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CORR Insights

CORR Insights®: What is the Rate of Revision Discectomies After Primary Discectomy on a National Scale?

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Where Are We Now?

The current study by Virk and colleagues focuses on an extremely important question that concerns patients, providers, and payers: What is the durability of an operation? With more than 480,000 cases done annually in the United States [5], discectomy is a common procedure with recurrence rates up to 18% [1, 4]. While one study suggested that the type of disc herniation could affect recurrence [4], generally, detailed analysis to explain the wide variation in recurrence rates has not been performed.

Where Do We Need To Go?

We should turn our attention to why, and in whom, recurrent disc herniations occur. Are there certain risk factors for recurrence? The answer is likely yes, although we do not know for sure; I suspect that both technical and patient-related factors contribute. An incomplete list might include age, location, type and size of disc herniation, sex and size of patient, surgeon experience, surgical approach, and underlying medical conditions. By critically evaluating characteristics along those lines, we will better develop a better understanding of this risk.

Future studies should use registry information to help stratify and predict risk. The granularity needed to obtain this information will come from well-constructed clinical registries such as the North American Spine Society Registry, as opposed to administrative databases. Such studies will affect which patients are best served by surgery, what procedures we perform, and what kind of outcomes we can expect. The future is now.

How Do We Get There?

Developing these prediction models will be difficult, but extremely valuable. In theory, the prospective randomized controlled trial would be the most accurate means of acquiring this information. Practically speaking, this will be nearly impossible. With such a low risk of recurrence, combined with the number of risk factors we would need to analyze, the sample size would be unmanageable and cost-prohibitive, and randomization entirely impractical.

This CORR Insights® *is a commentary on the article* "What is the Rate of Revision Discectomies After Primary Discectomy on a National Scale?" *by Virk and colleagues available at:* DOI: 10.1007/s11999-017-5467-6.

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Since the goal is to look at risk factors, this could also be accomplished looking at odds ratios, as well as regression analysis, through a case-control design [2]. While retrospective studies have characteristic kinds of bias, the use of prospectively collected data such as those maintained by registries, could improve the quality of the analysis while overcoming some of the cost and administrative burdens associated with randomized clinical trials [3, 6].

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