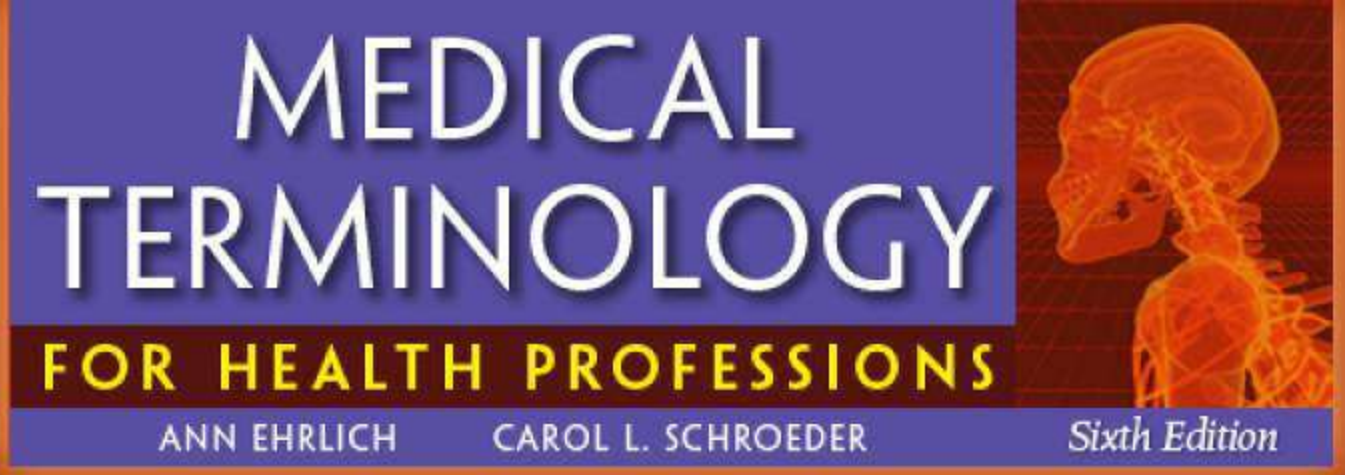


Chapter 5

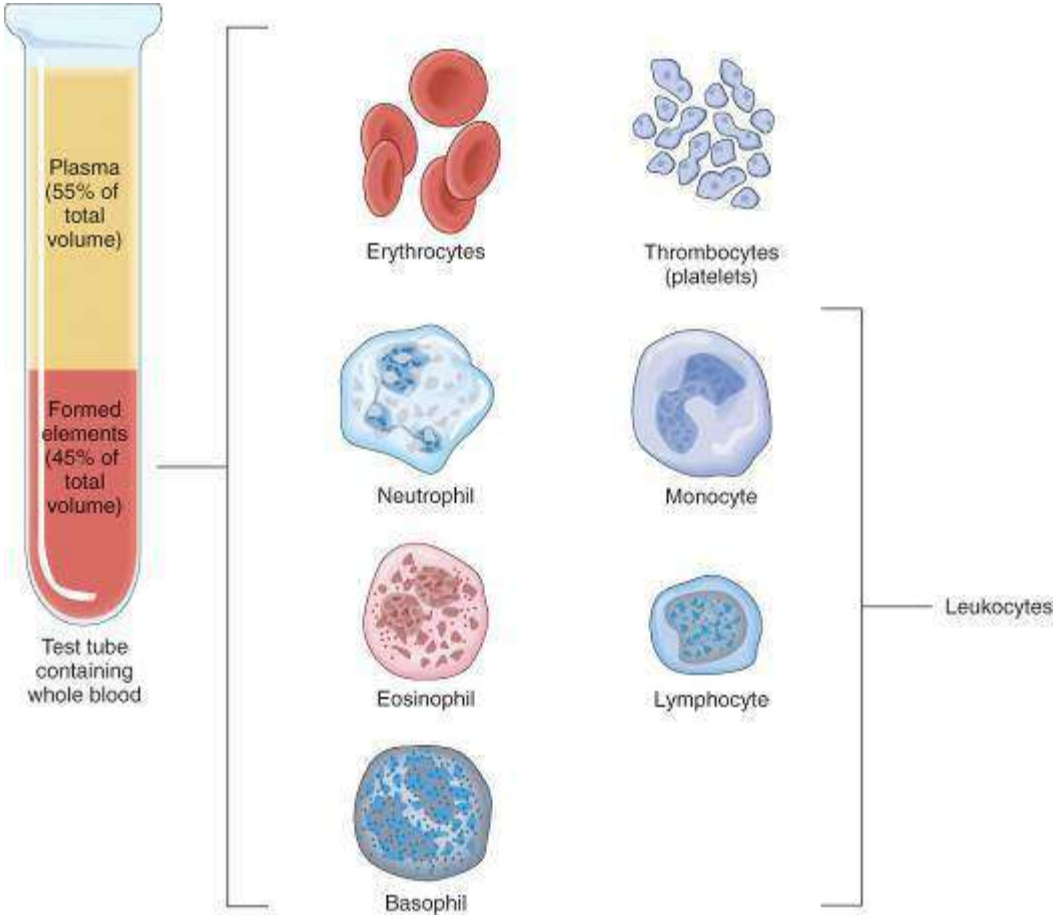
The Cardiovascular System

Overview of Structures, Combining Forms, and Functions

