

Simultaneous Type II TAAA repair using DHCA and Coronary Artery Bypass

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Open Surgical Treatment

- Extensive Operations
- Need of CPB \pm *DHCA*
- Risk of Paraplegia
- Post-operative Mortality and Morbidity

Goals during Open Repair of TAA Aneurysms

Spinal Cord Protection

Cerebral Protection

Visceral Organ Protection

Current LMC Technique

- Systemic heparinization (3 mg/kg)
- Mild systemic hypothermia: 32°C
- Distal perfusion (femoral-femoral bypass)

Current LMC Technique

- CSF drainage
- Selective Renal and Visceral Perfusion
- Maintain **hemodynamic stability** intraoperatively

CSF Drainage Technique

- CSF catheter : L4-L5 or L3-4
- CSF pressure \leq 10mmHg
- CSF drainage: 10 cc/h
- CSF drainage for 72 hours

Visceral Perfusion

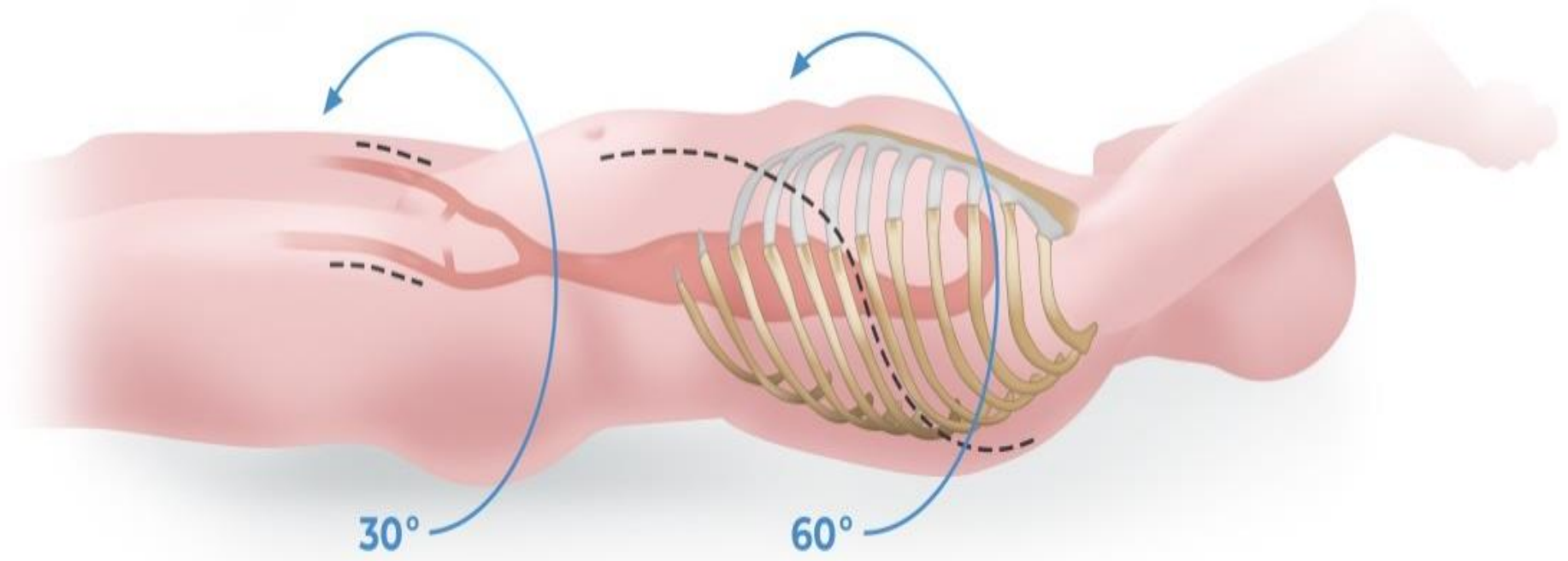
- Blood (from cardioplegia line)
- Rate at 250-300 cc/min

