

## Blood Vessels

Your job is to be able to identify all the blood vessels mentioned in this activity. You will be tested on the material via power point slides.

**Arteries** are vessels that deliver blood from the heart to the body organs (Arteries-Away.) The blood then flows back to the heart through **veins**. As the arteries pass through the organs, they divide into smaller vessels called **arterioles** and then finally into tiny **capillaries**. Capillaries consist of simple squamous epithelium, and it is through these thin membranes that food and oxygen are exchanged for waste products in each organ. Before leaving the organ, groups of capillaries reunite to form progressively larger vessels, the **venules**, and then finally the **veins**.

### The Arteries

The large vessel that leaves the heart (left ventricle) is the \_\_\_\_ **aorta**. Notice that it ascends toward the head but then quickly arches back, forming what is called the \_\_\_\_ **aortic arch**. The aorta, running close to the vertebrae, proceeds down the body and terminates by dividing into two \_\_\_\_ **common iliac arteries**. Arteries branch off the aorta at many points.

#### 1. Branches off the Aortic Arch

Three branches come off the aortic arch. They supply blood to the head and arms.

- The first branch is the \_\_\_\_ **brachiocephalic (innominate)**
- The second branch is the \_\_\_\_ **left common carotid**.
- The \_\_\_\_ **left subclavian** is the third branch.

#### 2. Arteries of the Head and Neck

The primary blood supply to the neck and head is from the common carotids. The \_\_\_\_ **right common carotid** is a branch off the brachiocephalic.

- \_\_\_\_ **External carotid**, supplies blood to the tongue, throat, face, and brain.
- \_\_\_\_ **Internal carotid**, which supplies blood to the forehead, nose, and brain.

#### 3. Arteries of the Arms

The subclavians supply the arms with blood. The \_\_\_\_ **right subclavian** is a branch off the brachiocephalic. The \_\_\_\_ **left subclavian** is a branch off the aortic arch. As each subclavian passes into the arm, it merely changes name. As it passes through the axilla of the arm, it is called the \_\_\_\_ **axillary**. As it travels through the upper arm, it is called the \_\_\_\_ **brachial**. When the brachial reaches the elbow, it divides into the \_\_\_\_ **radial** and \_\_\_\_ **ulnar** arteries.

#### 4. Arteries of the Abdomen

Now back to the aorta. As the aorta passes through the diaphragm into the abdominal cavity, many small branches come off...

- The first large artery off the abdominal aorta is the \_\_\_\_ **celiac**. It sends blood to the liver, stomach, and spleen.

- b. The 2<sup>nd</sup> branch is the \_\_\_\_ **superior mesenteric artery**. It supplies the small intestine and upper colon.
- c. Next the \_\_\_\_ **renals**, supply the kidneys.
- d. The last major branch is the \_\_\_\_ **inferior mesenteric** supplying the colon, rectum, and anus.

#### 5. Arteries of the Pelvis

- a. The aorta divides into the common iliac arteries which in turn divides into two branches. The \_\_\_\_ **internal iliac** and the \_\_\_\_ **external iliac**.
- b. The \_\_\_\_ **external iliac** is next, and it continues down the leg to become the \_\_\_\_ **femoral artery**.

#### 6. Arteries of the Leg

The femoral artery passes behind the knee where it is called the \_\_\_\_ **popliteal artery**. This artery divides into the \_\_\_\_ **posterior and anterior tibial arteries**, and they continue down into the foot.

### The Veins

#### 1. Vena Cava: The two large veins that empty into the right atrium are the:

- a. \_\_\_\_ **superior vena cava**, which drains the head, neck, arms and thorax.
- b. \_\_\_\_ **inferior vena cava**, which drains the abdomen, pelvis, and legs

#### 2. Veins of the Head & Neck

- a. The jugular veins are the major veins of the head and neck. There are two jugulars: the \_\_\_\_ **external jugular veins** and the \_\_\_\_ **internal jugular veins**.
- b. The external jugular joins the \_\_\_\_ **subclavian vein**, while the internal jugular joins the \_\_\_\_ **brachiocephalic (innominate)**

#### 3. Veins of the Arm:

Three major veins collect blood in the upper arm, carrying it toward the heart, we will learn two of them.

- a. The \_\_\_\_ **basilic and brachial vein** which empties into the:
- b. The \_\_\_\_ **axillary vein**, found in the armpit. The axillary empties into the subclavian.

#### 4. Veins of the Leg:

- a. The \_\_\_\_ **posterior tibial vein** collects blood from the foot and becomes the \_\_\_\_ **popliteal vein** in the knee region. Above the knee, this vessel becomes the \_\_\_\_ **femoral vein**, which empties into the \_\_\_\_ external iliac. This vessel then empties into the \_\_\_\_ **common iliac vein** and on to the inferior vena cava.