Blood

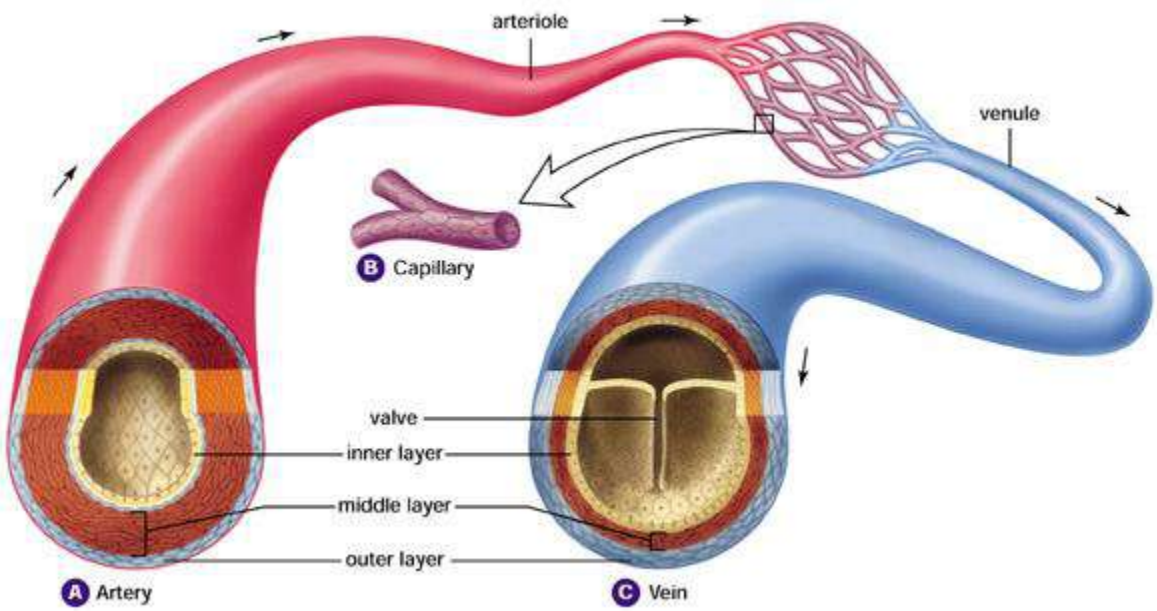
- Primary Functions
  - Brings oxygen and nutrients to the cells.
  - Carries away waste.
- Related Combining Forms
  - hem/o, hemat/o