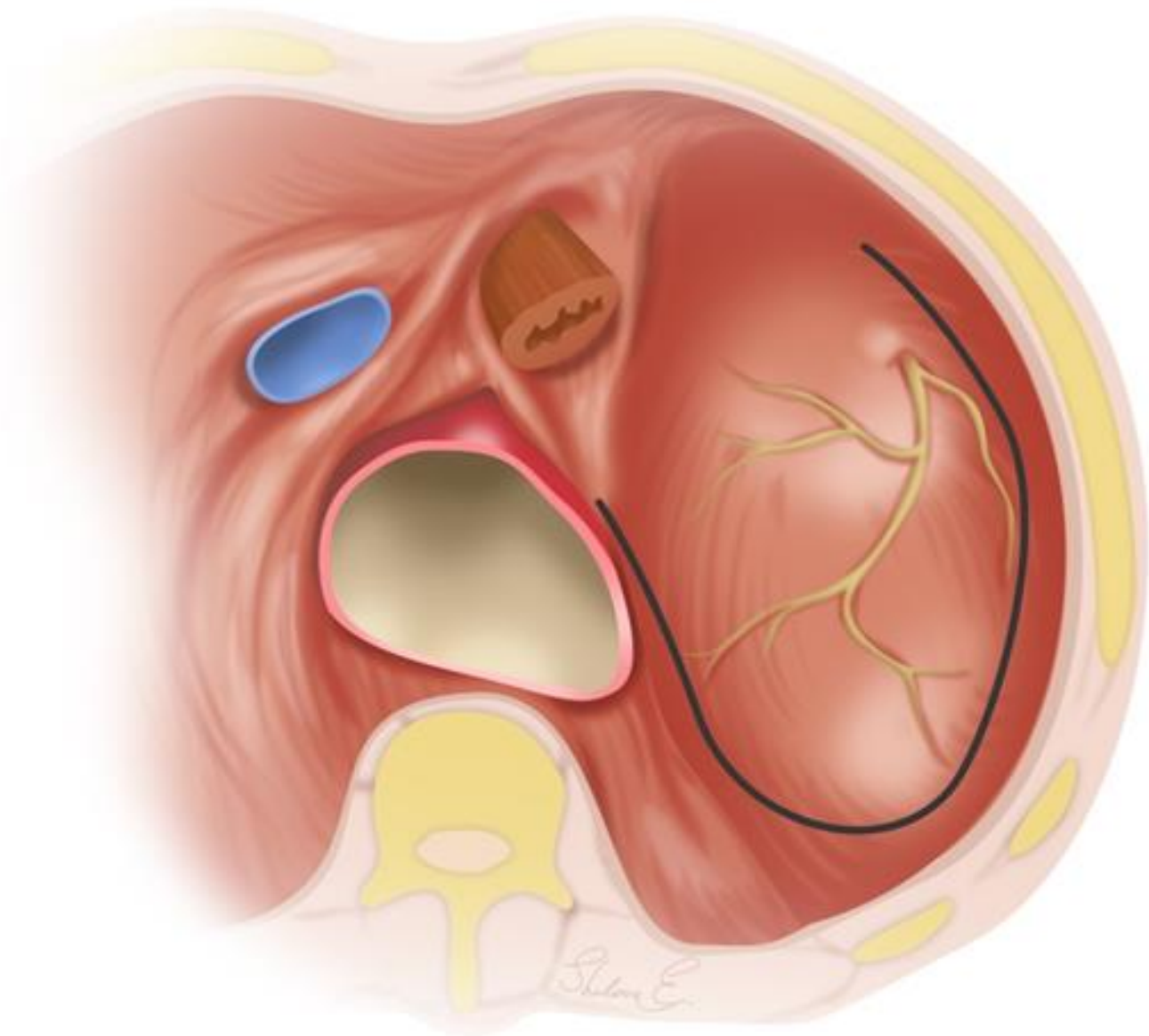
DHCA: Indications

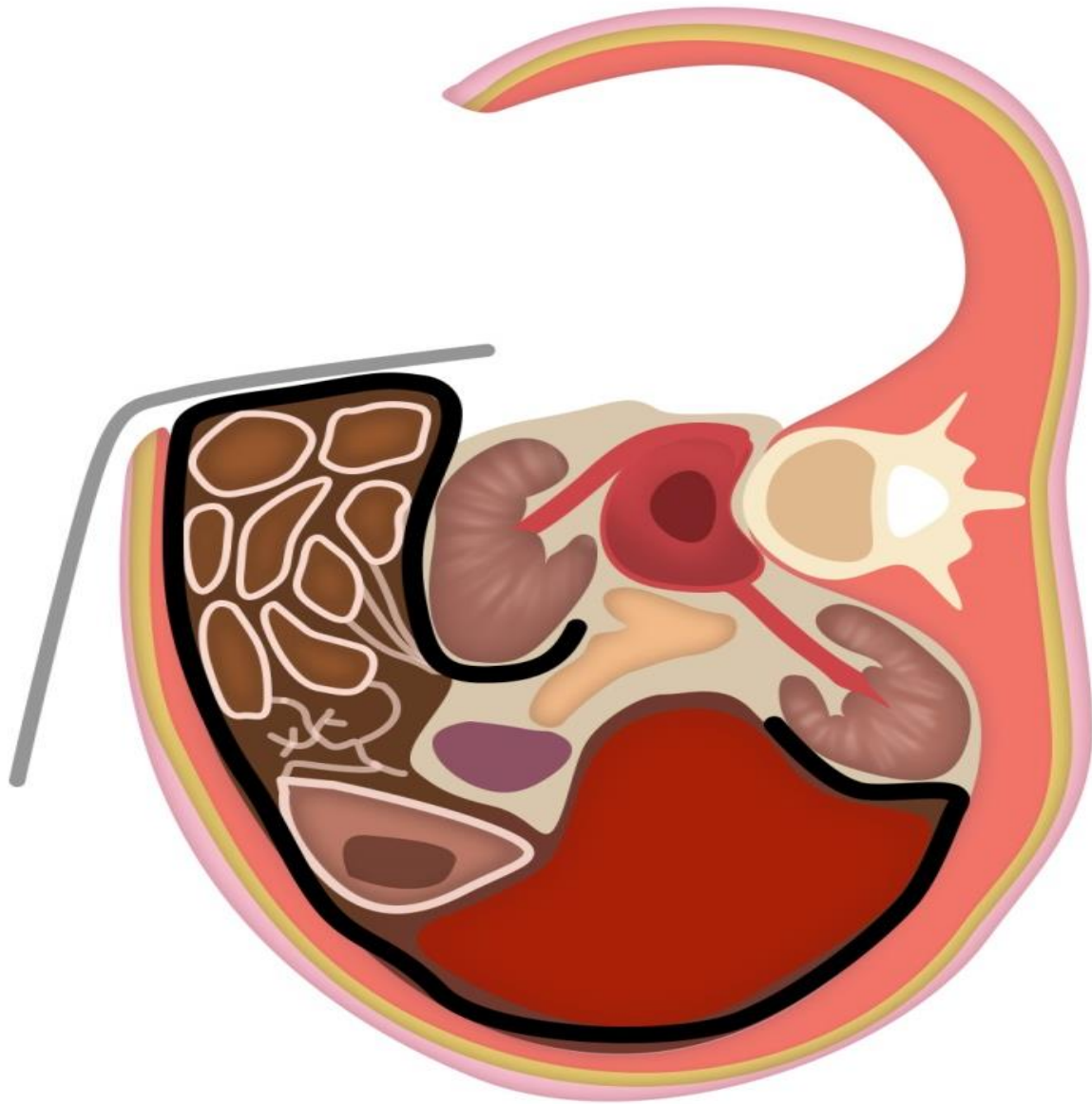
- Proximal clamping is not feasible
- Need to clamp above the left subclavian?
- Previous Abdominal Aortic Aneurysm repair
- Type II Aneurysms

