        - At rest: blood is distributed to the organs (digestive, etc.) by parasympathetic systemic
        - Exercise: blood moves to skeletal and cardiac muscles because of demand b/c of sympathetic system
    - Be able to explain the control of blood flow:
        - Intrinsic
            - Chemical: vessels dilate in response to the chemical environment of the organ (Ca++ produced meaning more metabolic rate, so greater need)
            - Endothelium: damaged endothelium promotes thrombogenesis, and promotes healing to the damage (platelet party)
            - Myogenic response (pressure): vessels dilate or constrict as a response to blood pressure changes
        - Extrinsic
            - Sympathetic nervous system: baroreceptors in the aorta and cartoid artery detect change in blood pressure, send impulses to cardiovascular control system (hypothalamus), increase/decrease sympathetic activity in heart
- CARDIAC OUTPUT
    - Cardiac output = Stroke volume x Heart rate
        - How is heart rate regulated?
            - Exercise, rise/fall of BP, HR, or CO, body temperature
            - What is heart rate variability?
                - Variation in time between heartbeats (wide variation=good, narrow variation=bad)
        - How is stroke volume regulated?
            - 3 variables: End-diastolic volume (EDV), average aortic blood pressure, strength of ventricular contractions
                - EDV ("Preload"): Frank-Starling law of heart: contraction strength increases when ventricular stretch increases, increase in venous return
                - Avg. Aortic pressure: to move blood out of heart, LV pressure must be higher than aortic pressure (afterload), when afterload rises, stroke volume decreases (inverse), during exercise, afterload decreases due to vasodilation in working tissues
                - Strength of ventricular contraction: sympathetic nerve fibers in ventricle walls and catecholamines (epi and norepinephrine as hormones) increase contractions, more Ca++ allowed in myocardial cell and more force produced
            - Explain three ways to increase venous return:
                - Venoconstriction: decreases diameter of most veins in system, sympathetic system causes veins leaving