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# Endovascular Repair of The Aortic Arch

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# Disclosure: Cook, Inc.

- Patents
- Consulting
- Research Support

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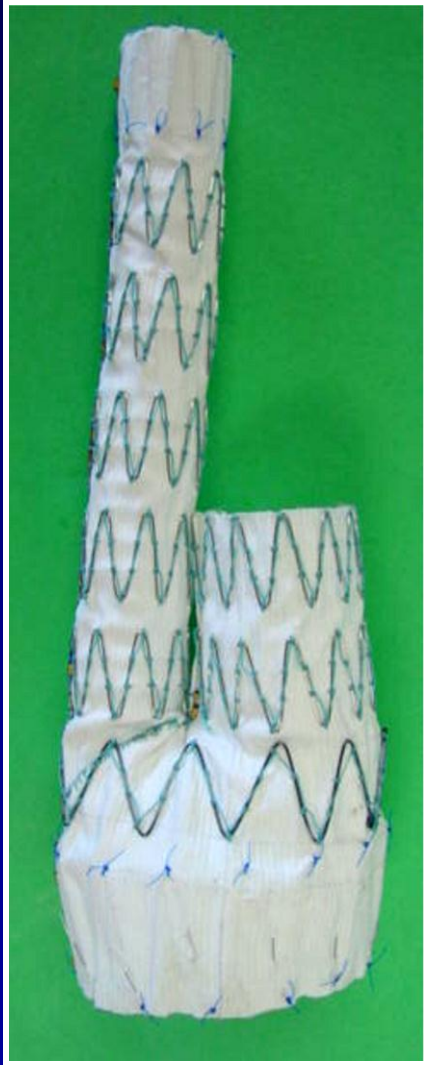
# The Arch: A Challenging Endovascular Environment

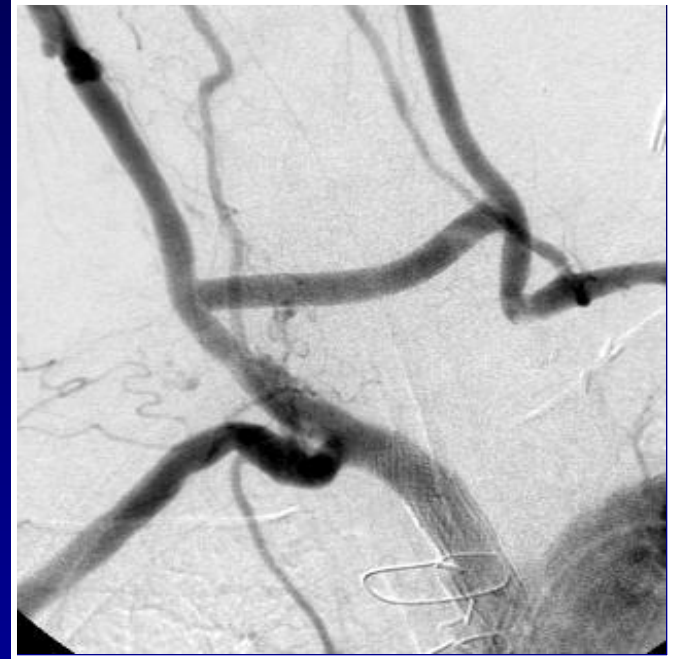
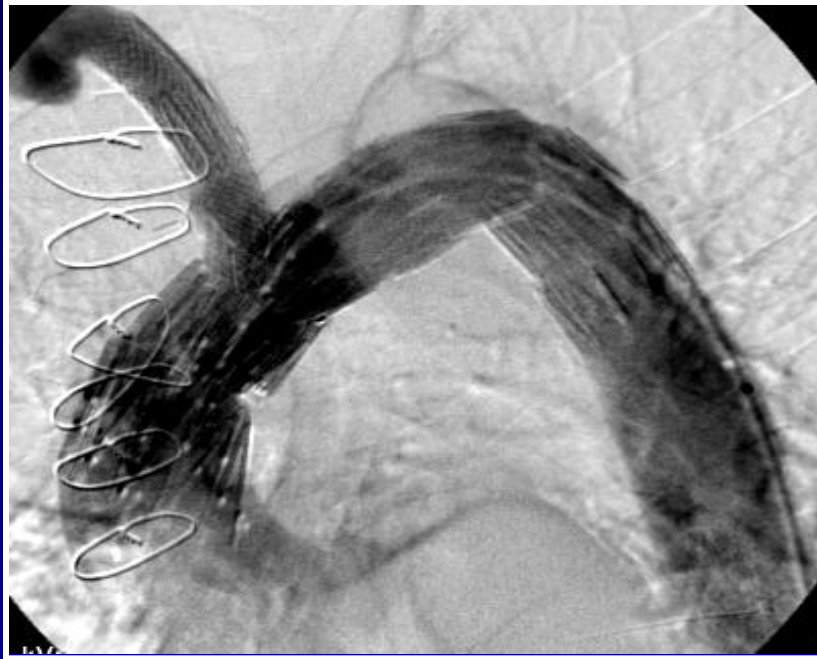
- Wide
- Curved
- Branches to the brain
- Close to the aortic valve
- Far from the femoral arteries
- Constantly moving

