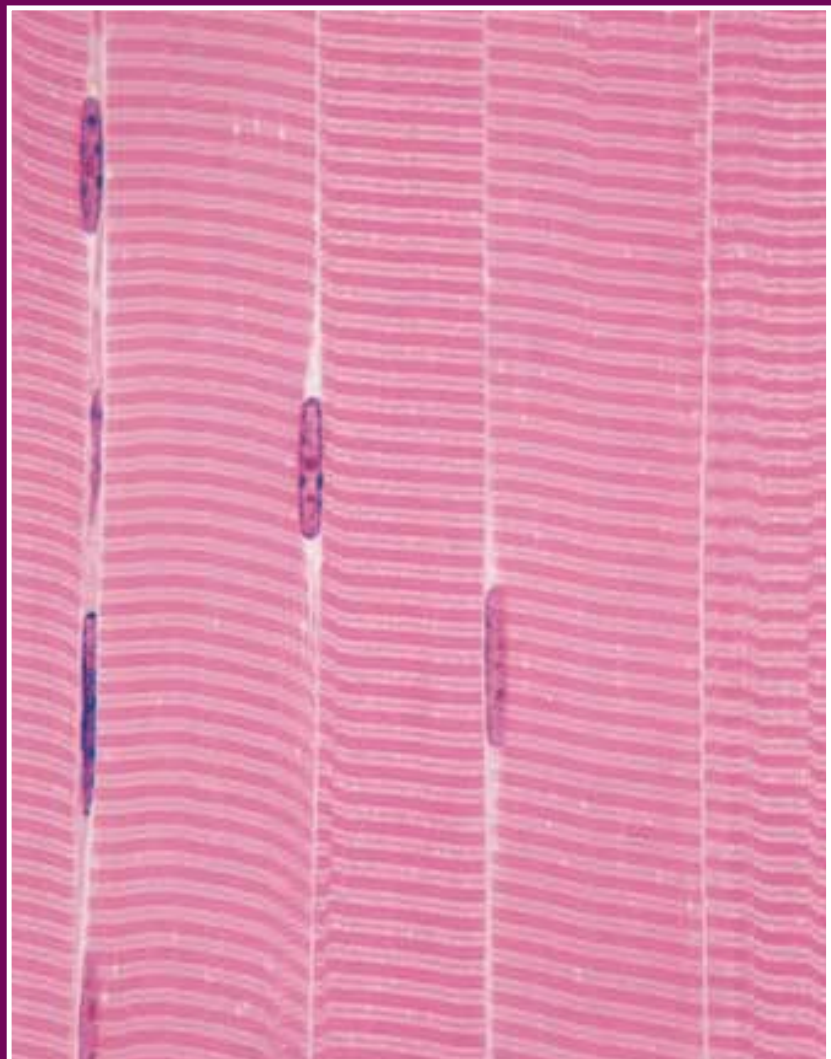


C H A P T E R

4

Dissections



Striated (Skeletal) Muscle Fibers (Longitudinal Section)

Figure 4-1

The Cat Skeleton

1. Maxilla
2. Mandible
3. Orbit
4. Zygomatic arch
5. Cranium
6. Cervical vertebrae (7)
7. Sternum
8. Scapula
9. Humerus
10. Radius
11. Ulna
12. Carpal bones
13. Metacarpal bones
14. Phalanges
15. Thoracic vertebrae (13)
16. Ribs
17. Lumbar vertebrae (7)
18. Pelvis
19. Femur
20. Tibia
21. Fibula
22. Calcaneus
23. Tarsal bones
24. Metatarsal bones
25. Phalanges
26. Caudal vertebrae (21–25)





Figure 4-2
Cat Skull, Left Lateral View

- | | | |
|--|--|--|
| <p>A. Mandible</p> <ol style="list-style-type: none"> 1. Lower canine tooth 2. Mental foramina 3. Lower premolar teeth 4. Lower molar teeth 5. Angular process 6. Condylod process 7. Coronoid process <p>B. Incisive bone</p> <p>C. Nasal bone</p> <p>D. Maxilla</p> <ol style="list-style-type: none"> 8. Upper canine tooth 9. Infraorbital foramen 10. Upper premolar tooth 11. Upper molar tooth | <p>E. Lacrimal bone and fossa</p> <p>F. Orbit</p> <p>G. Frontal bone</p> <ol style="list-style-type: none"> 12. Zygomatic process of frontal bone 13. Frontal process of malar bone 14. Temporal process of malar bone <p>H. Coronal suture</p> <p>I. Malar or zygomatic bone</p> <ol style="list-style-type: none"> 15. Zygomatic process of temporal bone 16. External auditory meatus 17. Stylomastoid foramen 18. Mastoid process | <p>K. Parietal bone</p> <p>L. Squamosal suture</p> <p>M. Occipital bone</p> <ol style="list-style-type: none"> 19. External occipital protuberance 20. Nuchal crest 21. Occipital condyle <p>N. Atlas</p> <p>O. Axis</p> <p>P. Cervical vertebrae (3–7)</p> <ol style="list-style-type: none"> 22. Spinous process 23. Transverse process 24. Transverse foramen |
|--|--|--|

Figure 4-3
Axial Skeleton of Cat,
Dorsal View

1. Frontal bone
2. Parietal bone
3. Sagittal suture
4. Coronal suture
5. Bregma
6. Atlas
7. Transverse process (wing) of atlas
8. Axis
9. Cervical vertebrae (7)
10. Thoracic vertebrae (13)
11. Ribs
12. Lumbar vertebrae (7)
13. Sacral vertebrae (3)
14. Caudal vertebrae (21–25)
15. Scapula
16. Humerus
17. Ilium
18. Ischium
19. Femur

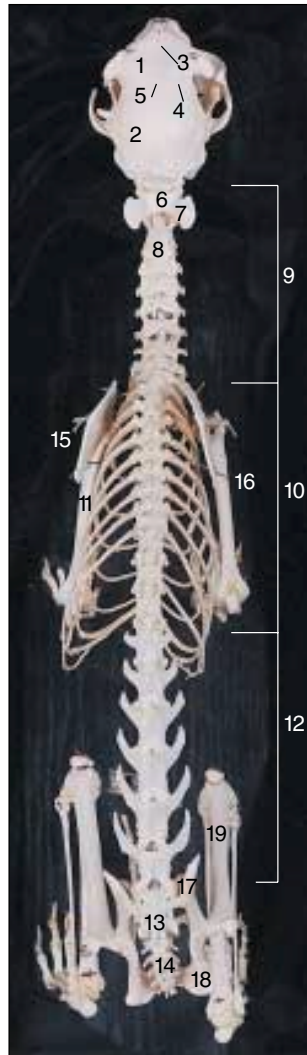


Figure 4-4
Cat Skeleton, Front Right Lateral Aspect

- | | |
|------------------------------|-----------------------|
| A. Vertebral spinous process | F. Radius |
| B. Sternum | 11. Radial tuberosity |
| C. Ribs | 12. Styloid process |
| D. Scapula | G. Ulna |
| 1. Supraspinous fossa | 13. Olecranon process |
| 2. Acromial spine | H. Carpal bones |
| 3. Infraspinous fossa | I. Metacarpal bones |
| E. Humerus | J. Phalanges |
| 4. Proximal head | |
| 5. Deltoid tuberosity | |
| 6. Distal head | |
| 7. Trochlea | |
| 8. Lateral epicondyle | |
| 9. Medial epicondyle | |
| 10. Radial fossa | |

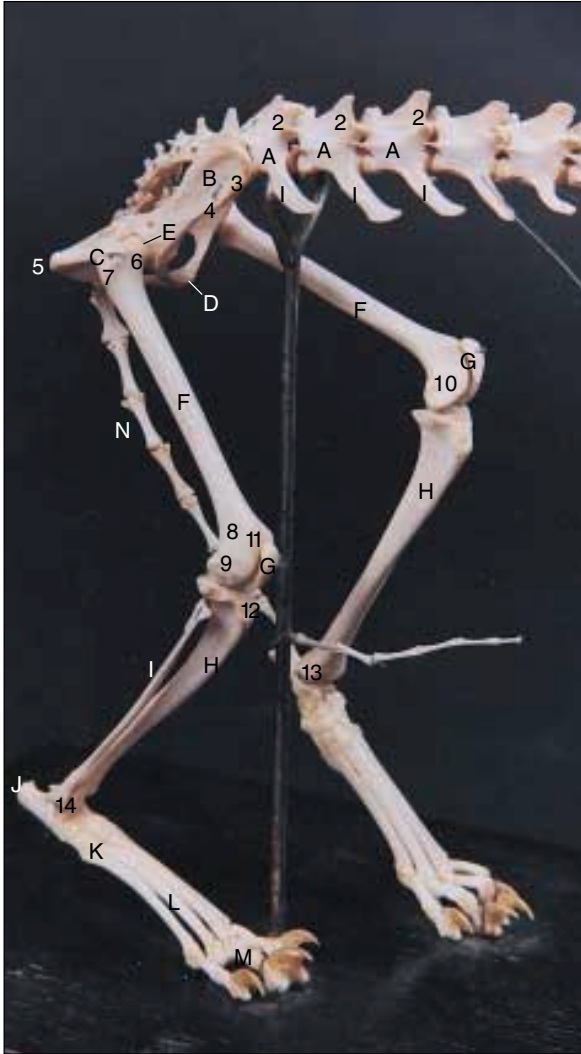


Figure 4-5

Cat Skeleton, Right Lateral Aspect

- A. Lumbar vertebrae
 - 1. Transverse processes
 - 2. Spinous processes
- B. Ilium
 - 3. Cranial ventral iliac spine
 - 4. Caudal ventral iliac spine
- C. Ischium
 - 5. Ischial tuberosity
- D. Pubis
- E. Acetabulum
- F. Femur
 - 6. Proximal head
 - 7. Greater trochanter
 - 8. Distal head
 - 9. Lateral condyle
 - 10. Medial condyle
 - 11. Trochlea
- G. Patella
- H. Tibia
 - 12. Tibial tuberosity
 - 13. Medial malleolus
- I. Fibula
 - 14. Lateral malleolus
- J. Calcaneus
- K. Tarsal bones
- L. Metatarsal bones
- M. Phalanges
- N. Caudal vertebrae

Figure 4-6
Superficial Anatomy of
Cat Head and Neck,
Left Lateral View

1. Vibrissal barrels for sensory hairs (whiskers)
2. Tongue
3. Buccinator muscle
4. Diaphragmatic muscle
5. Temporalis muscle
6. Masseter muscle
7. Dorsal buccal branch of facial (VII) nerve
8. Ventral buccal branch of facial (VII) nerve
9. Parotid duct
10. Parotid gland
11. Submandibular gland
12. Lymph node
13. External jugular vein
14. Transverse jugular vein
15. Anterior facial vein
16. Posterior facial vein
17. Sternohyoid muscle
18. Sternothyroid muscle
19. Cleidomastoid muscle
20. Sternomastoid muscle
21. Clavotrapezius muscle
22. Clavobrachialis muscle
23. Acromiotrapezius muscle



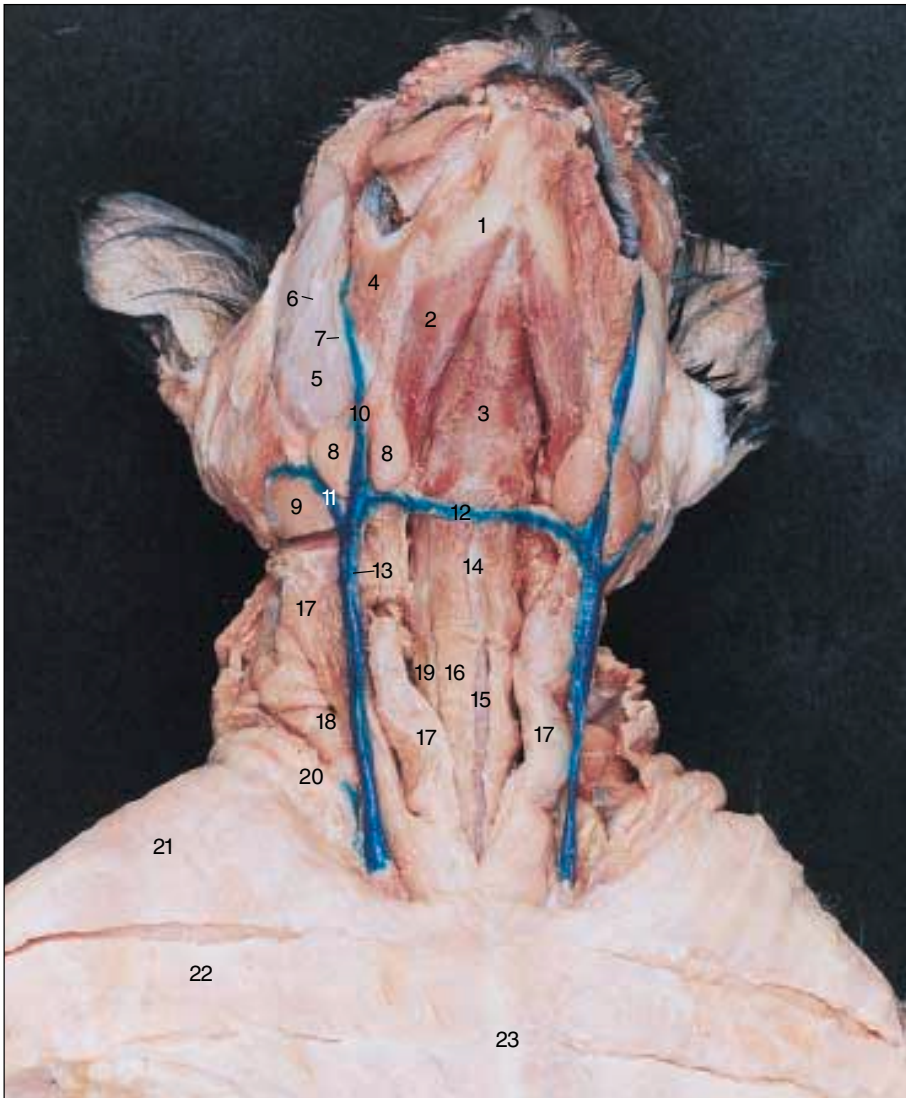
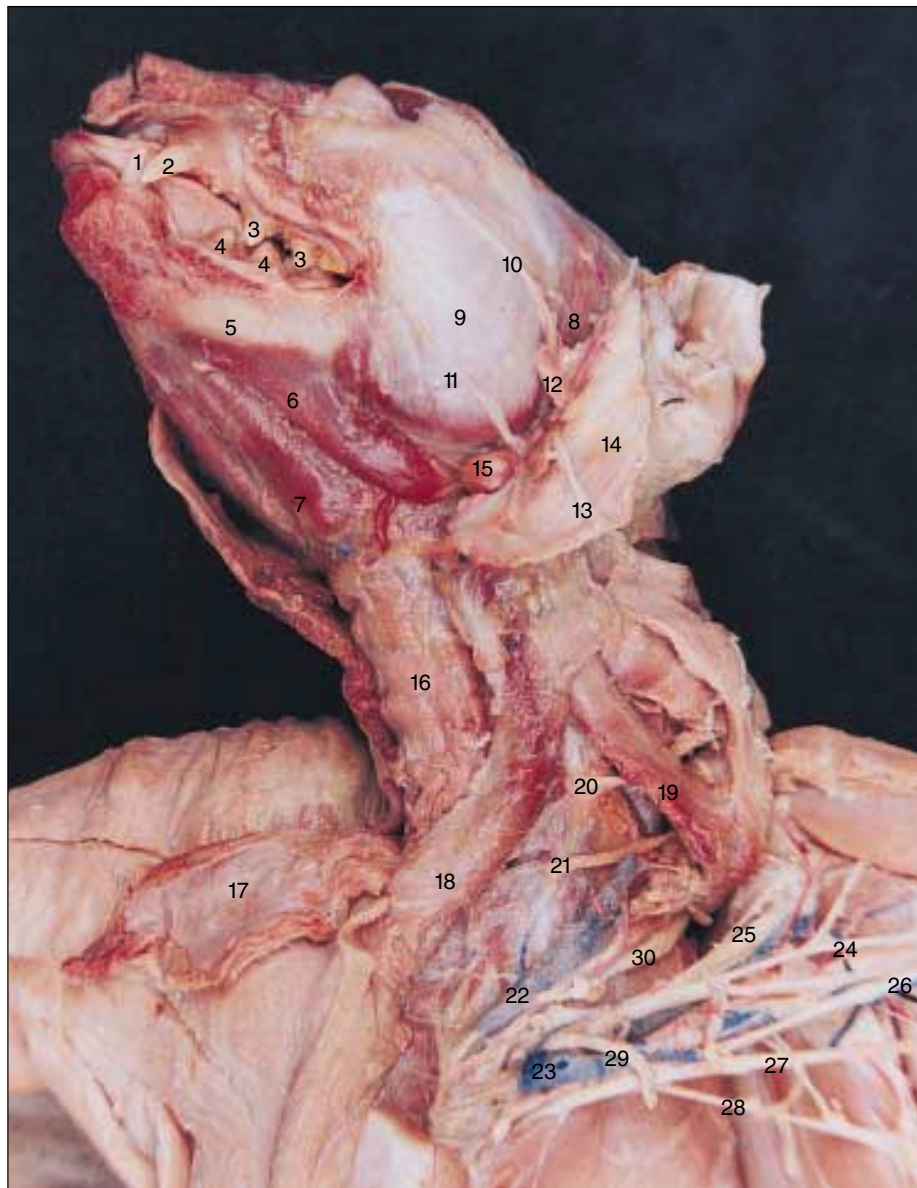


Figure 4-7
Superficial Anatomy of
Cat Head and Neck,
Ventral Aspect

1. Body of mandible
2. Digastric muscle
3. Mylohyoid muscle
4. Buccinator muscle
5. Masseter muscle
6. Dorsal branch of facial (VII) nerve
7. Ventral branch of facial (VII) nerve
8. Lymph node
9. Submandibular gland
10. Anterior facial vein
11. Posterior facial vein
12. Transverse jugular vein
13. External jugular vein
14. Larynx
15. Trachea
16. Sternomastoid muscle
17. Sternothyroid muscle (unavoidably damaged on animal's right side during vascular perfusion)
18. Cleidomastoid muscle
19. Sternothyroid muscle
20. Clavotrapezius muscle
21. Clavobrachialis muscle
22. Pectoantebrachialis muscle
23. Sternum

