

Lab 4: Circulation

GOALS:

You should be able to.....

- Describe the flow of blood through the systemic and pulmonary circuits (in both adult & fetus)
- Locate the major veins and arteries of the thoracic cavity; state where they go & come from.
- Locate the major veins and arteries of the abdominal cavity; state where they go & come from.
- Explain the function of the hepatic portal system and how blood flows through it.
- Identify the differences in appearance and function of erythrocytes, leukocytes, and platelets.

I. Path of Blood Flow

- pp. 173-175 Read, answer questions/ fill out Table 14.1
- REVIEW pp. 176-178 If you need to review blood flow in fetal heart.

II. Thoracic Cavity: Major Veins & Arteries

- VEINS: pp. 178-181: Become familiar with the *veins* in Figures 14.4-14.8. Then, use it to find the major veins of the thoracic cavity (listed below).

Be able to state where blood is coming from and where it is going!

LOCATE MAJOR VEINS:

- Anterior Vena Cava
- Right/Left Brachiocephalic Veins
- Right/Left Subclavian Veins
- Right/Left Internal Jugular
- Right/Left External Jugular

- ARTERIES: p. 178-181: Become familiar with arteries in Figures 14.4 & 14.5. Then, use it to find the major arteries of the thoracic cavity (listed below).

Be able to state where the blood is coming from and where it is going !

LOCATE MAJOR ARTERIES:

- Aorta
- Brachiocephalic trunk
- Right/Left Subclavian Arteries
- Right/Left Carotid Arteries

III. Abdominal Cavity: Major Veins & Arteries

- pp. 182-top of 183: Become familiar with diagrams and then use the procedures to find the major veins and arteries of the abdominal cavity. Be able to state where the blood is coming from and where it is going! DO NOT REMOVE ORGANS!

LOCATE MAJOR VEINS:

- Posterior Vena Cava
- Hepatic Portal Vein
- Right/ Left Renal Vein
- Right/ Left Common Iliac
- Umbilical Vein

LOCATE MAJOR ARTERIES:

- Dorsal Aorta
- Celiac Artery
- Right/ Left Renal Arteries
- Mesenteric Artery
- Right/ Left Iliac
- Umbilical Artery

NOTE: Use pp. C-57 & C-59 if you need a simpler diagram to locate major vessels of both thoracic

and abdominal cavities. Use my handout to quiz yourself.

III. Hepatic Portal System

- The liver performs several important functions that are important to the maintenance of blood. Two important functions include helping the kidneys remove toxins (like drugs or alcohol) from our blood and regulating the amount of glucose in our blood by converting it to glycogen.
- So, after blood travels through the lower digestive tract and its associated organs, it must make its way through the liver to be processed.
- The vein that connects all of these organs to the liver is the **hepatic portal vessel**. After passing through the liver, blood travels out the liver via the **hepatic vein**, then into the inferior vena cava to the heart.

IV. The Blood

pp. 187-189: Read, follow procedures (USE DEMO SCOPES), and fill out Table 15.1

IDENTIFY:

- erythrocytes (red blood cells)
- leukocytes (white blood cells)- see how many different types you can find!
- platelets (these are not cells, they clot blood)