

Anatomy 58 - Study Guide Exam 4

Chapter 13 Respiratory System

1. List the functions of the respiratory system and respiratory tract.
2. List the organs that make up the respiratory tract.
3. Recognize and understand the role of the accessory structures.
4. Identify the epithelial layer for each section of the respiratory tract.
5. Describe the structure of the larynx, trachea, bronchi, pharynx, nasal cavity, bronchioles, alveolar. Know what respiratory tubes have cartilage.
6. List structures that are part of the conducting zone and those that are part of the respiratory zone.
7. Identify the area of gas exchange. Describe the area of gas exchange including: alveolar type I and II cells, macrophages, capillaries and connective tissue.
8. Give the lung division served by primary, secondary and tertiary bronchi. Identify the smallest lung division and what respiratory tube serves it.
9. Distinguish between the right and left lungs.
10. Identify and describe the hilus, parietal and visceral pleura, pleural cavity and chest wall.

Lab 11 - Respiratory System

Be able to identify and give the function of each structure listed below.

Whole and sagittal sections of skull

nasal bones	perpendicular plate of ethmoid	paranasal sinuses
nasal cavity	hard palate (maxilla, palatine)	(frontal, maxillary, ethmoidal, sphenoid)
vomer		

Sagittal section of human head

nasal mucosa	soft palate	pharynx	tracheal rings
nasal septum	horizontal process of palatine	nasopharynx	larynx
superior & middle conchae (part of ethmoid bone)	opening of eustachian tube	oropharynx	epiglottis
inferior conchae	true vocal cords	laryngopharynx	thyroid cartilage
hard palate	sphenoid sinus	esophagus	cricoid cartilage
	palatine tonsils	trachea	false vocal cords
			hyoid bone

Model of larynx

thyroid cartilage	epiglottis	hyoid bone
cricoid cartilage	tracheal rings	false vocal cords

Model of bronchial tree

primary bronchi (one to each lung)

secondary bronchi (one to each lobe - two on left and three on right)

tertiary bronchi (one to each bronchiopulmonary segment - ten per lung [20 total])

Model and pictures of lungs

superior, middle and inferior lobe of right lung	trachea
superior and inferior lobe of left lung	visceral and parietal pleura
pulmonary arteries and veins	pleural cavities

Lung slides

respiratory bronchioles	alveolar ducts	alveolar sacs	alveoli
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Chapter 24 Digestive System

1. Give the two primary functions of the digestive system.
2. List the other activities of the digestive tract that support the primary functions of the digestive system.
3. List, give the function of, and be able to locate on models and pictures each digestive system organ and accessory organ.
4. Describe and/or identify the macroscopic and microscopic structure of the oral cavity, esophagus, stomach, small intestines, colon, rectum, anus, pancreas and liver.
5. Describe the blood flow to and from the liver.
6. Give the source of bile and be able to trace its path from the source to its destination in the digestive tract.
7. Be able to draw/describe the four layers of the digestive tract and the structural features of each layer. Know where the myenteric plexus and submucosal plexus are located. Recognize the variations of the esophagus, stomach, small intestines and colon.
8. Understand what structural features enhance absorption.

Lab 12 - Digestive System

Be able to identify and give the function of each structure listed below.

Models and pictures

oral cavity	stomach: cardia	liver	ascending, transverse and
hard and soft palates	fundus	pancreas	descending colon
tongue	pylorus	gall bladder	hepatic flexure (colon)
pharynx	body	ileocecal valve	splenic flexure (colon)
esophagus	small intestine	cecum	sigmoid colon
parotid, submandibular and sublingual glands	duodenum	appendix	rectum
	jejunum		anus
	ileum		greater omentum

right and left lobes of the liver	hepatic ducts (right & left)	common hepatic duct	pancreas
gallbladder	cystic duct	common bile duct	pancreatic duct

Be able to recognize the following organs based on their histology.

esophagus stomach small intestine colon

Organ slides

1. mucosa: epithelium, lamina propria & muscularis mucosa
2. submucosa
3. muscularis
4. serosa

Slides or pictures

liver	portal area	bile duct	pancreas
hepatocytes	portal vein	central vein	islets of Langerhans
	hepatic artery		acinar cells

Chapter 15 Urinary System

1. Give the primary function of the urinary system and the processes that support that function.
2. List, give the function of, and be able to identify on models and pictures each urinary system organ.
3. Describe and/or identify the macroscopic and microscopic structural features of the kidney, ureter, bladder and urethra covered in class.
4. Describe the blood flow through the kidney.
5. Describe the flow of filtrate (destined to become urine) through the kidney and onward to the opening of the urethra.

