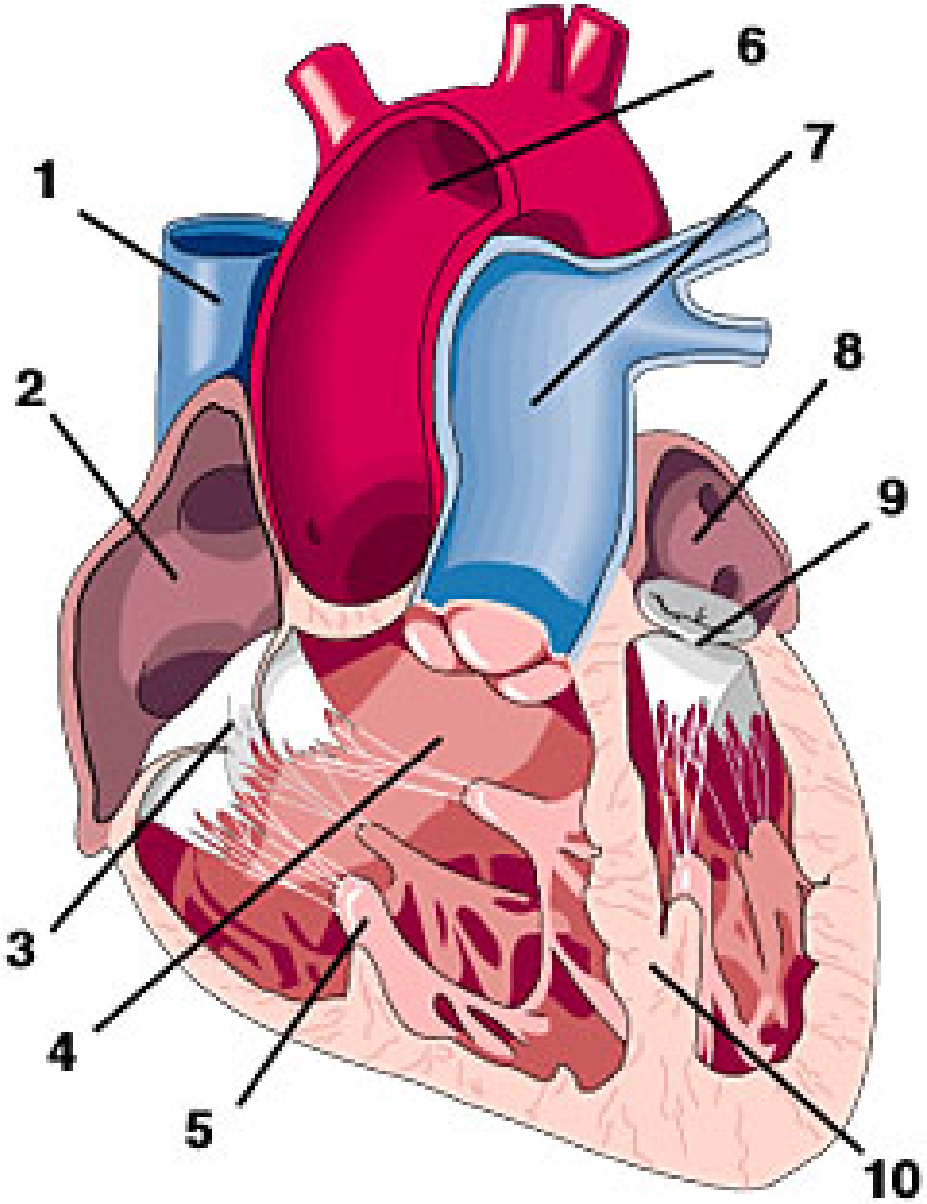
