Social Determinants of Health Screening Tool SR for further information.(34)
    - Evaluate and address patient or caregiver preferences as indicated.
    - Identify skilled services needed at next level of care, with specific attention to(36):
      - Neurologic status assessment(37)
      - Pain management(38)
      - Wound or dressing management
  - Early identification of anticipated discharge destination; options include(39)(40):
    - Home, considerations include:
      - Access to follow-up care
      - Home safety assessment. See Home Safety Assessment SR for further information.
      - Self-management ability if appropriate. See Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) Assessment SR for further information.
      - Caregiver need, ability, and availability
    - Post-acute skilled care or custodial care as indicated. See Discharge Planning Tool SR for further information.
  - Transitions of care plan complete, including(40):
    - Patient and caregiver education complete. See Lumbar Diskectomy, Foraminotomy, or Laminotomy: Patient Education for Clinicians SR for further information.
      - See Teach Back Tool SR for further information.

- Medication reconciliation completion includes(41)(42):
  - Compare patient's discharge list of medications (prescribed and over-the-counter) against provider's admission or transfer orders.
  - Assess each medication for correlation to disease state or medical condition.
  - Report medication discrepancies to prescribing provider, attending physician, and primary care provider, and ensure accurate medication order is identified.
  - Provide reconciled medication list to all treating providers.
  - Confirm that patient or caregiver can acquire medication.
  - Educate patient and caregiver.
    - Provide complete medication list to patient and caregiver.
    - Importance of presenting personal medication list to all providers at each care transition, including all provider appointments
    - Reason, dosage, and timing of medication (eg, use "teach-back" techniques)(43)
  - Encourage communication between patient, caregiver, and pharmacy for obtaining prescriptions, setting up home medication delivery, and reviewing for drug-drug interactions.
  - See Medication Reconciliation Tool SR for further information.
- Plan communicated to patient, caregiver, and all members of care team, including(44)(45):
  - Inpatient care and service providers
  - Primary care provider
  - All post-discharge care and service providers
- Appointments planned or scheduled, which may include(38):
  - Primary care provider
  - Neurosurgeon
  - Orthopedic surgeon
  - Rehabilitation therapy services(46)
  - Specialists for management of comorbidities as needed
  - Other
- Outpatient testing and procedure plans made, which may include:
  - Other
- Referrals made for assistance or support, which may include:
  - Financial, for follow-up care, medication, and transportation
  - Tobacco use treatment(47)
  - Vocational rehabilitation(48)
  - Other
- Medical equipment and supplies coordinated (ie, delivered or delivery confirmed), which may include:
  - Ambulation devices (eg, cane, crutches, walker)
  - Wound care equipment and supplies(49)
  - Other

Discharge Destination

- Post-hospital levels of admission may include:
  - Home.
  - Home healthcare. See Home Care Indications for Admission Section HC in Lumbar Spine Surgery guideline in Home Care.
  - Recovery facility care. See Recovery Facility Care Indications for Admission Section RFC in Lumbar Spine Surgery guideline in Recovery Facility Care.

Evidence Summary

Background

A diskectomy is a surgical technique where part or all of the disk between the vertebrae is removed. A foraminotomy is a surgical technique in which an opening is made by removing bone around the area of the spinal column where the spinal nerve roots exit from the spinal cord. A laminotomy involves opening of bone from the posterior portion of the vertebral body.(1) **(EG 2)**

Criteria

The evidence for the clinical indications found in this guideline includes 12 published peer reviewed articles and 1 book section.

