On Patient Safety

On Patient Safety: Surgical Complications Do Not Always Produce Poor Outcomes (Just Bad Feelings)

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Consider this hypothetical: Your patient is 3 weeks postsurgery and no longer believes he is on “the road to

recovery.” A road implies movement. Recovery implies progress. Your patient is experiencing none of those things at the moment. In fact, your patient remains in great discomfort, seemingly broken from a number of surgical complications. You discussed the possibility of surgical complications well before surgery, but your patient believed them unlikely enough that he still went ahead with the procedure. But now the pain is real. The prolonged hospitalization is real. The likelihood of a diminished quality of life is all too real. Your patient is suffering today, and tomorrow looks just as bleak. Is there any hope to achieve a good outcome in the end, or at least avoid a bad outcome?

We all get tested like this. It is just a matter of when, how often, and how we respond. I will not forget my first test. It came early in my career.

In my second year of practice, I encountered a patient with severe back pain, leg pain, and kyphoscoliosis (Fig. 1A–B). His surgical history was complex—prior laminectomies and fusion, resulting in severe sagittal and coronal imbalances. He developed a surgical-site infection after one of his earlier procedures. Not surprisingly, he

continued to have great pain. Another surgeon placed an intrathecal morphine pump with little effect. He told me his back pain was a “12 out of 10.” He was desperate for relief. While patients who use pain descriptors of that sort warrant a cautious approach, he certainly had severe pathology on his examination and on his imaging tests, and that pathology accounted for at least some, if not all, of his back pain.

We talked about surgery several times. Although he wanted it right away, I felt it was important to give him and his wife time to process the real risks at hand. We discussed non-operative options at length, as well as the potential complications and risks. Perhaps most importantly, we discussed expectations at great length. During the course of several visits and discussions, he convinced me that he and his wife truly understood the complexities involved with the treatment approaches we discussed. He felt that surgery was the best of his remaining tough options.

In we went. As expected, the procedure took several hours due to the magnitude of surgery and the extensive scar tissue. I extended his fusion to T10, performed multiple revision

Note from the Editor-in-Chief: We are pleased to publish the next installment of “On Patient Safety” to the readers of Clinical Orthopaedics and Related Research®. The goal of this quarterly column is to explore a broad range of topics that pertain to patient safety. We welcome reader feedback on all of our columns and articles; please send your comments to ejc@clinOrthop.org.

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Fig. 1A–B Preoperative anteroposterior radiograph (A) and lateral radiograph (B) of the patient. Published with permission from Michael J. Lee MD.

laminectomies, multiple transforaminal interbody fusions, and vertebral augmentation above the fusion construct (Fig. 2A–B). At one point, I tore the dura near one of the prior scarred-down laminectomy sites, and I repaired the tear. Things looked okay.

Postsurgery was a different story: Serosanguinous drainage from the wound necessitating return to the OR, cerebrospinal fluid draining from the

wound necessitating another return to the OR, positive cultures resulting in long-term intravenous antibiotic treatment, and poorly controlled pain. Three weeks into his hospitalization, the patient told me that these were the “worst 3 weeks of my life” and “I wish I never had this.” The long discussions before surgery no longer seemed to matter. All that mattered was that he was suffering, and his

suffering deeply affected me. I felt horrible. I remember at one point questioning whether I wanted to continue to treat spinal deformity.

But we hung in there. He kept up with the treatments and therapy. We got him off the antibiotics and he was able to wean off the analgesics. We both saw the improvement in his mobility with every visit. In time, he recovered completely enough to send

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Fig. 2A–B Preoperative lateral radiograph (A) and postoperative lateral radiograph (B) demonstrating correction of sagittal deformity. Published with permission from Michael J. Lee MD.

me the following note, about a year later: “Gratitude simply is inadequate to describe my feelings. I no longer have pain which plagued me for 20 years. I do not take pain pills and rarely take muscle relaxants ... Again thank you—life is good.”

Complications prolong care, they keep us up at night, and they increase the likelihood of long-term harm to the patient. But they do not inevitably presage a bad clinical outcome. My patient had multiple complications (dural tear, hematoma, surgical site

infection). He went back to the OR again and again. He had an ICU stay, needed IV antibiotics, and stayed in the hospital much longer than any of us anticipated he would. For a few weeks, his quality of life was terrible; for months thereafter, it was bad.

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Using the healthcare metrics in common use today, by many measures, his care was poor, even though no standard of care was breached. Then again, the goal at the outset was a long-term improvement in his quality of life, and he eventually achieved it, early complications notwithstanding. Complications take patients off the road to recovery, but most get back on it.

We have no greater priority than the safety of our patients. We take steps to avoid complications. But the system in which we work needs to develop a more-nuanced view on the subject of these kinds of setbacks. Clearly some complications are associated with poor long-term clinical outcome (paralysis, stroke, blindness, death), but the occurrence of any complication is not synonymous with low-quality care, and complications do not inevitably lead to poor clinical outcomes. My narrative may be anecdotal, but there is actual evidence on the topic [1, 2], and I suspect more will emerge. And conversely, the absence of complications does not necessarily equate a good

outcome. One can operate on patients with nonspecific ulnar-sided wrist pain, anterior knee pain, and low-back pain with a low rate of complications, but if these patients do not improve with treatment, we can still agree the care was poorly conceived. As we strive to minimize the occurrence of complications, it is important to understand how they affect outcomes and quality—not just for physicians, but for all stakeholders in the healthcare system. We also need to do a better job of explaining to our patients that complications do not, in all (or even most) cases represent treatment failures. Finally, policymakers must realize that complications do not necessarily reflect poor quality care, but rather are but one variable in a complex quality equation.

The last time I saw this patient, he was 5 years removed from surgery. Despite all of the complications, he again thanked me again for restoring his quality of life. And I thanked him. He taught me two valuable lessons: (1) That the relationship between

complications and clinical outcome is not always a linear one, (2) that supporting my patients through the tough times is the hardest—but most important—part of my job as a surgeon.

In a healthcare system where we are judged because of (and sometimes penalized for) our complications, it may do the healthcare system some good to learn lesson one and two.

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