

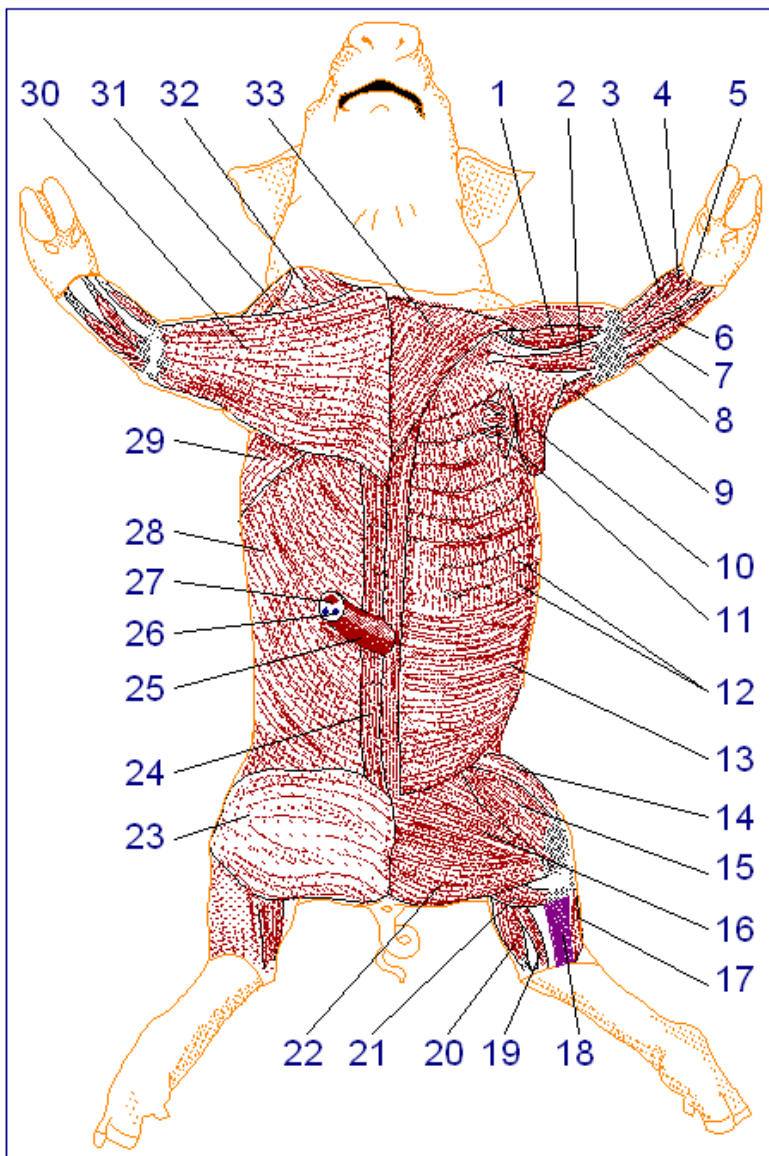
Pigs!



