Fetal Pig Dissection 20

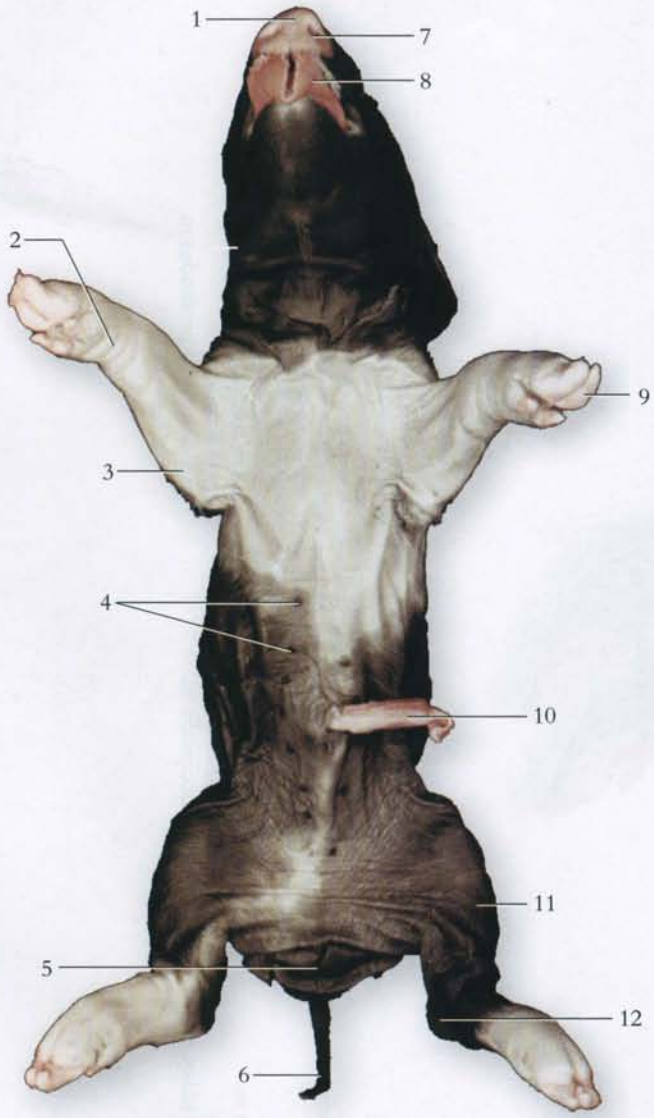

Figure 20.1
A ventral view of the surface anatomy of the fetal pig.

1. Nose	5. Scrotum	9. Hoof of digit
2. Wrist	6. Tail	10. Umbilical cord
3. Elbow	7. Nostril	11. Knee
4. Teats	8. Tongue	12. Ankle

Because much can be learned from dissecting embalmed fetal pig specimens, they are frequently utilized in anatomy laboratories. Fetal pigs are purchased from biological supply houses and are specially prepared for dissection. Excess embalming fluid should be drained from the packaged specimen prior to dissection.

Examine your specimen and identify the **umbilical cord** attached to the ventral surface of the abdomen. Locate the two rows of **teats** that extend the length of the abdomen. Determine the sex of your specimen. A male has a **scrotal sac** in the pelvic region of the body between the hind legs and a **urogenital opening** just caudal to the umbilical cord. The **penis** can be palpated as a muscular tubular structure just underneath the skin along the midline proceeding caudally from the urogenital opening. A female has a small fleshy **genital papilla** projecting from the urogenital opening, which is located immediately ventral to the **anal opening**.

Before the muscles and viscera of a fetal pig can be studied, the specimen's skin has to be removed according to the following suggested guidelines.

1. Place your specimen on a dissecting tray ventral side up. Using a sharp scalpel, make a shallow incision through the skin extending from the chin caudally to the umbilical cord. Carefully continue your cut around one side of the umbilical cord. If your specimen is a male, make a diagonal cut from the umbilical cord to the scrotum. If a female, continue a midventral incision from the umbilical cord to the genital papilla. Make an incision around the genitalia and tail.

2. From the midventral incision, extend an incision down the medial surfaces of the forelegs to the hoofs and then do the same for the skin of the hindlegs. Make circular incisions around each of the hoofs. Following the ventral borders of the lower jaws, make extended cuts from the chin dorsolaterally to just below the ears.

3. Grasp the cut edge of the skin and carefully remove it from your specimen. If the skin is difficult to remove, grasp the cut edge of the skin with one hand and push on the muscle with the thumb of the other hand.

4. After the specimen is skinned, the muscles can be seen more easily if the moisture on them is sponged away with a paper towel. The muscles of a fetal pig are extremely delicate and as you proceed to dissect your specimen, make certain that you separate the muscles along their natural boundaries. When transection of a muscle is necessary, carefully isolate the muscle from its attached connective tissue and make a clean cut across the belly of the muscle, leaving the origin and insertion intact.

5. At the end of the laboratory period, wrap your specimen in muslin cloth and store it in a tight, heavy-duty plastic bag. Discard the skin that was removed from your specimen, and the plastic shipment bag. Wet your specimen from time to time with a preservative solution (usually 2-3% phenol). Caution is necessary when using a phenol wetting solution as it is caustic and poisonous if misused or used in a concentrated form.

Figure 20.2
Lateral view of superficial musculature of the fetal pig.

1. Biceps femoris m.
2. Semitendinosus m.
3. Tensor fasciae latae m.
4. Gluteus medius m.
5. External abdominal oblique m.
6. Triceps brachii m. (long head)
7. Trapezius m.
8. Deltoid m.
9. Supraspinatus m.
10. Cleidooccipitalis m.
11. Cleidomastoid m.
12. Sternocephalicus m.
13. Triceps brachii m. (lateral head)
14. Brachialis m.
15. Pectoralis profundus m.

