

Scope and future of minimal invasive spine surgery

The current emphasis in spine surgery is to improve the global outcomes of the patient while reducing the incidence of perioperative morbidity. The aims of modern spine surgery are to minimize the tissue trauma while achieving adequate decompression, proper stabilization and fusion, and provide a good functional outcome. Traditional open surgery may be associated with considerable perioperative morbidity, significant blood loss, possible complications, increased hospital stay, and delayed functional recovery. Minimally invasive spine surgery (MIS) has been introduced with these aims in mind. The number of complications and amount of blood loss has been significantly reduced while maintaining the effectiveness of the surgery in certain types of minimal invasive spine surgery.

The advent of minimal invasive spine surgery has provided a new direction in the treatment of various complicated spinal pathologies, for example, degenerative lumbar spine disease. However, the plurality of techniques and paucity of good quality literature preclude the widespread adoption of such techniques. In certain techniques such as transforaminal lumbar interbody fusion, the early results of MIS are encouraging and can be distinguished by atraumatic technique, minimal blood loss, shorter stay in the hospital, and good functional outcome.^[1-3] A shorter period of hospitalization could reduce the risk of hospital-acquired infections, increase patient satisfaction, and yield more efficient use of hospital beds. Comparative studies help to define the advantages of the MIS approach over the open approach. These studies are also important in establishing the proper indications for minimal invasive spine surgeries.

The minimally invasive approach has become increasingly popular because it is able to minimize iatrogenic soft tissue and muscle injury. Minimal invasive transforaminal lumbar interbody fusion has been shown to preserve the structural integrity and stability of the spine, and allow at the same time decompression of the compromised neural tissue. However, an adequate learning curve is important in order to replicate the comparable results and to minimize the complications. MIS in the treatment of lumbar spine degenerative disease represents a good alternative

as compared to the conventional open surgery. However, level 1 studies would probably better define the current MIS practice and would encourage the widespread use of this technique. Long-term results of minimal invasive approaches are also necessary in establishing the place of such surgical techniques among the patients with spinal disorders.

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References

1. Lee KH, Yue WM, Yeo W, Soeharno H, Tan SB. Clinical and radiological outcomes of open versus minimally invasive transforaminal lumbar interbody fusion. *Eur Spine J* 2012;21:2265-70.
2. Rouben D, Casnellie M, Ferguson M. Long-term durability of minimal invasive posterior transforaminal lumbar interbody fusion: A clinical and radiographic follow-up. *J Spinal Disord Tech* 2011;24:288-96.
3. Wu RH, Fraser JF, Härtl R. Minimal access versus open transforaminal lumbar interbody fusion: Meta-analysis of fusion rates. *Spine (Phila Pa 1976)* 2010;35:2273-81.

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