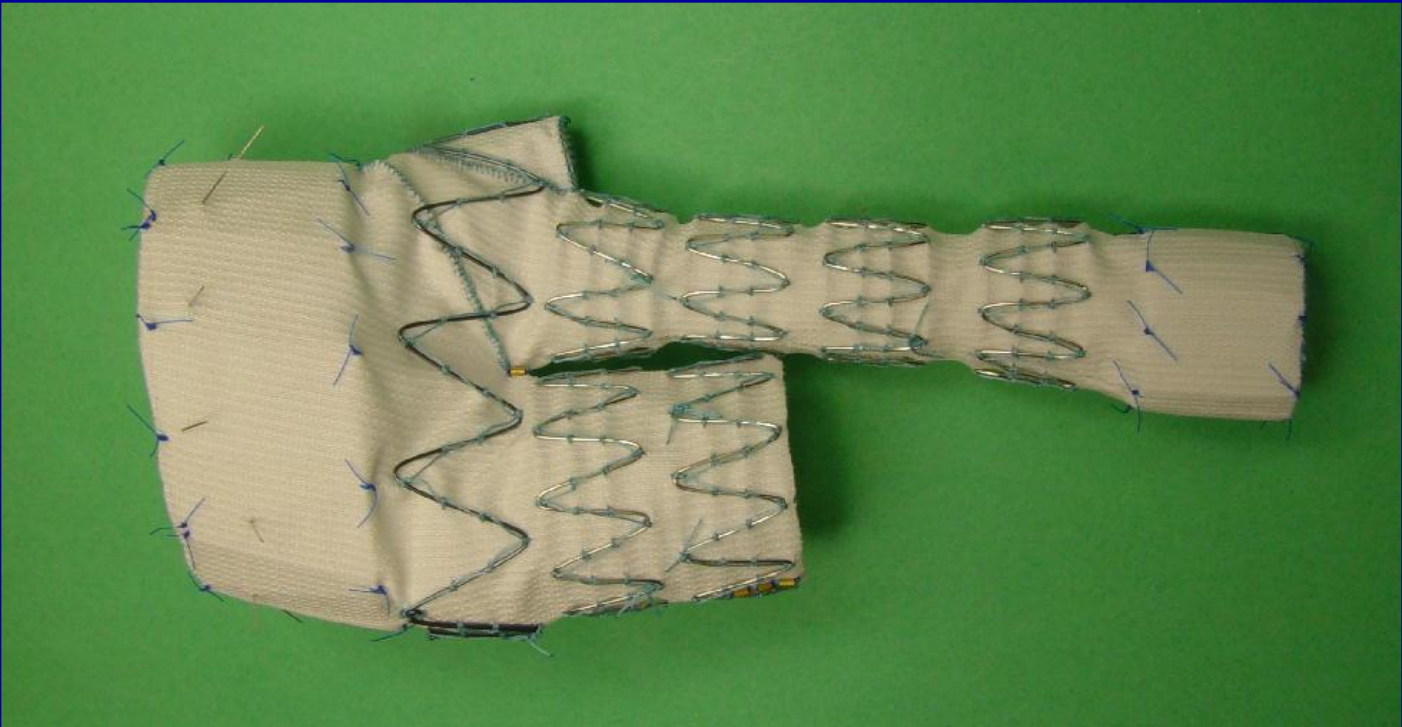
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# BUT