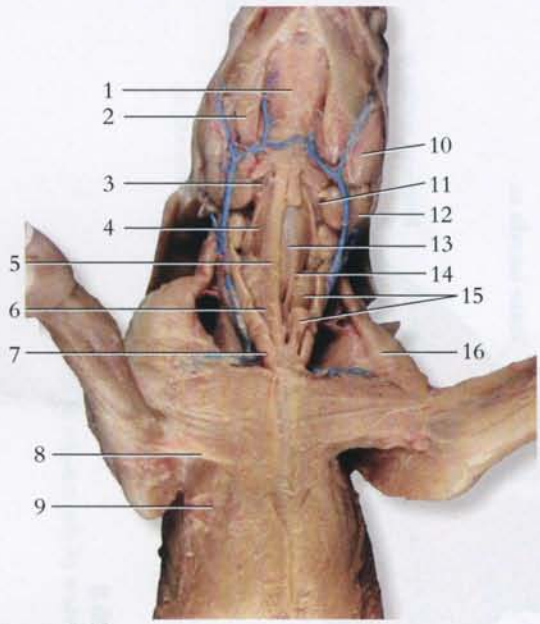

Figure 20.3
Ventral view of superficial muscles of neck and upper torso.

1. Mylohyoid m.
2. Digastric m.
3. Stylohyoid m.
4. Omohyoid m.
5. Sternohyoid m.
6. Thymus
7. Sternomastoid m.
8. Pectoralis superficialis m.
9. Pectoralis profundus m.
10. Masseter m.
11. Thyrohyoid m.
12. Mandibular gland
13. Larynx
14. Sternothyroid m.
15. Mandibular lymph nodes
16. Brachiocephalic m.

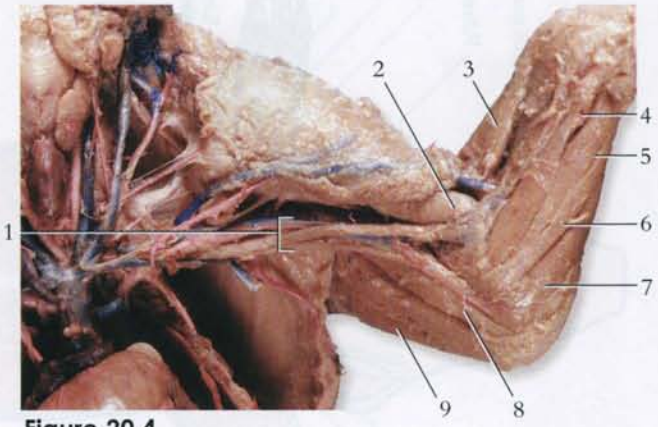

Figure 20.4
Superficial medial muscles of the forelimb.

1. Axillary artery and vein, brachial plexus
2. Biceps brachii m.
3. Extensor carpi radialis m.
4. Flexor carpi radialis m.
5. Flexor digitorum profundus m.
6. Flexor digitorum superficialis m.
7. Flexor carpi ulnaris m.
8. Triceps brachii m. (lateral head)
9. Triceps brachii m. (long head)

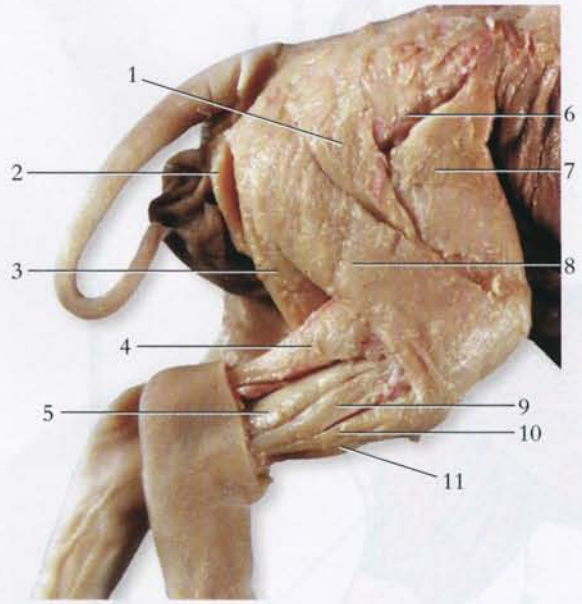

Figure 20.5
A lateral view of the superficial thigh and leg.

1. Gluteus superficialis m.
2. Semitendinosus m.
3. Semimembranosus m.
4. Gastrocnemius m.
5. Extensor digitorum quarti and quinti mm.
6. Gluteus medius m.
7. Tensor fasciae latae m.
8. Biceps femoris m.
9. Peroneus longus m.
10. Peroneus tertius m.
11. Tibialis anterior m.

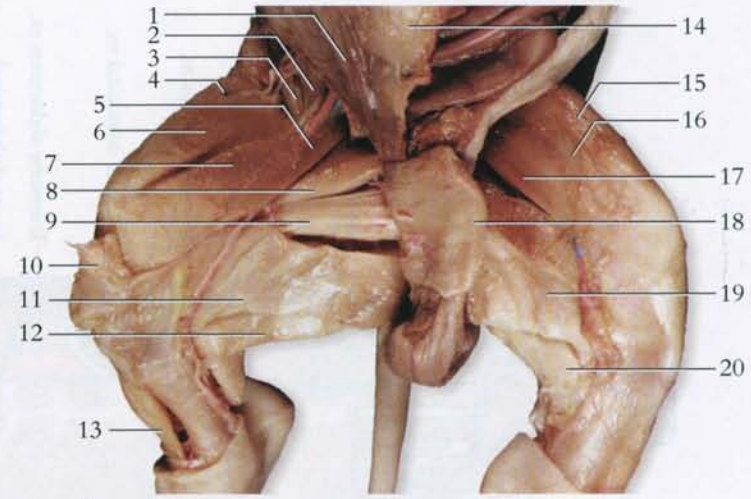

Figure 20.6
Medial muscles of thigh and leg.