Figure 4-8
Deep Anatomy of Cat
Head and Neck, Left
Ventrolateral Aspect

1. Lower canine tooth
2. Upper canine tooth
3. Upper premolar tooth
4. Lower premolar tooth
5. Body of mandible
6. Digastric muscle
7. Mylohyoid muscle
8. Temporalis muscle
9. Masseter muscle
10. Dorsal branch of facial (VII) nerve
11. Ventral branch of facial (VII) nerve
12. Parotid duct
13. Cutaneous branch of facial (VII) nerve
14. Platysma muscle (reflected)
15. Lymph node
16. Sternohyoid muscle
17. Sternomastoid muscle (reflected)
18. Cleidomastoid muscle
19. Omohyoid muscle
20. 4th cervical nerve
21. 5th cervical nerve
22. Jugular vein
23. Subclavian vein
24. Musculocutaneous nerve
25. Radial nerve
26. Median nerve
27. Ulnar nerve
28. Thoracic nerve
29. Ventral thoracic nerve (cut)
30. Axillary nerve



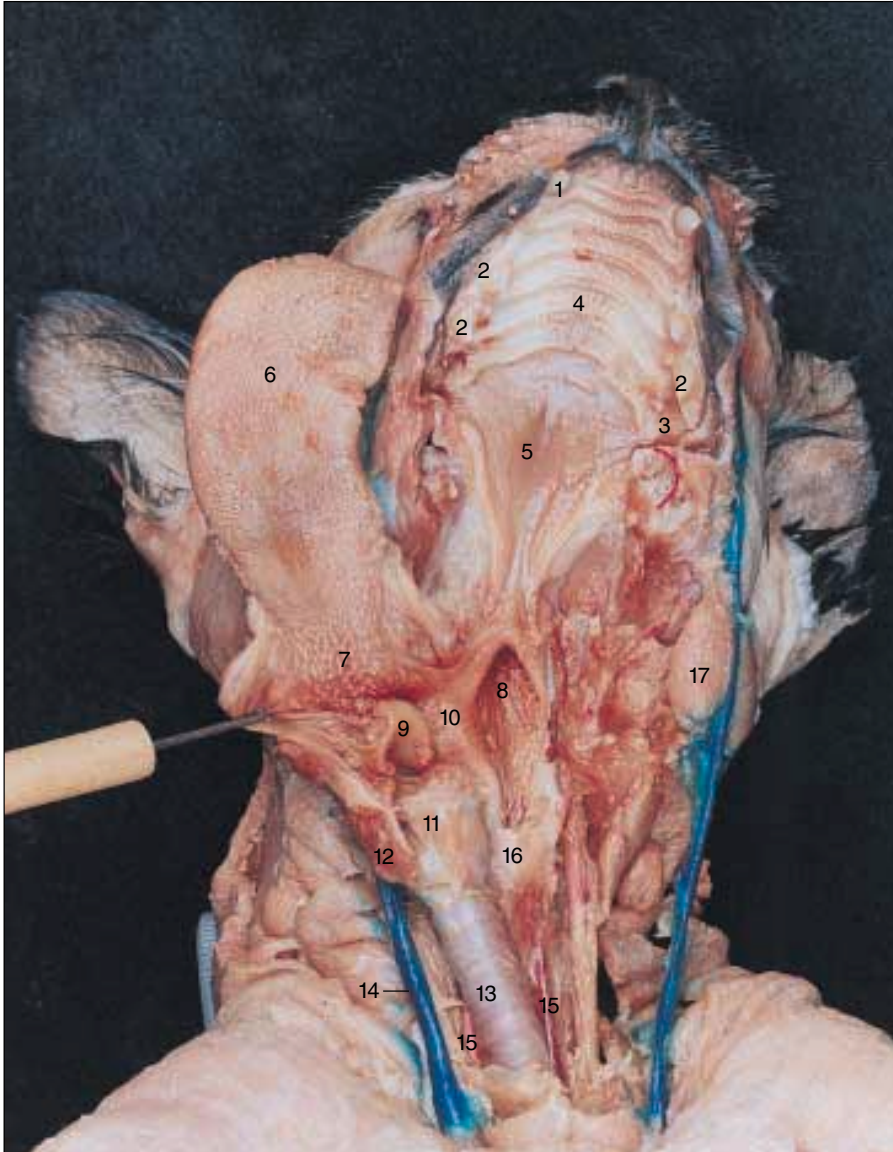


Figure 4-9
Deep Anatomy of Cat Head
and Neck, Oral Cavity with
Mandible Removed

1. Upper canine tooth
2. Upper premolar tooth
3. Upper molar tooth
4. Hard palate with palatine rugae
5. Soft palate
6. Tongue
7. Foliate papillae
8. Isthmus of fauces
9. Epiglottis
10. Palatine tonsil
11. Larynx
12. Thyroid gland (reflected)
13. Trachea
14. External jugular vein
15. Carotid artery
16. Esophagus
17. Lymph node

Figure 4-10
Superficial Muscles of the Cat
Thoracic Limb, Ventral Aspect

1. Clavobrachialis muscle
2. Pectoantebrachialis muscle
3. Pectoralis major muscle
4. Pectoralis minor muscle
5. Latissimus dorsi muscle
6. Epitrochlearis muscle
7. Flexor carpi ulnaris muscle
8. Palmaris longus muscle
9. Flexor carpi radialis muscle
10. Pronator teres muscle
11. Extensor carpi radialis muscle
12. Brachioradialis muscle (cut)
13. Cephalic vein
14. Antebrachial fascia
15. Ulnar nerve
16. Olecranon process of ulna
17. Flexor retinaculum (transverse carpal ligament)



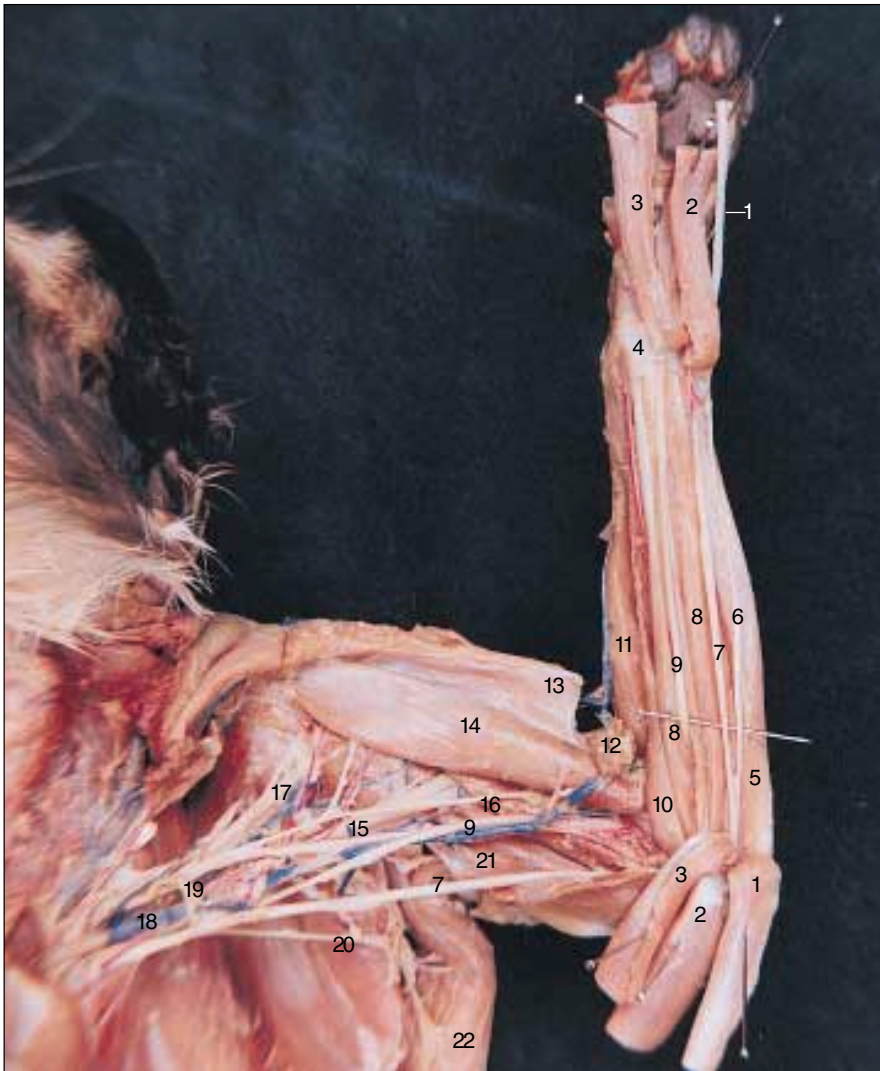


Figure 4-11
Deep Muscles of the Cat
Left Thoracic Limb,
Ventral Aspect

1. Flexor carpi ulnaris muscle (cut and reflected)
2. Palmaris longus muscle (cut and reflected)
3. Flexor carpi radialis muscle (cut and reflected)
4. Flexor retinaculum
5. Extensor carpi ulnaris
6. Cutaneous branch of ulnar nerve
7. Ulnar nerve
8. Flexor digitorum profundus
9. Median nerve
10. Pronator teres muscle
11. Extensor carpi radialis muscle
12. Brachioradialis muscle (cut)
13. Clavobrachialis muscle (cut and reflected)
14. Biceps brachii muscle
15. Radial nerve
16. Musculocutaneous nerve
17. Axillary nerve
18. Subclavian vein
19. Ventral thoracic nerve (cut)
20. Thoracic nerve
21. Triceps brachii muscle
22. Latissimus dorsi muscle

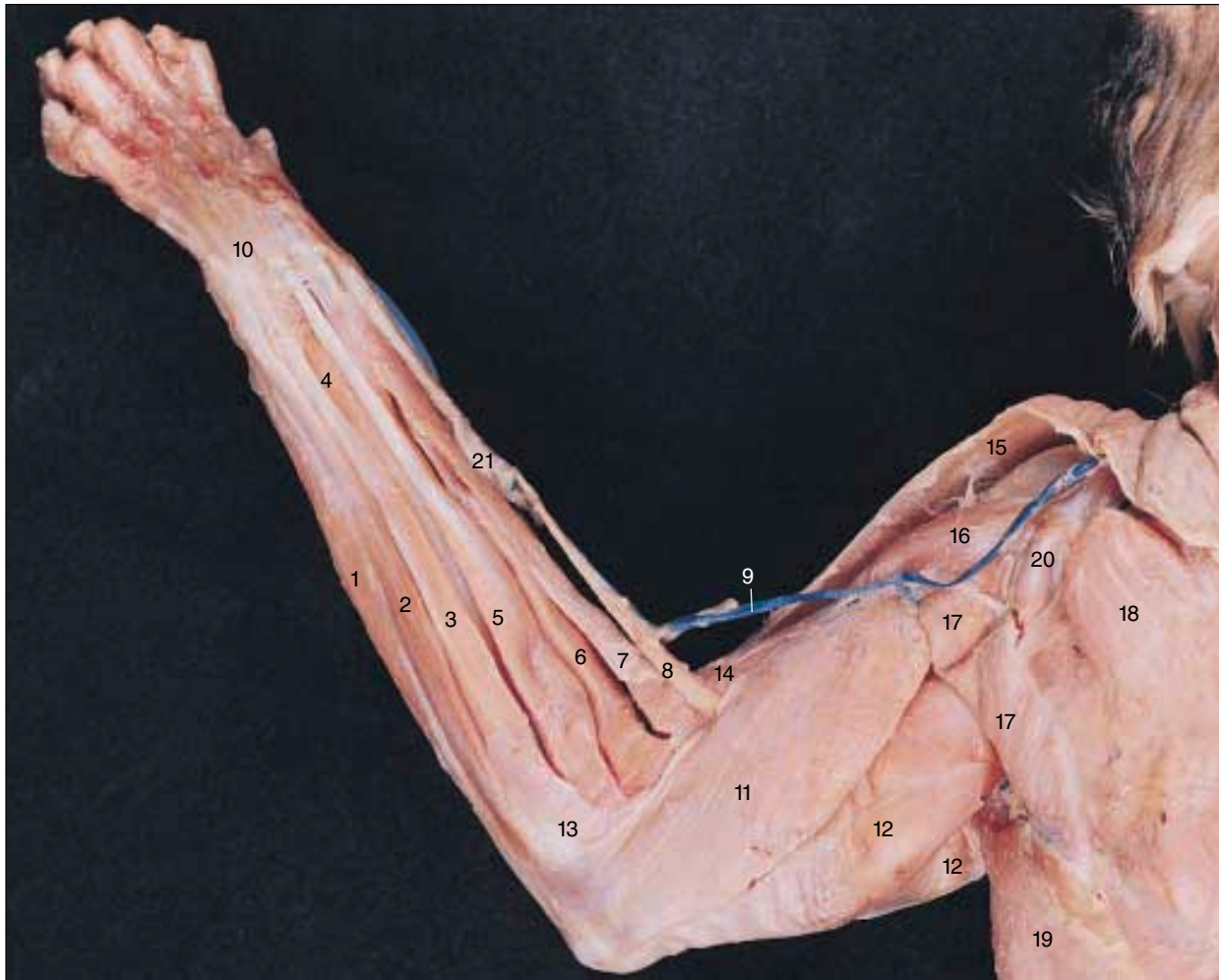


Figure 4-12
Superficial Muscles of the Cat Left Thoracic Limb, Dorsal Aspect

- | | | |
|--|---|--------------------------------|
| 1. Flexor carpi ulnaris muscle | 8. Brachioradialis muscle | 16. Acromiodeltoid muscle |
| 2. Extensor carpi ulnaris muscle | 9. Cephalic vein | 17. Spinodeltoid muscle |
| 3. Extensor carpi digitorum lateralis muscle | 10. Extensor retinaculum (dorsal carpal ligament) | 18. Acromiotrapezius muscle |
| 4. Extensor pollicis brevis muscle | 11. Triceps brachii muscle (lateral head) | 19. Latissimus dorsi muscle |
| 5. Extensor digitorum communis muscle | 12. Triceps brachii muscle (long head) | 20. Levator scapulae ventralis |
| 6. Extensor carpi radialis brevis muscle | 13. Anconeus muscle | 21. Antebrachial fascia |
| 7. Extensor carpi radialis longus muscle | 14. Brachialis muscle | |
| | 15. Clavobrachialis muscle | |

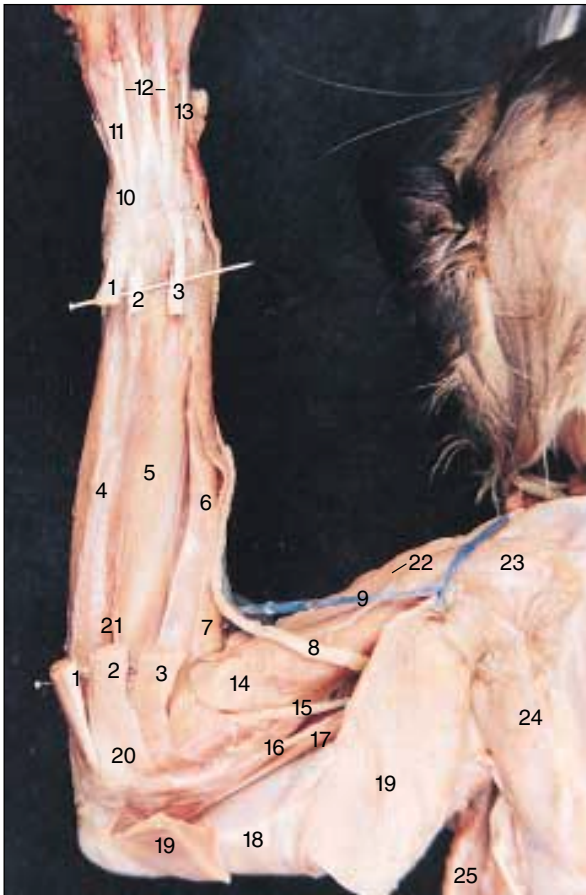


Figure 4-13

Deep Muscles of the Cat Left Thoracic Limb, Dorsal Aspect

- | | |
|---|--|
| 1. Extensor carpi ulnaris muscle (cut) | 13. Extensor indicis tendon |
| 2. Extensor digitorum lateralis muscle (cut) | 14. Brachioradialis muscle |
| 3. Extensor digitorum communis muscle (cut) | 15. Median nerve |
| 4. Extensor indicis proprius muscle | 16. Ulnar nerve |
| 5. Extensor pollicis brevis muscle | 17. Triceps brachii muscle (medial head) |
| 6. Extensor carpi radialis muscle | 18. Triceps brachii muscle (long head) |
| 7. Brachioradialis muscle | 19. Triceps brachii muscle (lateral head, cut) |
| 8. Radial nerve | 20. Anconeus muscle |
| 9. Cephalic vein | 21. Posterior interosseous nerve |
| 10. Extensor retinaculum (dorsal carpal ligament) | 22. Clavobrachialis muscle |
| 11. Extensor digiti minimi tendon | 23. Acromiodeltoid muscle |
| 12. Extensor digitorum tendons | 24. Spinodeltoid muscle |
| | 25. Latissimus dorsi muscle |



