Self-Assessment - RSPT 1050: Module E

NOTE: YOU CAN SKIP QUESTIONS 1-3

1. The gravity dependent area of the lung is normally seen in which lung zone?
   A. Zone I
   B. Zone II
   C. Zone III

2. Where is the greatest amount of alveolar deadspace found in the lung?
   A. Zone I
   B. Zone II
   C. Zone III

3. At FRC, where is the greatest amount of ventilation found in the lungs?
   A. Zone I
   B. Zone II
   C. Zone III

4. The degree that the myocardial fiber is stretched at end diastole, just before contraction is called
   A. Preload
   B. Afterload
   C. Contractility
   D. Stroke volume

5. The force against which the ventricles must work to pump blood is called:
   A. Preload
   B. Afterload
   C. Contractility
   D. Stroke volume

6. A drug which results in a + inotropic effect on the heart means that the drug
   A. Increases preload
   B. Increases afterload
   C. Increases contractility

7. Arterial BP = **SVR** x **SV** x **HR**

8. Define pulmonary hypertension. **AN INCREASED PULMONARY VASCULAR RESISTANCE OFTEN FOUND IN PATIENTS WITH CHRONIC PULMONARY DISEASE. IT IS IDENTIFIED BY AN INCREASE IN PULMONARY ARTERY PRESSURE (MPAP > 20 mm Hg) OR AN INCREASED PVR (200 dynes/sec/cm^{-5})**

9. Define Cor Pulmonale. **RIGHT HEART FAILURE ASSOCIATED WITH COPD.**

10. List 4 signs/symptoms of right heart failure
    A. **PITTING EDEMA**
    B. **SWOLLEN ANKLES**
    C. **ENGORGED LIVER**
    D. **ASCITES**

11. Vasoconstriction of blood vessels in the systemic circulation will
    A. Increase SVR
    B. Increase PVR
    C. Decrease SVR
    D. Decrease PVR
    E. Have no effect on blood pressure.

12. The normal cardiac output varies with age, body size and sex. However, the average cardiac output is normally **5 L/min**.

13. A patient is seen in ER with frothy, pinked tinged secretions, SOB, and the chest x-ray shows pleural effusions and bilateral consolidation. The PaO_2 is only 50 mm Hg on a non-rebreather oxygen mask. The patient is suffering from

    A. Cor Pulmonale
    B. Right heart failure
    C. Pulmonary Edema
    D. Congestive Heart Failure
    E. C and D

14. What is a pleural effusion and how is it treated?
    A PLEURAL EFFUSION IS WHERE FLUID LEAVES THE VASCULAR SPACE AND ACCUMULATES IN THE PLEURAL SPACE. IT IS TREATED BY CORRECTING THE UNDERLYING CAUSE, DOING A THORACENTESIS, OR INSERTION OF A CHEST TUBE.

15. Name two causes of heart murmurs

    A. **A VALVE THAT DOESN'T CLOSE APPROPRIATELY ALLOWING BACKFLOW OF BLOOD**
    B. **A VALVE THAT IS STENOTIC AND DOESN'T OPEN ALL THE WAY**

16. Name three treatment options for patients with blocked coronary arteries
    A. **CORONARY ARTERY ANGIOPLASTY**
    B. **CORONARY ARTERY STENT**
    C. **CORONARY ARTERY BYPASS GRAFT (CABG)**

17. Name three signs of cardiac tamponade
    A. **MUFFLED HEART SOUNDS**
    B. **REDUCED CARDIAC OUTPUT (HYPOTENSION)**
    C. **JUGULAR VENOUS DISTENTION (JVD)**

18. What is polycythemia?
AN ELEVATED RBC OR HEMOGLOBIN LEVEL

19. The changing of the intracellular charge from – to + is called **DEPOLARIZATION**.

20. Which of the following are resistance vessels?
A. Arteries
B. Arterioles
C. Capillaries
D. Venules
E. Veins

21. The ability of the cardiac conduction cells to undergo spontaneous depolarization is called **AUTOMATICITY**.

22. A patient with right lower lobe pneumonia may experience an improvement in oxygenation when they are placed in which of the following positions?
A. Prone
B. Supine
C. Lying on right side
D. Lying of left side
E. Semi-fowlers position

23. An increased Systemic Vascular Resistance (SVR) means that the blood vessels are
A. Vasoconstriction
B. Vasodilation

24. Areas in the lung in which there is more ventilation than blood flow is called
A. Anatomic deadspace
B. Alveolar deadspace
C. Shunt
D. Diffusion defect

25. The second branch off the aortic arch is the
A. Innominate
B. Right subclavian
C. Right common carotid
D. Left common carotid
E. Left subclavian

26. Name the two semilunar valves of the heart.
A. **PULMONIC**
B. **AORTIC**

27. Name the two baroreceptors:
A. **CAROTID ARTERY BARORECEPTOR**
B. **AORTIC BARORECEPTORS**

28. What is the blood pressure in the pulmonary artery? **25/8 WITH A MEAN OF 10-20 mm Hg**

29. List normal values for the following:
    A. HR **60-100 BEATS/MIN**
    B. Stroke Volume **60-130 mL/BEAT**
    C. Cardiac Output **5-8 L/MIN**