1. External abdominal oblique m.
2. Psoas major m.
3. Iliacus m.
4. Tensor fasciae latae m.
5. Sartorius m.
6. Rectus femoris m.
7. Vastus medialis m.
8. Pectineus m.
9. Adductor m.
10. Aponeurosis of gracilis (cut)
11. Semimembranosus m.
12. Semitendinosus m.
13. Tibialis anterior m.
14. Linea alba
15. Rectus femoris m.
16. Vastus medialis m.
17. Sartorius m.
18. Gracilis m. (cut)
19. Gracilis m.
20. Semitendinosus m.

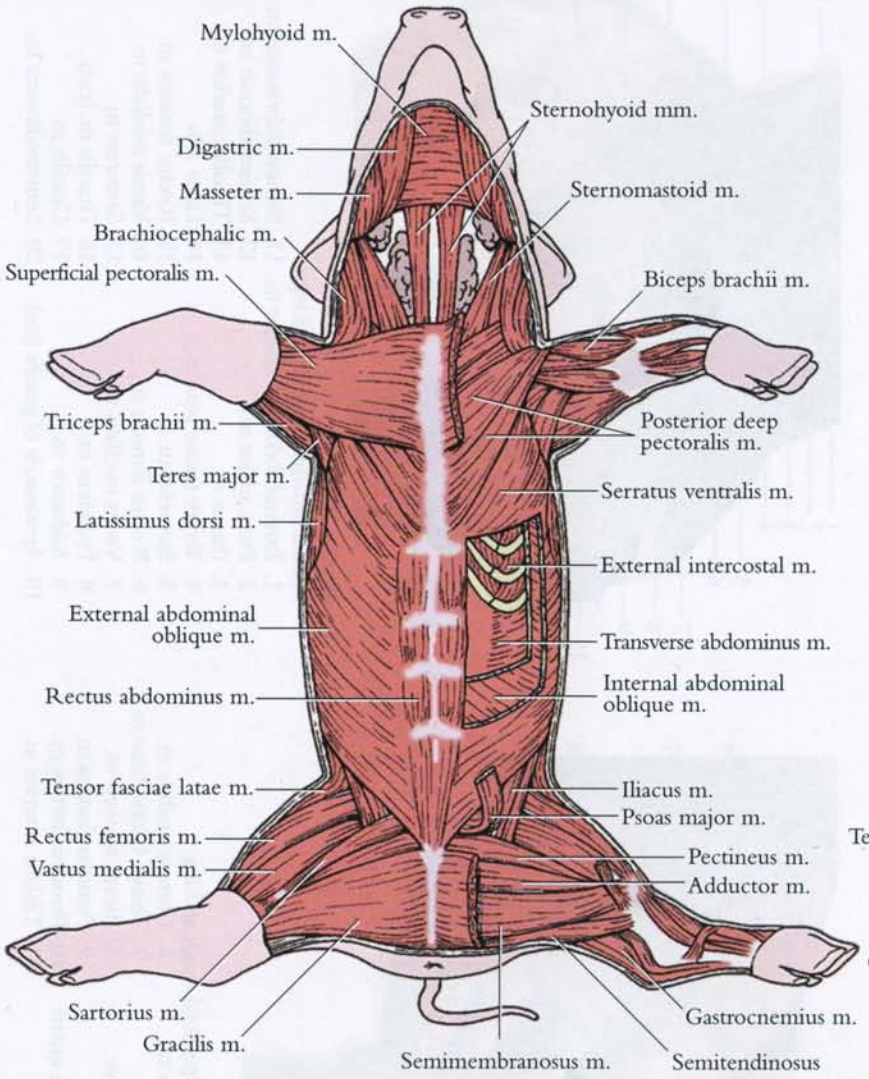

Figure 20.7
A ventral view of the muscles of the fetal pig.