Alternatives

A randomized controlled study of 233 patients (mean age 67 years) undergoing surgery for lumbar spinal stenosis (at 1 or 2 levels) found that the addition of fusion to laminectomy did not result in improved clinical outcomes at 2-year and 5-year follow-up, and that

fusion resulted in longer operative times and more blood loss.(15) **(EG 1)** In the same trial, when patients were stratified by the presence or absence of spondylolisthesis, the results were similar.(15) **(EG 1)** A randomized controlled study of 66 patients (mean age 67 years) undergoing surgery for spinal stenosis and degenerative spondylolisthesis found that the addition of fusion to laminectomy resulted in inconsistent subjective improvement of borderline statistical and clinical significance at 2-year to 4-year follow-up.(16) **(EG 1)** This same trial had a relatively high rate of patients lost to follow-up (14% at 2 years, 31% at 3 years and beyond) and a small sample size, such that the results were imprecise (eg, large 95% confidence intervals).(16) **(EG 1)** A randomized noninferiority trial compared lumbar decompression alone with lumbar decompression with instrumental fusion in 262 patients (mean age 66 years) with leg or back pain due to lumbar spinal stenosis and single-level spondylolisthesis of 3 mm or more that has persisted despite nonoperative treatment (most patients with symptoms for more than 1 year), and concluded there was noninferiority of decompression alone in patient-reported outcomes (eg, Oswestry Disability Index) at 2-year follow-up.(17) **(EG 1)** In the same trial, the decompression alone group had a slightly higher reoperation rate (12.5% vs 9.1%).(17) **(EG 1)**

Length of Stay

A study of 2262 patients (mean age 50 years) undergoing single-level or 2-level lumbar diskectomy found that the average length of stay was 0.5 days.(19) **(EG 2)** A study of a database including 176 patients (mean age 42 years) undergoing single-level minimally invasive lumbar diskectomy found that 90% of patients were successfully discharged on the day of surgery.(20) **(EG 2)** Analysis of procedure data for a large commercially insured population shows 91% of lumbar diskectomy, foraminotomy, or laminotomy procedures being performed on an outpatient basis.(21) **(EG 3)** Analysis of procedure data for a Medicare-insured population shows 77% of lumbar diskectomy, foraminotomy, or laminotomy procedures being performed on an outpatient basis.(21) **(EG 3)**

Rationale

Surgical MCG care guidelines help the clinician to identify, for a given procedure, which patient-specific factors and clinical conditions are appropriate for that procedure. The evidence-based clinical indication criteria assist the clinician in the decision to appropriately perform a procedure, evaluating whether the potential benefits of a procedure outweigh the potential risks. For Medicare enrollees, surgical MCG care guidelines also identify which procedures CMS has designated as inpatient only.

Related CMS Coverage Guidance

This guideline supplements but does not replace, modify, or supersede existing Medicare regulations or applicable National Coverage Determinations (NCDs) or Local Coverage Determinations (LCDs).

Code of Federal Regulations (CFR): 42 CFR 412.3(50); 42 CFR 419.22(n)(51); 42 CFR 422.101(52)

Internet-Only Manual (IOM) Citations: CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 1 - Inpatient Hospital Services Covered Under Part A(53); CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 6 - Hospital Services Covered Under Part B(54); CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 15 - Covered Medical and Other Health Services(55); CMS IOM Publication 100-08, Medicare Program Integrity Manual, Chapter 6, Section 6.5 - Medical Review of Inpatient Hospital Claims for Part A Payment(56)

Medicare Coverage Determinations: Medicare Coverage Database(57)

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Footnotes

[A] Gabapentin and acetaminophen given 60 minutes prior to surgery may help reduce use of narcotics, as well as pain, nausea, and vomiting postoperatively.(24) [A in Context Link 1]

[B] For ambulatory operative status criteria patients, see Ambulatory Surgery Discharge and Complications: Common Complications and Conditions ISC as needed. [B in Context Link 1]

[C] Some patients may have their hydration needs met via alternative means (eg, percutaneous endoscopic gastrostomy tube). [C in Context Link 1]

[D] For a typical uncomplicated lumbar laminotomy and diskectomy, a single preoperative dose of antibiotics is suggested to decrease the risk of infection and/or diskitis.(24)(25) [D in Context Link 1]

[E] Discharge instructions should be given in the patient's and caregiver's native language using trained language interpreters whenever possible.(34) [E in Context Link 1]

