

LABORATORY EXERCISE 44 ARTERIES AND VEINS

Figure Labels

FIG. 44.1

- | | |
|-----------------------|---------------------|
| 1. Superior vena cava | 4. Pulmonary veins |
| 2. Pulmonary trunk | 5. Pulmonary artery |
| 3. Inferior vena cava | 6. Aorta |



Critical Thinking Application Answer

The left ventricle wall is thicker which provides a more powerful contraction to force the blood through the longer distance of the systemic circuit.

FIG. 44.2

- | | |
|--------------------------------|---------------------------|
| 1. Superficial temporal artery | 5. Subclavian artery |
| 2. Internal carotid artery | 6. Facial artery |
| 3. External carotid artery | 7. Common carotid artery |
| 4. Vertebral artery | 8. Brachiocephalic artery |

FIG. 44.3

- | | |
|-------------------------|--------------------|
| 1. Subclavian artery | 4. Brachial artery |
| 2. Axillary artery | 5. Radial artery |
| 3. Deep brachial artery | 6. Ulnar artery |

FIG. 44.4

- | | |
|-------------------|-------------------------------|
| 1. Celiac artery | 5. Left gastric artery |
| 2. Hepatic artery | 6. Superior mesenteric artery |
| 3. Renal artery | 7. Inferior mesenteric artery |
| 4. Splenic artery | 8. Common iliac arteries |

FIG. 44.5

- | | |
|------------------------------|---------------------------|
| 1. Right common iliac artery | 6. Internal iliac artery |
| 2. External iliac artery | 7. Femoral artery |
| 3. Deep femoral artery | 8. Anterior tibial artery |
| 4. Popliteal artery | 9. Dorsalis pedis artery |
| 5. Abdominal aorta | |

FIG. 44.6

- | | |
|--------------------------|-------------------------|
| 1. External jugular vein | 4. Vertebral vein |
| 2. Subclavian vein | 5. Brachiocephalic vein |
| 3. Internal jugular vein | |

FIG. 44.7

- | | |
|--------------------------|--------------------------|
| 1. Internal jugular vein | 5. Brachiocephalic veins |
| 2. Axillary vein | 6. Subclavian vein |
| 3. Cephalic vein | 7. Superior vena cava |
| 4. External jugular vein | 8. Azygos vein |

FIG. 44.8

- | | |
|-------------------------------|---|
| 1. Subclavian vein | 6. Brachial vein |
| 2. Right brachiocephalic vein | 7. Median cubital vein (antecubital vein) |
| 3. Axillary vein | 8. Radial vein |
| 4. Cephalic vein | 9. Ulnar vein |
| 5. Basilic vein | |

FIG. 44.9

- | | |
|-----------------------------|-----------------------------|
| 1. Hepatic portal vein | 4. Splenic vein |
| 2. Superior mesenteric vein | 5. Inferior mesenteric vein |
| 3. Gastric vein (right) | |

FIG. 44.10

- | | |
|------------------------|-------------------------|
| 1. Common iliac vein | 5. Femoral vein |
| 2. External iliac vein | 6. Great saphenous vein |
| 3. Inferior vena cava | 7. Popliteal vein |
| 4. Internal iliac vein | 8. Anterior tibial vein |

Laboratory Report Answers**PART A**

- | | |
|------|-------|
| 1. d | 7. k |
| 2. j | 8. h |
| 3. b | 9. e |
| 4. a | 10. f |
| 5. g | 11. l |
| 6. c | 12. i |

PART B

- | | |
|--------------------------------|---------------------------------------|
| 1. right subclavian artery | 6. vertebral artery |
| 2. aortic arch | 7. facial artery |
| 3. superior mesenteric artery | 8. brachial artery |
| 4. inferior mesenteric artery | 9. external iliac artery |
| 5. right common carotid artery | 10. left and right pulmonary arteries |

PART C

1. a
2. b
3. d
4. e

5. h
6. c
7. g
8. f

PART D

1. right brachiocephalic vein
2. popliteal vein
3. common iliac vein
4. basilic vein
5. anterior tibial vein

6. femoral vein
7. hepatic portal vein
8. pulmonary veins
9. renal vein

PART E (figure 44.11)

1. Common carotid artery
2. Brachiocephalic vein
3. Superior vena cava
4. Femoral vein
5. Great saphenous vein
6. Internal jugular vein
7. External jugular vein
8. Subclavian artery

9. Subclavian vein
10. Pulmonary vein
11. Inferior vena cava
12. Aorta
13. Common iliac vein
14. Common iliac artery
15. Femoral artery

LABORATORY EXERCISE 45

CAT DISSECTION: CARDIOVASCULAR SYSTEM

Laboratory Report Answers

PART A

1. The parietal pericardium forms a relatively thick, tough sac that encloses the heart. It is attached to the large blood vessels at the base of the heart and to the diaphragm.
2. The walls of the atria are much thinner than those of the ventricles. The wall of the left ventricle is much thicker than that of the right ventricle.
3. Wall thickness is related to the force of its contraction and the amount of pressure it imparts to the blood inside a heart chamber. The left ventricle has the thickest wall, contracts with the greatest force, and creates the greatest amount of blood pressure in the heart chambers. The left ventricle is the pump for the systemic circuit.
4. In the human, the right common carotid artery branches from the brachiocephalic artery, whereas the left common carotid artery comes directly from the aortic arch. In the cat, both common carotid arteries branch from the brachiocephalic artery.
5. In the human, the aorta divides to form the two common iliac arteries, which in turn give rise to external and internal iliac arteries. In the cat, the aorta divides to form the external iliac arteries, and the internal iliac arteries branch from the aorta independently.

PART B

1. In the human, the brachiocephalic vein is formed by the union of the internal jugular and the subclavian vein on each side. In the cat, the brachiocephalic vein is formed by the union of the external jugular and the subclavian vein on each side.
2. In the human, the internal jugular vein is somewhat larger than the external jugular vein. In the cat, the external jugular vein is larger.
3. Answers will vary.