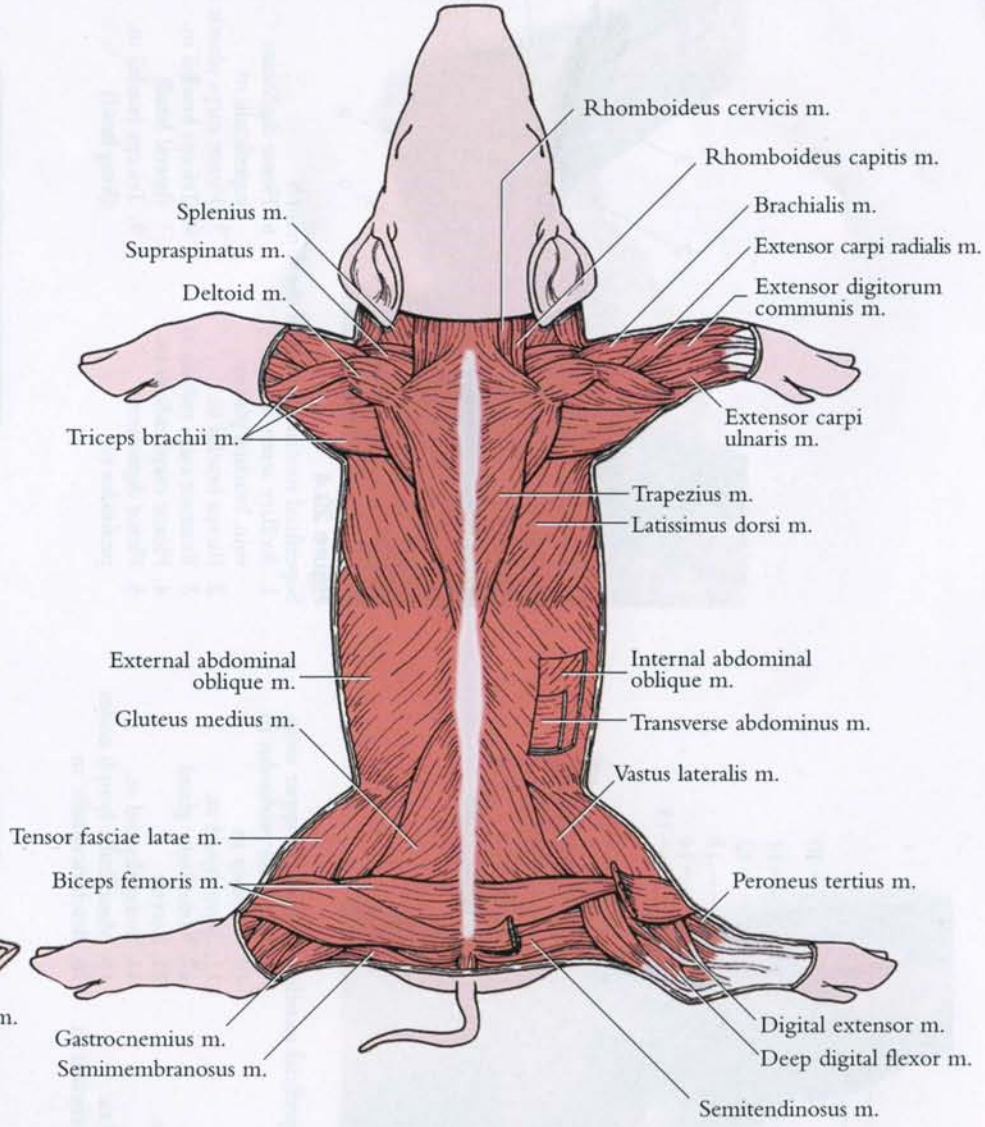

Figure 20.8
A dorsal view of the muscles of the fetal pig.

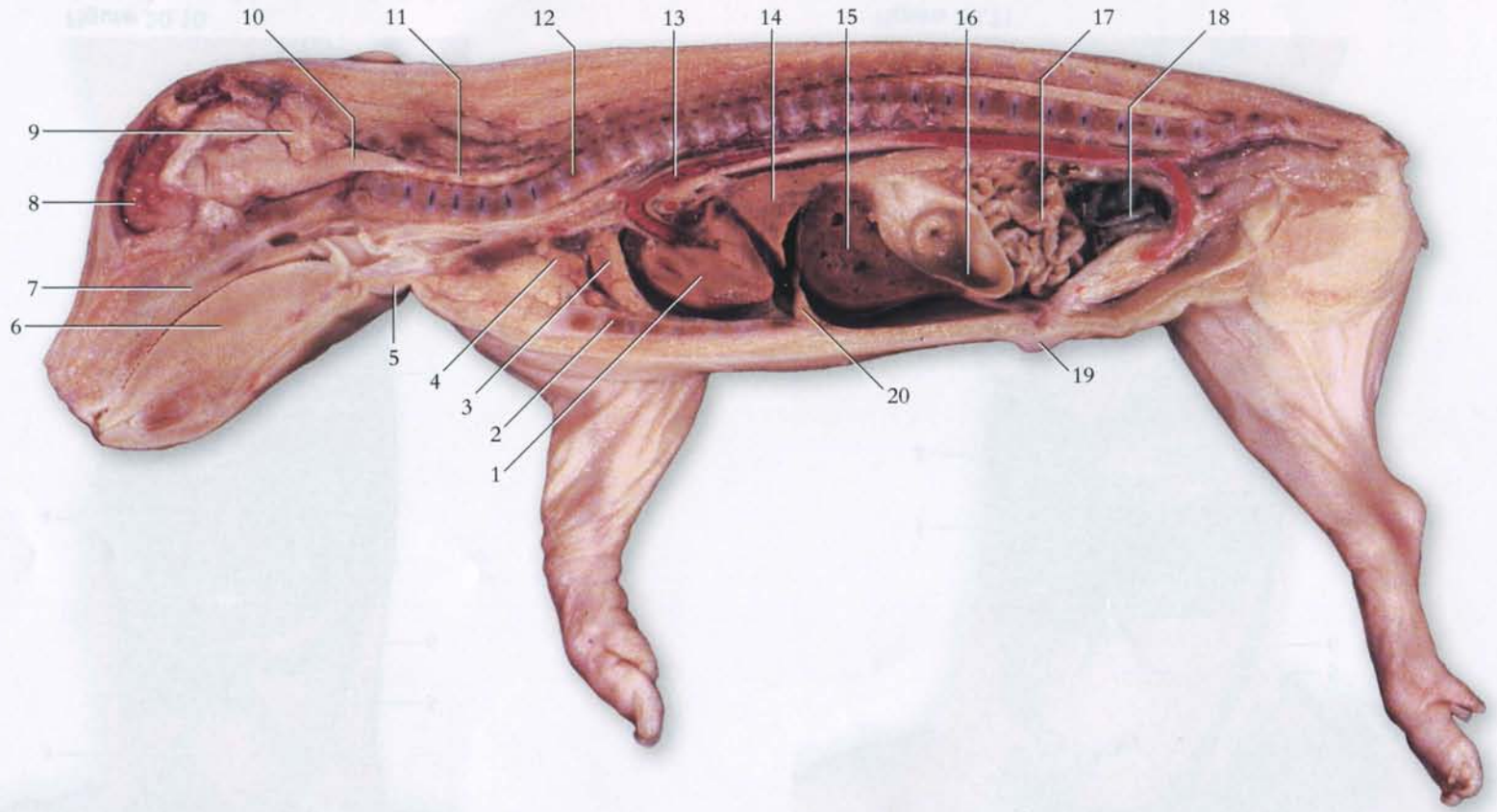

Figure 20.9
A sagittal view of the fetal pig.

