Single-Position Spine Surgery: Anterior Lumbar Interbody Fusion, Lateral Lumbar Interbody Fusion, and Posterior Instrumentation and Fusion With Iliac Fixation

Hesham Saleh, Dylan T Lowe, Shaina Ann Lipa, Themistocles Stavros Protopsaltis[1], Charla R Fischer
[1]NYU Hosptial For Joint Disorders

Background
The field of spine surgery has evolved drastically with regard to 360° fusion. Multiple approaches and possibilities are available for lumbar fusion, including anterior lumbar, lateral lumbar, and posterior instrumentation and fusion. Changing patient positioning often is cumbersome and time consuming. If multiple spine surgical procedures can be performed with the patient in a single position, some simultaneously, anesthesia needs and operating room time would decrease.

Purpose
This video provides an overview and case presentation and demonstrates single-position spine surgery in a patient who underwent anterior lumbar interbody fusion, lateral lumbar interbody fusion, and posterior instrumentation and fusion with iliac fixation.

Methods
The case presentation of a 67-year-old woman who presented with lower back pain and radiculopathy because of multilevel lumbar disk degeneration, degenerative lumbar scoliosis, and spondylolisthesis at L3-4 is reviewed. The patient was indicated for lateral lumbar interbody fusions from L2 through L4, anterior lumbar interbody fusions from L4 through S1, and posterior instrumentation from L2 through S1 with iliac fixation.

The patient was placed in the right lateral decubitus position. To conserve time, posterior instrumentation was placed via robotic navigation at the same time a vascular surgeon performed the anterior approach. Lateral lumbar interbody fusion and anterior lumbar interbody fusion were then performed, followed by placement of the posterior rods.

Results
The patient successfully underwent multilevel 360° fusion in a single position. No postoperative complications were reported, and the patient was successfully discharged to an acute rehabilitation facility on postoperative day six.

Conclusion
Single-position spine surgery is safe, is effective, and decreases anesthesia and operating room time in patients indicated for 360° fusion.