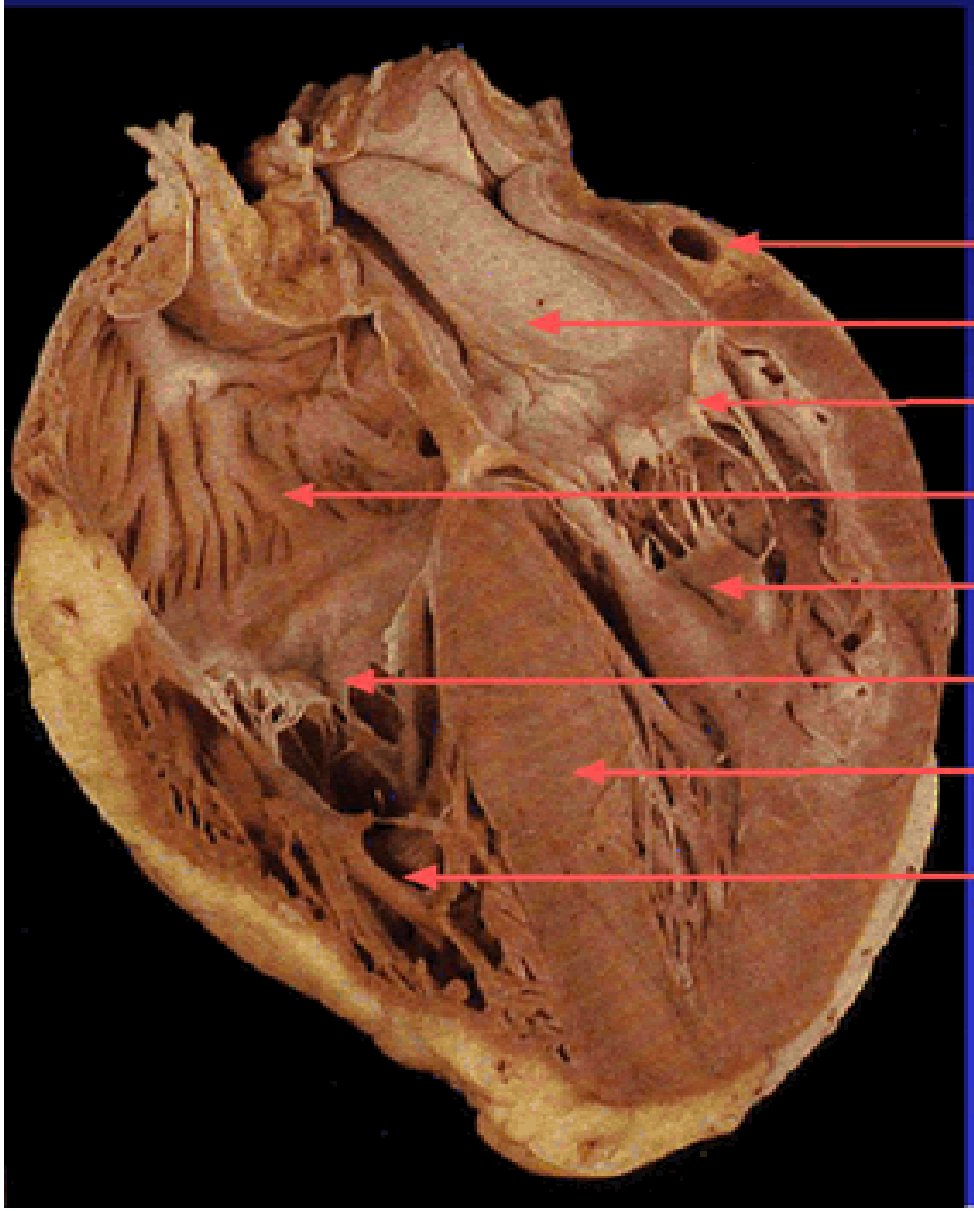
# Cardiovascular System