- Downstream access to branch arteries







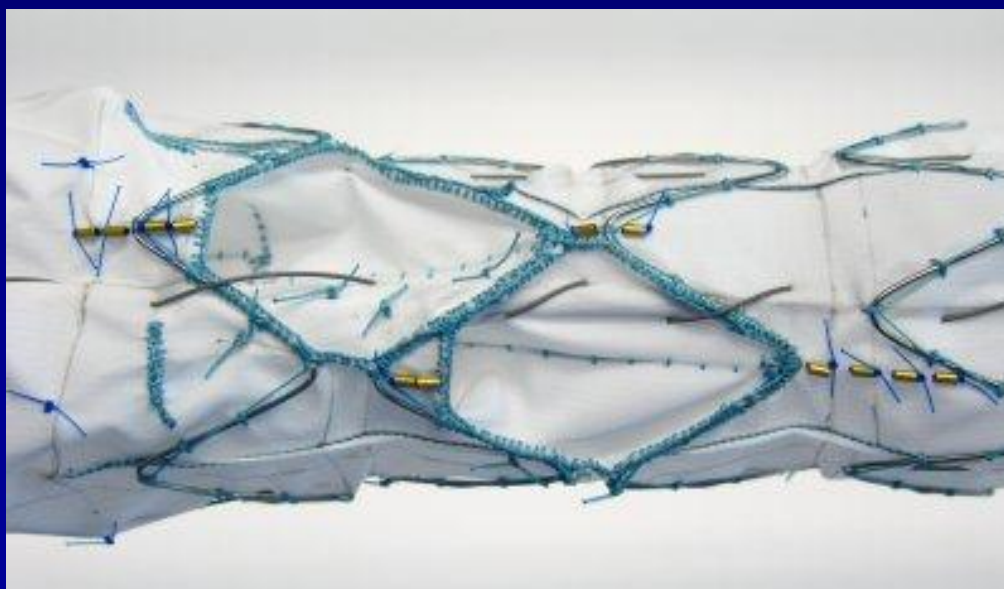


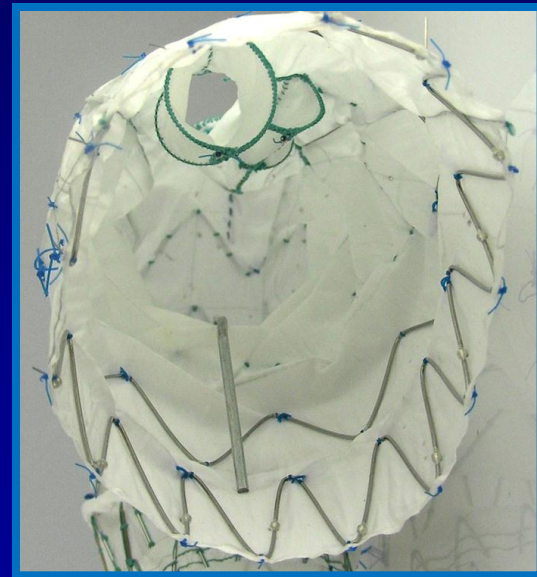


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## Problems With Trans-Cervical Delivery

- Relative sizes of aorta (delivery system) and right carotid artery
- Competition for space
- No runway
- Occlusion of flow to the brain







