

# HISTOLOGY OF SELECTED ORGANS OF THE ENDOCRINE SYSTEM

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[http://biology.clc.uc.edu/fankhauser/Labs/Anatomy\\_&\\_Physiology/A&P202/Endocrine\\_System/Histology\\_Endocrine.htm](http://biology.clc.uc.edu/fankhauser/Labs/Anatomy_&_Physiology/A&P202/Endocrine_System/Histology_Endocrine.htm)

Examine each of the following slides, note the features in common and those which differentiate the organs. Illustrate the five illustrations to take up at least half of a page, each at the noted power. Note the purposes of each of the functional features labeled. Compare with the illustrations in di Fiore's *Atlas of Normal Human Histology*, 9<sup>th</sup> Ed. Read di Fiore's discussion of the endocrine system, pp 266-267 for a discussion of functions.

Slide 14, Hypophysis, pars distalis, intermedia & nervosa, cat, H&E, (H 4260)  
(MF 9<sup>th</sup>, page 269)

### I. Hypophysis, 40x:

infundibulum (attaches to hypothalamus)  
pars distalis (adenohypophysis)  
pars intermedia (remnant, Rathke's pouch)  
pars nervosa (neurohypophysis)  
capsule note blood vessels in capsule  
sinusoidal capillaries

Slide 15, Thyroid, follicles, retic & simple cuboid epithelium (H 4290)  
(MF 9<sup>th</sup>, page 275)

### III. Thyroid Follicles, 400x:

follicles (synthesize, store release thyroxine)  
colloid  
cuboidal follicular cells  
parafollicular cells (clear, release calcitonin)  
sinusoidal capillaries

Slide 16, Adrenal gland, cortex (& medulla?) (70881)  
(MF 9<sup>th</sup>, page 279)

### IV. Adrenal Gland, 40x or 100x, which ever allows best view of all three layers:

capsule  
zona glomerulosa (superficial ovoid groups)  
[makes mineralcorticoids]  
zona fasciculata (columns of cells)  
[makes glucocorticoids]  
zona reticularis (deep anastomosing cords of darker cells)  
[makes androgens]  
sinusoidal capillaries  
adrenal medulla (if present, usually not seen)

Slide 17, Islets of Langerhans, human pancreas (70905)  
(MF 9<sup>th</sup>, pages 229-233)

### V. Islets of Langerhans, 100x:

pancreatic acini secrete enzymes, HCO<sub>3</sub><sup>-</sup>  
intralobular duct collects pancreatic juices  
interlobular duct delivers to duodenum  
Islets of Langerhans produces both insulin and glucagon

[See also slide 10: Vater-Pacinian Corpuscles in the pancreas (H 1688).]