R. Hernandez

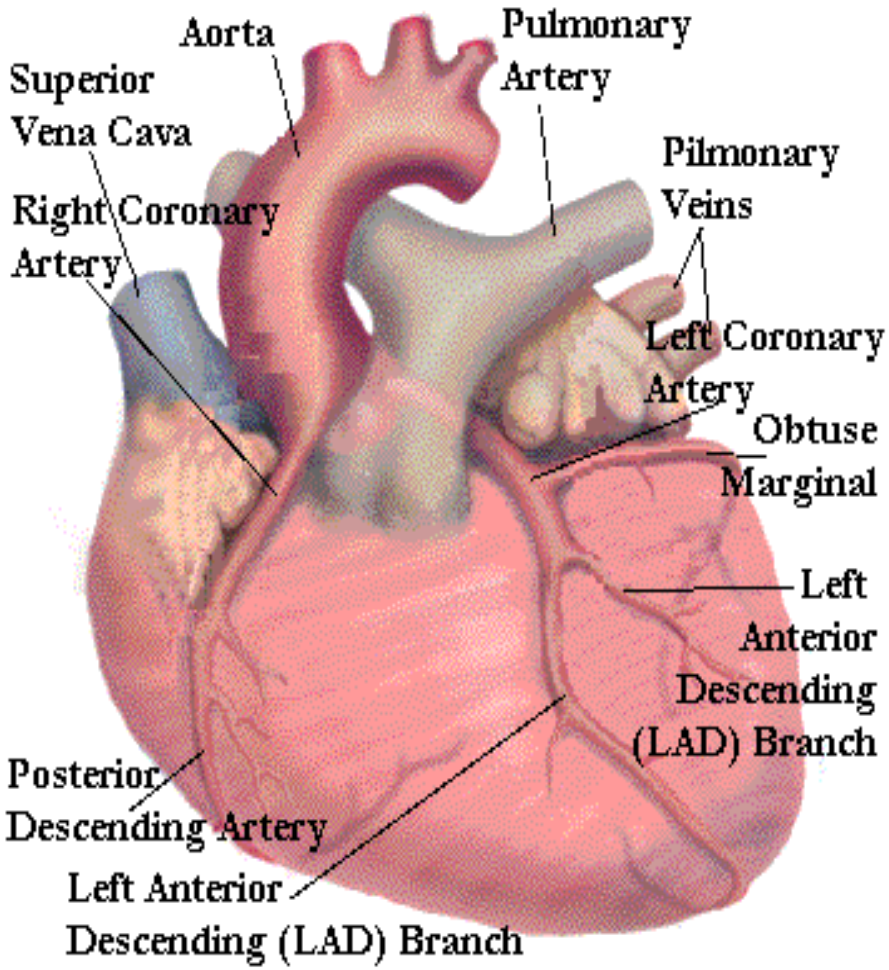
- Superior Vena Cava
- Right Atrium
- Tricuspid Valve
- Right Ventricle
- Pulmonic Valve
- Pulmonary Artery
- Pulmonary capilliary beds
- Pulmonary Vein
- Left Atrium
- Mitral Valve
- Left Ventricle
- Aortic Valve
- Aorta