1. Heart
2. Sternum
3. Thymus
4. Thyroid gland
5. Larynx
6. Tongue
7. Hard palate
8. Cerebrum
9. Cerebellum
10. Medulla oblongata
11. Spinal cord
12. Vertebra of vertebral column
13. Aorta
14. Lung
15. Liver
16. Stomach
17. Small intestine
18. Large intestine
19. Umbilicus
20. Diaphragm

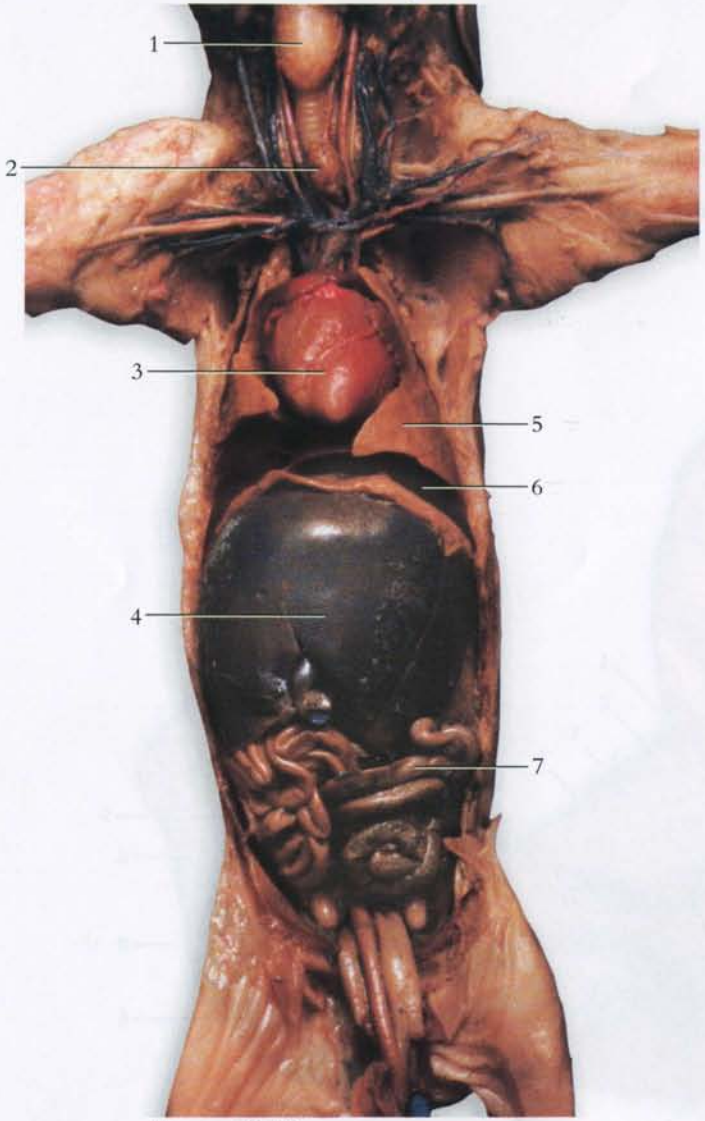

Figure 20.10
A ventral view of the viscera of a fetal pig.
1. Larynx
2. Thyroid gland
3. Heart
4. Liver
5. Lung
6. Diaphragm
7. Small intestine

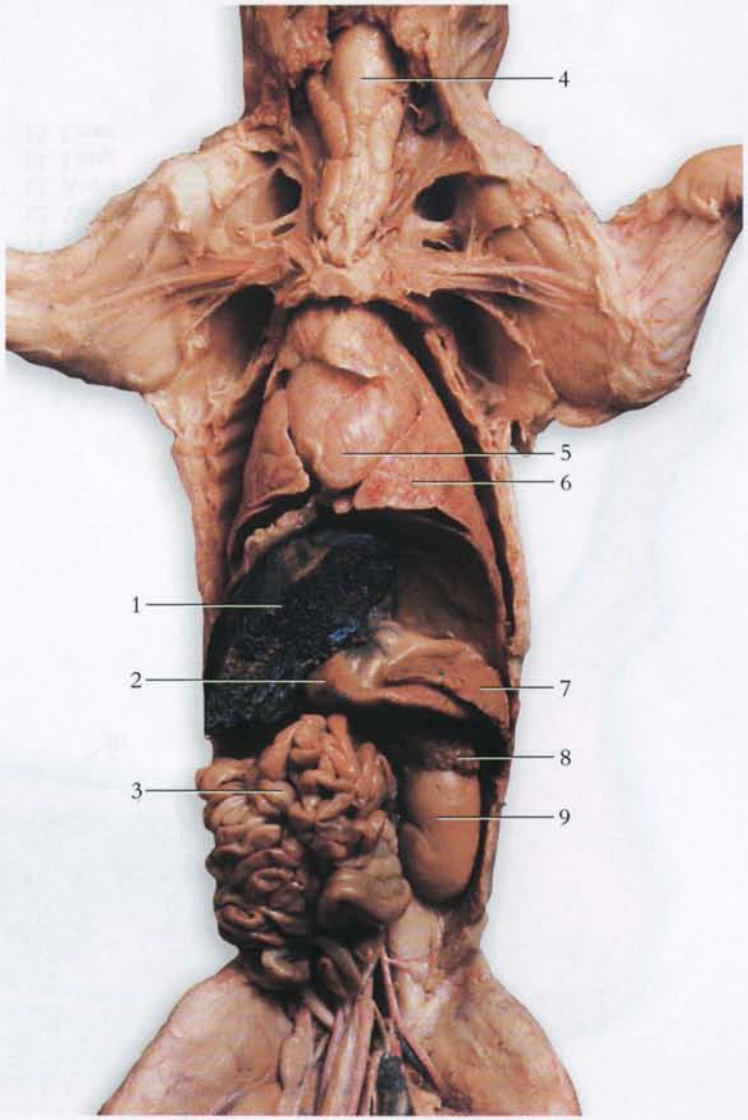

Figure 20.11
Deep viscera and associated structures.
1. Liver (cut)
2. Stomach
3. Small intestine
4. Larynx
5. Heart
6. Lung
7. Spleen
8. Adrenal gland
9. Kidney

