

7. CIRCULATORY SYSTEM

Station 1: Anatomy of Arteries and Veins, Peripheral Circulation

References: *Lab Manual, Exercise 29, p. 157.*

Textbook, p. 582-588 and Fig. 15.25, p. 583 and Fig. 15.28, p. 585.

Workbook, p. 184, #13, #14, #15 and #16.

- Q1A. Which layer or tunic of a blood vessel wall is the thickest in arteries? Label it on p. 185 in your workbook and color it orange. Why is it thicker?
- Q1B. Which blood vessel has a larger diameter?
- Q2A. What structures are found in the epithelial layer of veins? Label them on p. 185 and color them purple.
- Q2B. What is the function of precapillary sphincters?
- Q3A. Name the circulatory pathway or circuit that consists of vessels that carry blood from the heart to the lungs and back to the heart.
- Q3B. Which pathway or circuit supplies blood to the liver from the intestines?

Station 2: Major Arteries and Veins

References: *Lab Manual, p. 158-161, complete Fig. 29.2, p. 159 and Fig. 29.3, p. 160.*

Textbook, p. 601-615.

Workbook, p. 188, #18, p. 189, #19, and p. 190, #20.

- Q4A.—Q7B. Identify the blood vessels on the model. Indicate whether the vessel is an artery or a vein. Label the identified blood vessel on p. 186 or p. 187 of your workbook.

Station 3: Hepatic Portal System

References: *Lab Manual, p. 161 and Fig. 29.4, p. 161.*

Textbook, p. 613-614, Fig. 15.56, p. 614.

Workbook, p. 189, #19.

- Q8A. Which letter identifies the vein that brings blood containing water and nutrients to the liver. Name it. Label this vein on Fig. 11-9, p. 189 in your workbook. Color it purple.
- Q8B. Which letter identifies the blood vessel that drains the ileum and ascending colon. Name it. Label this blood vessel on p. 189 and color it green.
- Q9A. Which letter identifies the vein that transports nutrients to the inferior vena cava. Name it.

Station 4: Fetal Circulation

References: *Lab Manual, p. 162-163, complete Fig. 29.5, p. 162.*

Textbook, p. 916-918 and p. 926 and Table 23.8, p. 927, Fig. 23.25, p. 919, and Fig. 23.33, p. 927.

Workbook, p. 192, #22, and p. 193 #23.

- Q9B. Which two letters identify structures that reduce the flow of blood to the fetal pulmonary circulation?
- Q10A. Why does so much of the oxygenated blood bypass the fetal lungs?
- Q10B. Which letter identifies the blood vessels that transport carbon dioxide and waste from the fetus? Name them. Color them blue on Fig. 11-11, p. 192 in your workbook.
- Q11A. Which letter identifies the blood vessel that returns blood to the fetus after oxygenation? Name it. Color it red on p. 192 in your workbook.
- Q11B. Which letter identifies the structure that bypasses hepatic circulation to carry oxygen and nutrient-rich blood directly to the vena cava? Name it. Color it purple on p. 192 in your workbook.
- Q12A. Which letter identifies the site of nutrient, oxygen, carbon dioxide, and waste exchange for the fetus? Name it. Color it green on p. 192 of your workbook.
- Q12B. What happens to the ductus venosus at birth? What does it become?

- Q13A. At birth, what is the function of the septum primum?
Q13B. What change is caused in fetal circulation because of your answer to Q13A?
Q14A. What do the two structures you identified in Q9B become in the adult?
Q14B. What does the structure you identified in Q11A become in the adult?

Station 5: Heart Sounds

References: *Lab Manual, "Heart Sounds", p. 166.*
Textbook, p. 572.

- Q15A. Which heart sound is heard as a result of turbulence when the atrioventricular (AV) valves shut?
Q15B. Where would you place your stethoscope for auscultation of the second heart sound?
Q16A. What causes murmurs?
Q16B. Define AUSCULTATION.

Station 6: Pulse and Blood Pressure

References: *Lab Manual, p. 167-169.*
Textbook, p. 590-596.

- Q17A. Record your pulse on the radial artery at your wrist.
Q17B. Name any 2 of the other 8 arteries you may use to take pulse.
Q18A. Record your blood pressure.
Q18B. Which pressure recorded in Q18A resulted from diastole (the relaxation phase of the cardiac cycle)?
Q19A. Which pressure did you record when you heard the last Korotkoff sounds?
Q19B. How do you know when to record the systolic pressure?
Q20A. Which artery is used to take blood pressure?
Q20B. Is your blood pressure in the normal range?

Q21: Clinical Application Thought Question: (Answer at the bottom of your lab report.)

Q21. CLINICAL APPLICATION THOUGHT QUESTION: (Answer at the bottom of your lab report.)
A pregnant woman notices "spider veins" forming on her legs. What is the scientific term used for this disorder? What can she do to prevent this from becoming worse? Why is this happening?

Turn in p. 185, 186, 187, and 192 with your lab report.