AAPC 20th National Conference

Cardiothoracic Surgery

John F. Seccombe, MD

Objectives

Objective #1

Accept that

- anatomy is the FOUNDATION of medical understanding

Objectives

Objective #2

Understand How Things Work

- Physiology

Objectives

Objective #3

Know What is Broken

- Pathology

Objectives

Objective #4

Understand the Goal of the Surgeon

- Surgical Procedures

Objectives

Objective #5

Learn to Decipher the Surgeon's Intent

- Diagnosis vs. Treatment

Outline

- Anatomy of the Chest
- Normal Heart Function
- Common Problems and Procedures
- Confusing CT Surgical Procedures
- *CT Surgery Coding – The Importance of Intent*

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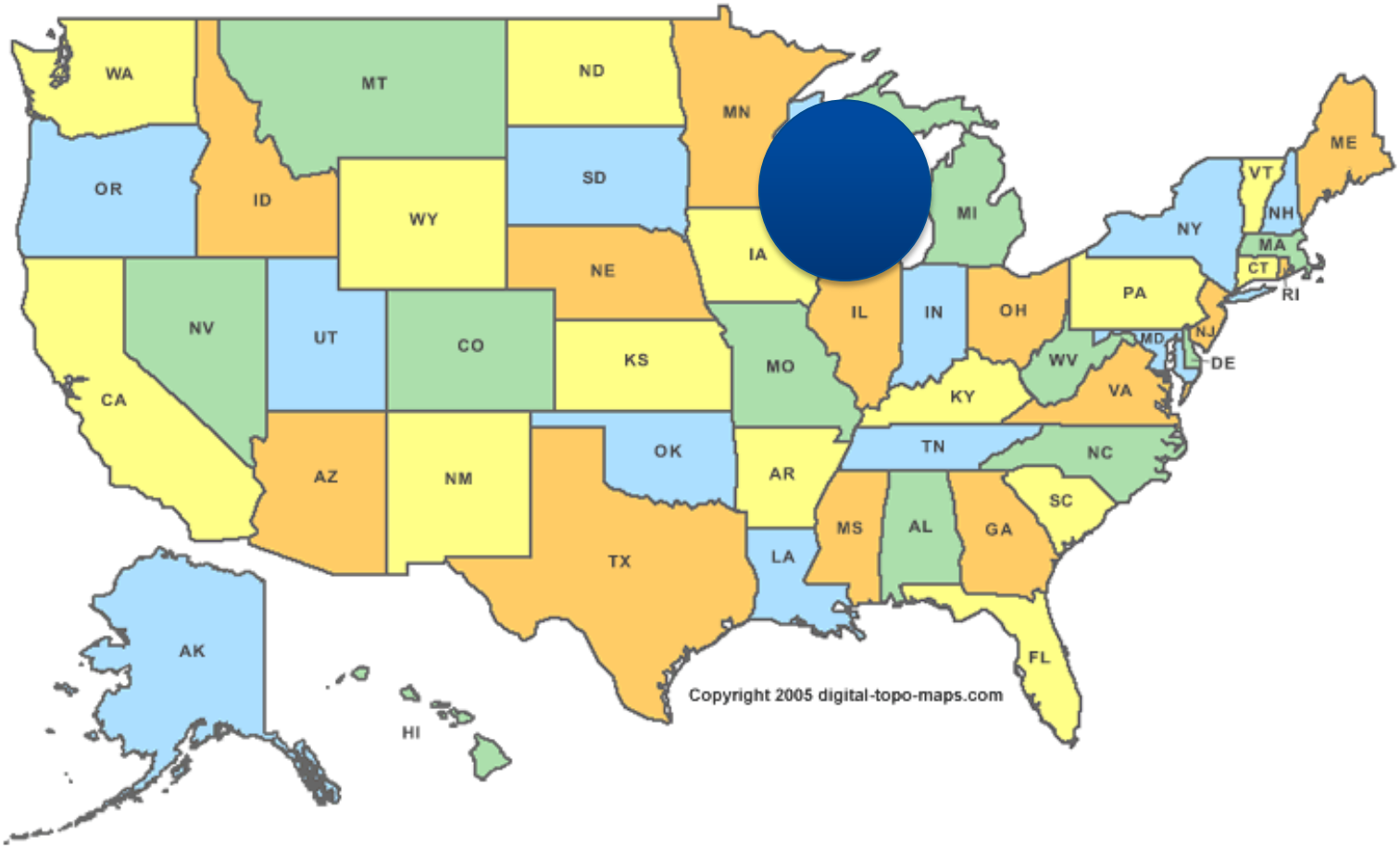
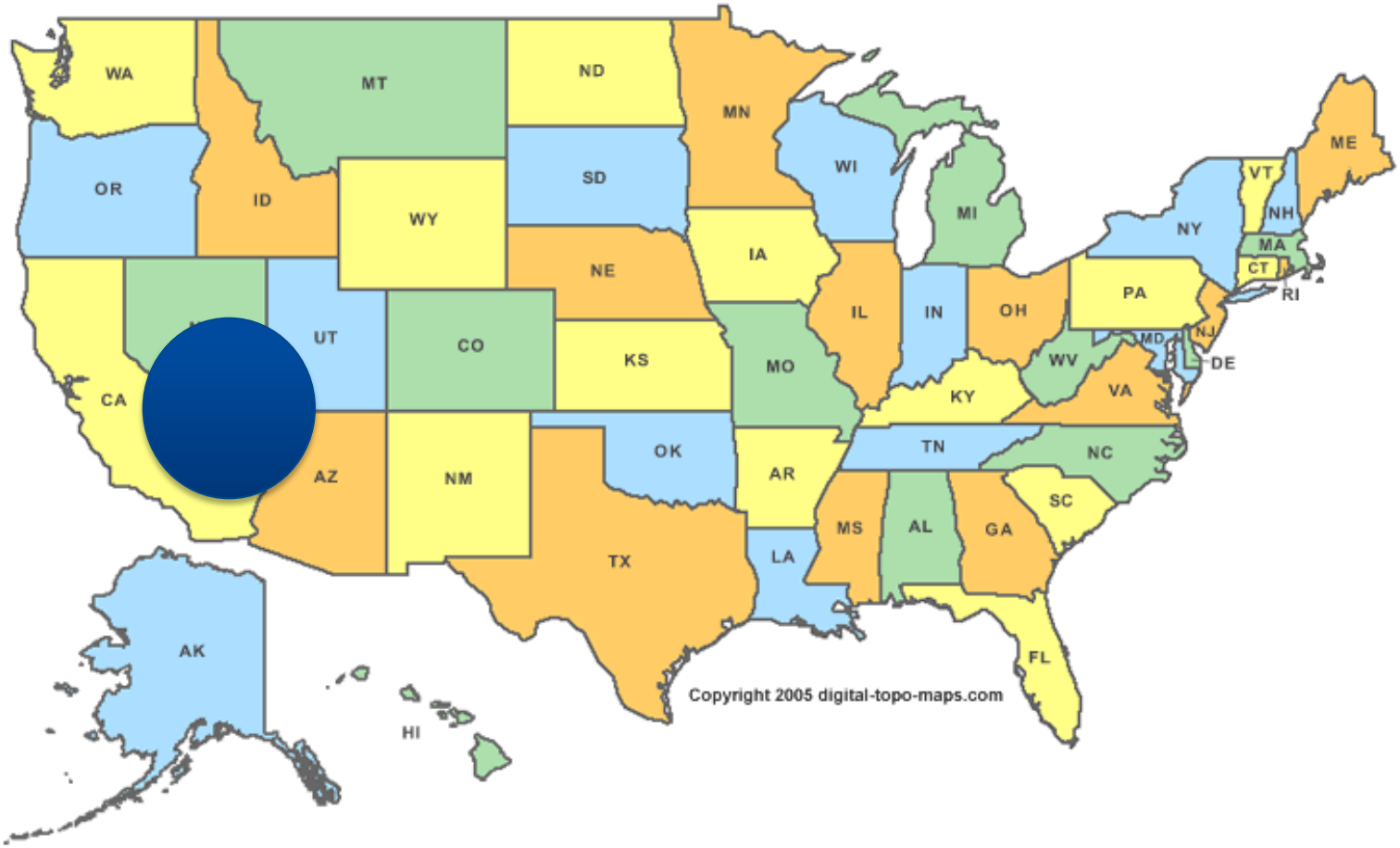
Regional Differences in Anatomy