Figure 4-14

Superficial Muscles of the Cat Neck and Back

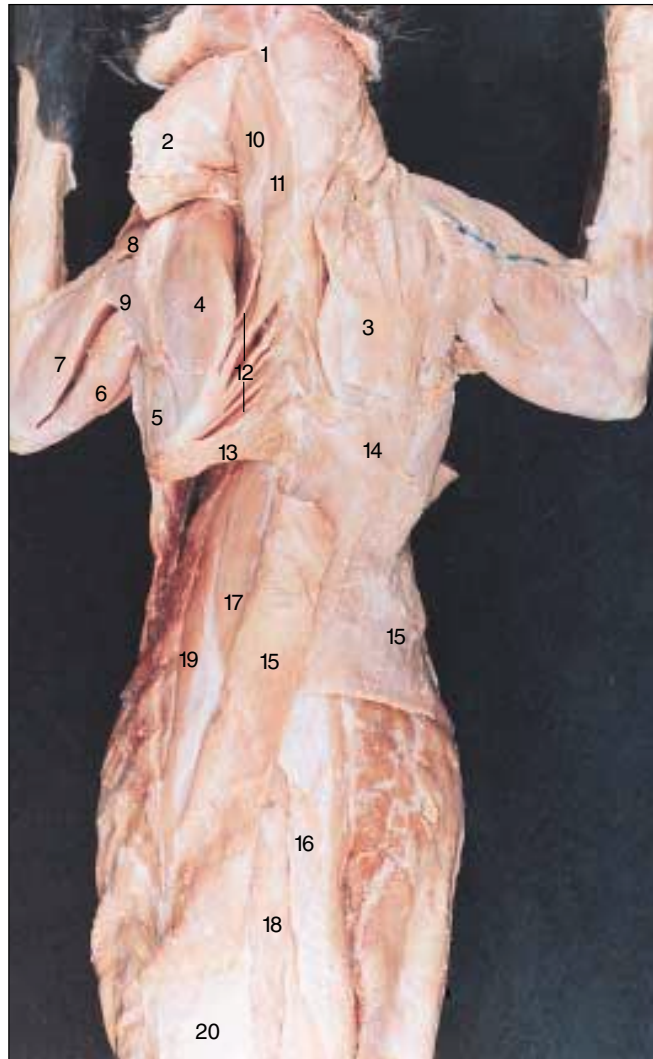
- | | |
|---|---|
| 1. Nuchal ligament | 11. Rhomboideus capitis muscle (occipito-scapularis muscle) |
| 2. Clavotrapezius muscle | 12. Splenius capitis muscle |
| 3. Clavobrachialis muscle | 13. Spinotrapezius muscle |
| 4. Acromiotrapezius muscle (cut and reflected on right) | 14. Latissimus dorsi muscle |
| 5. Supraspinatus muscle | 15. Lumbodorsal fascia |
| 6. Acromiodeltoid muscle | |
| 7. Spinodeltoid muscle | |
| 8. Triceps brachii muscle (long head) | |
| 9. Cephalic vein | |
| 10. Rhomboideus minor muscle | |

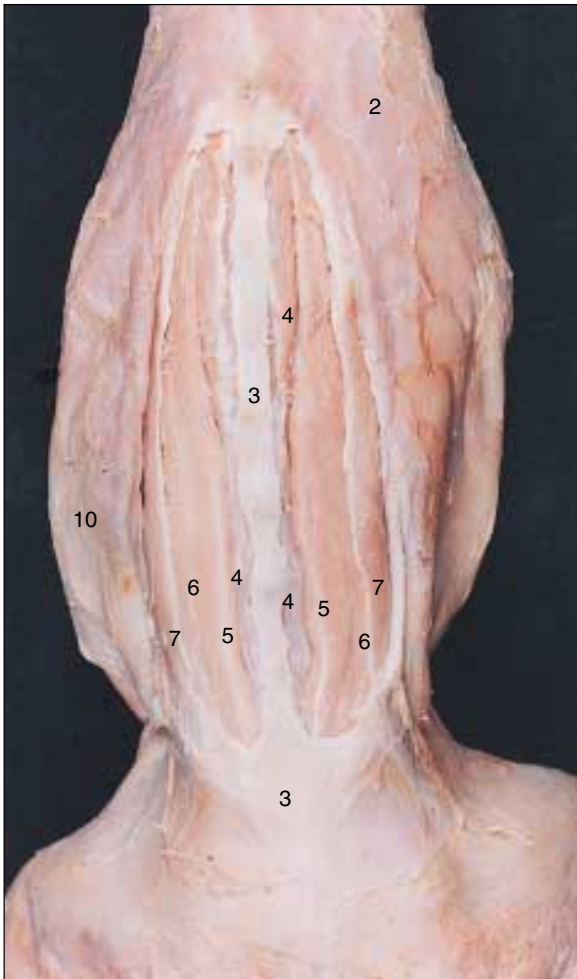
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Figure 4-15

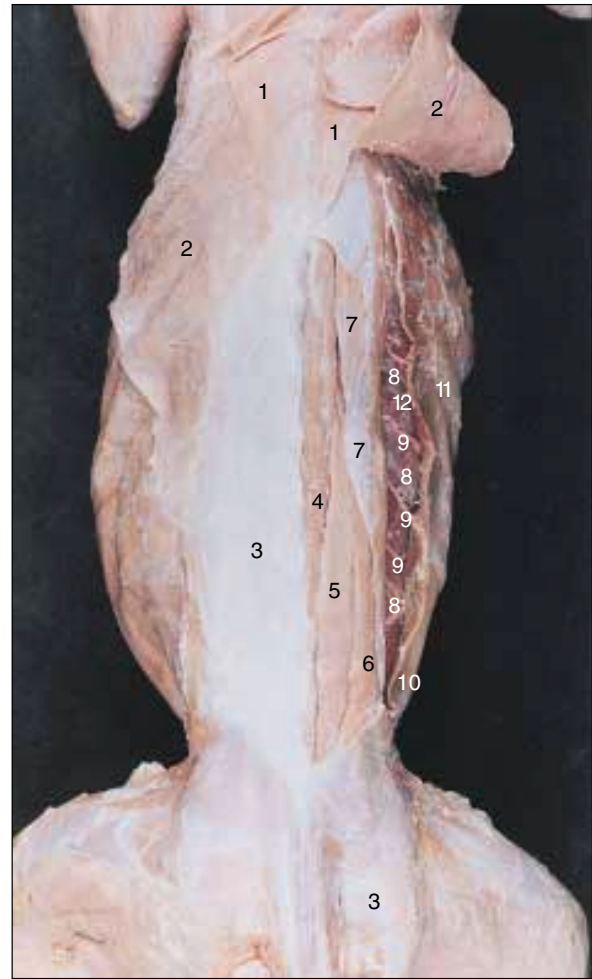
Deep Muscles of the Cat Neck and Back

1. Nuchal ligament
2. Clavotrapezius muscle (reflected on left)
3. Acromiotrapezius muscle (cut, removed altogether on left)
4. Supraspinatus muscle
5. Infraspinatus muscle
6. Triceps brachii muscle (long head)
7. Triceps brachii muscle (lateral head)
8. Acromiodeltoid muscle
9. Clavobrachialis muscle
10. Rhomboideus capitis muscle
11. Splenius capitis muscle
12. Rhomboideus minor muscle
13. Rhomboideus major muscle
14. Spinotrapezius muscle
15. Latissimus dorsi muscle (reflected on left, partially removed on right)
16. Multifidus muscle
17. Spinalis muscle
18. Longissimus muscle
19. Iliocostalis muscle
20. Lumbodorsal fascia (largely removed)





A



B

Figure 4-16

Deep Muscles of the Back of the Cat

- | | | |
|--|---------------------------------|---------------------------------|
| 1. Spinotrapezius muscle | 5. Spinalis muscle | 10. External oblique muscle |
| 2. Latissimus dorsi muscle (cut and rolled on right) | 6. Longissimus muscle | 11. External intercostal muscle |
| 3. Lumbodorsal fascia | 7. Iliocostalis muscle | 12. Internal intercostal muscle |
| 4. Multifidus muscle | 8. Rib | |
| | 9. Dorsal ramus of spinal nerve | |

Figure 4-17
Superficial Muscles of
the Cat Left Hind Limb,
Dorsal Aspect

1. Lumbodorsal fascia
2. Sartorius muscle
3. Tensor fascia latae muscle
4. Iliotibial band
5. Gluteus medius muscle
6. Gluteus maximus muscle
7. Caudofemoralis muscle
8. Biceps femoris muscle
9. Semitendinosus muscle
10. Semimembranosus muscle
11. Gastrocnemius muscle
12. Soleus muscle
13. Achilles tendon
14. Calcaneal tuberosity
15. Flexor hallucis longus muscle
16. Peroneus brevis muscle
17. Peroneus longus muscle and tendon
18. Tibialis anterior muscle



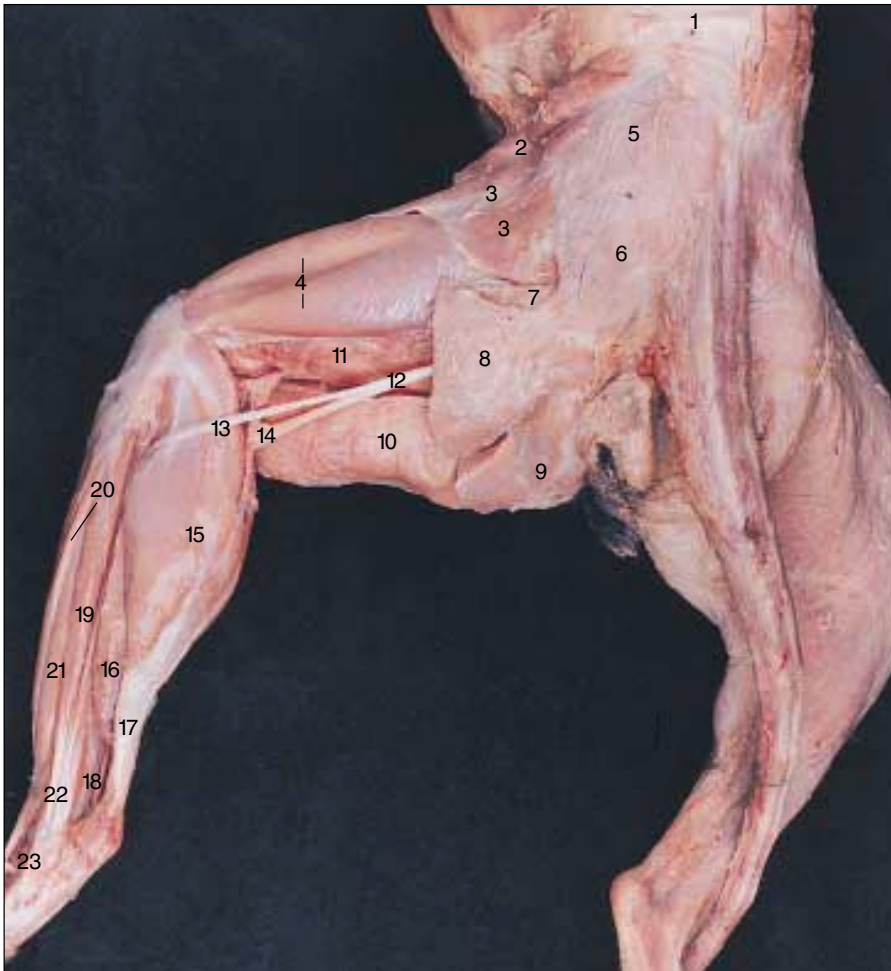


Figure 4-18
**Deep Muscles of the Cat Left
Hind Limb, Dorsal Aspect**

1. Lumbodorsal fascia
2. Sartorius muscle
3. Tensor fascia latae muscle
4. Vastus lateralis muscle
5. Gluteus medius muscle (under fascia)
6. Gluteus maximus muscle (under fascia)
7. Caudofemoralis muscle
8. Biceps femoris muscle (cut)
9. Semitendinosus muscle (cut)
10. Semimembranosus muscle
11. Adductor femoris muscle
12. Sciatic nerve
13. Common peroneal division of sciatic nerve
14. Tibial division of sciatic nerve
15. Gastrocnemius muscle
16. Soleus muscle
17. Achilles tendon
18. Flexor hallucis longus muscle
19. Peroneus longus muscle
20. Tibialis anterior muscle
21. Extensor digitorum longus muscle
22. Proximal extensor retinaculum
23. Distal extensor retinaculum

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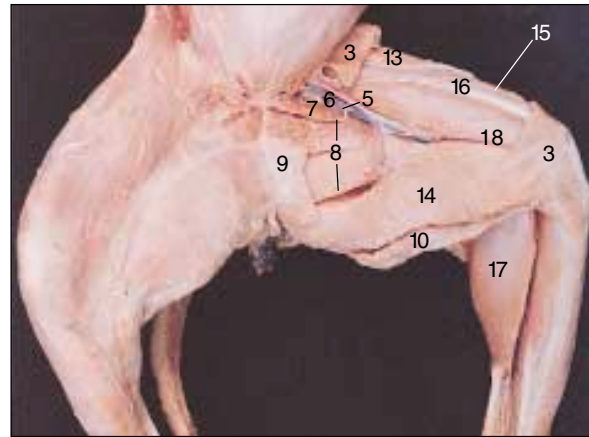
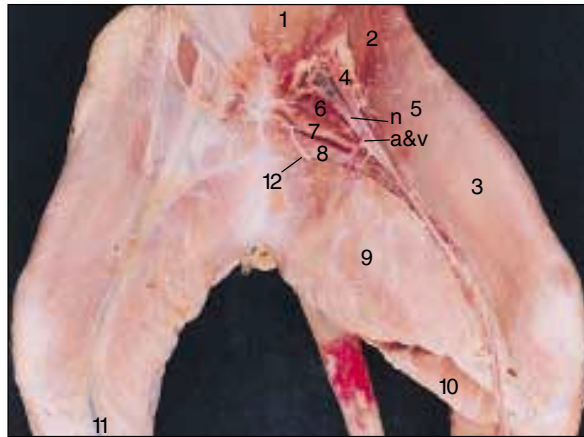


Figure 4-19
Superficial Muscles of the Cat Left Hind Limb, Medial Aspect

- | | | |
|--|---|--------------------------------|
| 1. Rectus abdominis muscle | 6. Pectineus muscle (deep to blood vessels) | 12. Branch of obturator nerve |
| 2. External oblique muscle | 7. Adductor longus muscle | 13. Tensor fascia latae muscle |
| 3. Sartorius muscle (cut) | 8. Adductor femoris muscle | 14. Semimembranosus muscle |
| 4. Iliopsoas muscle (deep to blood vessels) | 9. Gracilis muscle | 15. Vastus lateralis muscle |
| 5. Femoral artery (a), vein (v), and nerve (n) | 10. Semitendinosus muscle | 16. Rectus femoris muscle |
| | 11. Greater saphenous vein | 17. Gastrocnemius muscle |
| | | 18. Vastus medialis muscle |

Figure 4-20
Deep Muscles of the Cat Left Hind Limb, Medial Aspect

1. Sartorius muscle (cut)
2. Tensor fascia latae muscle
3. Vastus lateralis muscle
4. Rectus femoris muscle
5. Femoral artery (a), vein (v), and nerve (n)
6. Middle caudal femoral artery and vein
7. Pectineus muscle
8. Adductor longus muscle
9. Adductor femoris muscle
10. Gracilis muscle (cut)
11. Semimembranosus muscle
12. Semitendinosus muscle
13. Biceps femoris muscle
14. Gastrocnemius muscle (reflected)
15. Soleus muscle
16. Achilles tendon
17. Posterior tibial nerve
18. Flexor hallucis longus muscle
19. Flexor digitorum longus muscle
20. Tibialis posterior muscle
21. Tibia
22. Tibialis anterior muscle
23. Proximal extensor retinaculum
24. Vastus medialis muscle

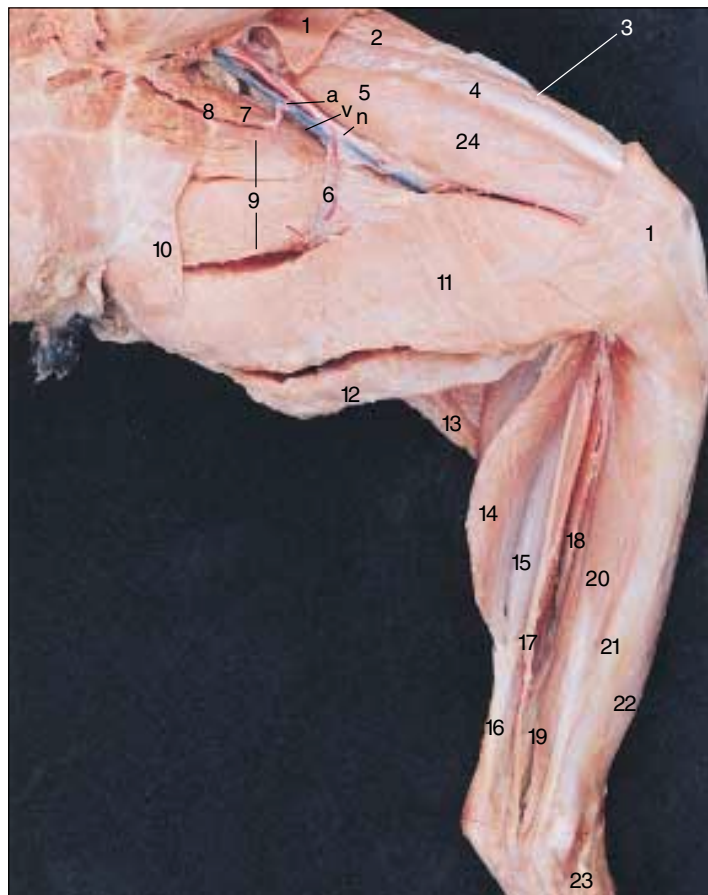




Figure 4-21

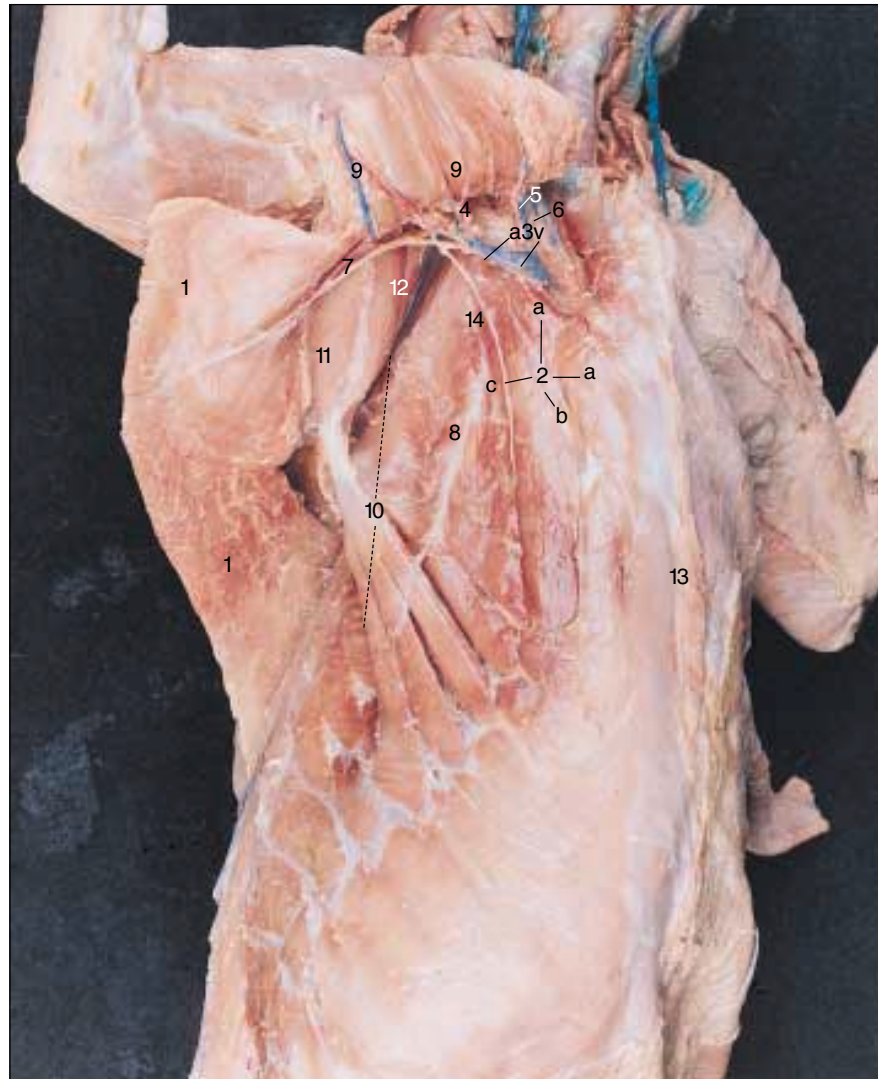
**Superficial Muscles of the
Cat Thorax, Ventral View**