Major Fluid and Formed Components of Blood



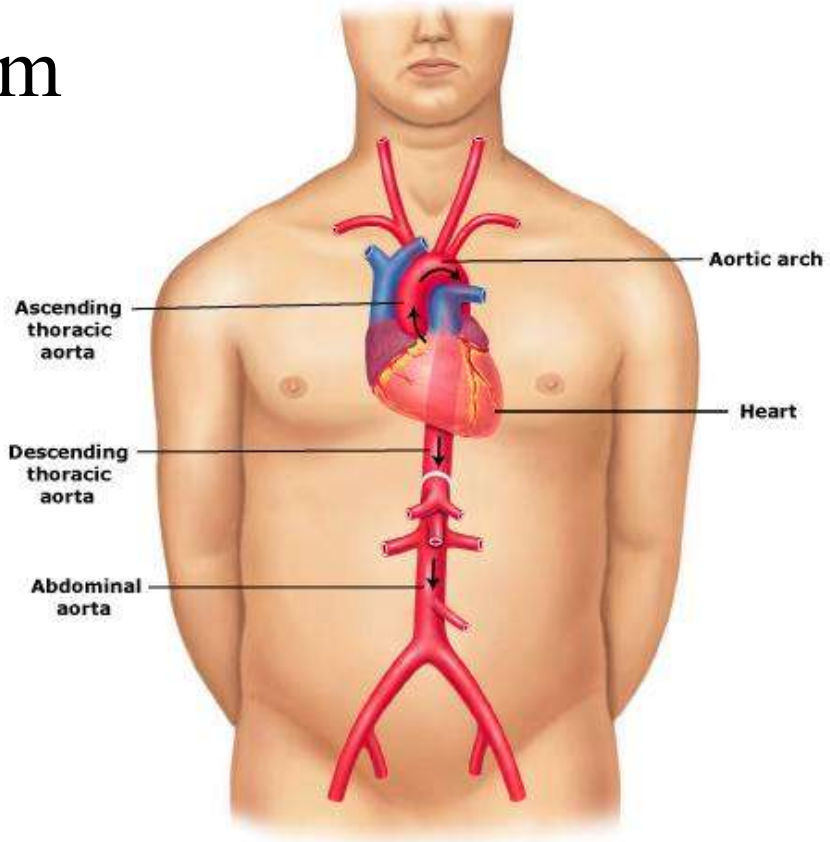
Blood Vessels

- Primary Function
  - Transport blood to and from all areas of the body.
- Related Combining Forms
  - angi/o, vas/o



Arteries

- Primary Function
  - Transport blood away from the heart to all body parts.
- Related Combining Form
  - arteri/o
- Pulse
- Blood Pressure