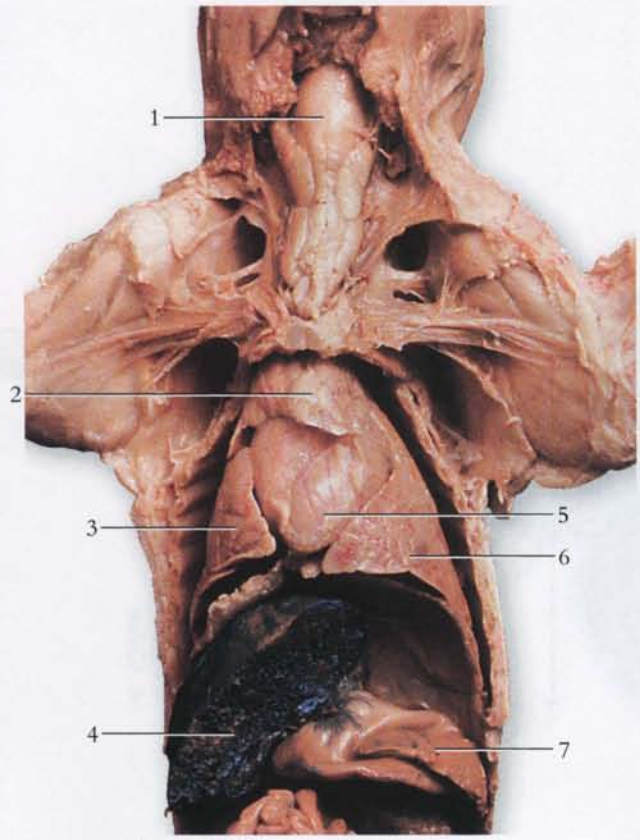

Figure 20.12
Thorax and neck regions of the fetal pig.
1. Larynx
2. Thymus
3. Lung
4. Liver (cut)
5. Heart
6. Lung
7. Spleen (cut)

Figure 20.13
A ventral view of the abdominal cavity of a fetal pig.
1. Diaphragm
2. Liver
3. Gallbladder
4. Umbilical vein
5. Small intestine
6. Undescended testis
7. Umbilical artery
8. Urinary bladder

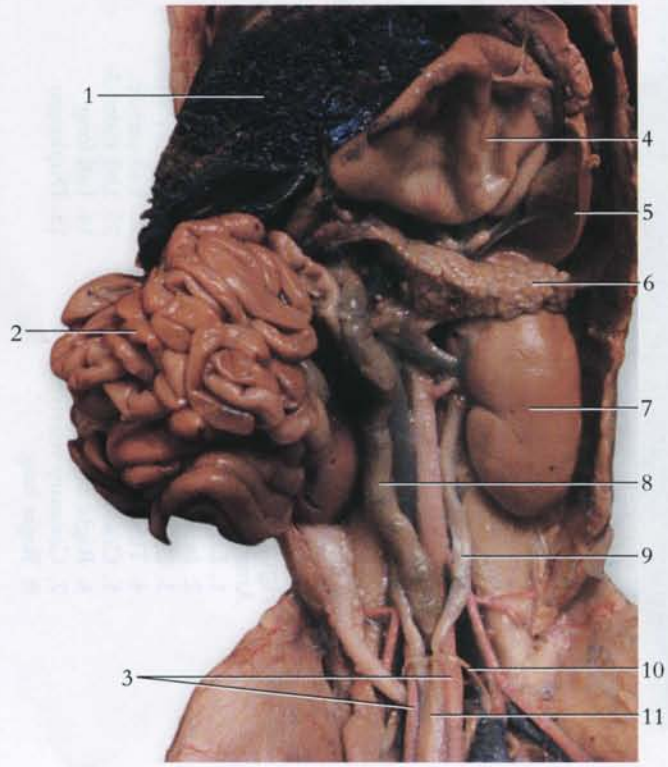

Figure 20.14
Abdominal organs of the fetal pig.
1. Liver (cut)
2. Small intestine
3. Umbilical arteries
4. Stomach (reflected)
5. Spleen
6. Pancreas
7. Kidney
8. Large intestine
9. Ureter
10. Ductus (vas) deferens
11. Urinary bladder

