INTRODUCTION

Complications of lumbar spine surgery

Paul M. Arnold, MD,¹ Paul A. Anderson, MD,² and Robert F. Heary, MD³

¹Department of Neurosurgery, University of Kansas Medical Center, Kansas City, Kansas; ²Department of Orthopedics and Rehabilitation, University of Wisconsin, Madison, Wisconsin; and ³Department of Neurological Surgery, Rutgers New Jersey Medical School, Newark, New Jersey

Complications following operative intervention are always in the back of the practicing surgeon's mind and sometimes in the forefront as well. We are always looking for ways to minimize these events, and we take great pains to prevent them. Alas, however, they occur too frequently for any of our tastes. But they go with the territory of being a surgeon.

In the not-so-distant future, adverse events will receive even more attention than they do currently. The Centers for Medicare and Medicaid have provided a list of "never events" for which they will not pay, and there will be increased scrutiny on every health care provider as health care costs continue to rise. It is likely that each physician and hospital will receive some type of scorecard, benchmarking such metrics as postoperative wound infections, 30-day readmission rates, and average length of stay. These findings will be published, and physicians will be positively or negatively affected, depending on how much variance in metrics a particular surgeon has from the mean. Hospitals and physicians who do well on these risk-adjusted measures, and are also cost efficient, will be rewarded with more patients.

Managing postoperative complications can be frustrating, distracting, and time consuming. Many of the patients with postoperative complications have other comorbidities that add to the complexity of the task, and as many of us know all too well, complications often beget other complications. While we will never completely eliminate complications, advances such as newer tissue sealants, dural substitutes, hemostatic agents, and bone grafting biologics will help narrow the gap. Minimally invasive lumbar

surgery also offers the promise of less tissue destruction, earlier recovery, and shorter hospital stays.

This edition of *Neurosurgical Focus* is timely, then, as it deals with complications of lumbar spine surgery and is another successful collaboration between the Lumbar Spine Research Society and the Journal of Neurosurgery Publishing Group. It is a testament to the popularity and urgency of this topic that we received over 60 submissions, unfortunately necessitating the rejection of several excellent articles due to space constraints. The remaining papers, however, provide an excellent overview of the latest techniques and options for managing these often complex problems. While treating some complications is often on the level of one surgeon providing a personal "pearl" to another surgeon, we have assembled several systematic reviews that provide the most up-to-date scientific levels of evidence for a specific adverse event.

In addition to many comprehensive reviews, this issue also offers data from several large databases, both from the United States and Europe. The "mining" of these databases follows a trend that has gained steam in the literature in the past few years. We believe this unique set of manuscripts will be of interest to all surgeons who perform lumbar spine surgery.

<http://thejns.org/doi/abs/10.3171/2015.7.FOCUS15362>

DISCLOSURE

Dr. Anderson reports the following: ownership in Titan Surgical, Expanding Orthopedics, Spartec, SI Bone, and RTI; consultancy work with SI Bone; and receiving royalties from Stryker.