Class/lab Activity #8 Physiology

About ½ way there: Re-Grouping and Self-Assessment

Blood Vessels, Blood Pressure, Resistance and Flow

A. In Class Discussion Exercises:

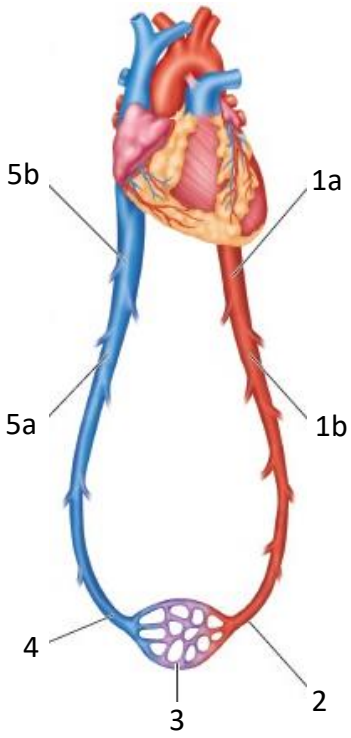
1) Projecting Ahead: Studying, Exams, Labs and Assignments.

- As we move from the halfway point of this course, it is important to make correlations to exams, labs, class/lab activities and assignments. With the focus on elements that **are under your control to address**, suggest 2 constructive activities you could do to improve any outcomes in this course?

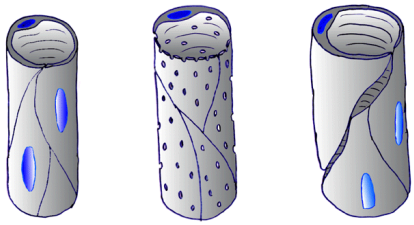
1)

2)

1. **Blood Vessels:** Let's go through the major blood vessels. Label the vessels below



The 3 main Capillary Beds



A _____
Location:

B _____
Location:

C _____
Location:

2. What is **Mean Arterial Blood Pressure** (MAP)? Show how it is calculated:

3. What determines the direction of **Blood Flow?** _____. Therefore, the **Driving Force** for blood flow is _____.

4. What **Opposes** blood flow? _____.

5. In the body, what are **three** factors that contribute to **Peripheral Resistance**? Describe them.

1.

2.

3.

6. What is **Poiseuille's Equation** (how it is pronounced) and what does each component represent?

7. How can Poiseuille's formula be ***simplified*** to represent the most critical changes in the body that impact resistance, blood pressures and flow.

8. What are the 4 main Factors that Affect **Mean Arterial Pressure** (MAP) in the body? *Hint: See **SG#3, Q#15.***

9. List the *Endogenous* **Vasoconstrictors** and **Vasodilators** in the body, and where they come from:

Vasoconstrictors

1.

2.

3.

4.

Vasodilators

1.

2.

3.

4.

10. What is **Cardiovascular Shock**? Define it:

11. What are the 4 categories of cardiovascular shock discussed in class? Give solid details!

1.

2.

3.

4.

Some Multiple Choice Questions

1. Located closer to the heart, the arteries would be expected to have a higher percentage of _____.
a) endothelium **b)** smooth muscle fibers **c)** elastic fibers **d)** collagenous fibers **e)** all of these

2. Which of these statements about blood flow is true?
a) Longer blood vessels will have lower resistance and greater blood flow.
b) As blood volume in a vessel decreases, the blood pressure will also decrease.
c) If the viscosity of blood increases, then blood flow increases.
d) When blood viscosity is lower, blood flow is slower.

3. In an arteriole, even small changes that create a slight vasodilation will cause a _____.
a) slight increase in resistance **b)** moderate increase in resistance **c)** slight decrease in resistance
d) huge increase in resistance **e)** huge decrease in resistance

4. If vasoconstriction occurs in large veins, it will cause **increases** which of the following?
a) blood pressure within the vein **b)** blood flow within the vein **c)** return of blood to the heart
d) the lumen of the vein **e)** all of these

5. Which of the following best describes **veins**?
a) thick walled, small lumens, low pressure, lack valves.
b) thin walled, large lumens, low pressure, have valves.
c) thin walled, small lumens, high pressure, have valves.
d) thick walled, large lumens, high pressure, lack valves.
e) thin elastic walled, large lumen, low pressure, have valves.