# Cardiac Anatomy



# Heart Perfusion

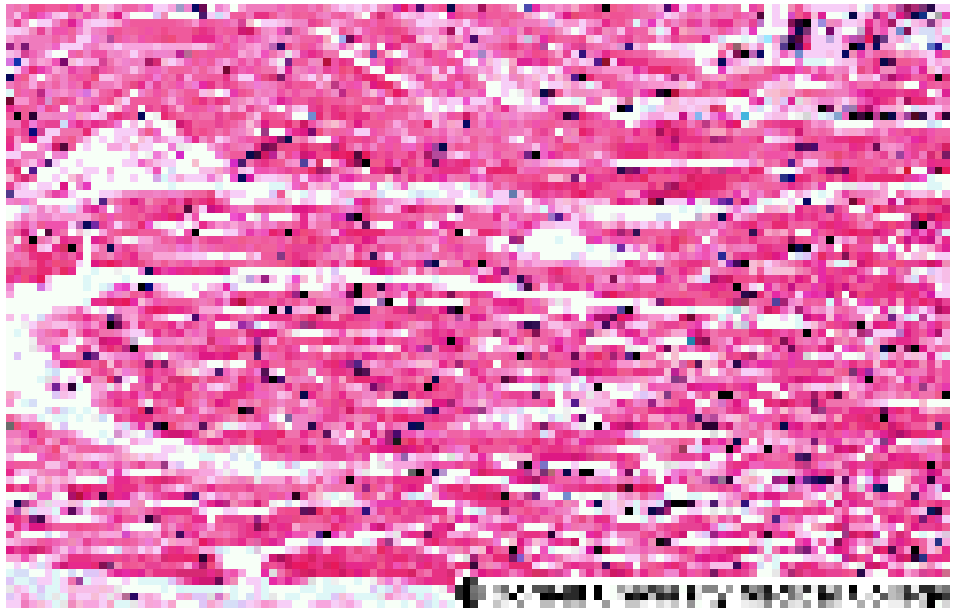



- Coronary Arteries
- Coronary Sinus
- Thebesian veins

- Fill during ventricular diastole

# Cardiac Muscle

- Striated cylindrical shaped muscle fibers sandwiched together
- Contract and shorten during systole
- Relax during diastole
- Frank-Starling Law