Regional Differences in Anatomy

Wisconsin

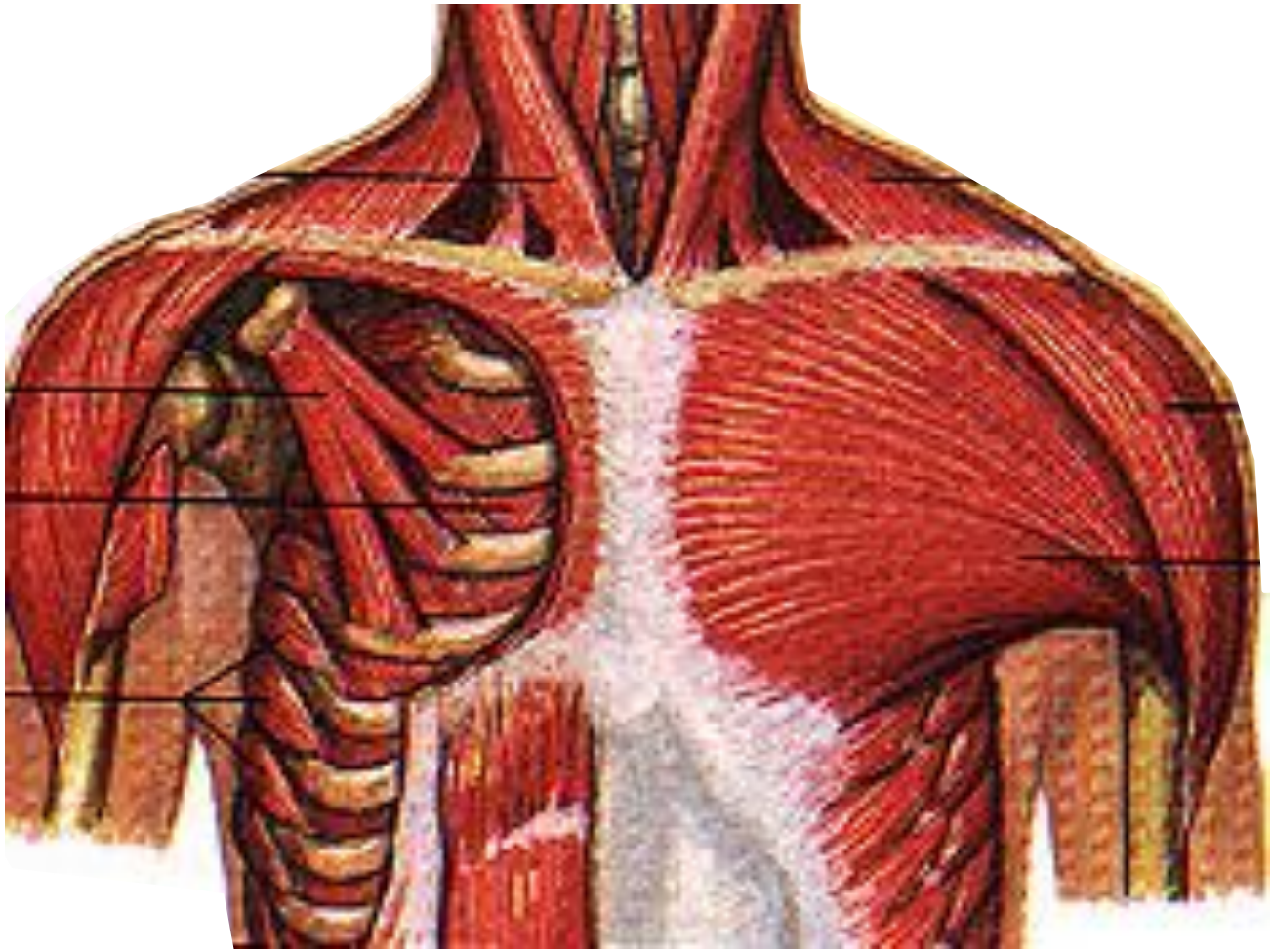
Regional Differences in Anatomy



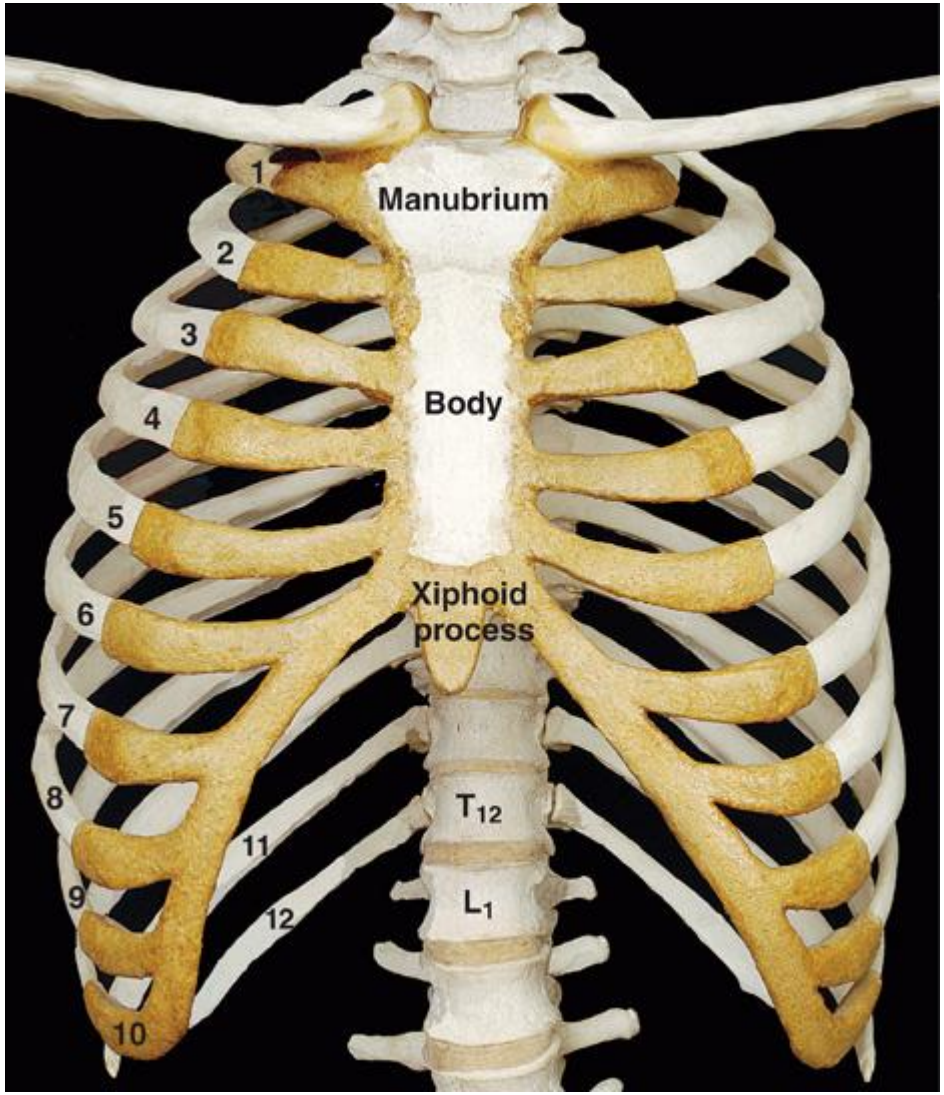
Regional Differences in Anatomy

Las Vegas

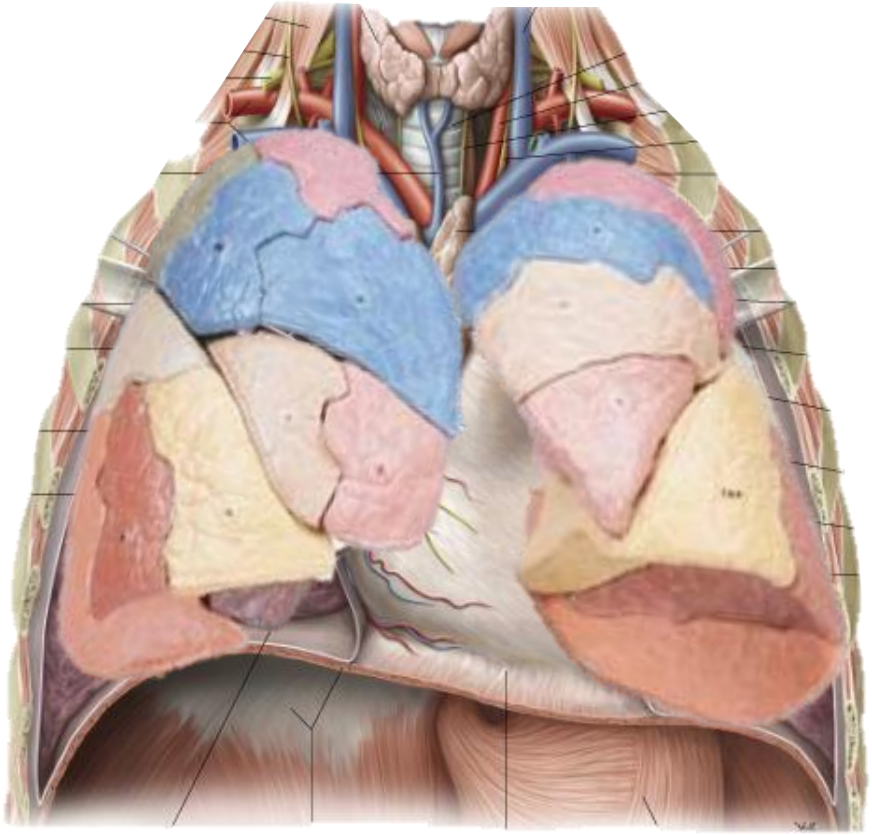
Chest Wall Musculature



Chest - Skeleton



Anatomy – Lungs



Anatomy – Lobes

Right Upper Lobe

Right Middle Lobe

Right Lower Lobe

Anatomy – Lobes

Right Lung

Anatomy – Lobes

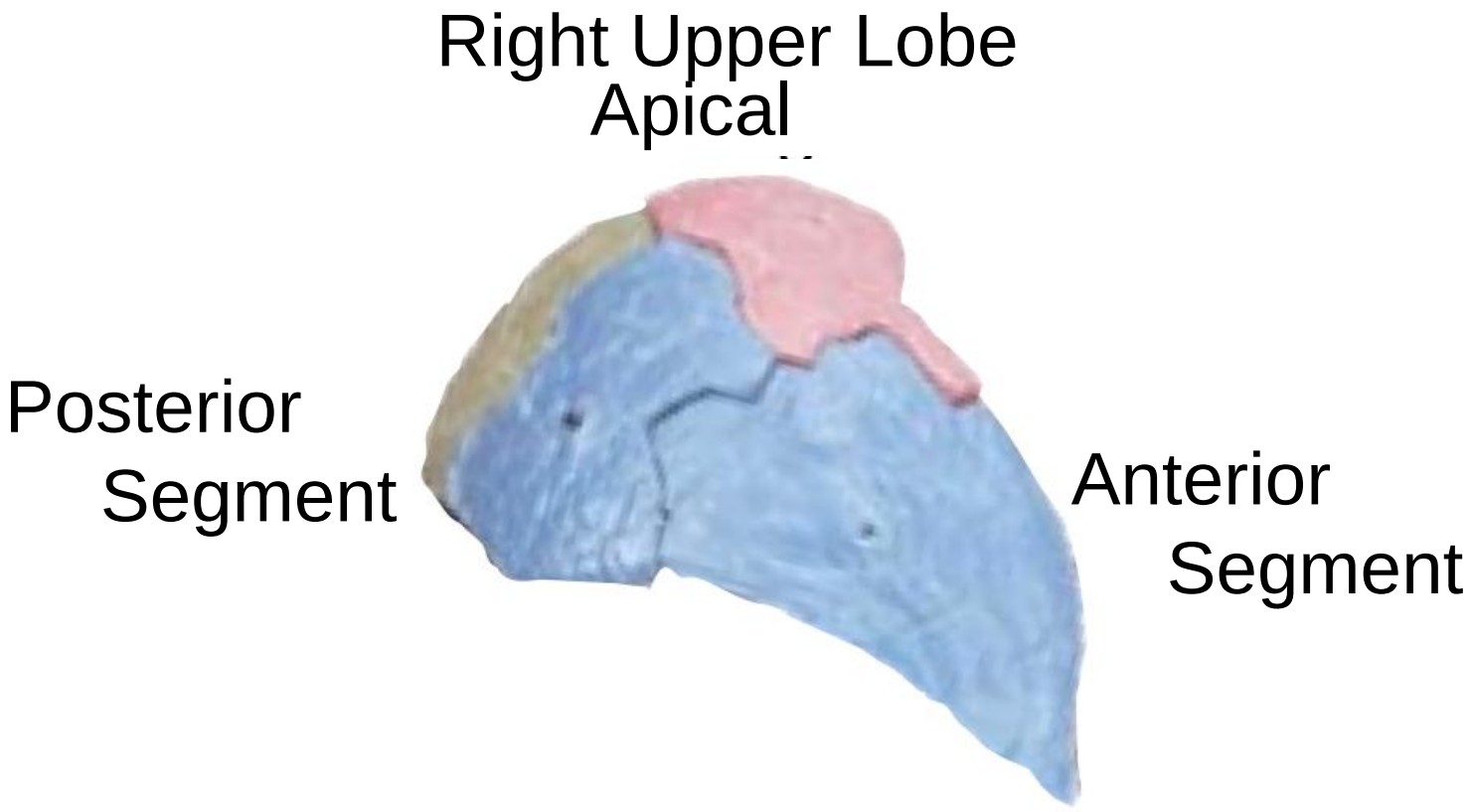
Right Lung

Left Upper Lobe

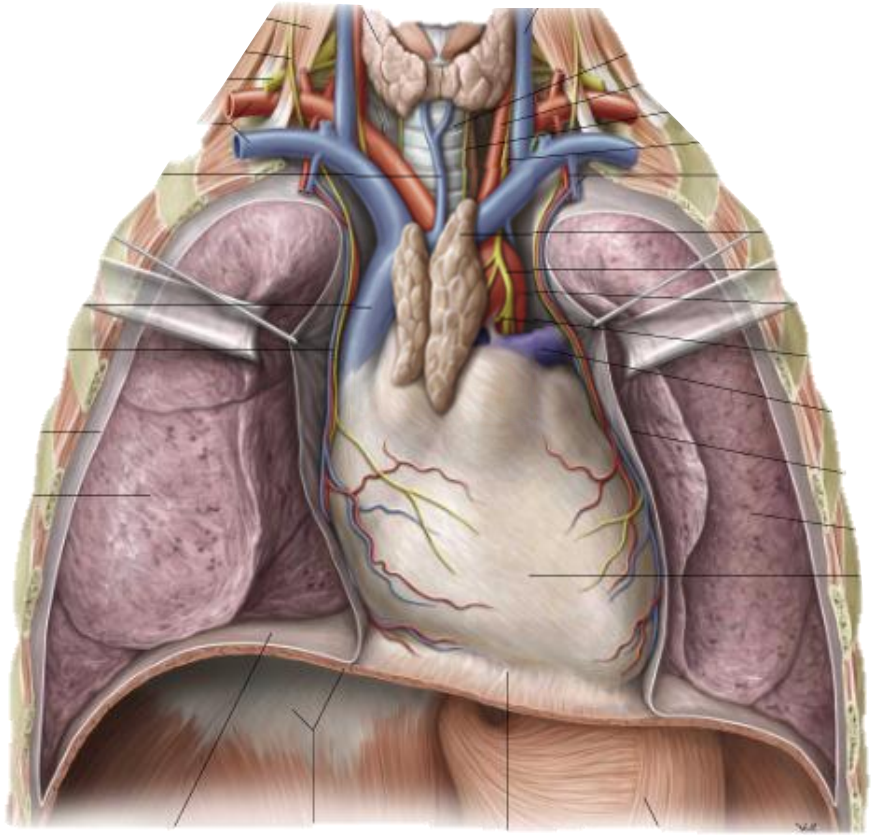
Left Lung

Left Lower Lobe

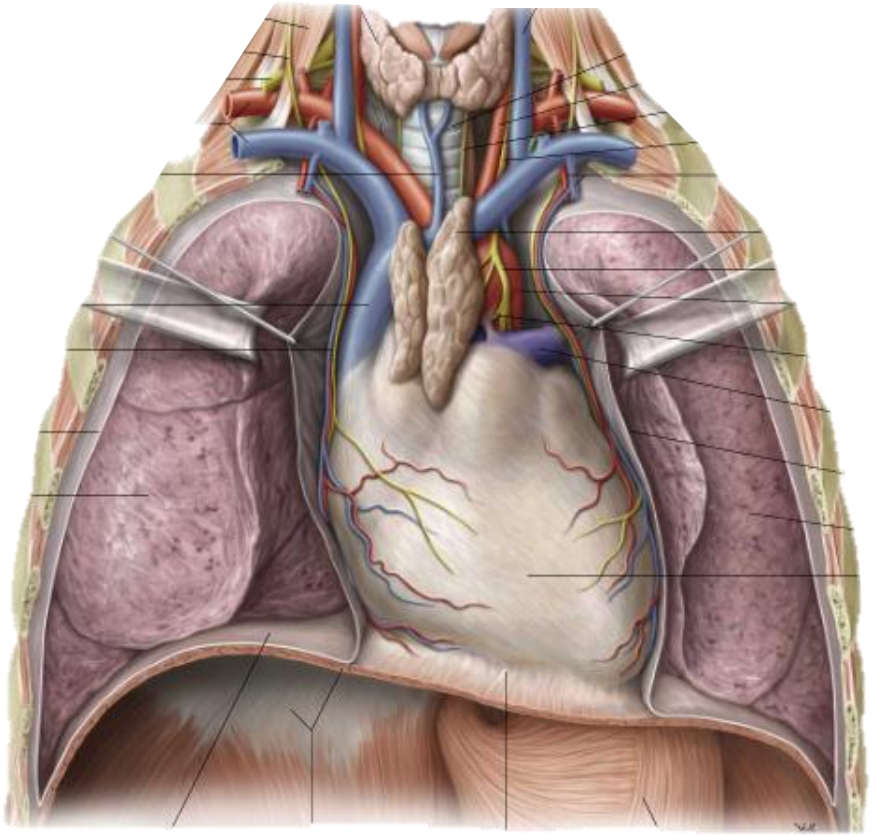