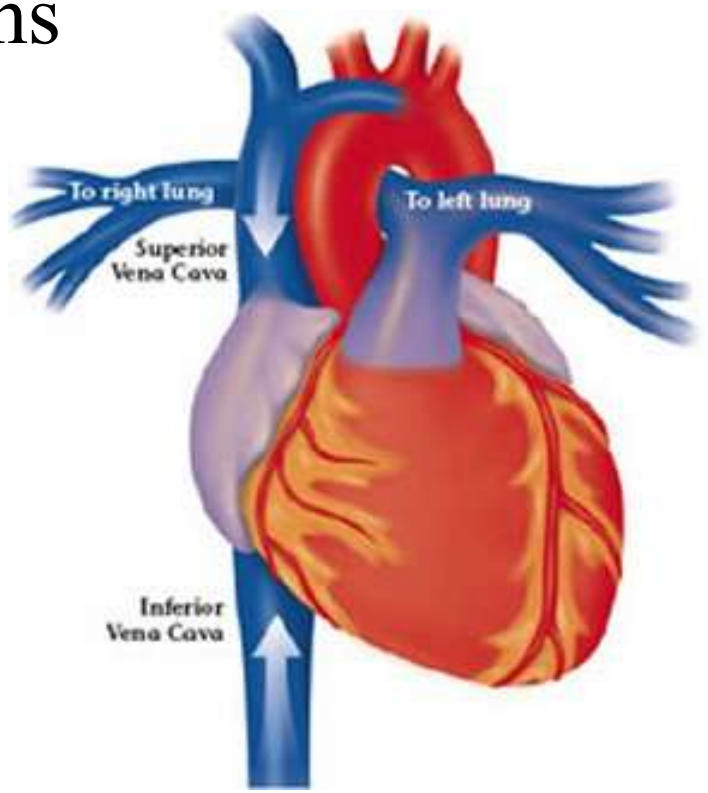


Capillaries

- Primary Function
  - Permit the exchange of nutrients and waste products between the blood and the cells.
- Related Combining Form
  - capill/o

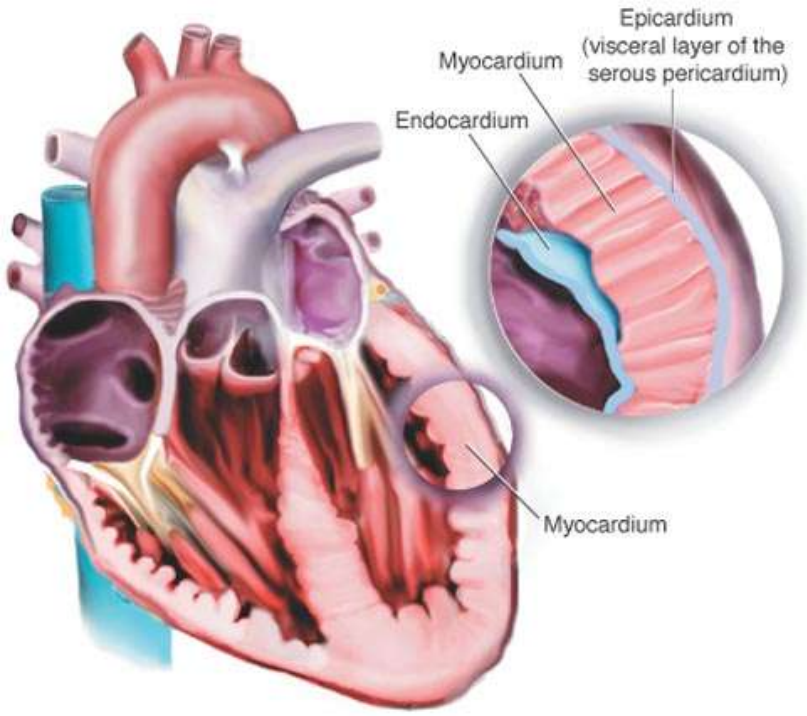
Veins

- Primary Function
  - Return blood from all body parts to the heart.
- Related Combining Forms
  - phleb/o
  - ven/o