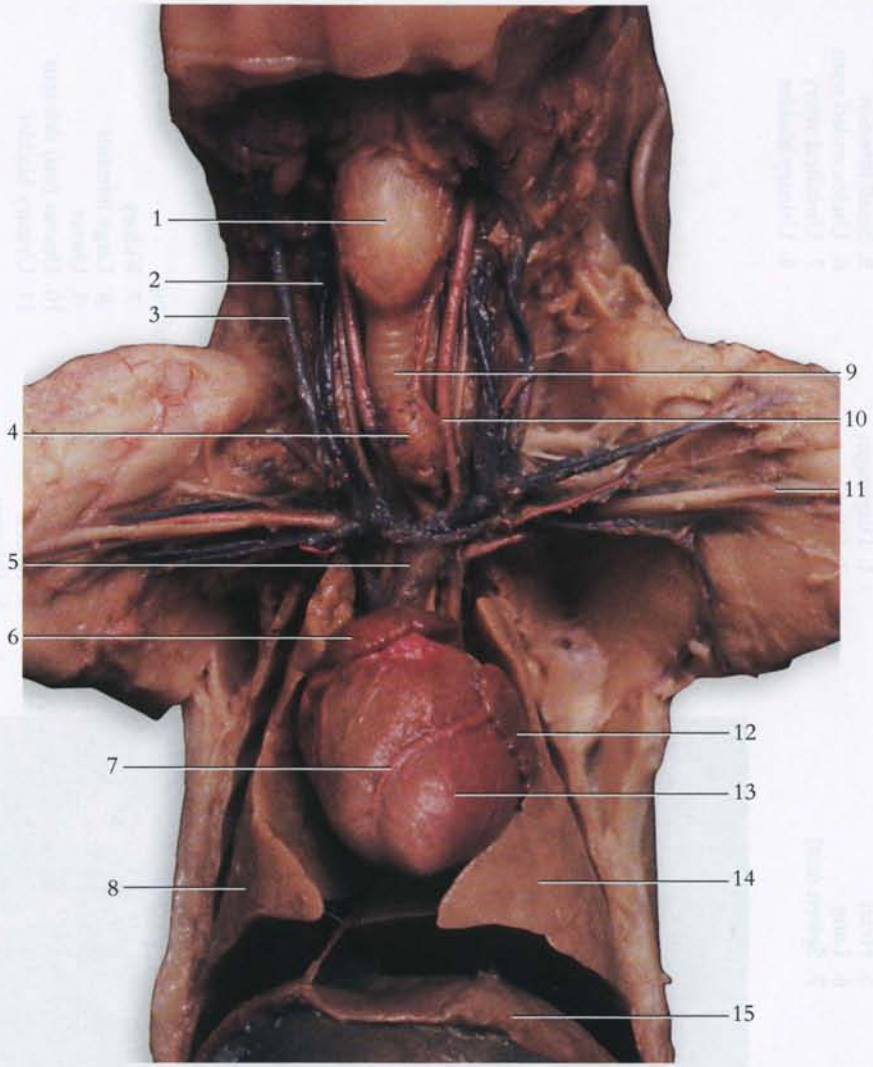

Figure 20.15
Arteries and veins of the neck and thoracic region.

1. Larynx
2. Internal jugular vein
3. External jugular vein
4. Thyroid gland
5. Cranial (superior) vena cava
6. Right auricle
7. Coronary vessels
8. Right lung
9. Trachea
10. Left common carotid artery
11. Axillary artery
12. Left auricle
13. Left ventricle
14. Left lung
15. Diaphragm

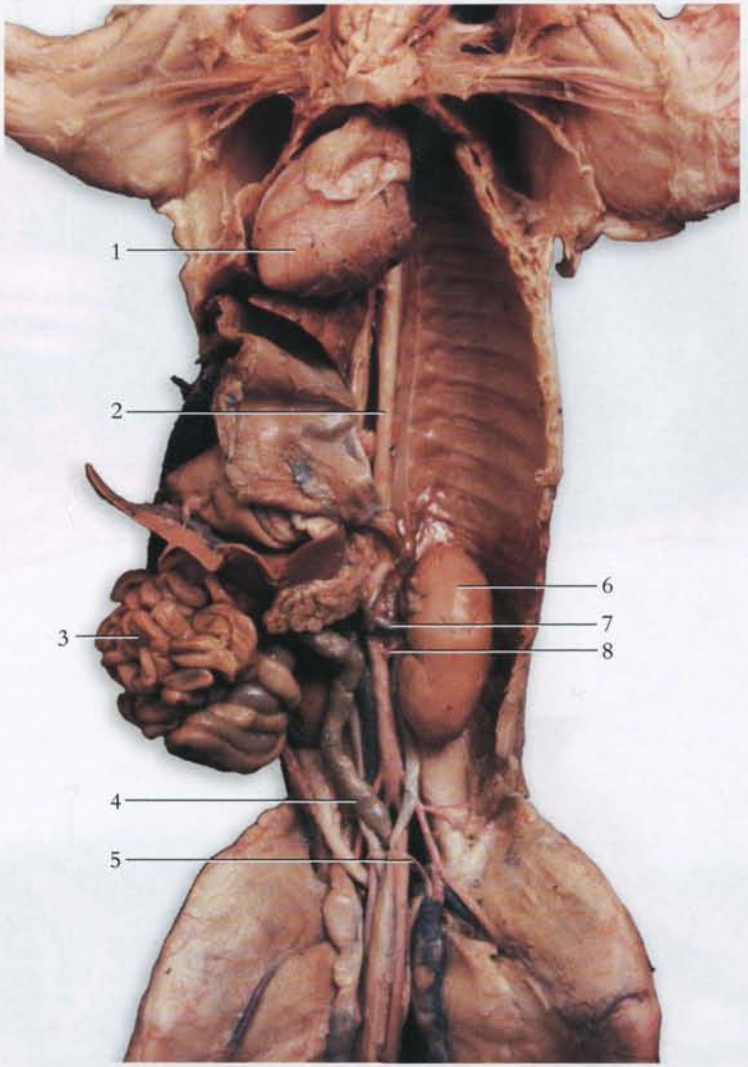

Figure 20.16
Blood supply to the abdomen and lower extremities.