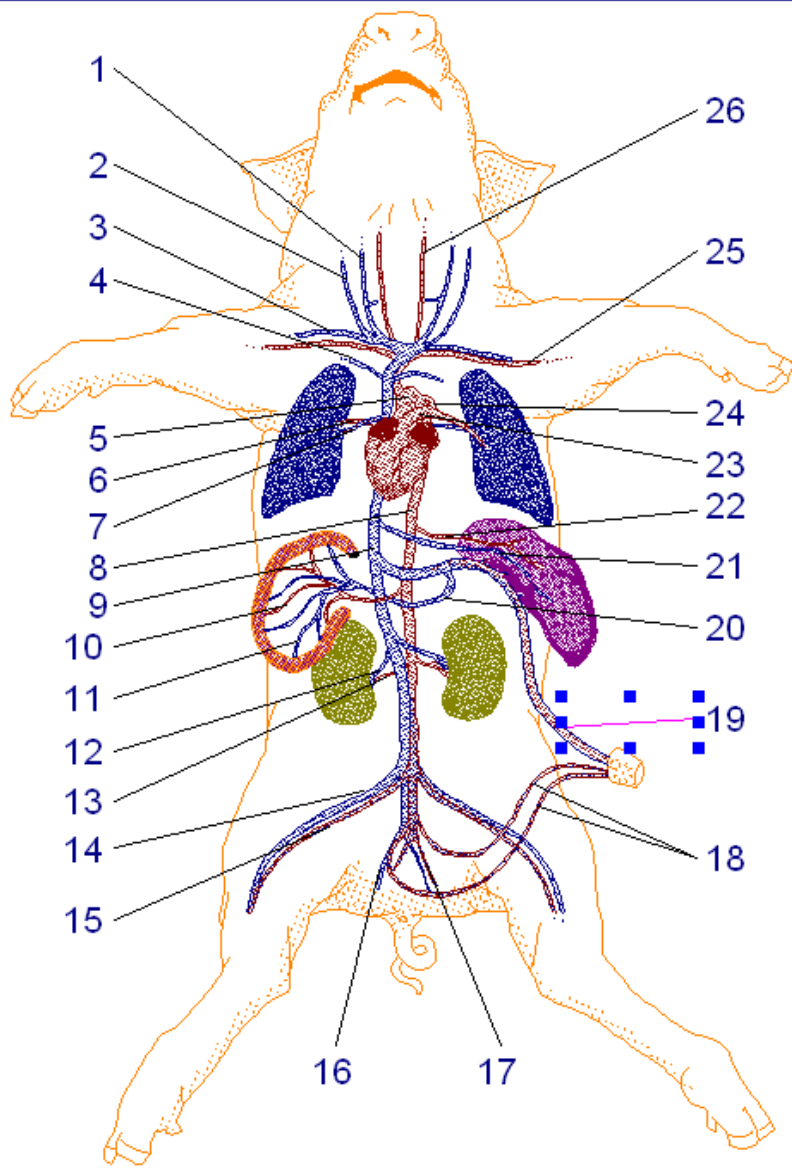
PROCEDURE:

CAUTION: Be careful when working near arteries and veins so they are not destroyed. Do not put excessive strain on the organs while shifting them around in the body and do not remove any structure until directed to do so.

