

SURVEY OF ENDOCRINE ORGANS

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3 March 1992, latest revision 22 Feb '96, 4 Jan. '97, 27 Feb '97, 6 Jan 03, 26 Feb 04, 27Feb09

http://biology.clc.uc.edu/fankhauser/Labs/Anatomy_&_Physiology/A&P202/Endocrine_System/Endocrine_organs.htm

This lab uses a cat which has been opened from stem to stern on the ventral surface as directed in the protocol *Nerves to Locate in the Cat*. You will need to know *italicized features* in order to locate the listed endocrine organs in **bold**. The page references to the illustrations in Gilbert's *Pictorial Anatomy of the Cat* are given in parentheses. Make two drawings:

- I. A view of the brain (or cross ref to your previous drawing)
- II. large view of the neck and trunk showing all bold and italicized features.

At home, list for each organ the hormones produced and describe their functions:

I. HEAD:

If you did not dissect your cat's cranium, find a student who did. Find the *sella turcica* on the floor of the cranium where the **pituitary** was once located. Probably part of it remains (p. 39 & 83). Its infundibulum can be seen on the inferior side of the brain. The **pineal** gland can be seen just superior to the *corpora quadrigemina* on the rear medial surface of the brain. (p. 78) Either draw it or cross reference to your previous drawing.

II. NECK AND TRUNK:

NECK: Two globular organs inferior to the *larynx* and adhering lateral to the *trachea* are the two lobes of the **thyroid** glands. (p.47) (In the human they are joined by a prominent isthmus.) Attached to the thyroid on its dorsal side are the **parathyroid** glands, which are tiny and nearly invisible. Note that they are presumed there, even though not seen.

THORAX: In the mediastinum, the **thymus** is ventral to the *trachea*, superior to the heart. (p. 42). In older animals, it atrophies to a small remnant of connective tissue.

ABDOMEN: Reflect the two abdominal wall flaps to expose the abdominal organs. The **stomach** is under the liver toward the left. The **duodenum** is just downstream from the stomach. The **pancreas** is nestled along the inside curve of the duodenum, and appears diffuse and slightly fatty. (p. 43-50) The green stain on the duodenum shows where the *bile duct* enters the small intestine. The *pancreatic duct* enters here too. Gently move the *intestines* to the right so that you can see the **R kidney** at the rear of the abdominal cavity. The **adrenals** are globular organs superior to the kidneys, under the prominent *adrenolumbar vein*. Both are retroperitoneal. (p. 55) (In humans, they rest on the kidneys, but not in the cat.) If your cat is a female, find the oval-shaped **ovaries**, inferior to the kidneys, attached to the rear of the abdominal wall and associated with the *uterine horns* (p. 55) If you have a male, the **testes** can be felt in the *scrotum*. (p. 56) Find the *testicular veins* which carry blood-borne testosterone towards the heart where the *spermatic cord* enters the abdomen (look for the *vas deferens* looping over the *ureters* at the *bladder*). Inspect a cat of the opposite sex of the one you are using so you see both sets of gonads.

CLOSING UP: When you have finished your dissection, reposition the internal organs in their proper locations, close the abdominal flaps, wrap in the skin, place in the plastic bag, press out the air, seal with 2-3 turns of a rubber band and return to the box, numbers to the right. Wash your desk top with warm *slightly* soapy water. Wash your instruments well, dry them, replace in storage. Check the sinks and the floor around your desk to be sure they are thoroughly clean.