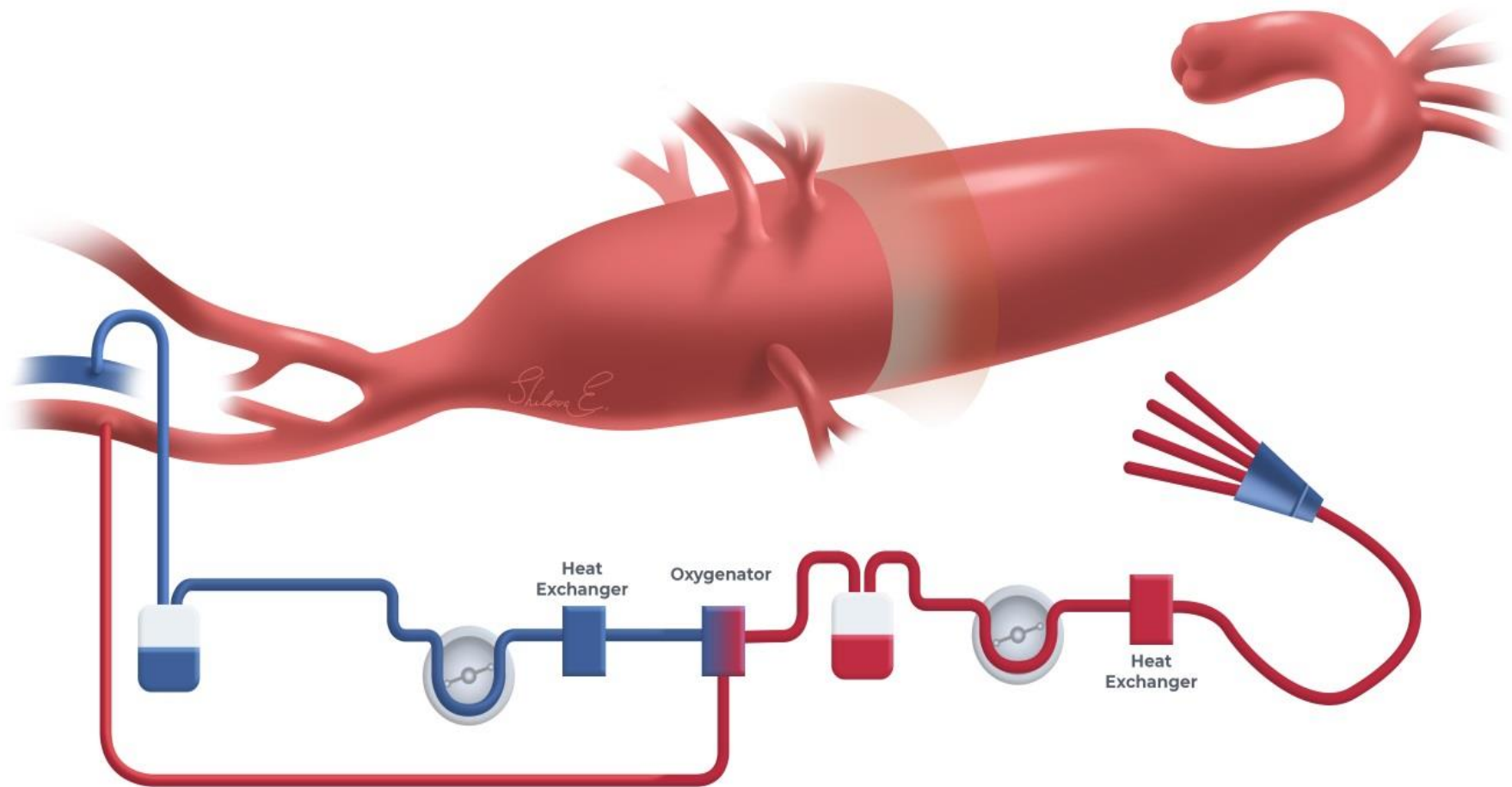
Operative Management

- Thoracoabdominal position
- Incision in the 6th intercostal space
- Retroperitoneal exposure of abdominal aorta
- Circumferential division of the diaphragm
- Exposure of Left Renal artery
- Identification of the vagus and left laryngeal nerves









Current LMC Technique

Postoperative Management

- Mean BP: 85-95mmHg
- CSF drainage for 72 hr
- CSF drainage at 10 cc/hr
- Steroids for 48 hrs

Type 2 TAAA with critical stenosis of the RCA

Case Presentation

- Lower back pain radiating to chest and stomach area
- S/p abdominal aortic aneurysm repair
- Followed up for known thoracic aneurysm

Diagnosis

- Type II TAAA
- Chronic Type B aortic dissection
- Contained rupture of the descending aorta
- Severe coronary artery disease

Operative strategy

- Full heparinization
- Arterial cannulation in the femoral artery
- Femoral venous cannulation
- Full CPB/DHCA
- SVG to PDA during fibrillation

Operative strategy

- Proximal anastomosis first
- Antegrade Perfusion
- Distal aortic perfusion
- Selective renal and visceral perfusion
- Trifurcation graft



Thank you