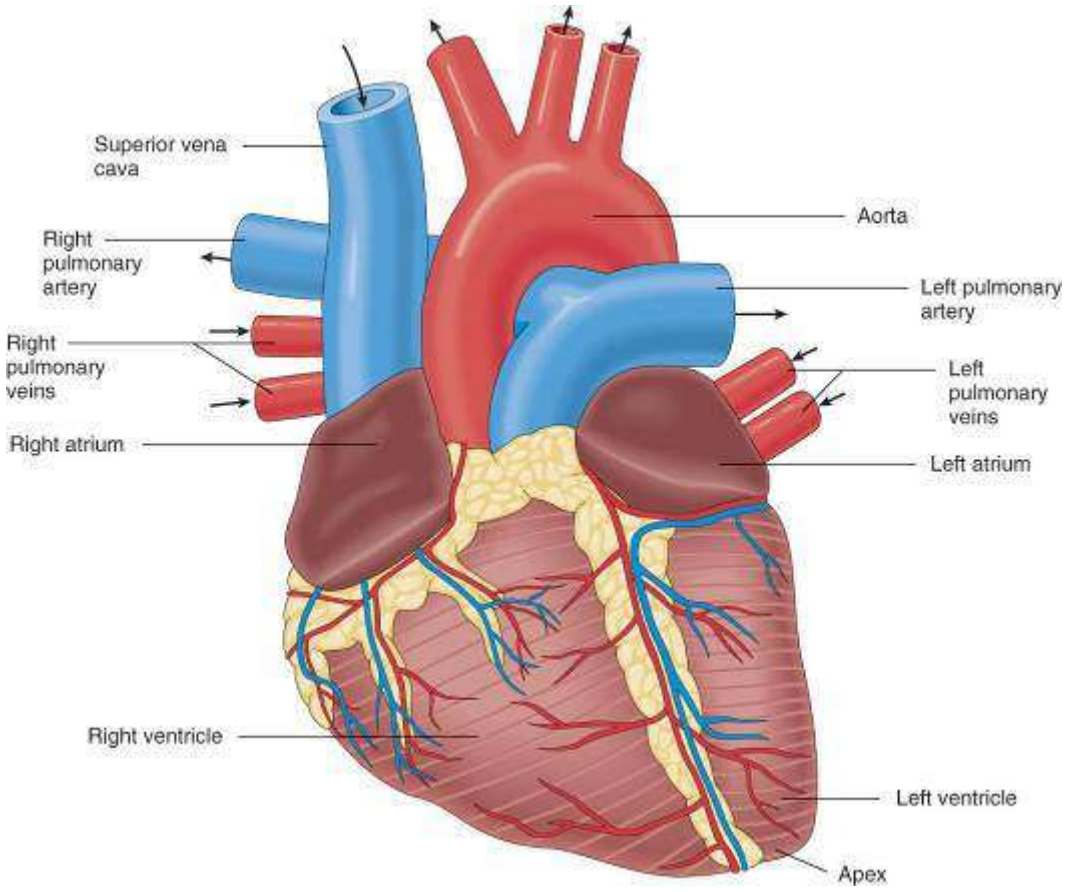


Heart

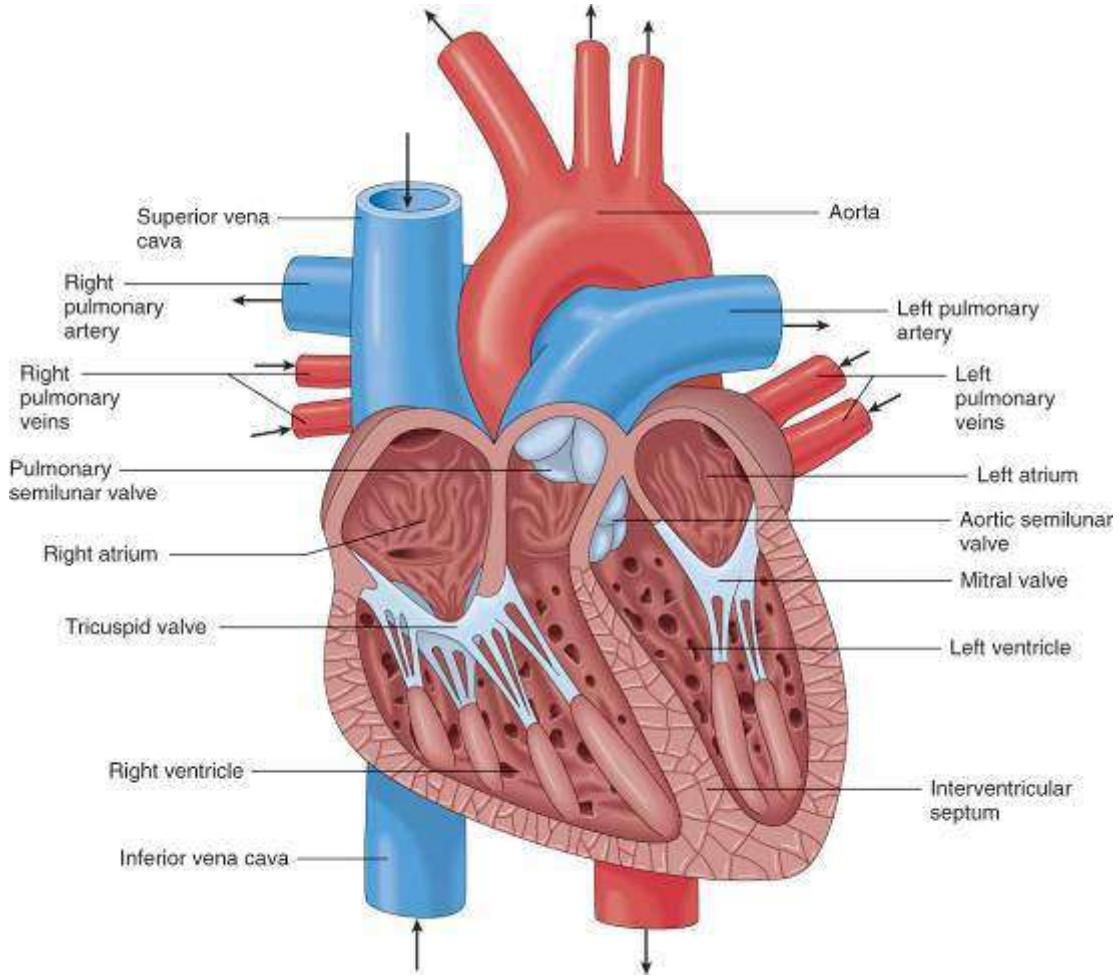
- Primary Function
  - Pumps blood into the arteries.
- Related Combining Forms
  - card/o, cardi/o
- Three layers
  - Epicardium
  - Myocardium
  - Endocardium