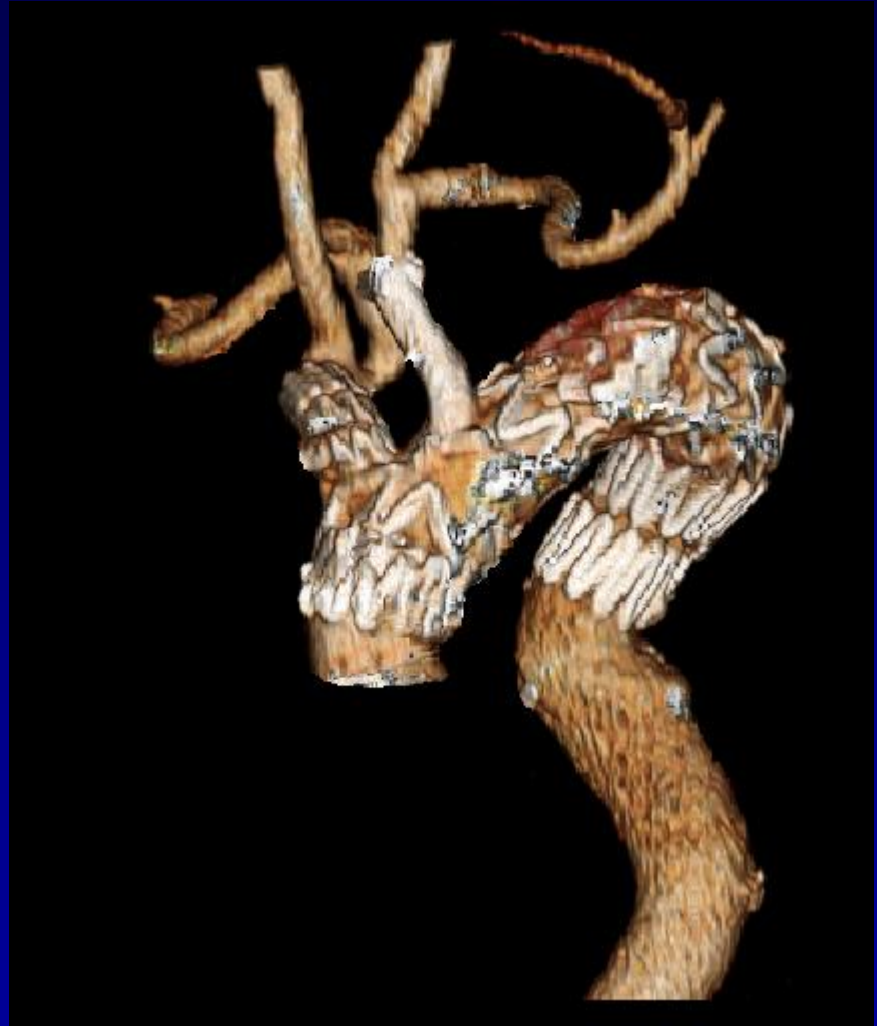




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# Technique: Device Insertion

- Stiff guidewire
  - Lunderquist double curve
- Through-wire
  - Trans-septal
  - Trans-apical



