

Surgeons' expectations more accurate in predicting outcomes after lumbar spine surgery

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Surgeons' preoperative expectations were more accurate than patients' expectations in predicting patient-reported outcomes two years after lumbar spine surgery, according to a longitudinal study by investigators at Hospital for Special Surgery (HSS). Most patients had higher expectations than their surgeons did, with many anticipating complete improvement after seeking additional information beyond that provided by their surgeons.

Lower back pain is complex, requiring accurate diagnosis and careful consideration of treatment options. Mechanical problems, such as a muscle strain from heavy lifting or twisting, a sudden jolt in a car accident, a herniated disc from stress on spinal bones or joint degeneration due to osteoarthritis, are typical causes of [lower back pain](#). Most [patients](#) do not require [surgery](#) and are treated with medications to relieve pain and reduce inflammation. Surgical options are considered for back pain that does not respond to other therapies.

"There have been tremendous advances in [spine](#) surgery over the past 20 years, including minimally invasive and robotic approaches, new implants and bone grafting methods," says Federico P. Girardi, MD, an attending [orthopaedic surgeon](#) at HSS. "However, despite clinical assessment and improvements seen on postoperative imaging, some patients report they are not doing well compared to others with similar conditions who received the same surgeries. That has been very

frustrating for surgeons because our goal is to optimize [patient outcomes](#)."

"Patients decide to pursue lumbar spine surgery to relieve symptoms, improve their quality of life and avoid further disability," says Carol A. Mancuso, MD, FACP, a general internist and clinical epidemiologist at HSS. "Unrealistically high or low expectations are problematic, predisposing patients to poor outcomes if they become discouraged with recovery, abandon rehabilitation or ignore recommended lifestyle modifications that reduce disease progression."

To understand the gap between expectations and patient-reported outcomes, Dr. Girardi, Dr. Mancuso and colleagues developed the HSS Lumbar Spine Surgery Expectations Survey in 2013 with input from hundreds of patients on the surgical outcome factors that matter most to them. The comprehensive, validated tool evaluates patients' expectations for symptom relief, resuming activities, and importantly, psychological well-being, which previous surgeon-oriented surveys did not capture. The HSS Lumbar Spine Surgery Expectations Survey is one of several patient-centered tools developed by Dr. Mancuso and HSS researchers used worldwide and considered the gold standard for measuring patients' expectations with orthopedic surgery.

For their recent [study](#), published online ahead of print on November 4, 2020 in the journal *Spine*, Dr. Girardi, Dr. Mancuso and colleagues asked 402 patients and their surgeons to preoperatively assess their expectations of patient-reported surgical outcomes using the HSS Lumbar Spine Surgery Expectations Survey. The researchers surveyed patients again, two years after surgery, to evaluate the degree of fulfillment of their expectations.

Patients participating in the study were 55 years of age, on average. Most had a degenerative spine condition and had experienced symptoms for a

year or longer. About one-quarter had undergone previous spine surgery, and one-third were taking opioids to relieve leg and back pain. The extent of surgical procedures spanned from the removal of a single, [herniated disc](#) to more complex operations such as a five-level anterior-posterior decompression, instrumentation and fusion.

Responses to the HSS Lumbar Spine Surgery Expectations Survey generate a score on a scale of 0 to 100, where a [higher score](#) indicates higher expectations. Patients' average preoperative score in the study was 73 (ranging from 20 to 100), much higher than surgeons' average score of 57 (ranging from 16 to 100).

Next, the investigators determined whether surgeons or patients' presurgical expectations more closely predicted postoperative fulfillment of those expectations as reported by patients. The proportion of expectations fulfilled was .79 for patients, indicating that they were satisfied overall. Dr. Mancuso's previous research found that a ratio of .6 or higher corresponds with satisfaction with surgical results. However, the surgeons' ratio was 1.01, meaning that their predictions for patient-reported outcomes were highly accurate and more accurate than patients' presurgical estimates. In 73 percent of cases, surgeons either predicted patients' reported outcomes exactly, or patients surpassed surgeons' expectations.

"HSS spine surgeons very accurately predicted patient-reported outcomes two years after surgery, indicating that they are adept at integrating complex clinical, surgical and psychological factors that matter most to patients," says Dr. Mancuso. "Getting this right is an indicator of providing high-quality and high-value care."

Overall, surgeons and patients agreed on the same areas of improvement. However, expectations for the degree of improvement differed. Surgeons expected surgery would lead to a little, moderate, or a lot of

improvement, based on their clinical expertise treating hundreds of patients. However, 84 percent of patients had higher expectations than their surgeons, often expecting complete improvement. The investigators interviewed patients about the source of their expectations and discovered they had amplified their surgeons' guidance with information they obtained from family, friends, coworkers and the internet.

"Our study underscores that there is room for improvement in patient education and that patients should rely on their surgeon's expertise when forming expectations of [lumbar spine surgery](#)," Dr. Girardi says. "At HSS, we recognize that expectations for surgical outcomes are affected by many factors and develop evidence-based, individualized treatment plans. Patients need to realize that anecdotal stories from social contacts or the internet are often not relevant to their situation."

More information: Carol A. Mancuso et al, Concordance Between Patients' and Surgeons' Expectations of Lumbar Surgery, *Spine* (2020). [DOI: 10.1097/BRS.0000000000003775](https://doi.org/10.1097/BRS.0000000000003775)

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