Lecture - Chapte 14 – Cardiodynamics

1. Define the following terms:
   A. Cardiac output (CO)
   B. Heart rate (HR)
   C. Total peripheral resistance (TPR)
   D. Contractility
   E. Preload
   F. Afterload
   G. Ejection fraction

2. What factors influence cardiac output? What happens to cardiac output if HR and SV increase or decrease?

3. What components of the nervous system influence the heart rate, what are their effects on heart rate, what is this called?

4. How does norepinephrine, epinephrine, and Acf influence the heart rate, what channels are involved, what ions are involved, what cells are involved?

5. What are the three variables that influence stroke volume?


7. How is the sarcomere length related to the Frank-Starling Law of the Heart?

8. What are the two cardio centers located in the medulla oblongata, how do they change heart rate, what divisions of the ANS do they work with, what neurotransmitters are used?

9. Describe ionotropic effect?

10. How does EDV and ESV affect cardiac output?

11. How do the following influence EDV, ESV, and SV
   A. Frank-Starling principle
   B. Contractility
   C. Venus return

12. How does exercise affect cardiac output, how does HR and SV altered?

13. Why is it important to maintaining blood pressure and blood volume? If it dropped, how might your body compensate? If it got too high, how might your body compensate?

14. Describe how fluid exchange between capillaries and tissues occur.

15. Define the following:
   A. Colloid osmotic pressure
   B. Hydrostatic pressure
   C. Net filtration pressure

16. What is edema, what leads to this condition?

17. Describe how ADH (vasopressin) helps to regulate blood volume by the kidney.

18. Describe the Renin-Angiotension-Aldosterone System.

19. What is Atrial natriuretic peptide (ANP) how does it influence blood volume?