Anterior External View of the Heart



Anterior Cross Section of the Heart

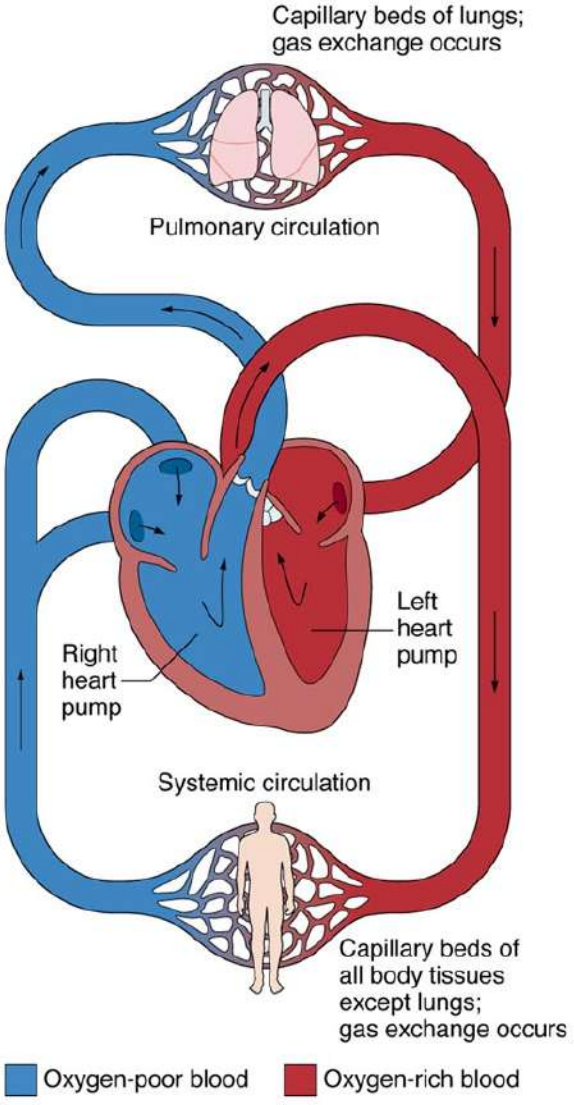


Open heart Surgery

- http://www.youtube.com/watch?v=MGzyhuCs43o

Circulation

- Systemic
  - Supplies everything but the lungs
- Pulmonary
  - Circulation between the heart and lungs
  - CO_2 is exchanged for O_2



Circulation

Blood Flow through the Heart

If the blood is oxygenated, write your answers in red pen!
If the blood is deoxygenated, write your answers in blue pen!