Anatomy – Lung Segments



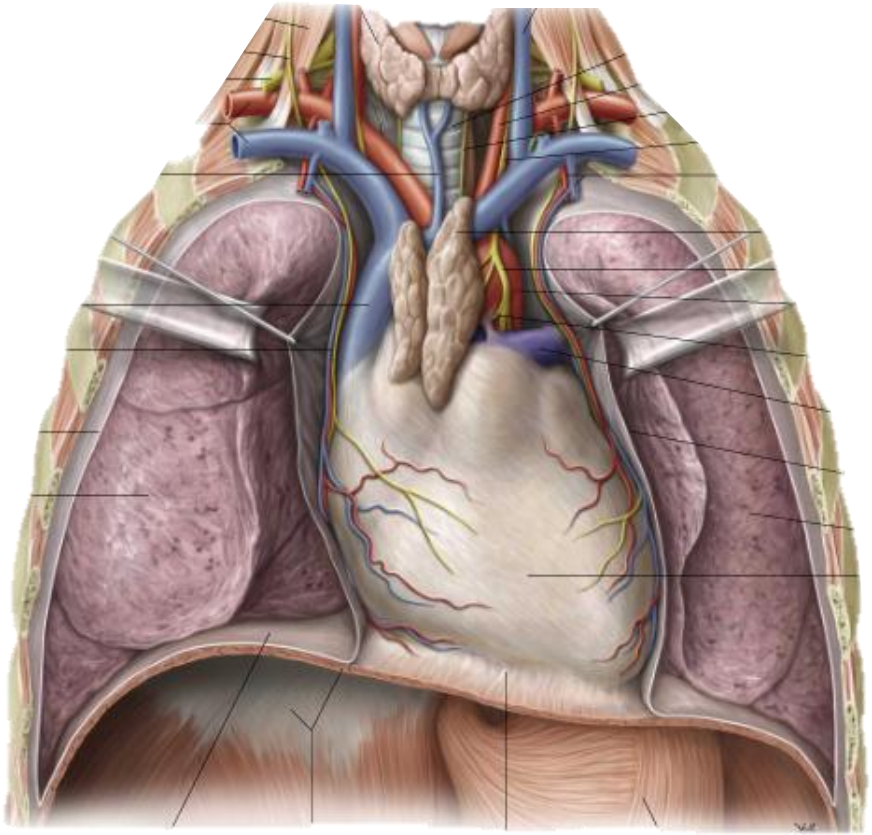
Thymus



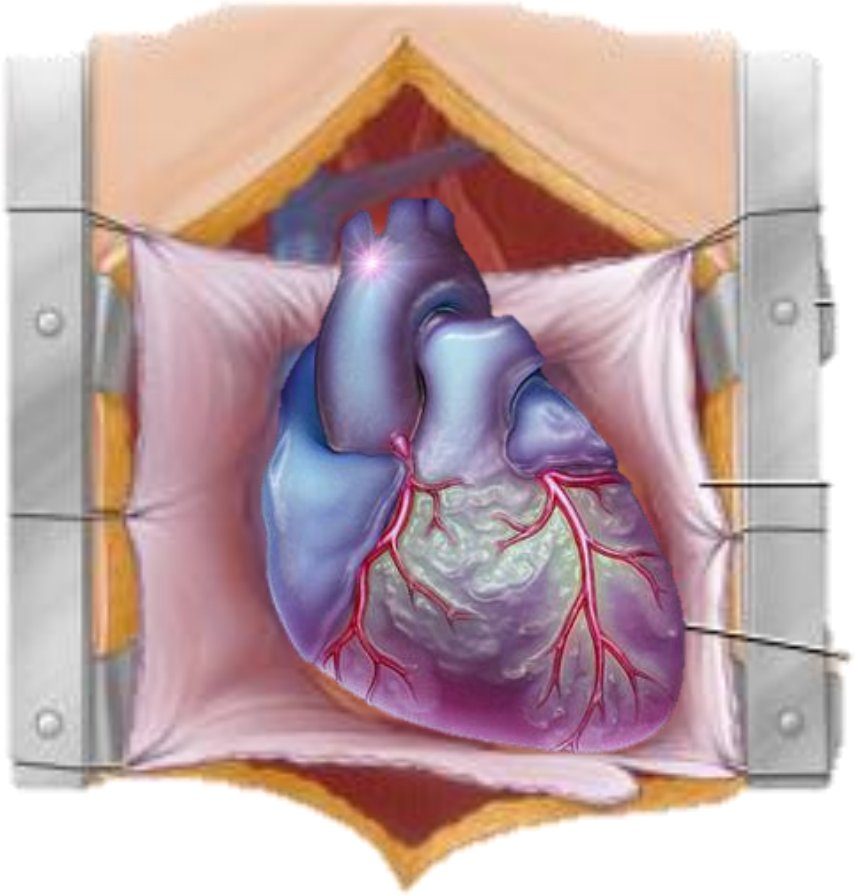
Anatomy – Great Veins



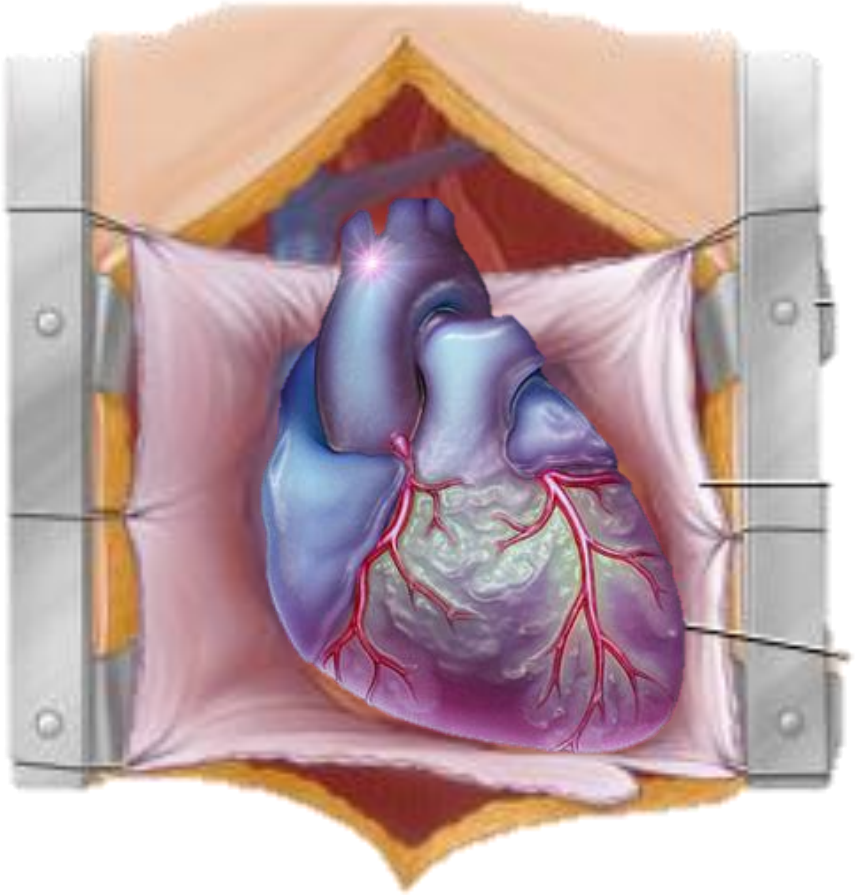
Anatomy – Pericardial Sac



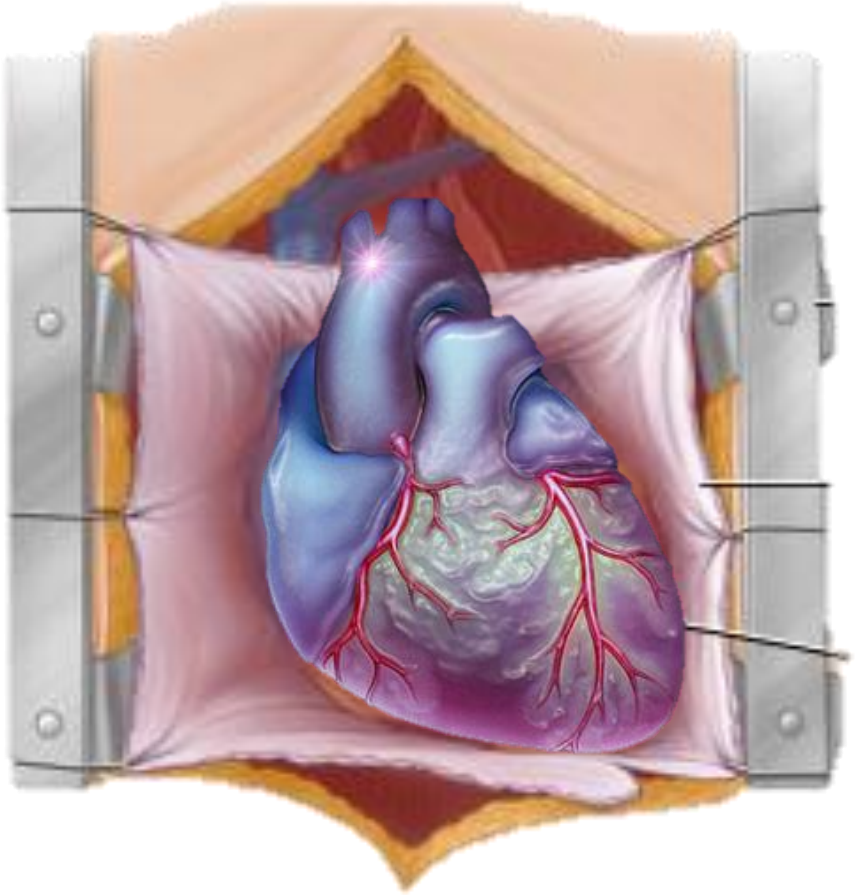
The Pericardial Sac



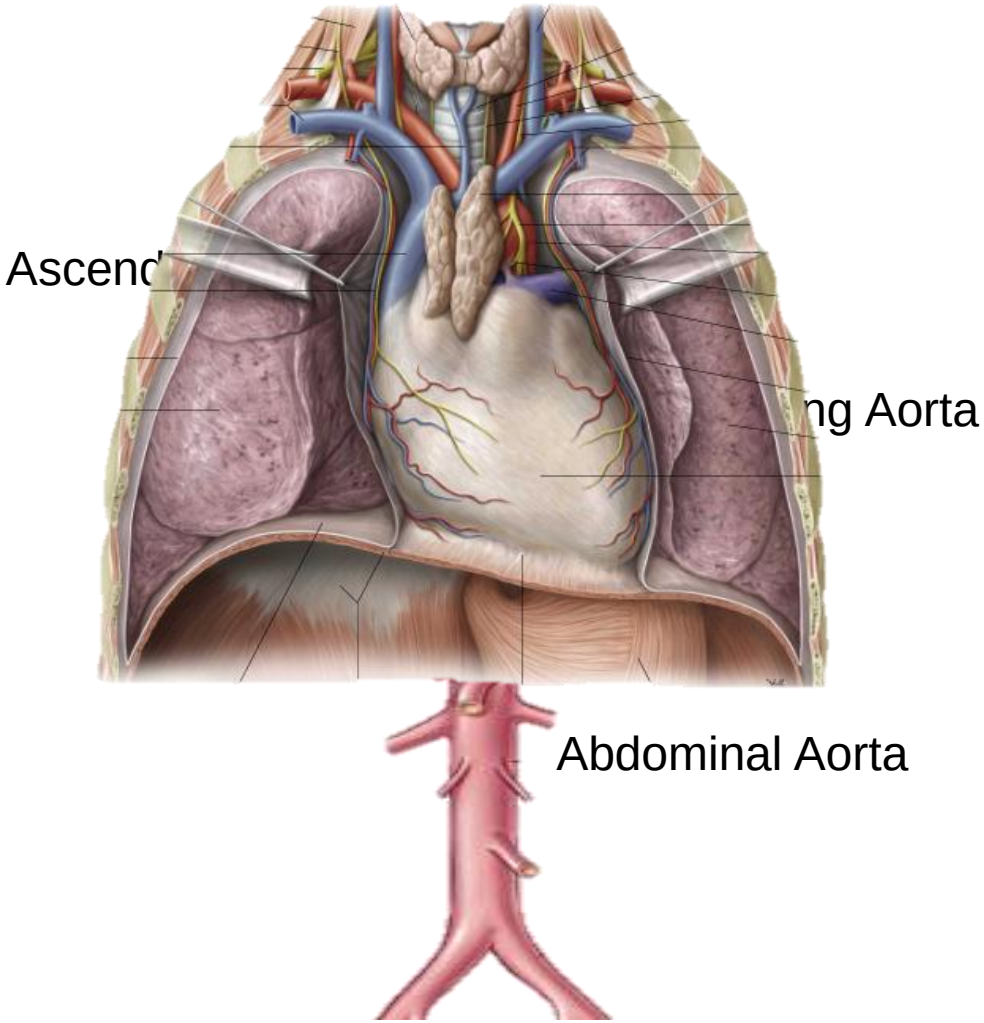
The Heart



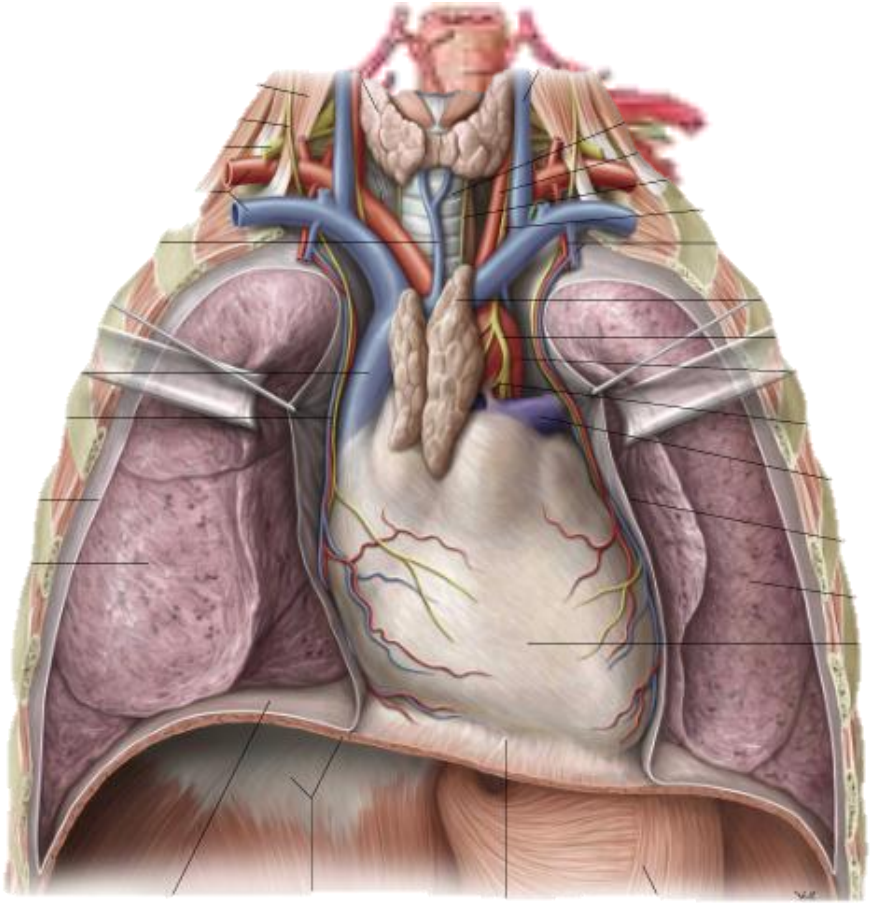
The Coronary Arteries



The Aorta



Esophagus



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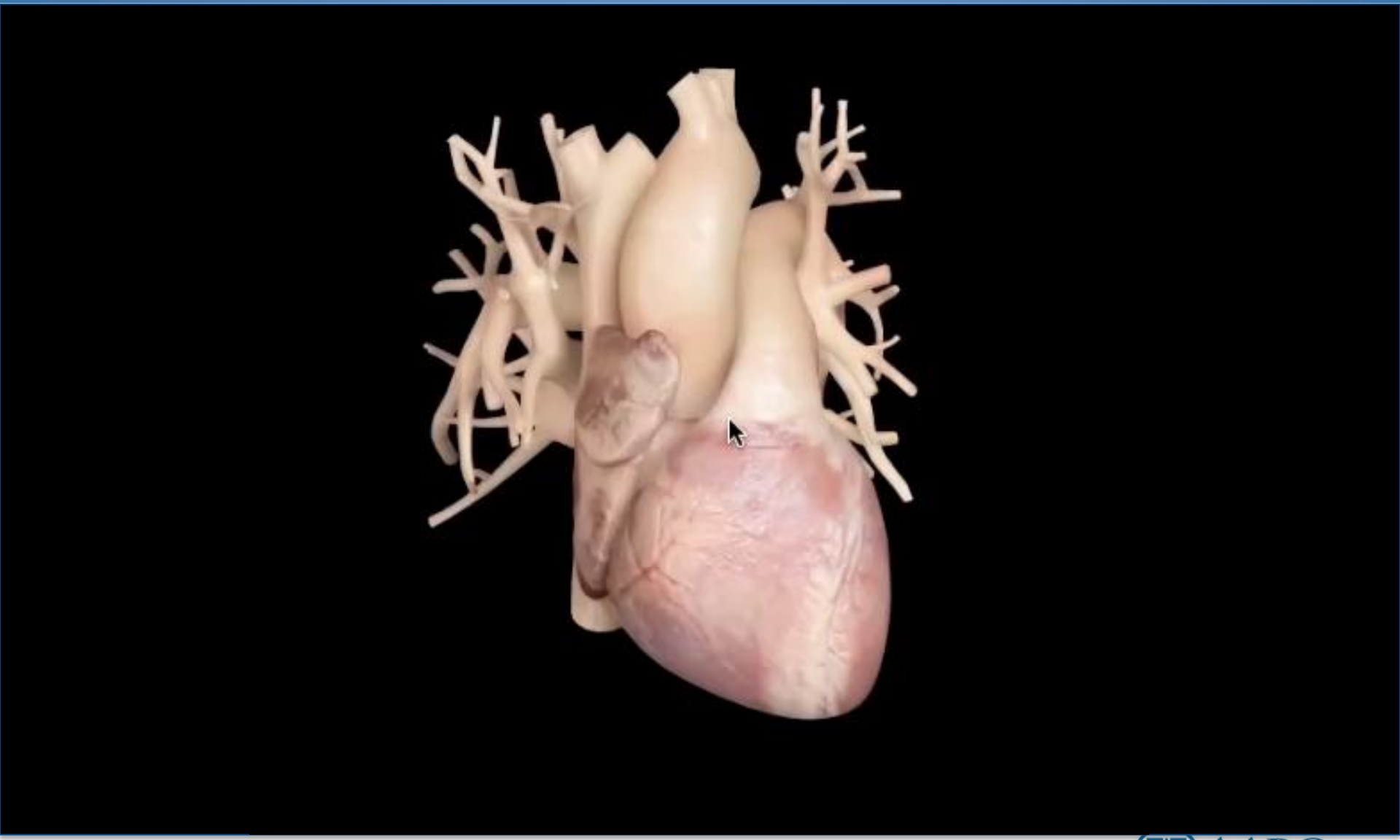
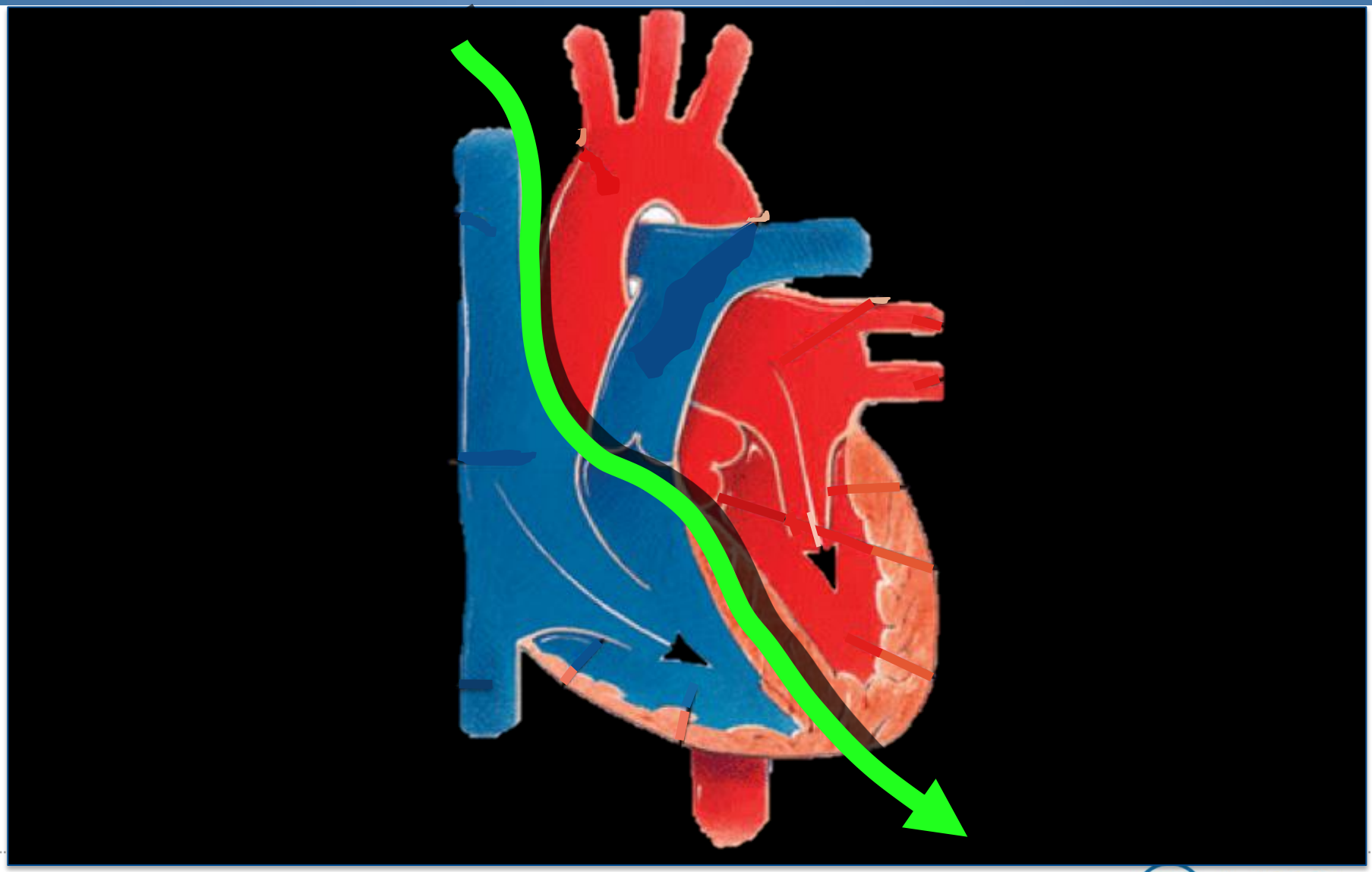
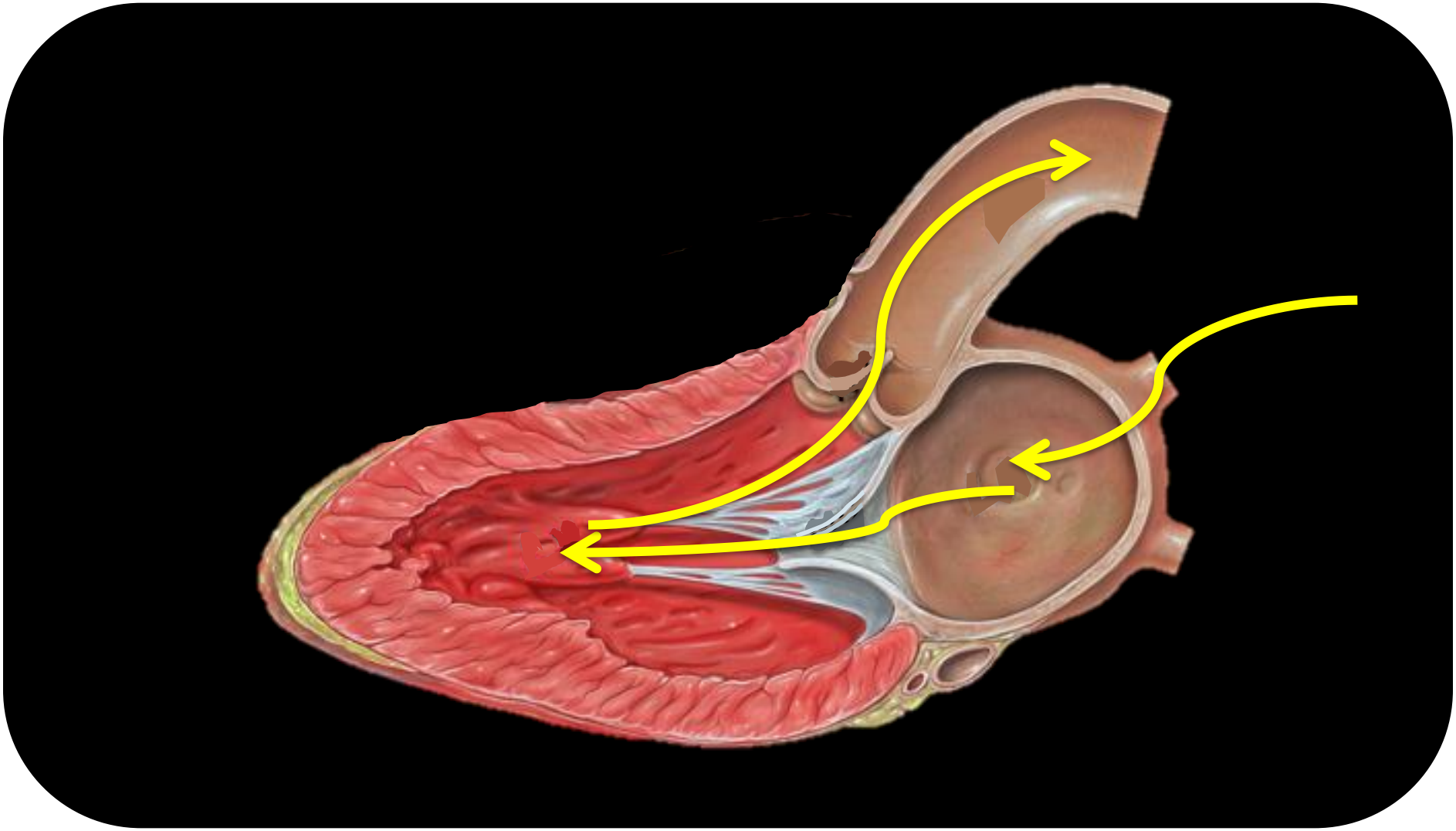
The Heart in Action



