Minimally invasive, robot-assisted iliosacral screw insertion for fusionless fixation in children with neuromuscular scoliosis

Michel Lefranc, MD, PhD,1 F. François Deroussen, MD,2 and Richard Gouron, MD, PhD2

Departments of 1Neurosurgery and 2Pediatric Orthopedic Surgery, Amiens University Medical Center, Amiens, France

Fusionless surgery coupled with growing rod techniques is increasingly advocated for the treatment of early-onset scoliosis in general and neuromuscular scoliosis in particular. Iliosacral screws have excellent biomechanical characteristics but are hard to place safely. Here, the authors report on robot-assisted iliosacral screw positioning as part of growing rod surgery for the fusionless correction of early-onset scoliosis. The technique is based on a bilateral double sliding rod construct anchored to the pelvis proximally with 6 hooks or sublaminar bands and distally with iliosacral screws placed by the robot.

The video can be found here: https://youtu.be/5HGH_DiD-ck.

KEYWORDS robot; pelvic fixation; early-onset scoliosis; fusionless fixation; iliosacral screw; video