

Welcome to Shivam's SI Session for BIOL 319! Today's worksheet topic: Vasculature!

Work in your assigned groups and collect responses as a collaborative team. Be prepared to have someone present answers to the class!

Questions:

1. **What are the three hemodynamic formulas?**
2. **What are the two major exceptions to the rule that arteries carry oxygenated blood?**
3. **What are the two major exceptions to the rule that veins carry deoxygenated blood?**

4. **Why do arteries have thicker walls and higher pressure compared to veins?**

5. **What is the function of pre-capillary sphincters?**

6. **What neurotransmitter controls pre-capillary sphincters under adrenergic control?**

7. **How does norepinephrine affect pre-capillary sphincters?**

8. Where in the body do major exposed blood vessels require caution due to

trauma risks?

9. What vessels are found in the neck, and what is a common misconception about

them?

10. What happens when someone stands up quickly in terms of intracranial blood

pressure?

11. What role do baroreceptors in the carotid arteries play?

12. How does the medulla oblongata respond to low blood pressure?

13. What is the significance of MAP (Mean Arterial Pressure)?

14. How does the fight-or-flight response affect blood flow distribution?

15. What is the mathematical relationship between cardiac output, resistance, and pressure?

Once completed with this worksheet, please let me know if you need any clarifications! We will discuss the answers to each question shortly.

Note: If you are unable to attend this SI Session in person for **Wednesday 4-2**, email me a completed copy of this worksheet (with a valid reason for absence) and I can provide you with the worksheet answer key password!