Symposium: Minimally Invasive Spine Surgery

Editorial Comment: Minimally Invasive Spine Surgery

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Most surgical specialties have seen an increase in minimally invasive surgical (MIS) techniques that seek to decrease morbidity and accelerate patients' return to function. Orthopaedic surgery is no exception to this trend. Minimally invasive procedures have resulted in decreased hospital stays, shorter surgical times, less blood

loss, and faster recoveries for patients. Spine surgery in particular is an area in which these techniques may greatly benefit patients. While the enthusiasm for MIS of the spine is strong, few studies present long-term patient-reported and other clinical outcomes, and few studies have been done using concurrent controls. In addition, these techniques often involve a highly specialized set of skills that can take time to acquire; their learning curves have been incompletely described, but we believe they are real, and they are important. There may also be an increased need for biologics with MIS of the spine, but costs, fear of complications, and litigation surrounding some biologics are tempering enthusiasm for

these products. In addition, many of these techniques rely on frequent use of fluoroscopic and intraoperative CT-based imaging with inherent radiation exposure concerns for surgeons and patients.

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Fig. 2 Bradford L. Currier MD..

Fig. 1 Ahmad Nassr MD..

Fig. 3 Steven R. Garfin MD..

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In this symposium, we (Figs. 1, 2, 3) provide a collection of original scientific work as it relates to MIS of the spine. A large number of these papers were solicited from the 2011 and 2012 Society of Minimally Invasive Spine Surgery annual meetings. Additionally, we included several systematic reviews of the literature, as well as clinical and biomechanical studies to analyze these techniques critically. As a relatively new field, many reports are limited by the usual caveats of developing technologies, including (but not limited to) short followup. Even so, as an emerging technology, “conversation-starters” like these papers are important. This symposium outlines our current knowledge base and highlights some of the controversies and

unanswered questions surrounding MIS of the spine. We hope that this will allow the reader to assess areas where MIS of the spine has resulted in an improvement in patient care and those areas in which more work and experience are needed. We still need well designed studies that identify which procedures add value and are cost-effective.

In our current healthcare environment, we must be cognizant not only of the costs of procedures, but also of the value that patients gain from these interventions. While some of these interventions may carry higher upfront costs in terms of implants and perhaps biologics, these factors may be outweighed by decreased transfusion usage, shorter hospital stays, better

patient-reported outcomes, and lower infection rates; only well-designed, controlled trials, and data from large registries will allow us to know for sure. Will MIS of the spine eventually gain universal acceptance like laparoscopic cholecystectomy, or will it be relegated to the history books as an expensive marketing gimmick? We suspect the answer will lie somewhere between these extremes, with some procedures proving to be of much greater value than others. We hope that the readers of this symposium will find the articles thought provoking and agree that minimally invasive spine surgery has the potential to add value and, at least in some form, that it is here to stay.