Technique: open lumbar decompression and fusion with the Excelsius GPS robot

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The Excelsius GPS (Globus Medical, Inc.) was approved by the FDA in 2017. This novel robot allows for real-time intra-operative imaging, registration, and direct screw insertion through a rigid external arm—without the need for interspinous clamps or K-wires. The authors present one of the first operative cases utilizing the Excelsius GPS robotic system in spinal surgery. A 75-year-old man presented with severe lower back pain and left leg radiculopathy. He had previously undergone 3 decompressive surgeries from L3 to L5, with evidence of instability and loss of sagittal balance. Robotic assistance was utilized to perform a revision decompression with instrumented fusion from L3 to S1. The usage of robotic assistance in spinal surgery may be an invaluable resource in minimally invasive cases, minimizing the need for fluoroscopy, or in those with abnormal anatomical landmarks.

The video can be found here: <https://youtu.be/yVI-sJWf9lw>.

KEYWORDS robotic spine surgery; Excelsius GPS; lumbar decompression; video

SUBMITTED March 29, 2018. **ACCEPTED** May 23, 2018.

INCLUDE WHEN CITING Published online July 1, 2018; DOI: <http://thejns.org/doi/abs/10.3171/2018.7.FocusVid.18123>.

DISCLOSURES Dr. Theodore is an inventor of a device manufactured by Globus Medical, Inc., which was used in the study discussed in this publication. He is entitled to royalty payments on future sales of the device, and he is a paid consultant to Globus Medical. This arrangement has been reviewed and approved by The Johns Hopkins University in accordance with its conflict of interest policies. Neil Crawford currently owns stock in, receives royalties from, and is employed by Globus Medical.

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