

PERIPHERAL NERVES TO LOCATE IN THE CAT

page 21

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This dissection concentrates on three regions. **Make three full page illustrations**, one for each region, showing for each region: the cuts made, the locations of the italicized features, and the nerves listed.

ABDOMEN: Pinch the ventral abdominal wall to produce a transverse fold. Snip with heavy scissors along the *linea alba* so that you nick the wall longitudinally. (Or use the cut made during latex injection.) Carefully insert the blunt end of the scissors into the nick and lift away from the underlying organs. Snip down to the *pubis*. Extend the cut up to the *sternum*, again taking care not to damage the underlying organs. Make two abdominal cuts on each side 1) just inferior to the ribs, and 2) at the pubis (don't cut *vas deferens*). Reflect the two abdominal flaps exposing the underlying organs.

OPENING THE THORAX: Slip the blunt end of the heavy scissors under the *xiphoid process*, lift and cut through the sternum all the way to the *jugular notch*. Keep the angle of the blunt tip shallow to avoid underlying organs. Just *above* the diaphragm, make lateral cuts to free it from the lower rib cage. Spread the thoracic walls. You need to crack some ribs at the vertebral column to get a good view. Note the space between the lungs (*mediastinum*) contains the *heart*, its *pericardium*, the *great vessels*, and the thymus). Preserve connections of the vessels of the thorax for the cardiovascular lab.

NECK: Extend the cut up to the chin. Neck muscles adhere tightly to underlying organs. Cut and reflect the superficial muscles to expose the *larynx*. Along the sides, push the outer wall of the neck to separate the superficial from the deep neck muscles (probe deeply) but do not sever the nerves. Cut the muscles just below the mandible so that you can turn out the flaps.

I. NERVES OF THE NECK AND THORAX AND THE CERVICAL PLEXUS

- vagus** Find the common carotid artery. The vagus is attached to it. (Gilbert, p 62 & 65)
- cervical nerves** Find the *longus capitis* behind the *common carotid*. Several cervical nerves emerge laterally from under it to form **cervical plexus**. (Gilbert, p. 67 & 95)
- phrenic** Easily seen at diaphragm, attached to vena cava on R, in pleural folds on L. It emerges from the **fifth and sixth cervical nerves**.
- chain ganglia** Gently push thoracic contents to R side so that you can see the *descending aorta*. Note the *intercostal arteries* which branch off it. The sympathetic chain ganglia lie on top of these on either side of the vertebral column. (Gilbert, p. 69)

II. NERVES OF THE ARM AND THE BRACHIAL PLEXUS (Gilbert, p. 62 & 95)

If not already dissected, cut and reflect the pectoralis major. (Do not cut underlying features.)

- brachial plexus** lies outside the rib cage below where the *subclavian vein* branches into the *axillary* and *subscapular* veins. The brachial plexus produces major nerves of the arm:
- radial** largest nerve emerging from brachial plexus, soon plunges below *biceps brachii*.
- ulnar** medial-most of the three nerves, plunges below the surface near the *olecranon*.
- median** smallest of the three nerves, lies between ulnar and radial nerves, follows the *brachial artery* into the forearm.

III. NERVES OF THE LEG AND THE SACRAL PLEXUS (Gilbert, p.98 & 99)

If not already dissected, cut and reflect the *biceps femoris* to reveal:

- sciatic** largest nerve in the body, descends the latero-posterior thigh, branches to form several nerves of the leg, including:
- tibial** plunges into *gastrocnemius*, supplies lower leg.
- peroneal** branches laterally to supply the side of the shin.
- sacral plexus** Follow the sciatic nerve upward, cut the muscles which overlie it (including the *piriformis*). Note several component nerves.

CLOSING UP: *As always*, when you have finished for the day, replace the internal organs in their proper locations, close the cat, wrap in its skin, place in the plastic bag, press out the air, seal with three turns of a large rubber band and return to the box with number to right. Wash your desk top with warm soapy water. Wash your instruments well, dry them, replace the kit in the storage box. Check the sinks and the floor around your desk to be sure they are thoroughly clean.