



International Symposium on 3D Imaging for Interventional Catheterization in CHD  
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# Taped Case 2: MR-guided catheterization from Dallas

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# Case Presentation

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- 13 years old, 69 kgs born with hypoplastic left heart syndrome variant (DORV, Mitral atresia)
  - Norwood - 8 days of age
  - Right bidirectional Glenn - 3 years of age
  - Extracardiac fenestrated Fontan - 3 years of age.
- Recent clinic visit - complaints of shortness of breath, easy fatigue, exercise intolerance. Sats 86%.
- Echo – unobstructed Fontan pathway, patent fenestration (gradient 6-7 mm Hg), no neo-AI, Arch and PAs poorly visualized, mild TR, and mildly decreased RV function.
- Referred for Hybrid MRI guided Cardiac Catheterization and Fontan fenestration occlusion.
- Goals:
  - MR-guided Right and Left Heart Catheterization
  - MR Imaging
  - Fontan fenestration test occlusion (FFTO)
  - If interventions needed – transfer to Cath lab

Team Huddle

Patient info

Procedure

Precautions

Emergency Tasks



# Many Thanks to the Entire Heart Center Team

Dr. Gerald Greil



Dr. Tarique Hussain



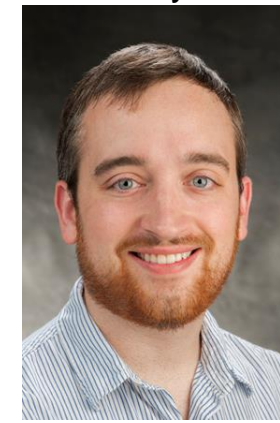
Dr. Daniel Castellanos  
CMR fellow



Maggie and  
Cath lab team



Joshua Greer Ph.D  
CMR Physicist



Dr. Yousef Arar  
Cards fellow



Ms. Amanda Potersnak


Dr. Jenn Hernandez

# MRWire Guidewire

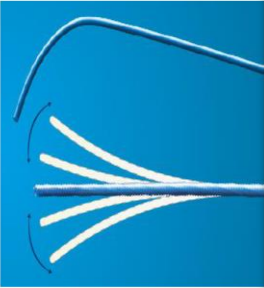
- Only FDA approved wire
  - MRWire - Nano4Imaging (11/2017)
  - 180 cm length, 0.035" (0.89 mm)
- Tip shape: Straight or angled, Tip length - 40 mm
- Core-shaft-tip: One body
- Material: Fibre-reinforced composite, Outer Sleeve: PTFE
- MRI visibility:
  - Straight tip– passive markers at discrete positions 0,2,4 cm from tip
  - Angled tip – passive markers at discrete positions 0,2,4 cm from tip
- Marker technology: Different nanoparticles embedded in coating
- Length: 180 cm (other lengths on demand)



**MRI conditional guidewire**  
MRWire EmeryGlide



- Safe to use in 1.5 and 3.0 Tesla for real-time interventions according to ASTM F2182, F2052, F2053 and F2213 standards
- The wire has discrete MRI markers and the entire wire is radiopaque (ASTM F640-79)
- In addition its construction with a double internal winding and the entire body and tip are packed into one sleeve to prevent detachment of tip and breaking of the internal core



The MRWire has **CE 0344**, **FDA 510 K** approval and is registered by Health Canada