Anterior Lumbar Interbody Fusion and Robotic Guided Percutaneous Pedicle Screw Placement

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Robotic guided spinal surgeries are increasing in prevalence due to the reduced surgical invasiveness. The posterior L4-L5 percutaneous pedicle screw placement for grade 2 isthmic spondylolisthesis performed in this video is a demonstration of how robotic assistance can ensure precise screw placement in the lumbar spine. Percutaneous pedicle screw stabilization is an option for treating spondylolisthesis as this stabilizes spinal levels in a minimally invasive fashion. The pedicle screw placement shown in this video follows an anterior discectomy and cage fixation at the same L4-L5 level. We also briefly highlight how the robot is calibrated and personalized for the patient's specific operation in this video. Pre and postoperative imaging, case-based accounts, and multiple publication reviews are included to illustrate the clinical outcomes of this technique.