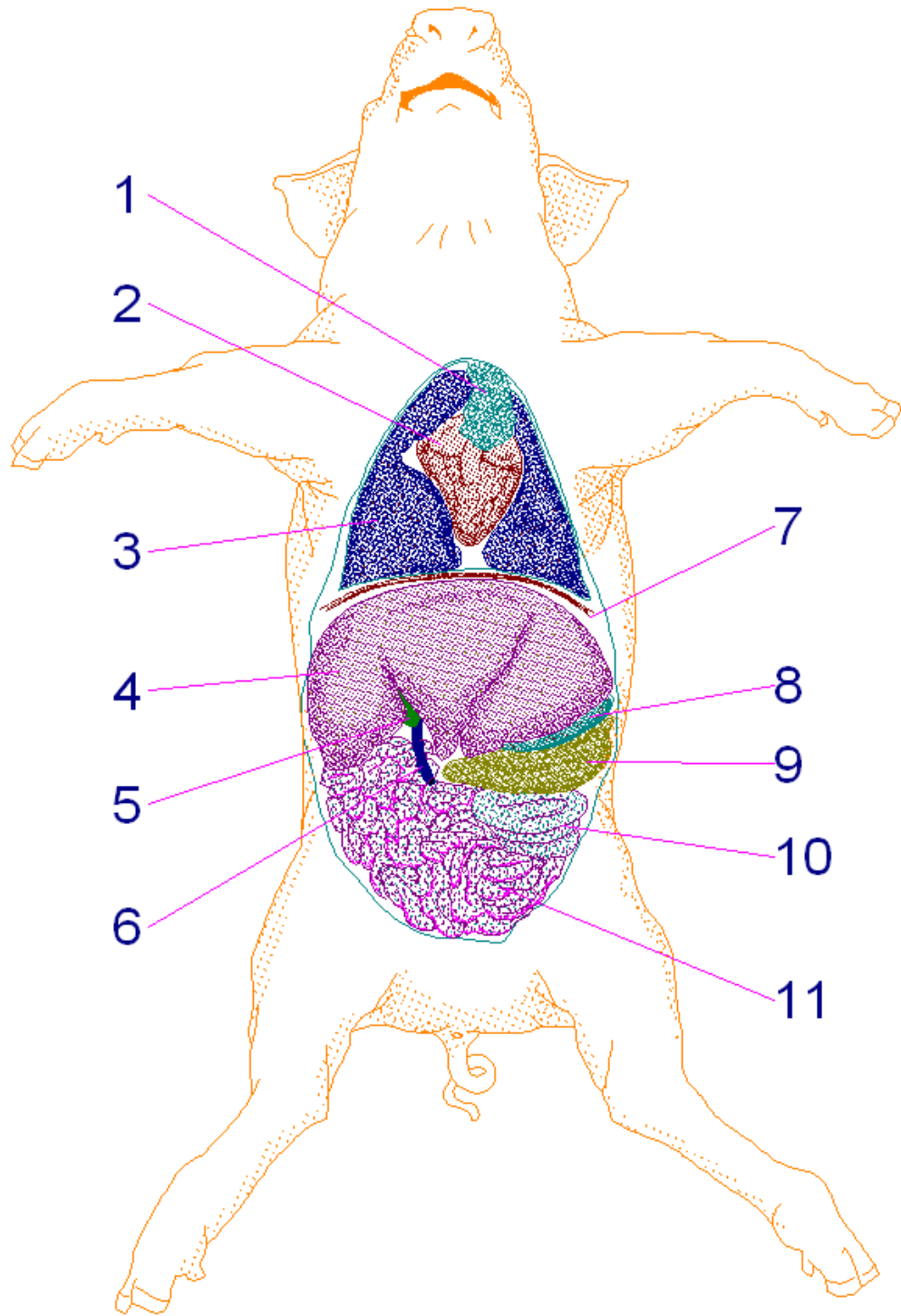
- 1. Organs of the Thoracic Cavity.** Starting first with your scalpel, and then scissors, cut through the skin and underlying muscles. Note the sheet-like diaphragm separating the anterior thoracic cavity from the posterior abdominal cavity. The lungs surround the heart and are the most prominent structures in the thorax (are they inflated?). Also note the pericardial membrane surrounding the heart. The thymus gland covers the upper portion of the heart and is enlarged in fetal and young pigs (what is its function?). Remove the thymus, but be careful not to destroy the arteries and veins lying beneath it. Locate the trachea, a tube strengthened by cartilaginous ribs that leads to the lungs (it may be partially buried in the neck musculature). A bulge in the trachea is the larynx ("voice box"). Identify the thyroid gland (the brown mass immediately below the larynx). Move the trachea aside, cut through the thin connective tissue underneath, and expose the flattened esophagus.
 - 2. Organs of the Abdominal Cavity.** The liver lies directly under the diaphragm and partially covers the stomach. Before it breaks, identify the umbilical vein connecting the liver to the umbilical cord. Gently lift the liver and probe among the lobes and locate the gall bladder. Follow the cystic duct leaving the gall bladder to its connection with the small intestine (at the common bile duct). Note the stomach lying beneath the liver and identify its connections to the esophagus and small intestine. That part of the stomach directly connected to the esophagus is the cardiac portion; the section leading to the intestine is the pyloric portion; and the curved fundus lies between the two. Locate the spleen (near the stomach; don't confuse it with a lobe of the liver). Gently lay out the intestines and follow their path to the colon. Note the opaque connective tissue (mesentery) that holds the intestines in place. One portion of the colon leads to the anus; the other ends in a blind sac (the cecum). Push the organs aside (gentle!) to expose the dorsal wall of the abdominal cavity and identify the kidneys and the tough, white ureter (leading to the urinary bladder in the base of the abdomen). Examine the dorsal surface of the kidneys to locate the adrenal glands. The reproductive organs lie near the urinary system. Identify the reproductive organs of the male and female. Examine a neighboring pig of the opposite sex.
 - 3. Circulatory System.** Starting at the base of the heart, expose the dorsal aorta and posterior vena cava (use forceps and a dissecting needle to pull and tear away the covering tissue). Working toward the rear of the animal, continue to clear away the overlying tissue and expose each of the arteries and veins shown in the figures. If you have difficulty clearing an area, or can not locate a vessel, follow an artery or vein from the organ to the aorta or vena cava. When you are finished with the abdominal cavity, start at the heart and clear the vessels leading to the lungs and head (some of the vessels in the neck may have been destroyed by the injection procedure; if so, see your instructor).