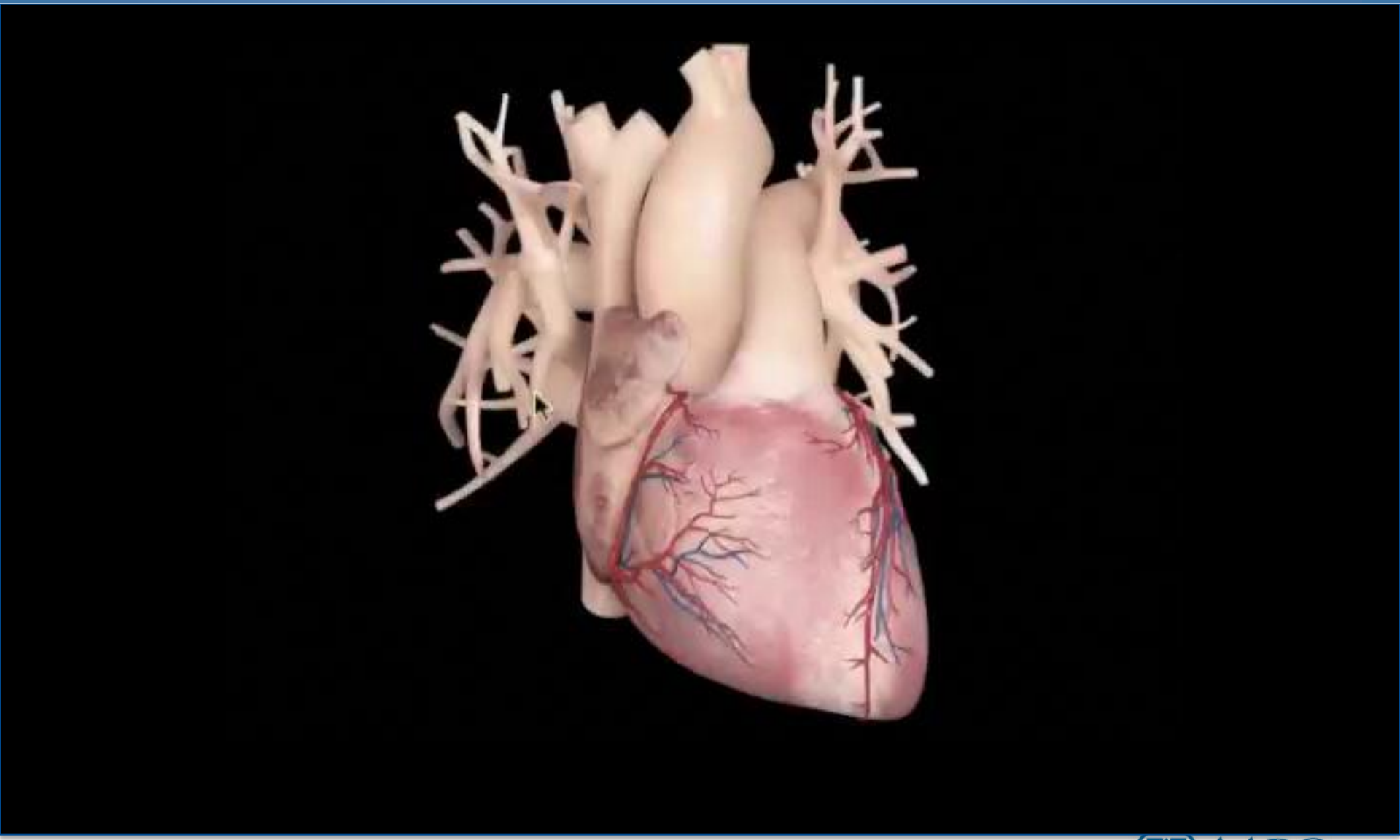
Inside the Heart



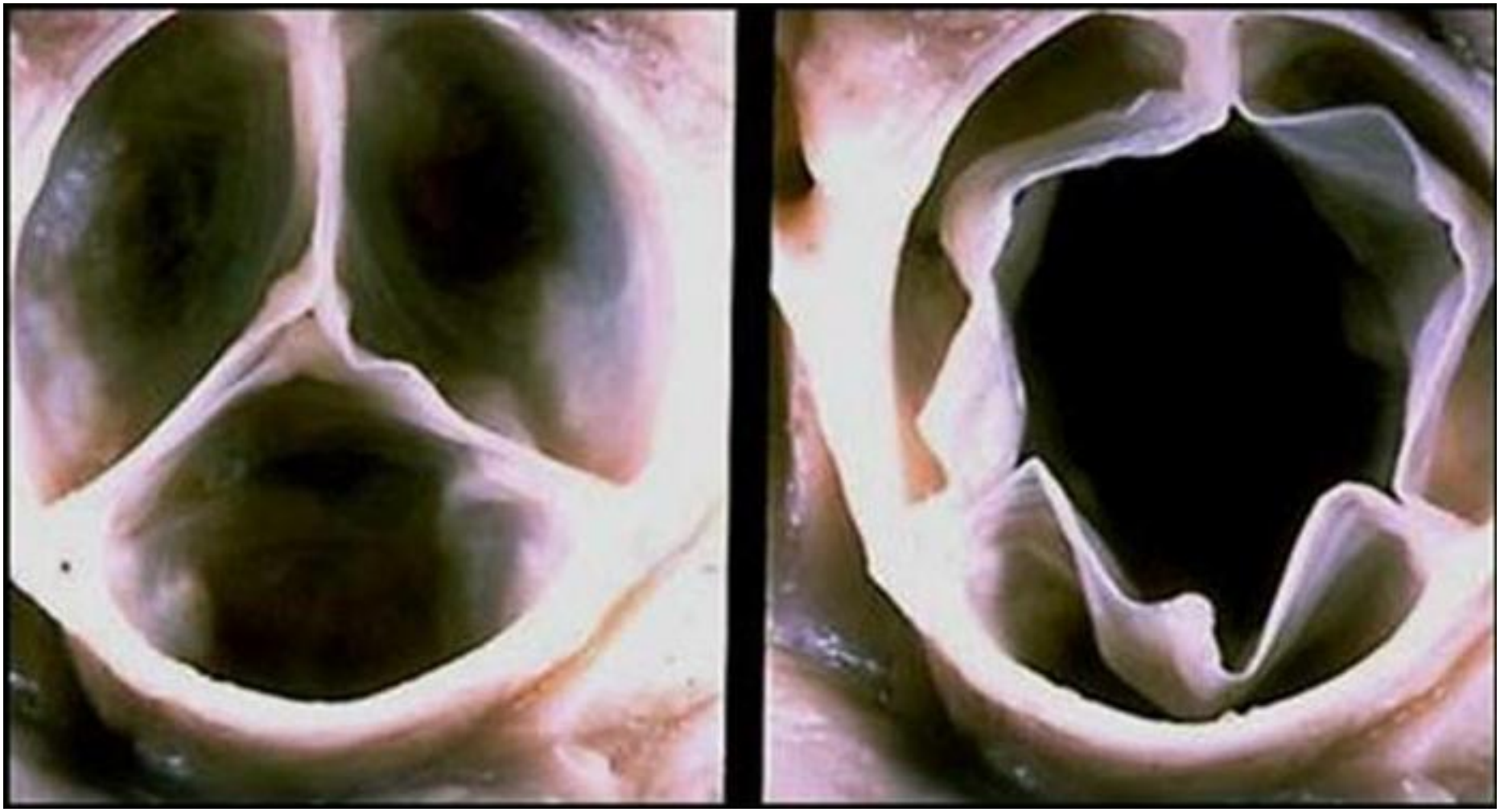
Inside the Heart



Inside the Working Heart



Normal Valve Function



Normal Heart Valves

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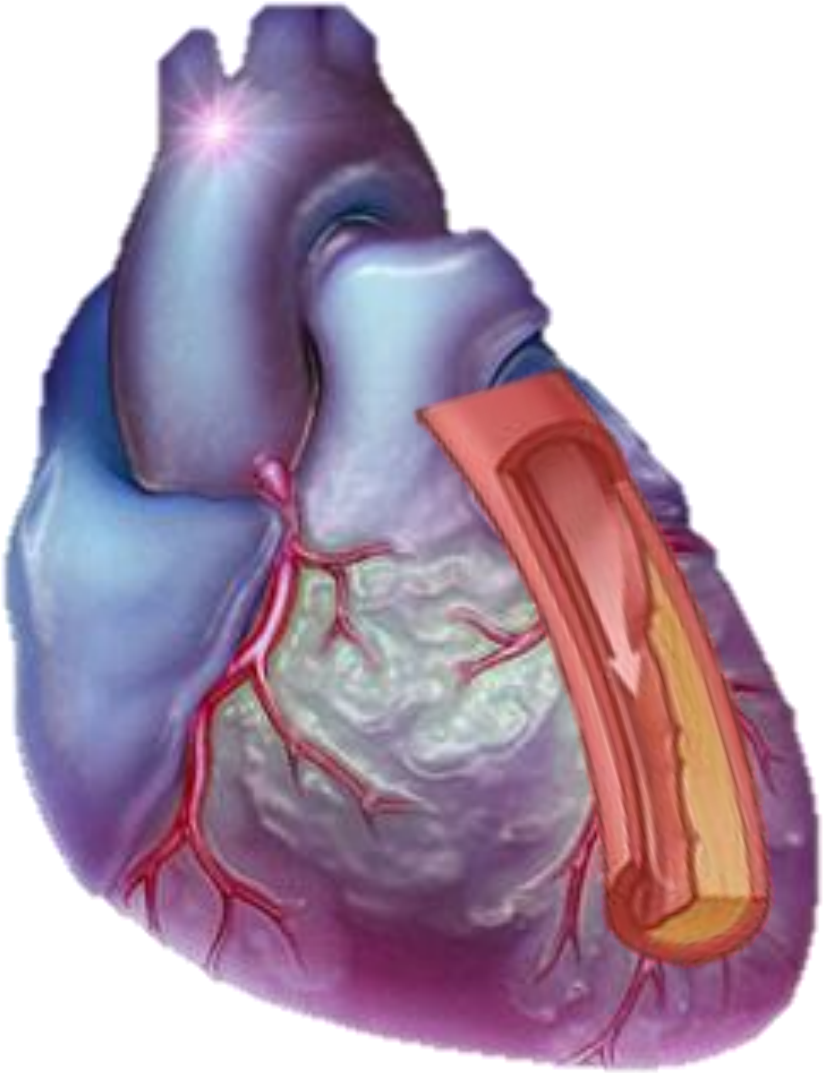
Coronary Artery Disease



Coronary Artery Atherosclerosis

Coronary Artery Stenting

Coronary Artery Stenting

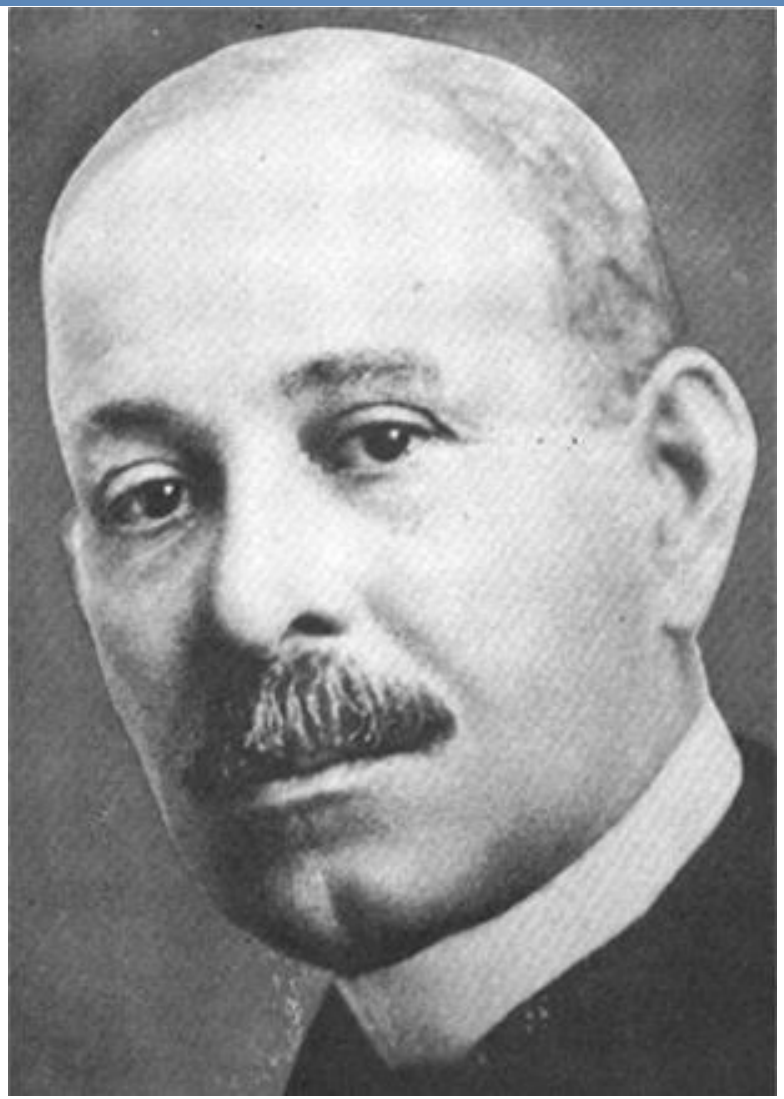
History of Heart Surgery

"Any surgeon who would attempt an operation of the heart should lose the respect of his colleagues."

