Progress In Hansen Magellan Robot Technology For Catheter/Sheath Guidance: Results & How It Improves Procedural Success & Safety To Patient And Operator

Disclosures
- Hansen Medical
  - Institution level research support; travel support
- Medtronic
  - Institution level grant support; speaker bureau & travel support
- Cook Europe
  - Institution level research support
- Veryan Medical
  - Board member, Stockholder
- Tenaxis Medical
  - Travel support

ADVANTAGES – ACCURACY

Shah C et al, BJS 2012; 99(S3): 1–16

Robotic steerable catheters can engage aortic wall
- Steering wires are fixed in position on release of 3d mouse
- Virtual catheter shape shows maximum flex to hold in place
- Equivalent to shaped catheter abutting opposite wall

Riga CV et al, BJS 2009, Feb;V96:S1


Evaluation of robotic endovascular catheters for arch vessel cannulation
- Centerline Navigation
- Reduced Wall Hits

Riga CV, Bicknell CD, Hamady MS, Cheshire NJ.
In-situ fenestration; Holy Grail?

Clinical Versatility

Clinical Applications:
- Vascular Disease
- Interventional Radiology

Multi-Disciplinary Platform:
- Vascular Surgeons
- Interventional Radiologists
- Interventional Cardiologists

Procedures Performed with Magellan:
- Endovascular Carotid Procedures
- Vascular Procedures
- Thoracic Arteriovenous Repair (TAVR)
- Venous Arteriovenous Repair (VAVR)
- Femorofemoral Fistulas (FFS)
- Femoral artery reintervention and stenting
- Wakeley artery reintervention and stenting
- Magnetic Resonance Imaging (MRI)
- Fluoroscopy-guided intervention
- USS-guided intervention
- MRI-guided intervention
- Hybrid interventional treatment
- Vascular intervention (IV)
- Percutaneous Artery Embolization (PCE)
- Vascular Access: ultrasound and stenting
- Vascular Access: fluoroscopy and stenting
- Vascular Access: stenting and brachytherapy
- Vascular Access: angiography and stenting

Summary

- Slave systems do things that humans cannot or do not want to do
- Pre-clinical work with Magellan suggest
  - complex procedures can be quicker & easier
  - New procedures and tech combinations are possible
  - Operator radiation exposure can be reduced