1. Clavobrachialis muscle
2. Pectoantebrachialis muscle
3. Pectoralis major muscle
4. Pectoralis minor muscle
5. Xiphohumeralis muscle
6. Epitrochlearis muscle
7. Latissimus dorsi muscle
8. External oblique muscle
9. Rectus abdominis muscle (deep to aponeurosis)
10. Linea alba
11. Inferior angle of scapula
12. Teres major muscle
13. Subscapularis muscle

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Figure 4-22
Deep Muscles of the Cat
Shoulder and Thorax,
Right Ventral View

1. Latissimus dorsi muscle (reflected)
2. Scalenus muscles
 - a. Anterior (continuous with transversus costarum)
 - b. Medius
 - c. Posterior
3. Axillary artery (a) and vein (v)
4. Radial nerve
5. External jugular vein
6. Internal jugular vein
7. Thoracodorsal nerve
8. Long thoracic nerve
9. Thoracoacromial blood vessels
10. Serratus ventralis muscle
11. Teres major muscle
12. Subscapularis muscle
13. Sternum
14. Ventral thoracic nerve



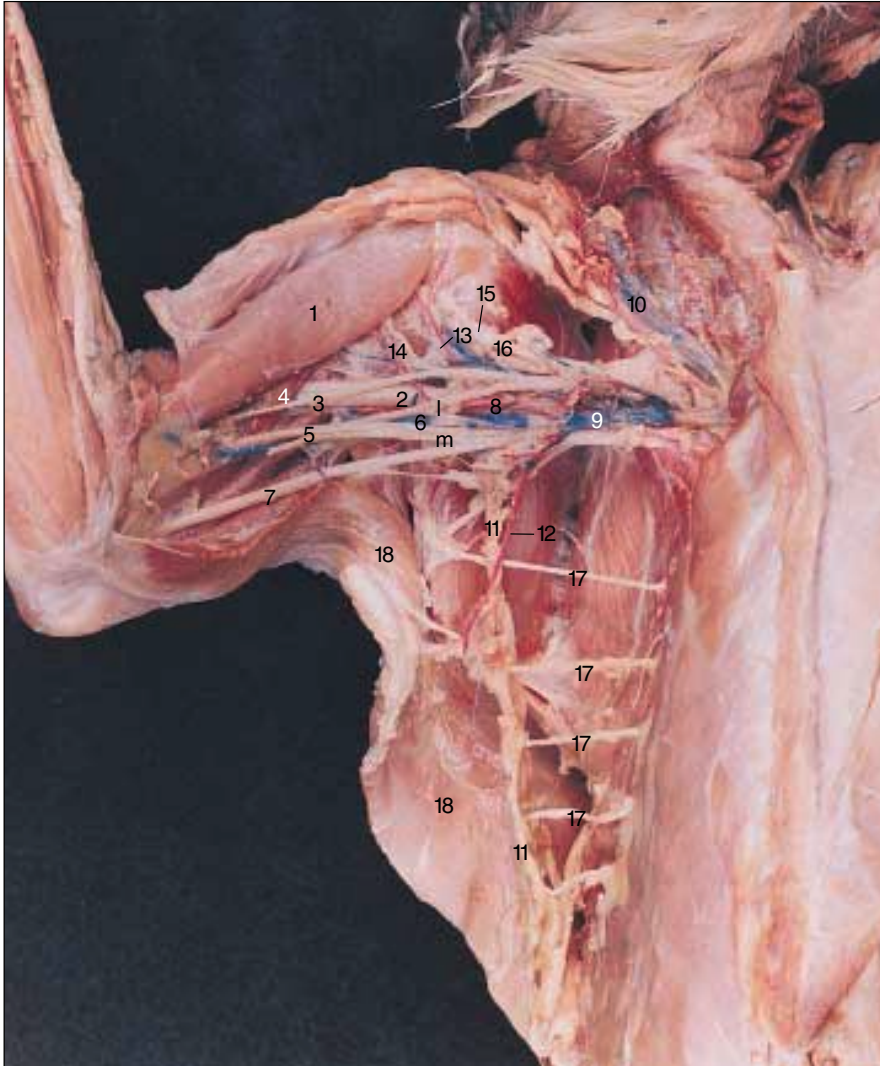


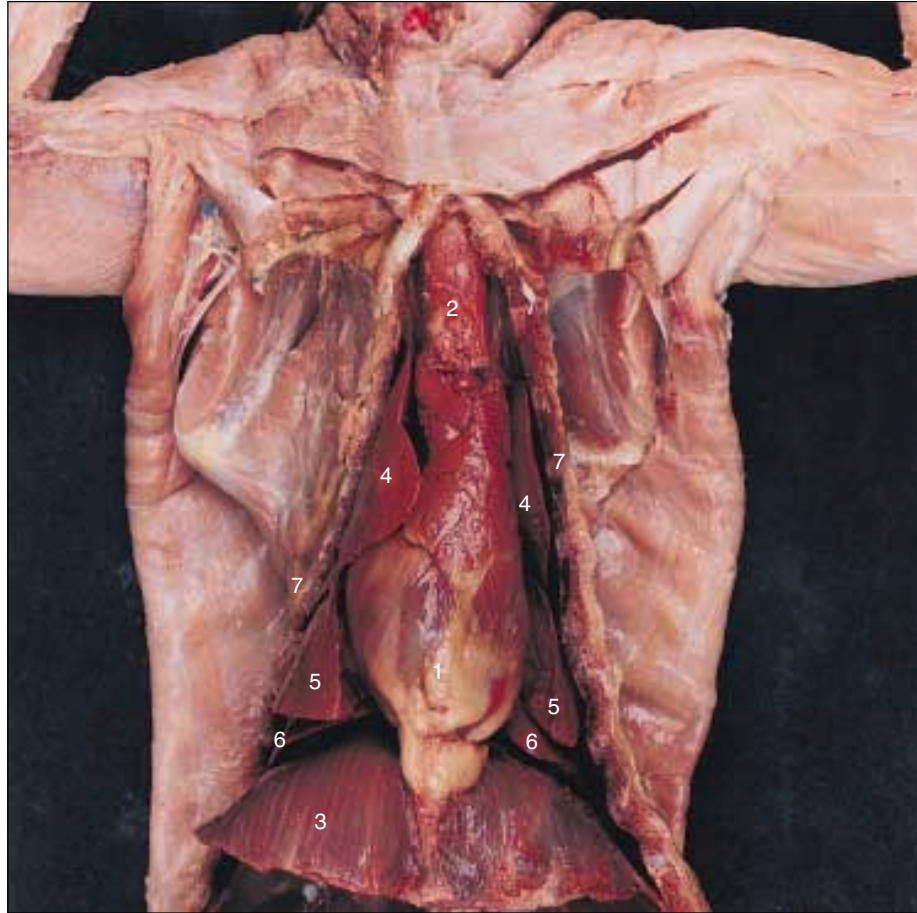
Figure 4-23

**Brachial Plexus of the Cat,
Right Ventral Aspect**

1. Biceps brachii muscle
2. Radial nerve
3. Musculocutaneous nerve
4. Coracobrachialis muscle
5. Median nerve
6. Lateral (l) and median (m) roots of the median nerve
7. Ulnar nerve
8. Axillary artery
9. Axillary vein
10. External jugular vein
11. Thoracodorsal nerve
12. Thoracodorsal artery
13. Thoracoacromial artery
14. Anterior circumflex humeral artery and axillary nerve
15. Caudal subscapular nerve
16. Proximal subscapular nerve
17. Dorsal rami of thoracic nerves
18. Latissimus dorsi muscle (reflected)

Figure 4-24
Thoracic Cavity of the Cat

1. Heart within pericardium
2. Thymus gland
3. Diaphragm
4. Lung, anterior lobe
5. Lung, middle lobe
6. Lung, posterior lobe
7. Ribs (cut)



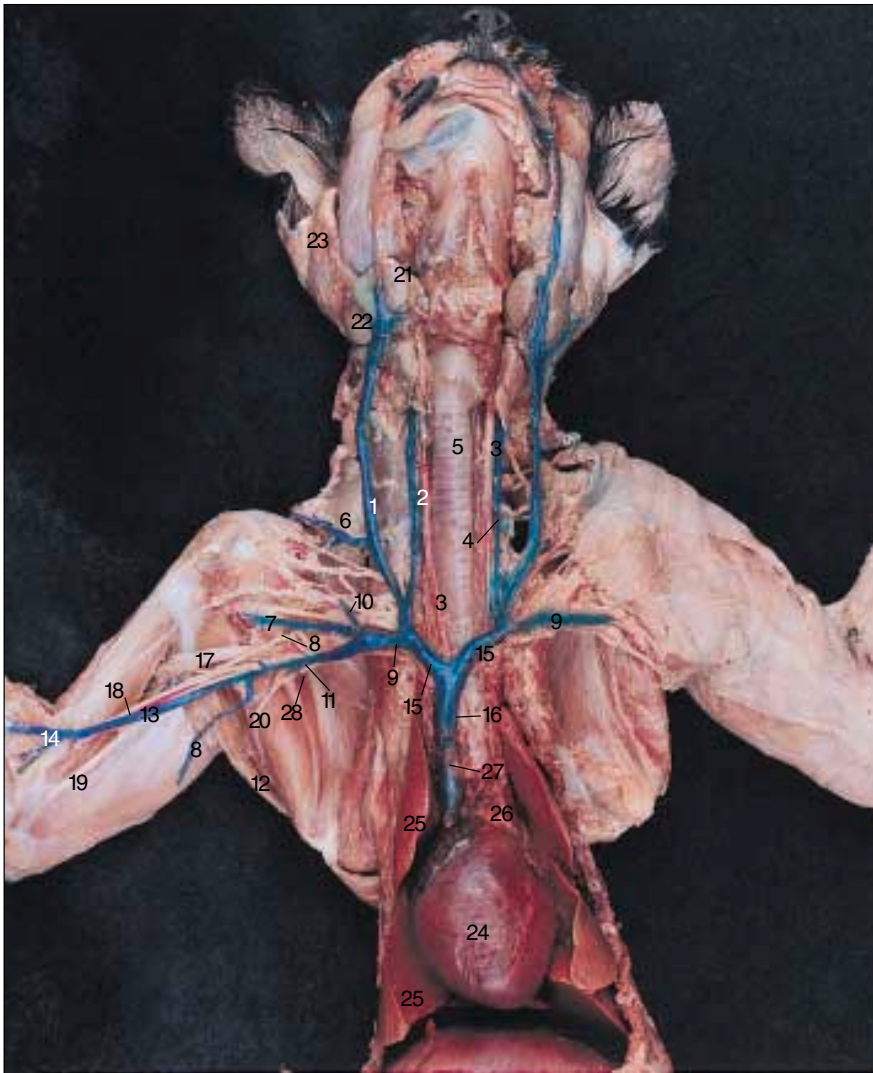
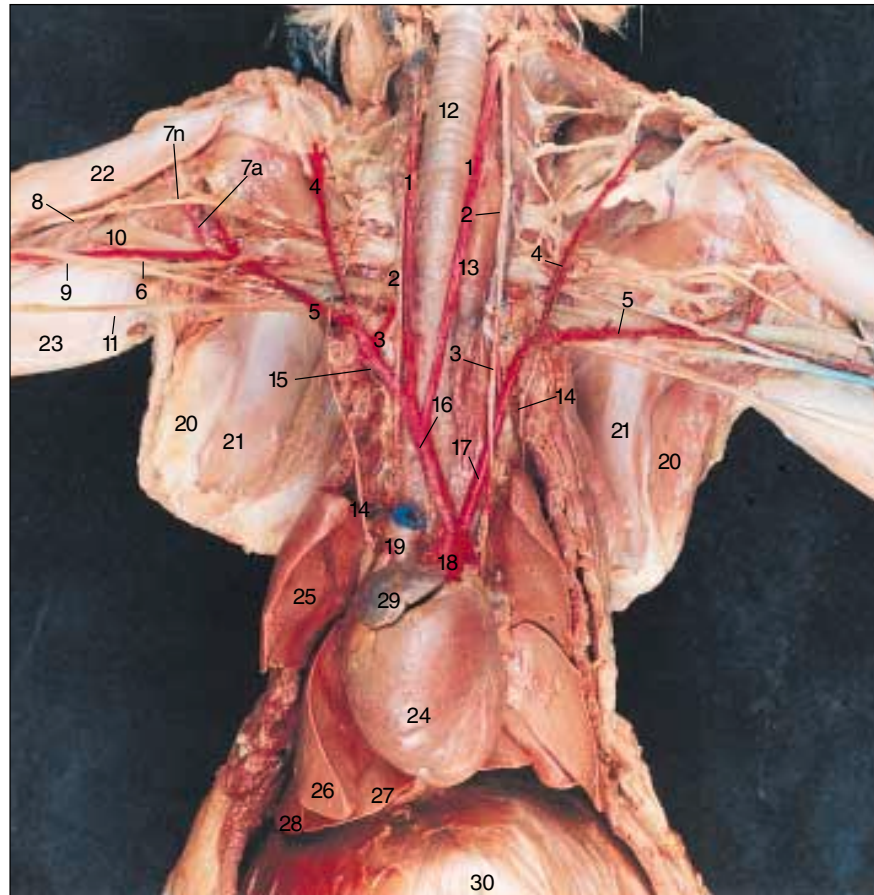


Figure 4-25
**Major Veins of the Cat,
Neck and Thorax**

1. External jugular vein
2. Internal jugular vein
3. Common carotid artery (right)
4. Vagus nerve
5. Trachea
6. Transverse scapular vein
7. Subscapular vein
8. Thoracodorsal vein
9. Subclavian vein
10. Cephalic vein
11. Axillary vein
12. Latissimus dorsi muscle
13. Brachial vein
14. Median cubital vein
15. Innominate (brachiocephalic) vein
16. Anterior vena cava
17. Radial nerve
18. Median nerve
19. Ulnar nerve
20. Thoracodorsal nerve
21. Lymph node
22. Submaxillary gland
23. Parotid gland
24. Heart
25. Lung
26. Thymus gland
27. Anterior thoracic vein (cut) (internal mammary vein)
28. Long thoracic vein (cut)

Figure 4-26
Major Arteries of the Cat,
Neck and Thorax

1. Common carotid artery
2. Vagus nerve
3. Vertebral artery
4. Transverse scapular artery
5. Axillary artery
6. Brachial artery
7. Thoraco-acromial artery (a)
and nerve (n)
8. Musculocutaneous nerve
9. Median nerve
10. Radial nerve
11. Ulnar nerve
12. Trachea
13. Esophagus (displaced to
animal's left from normal
position posterior to trachea)
14. Phrenic nerve
15. Right subclavian artery
16. Innominate
(brachiocephalic) artery
17. Left subclavian artery
18. Aortic arch
19. Anterior vena cava (cut)
20. Teres major muscle
21. Subscapularis muscle
22. Biceps brachii muscle
23. Triceps brachii muscle (long
head)
24. Heart
25. Lung, anterior lobe
26. Lung, middle lobe
27. Lung, mediastinal lobe
28. Lung, posterior lobe
29. Right auricle
30. Diaphragm