Theodor Billroth

Theodore Billroth

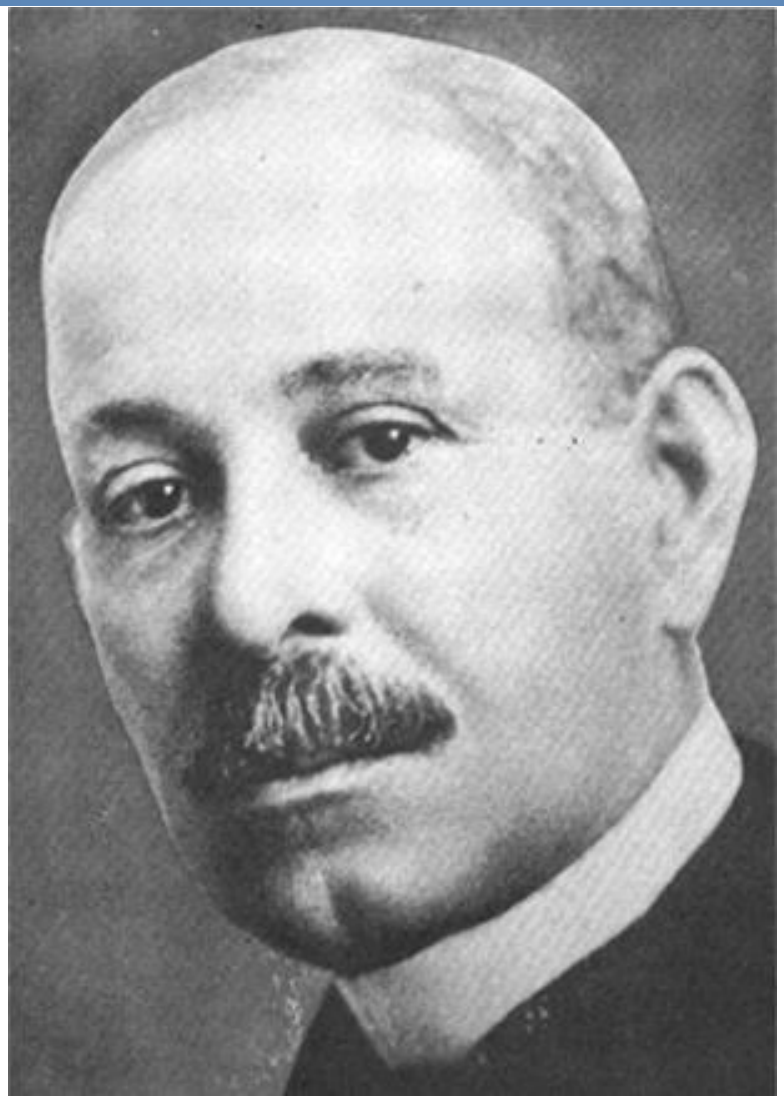
Dr. Daniel Hale Williams



July 9, 1883

William Cornish

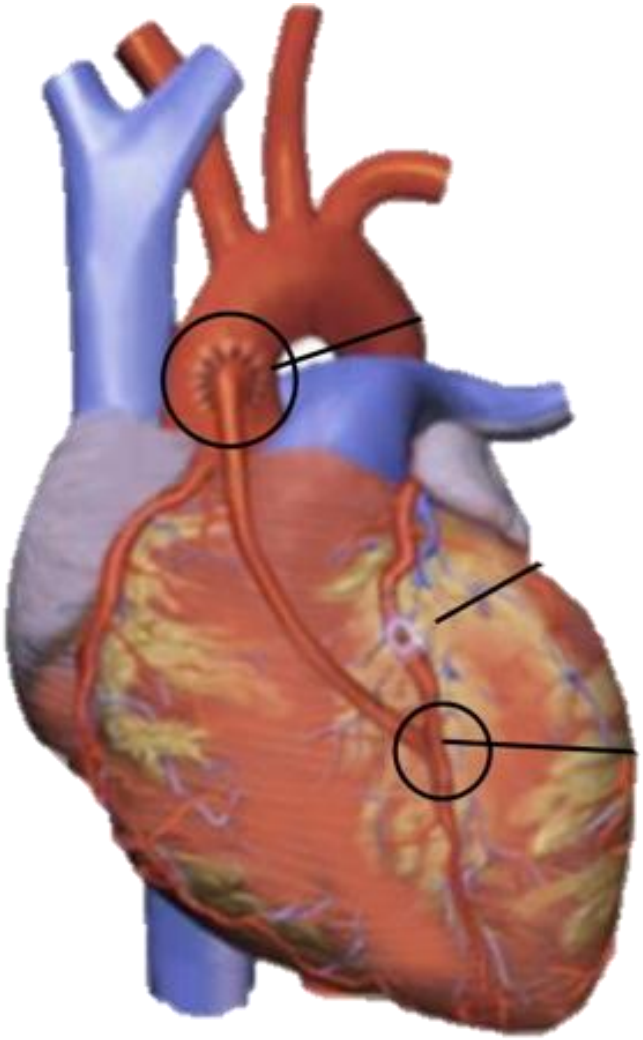
Dr. Daniel Hale Williams



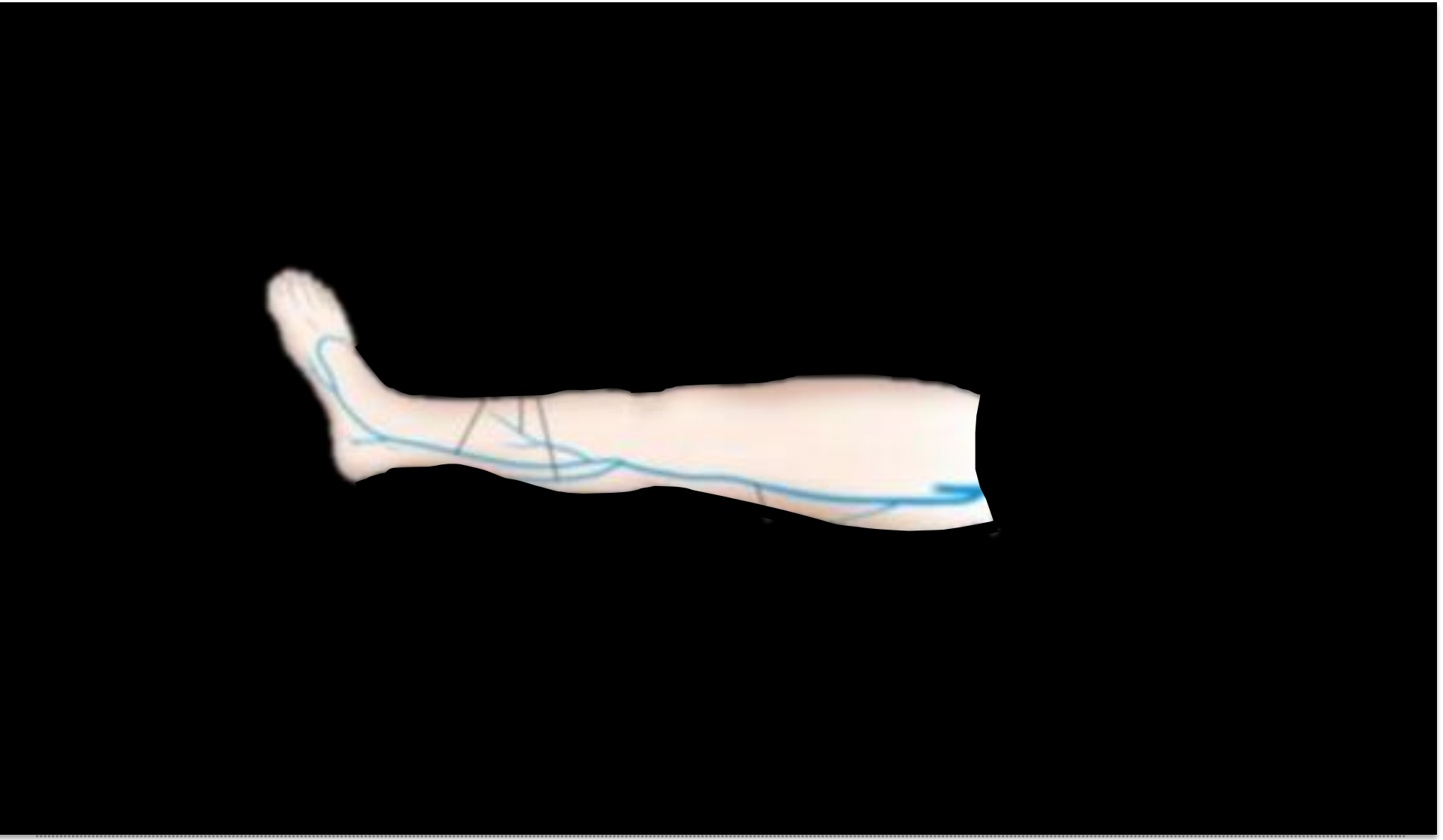
Dr. Charles Mayo

MAYO CLINIC

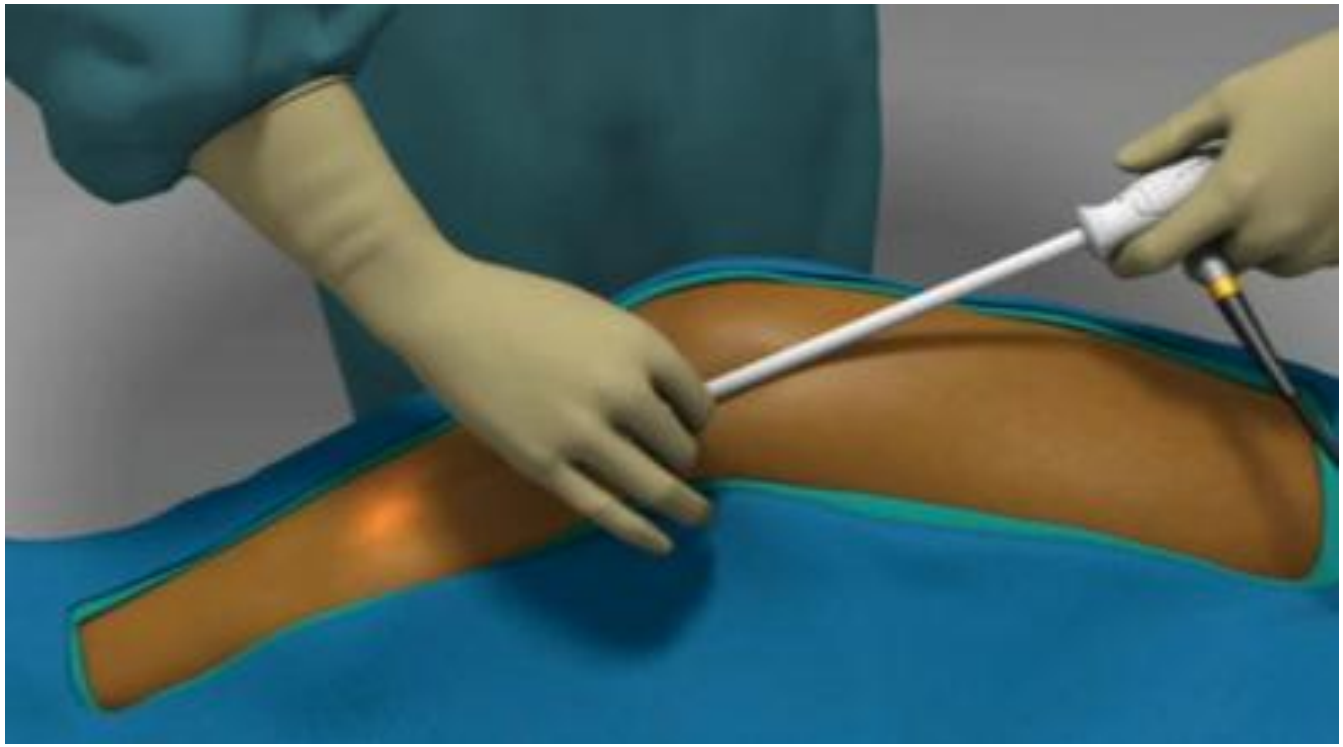
Coronary Artery Bypass Grafting



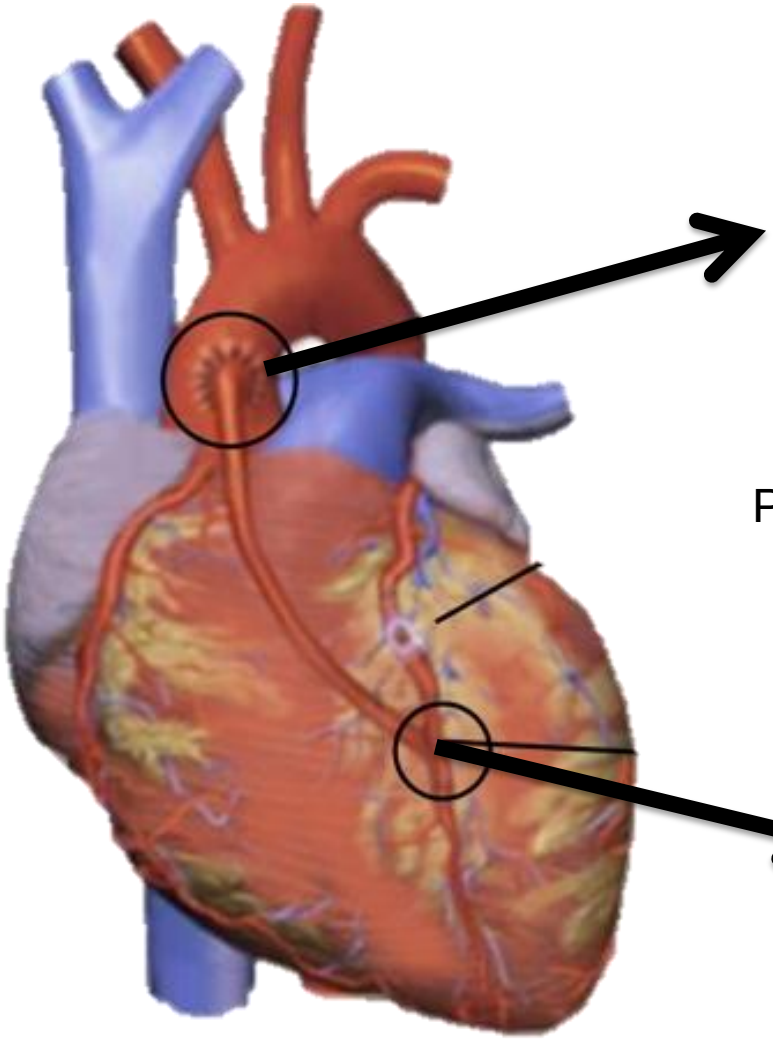
Greater Saphenous Vein



Endoscopic Vein Harvest

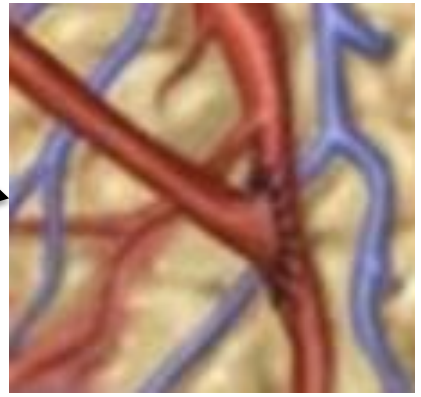


Coronary Artery Bypass Grafting

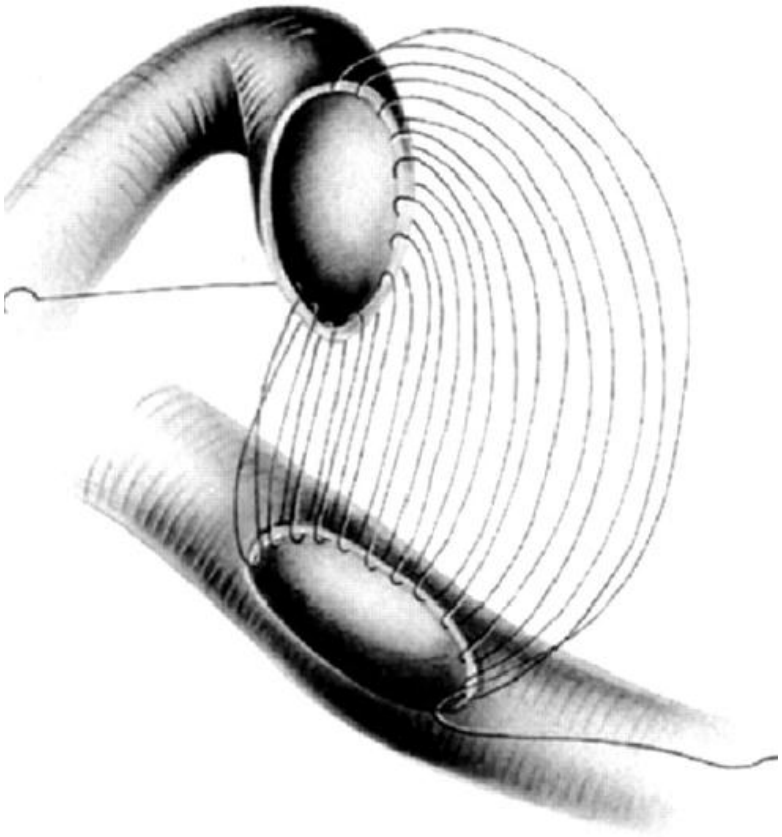


Proximal Anastomosis

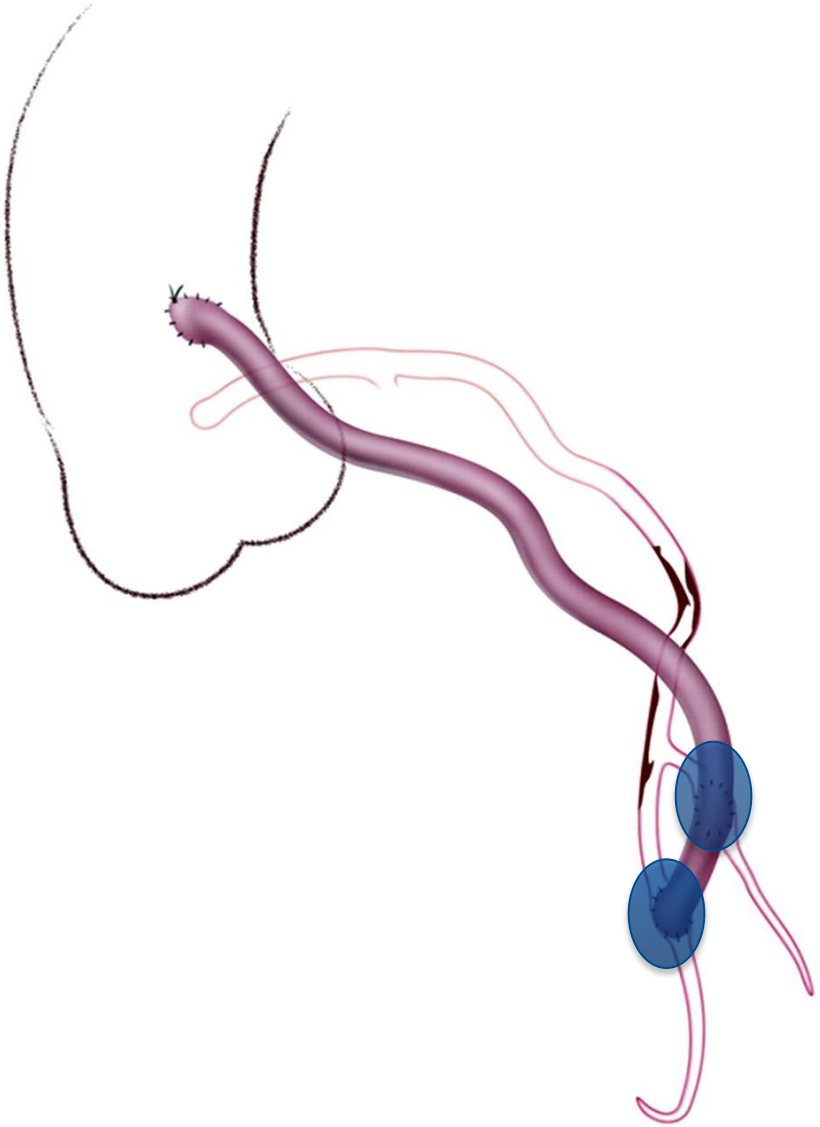
Distal Anastomosis



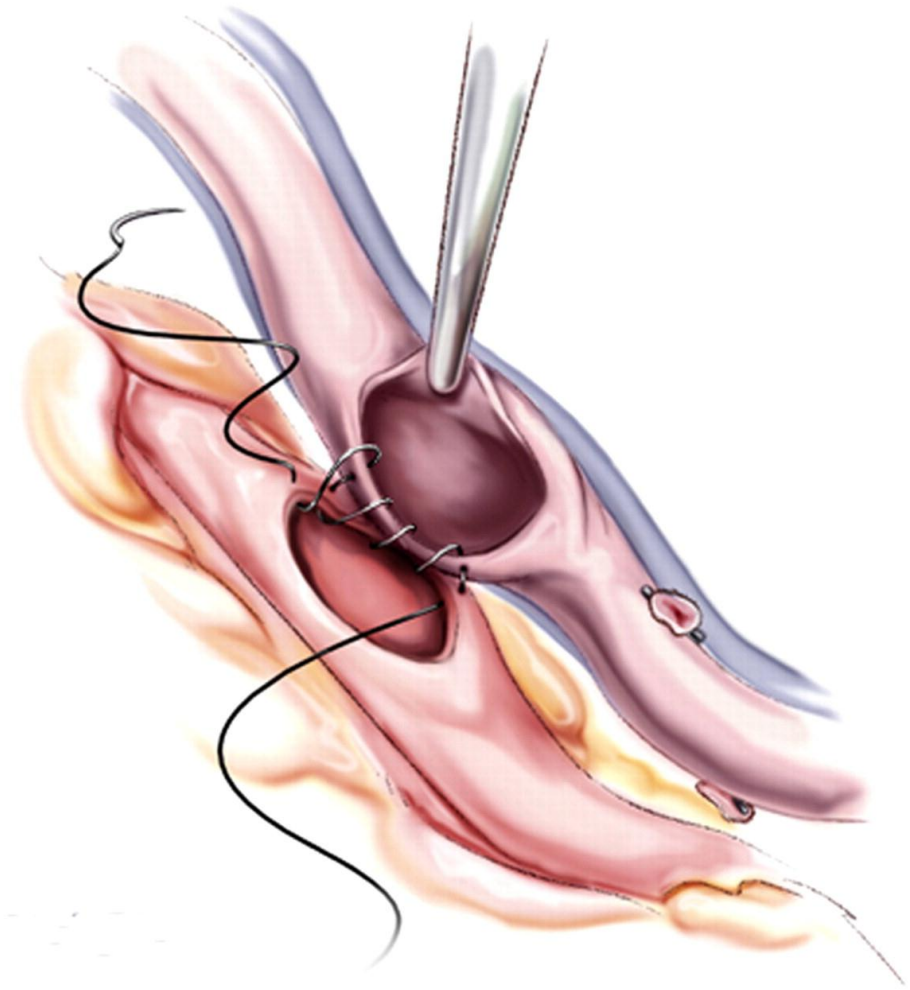
CABG: End to Side Anastomosis



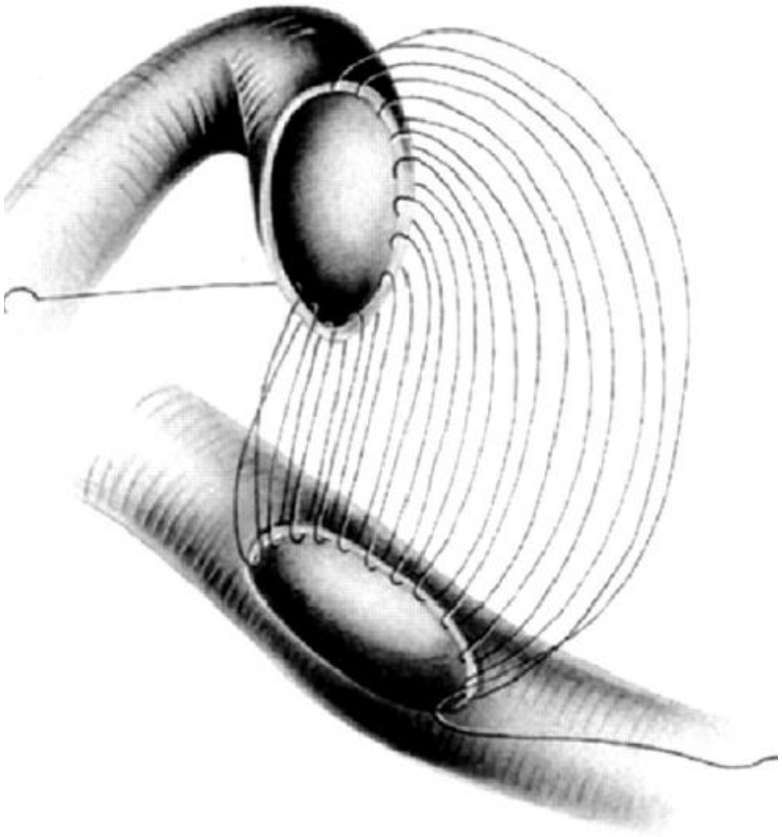
Sequential Vein Graft



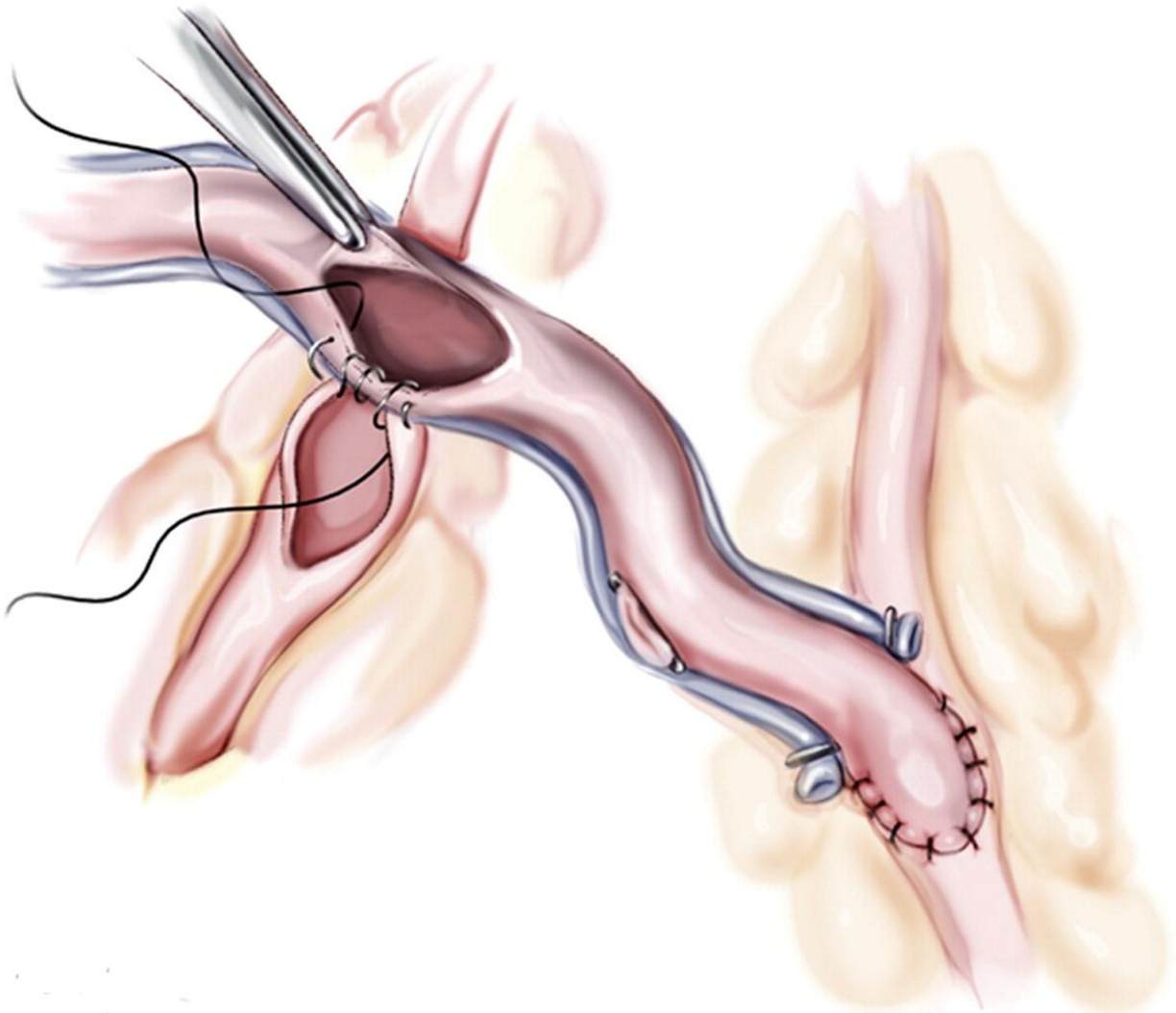
Side to Side Anastomosis



CABG: End to Side Anastomosis



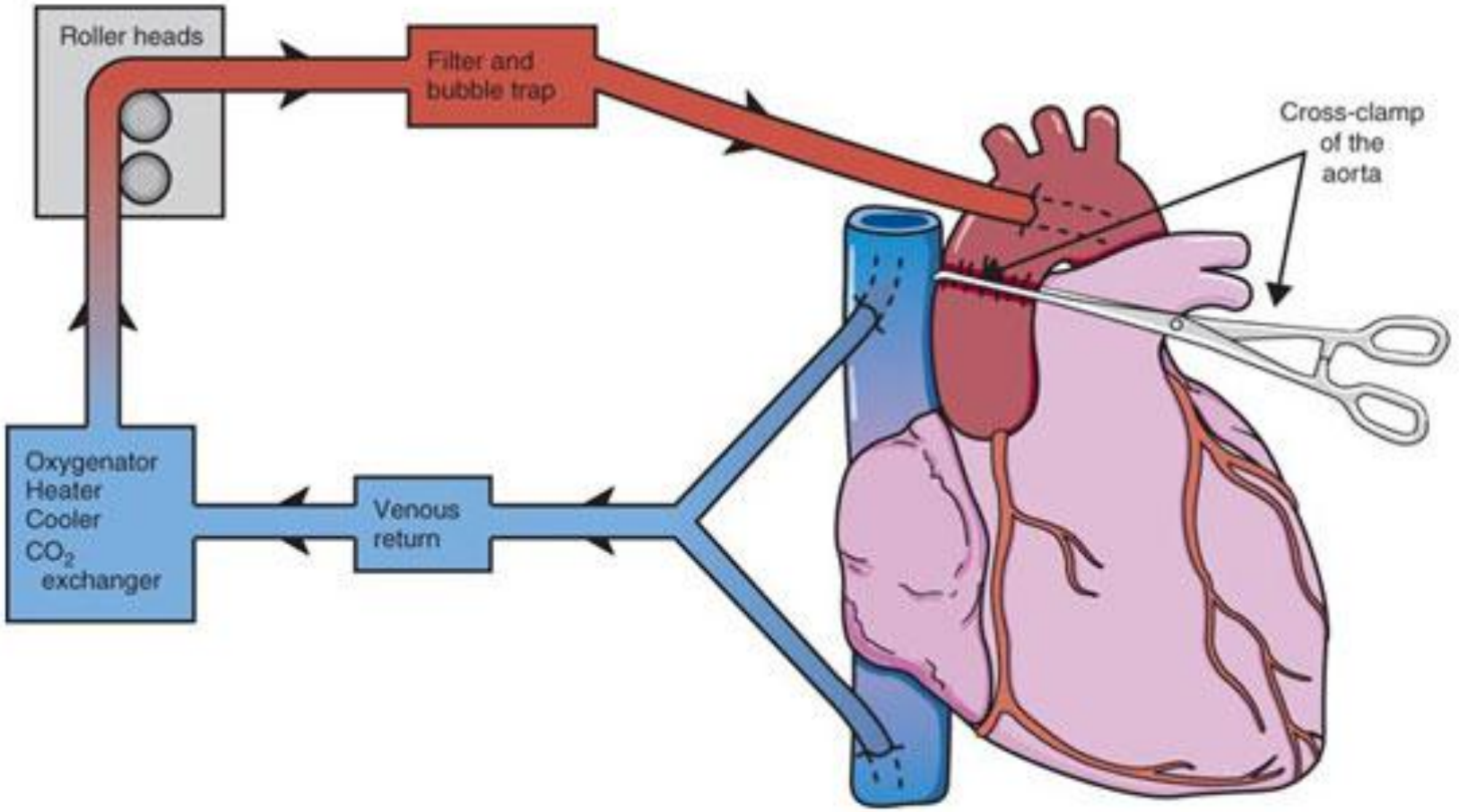
Sequential Graft



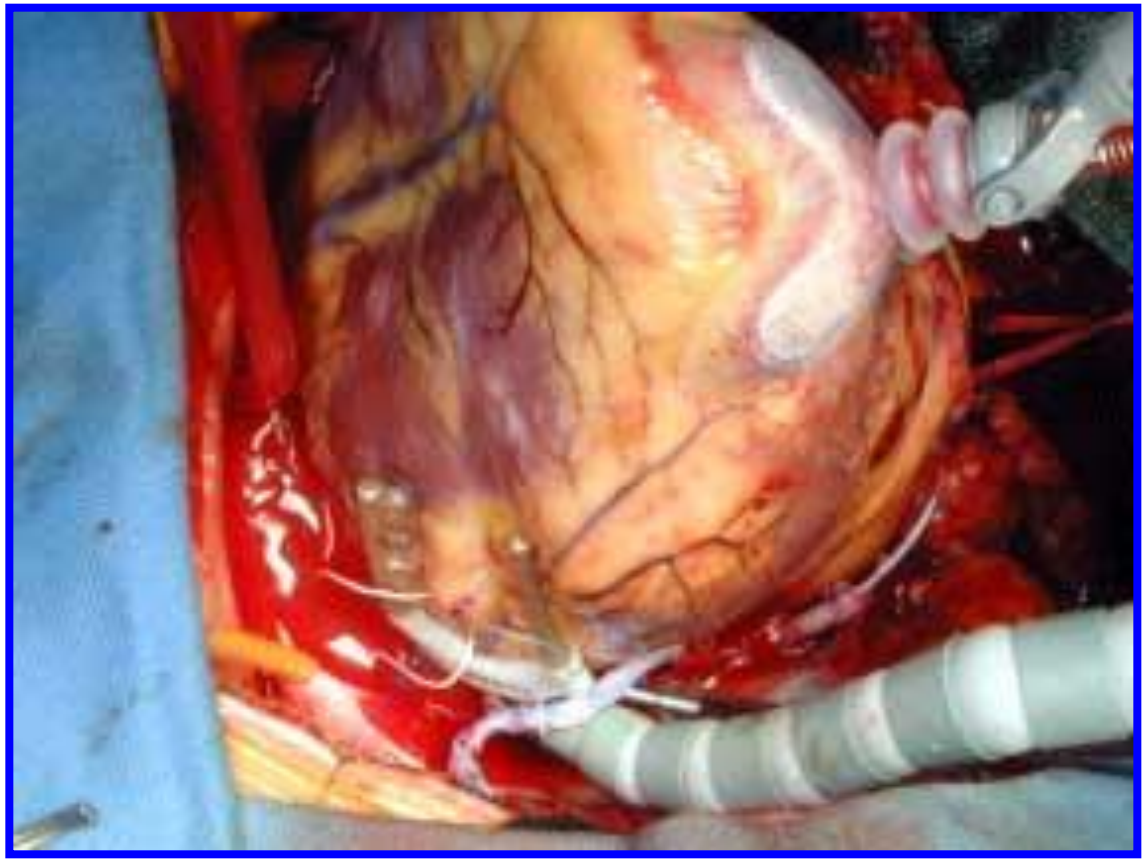
CABG Options

- On Pump – Motionless Heart
- Off Pump – Beating Heart
- On Pump – Beating Heart

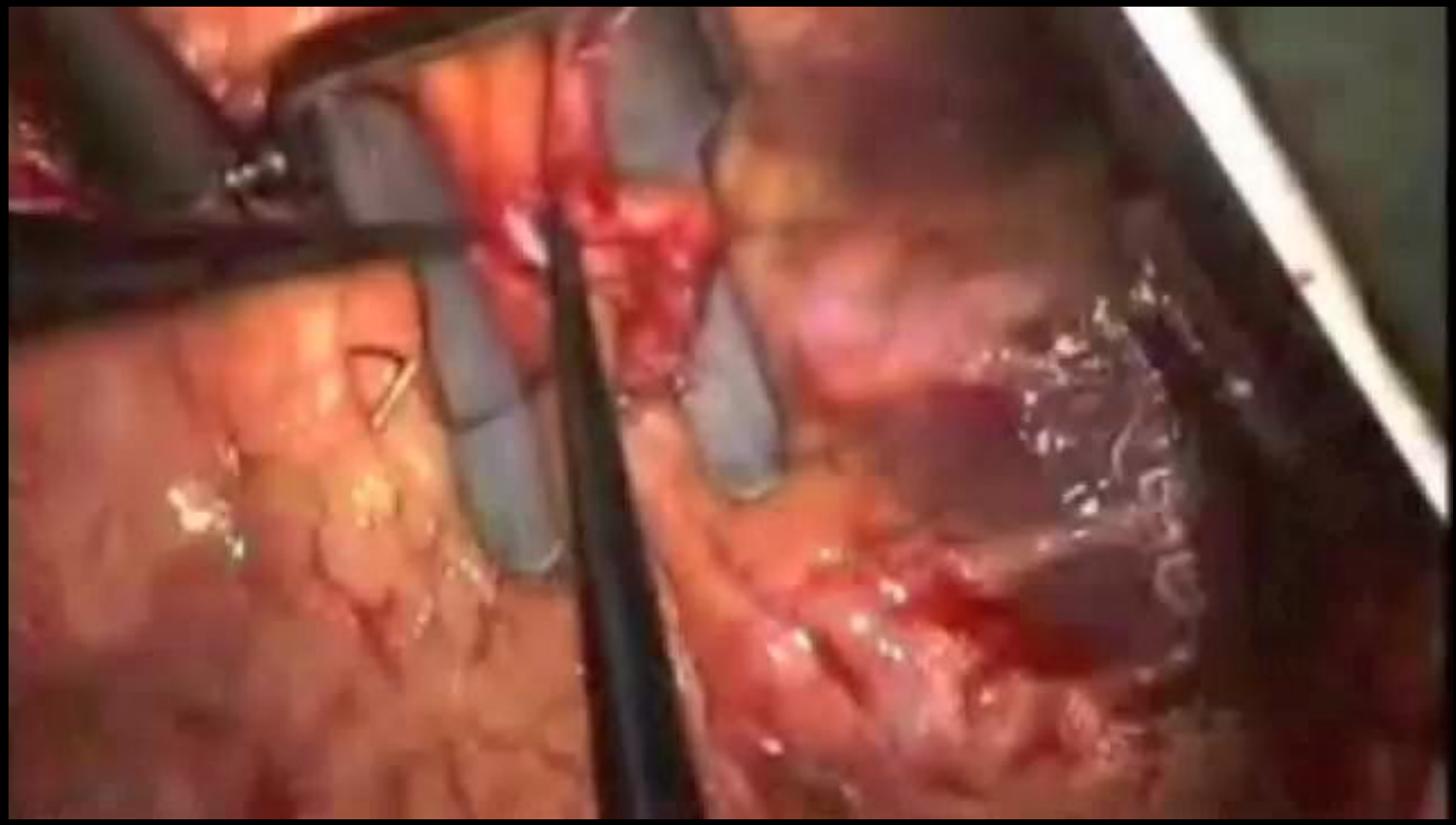
CABG: On Pump


Roller heads
Filter and bubble trap
Cross-clamp of the aorta
Oxygenator
Heater
Cooler
CO_2 exchanger
Venous return

