INTRODUCTION

Minimally invasive spine surgery

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MINIMALLY invasive spine surgery (MISS), spurred by technological advancement and the desire to optimize patient outcomes, has reshaped the delivery of surgical spine care over the past several decades. The advantage of MISS lies in its ability to adequately treat the pathology while minimizing tissue injury. MISS has been shown to decrease blood loss and length of stay compared to open approaches for select indications.¹

Along the way there have been hurdles to the implementation and adoption of minimally invasive approaches. Not all patients have pathology that can be treated with current MISS techniques.^{2,3} Yet with each challenge, ingenuity is born. This issue of *Neurosurgical Focus* highlights several innovative techniques developed to overcome the challenges faced when using more traditional MISS techniques, including the use of neuronavigation for treatment of traumatic spondylolisthesis of the axis (Zeden et al.), the addition of biportal endoscopy to augment the working channel in endoscopic lumbar interbody fusion (Heo et al.), and the use of a percutaneous “rocking” technique to assist in spondylolisthesis reduction (Rajakumar et al.), as well as a comparison of expandable versus static interbody devices for transforaminal lumbar interbody fusion (Hawasli et al.). In addition, this issue aims to review and present pertinent outcomes for commonly used techniques such as tubular microdiscectomy to treat degenerative spine disease (Clark et al.), MIS fusion for degenerative spondylolisthesis (Mummaneni et al.), and more advanced techniques applicable to spinal deformity treatment including MIS pre-psoas fusion surgery (DiGiorgio et al.), MIS lateral hyperlordotic cage correction of deformity (Leveque et al.), and MIS-navigated pedicle screw placement without guidewires (Smith et al.).

As we thoughtfully consider the value of our treatments,

we are fortunate to have luminaries pushing the envelope of MISS while simultaneously tracking their outcomes to provide us the knowledge of when and how to incorporate these practices into our surgical armamentarium. In the current era, it is incumbent upon us to demonstrate the long-term value and durability of MISS. It is with this sentiment that we welcome the critical evaluation of both techniques and outcomes that are eloquently presented in this issue.

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References

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Disclosures

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