

**Lab 5 & 6: Arteries & Veins**

In these two labs you should familiarize yourself with the microscopic structure of blood vessels as well as with the major arteries and veins of the systemic and pulmonary circulation system.

Think of the circulatory system as a continuous circuit. Be able to trace a blood cell on its continuous journey through the parts of your body. Begin your study by identifying the vessels you have to know on the diagrams in your lab book. Then do the tracing questions on this sheet as well as those in your lab book. Identify vessels on the models only after you are comfortable with the tracing questions.

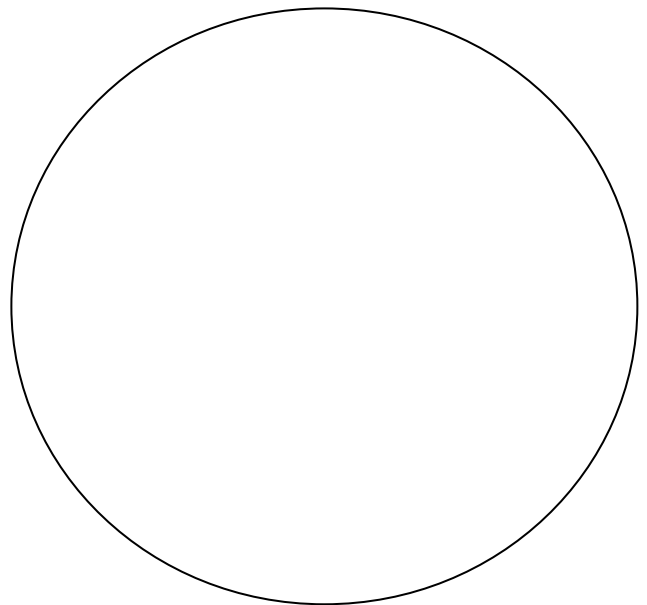
Differentiate between an artery, vein and capillary, and know the tunics and tissues associated with each (Exercise 32, Fig 32.1).

**Slide Assignment: Artery, Vein & Capillary**

(Exercise 32 in Lab Text, Chapter 10 in Histology Text)

Draw the following slides using the figures in the lab and histology texts as a reference. Use whichever magnification works best to show all given structures. Please note that not every slide will show everything; you will need to look at multiple slides and/or sources. Your drawings should artistically combine views to include all structures.

- **Artery, Vein, & Capillary** – Label and understand function of the following:
  - Artery
    - Tunica intima or Tunica interna
    - Tunica media
    - Tunica externa or Tunica adventitia
  - Vein
    - Tunica intima or Tunica interna
    - Tunica media
    - Tunica externa or Tunica adventitia
  - Capillary Beds



**Arteries to know:**

	<i>Thorax, Arm, Neck</i>	
Pulmonary Trunk	R & L Subclavian	R & L Radial
R & L Pulmonary	R & L External Carotid	R & L Ulnar
Aortic	R & L Internal Carotid	R & L Palmar Arch
Brachiocephalic	R & L Axillary	
R & L Common Carotid	R & L Brachial	
	R & L Deep Brachial	
	<i>Abdomen</i>	
Aortic	Splenic	Inferior Mesenteric
Celiac Trunk	R & L Gastric	R & L Common Iliac
Common Hepatic	R & L Renal	Median Sacral
Hepatic, or Hepatic	R & L Gonadal	R & L Internal Iliac
Artery Proper	(Ovarian or Testicular)	R & L External Iliac
	Superior Mesenteric	
	<i>Leg</i>	
R & L Femoral	R & L Anterior Tibial	R & L Popliteal
R & L Deep Femoral	R & L Posterior Tibial	

**Veins to know:**

	<i>Thorax, Arm, Neck</i>	
R & L Pulmonary	R & L Internal Jugular	R & L Basilic
Superior Vena Cava	R & L Axillary	R & L Median Cubital
R & L Brachiocephalic	R & L Cephalic	R & L Radial
R & L Subclavian	(Antecubital)	R & L Ulnar
R & L External Jugular	R & L Brachial	R & L Palmar Arch
	<i>Abdomen</i>	
Inferior Vena Cava	R & L Renal	R & L Gastric
Hepatic	R & L Common Iliac	Splenic
Hepatic Portal	R & L Internal Iliac	Superior Mesenteric
R & L Gonadal	R & L External Iliac	Inferior Mesenteric
(Ovarian or Testicular)	Median Sacral	
	<i>Leg</i>	
R & L Anterior Tibial	R & L Popliteal	R & L Femoral
R & L Posterior Tibial	R & L Venous Arch	
R & L Small Saphenous	R & L Great Saphenous	

Name the innermost lining of blood vessels. \_\_\_\_\_

Which tunic is composed primarily of smooth muscle? \_\_\_\_\_

Exchanges of gases, nutrients, and wastes occur in \_\_\_\_\_.

Are elastic arteries closer to the heart than muscular arteries?      yes      no

Why or why not? \_\_\_\_\_

Name the vessel supplying the left arm. \_\_\_\_\_

Name the large vessel draining the digestive viscera. \_\_\_\_\_

Name the vessel supplying the liver. \_\_\_\_\_

Name one major artery supplying the brain. \_\_\_\_\_

Name the vessel draining the gonads. \_\_\_\_\_

Name the two structures that bypass the lung in the fetal circulation. \_\_\_\_\_

**Do not attempt the tracing questions until we have covered both the arteries and the veins!**

**Trace from the R ventricle to the L hand and back to the R atrium**

R ventricle

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Aorta

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L hand

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R atrium

**Trace from the L ventricle to the kidney and back to the R atrium**

L ventricle

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Kidney

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R atrium

**Trace from the spleen to the stomach**

Spleen

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Capillaries in Liver

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Capillary beds in Stomach wall

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