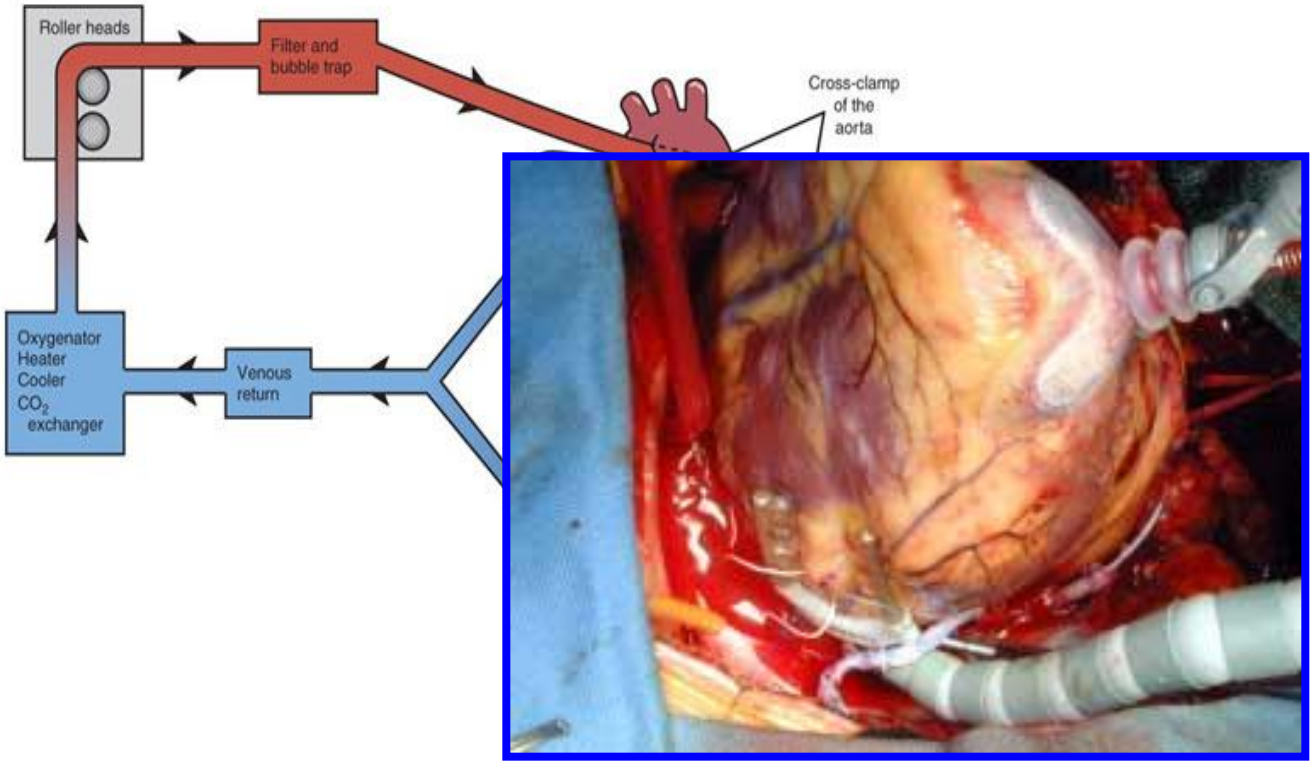
CABG: Off Pump



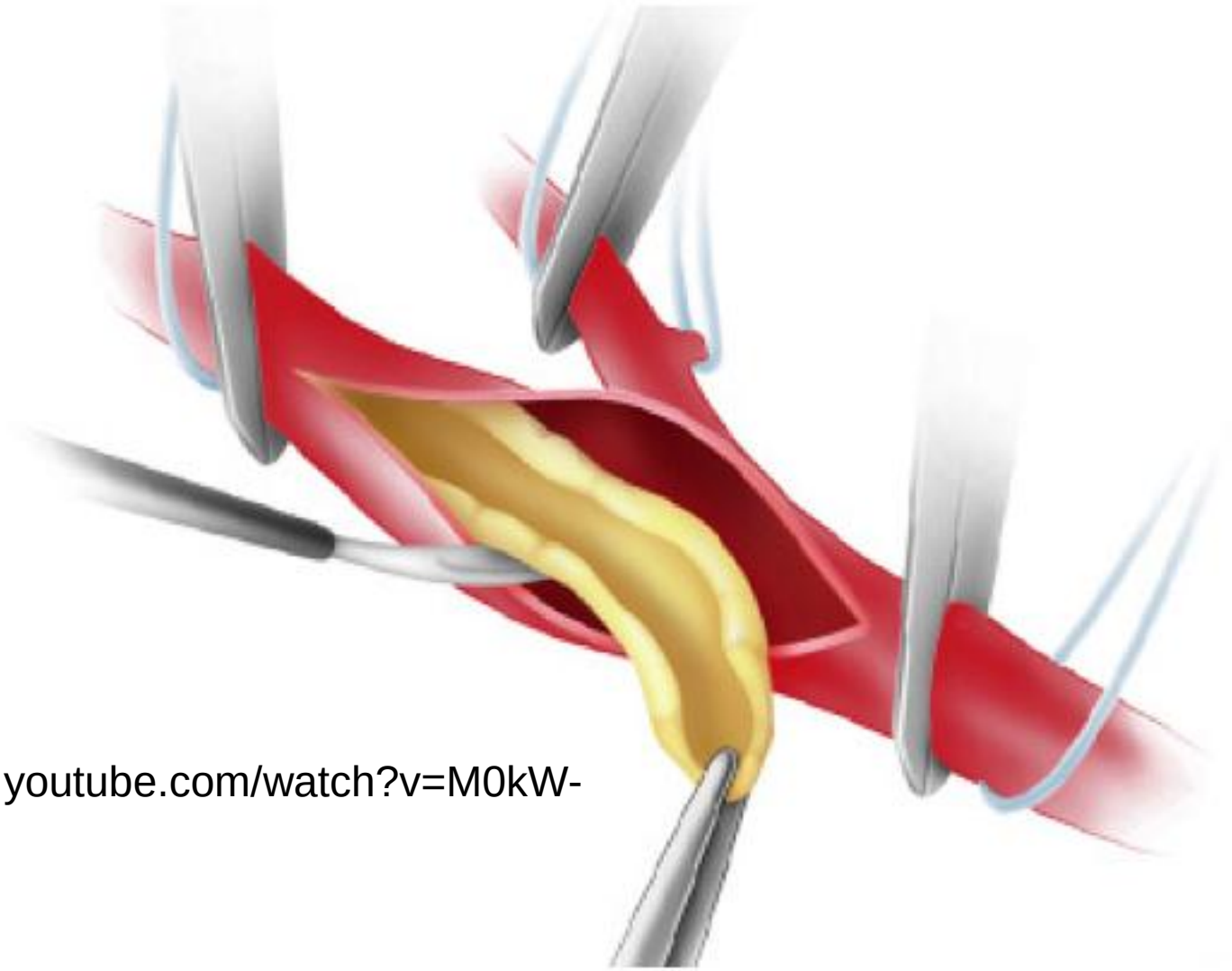
CABG: Off Pump



CABG: On Pump – Beating Heart Options

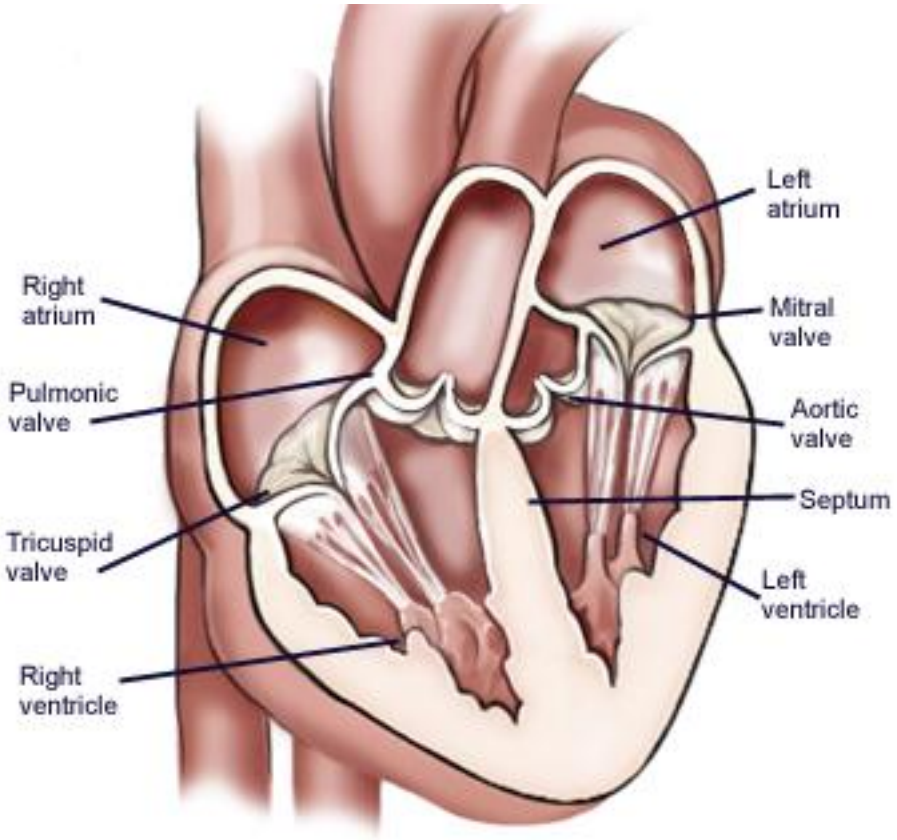


Endarterectomy

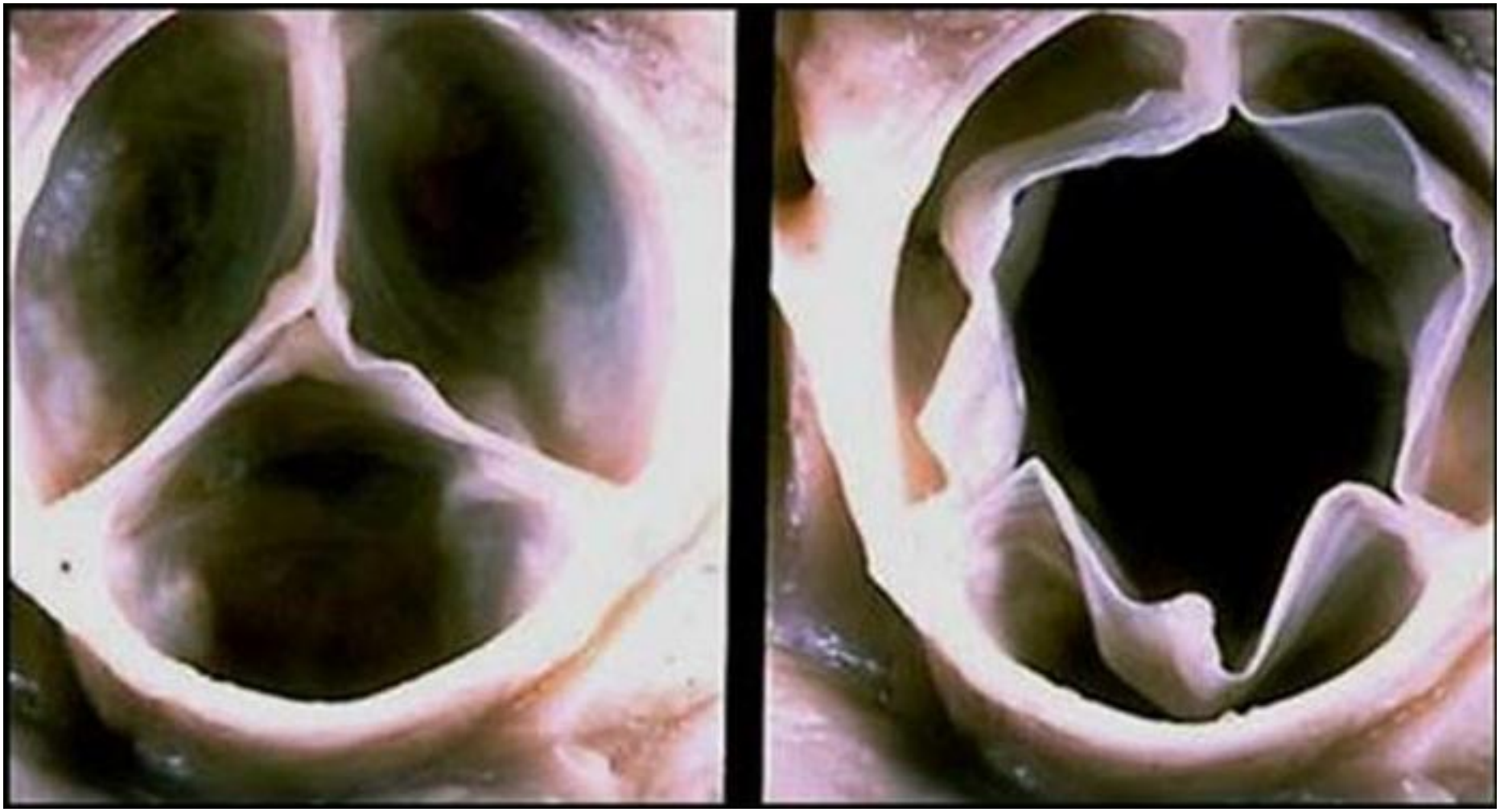


http://www.youtube.com/watch?v=M0kW-VcNAsU

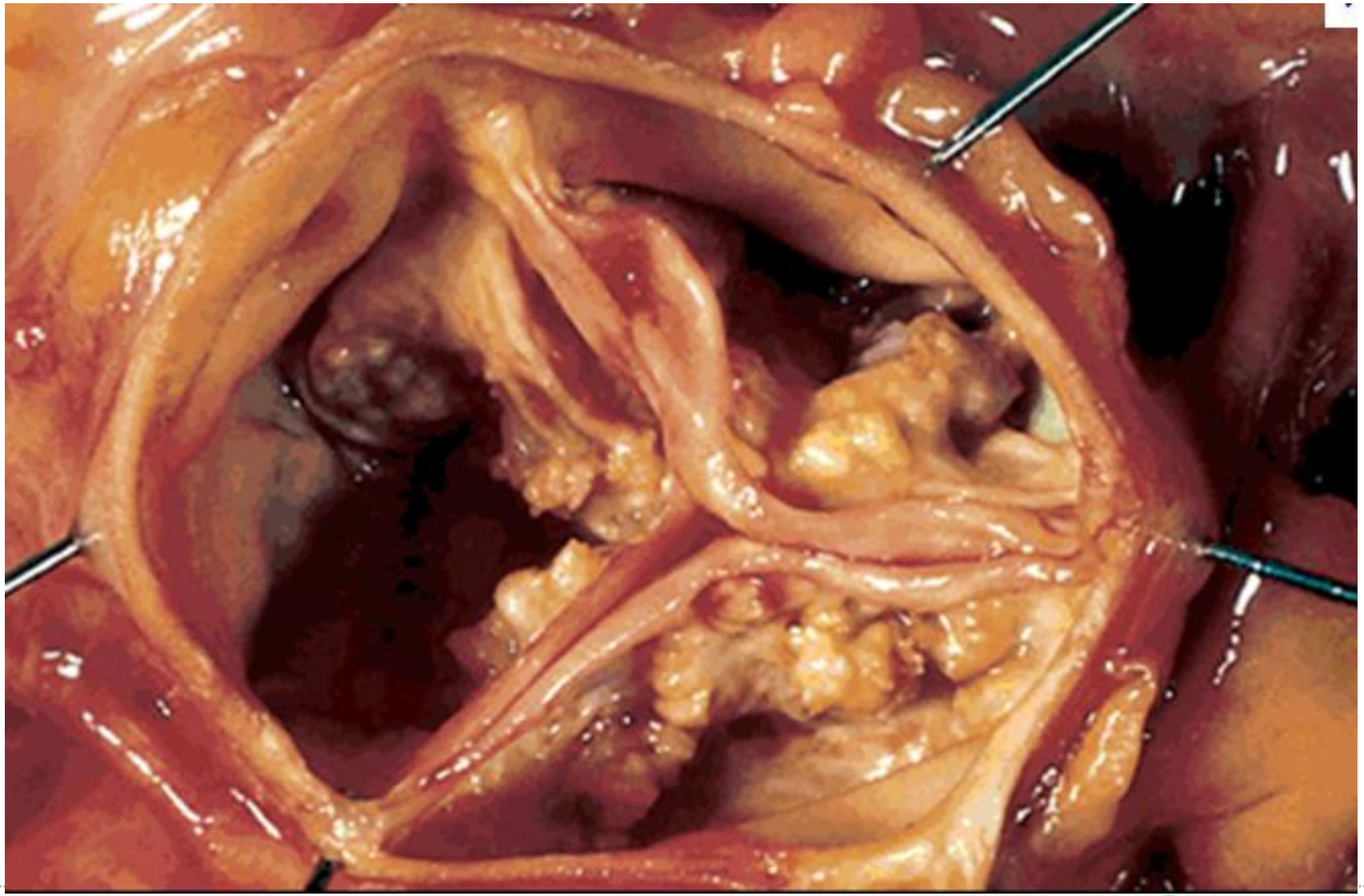
Heart Valves



Normal Valve Function

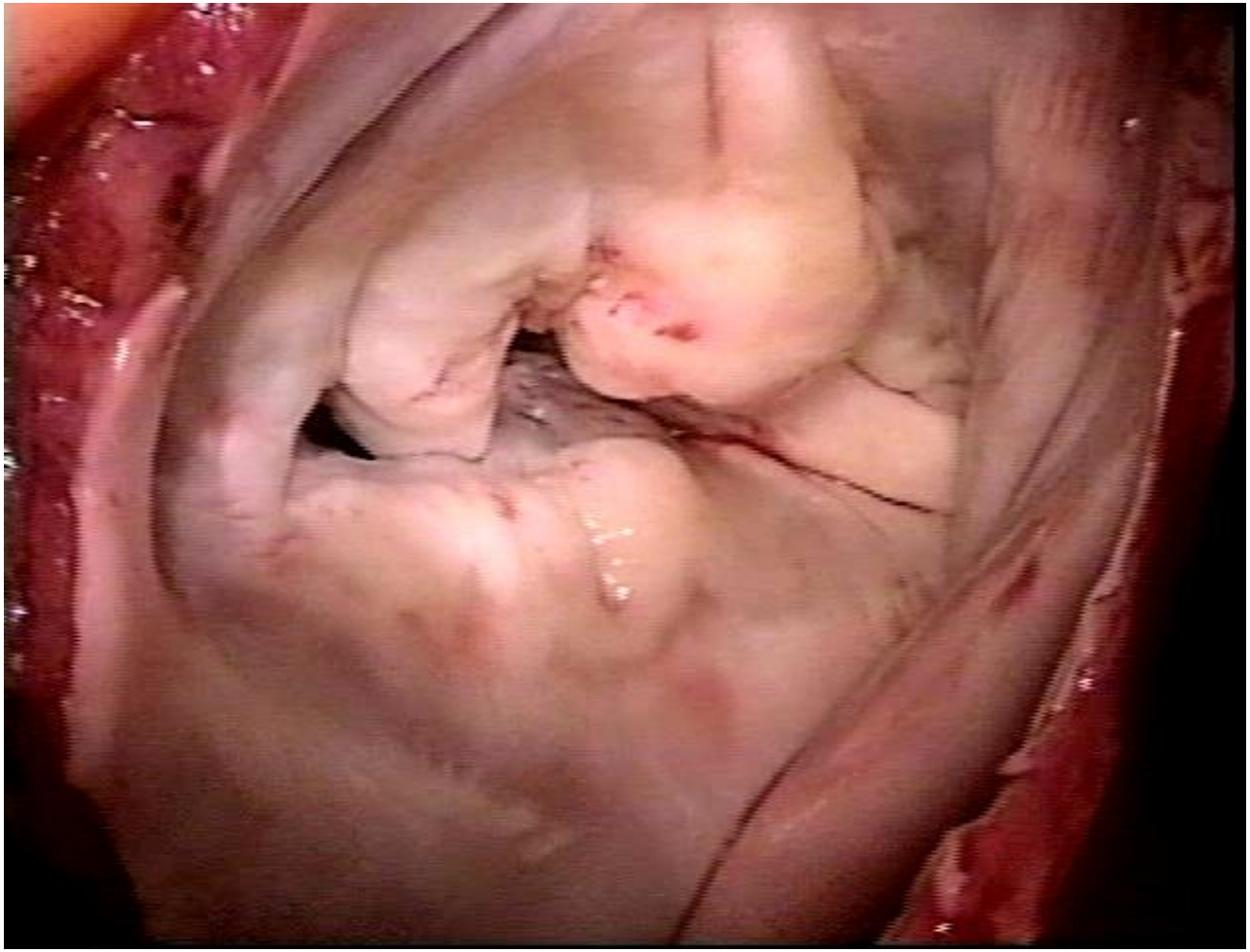


Valve Stenosis



Leaky Heart Valves

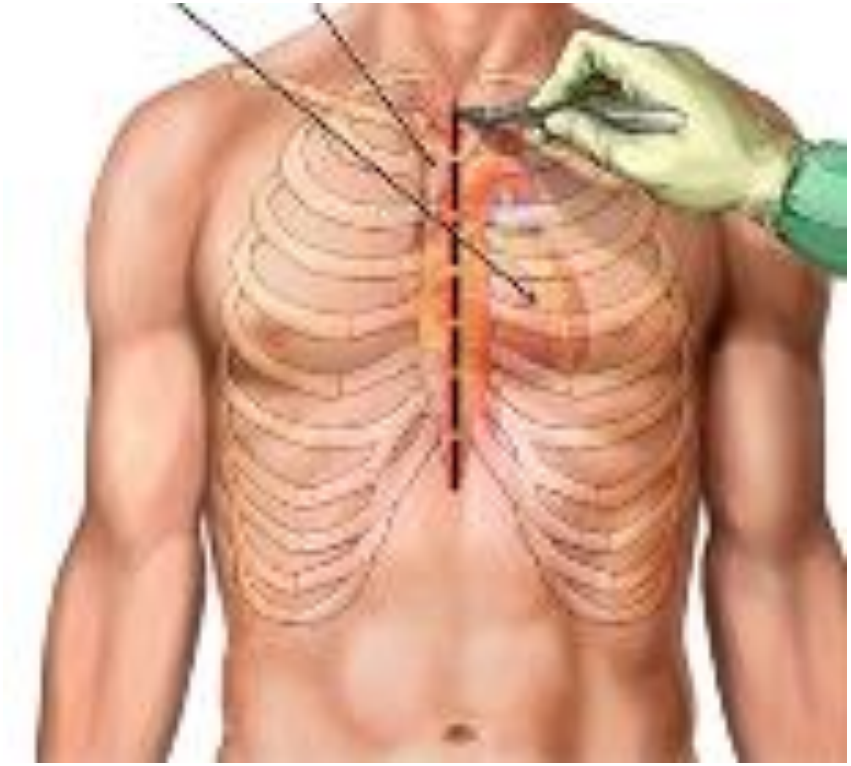
Leaky Heart Valves



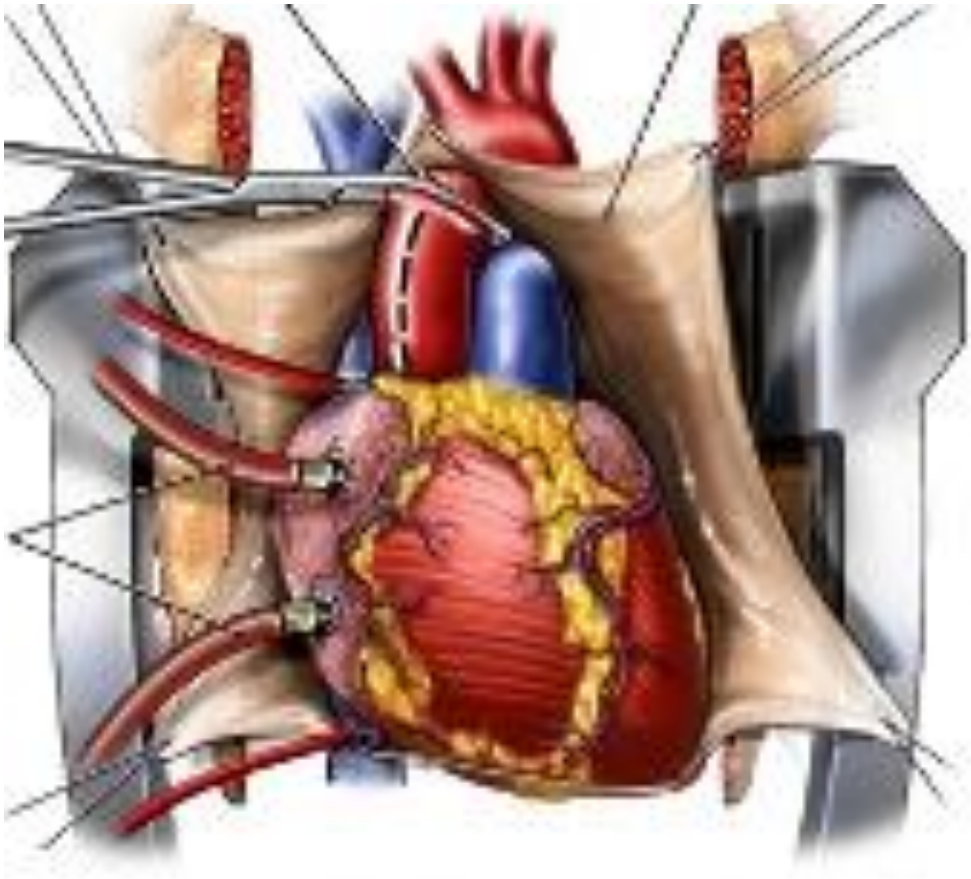
Heart Valve Surgery

- Replacement
- Repair
  - Valvuloplasty
  - Artificial chordae
  - Annuloplasty
- Trans-Catheter Techniques