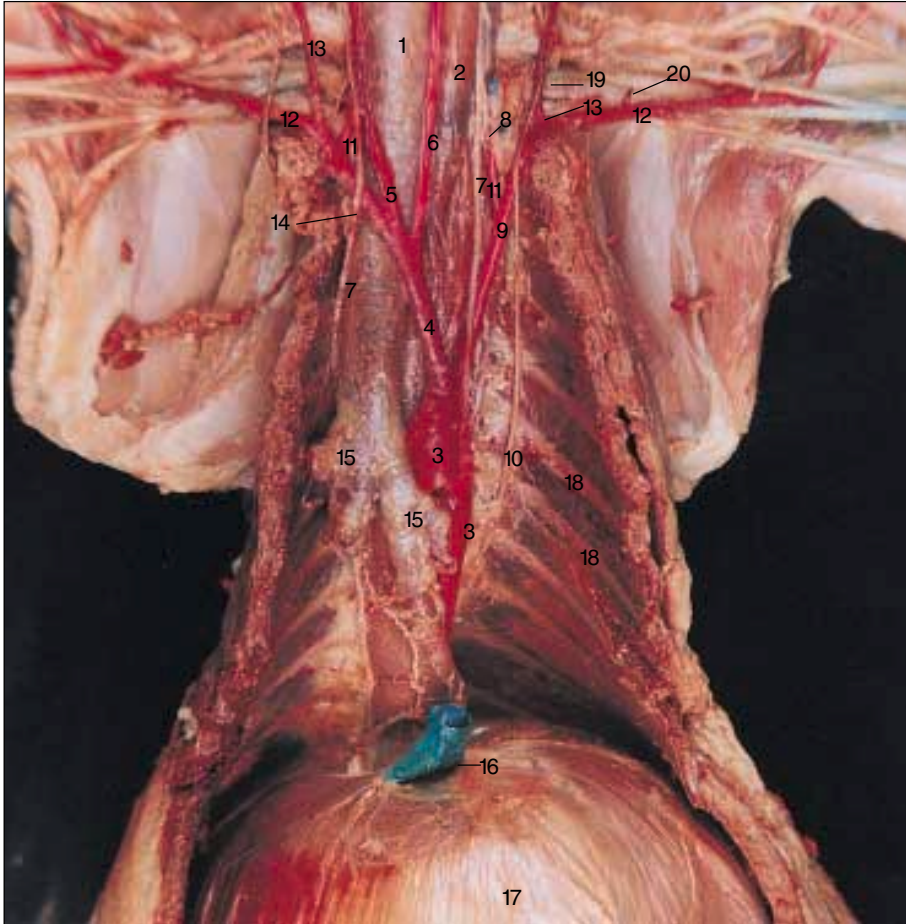
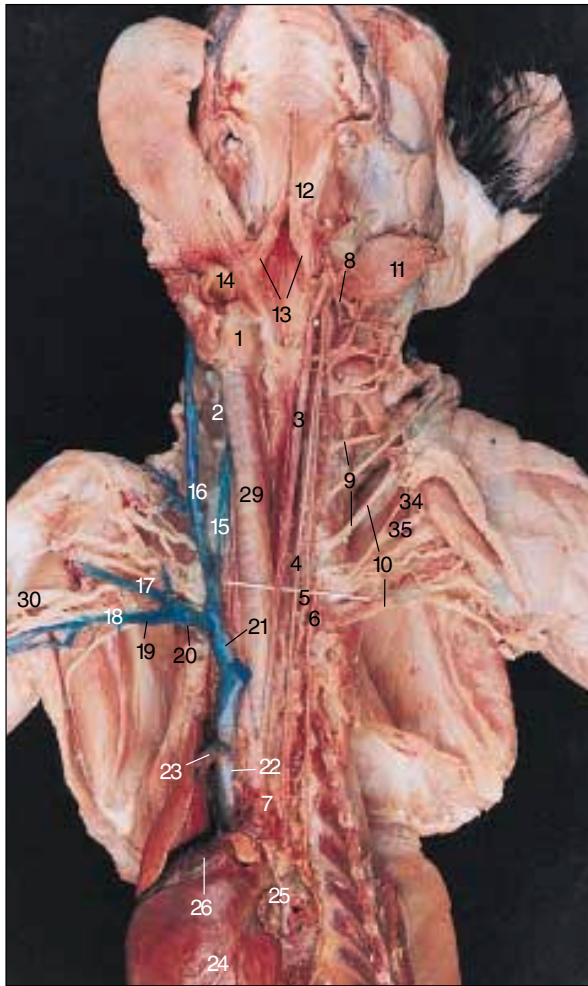


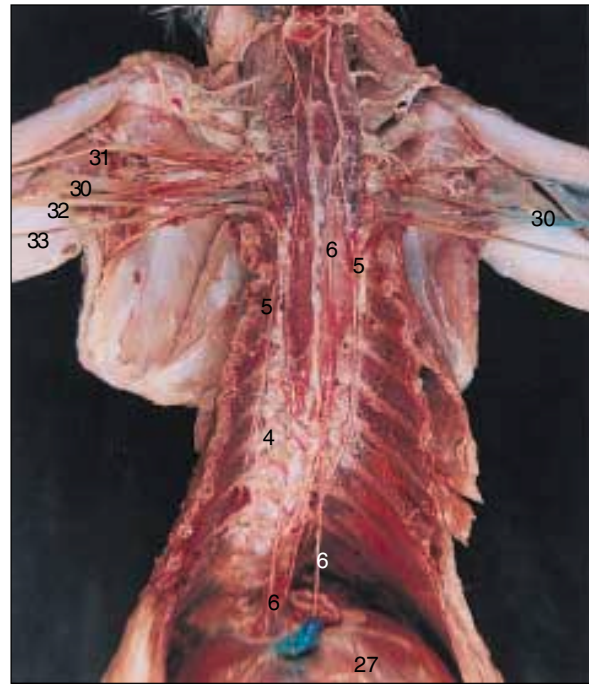
Figure 4-27
Thorax of the Cat, Heart
and Lungs Removed

1. Trachea
2. Esophagus
3. Aortic arch
4. Brachiocephalic artery
5. Right common carotid artery
6. Left common carotid artery
7. Vagus nerve
8. Sympathetic trunk
9. Left subclavian artery
10. Phrenic nerve
11. Vertebral artery
12. Subclavian artery
13. Thyrocervical artery
14. Internal mammary artery
15. Right and left primary bronchi
16. Inferior vena cava
17. Diaphragm
18. Rib
19. Transverse scapular artery
20. Subscapular artery (cut)

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A



B

Figure 4-28

Veins, Arteries, and Nerves of the Cat Neck and Thorax

A, Veins Removed on Cat's Left Side, Heart Reflected to Right

B, Arteries, Veins, and Thoracic Viscera Removed

- | | | |
|---|--|---------------------------------------|
| 1. Larynx | 8. Spinal accessory nerve (XI) | 21. Innominate (brachiocephalic) vein |
| 2. Thyroid gland (reflected) | 9. Spinal nerves IV, V, and VI | 22. Anterior vena cava |
| 3. Common carotid artery | 10. Brachial plexus | 23. Azygous vein (cut) |
| 4. Vagus nerve | 11. Lymph node (reflected and pinned) | 24. Heart (reflected to cat's right) |
| 5. Sympathetic trunk (In A, two pins have been placed along sympathetic trunk. Upper pin is just caudal to swelling of sympathetic trunk, the superior cervical ganglion. Lower transverse pin is just proximal to similar swelling, the middle cervical ganglion.) | 12. Soft palate (cut) | 25. Right auricle |
| 6. Phrenic nerve | 13. Eustachian tubes (hidden behind reflected tissue of soft palate) | 26. Left auricle |
| 7. Aorta | 14. Epiglottis | 27. Diaphragm |
| | 15. Internal jugular vein | 28. Esophagus |
| | 16. External jugular vein | 29. Trachea |
| | 17. Subscapular vein | 30. Radial nerve |
| | 18. Brachial vein | 31. Musculocutaneous nerve |
| | 19. Axillary vein | 32. Median nerve |
| | 20. Subclavian vein | 33. Ulnar nerve |
| | | 34. Caudal subscapular nerve |
| | | 35. Axillary nerve |

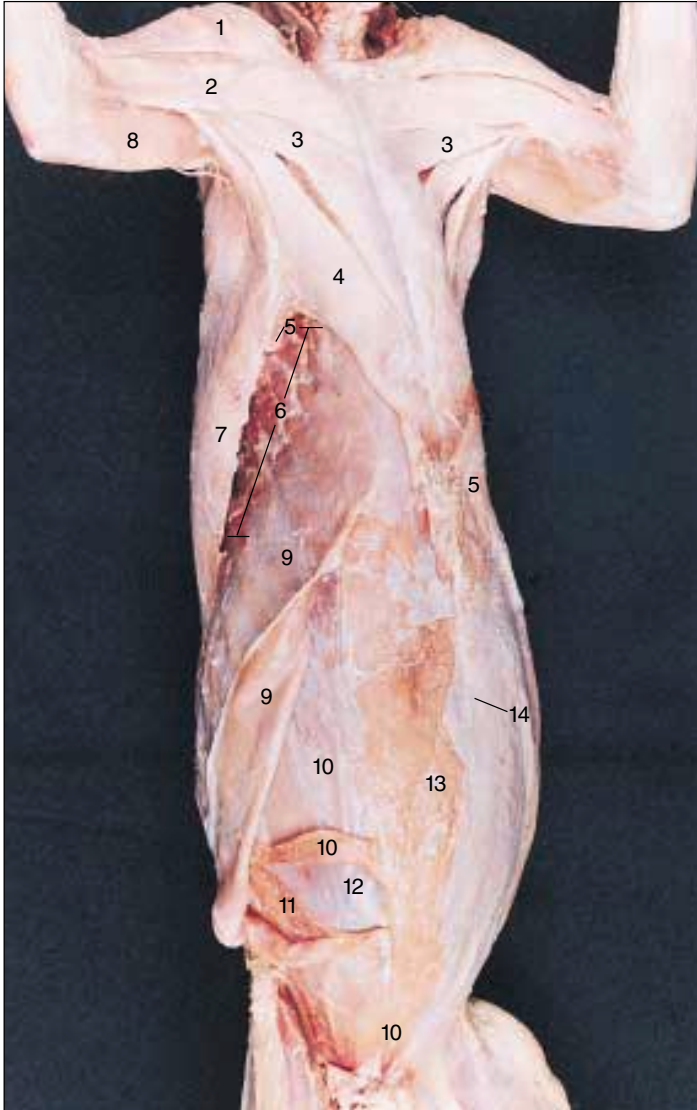
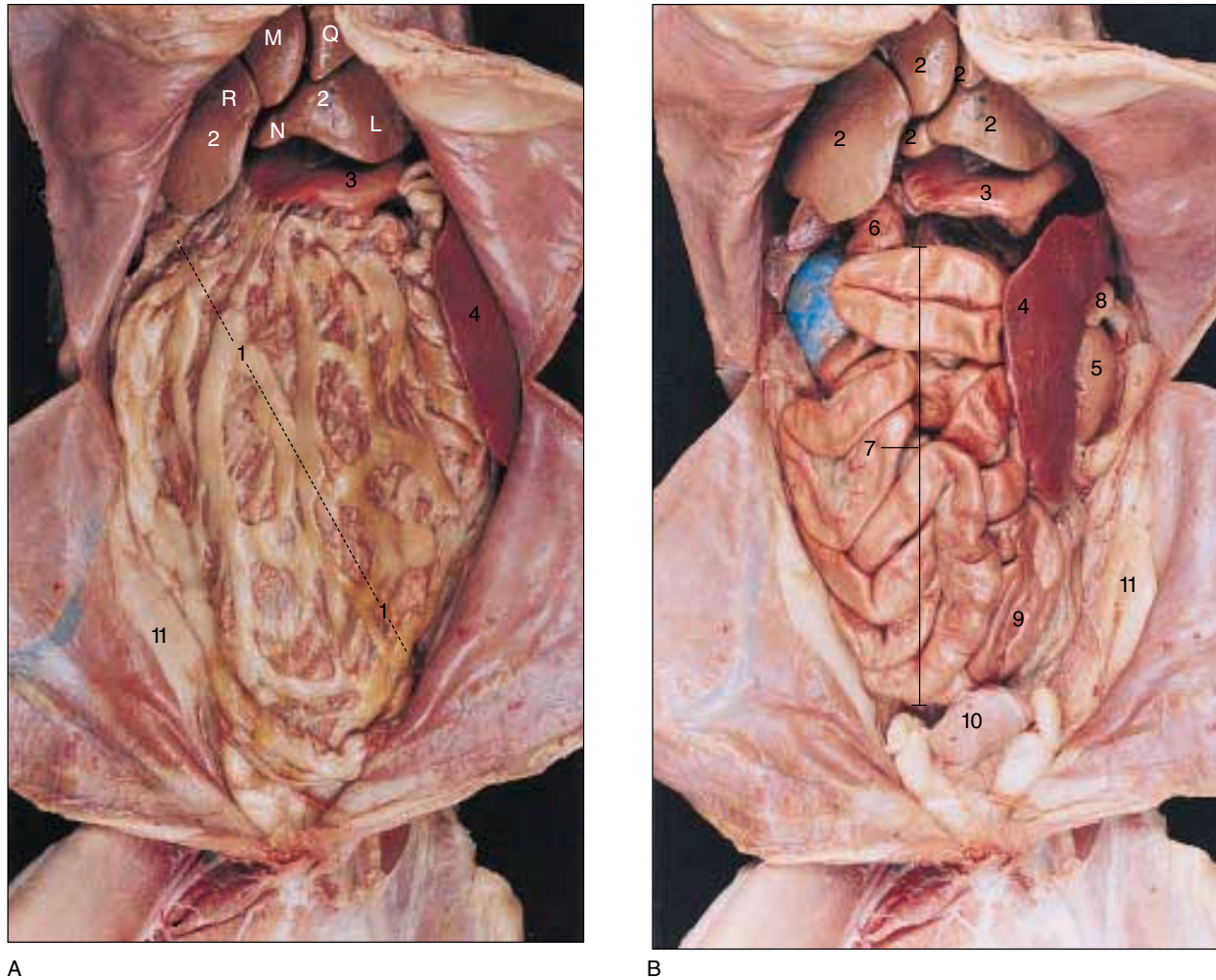


Figure 4-29

**Superficial Muscles of the Cat,
Abdomen and Thorax**

1. Clavobrachialis muscle
2. Pectoantebrachialis muscle
3. Pectoralis major muscle
4. Pectoralis minor muscle
5. Xiphohumeralis muscle (removed on right)
6. Serratus anterior muscle
7. Latissimus dorsi muscle (cut to reveal underlying muscles)
8. Epitrochlearis muscle
9. External oblique muscle (partially reflected)
10. Internal oblique muscle (partially reflected)
11. Transversalis abdominis muscle
12. Peritoneum
13. Rectus abdominis muscle
14. Linea alba



A

B

Figure 4-30

Abdominal Viscera of Cat with (A) Greater Omentum Intact and (B) Greater Omentum Removed

- | | | |
|-----------------------|--|---------------------------------------|
| 1. Greater omentum | 3. Stomach (greater curvature) | 9. Large intestine (descending colon) |
| 2. Lobes of the liver | 4. Spleen | 10. Urinary bladder |
| R. Right lateral lobe | 5. Kidney | 11. Abdominal fat |
| M. Right medial lobe | 6. Small intestine (duodenum) | |
| Q. Quadrate lobe | 7. Small intestine (jejunum and ileum) | |
| N. Left medial lobe | 8. Pancreas | |
| L. Left lateral lobe | | |

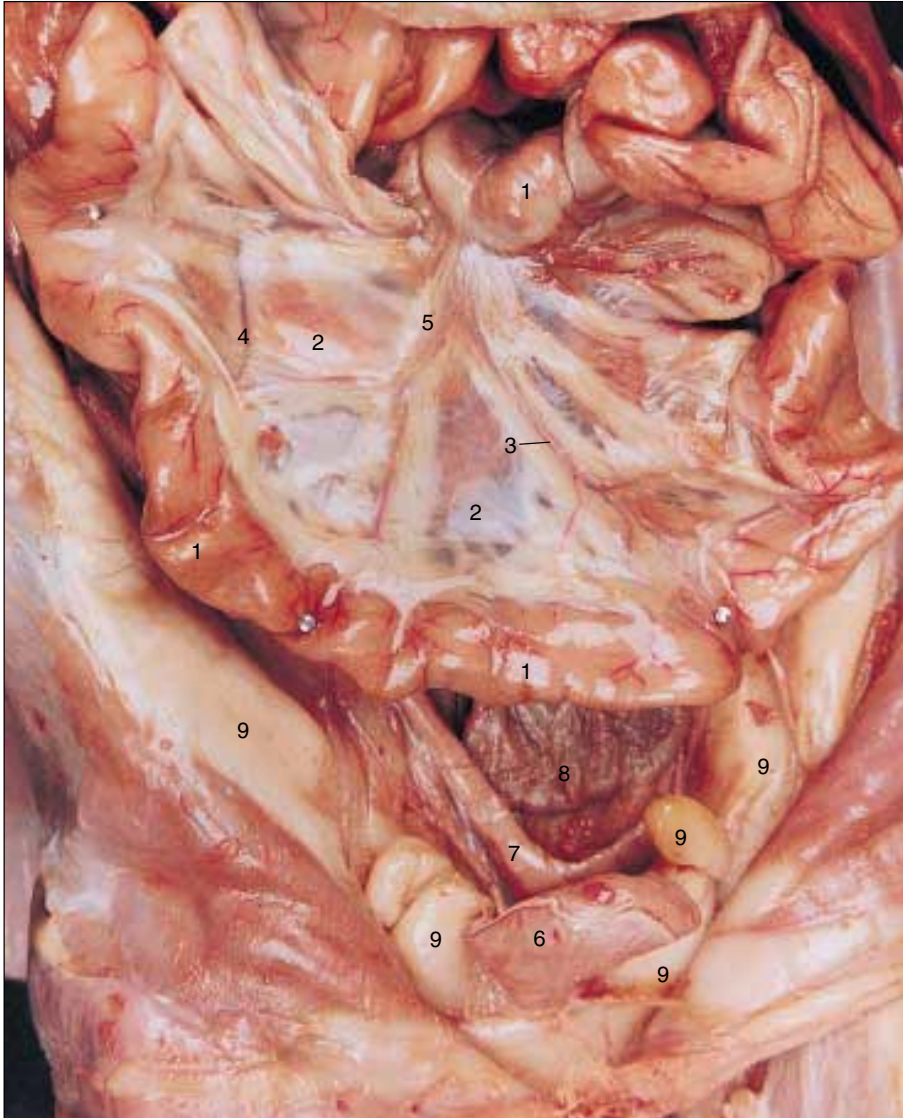
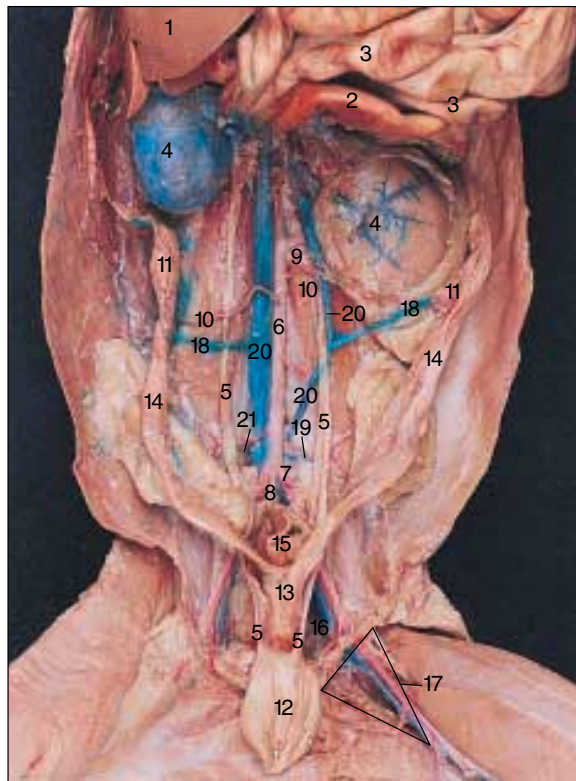