Definitions

Social Determinants of Health Assessment

- Risk of poor health outcomes may be increased by the presence of **1 or more** of the following social determinants of health(1)(2)(3)(4):
    - Housing insecurity, as indicated by **1 or more** of the following:
        - Individual or caregiver's current living situation is **1 or more** of the following(5):
            - Does not have own housing (eg, staying in a hotel, shelter, or with others)
            - Has own housing (eg, house, apartment), but at risk of losing it in the future (ie, behind on rent or mortgage)
            - Has own housing (eg, house, apartment), but has lived in 3 or more places in past year
        - Current housing has **1 or more** of the following:
            - Electrical appliances (eg, stove, refrigerator) not working or unavailable
            - Insufficient heating or cooling
            - Insufficient ventilation
            - Lead paint or pipes
            - Mold
            - Pests (eg, bugs) or rodents
            - Smoke detectors not working or unavailable
    - Food insecurity, as indicated by **1 or more** of the following(6):
        - In the past year, individual or caregiver ran out of food and did not have money to buy more food.
        - In the past year, individual or caregiver worried that they would run out of food before they received money to buy more food.
    - Insufficient transportation, as indicated by **1 or more** of the following(7):
        - In the past year, individual or caregiver missed medical appointments or could not get medications due to lack of transportation.
        - In the past year, individual or caregiver missed nonmedical activities, work, or could not get things needed for daily living due to lack of transportation.
    - Insufficient utilities, as indicated by **1 or more** of the following(8):
        - Utilities (eg, electricity, water, gas, or oil) are currently shut off or unavailable.
        - In the past year, electric, water, gas, or oil company threatened to shut off services.
    - Personal safety risk, as indicated by **2 or more** of the following(6):
        - Individual is sometimes or frequently physically hurt by another person (including family member).
        - Individual is sometimes or frequently insulted or talked down to by another person (including family member).
        - Individual is sometimes or frequently threatened with physical harm by another person (including family member).
        - Individual is sometimes or frequently screamed or cursed at by another person (including family member).
    - Insufficient dependent care, as indicated by **1 or more** of the following:
        - In the past year, individual or caregiver was unable to work due to lack of dependent care.
        - In the past year, individual or caregiver was unable to work more (additional) hours due to lack of dependent care.
        - In the past year, individual or caregiver missed medical appointments or could not get medications due to lack of dependent care.
        - In the past year, individual or caregiver missed nonmedical activities (eg, school, church, social activity) due to lack of dependent care.
    - Depression risk, as indicated by **ALL** of the following:
        - In the past 2 weeks, individual had little interest or pleasure in normal activities on at least several days.
        - In the past 2 weeks, individual felt down, depressed, or hopeless on at least several days.

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Codes

ICD-10 Diagnosis: C41.2, C79.51, D16.6, D48.0, D49.2, M46.25, M46.26, M46.27, M46.35, M46.36, M46.37, M46.45, M46.46, M46.47, M47.15, M47.16, M47.25, M47.26, M47.27, M47.815, M47.816, M47.817, M47.895, M47.896, M47.897, M48.05, M48.061, M48.062, M48.07, M51.05, M51.06, M51.15, M51.16, M51.17, M51.25, M51.26, M51.27, M51.35, M51.36, M51.37, M51.85, M54.15, M54.16, M54.17, M96.1, M99.23, M99.33, M99.43, M99.53, M99.63, M99.73, S33.0XXA, S34.101A, S34.102A, S34.103A, S34.104A, S34.105A, S34.109A, S34.111A, S34.112A, S34.113A, S34.114A, S34.115A, S34.119A, S34.121A, S34.122A, S34.123A, S34.124A, S34.125A, S34.129A, S34.21XA [Hide]

ICD-10 Procedure: 0RBB0ZZ, 0RBB3ZX, 0RBB3ZZ, 0RBB4ZX, 0RBB4ZZ, 0RTB0ZZ, 0SB20ZX, 0SB20ZZ, 0SB23ZX, 0SB23ZZ, 0SB24ZX, 0SB24ZZ, 0SB40ZX, 0SB40ZZ, 0SB43ZX, 0SB43ZZ, 0SB44ZX, 0SB44ZZ, 0ST20ZZ, 0ST40ZZ [Hide]

CPT®: 62380, 63030, 63035, 63042, 63044

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