

Evidence Discussion (CMM-606)

Lumbar Microdiscectomy - Laminotomy, Laminectomy, or Hemilaminectomy

Risks of lumbar microdiscectomy surgery include but are not limited to infection, neurovascular injury, persistent or incomplete relief of symptoms, possible need for more surgery, dural tear, deep vein thrombosis, pulmonary embolus, paralysis and death. Given the potential possibility for significant complications, proper patient selection is critical to minimize the risk benefit ratio. As recommended by the North American Spine Society (NASS) Coverage Policy Recommendations: *Lumbar Discectomy* (Revised 2019), symptoms, physical exam findings and imaging findings should support lumbar discectomy surgery. [1] Subjective symptoms and examination findings need to be concordant with imaging as it is not uncommon for asymptomatic patients to have abnormalities on MRI. [4]

Multiple studies and reports have shown most cases of acute back pain and sciatica are self-limited and typically improve within 6 weeks with conservative care. [2, 3] Therefore, a 6 week course of non-operative treatment is recommended prior to surgical intervention. [1] However, the presence of an urgent/emergent condition (e.g. cauda equina syndrome, infection, epidural hematoma) would obviate the need for conservative treatment.

Jackson et al. noted higher rates of postoperative complications and worse functional outcomes in patients with psychological disorders undergoing spinal surgery. [5] It was concluded that proper identification and treatment of these conditions prior to surgery may significantly improve many outcome measures in this population.

1. NASS Coverage Policy Recommendations: *Lumbar Discectomy*. Revised 2019. North American Spine Society (NASS) Coverage Committee. Burr Ridge, IL. ISBN 1-929988-65-6
2. Patel ND, Broderick DF, Burns J, et. al. Expert Panel on Neurologic Imaging. ACR Appropriateness Criteria® : Low Back Pain. American College of Radiology (ACR); Date of Origin: 1996. Revised: 2021.
3. Chou R, Fu R, Carrino JA, et al. Imaging strategies for low-back pain: systematic review and meta-analysis. *Lancet*. 2009;373:463-472.
4. Jensen MC, Brant-Zawadzki MN, Obuchowski N, et al. Magnetic resonance imaging of the lumbar spine in people without back pain. *NEJM*. 1994;331; 69-73.
5. Jackson KL, Rumley J, Griffith M, Agochukwu U, DeVine J. Correlating Psychological Comorbidities and Outcomes After Spine Surgery. *Global Spine J*. 2020 Oct;10(7):929-939.