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Q When is discectomy indicated for lumbar disc disease?

EVIDENCE-BASED ANSWER

A **EMERGENT DISCECTOMY** is indicated in the presence of cauda equina and severe, progressive neuromotor deficits (strength of recommendation [SOR]: **C,** expert opinion).

Elective discectomy for sciatica caused by lumbar disc disease provides faster relief of symptoms than conservative management, but long-term outcomes are equivalent (SOR: **A,** a systematic review and randomized controlled trial [RCT]).

Evidence summary

Lumbar disc disease is the most common cause of sciatica.[1] In the absence of red flags, the initial approach to treatment is conservative and includes physical therapy and analgesic medications. In 90% of patients, acute attacks of sciatica improve within 4 to 6 weeks without surgical intervention.[1,2]

Experts agree that cauda equina syndrome is an absolute indication for urgent surgical intervention.[3] Most also would consider surgery for patients with progressive or severe neuromotor deficit, although no controlled studies exist to support this recommendation.[3] If surgery is necessary, discectomy to relieve nerve compression is the current standard of care.[3]

Surgery provides relief, at least in the short term

A Cochrane review of 4 RCTs compared open and microdiscectomy with nonoperative management of lumbar disc disease in patients with sciatica.[1] All the studies showed a tendency toward improved early outcomes with surgery. However, the results of the studies were limited by lack of adherence to treatment, with high crossover rates from conservative treatment to surgical intervention.

Microdiscectomy produced comparable results to standard open discectomy. The reviewers concluded that, for patients with sciatica caused by lumbar disc prolapse, surgery provides faster relief from the acute attack than conservative management; long-term differences in outcome are unclear.[1]

A more recent systematic review of 5 studies that compared surgery with conservative management of sciatica concluded that early surgery provides better short-term relief of sciatica but no benefit after 1 or 2 years.[4]

Despite faster recovery with surgery, questions remain

A subsequent study randomized 283 patients with severe sciatica for 6 to 12 weeks to early surgery or prolonged conservative treatment with surgery if needed.[5] Primary outcomes were functional disability, intensity of leg pain, and the patient's self-perceived recovery. Of patients in the early surgery group, 89% (125/141) underwent microdiscectomy after a mean of 2.2 weeks.

At 1 year, intention-to-treat analysis showed no significant difference in disability, pain, or perceived recovery between the 2 groups. However, patients who underwent early surgery reported faster relief of leg pain and a faster rate of perceived recovery. The median time to perceived recovery was 4 weeks (95% confidence interval [CI], 3.7-4.4) for early surgery and 12.1 weeks (95%

INSTANT POLL QUESTION

Under what circumstances do you recommend discectomy?

- ☐ *For patients with significant neuromotor deficits.*
- ☐ *Only if the pain persists despite conservative treatment.*
- ☐ *Only if neither conservative treatment nor epidural steroid injection relieves the pain.*
- ☐ *I rarely recommend discectomy.*
- ☐ *Other*_____

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CI, 9.5-14.9) for prolonged conservative treatment. Both groups had a 95% recovery rate at 52 weeks.

Thirty-nine percent (55/142) of patients randomized to conservative management underwent surgery after a mean of 18.7 weeks, and this lack of adherence to intention to treat may limit the validity of the results. A follow-up study at 2 years continued to show no difference in outcomes between surgery and conservative treatment.[6]

Recommendations

The Institute for Clinical Systems Improvement (ICSI) recommends conservative management initially for acute low back pain with sciatica/radiculopathy because the condition usually improves in 4 to 6 weeks. Surgery is indicated in the following cases:

- cauda equina syndrome
- progressive or significant neuromotor deficit
- neuromotor deficit that persists after 4 to 6 weeks of conservative treatment
- chronic sciatica with positive straight leg raise longer than 6 weeks or uncontrolled pain.

The ICSI recommends that patients being considered for nonemergent surgery have an epidural steroid injection, which may allow them to advance in a nonoperative treatment program.[2]

The American College of Physicians guidelines agree that most patients with lumbar disc herniation will improve within the first month with conservative management. They recommend discectomy or epidural steroid injections as potential treatment options for patients whose symptoms persist despite conservative therapy.[7] JFP

Most experts would also consider surgery for progressive or severe neuromotor deficit despite a lack of controlled studies.

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