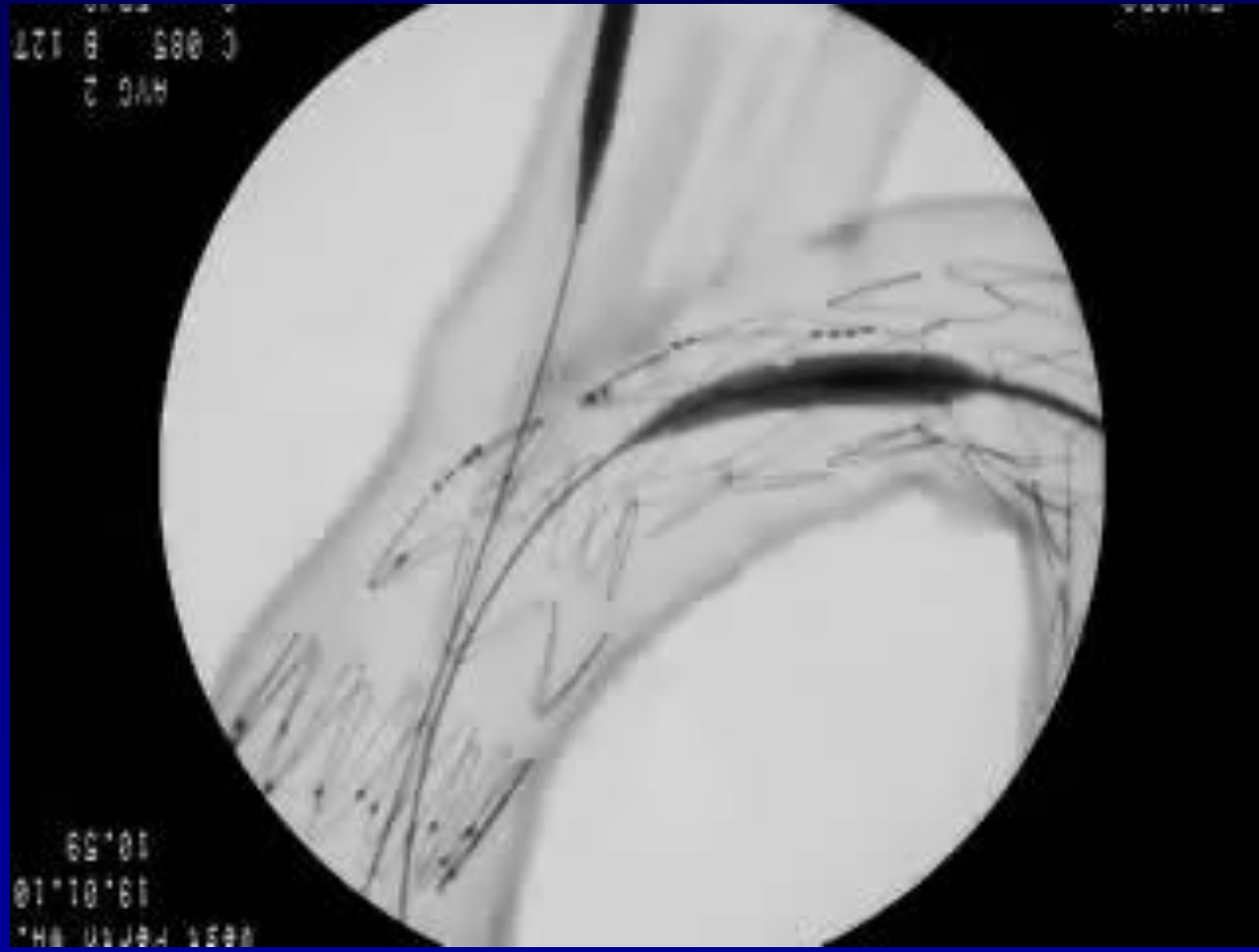
Images C/O Stephan Haulon

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# Technique: Device Orientation

