Cardiovascular System

- Controls
  - Medulla
    - autonomic nervous system
      - sympathetic
      - parasympathetic
  - SA (sinoatrial) node = pacemaker
  - AV (atrioventicular) node
  - AV bundle (Bunde of His)
  - L&R Bundle Branches
  - Purkinje Fibers
  - Muscle fibers
    - between each one intercalated disks
    - syncytium - created by disks - all fibers fire at once
- Pulse
  - beats per minute
  - brady cardia < 60
  - tachy cardia > 60
- Parts
  - Lympthatic System
  - Vessels
  - Blood
  - Heart
- heart (cardium)
  - layers
    - endo
    - myo
    - epi
    - peri
  - serous flood in between epi and peri
  - parts
    - halves
      - right
      - left
    - each half top and bottom
      - atrium
        - right
          - superior venacava
          - inferior venacava
          - down to ventricle through tricuspid valve
        - left
          - receives from pulmonary veins
          - passes to ventricle through bicuspid (mitral) valve
      - ventricle
        - right
          - receives through tricuspid valve
          - out through pulomonic semilunar valve
          - to pulomary arteries to lung
        - left
          - out via aortic semilunar valve
          - to aorta
          - to tissues
      - divided by septum
  - chordae tendinae
    - prevent valves from blowing in when heart contracts
  - foramen ovale
    - whole in septum when in the womb
  - blood supply
    - first blood of of ascending aorta
    - coronary arteries
    - heart capillaries
    - coronary veins
    - coronary sinus
    - right atrium
- Cardiac Cycle
  - Diastole = low pressure
  - Systole = high pressure
  - Sounds
    - extrasystole = extra beat
    - murmur = any abnormal sound
    - first - tri and bicuspid, ie. atrioventricular valves
    - second - pslv and aslv, ie. semilunar valves
- Paths
  - Pulmonic Circuit
    - heart and lung
  - Systemic Circuit
    - heart and body
- electro cardio gram
  - p wave - atrial depolarization
  - q r s complex - ventricular depolarization (atrial repolarization)
  - t wave - ventricular repolarization
- Blood
  - Whole Blood
    - Formed elements
      - Platelets
      - white blood cells
      - red blood cells
    - Plasma
      - clotting factors
      - serum
        - water
        - enzymes
        - pigaments
        - hormones
        - antibodies
        - electrolytes
  - trasport nutrients
    - to and from tissue
  - functions
    - protection
    - transport
    - regulation
    - immune
  - PH = 7.4
    - to high = alkylosis
    - OK range 7.35-7.45
    - to low = acidosis
      - too little air
  - types
    - receives from A and O — A
    - receives from B and O — B
    - receives from A, B, AB and O — AB
    - receives only from O — O
  - Rh Factor
    - Dantingen
- Spleen
  - filters blood and destroy old blood
  - in youth creates blood
  - works to fight antogens
- Function
  - Transport
    - Nutrients
    - Waste