

'Top 100' papers in lumbar spine surgery reflect trends in low back pain treatment

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What are the most influential studies on surgery of the lower (lumbar) spine? The "top 100" research papers in lumbar spine are counted down in a special review in the May 15 issue of *Spine*.

Dr. Samuel K. Cho and colleagues of Icahn School of Medicine at Mount Sinai, New York City, performed a literature review to analyze and quantify the most important research papers on lumbar [spine surgery](#). Their results raise some interesting "questions, trends and observations"—including the finding that the two most-cited studies focus on situations when spinal surgery should not be performed.

And the Top 100 Lumbar Spine Papers Are...

The goal of the analysis was to identify the 100 most frequently cited papers relevant to lumbar spine surgery and published in spine-related journals. Citation by subsequent papers is a key measure of the relevance and importance of medical studies.

Out of more than 16,500 papers matching the search criteria, 322 were cited at least 100 times. The top-ranked paper—cited more than 1,000 times—was a classic 1990 study showing that many people have common spinal abnormalities on magnetic resonance imaging (MRI) scans—despite having no back pain or other symptoms. A 1994 study on a similar topic was the second most-cited paper, highlighting the need for a "clear correlation" of patients' symptoms and imaging findings

The third most-cited paper was a 2000 review of an important survey tool (the Oswestry Disability Index) for assessing the impact of low back pain on patients' lives. Overall, low back pain was the most common topic, addressed by 23 of the top 100 papers. Other frequent topics included spinal biomechanics and degenerative disc disease.

About half of the papers were published during the 1990s, and most originated in the United States. Overall, 63 of the top 100 lumbar spine papers were published in *Spine*.

Reflecting the current emphasis on evidence-based practice, the most frequently cited author isn't even a spinal surgeon. That researcher, Dr. Richard Deyo of Oregon Health and Science University, Portland, is a leading authority on patient outcomes research.

The other two most frequently cited authors were Scott D. Boden of Emory University, Atlanta, and Dr. James Weinstein of the Dartmouth Institute, Lebanon, N.H. All three of these "most prolific" authors contributed to the SPORT study—a pivotal clinical trial comparing the benefits of surgery versus nonsurgical treatment for sciatica from herniated [lumbar discs](#). Dr. Weinstein is Editor-in-Chief of *Spine*, and Dr. Boden and Dr. Deyo are Deputy Editors.

Over the years, rates of spinal surgery have risen, but with wide regional variations. Meanwhile, there are persistent questions about which patients truly benefit from surgery for the common and costly problem of low back pain. Many of the top-cited studies reflect the current emphasis on evidence-based practice—seeking to define groups of patients and characteristics associated with beneficial effects of [spinal surgery](#).

Within the limitations of the review methods used, Dr. Cho and colleagues believe their study provides unique insights into the

development and trends of the "challenging subspecialty" of [lumbar spine surgery](#). The researchers add, "This [paper](#) identifies those individuals whose contributions to the ever-growing body of knowledge have provided guidance and suggestions for further investigation."

More information: "The Top 100 Classic Papers in Lumbar Spine Surgery" [DOI: 10.1097/BRS.0000000000000847](https://doi.org/10.1097/BRS.0000000000000847)

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