- Intrinsic curve of delivery system
- Notch on tip
- In and out

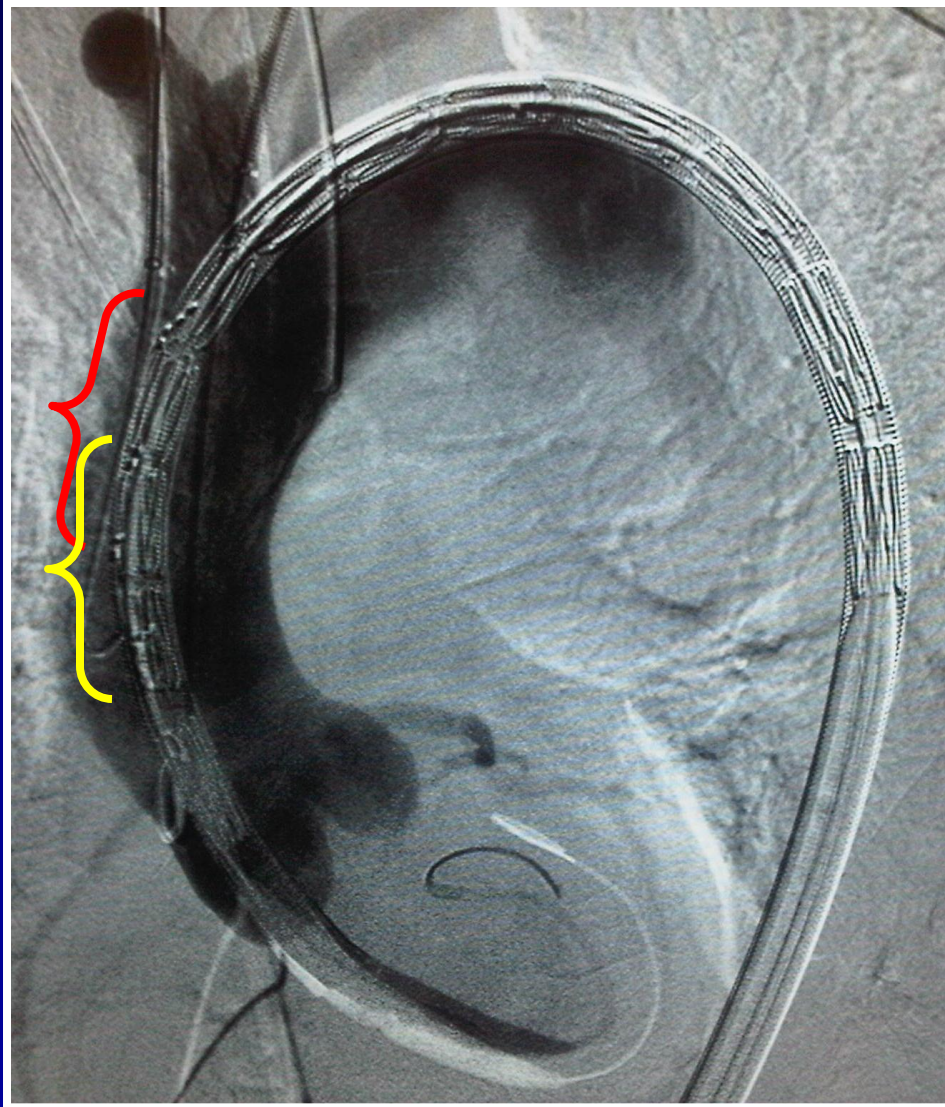




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# Technique: Position

- Markers
- Angiography
- Indwelling catheters



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# Technique: Deployment

- Cardiac standstill
  - Adenosine
  - Rapid pacing
  - Balloon occlusion of venous return

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# Technique: Cerebral Protection

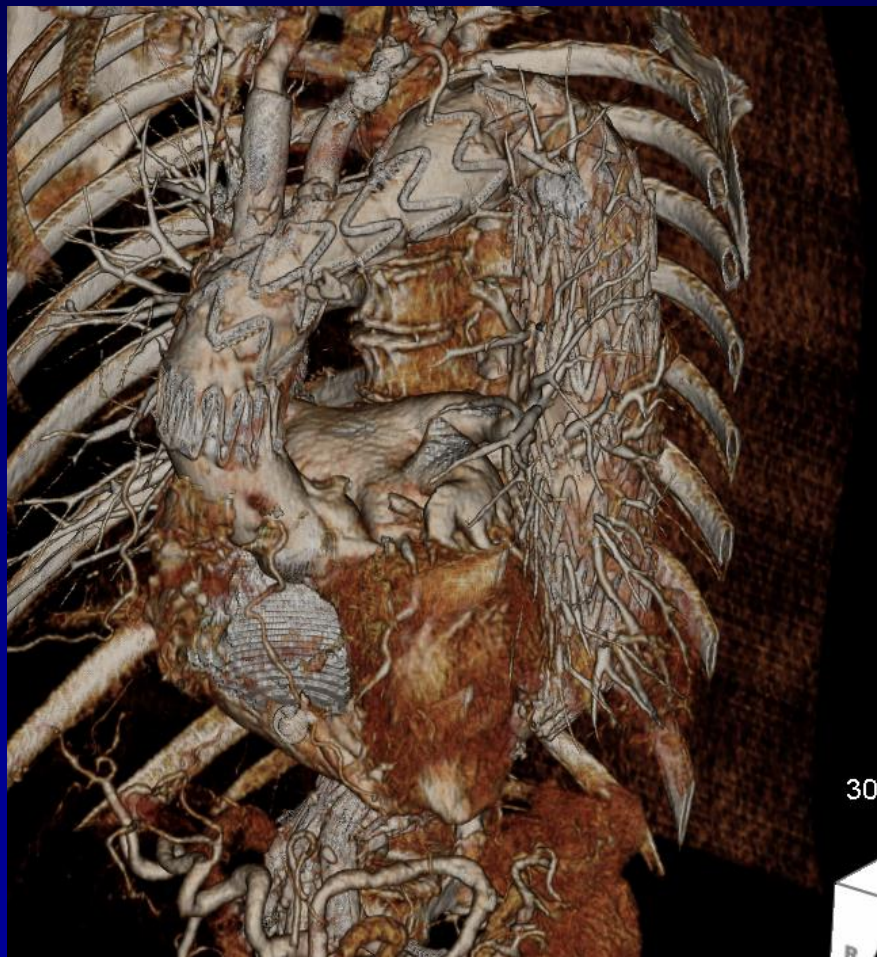
- Carotid pulse
- Radial pulse
- Angiography via sheath
- Traction on distal stent graft
- Balloon-driven displacement of the stent graft

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# Technique: Branch Insertion

- Innominate
  - Iliac limb (12-14 French)
- Left carotid
  - Fluency
- Subclavian
  - Watch for LIMA and vert





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# Mortality in Elective Cases

First 10	40%
Second 10	10%
Third 10	0%