Median Sternotomy

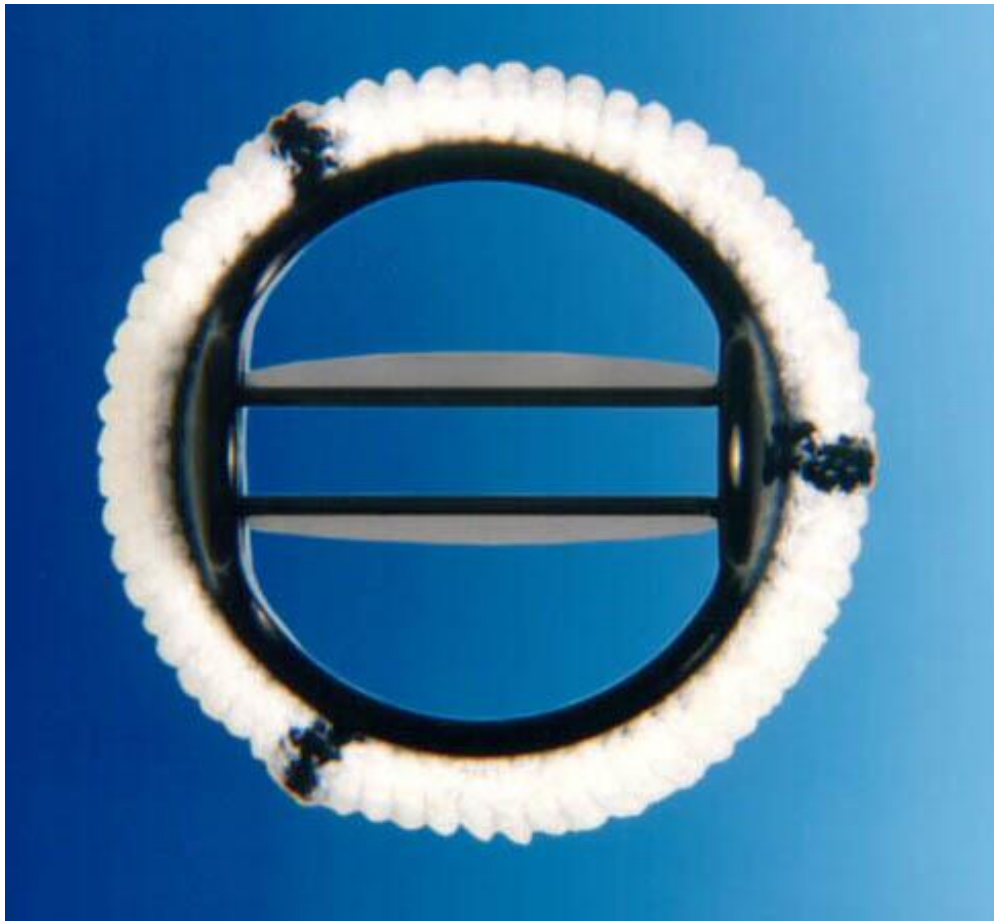


Connecting to the Heart Lung Machine



Removing the Old Valve

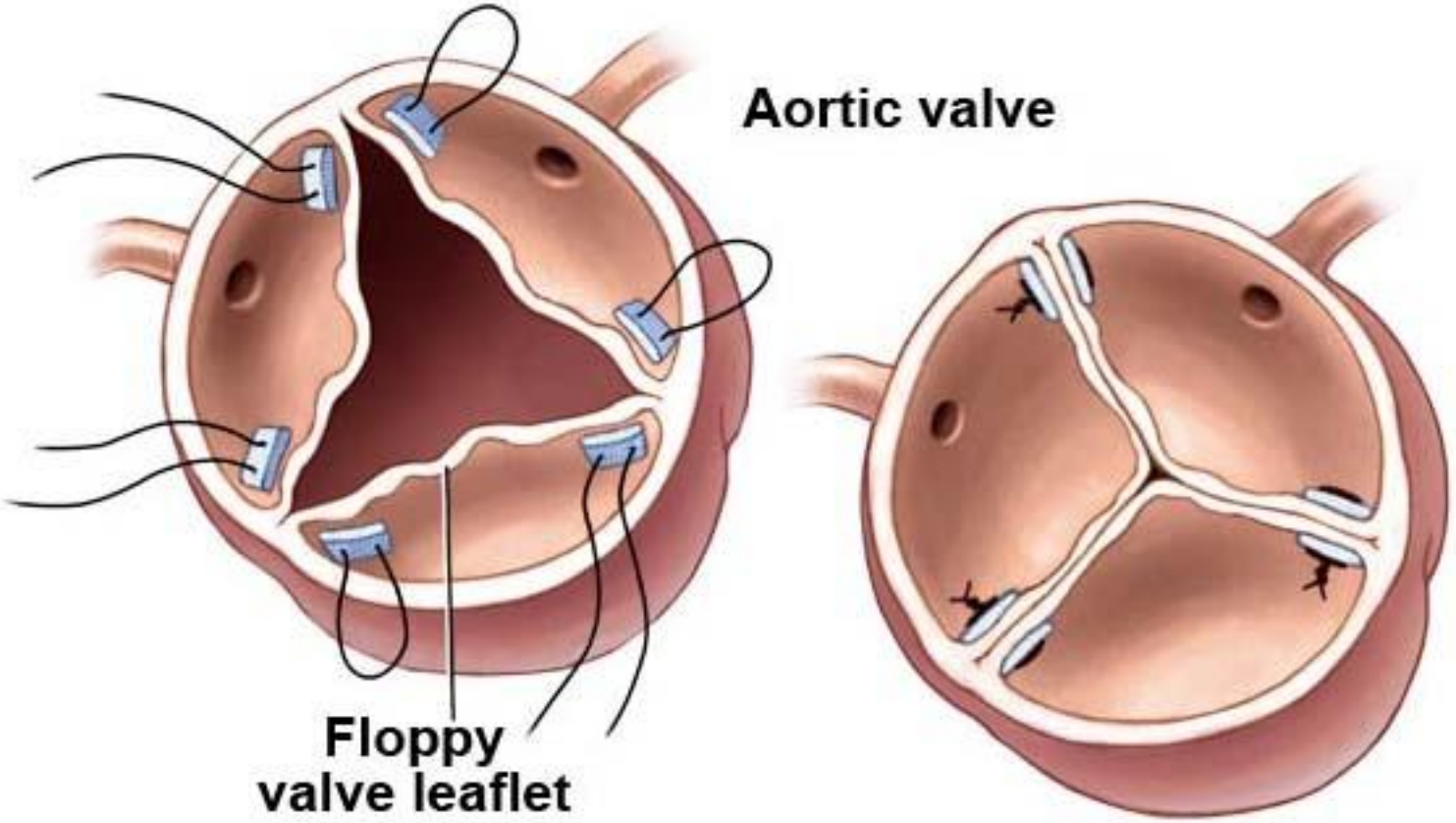
Prosthetic Aortic Valve



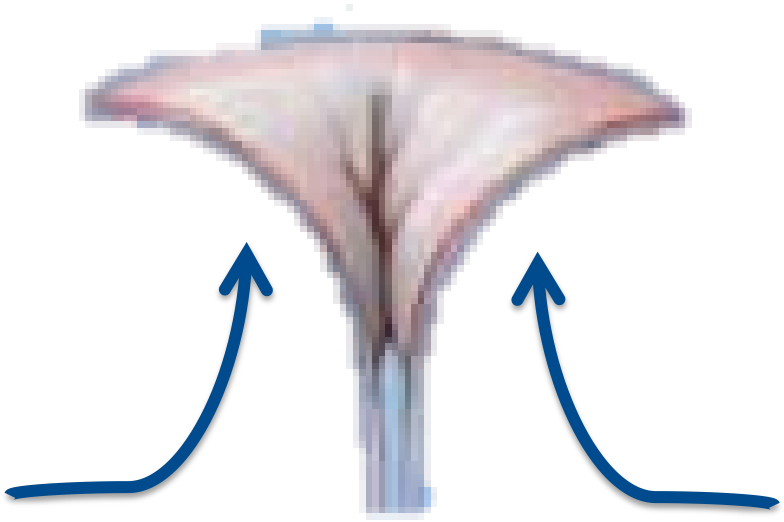
Prosthetic Aortic Valve

Implanting the New Valve

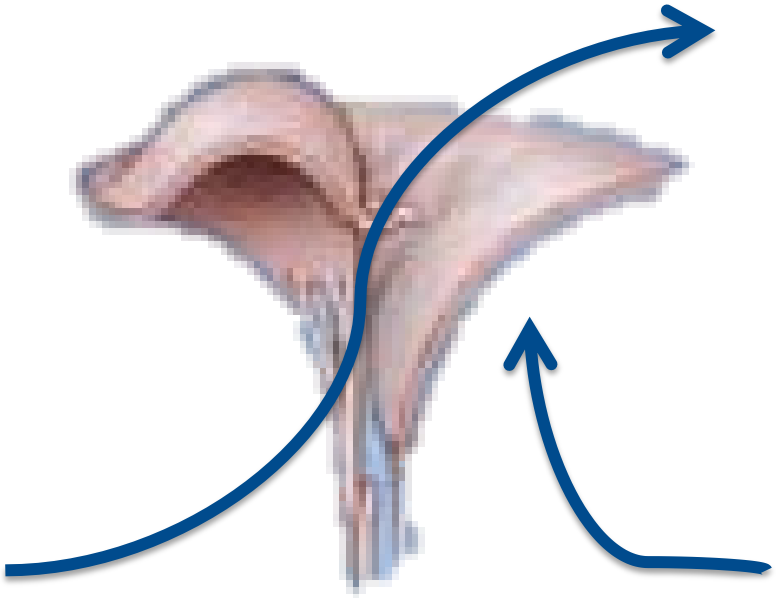
Aortic Valve Repair



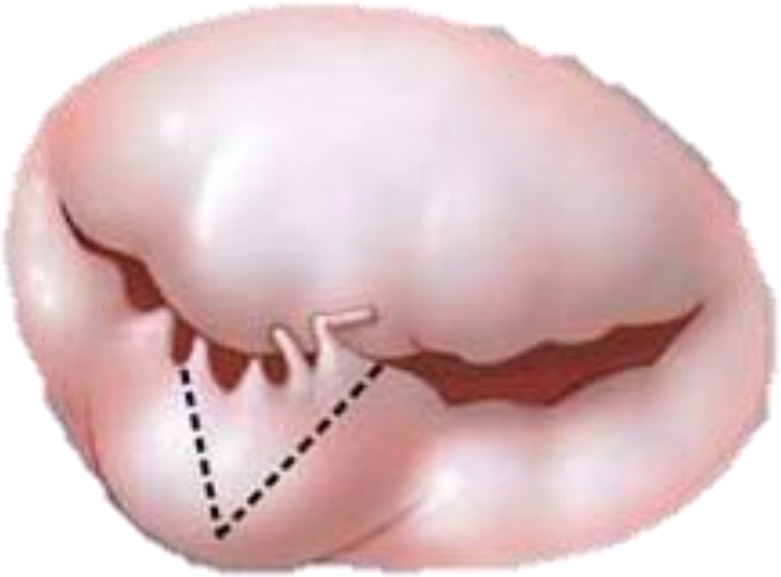
Mitral Valve - Normal



Mitral Valve - Leaflet Segment Prolapse



Mitral Valve Repair – Leaflet Segment Prolapse

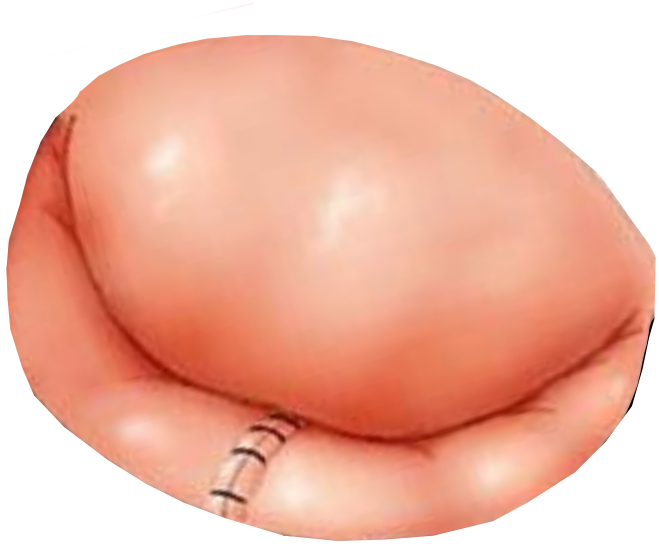


Mitral Valve Repair– Resection of Leaflet Segment

Mitral Valve Repair – Resection of Leaflet Segment

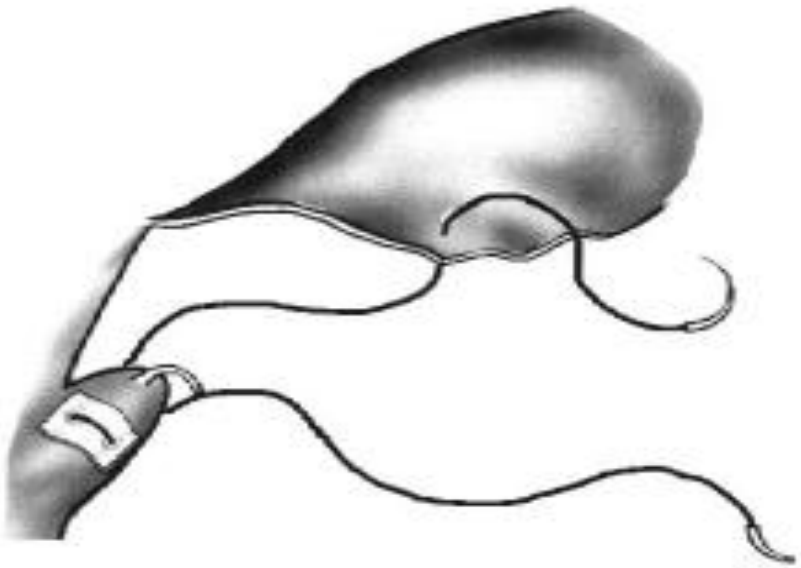
Mitral Valve Repair - Valvuloplasty

Mitral Valve Repair - Annuloplasty

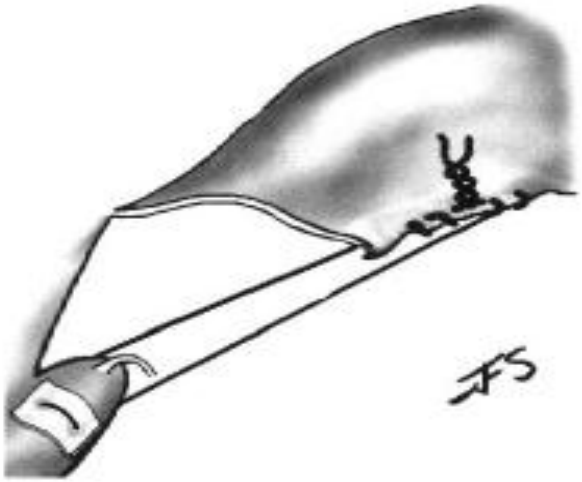


Artificial Chordae

Artificial Chordae

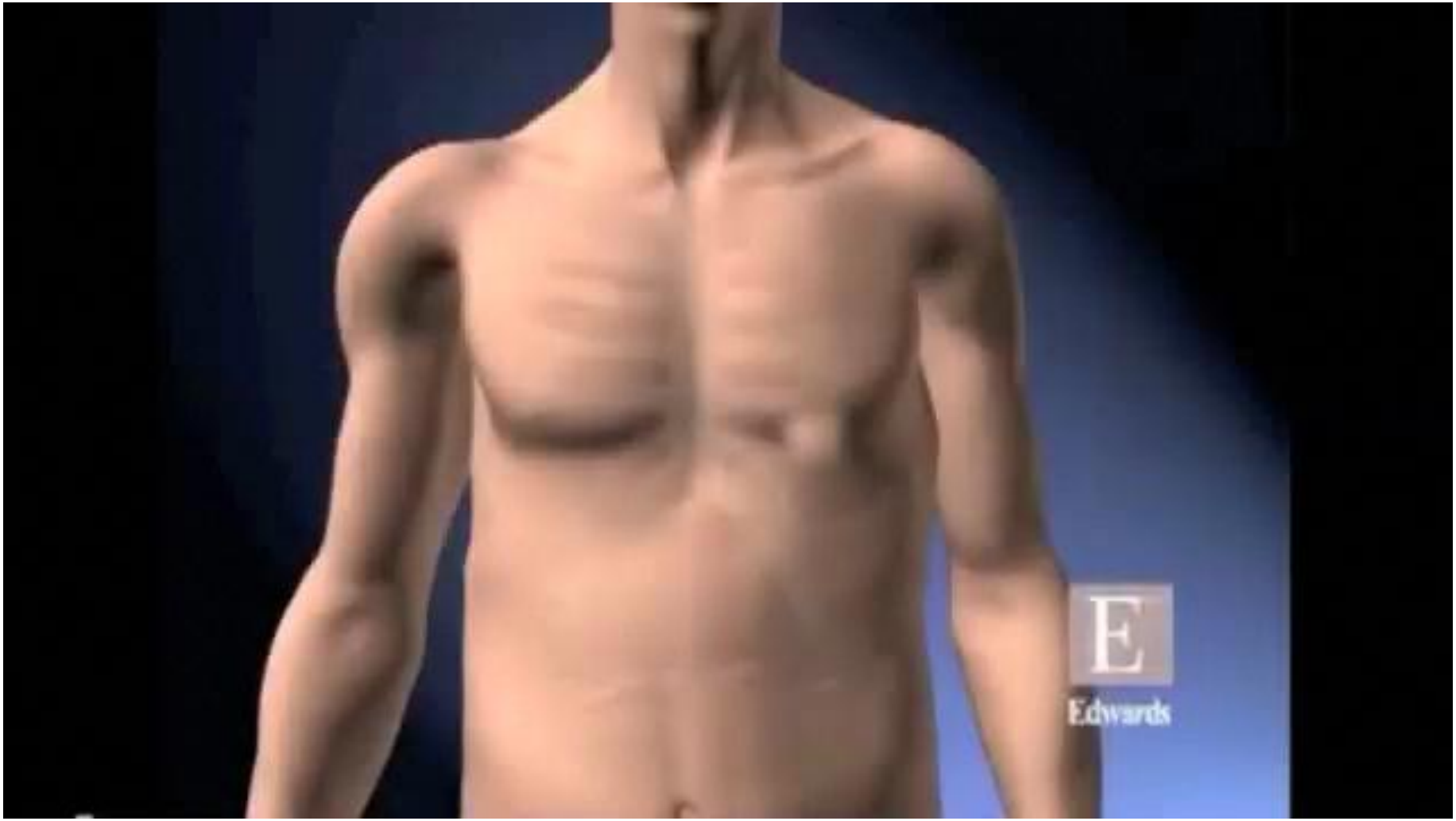


Artificial Chordae



TAVR

Trans – Apical AVR



Trans – Catheter Repair for Mitral Regurgitation

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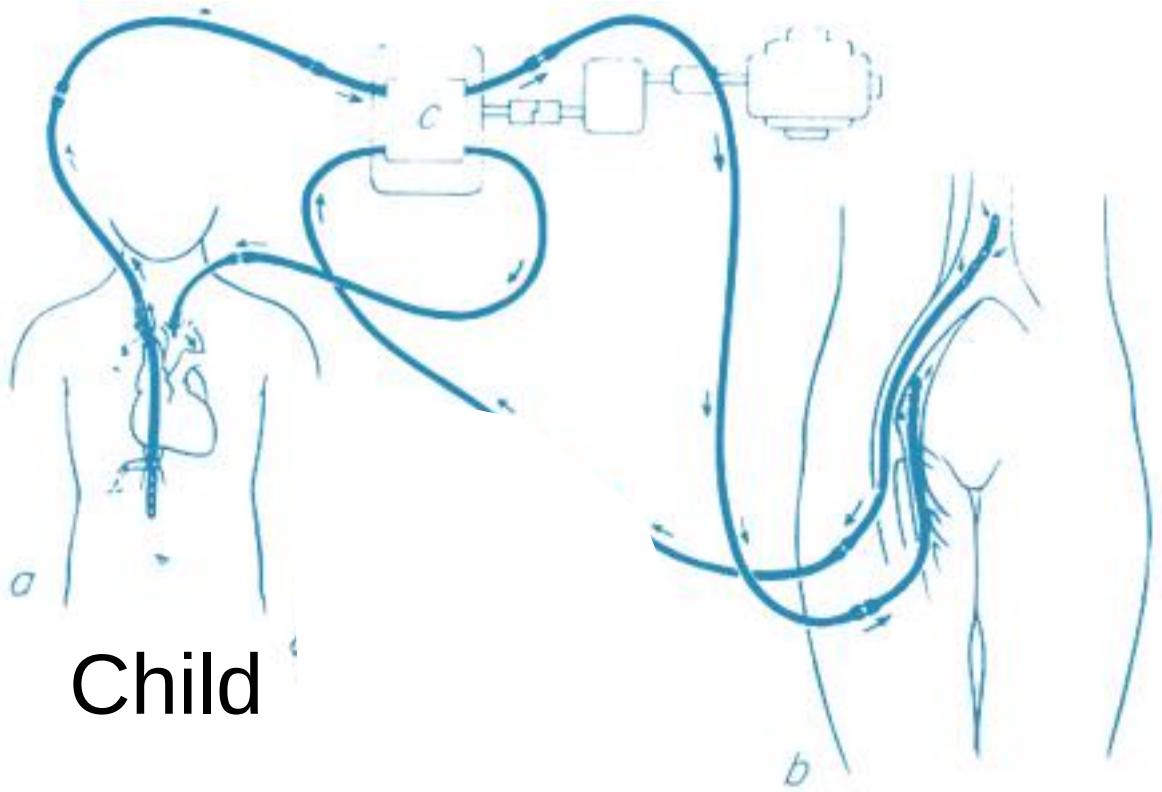
Importance of Beer in the History of Heart Surgery

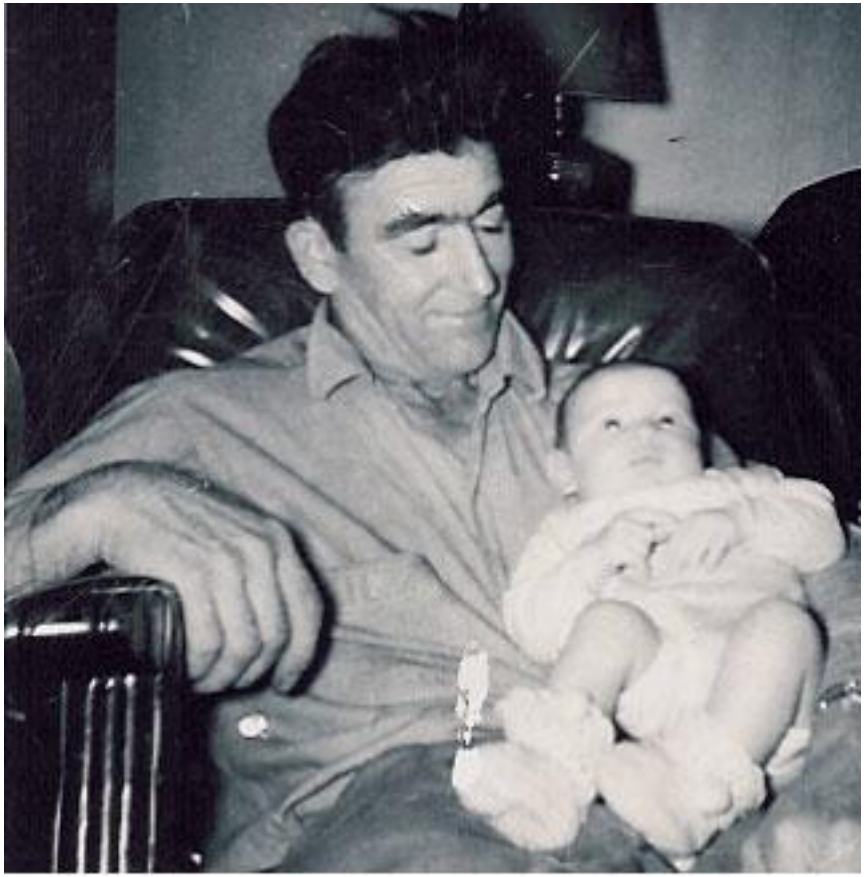
C. Walton Lillehei



Child

Parent

Lyman and Gregory Glidden




GLIDDEN
LADONNAH E.
1937 - 1950
GREGORY A.
1953 - 1954
HIS LITTLE HEART CHANGED THE WORLD

Importance of Beer in the History of Heart Surgery

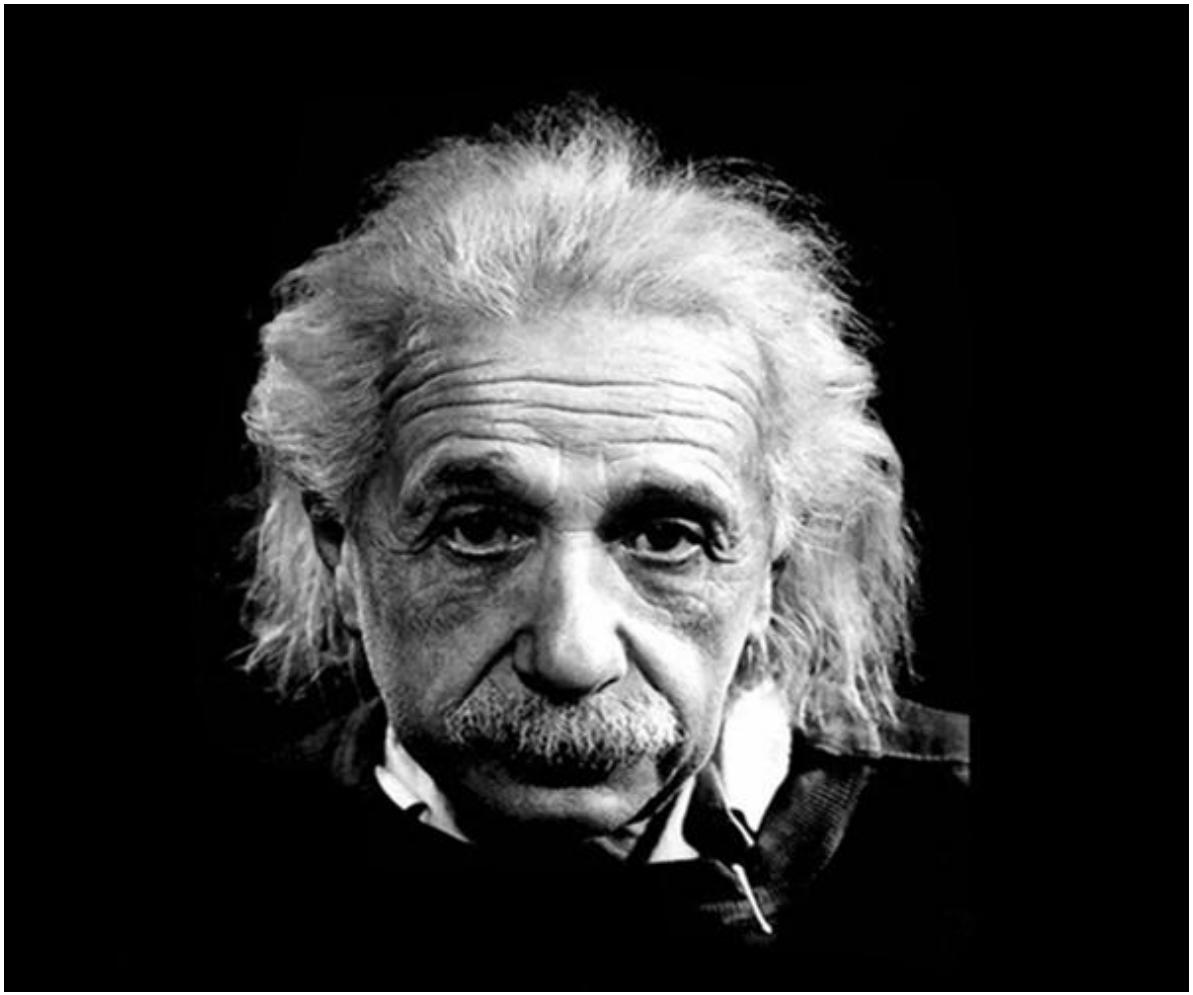

c
GUINNESS
IS GOOD
FOR YOU
a
b

Outline

- Anatomy of the Chest
- Normal Heart Function
- Common Problems and Procedures
- Complex CT Surgical Procedures
- *CT Surgery Coding – The Importance of Intent*

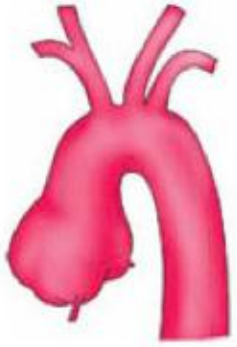
Celebrity Cardiovascular Diseases

Aortic Aneurysm

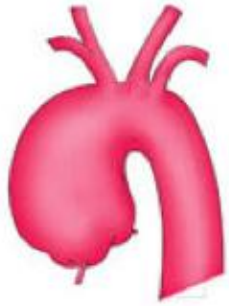


Thoracic Aortic Aneurysms

Aortic Root Aneurysm



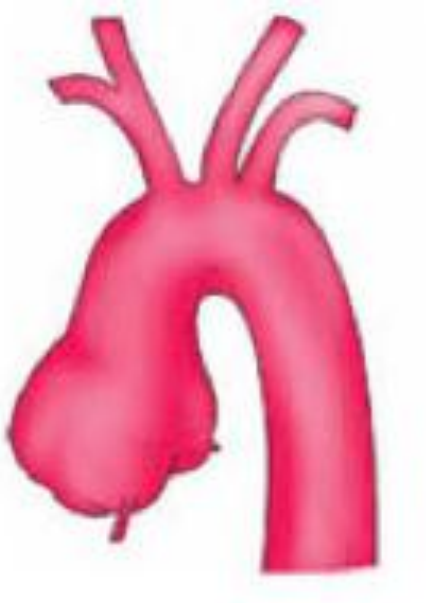
Ascending Aortic Aneurysm



Aortic Arch Aneurysm

Descending Aortic Aneurysm

Aortic Root Aneurysms



Removing the Old Valve

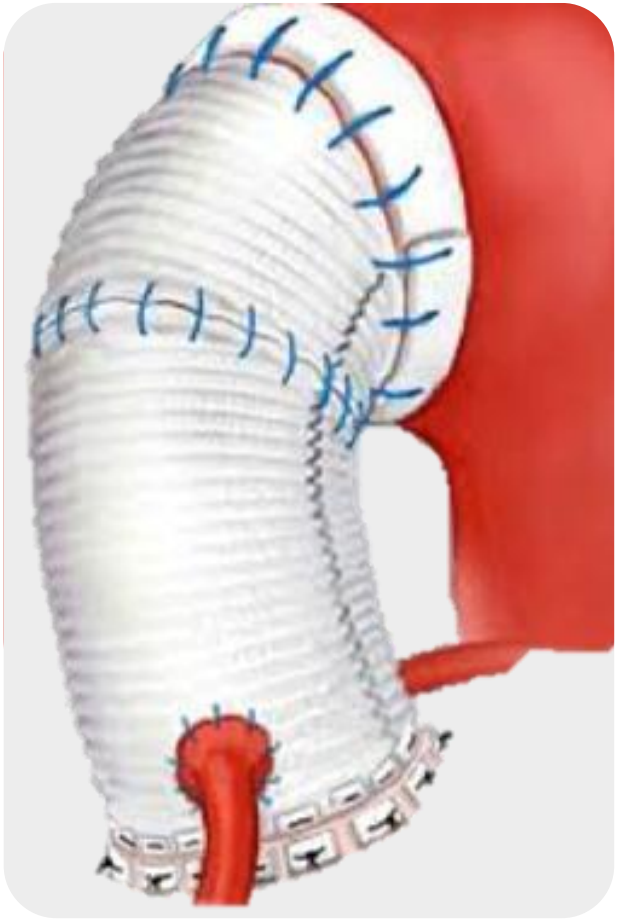
Composite Graft – Valved Conduit

Modified Bentall Procedure

Modified Bentall Procedure

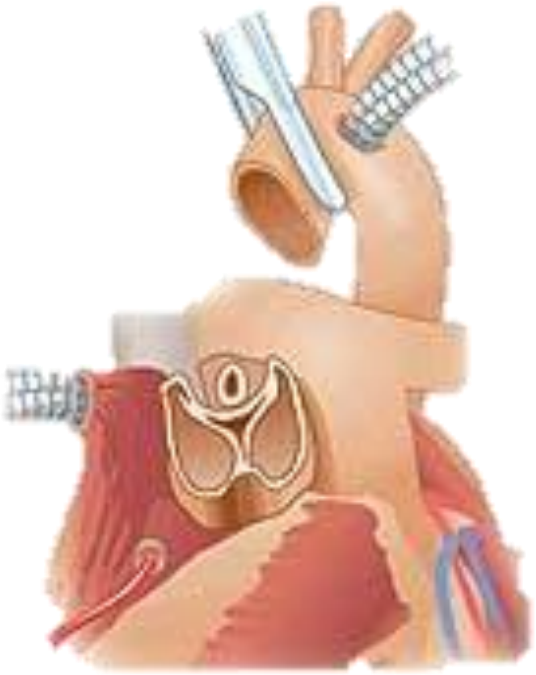
Replacement of Aortic Valve, Aortic Root and Ascending Aorta

Replacement of Ascending Aorta

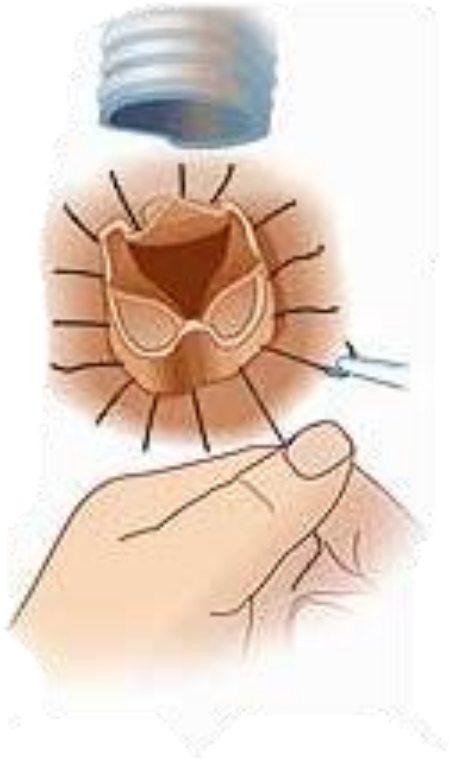


Valve Sparing Replacement of Aortic Root Replacement

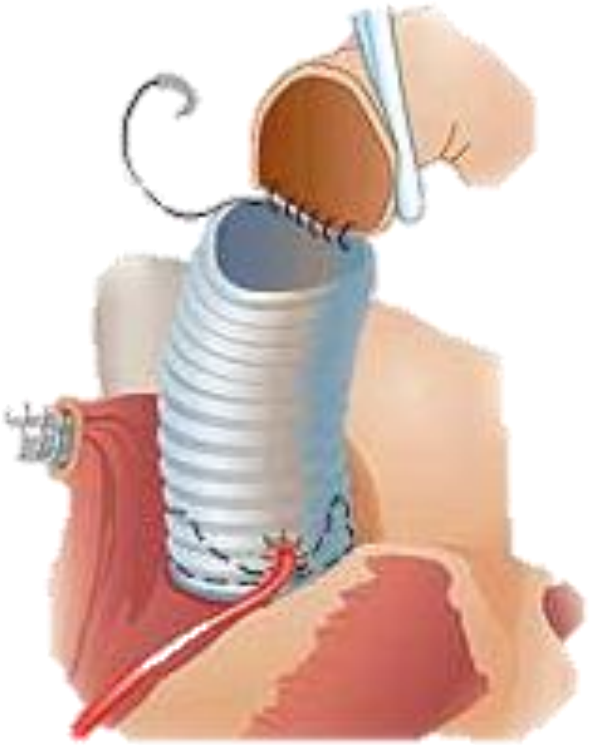
Valve Sparing Replacement of Aortic Root Replacement



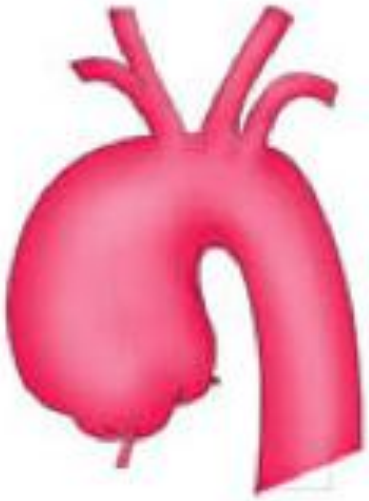
Valve Sparing Replacement of Aortic Root Replacement