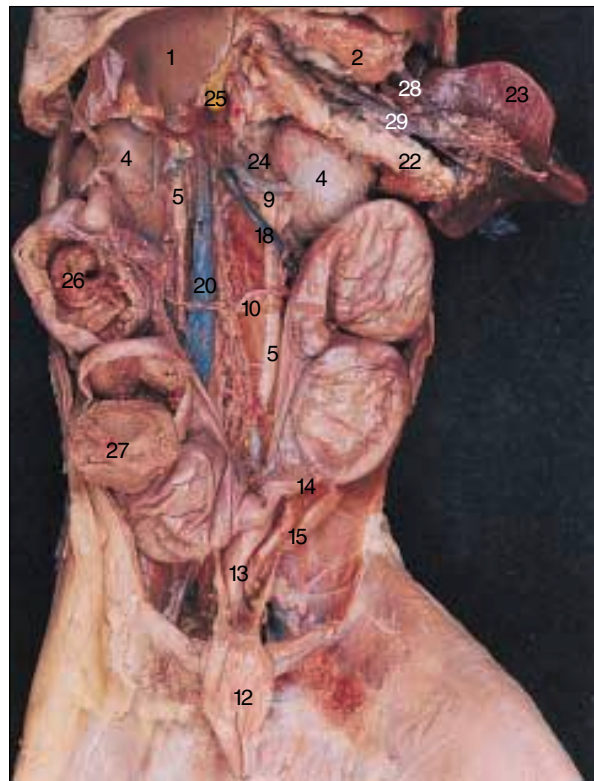
Figure 4-31
**Abdominal Viscera of
the Cat, Mesentery**

1. Small intestine
2. Mesentery
3. Mesenteric artery
4. Mesenteric vein
5. Lymph vessel
6. Urinary bladder
7. Uterus
8. Rectum
9. Abdominal fat

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A



B

Figure 4-32
Urogenital System of the Female Cat (A) Nonpregnant and (B) Pregnant

- | | | |
|--|--|-------------------------------|
| 1. Liver | 13. Uterus | 22. Pancreas |
| 2. Stomach (pylorus) | 14. Uterine horn (in B , left horn contains two fetuses; right horn, three fetuses) | 23. Spleen |
| 3. Small intestine | 15. Rectum (cut in A) | 24. Adrenal gland |
| 4. Kidney | 16. External iliac artery and vein | 25. Hepatic portal vein (cut) |
| 5. Ureter | 17. Femoral triangle (containing femoral nerve, artery, and vein) | 26. Fetus |
| 6. Abdominal aorta | 18. Ovarian vein | 27. Placenta |
| 7. External iliac artery | 19. Iliolumbar artery and vein | 28. Left gastroepiploic vein |
| 8. Caudal (median sacral) artery | 20. Abdominal vena cava (split into two parallel vessels in A) | 29. Right gastroepiploic vein |
| 9. Renal artery | 21. Iliolumbar artery | |
| 10. Ovarian artery | | |
| 11. Ovary | | |
| 12. Urinary bladder (reflected and pinned) | | |

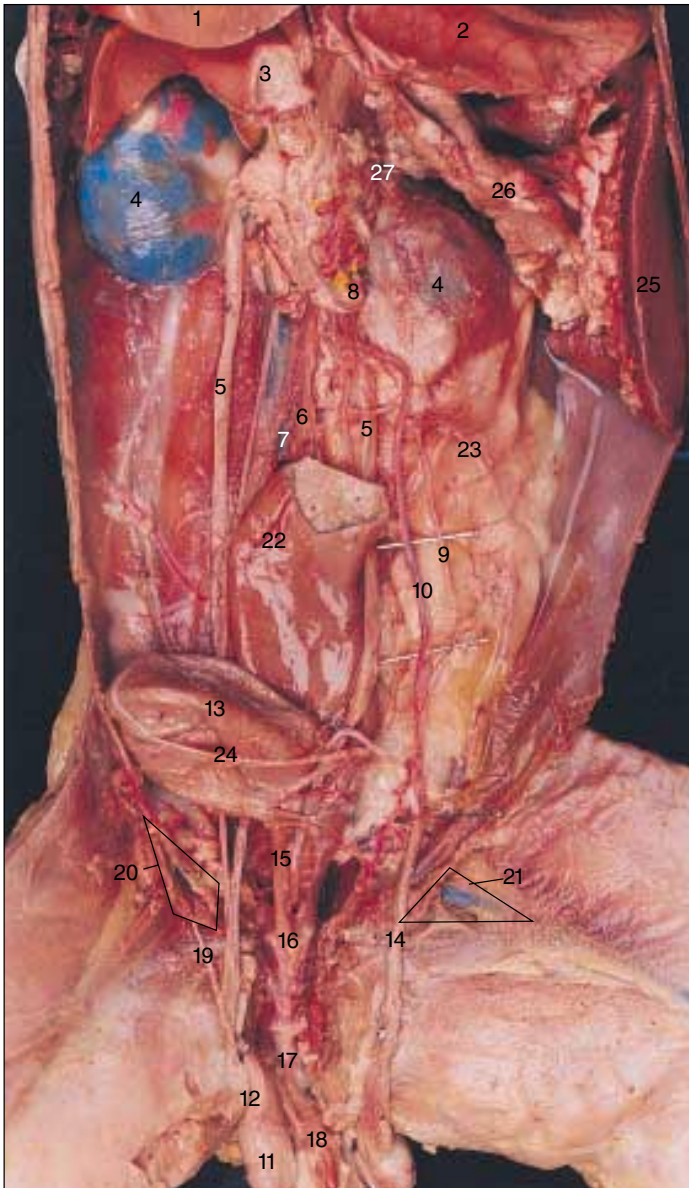
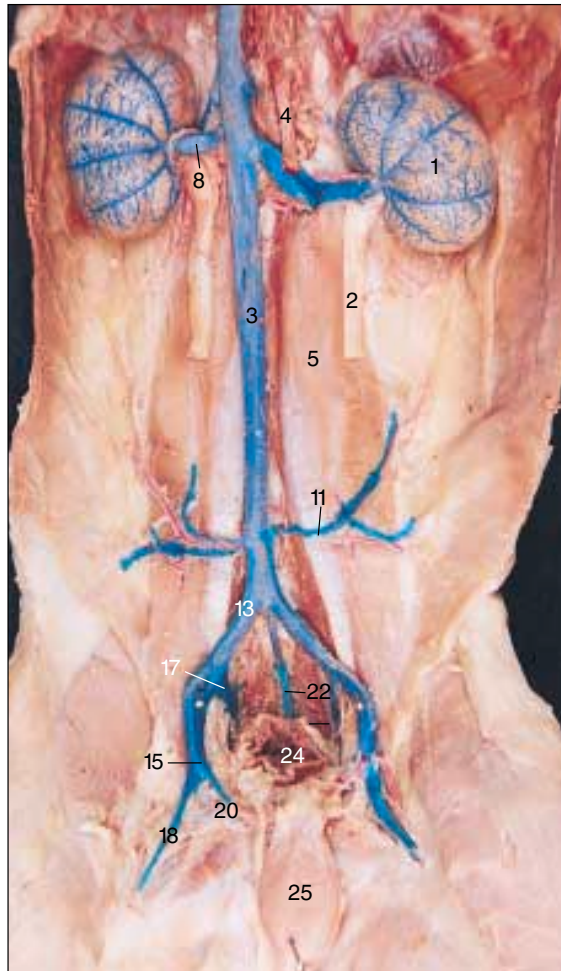


Figure 4-33

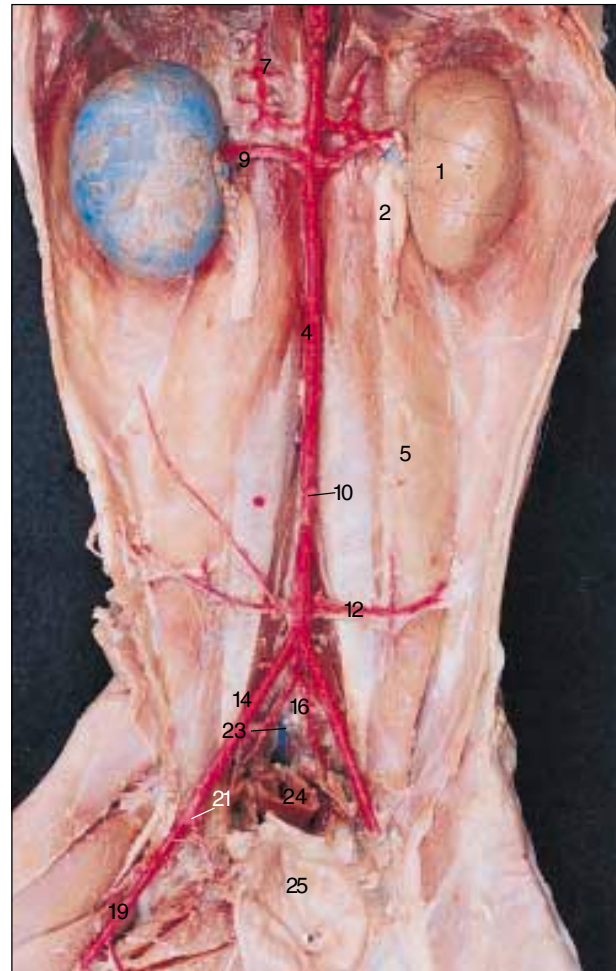
Urogenital System of the Male Cat

1. Liver
2. Stomach
3. Small intestine (duodenum, cut)
4. Kidney
5. Ureter
6. Abdominal aorta
7. Abdominal vena cava
8. Renal artery
9. Internal spermatic artery
10. Spermatic vein
11. Testis
12. Epididymis
13. Urinary bladder (reflected)
14. Vas deferens in spermatic cord
15. Urethra
16. Prostate gland
17. Bulbourethral (Cowper's) gland
18. Penis
19. Ligament of cremaster muscle
20. External inguinal ring
21. Femoral triangle
22. Rectum (cut)
23. Lumbar nerve (medial branch)
24. Umbilical (allantoic) artery
25. Spleen
26. Pancreas
27. Adrenal gland

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A



B

Figure 4-34

Major (A) Veins and (B) Arteries of the Cat Abdominopelvic Wall

- | | | |
|---|--|--|
| 1. Kidney | 9. Renal artery | 18. Femoral vein |
| 2. Ureter (cut and largely removed) | 10. Inferior mesenteric artery (cut and removed) | 19. Femoral artery |
| 3. Abdominal vena cava (removed in B) | 11. Iliolumbar vein | 20. Deep femoral vein |
| 4. Abdominal aorta (cut and removed in A) | 12. Iliolumbar artery | 21. Deep femoral artery |
| 5. Psoas muscle | 13. Common iliac vein | 22. Caudal vein |
| 6. Celiac artery (cut and removed) | 14. External iliac artery (no common iliac artery in cats) | 23. Median sacral (caudal) artery |
| 7. Superior mesenteric artery (cut and removed) | 15. External iliac vein | 24. Rectum (cut) |
| 8. Renal vein | 16. Internal iliac (hypogastric) artery | 25. Urinary bladder (reflected and pinned) |
| | 17. Internal iliac (hypogastric) vein | |

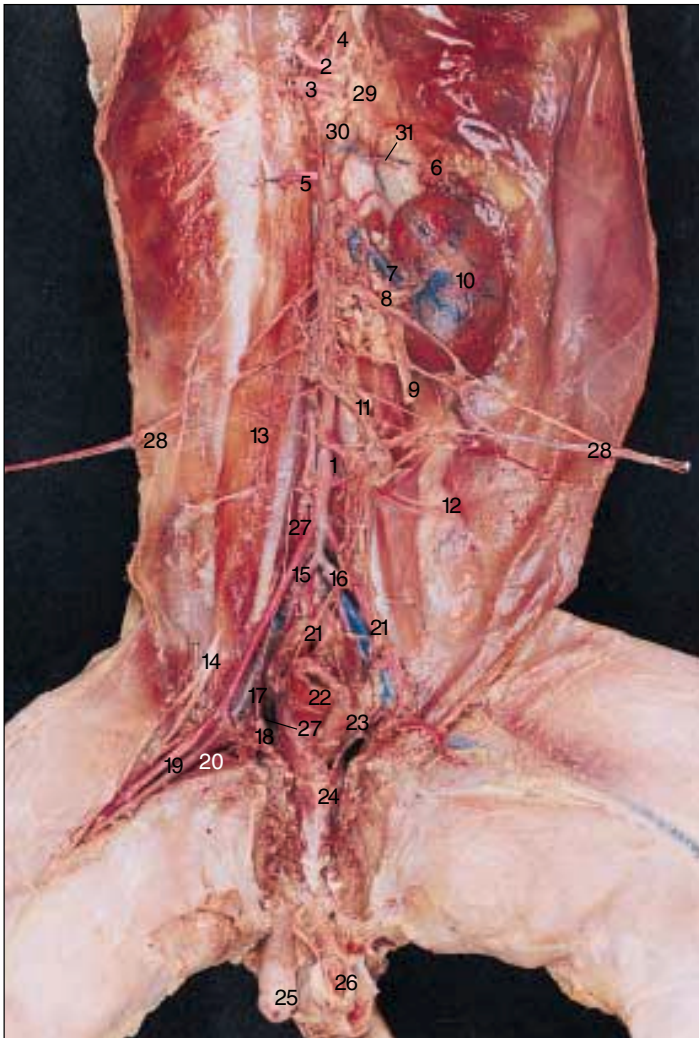


Figure 4-35

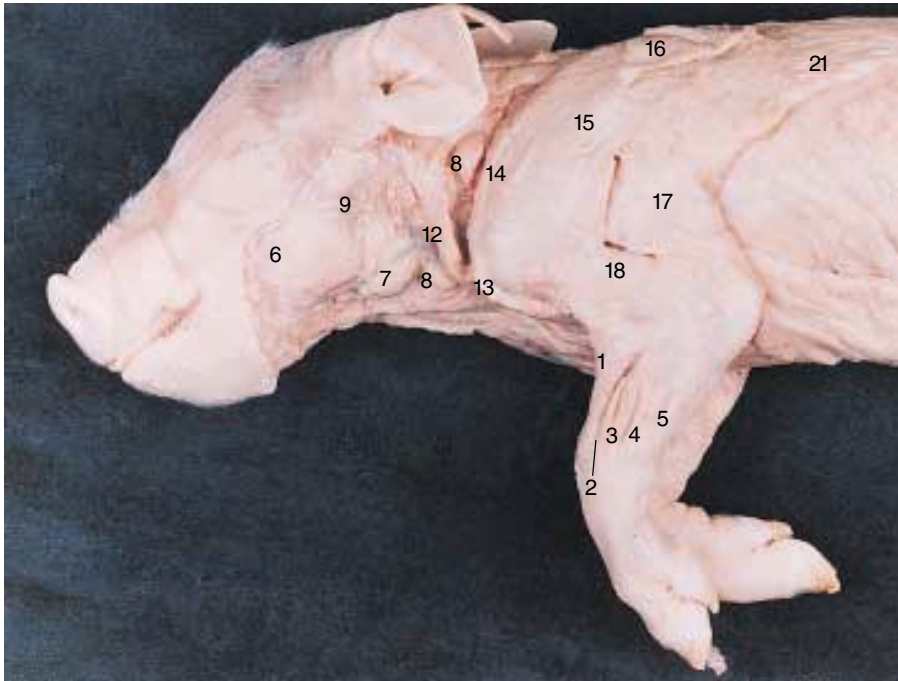
**Nerves and Vessels of the Posterior
Abdominopelvic Wall of the Cat**

1. Abdominal aorta
2. Celiac artery (pinned)
3. Superior mesenteric artery (pinned)
4. Crus of diaphragm
5. Right adrenolumbar (phrenicoabdominal) artery (cut)
6. Adrenal gland
7. Renal vein
8. Renal artery
9. Ureter (cut)
10. Kidney
11. Inferior mesenteric artery
12. Iliolumbar artery
13. Psoas muscle
14. Femoral nerve
15. External iliac artery
16. Internal iliac artery
17. External iliac vein
18. Deep femoral artery and vein
19. Femoral artery
20. Femoral vein
21. Spermatic artery
22. Rectum (cut)
23. Urethra (cut and urinary bladder removed)
24. Prostate gland
25. Testis
26. Penis
27. Genitofemoral nerve
28. Distribution of sympathetic trunk (pinned out bilaterally)
29. Celiac ganglion
30. Superior mesenteric ganglion
31. Left adrenolumbar artery and vein