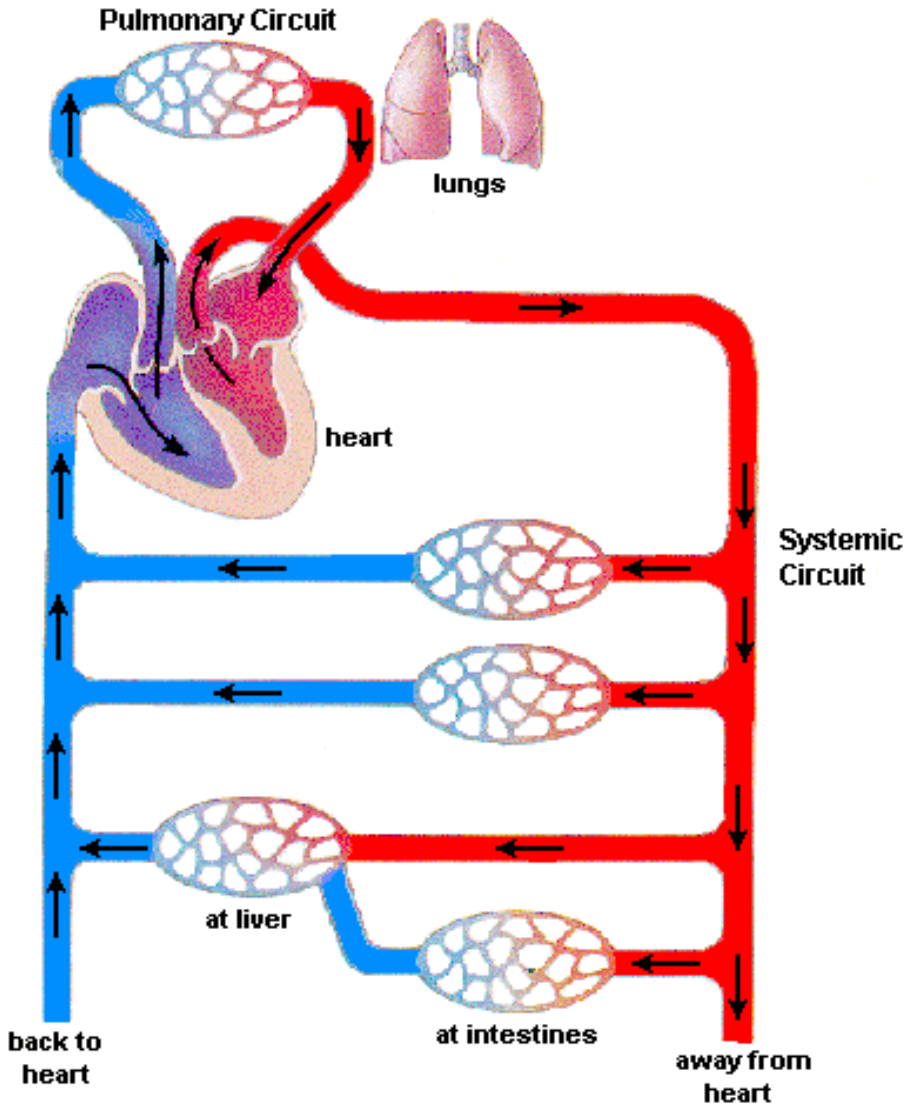


# Peripheral Vasculature

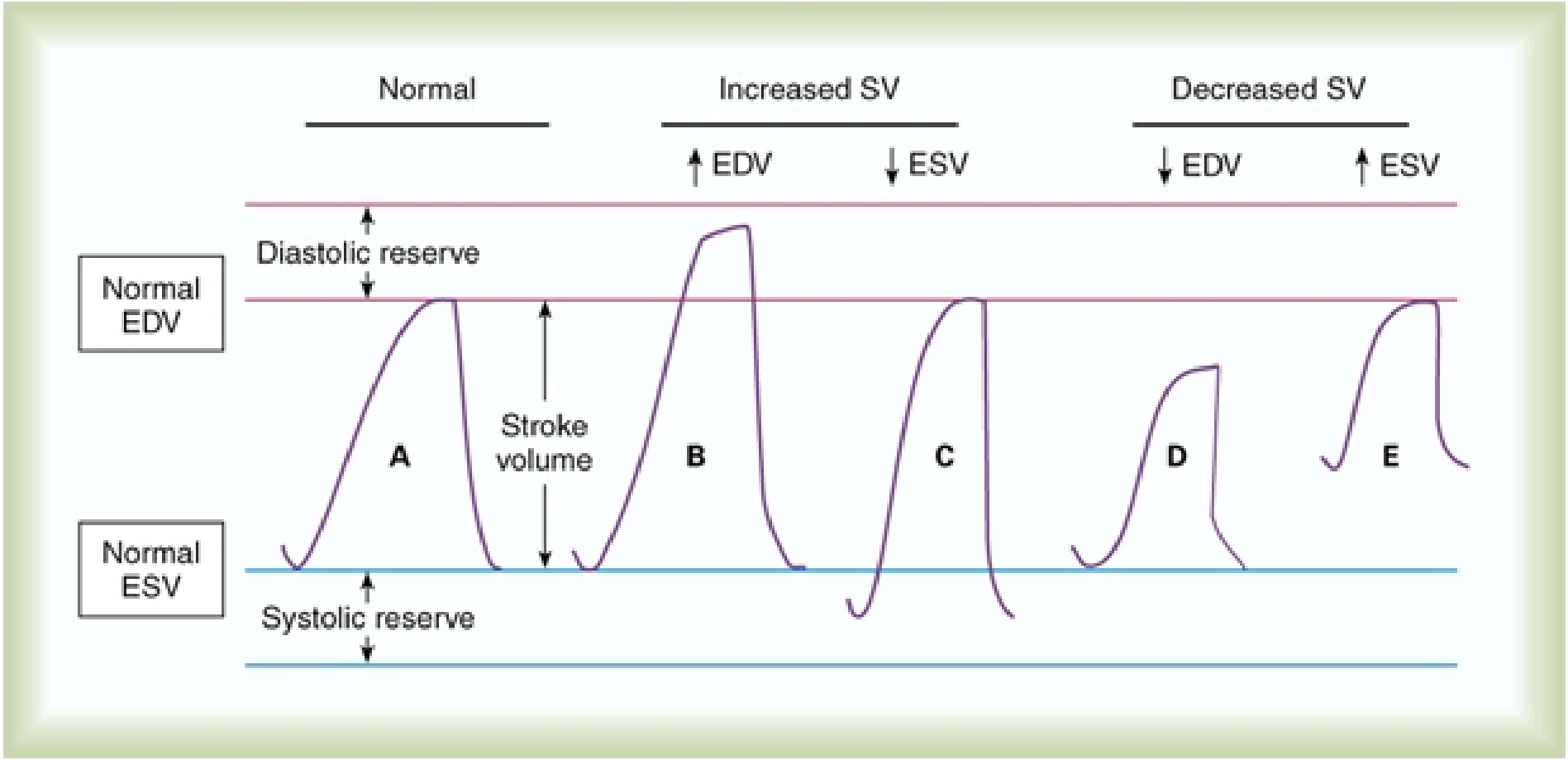
- Local
  - Myogenic control
  - Metabolic control
    - Carbon dioxide
    - Lactic acid
    - pH levels
- Central
  - Smooth muscle
    - Sympathetic
    - Parasympathetic

