

Blood Vessels of the Fetal Pig Dissection

Posterior Vessels Protocol:

1. The blood vessels in the abdomen lie deep within the body cavity, underneath the membrane that lines the abdominal cavity (this membrane is the peritoneum, the blood vessels are said to be retroperitoneal). In order to see the blood vessels you will need to use your probe or the tweezers to peel off the peritoneum. **BE CAREFUL** as you do this. The vessels, especially the arteries, that you are looking for here are much smaller than the anterior vessels. Be sure you do not tear these out as you are removing the peritoneum. Aside from peeling back the peritoneum, there is no other tissue that should be removed from the abdominal cavity.
2. Locate these veins that drain the lower portion of the body:
 - a. Trace the inferior vena cava from the heart down to its connection with the liver. Scrape away some of the liver tissue at this junction to see the **hepatic** veins.
 - b. Also at the liver, note the entry of the **umbilical** vein into the liver from the umbilical cord
 - c. Locate the **inferior vena cava** below the liver (it should be to the right of the spinal column). Note also the **hepatic-portal** vein coming from the small intestine into the underside of the liver.
 - d. Find the **left** and **right renal** veins which are attached to each kidney.
 - e. Trace the inferior vena cava down to the base of the abdominal cavity. At this point the inferior vena cava ends and branches into the **left** and **right common iliac** veins (this branching occurs underneath the aorta to some extent, so you may have to lift up the aorta to see this branching). The left and right common iliac veins run right underneath the external iliac arteries.
 - f. The left and right common iliacs each subsequently branch into the **internal iliac**, which goes deep toward the back of the pelvic cavity, and the **external iliac**, which runs underneath the external iliac artery into the leg.
3. Identify these arteries that supply the lower portion of the fetal pig:
 - a. The descending aorta is divided into two sections: within the rib cage, it is called the **thoracic aorta** and, once it passes through the diaphragm, it becomes the **abdominal aorta**.

b. Immediately as the aorta passes through the diaphragm, it gives rise to a branch that supplies the stomach, liver and spleen with blood. This is the **celiac** artery.

c. Just below where the celiac branches off is the **superior mesenteric**, which supplies the small intestine.

d. The **left** and **right adrenolumbar** arteries branch off just below the superior mesenteric and supply the tissue of the abdominal wall underneath the kidney.

e. The **renal** arteries supply each kidney with blood and branch off of the aorta immediately posterior to the adrenolumbars.

f. Near the base of the aorta, three small, thread-like arteries branch off. One of these runs along the underside of the colon. This is the **posterior mesenteric**. The other two supply the gonads (the ovaries in a female, the testes in a male). These are the **left** and **right gonadal** arteries.

g. The aorta ends at the base of the abdominal cavity and produces four branches. The two inner-most branches are the **left** and **right internal iliacs**. These two branches make a bend at the pelvis in order to run along each side of the bladder. Along the bladder these vessels are called the **left** and **right umbilical** arteries.

h. The two outer branches at the base of the aorta are the **right** and **left external iliacs** (remember that directly underneath these arteries are the right and left common iliac veins). Branching off these vessels are the **left** and **right iliolumbars**, which supply blood to the lower portion of the abdominal wall.

i. Trace the external iliacs into the legs. The external iliacs branch into the **femoral** artery, which is the external branch that continues on down into the leg, and the **deep femoral** artery, which is the internal branch that goes toward the buttocks and inner thigh.

j. Finally, go back to where the internal iliacs branch off the aorta. The **median sacral** artery comes off the underside of the aorta, right between the two internal iliacs. It goes toward the dorsal side of the body, supplying the sacral region of the spinal column with blood.