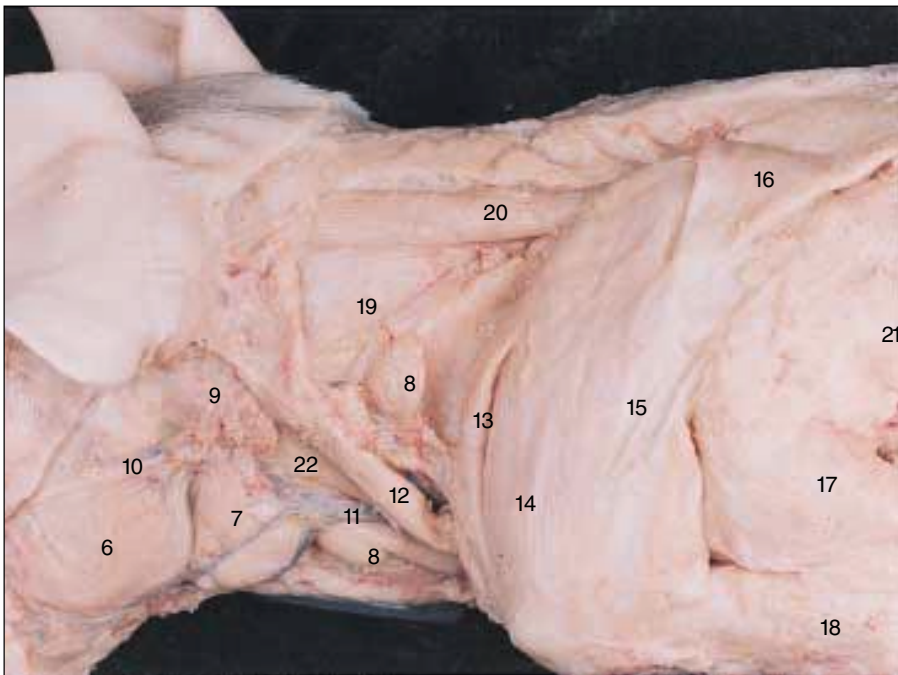


Figure 4-36
Superficial Muscles of the Fetal Pig, Left Lateral View

- | | | |
|--------------------------------|--|----------------------------|
| 1. Clavotrapezius muscle | 8. External oblique muscle (cut) | 15. Biceps femoris muscle |
| 2. Clavobrachialis muscle | 9. Serratus anterior muscle | 16. Semitendinosus muscle |
| 3. Acromiodeltoid muscle | 10. Internal oblique muscle | 17. Semimembranosus muscle |
| 4. Spinodeltoid muscle | 11. Tensor fascia latae muscle (split) | 18. Testis |
| 5. Triceps brachii muscle | 12. Vastus lateral muscle (under pin) | 19. Umbilical cord |
| 6. Spinotrapezius muscle (cut) | 13. Gluteus medius muscle | |
| 7. Latissimus dorsi muscle | 14. Gluteus maximus muscle | |



A



B

Figure 4-37
Superficial Structures of the
Neck, Shoulder, and Thoracic
Limb of the Fetal Pig,
Left Lateral View

1. Brachioradialis muscle
2. Extensor carpi radialis muscle
3. Extensor digitorum communis muscle
4. Extensor digitorum lateralis muscle
5. Extensor carpi ulnaris muscle
6. Masseter muscle
7. Submaxillary gland
8. Lymph node
9. Parotid gland
10. Salivary duct
11. External jugular vein
12. Clavotrapezius muscle
13. Clavobrachialis muscle
14. Acromiodeltoid muscle
15. Spinodeltoid muscle
16. Spinotrapezius muscle (cut)
17. Triceps brachii muscle (long head)
18. Triceps brachii muscle (lateral head)
19. Splenius capitis muscle
20. Rhomboideus capitis muscle
21. Latissimus dorsi muscle
22. Sternomastoid muscle

Figure 4-38
Superficial Muscles of the
Hind Limb of the Fetal Pig,
Left Lateral View

1. Lumbodorsal fascia
2. External oblique muscle (reflected)
3. Internal oblique muscle
4. Tensor fascia latae muscle (split)
5. Vastus lateralis muscle (under pin)
6. Gluteus medius muscle
7. Gluteus maximus muscle
8. Biceps femoris muscle
9. Semitendinosus muscle
10. Semimembranosus muscle
11. Testis
12. Gastrocnemius muscle
13. Soleus muscle
14. Achilles tendon
15. Flexor hallucis longus muscle
16. Tibialis anterior muscle



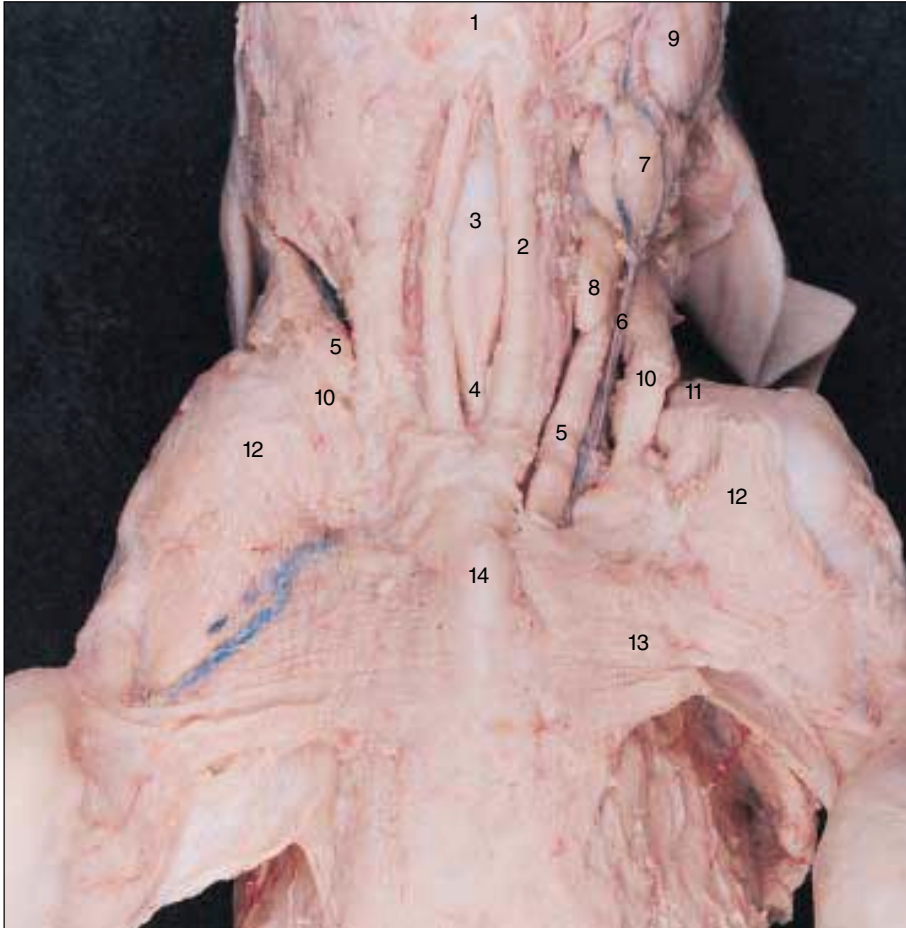
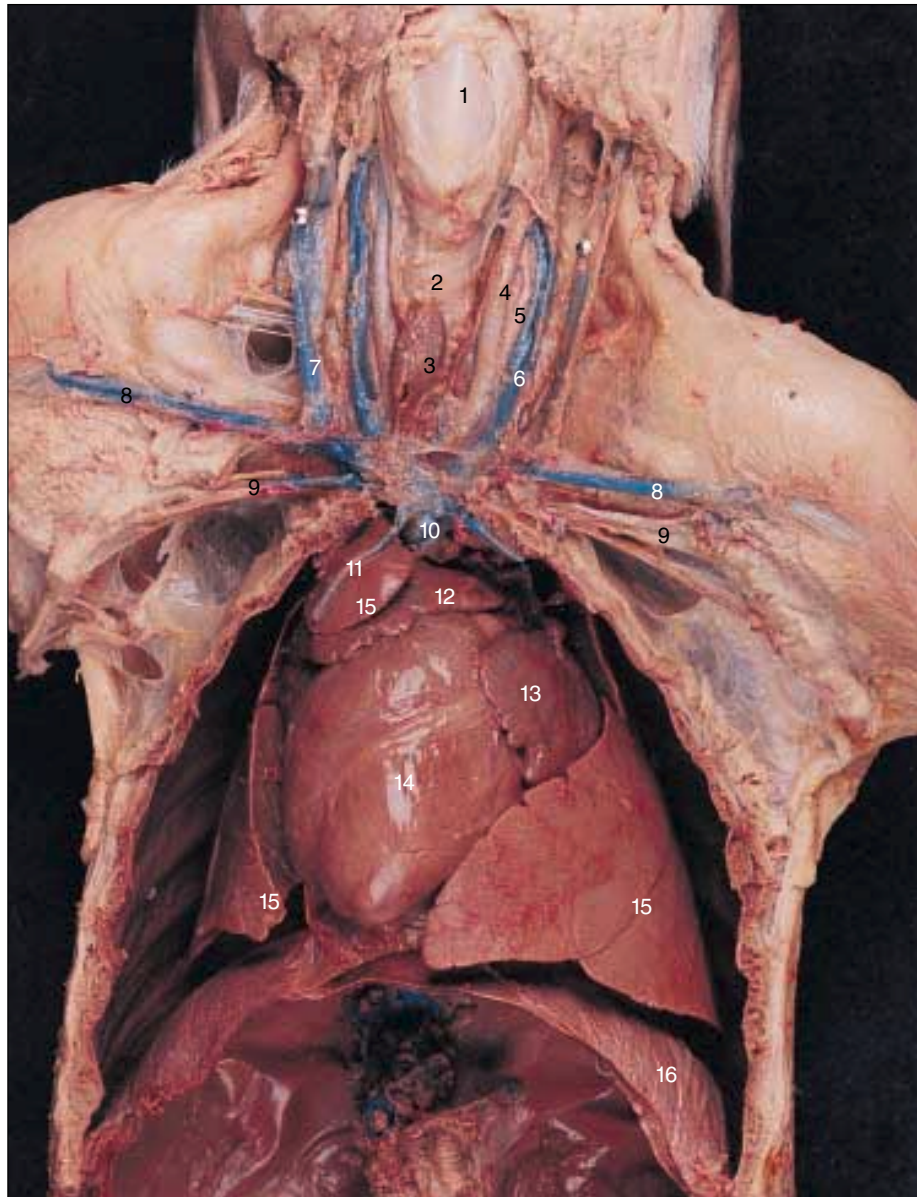


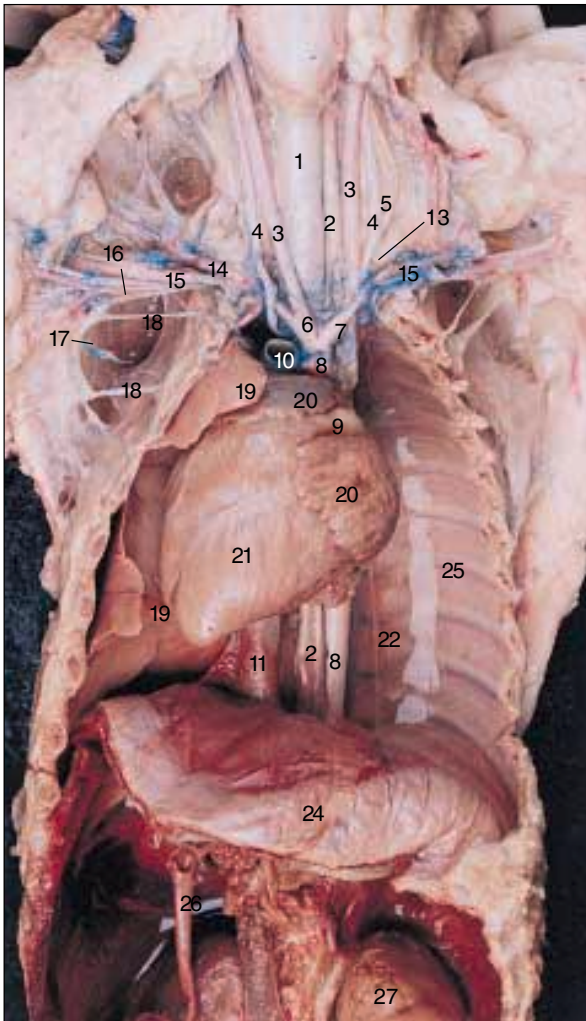
Figure 4-39
Superficial Anatomy of the
Fetal Pig Neck and
Shoulders, Ventral Aspect

1. Mylohyoid muscle
2. Sternohyoid muscle
3. Larynx
4. Trachea
5. Sternomastoid muscle
6. External jugular vein
7. Lymph node
8. Submaxillary gland
9. Masseter muscle
10. Clavotrapezius muscle
11. Acromiodeltoid muscle
12. Clavobrachialis muscle
13. Pectoralis major muscle
14. Sternum

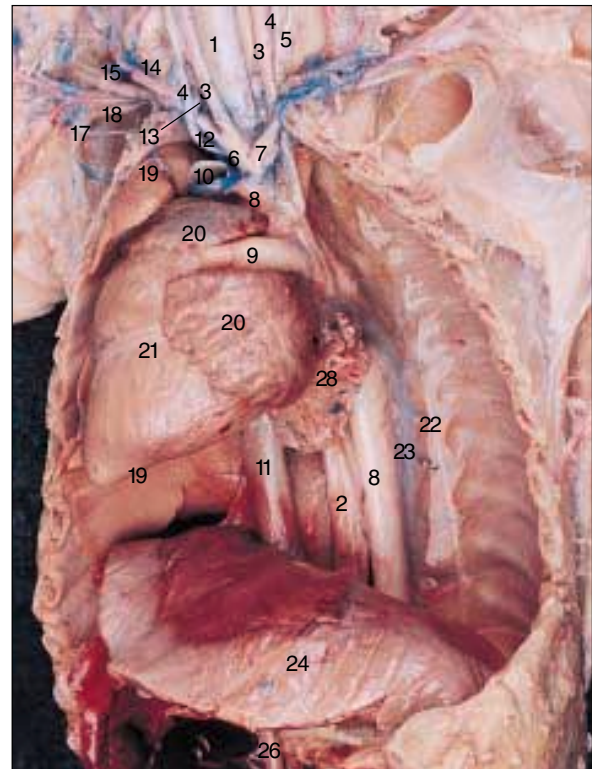
Figure 4-40
Deep Anatomy of the Fetal
Pig, Neck and Thorax

1. Larynx
2. Trachea
3. Thyroid gland
4. Common carotid artery
5. Vagus nerve
6. Internal jugular vein
7. External jugular vein
(pinned bilaterally)
8. Cephalic vein
9. Subclavian vein
10. Superior vena cava
11. Internal mammary vein
(cut, laid on lung tissue)
12. Right auricle
13. Left auricle
14. Heart
15. Lung
16. Diaphragm





A



B

Figure 4-41

Arteries of the Neck and Thorax of the Fetal Pig, Left Lung Removed

A, Heart in Normal Position

B, Heart Reflected to Right

- | | | |
|--|------------------------------------|---|
| 1. Trachea | 10. Superior vena cava (cut) | 21. Heart |
| 2. Esophagus | 11. Inferior vena cava | 22. Continuation of sympathetic trunk |
| 3. Common carotid artery | 12. Subclavian artery | 23. Azygous vein |
| 4. Vagus nerve | 13. Vertebral artery | 24. Diaphragm |
| 5. Sympathetic trunk | 14. Transverse scapular artery | 25. Rib with costal artery and vein |
| 6. Right innominate (brachiocephalic) artery | 15. Axillary artery | 26. Ductus venosus |
| 7. Left innominate (brachiocephalic) artery | 16. Radial nerve | 27. Kidney |
| 8. Aorta | 17. Thoracodorsal nerve | 28. Hilum of left lung (with bronchi and blood vessels cut) |
| 9. Ductus arteriosus | 18. Dorsal rami of thoracic nerves | |
| | 19. Lung | |
| | 20. Right and left auricles | |

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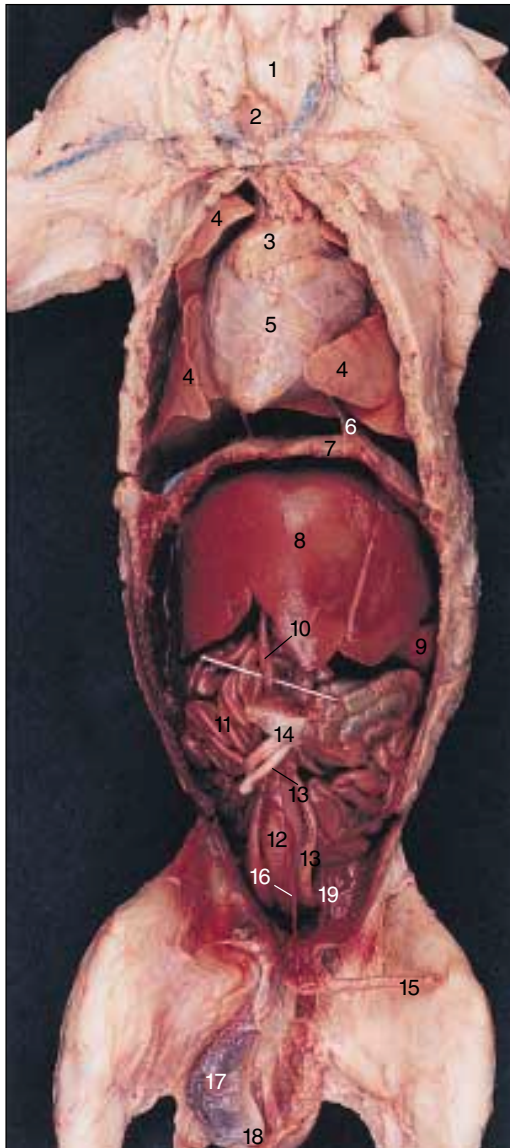