# Systemic Blood Flow

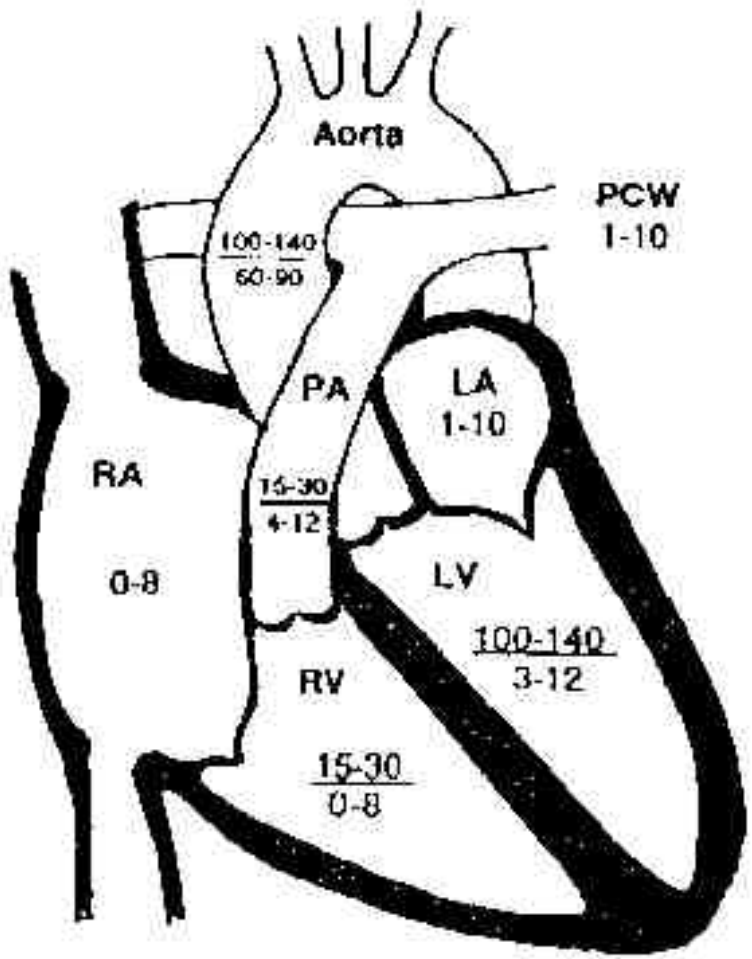
- Artery
  - Blood moving away from the heart
- Vein
  - Blood moving toward the heart
- CO = HR x SV

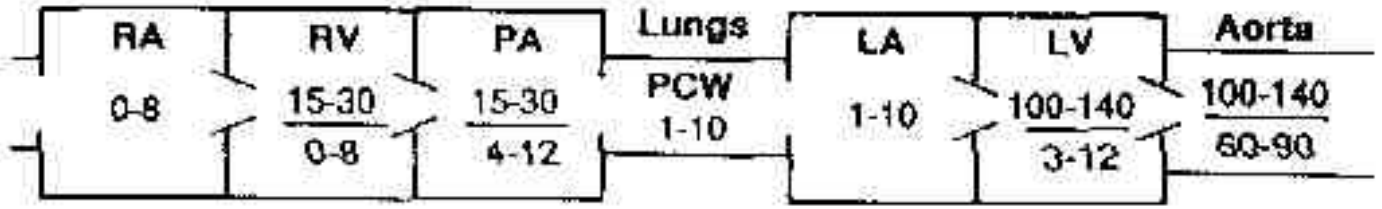


# Stroke Volume



# Normal Pressures



# Cross Section Heart

- Cardiac muscle has inherent rhythmicity
- Pacemaker
- SA – sinoatrial
- AV – atrioventricular
- Bundle of His
- Perkinje Fibers