Stereotaxic Approach to the Spine

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Disclosure

• Medtronic
Stereotaxic approach to the spine

• Overview of the presentation
• History of Stereotaxic surgery
• Application to the spine
• Examples
• What the future may bring
History

• Late 1980’s Development of 3D technology
• Enabled reformatting of source images into 3D space
• Enable the use of the reference frame to orient space in 3D
• Current technology includes Medtronic, Brain Lab, Mazor Spine Robot.
Goals of surgery

• Crainial
• Spinal
  – Long complex surgeries instrumentation
  – Challenging anatomy
  – 8% complication rates and up
  – 1% Neurological complications
Use of Stereotaxy in the spine

• Patient
• Software and Hardware
• Preop CT, MRI, PETT
• Intraop CT, MRI
• Medtronic Stealth System
• O Arm Imaging
Conclusions

• Greater accuracy with overall better outcomes (fewer revisions)

• Reduced intra-operative time, including less time under anesthesia, which brings better outcomes and lower infection rates

• Reduced radiation exposure when compared to using live fluoroscopy to guide the surgeon