Figure 4-42
Thoracic and Abdominal Viscera of the Fetal Pig

- | | |
|-----------------------------|--|
| 1. Trachea | 12. Urinary bladder |
| 2. Thyroid gland | 13. Umbilical arteries |
| 3. Thymus | 14. Skin of umbilicus |
| 4. Lung | 15. Penis |
| 5. Heart in pericardium | 16. Urethra |
| 6. Mediastinal membrane | 17. Testis |
| 7. Diaphragm | 18. Epididymis |
| 8. Liver | 19. Spermatic cord (contains spermatic artery and vas deferens, which curves to pass behind base of urinary bladder) |
| 9. Spleen | |
| 10. Umbilical vein (on pin) | |
| 11. Small intestine | |

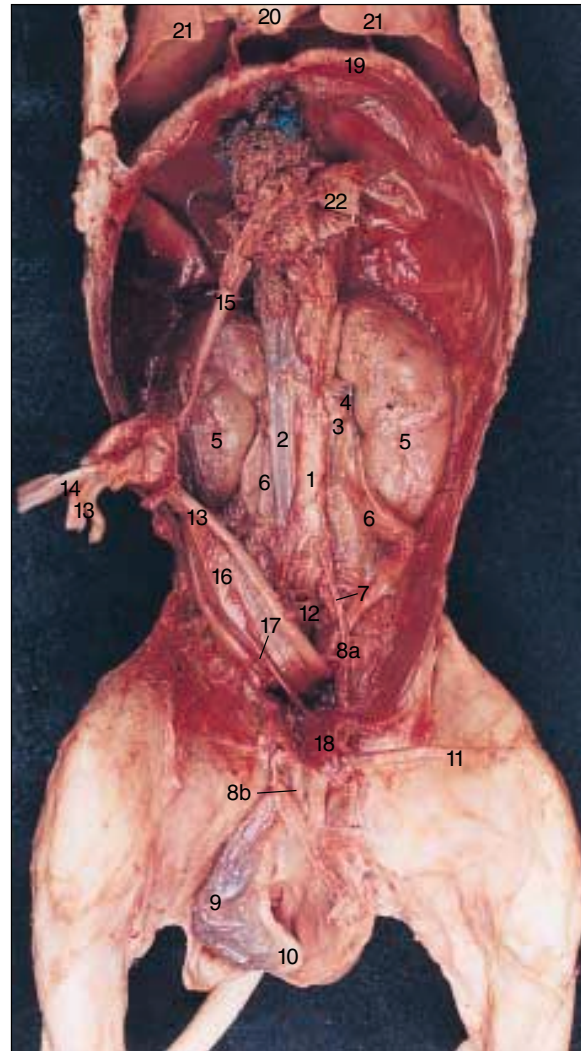


Figure 4-43
Abdominopelvic Cavity of the Fetal Pig, Male, Digestive Viscera Removed

- | | |
|-------------------------------------|--|
| 1. Abdominal aorta | 14. Umbilical vein |
| 2. Abdominal vena cava | 15. Ductus venosus (only remnants of liver remain) |
| 3. Renal artery | 16. Urinary bladder |
| 4. Renal vein | 17. Urethra |
| 5. Kidney | 18. Prostate gland |
| 6. Ureter | 19. Diaphragm |
| 7. Spermatic artery | 20. Heart |
| 8. a. Vas deferens | 21. Lung |
| b. Vas deferens (in spermatic cord) | 22. Pylorus of stomach (pin in antrum) |
| 9. Testis | |
| 10. Epididymis | |
| 11. Penis | |
| 12. Rectum (cut) | |
| 13. Umbilical arteries | |

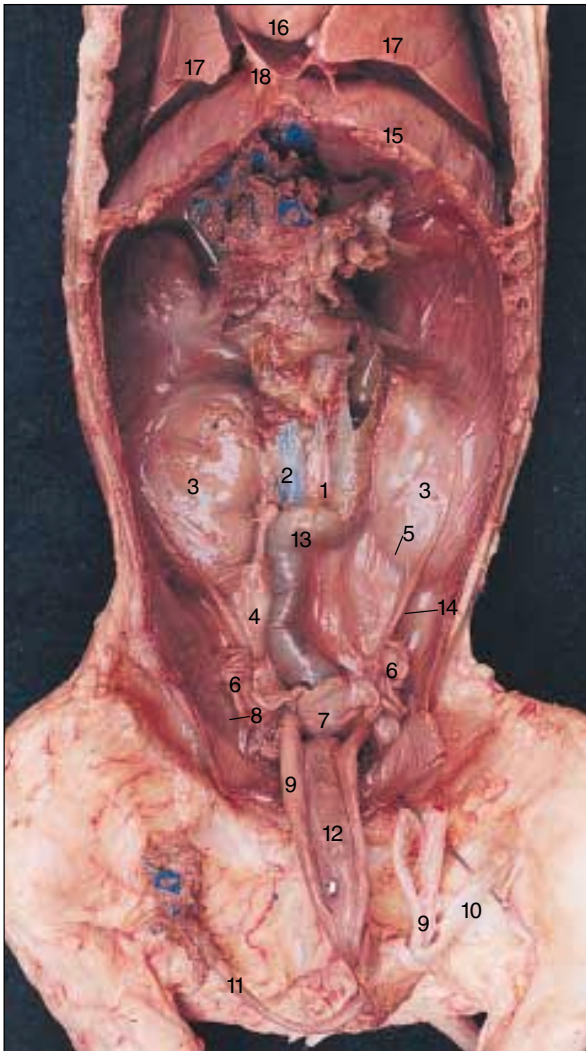


Figure 4-44
Abdominopelvic Cavity of the Fetal Pig, Female, Digestive Viscera Removed

- | | |
|--------------------------------------|--|
| 1. Abdominal aorta | 12. Urinary bladder (reflected and pinned) |
| 2. Abdominal vena cava | 13. Sigmoid colon |
| 3. Kidney (behind intact peritoneum) | 14. Suspensory ligament of ovary |
| 4. Ureter (behind intact peritoneum) | 15. Diaphragm |
| 5. Ovarian artery | 16. Heart |
| 6. Ovary | 17. Lung |
| 7. Uterus | 18. Mediastinal membrane |
| 8. Uterine horn | |
| 9. Umbilical arteries | |
| 10. Umbilical vein (lying on pin) | |
| 11. Ductus venosus | |

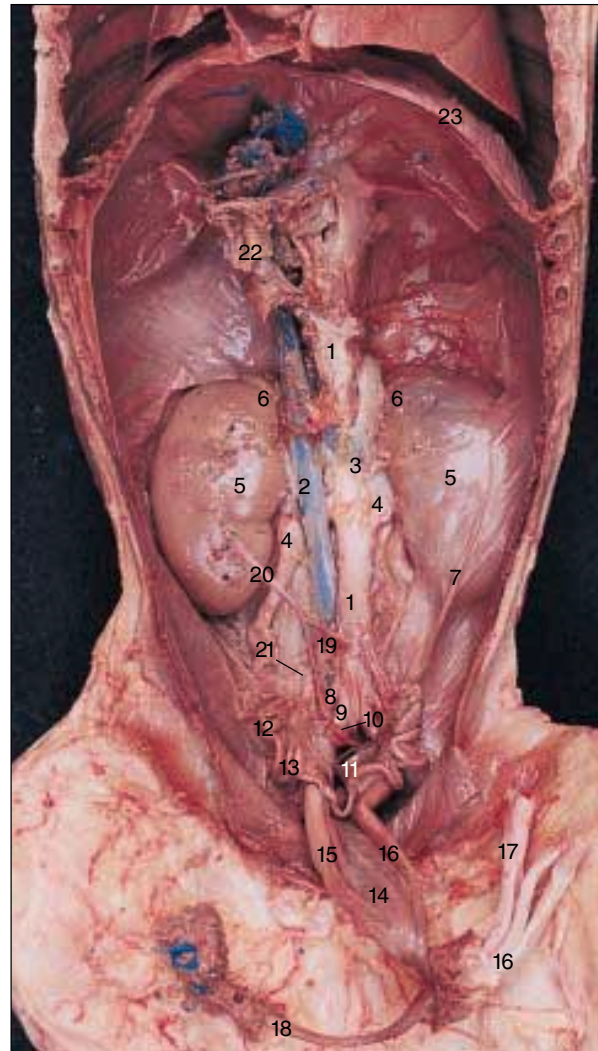


Figure 4-45
Deep Anatomy of the Abdominopelvic Cavity of the Fetal Pig, Abdominal Viscera Removed, Female

- | | |
|---|--|
| 1. Abdominal aorta | 14. Urinary bladder (reflected) |
| 2. Abdominal vena cava | 15. Urethra |
| 3. Renal vein | 16. Umbilical arteries |
| 4. Ureter | 17. Umbilical vein |
| 5. Kidney (left kidney behind peritoneum) | 18. Ductus venosus |
| 6. Adrenal gland | 19. Posterior (inferior) mesenteric artery |
| 7. Suspensory ligament of ovary | 20. Colic artery (pinned to kidney for clarity due to missing colon) |
| 8. External iliac artery | 21. Superior hemorrhoidal artery |
| 9. Internal iliac artery | 22. Remnant of small intestine (duodenum) |
| 10. Median sacral (caudal) artery | 23. Diaphragm |
| 11. Rectum (cut) | |
| 12. Ovary | |
| 13. Uterine horn | |

Figure 4-46
General Anatomy of the Male Rat,
Abdominal Cavity Exposed, Ventral View

1. Thorax
2. Abdomen
3. External oblique muscle (reflected and pinned)
4. Internal oblique muscle (lying on pin)
5. Transversus abdominis
6. Rectus abdominis
7. Peritoneum
8. Inferior epigastric artery
9. Liver
10. Spleen
11. Kidney
12. Rectum
13. Abdominal fat (small intestine not visible in this photograph)
14. Testis
15. Penis
16. Sternum (xiphoid process)

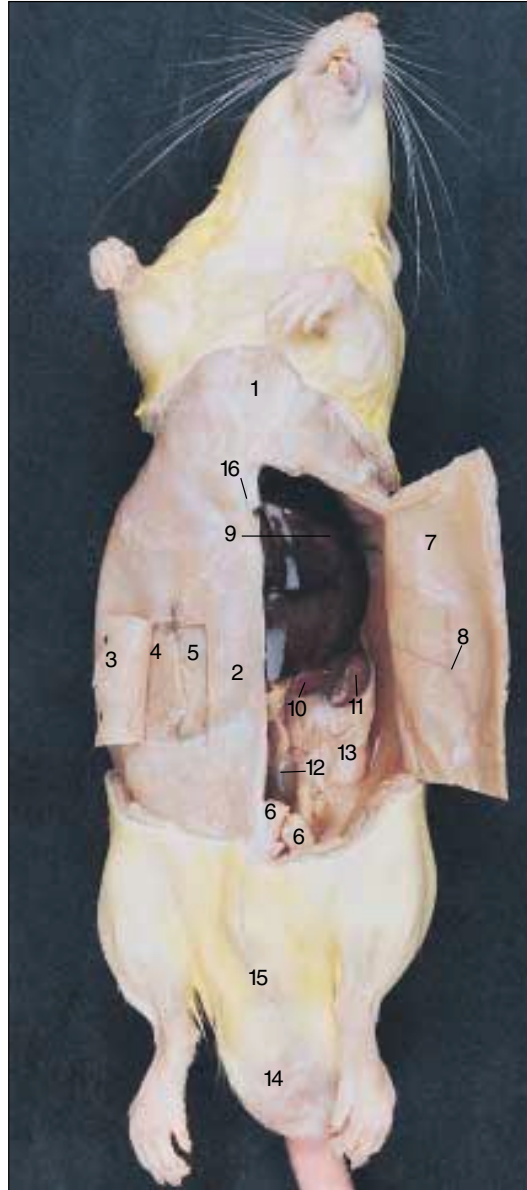




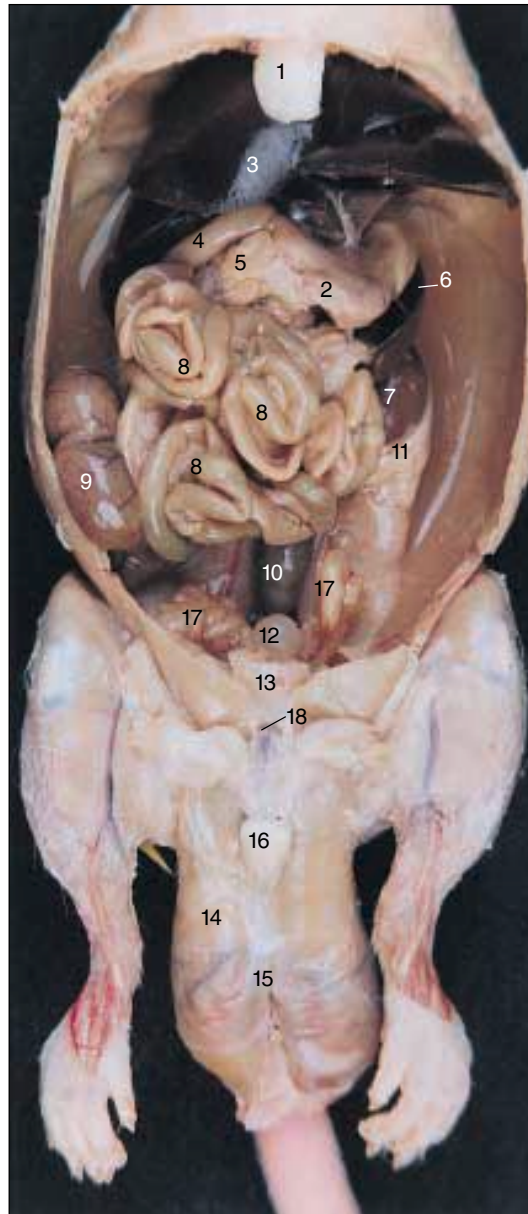
Figure 4-47

**Deep Anatomy of the Rat,
Neck and Thorax**

1. Larynx
2. Salivary gland
3. Thyroid gland
4. Trachea
5. Sternohyoid muscle
(unavoidably damaged on
animal's right side during
vascular perfusion)
6. Thymus
7. Common carotid artery
8. Heart
9. Lung
10. Internal mammary vein
11. Rib and intercostal artery and
vein
12. Diaphragm
13. Crus of diaphragm

Figure 4-48
Abdominopelvic Cavity of the Male Rat

1. Sternum (xiphoid process)
2. Stomach
3. Liver
4. Small intestine (duodenum)
5. Pancreas
6. Spleen
7. Kidney
8. Small intestine (jejunum and ileum)
9. Large intestine (cecum)
10. Rectum
11. Abdominal fat
12. Urinary bladder
13. Rectus abdominis muscle (cut)
14. Testis in scrotum
15. Epididymis
16. Penis
17. Seminal vesicle
18. Cremasteric fascia



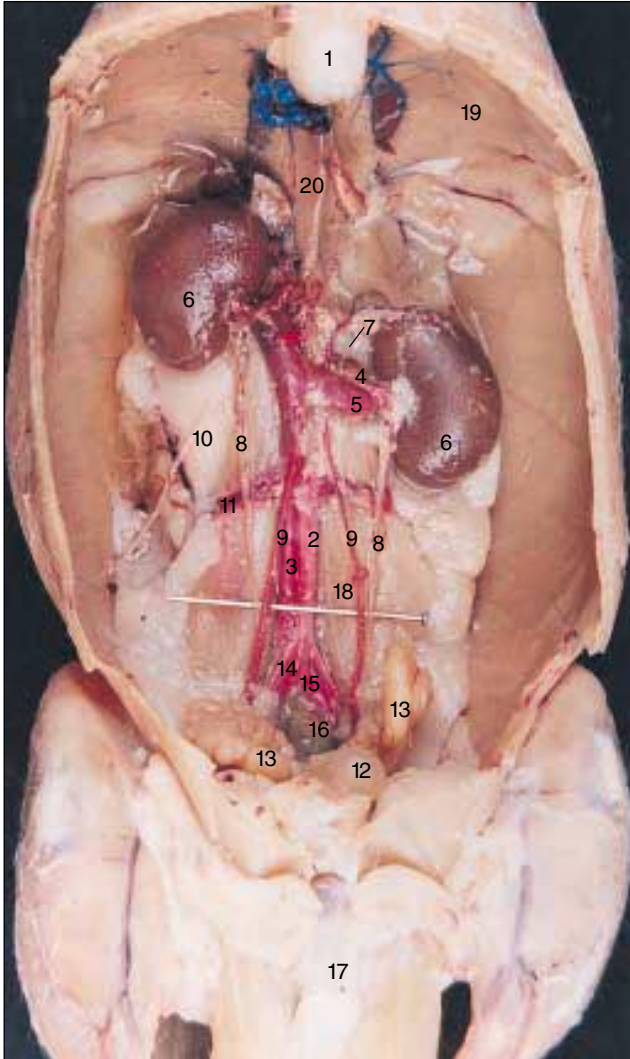


Figure 4-49

**Abdominopelvic Cavity of the Rat, Male,
Digestive Viscera Removed**

1. Sternum (xiphoid process)
2. Abdominal aorta
3. Abdominal vena cava
4. Renal artery
5. Renal vein
6. Kidney
7. Adrenal gland
8. Ureter (lying on pin)
9. Spermatic artery (lying on pin)
10. Lumbar nerve (medial branch, extended for clarity)
11. Iliolumbar artery and vein
12. Urinary bladder
13. Seminal vesicle
14. Common iliac artery
15. Median sacral (caudal) artery
16. Rectum (cut)
17. Penis
18. Psoas muscle
19. Diaphragm
20. Crus of diaphragm

Figure 4-50
Abdominopelvic Cavity of the Rat, Female,
Digestive Viscera Removed

1. Abdominal aorta
2. Abdominal vena cava
3. Renal artery
4. Renal vein
5. Ureter (lying on pin)
6. Iliolumbar artery
7. Iliolumbar vein
8. Rectum (cut)
9. Ovary
10. Uterus
11. Uterine horn
12. Urinary bladder
13. Abdominal fat
14. Ovarian artery and vein
15. Crus of diaphragm
16. Kidney
17. Adrenal gland

