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Perioperative outcomes in minimally invasive lumbar spine surgery: A systematic review

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**Abstract**

**AIM:** To compare MIS and open techniques for minimally invasive (MIS) lumbar laminectomy, direct lateral and transforaminal lumbar interbody fusion (TLIF) surgeries with respect to length of surgery, estimated blood loss (EBL), neurologic complications, perioperative transfusion, postoperative pain, postoperative narcotic use, and length of stay (LOS).

**METHODS:** A systematic review of previously published studies accessible through PubMed was performed. Only articles in English journals or published with English language translations were included. Level of evidence of the selected articles was assessed. Statistical data was calculated with analysis of variance (ANOVA) with  $p < 0.05$  considered statistically significant.

**RESULTS:** A total of 11 pertinent laminectomy studies, 20 direct lateral studies, and 27 TLIF studies were found. For laminectomy, MIS techniques resulted in a significantly longer length of surgery (177.5 min vs. 129.0 min,  $p = 0.04$ ), shorter

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