1. The Right Atrium receives blood from all tissues of the body, except the lungs, through the superior and inferior Vena Cava.

2. Blood flows through the tricuspid valve into the right ventricle.

3. The right ventricle pumps the blood through the pulmonary semilunar valve and into the pulmonary artery which carries it to the lungs.

4. The left atrium receives blood from the lungs through the four Pulmonary veins.

5. The blood flows out of the left atrium and into the left ventricle through the mitral valve.

6. Blood flows out of the left ventricle through the aortic semilunar valve and into the aorta which carries the blood to all parts of the body except the lungs.

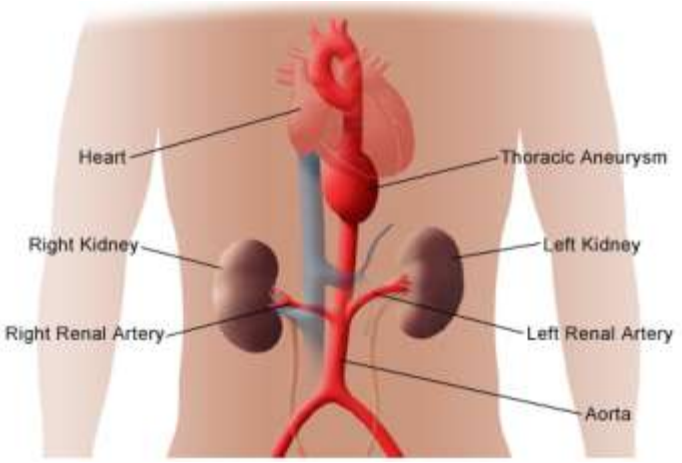
Deoxygenated blood is returned by the vena cavae to the right atrium and the cycle continues!

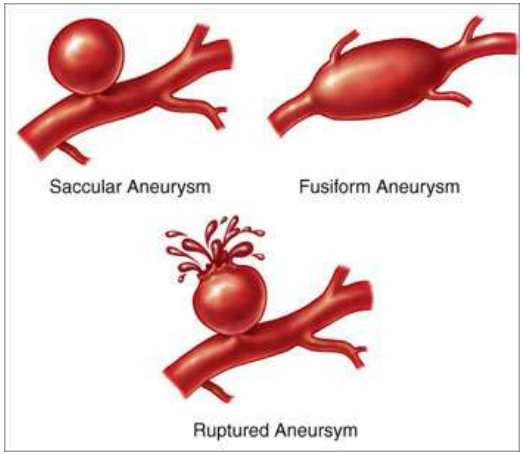
Circulation Video

- https://www.youtube.com/watch?feature=player_embedded&v=5tTkxYeNF9Q

Disorders

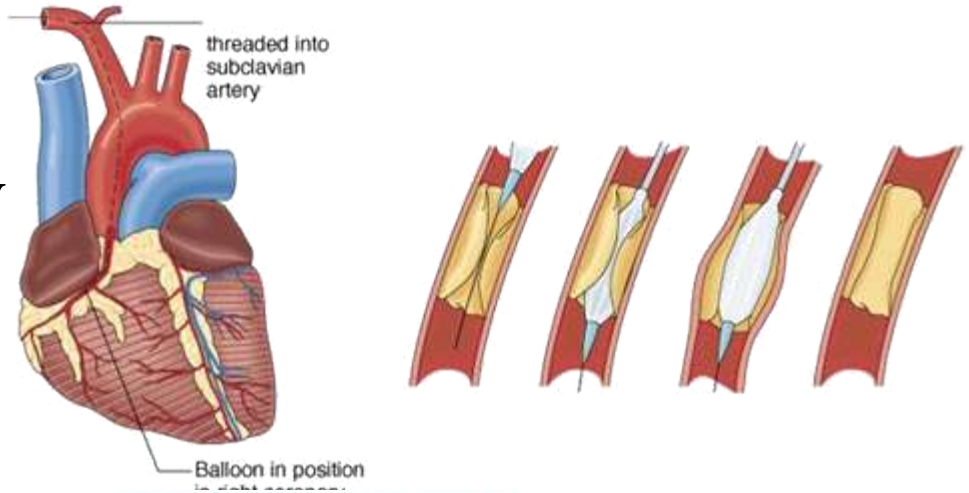
- Angina
- Myocardial Infarction (MI)
- Ischemia
- Embolism
- Aneurysm
- Carditis – Endo, myo, peri
- CHF

