

Surgery for sciatica reduces leg pain and disability for some people, but benefits are short-lived, finds review

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Surgery to relieve leg pain and disability in some people with sciatica may be better than other non-surgical treatments, but the benefits are

short-lived, lasting only up to 12 months, finds an analysis of the latest evidence published by *The BMJ* today.

What's more, the certainty of available evidence is low to very low, prompting the researchers to suggest that surgery might only be a worthwhile option for people who feel that the rapid relief outweighs the costs and potential risks associated with surgery.

Sciatica refers to pain that travels along the path of the sciatic nerve, from the [lower back](#) and down the leg. In some people, sciatica occurs when a herniated ("slipped") disk puts pressure on or irritates the small roots of the nerve in the back.

Guidelines recommend surgery (discectomy) when non-surgical options such as drugs or [steroid injections](#) are unsuccessful. While surgery is widely used, evidence for its use is still uncertain and recent reviews on this topic have several shortcomings. Thus, an international team of researchers set out to investigate the effectiveness and safety of surgery compared with non-[surgical treatment](#) for sciatica.

They searched databases for randomized controlled trials comparing any surgical treatment with non-surgical treatment, epidural steroid injections, or placebo or sham surgery, in people with sciatica of any duration due to a herniated disk.

Pain and disability scores from the trials were converted to a 0-100 point scale, and risk of bias and certainty of evidence were assessed using recognized tools. Trial follow-up times were split into immediate-term (6 weeks or less), short-term (between 6 weeks and 3 months), medium-term (between 3 and 12 months), and long-term (12 months).

Altogether, 24 trials were included in the main analysis. Half of these looked at the effectiveness of discectomy compared with non-surgical

treatment or epidural steroid injections (1,711 participants).

Very low to low-certainty evidence showed that discectomy, compared with non-surgical treatment, reduced leg pain. The effect size was moderate at immediate- and short-term (average of around 12 points lower on the pain scale), small at medium-term (6.5 points lower), and negligible at long-term (2.3 points lower).

For disability, small, negligible, or no effects were found.

A similar effect on leg pain was found when comparing discectomy with epidural steroid injections. For disability, a moderate effect was found at short-term, but no effect was observed at medium- and long-term.

The risk of any adverse events, such as wound infection, repeat disk herniation, and persistent postsurgical pain, was similar between discectomy and [non-surgical treatment](#).

This review provides the most comprehensive synthesis of the evidence on surgical procedures for sciatica to date. But the researchers acknowledge that the certainty of evidence ranged from low to very low, that reporting of non-surgical treatments was generally poor, and that the included studies varied in the way they identified patients eligible for surgery, which—alongside other limitations—may have affected the findings.

As such, they say generally, discectomy resulted in faster relief in pain and disability, but only up to 12 months—and might be considered an early management option in people in whom the benefits of early improvement in [leg pain](#) or disability outweigh the costs and potential risks.

In a [linked editorial](#), researchers suggest that the conclusions from this

review should be limited to people with sciatica who have not responded adequately to non-surgical approaches or have severe pain and who have a surgical indication on the MRI scan. Fortunately, the majority of people with sciatica recover spontaneously without the need for surgery.

The findings also highlight one of the main obstacles to improving outcomes in this clinical field—that sciatica is a heterogeneous condition and no routine clinical measures can consistently predict outcome, they note.

"Solving the heterogeneity puzzle is the key to helping people with [sciatica](#) and clinicians choose the right treatment for them earlier in the disease trajectory, while being fully informed of the benefits and risks of [surgery](#)," they conclude.

More information: Surgical versus non-surgical treatment for sciatica: systematic review and meta-analysis of randomised controlled trials, *The BMJ* (2023). [DOI: 10.1136/bmj-2022-070730](https://doi.org/10.1136/bmj-2022-070730)

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