To make learning the arteries easier, be aware that in many cases the name of the artery tells you the body region or organs served (renal artery, brachial artery, and coronary artery) or the bone followed (femoral artery and ulnar artery).

The aorta curves upward from the left ventricle of the heart as the ascending aorta, arches to the left as the aortic arch, then drops downward following the spine as the thoracic aorta to finally pass through the diaphragm to become the abdominal aorta. The branches of the parts of the aorta are listed below in their sequence from the heart and the organs served.

**Branches of the Ascending Aorta:**

- R. coronary artery - heart
- L. coronary artery - heart

**Branches of the Aortic Arch:**

- Brachiocephalic artery
- R. common carotid artery - head & neck
- R. subclavian artery - brain
- L. common carotid artery
- L. internal carotid - brain
- L. external carotid - head & neck
- L. subclavian artery
- Vertebral artery - brain

The subclavian artery becomes the axillary artery, then continues into the arm as the brachial artery which supplies the arm. At the elbow, the brachial artery splits

- Radial artery - forearm
- Ulnar artery - forearm

**Branches of the Thoracic Aorta:**

- Intercostal arteries - 10 pairs supply the muscles of the thorax wall
- Bronchial arteries - lungs
- Esophageal arteries - esophagus
- Phrenic arteries - diaphragm

**Branches of the Abdominal Aorta:**

- Celiac Trunk
  - Left gastric artery - stomach
  - Splenic artery - spleen
  - Common hepatic artery - liver
- Superior mesenteric artery - small intestine
- R. and L. Renal arteries - kidneys
- R. and L. Gonadal arteries - called ovarian arteries in females (serving the ovaries) and testicular arteries in males (serving the testes).
- Lumbar arteries - several pairs serving the heavy muscles of the abdomen and trunk walls.
- Inferior mesenteric artery - lower large intestine
- R. and L. Common iliac arteries - the final branches of the abdominal aorta. Each divides into:
  - Internal iliac artery - pelvic organs
  - External iliac artery - enters the thigh where it becomes the femoral artery. The femoral artery and its branch, the deep femoral artery, serve the thigh. At the knee, the femoral artery becomes the popliteal artery, which then splits into:
    - Anterior and posterior tibial arteries, which supply the leg and foot. The anterior tibial artery terminates in the dorsalis pedis artery, which supplies the dorsum of the foot.
Although arteries are generally located in deep, well-protected body areas, many veins are more superficial and some are easily seen and palpated on the body surface. Most deep veins follow the course of the major arteries, and with a few exceptions, the naming of these veins is identical to that of their companion arteries. While major systemic arteries branch off the aorta, the veins converge on the *vena cava*.

Blood returns to the right atrium of the heart through the vena cava. Veins draining the head and arms empty into the *superior vena cava* and those draining the lower body empty into the *inferior vena cava*. The veins listed below begin distally and move proximally to the heart.

**Veins Draining into the Superior Vena Cava:**

- **Radial and ulnar veins** are deep veins draining the forearm. They unite to form the *brachial vein*, which drains the arm and empties into the *axillary vein*.
- **Cephalic vein** provides superficial drainage of the lateral aspect of the arm and empties into the axillary vein.
- **Basilic vein** provides superficial drainage of the medial aspect of the arm into the brachial vein. The basilic and cephalic veins are joined at the anterior aspect of the elbow by the *median cubital vein*. (This vein is often the site for blood removal for the purpose of blood testing.)
- **Subclavian vein** receives blood from the arm through the axillary vein and from the skin and muscles of the head through the *external jugular vein*.
- **Vertebral vein** drains the posterior part of the head.
- **Internal jugular vein** drains the dural sinuses of the brain.
- **L. & R. Brachiocephalic veins** drain the subclavian, vertebral, and internal jugular veins on their respective sides. The brachiocephalic veins join to form the *superior vena cava*, which enters the heart.
- **Azygos vein** a single vein that drains the thorax and enters the superior vena cava just before it joins the heart.

**Veins Draining into the Inferior Vena Cava:**

The inferior vena cava, which is much longer than the superior vena cava, returns blood to the heart from all body regions below the diaphragm.

- **Anterior and posterior tibial veins** and the *peroneal vein* drain the calf and foot. The posterior tibial vein becomes the *popliteal vein* at the knee and then the *femoral vein* in the thigh. The femoral vein becomes the *external iliac vein* as it enters the pelvis.
- **Great saphenous veins** are the longest veins in the body. They receive the superficial drainage of the leg. They begin at the *dorsal venous arch* in the foot and travel up the medial aspect of the leg to empty into the femoral vein in the thigh.
- Each *L. & R. common iliac vein* is formed by the union of the *external iliac vein* and the *internal iliac vein* (which drains the pelvis) on its own side. The common iliac veins join to form the *inferior vena cava*, which then ascends superiorly in the abdominal cavity.
- **R. gonadal vein** drains the right male or female sex gland. (The *L. gonadal vein* empties into the left renal vein superiorly.)
- **L. & R. renal veins** drain the kidneys.
- **L. & R. hepatic veins** drain the liver.