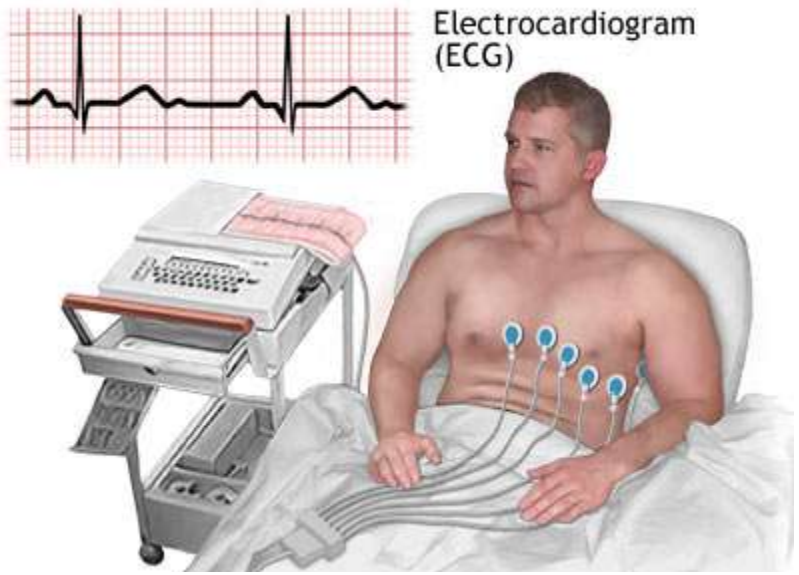




Procedures

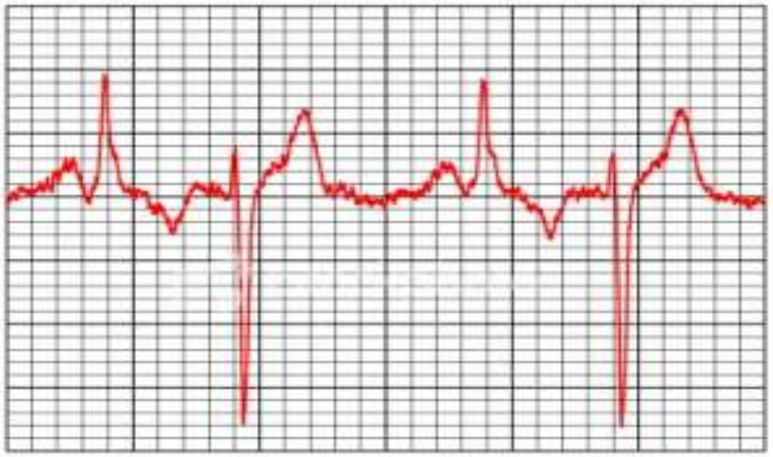
- CABG
- Balloon Angioplasty
- Pulse oximeter
- ECG
- Echocardiograph





Arrhythmias

- Dysrhythmia
- Palpitation
- Tachycardia
- Bradycardia
- Atrial Fibrillation (A-fib)
- Ventricular Fibrillation (V-fib)



Review

- Myo-
- Angio-
- Phleb-
- Arterio-
- Hem-

- -itis
- -osis
- -sclerosis
- -stenosis