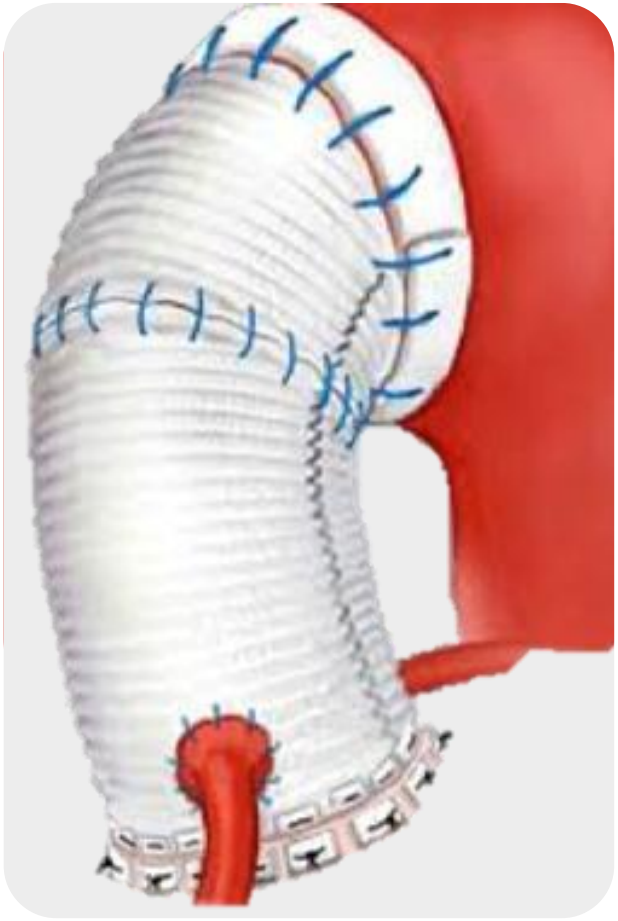
Valve Sparing Replacement of Aortic Root Replacement



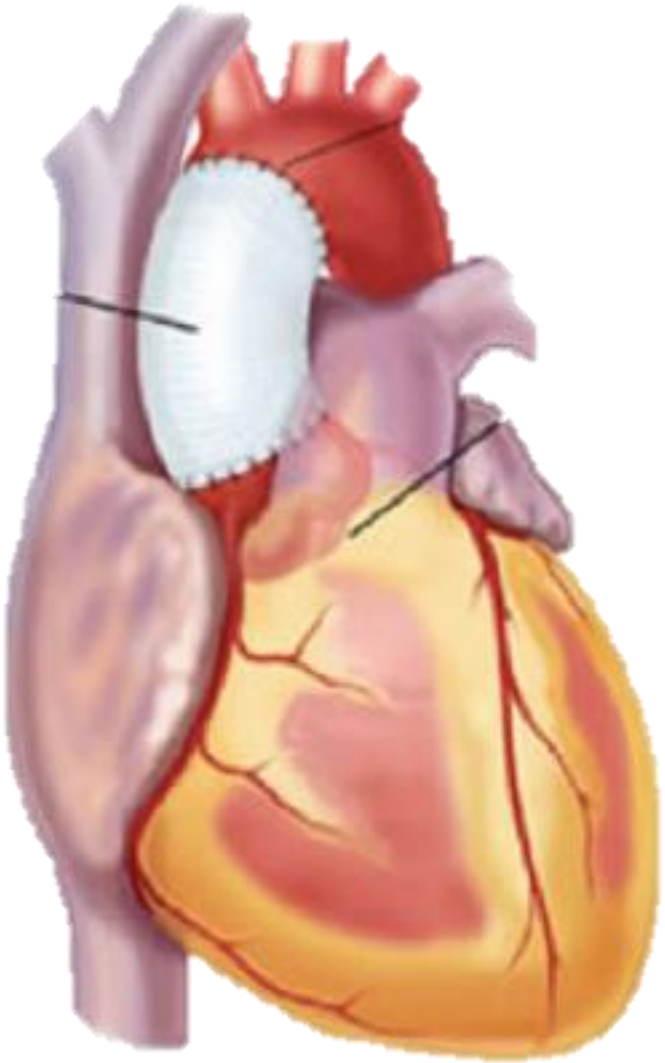
Ascending Aortic Aneurysms



Replacement of Aortic Root and Ascending Aorta

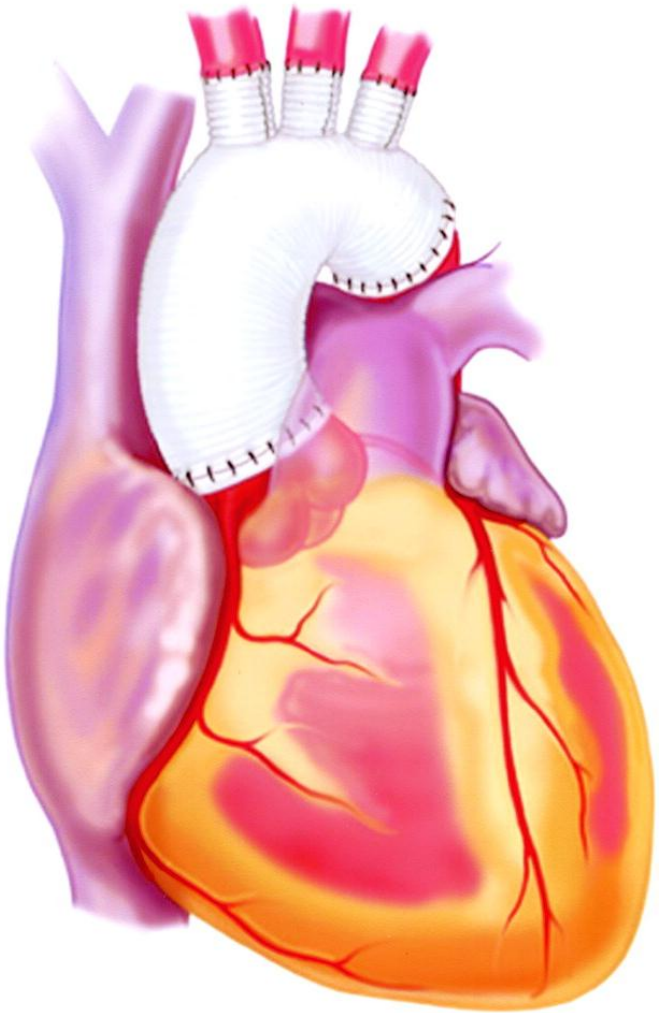


Interposition Graft



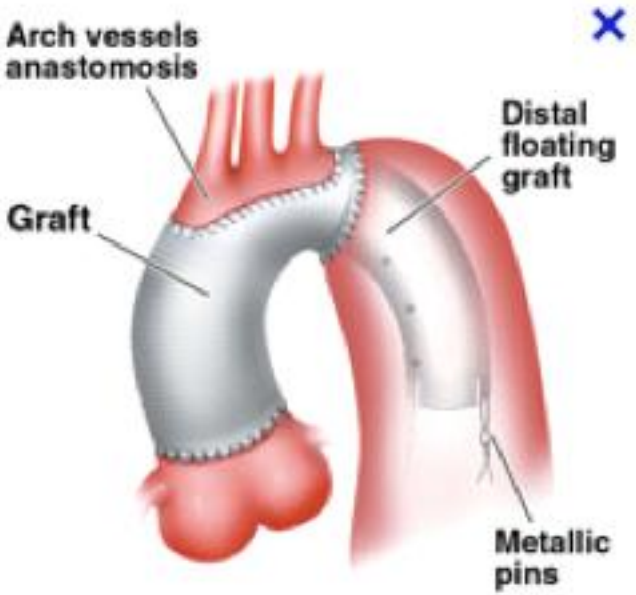
Aortic Arch Aneurysm

Replacement of Aortic Arch



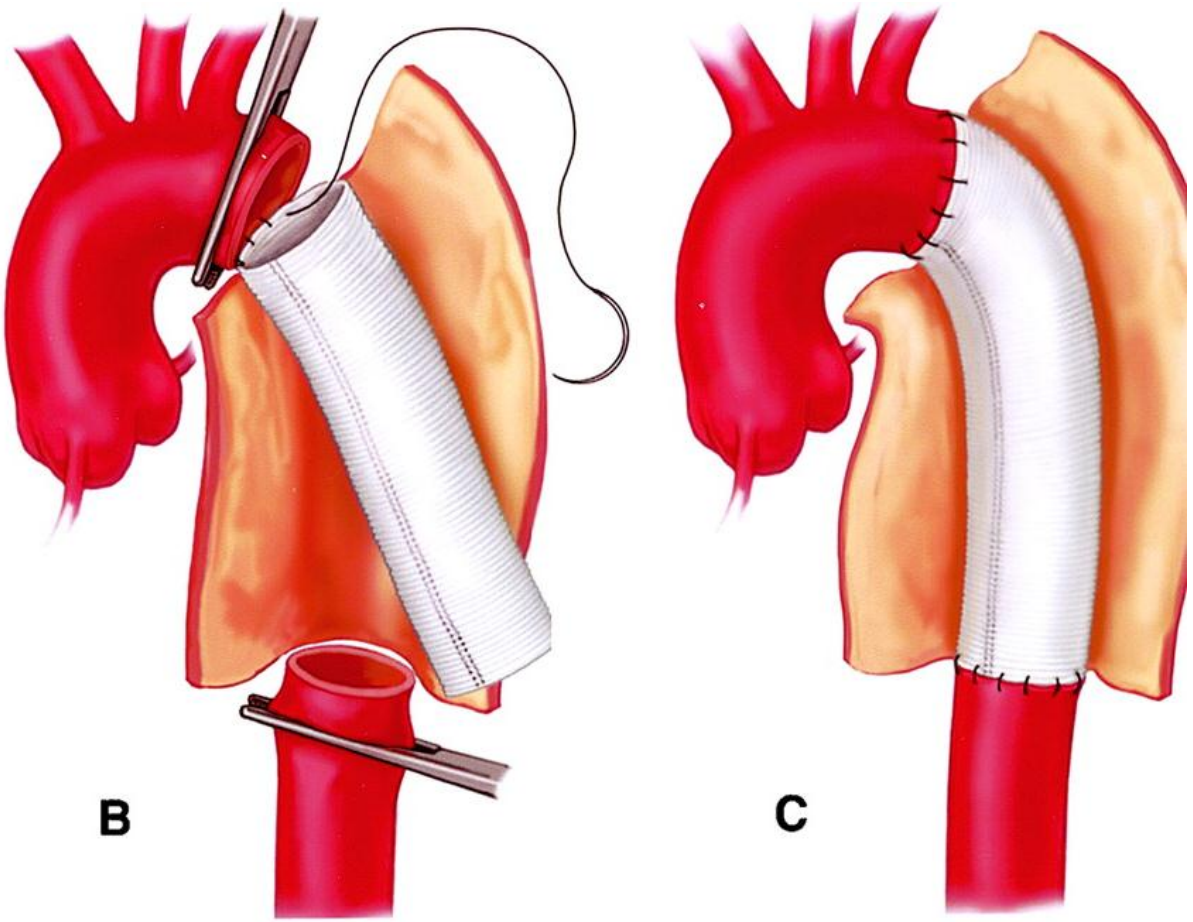
Ascending, + Arch + Descending Aortic Aneurysms

Elephant Trunk



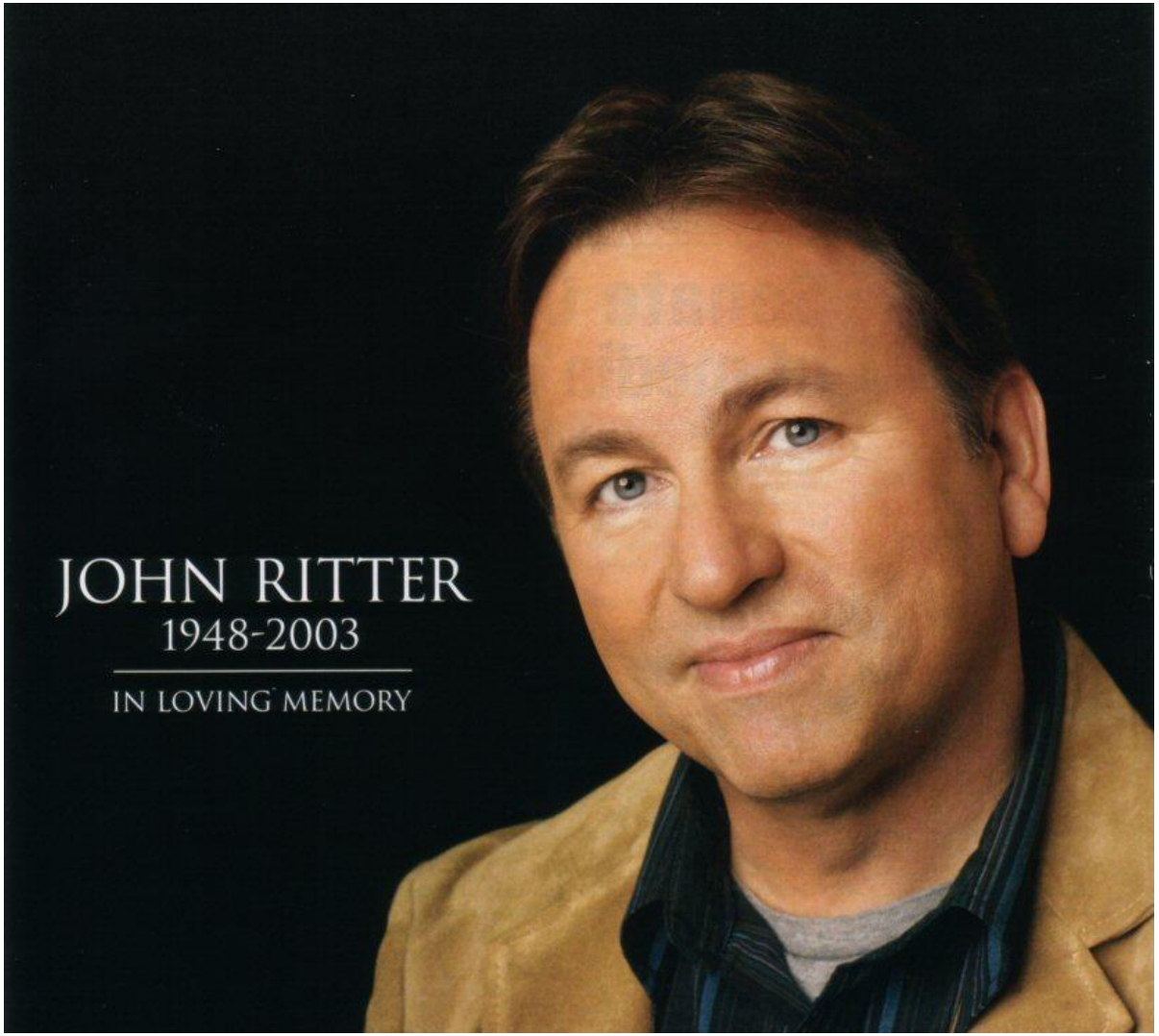
Descending Thoracic Aortic Aneurysm

Descending Thoracic Aortic Aneurysm



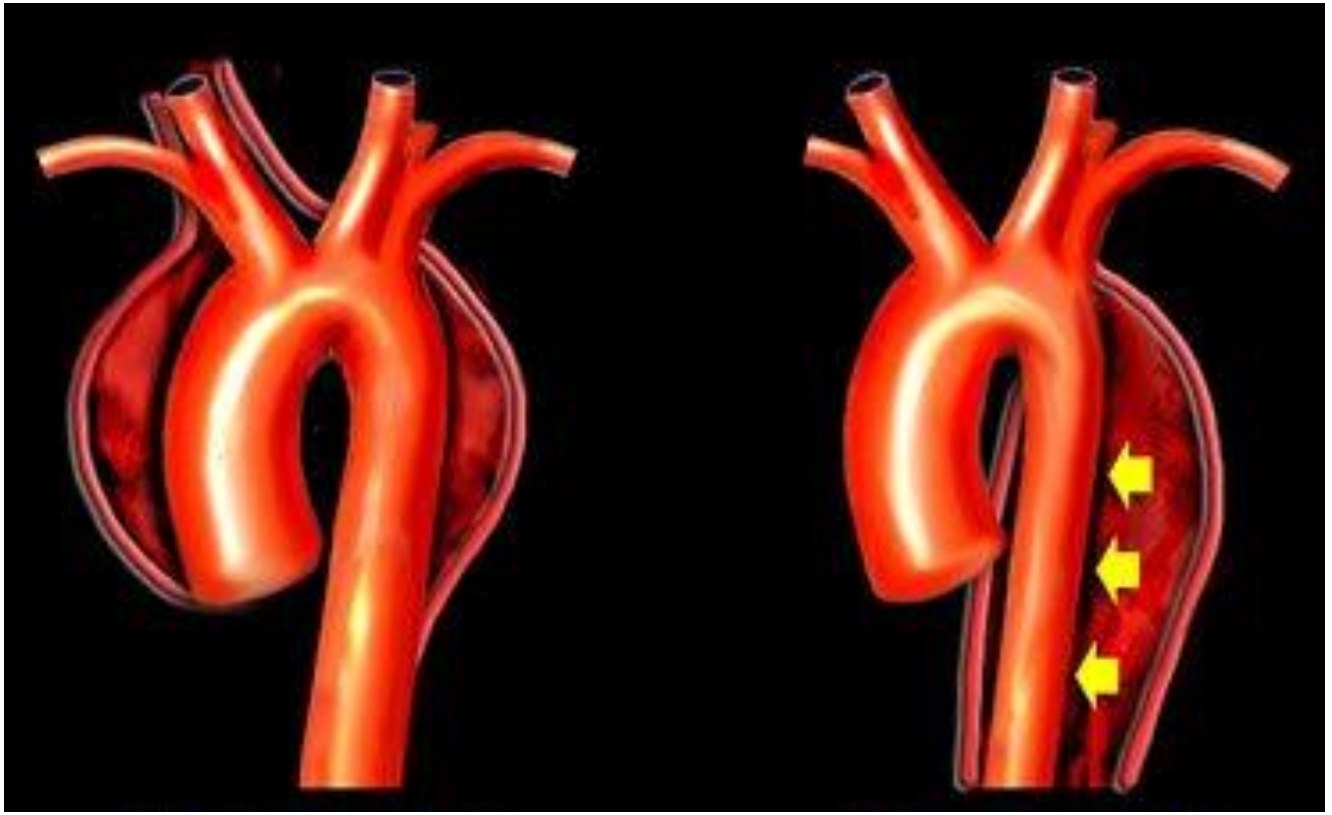
TEVAR

Aortic Dissection

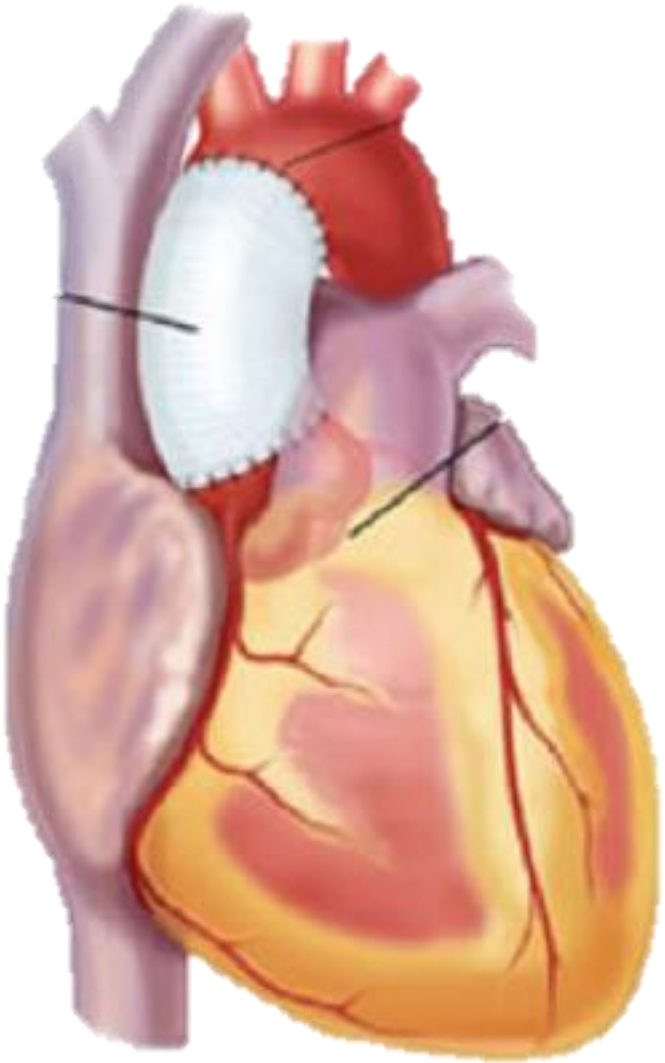


Aortic Dissection

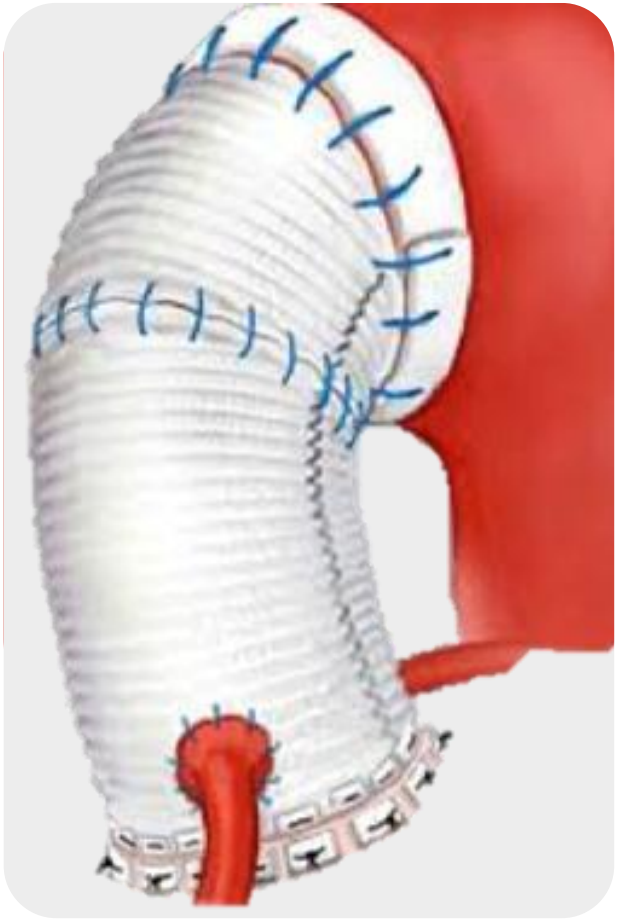
Case Scenario



Interposition Graft



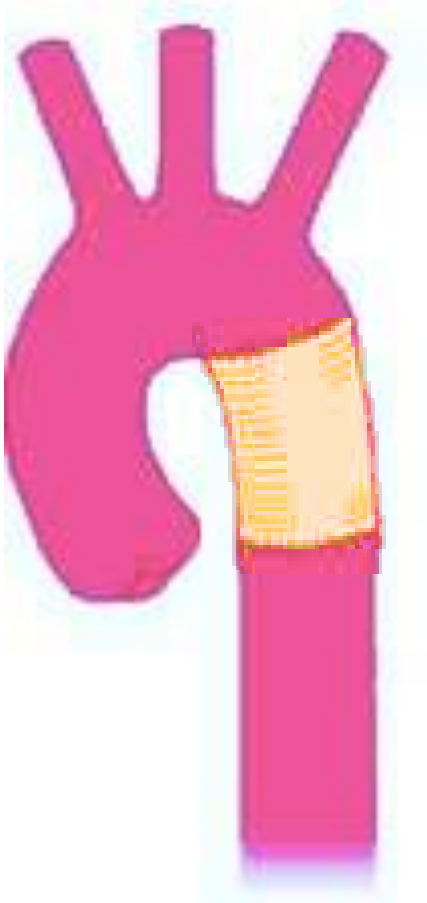
Replacement of Aortic Root and Ascending Aorta



Aortic Transection

Aortic Transection

Aortic Transection



Outline

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Objectives

Objective #5

Learn to Decipher the Surgeon's Intent

- Surgical Procedures

Deciphering the Surgeon's Intent

- However, a ***diagnostic biopsy*** of a lung nodule using a wedge technique requires only that a tissue sample be obtained without particular attention to resections margins. A ***therapeutic wedge*** resection requires attention to margins and complete resection even when the wedge resection is ultimately followed by a more extensive resection. In the case of a wedge resection where intraoperative pathology consultation determines that a more extensive resection is required in the same anatomic location, it becomes classified as a diagnostic wedge resection (32507, 32668). When no more extensive resection is required, the same procedure is a therapeutic wedge resection (32505, 32666).

32507 and 32668 OR 32505 and 32666

- Is the Intent of the Surgeon to Diagnose or to Treat?
  - Case Scenarios

Questions