Lab 13 - Urinary System

Be able to identify and give the function of each structure listed below.

Kidney model

renal artery and vein	ureter	major calyces	renal medulla	renal papilla
renal pelvis	minor calyces	renal cortex	renal pyramids	renal capsule

Nephron model

glomerulus	Bowman's capsule (glomerular capsule)	proximal convoluted tubule
afferent arteriole	visceral layer (podocytes)	distal convoluted tubule
efferent arteriole	parietal layer	loop of Henle
	capsular space	collecting duct

Kidney slides

cortex	Bowman's capsule	glomerulus - these capillaries are covered with podocytes
medulla	parietal layer	convoluted tubules
collecting ducts	capsular space	

Chapter 16 Reproductive System

1. Give the primary function of the reproductive system.
2. List the primary sex organs and their functions.
3. Identify the organs/structures of the male reproductive system and understand what each structure does.
4. Know where sperm are formed and the route they take to leave the body.
5. Discuss the composition of semen and name the glands that contribute to it.
6. Identify the organs/structures of the female reproductive system and understand what each structure does.
7. Identify follicles including oocytes, granulosa cells and antrum in pictures of the ovary.
8. Understand the two ovarian phases of the menstrual cycle (follicular and luteal) and the ovarian structures that dominate each phase.
9. Describe the three uterine phases of the menstrual cycle in terms of the uterine lining (endometrium).
10. Differentiate myometrium from endometrium.

Lab 14

Be able to identify and give the function of each structure listed below.

Male reproductive system models and pictures

penis	glans	testis	ureter	ejaculatory duct
corpora cavernosa (dorsal)	urethra	epididymis	spermatic cord	seminal vesicles
corpus spongiosum	scrotum	vas deferens	inguinal canal	prostate gland
				rectum

Penis slides

epidermis	corpora cavernosa	urethra
dermis	central artery of corpus cavernosum	corpus spongiosum

Female reproductive system models and pictures

vulva	vagina	broad ligament
mons pubis	cervix and cervical canal	ovaries
labia: labia majora & labia minora	uterus	fallopian tubes (oviduct)
clitoris	perimetrium	bladder
urethral orifice	myometrium	pubic symphysis
vaginal orifice	endometrium	rectum
greater vestibular glands	round ligaments	anal sphincter

Ovary slides

primordial follicles	secondary follicles:	follicle cells	mature follicles:	follicle cells
primary follicles		oocyte	(Graafian follicle)	oocyte

Uterus slides

Be able to identify the uterine stage: menstrual, proliferative, or secretory stage.

Chapter 9 Endocrine System

1. Give the primary function of the endocrine system. (Regulating and controlling functions of the body.)
2. Define hormone and target.
3. Differentiate between an endocrine and exocrine gland.
4. Know the location of and primary function of each endocrine organ.

Endocrine Gland	Functions
hypothalamus	controls anterior pituitary produce posterior pituitary hormones (ADH and Oxytocin)
posterior pituitary (terminal boutons)	regulate blood pressure and water balance (ADH) contract uterine and mammary gland smooth muscle (Oxytocin)
anterior pituitary (5 types of cells)	growth and development (growth hormone) mammary gland development and milk production (prolactin) control gonads (FSH/LH) control thyroid (TSH) control adrenal cortex (ACTH)
pineal gland	involved in biological rhythms (melatonin)
thyroid	basal metabolism (thyroid hormones) calcium balance (calcitonin)
parathyroid	calcium balance
pancreas	blood sugar balance
adrenal cortex	mineral balance (mineralocorticoids - aldosterone) blood sugar balance, immune system modulation (glucocorticoids - cortisol)