1. Heart
2. Thoracic aorta
3. Small intestine
4. Colon
5. Ductus deferens
6. Kidney
7. Renal artery
8. Renal vein

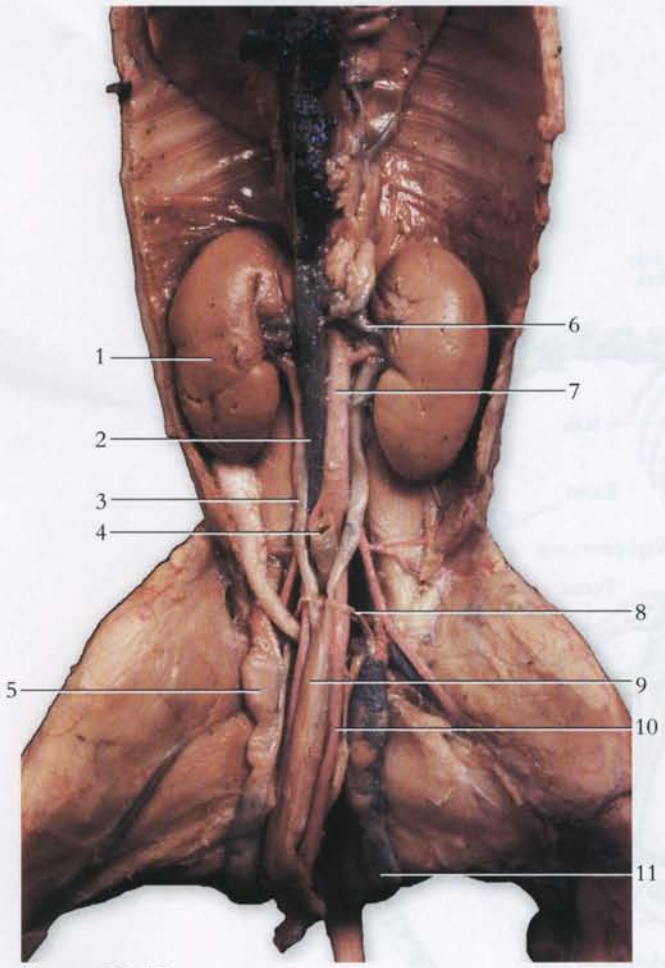

Figure 20.17
Urogenital system of the fetal pig.

1. Kidney
2. Caudal (inferior) vena cava
3. Ureter
4. Rectum (cut)
5. Partially dissected testis
6. Renal vein
7. Descending aorta
8. Ductus deferens
9. Urinary bladder
10. Umbilical artery
11. Epididymis

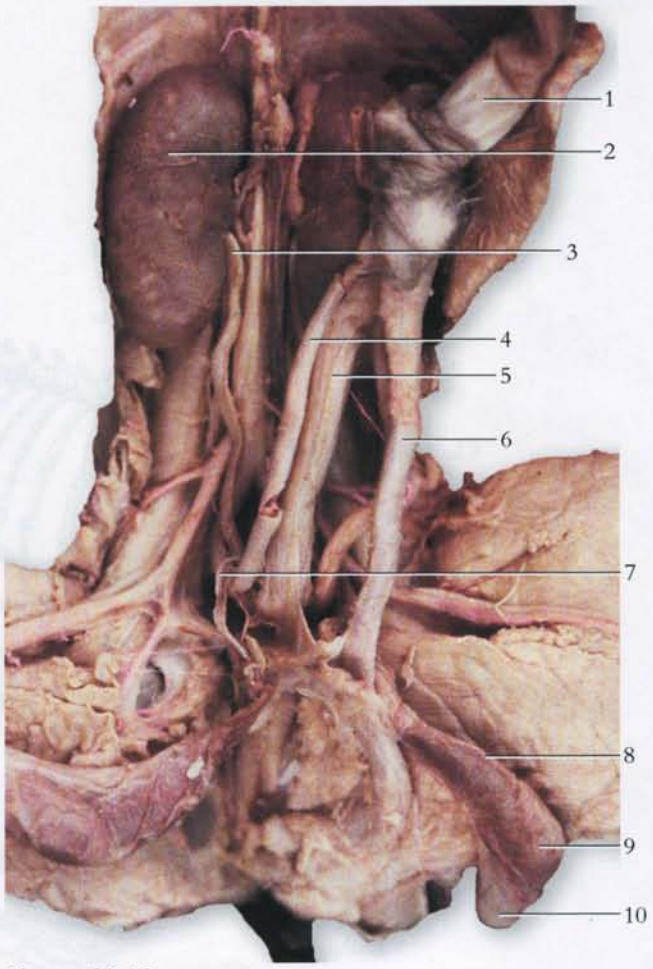

Figure 20.18
Urogenital system of the fetal pig.

1. Umbilical cord
2. Right kidney
3. Ureter
4. Umbilical artery
5. Urinary bladder
6. Penis
7. Vas (ductus) deferens
8. Spermatic cord
9. Right testis
10. Epididymis

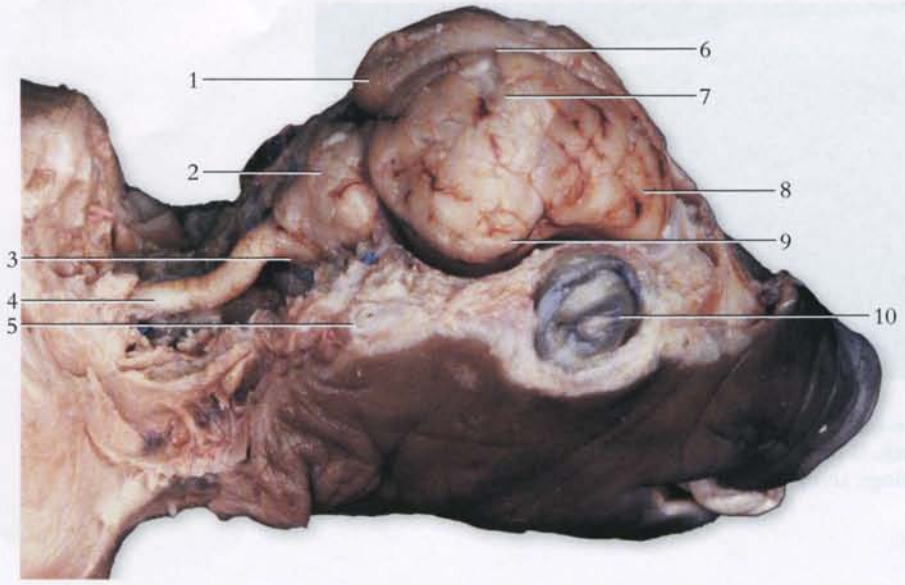

Figure 20.19
General structures of the fetal pig brain. Because the cerebrum is less defined in pigs, the regions are not known as lobes as they are in humans.

1. Occipital region of cerebrum
2. Cerebellum
3. Medulla oblongata
4. Spinal cord
5. External acoustic meatus
6. Longitudinal fissure
7. Parietal region of cerebrum
8. Frontal region of cerebrum
9. Temporal region of cerebrum
10. Eye