

Lumbar percutaneous transpedicular screw technique

Gabrovsky et al. from the [Pirogov Hospital](#), analyzed the [institutional experience](#) and personal impressions using minimally invasive spine surgery (MISS) to describe the [learning curve](#) and how experience influenced different parameters of the surgical [procedure](#).

The study was conducted [prospectively](#) and included the first consecutive 152 patients treated with MISS techniques. Patient demographics, surgical data, length of hospital stay, and clinical outcome were reviewed. The cohort was divided into consecutive quarters. Comparison between the quarters and timeline analysis were made to assess the learning curve.

Only [lumbar percutaneous transpedicular screw technique](#) was performed in 65 cases, [Minimally invasive transforaminal lumbar interbody fusion](#) (MI-TLIF) in 70 cases, and [vertebral body replacement](#) in 4 cases. The average blood loss was 113.3, 115, 106.6, and 107.1 mL for each quarter. The average operative time was 155.0, 143.2, 134.5, and 133.8 minutes for the four quarters, whereas the average radiation exposure time was 105.4, 85.3, 46.2, and 45.2 seconds. Differences in the operative time and radiation exposure time between the first to third and the first to fourth quarters were statistically significant.

Some advantages of [MISS](#) techniques could be observed with the very first cases and were not related significantly with the surgeon's experience with MISS. With the acquisition of more experience, some disadvantages of MISS techniques such as longer operative time and longer X-ray exposure can be substantially reduced. Surgical experience, familiarity of the team with the MISS instrumentation, and good patient selection are crucial for achieving all the benefits of MISS ¹⁾.

¹⁾

Gabrovsky N, Ilkov P, Laleva M, Iliev C, Gabrovsky S. Minimally Invasive Transpedicular Screw Fixation: Review of 152 Cases in a Single Institution. Steep or Shallow Learning Curve? J Neurol Surg A Cent Eur Neurosurg. 2022 Apr 19. doi: 10.1055/s-0042-1743531. Epub ahead of print. PMID: 35439828.

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