

Title of Abstract: Potential Complications of Minimally Invasive Spine Surgery and their Avoidance

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Purpose: Endoscopic Minimally invasive spine surgery (MISS) reduces tissue dissection, shortens procedures, employs conscious sedation, and prevents other iatrogenic problems. The potential complications of MISS and their avoidance are to be identified, analyzed, recommended and treated.

Material and Methods: Potential complications of MISS include, post operative hematomas, vascular injuries, neural injury, epidural fibrosis, excessive sedation, operating at wrong level, spinal fluid leak, soft tissue injuries, insufficient disc material removal, trauma to the caudal equine, discitis (laser, aseptic and septic), and bowel and ureteral injuries. The potential complications of MISS and their avoidance are fully analyzed, discussed, and treated. Also utilization of DOR (digital operating room) technological convergence and control system, being patient centric, is presented to promote, to facilitate and to improve MISS surgical care, safety and surgical outcome.

Results: In a multicenter study of 32,100 MISS cases, there was an overall success rate of 92%, with zero mortality, patient satisfaction over 90%, and a postoperative complication rate of less than 1%.

Conclusion: Endoscopic MISS reduces tissue dissection, shortens surgical procedure, employs conscious sedation, and prevents other iatrogenic problems associated with open traumatic spinal surgery including blood transfusion, wound healing, and general anesthesia. These rare potential complications can be avoided by a properly trained MISS surgeon familiar with the surgical anatomy and the MISS procedures.

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