 - 4. Structure of Some Representative Organs.** Cut the blood vessels and membranes surrounding the heart and remove it from the thoracic cavity. Now that the heart is removed, trace the trachea from below the larynx toward the rear of the animal until it branches to each lung (the branches are called bronchi). Cut one of these branches, remove a lung, and section it to expose the interior. Examine the cut surface under a dissecting microscope. The small holes you see are bronchioles (divisions of the bronchus). The bronchioles eventually end as alveoli surrounded by capillaries (not visible with a dissecting microscope). Remove the stomach by cutting the intestine and esophagus. Pinch near the juncture of the pyloric portion of the stomach and intestine to locate a knot of tissue (the pyloric valve). Open the stomach, rinse out the merconium (greenish material in the stomach of a fetus) and examine the interior and pyloric valve under the dissecting microscope. What do you think is the function of the numerous folds (rugae) that line the stomach (and how many times do you think I have to ask this question before I get tired of it)? Remove a kidney with an attached ureter from the abdominal cavity and make a longitudinal incision. Examine a kidney half under your dissecting microscope. The ureter expands within the kidney to form a chamber called the renal pelvis. This, in turn, is sub-divided into smaller branches called renal calyces. Triangular masses of tissue (the renal pyramids) converge on each renal calyx and are collectively called the renal medulla. Outside the medulla you will find the light-colored renal cortex.
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- 1- BICEPS
- 2- CORACO-BRACHIALIS
- 3- EXTENSOR METACARPI MAGNUS
- 4- FLEXOR CARPI RADIALIS
- 5- FLEXOR DIGITORUM
- 6- PERFORATUS
- 7- FLEXOR METACARPI MEDIALIS
- 8- PERFORANS
- 9- TRICEPS BRACHII (LONG HEAD)
- 10 LATISSIMUS DORSI (CUT)
- 11 SERRATUS ANTERIOR
- 12 INTERCOSTALS
- 13 TRANSVERSUS
- 14 TENSOR FASCIAE LATAE
- 15 SARTORIUS
- 16 VASTUS MEDIALIS
- 17 FLEXOR METATARSUS
- 18 TIBIA
- 19 FLEXOR ACCESSORIUS
- 20 GASTROCNEMIUS
- 21 SEMITENDINOSUS
- 22 ADDUCTOR FEMORIS
- 23 GRACILIS
- 24 RECTUS ABDOMINIS
- 25 UMBILICAL CORD
- 26 UMBILICAL ARTERIES
- 27 UMBILICAL VEIN
- 28 EXTERNAL OBLIQUE
- 29 LATISSIMUS DORSI
- 30 PECTORALIS
- 31 BRACHIOCEPHALIC
- 32 STERNOMASTOIDEUS
- 33 DEEP PECOTRALIS



- 1- INTERNAL JUGULAR V.
- 2- EXTERNAL JUGULAR V.
- 3- SUBCLAVIAN V.
- 4- COSTOCERVICAL V.
- 5- AORTIC ARCH
- 6- PULMONARY A.
- 7- PULMONARY V.
- 8- DORSAL AORTA
- 9- VENA CAVA
- 10 MESENTERIC A.
- 11 MESENTERIC V.
- 12 RENAL V.
- 13 RENAL A.
- 14 COMMON ILIAC V.
- 15 COMMON ILIAC A.
- 16 SACRAL V.
- 17 SACRAL A.
- 18 UMBILICAL A.
- 19 UMBILICAL V.
- 20 HEPATIC PORTAL V.
- 21 HEPATIC V.
- 22 COELIAC A.
- 23 PULMONARY TRUNK
- 24 DUCTUS ARTERIOSUS
- 25 SUBCLAVIAN A.
- 26 COMMON CAROTID A.



1- THYMUS

2- HEART

3- LUNG

4- LIVER

5- GALL BLADDER

6- UMBILICAL VEIN

7- DIAPHRAGM

8- STOMACH

9- SPLEEN

10- COLON

11- SMALL INTESTINE