

Objectives for the Sensory Lab Test

Be able to locate the following parts of the eye

palpebrae (eyelids)	lateral commissure	medial commissure
palpebral fissure	iris	pupil
sclera	cornea	
lens	vitreous chamber	vitreous body (humor)
anterior chamber	posterior chamber	aqueous humor
retina	choroid	ciliary body
ciliary muscles	suspensory ligament	canal of Schlemm
fovea centralis	optic disc	optic nerve

Be able to locate the following

conjunctiva	lacrimal glands	lacrimal canal
lacrimal sac	naso-lacrimal ducts	tarsal plate

Name the six extrinsic muscles of the eyeball

Be able to identify in brain sections the following parts of the brain

brain stem - medulla oblongata , pons
 mesencephalon - corpora quadrigemina, cerebral aqueduct
 diencephalon - thalamus (oval mass, intermediate mass) hypothalamus, pituitary
 cerebrum
 tracts (internal capsule and corpus callosum)
 cerebellum

lateral ventricles	3rd ventricle	4th ventricle
cerebral aqueduct		
cranial nerves:	olfactory tract	optic
oculomotor	trigeminal	

Be able to locate the following parts of the ear

outer ear	middle ear	inner ear
auricle	ext auditory canal	tympanic membrane
malleus	incus	stapes
auditory tube	cochlea	semicircular canals
vestibulocochlear nerve	utricle	saccule
oval window	round window	

The following structures will be tested on the lecture test:

vestibular membrane	basilar membrane	scala vestibuli
cochlear duct	scala tympani	hair cells
tectorial membrane	helicotrema	

Be able to locate the following components for the sense of smell.

olfactory bulb	cribriform plate	receptor
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Test on Heart and Blood Vessels

Heart - You will dissect a sheep's heart and study human heart models. Be able to identify all structures in listed below on pages 382-384. Items with a * will be tested on human heart models or pictures. This will be on lecture test #2.

Mediastinum (picture)	parietal pericardium (picture)
Pericardial cavity (picture)	visceral pericardium (picture)
Myocardium (picture)	endocardium (picture)
Apex	base
Aorta	pulmonary trunk (artery)
Right & Left ventricles	interventricular sulci
Right & Left atria	auricles
atrioventricular sulcus	superior vena cava
inferior vena cava	pulmonary veins
R & L coronary artery*	anterior interventricular artery*
circumflex artery *	posterior interventricular artery*
middle cardiac vein*	great cardiac vein* (drains left side)
small cardiac vein* (drains right side)	coronary sinus*
interventricular septum	pectinate muscles
right atrioventricular valve (tricuspid)	chordae tendineae
papillary muscles	pulmonary semilunar valve
left atrioventricular valve (bicuspid)	aortic semilunar valve

Blood Vessels - You will dissect the vessels of the cat and study human vessels. Any vessel found in the cat is also required in a human diagram. There are dissection pictures on pages 417, 418, 427, 429, 444, 445.

You will need to know the following cat vessels:

ascending aorta	aortic arch
descending aorta	thoracic aorta
abdominal aorta	brachiocephalic artery
left subclavian artery	left common carotid artery
right common carotid artery	right subclavian artery
subclavian artery	axillary artery
subscapular artery	brachial arteries
celiac artery	superior mesenteric artery
renal arteries	inferior mesenteric artery
external and internal iliac arteries	femoral artery
iliolumbar arteries	
brachial vein	axillary vein
subclavian vein	brachiocephalic vein
external jugular vein	internal jugular vein
femoral vein	external iliac vein
internal iliac vein	common iliac vein
posterior vena cava	inferior vena cava
genital vein	renal vein
iliolumbar veins	inferior mesenteric vein
superior mesenteric vein	hepatic portal vein
hepatic vein	azygos vein

Any vessel found in the cat is also tested on a human diagram. For the circle of Willis study the picture in your lecture book on page 780 & 781.

common carotid	external carotid
internal carotid	anterior communicating artery
posterior communicating artery	anterior cerebral artery
middle cerebral artery	posterior cerebral artery
basilar artery	vertebral A & V
facial vein	external jugular
internal jugular	

Blood vessels of the extremities on human diagrams:

subclavian A & V	axillary A & V
brachial A & V	radial A & V
ulnar A & V	common iliac A & V
external & internal iliac A & V	femoral & deep femoral A & V
popliteal A & V	posterior & anterior tibial A & V
cephalic V	median cubital V
basilic vein	brachiocephalic V
azygos V	great saphenous V

Be able to trace the flow of blood through the body. In general a blood vessel name changes after it branches, or for veins when branches come together.

ARTERIES branches of the Aorta:

- right brachiocephalic → right common carotid & right subclavian
- left common carotid → external carotid (surface) & internal carotid (brain)
- left subclavian

ARM ARTERIES Subclavian (1st rib) → axillary → brachial → radial & ulnar
deep brachial – closer to bone

LEG ARTERIES Aorta → common iliac → internal iliac and external iliac
external iliac → femoral → popliteal → anterior & posterior tibial
deep femoral – closer to bone

VEINS External jugular (surface) & internal jugular (brain) drain into subclavian, now called brachiocephalic
→ superior vena cava
azygos – drains chest wall

ARM VEINS – multiple pathways

- cephalic is lateral, brachial is the middle vein and basilic is medial
- median cubital drains into the basilic, radial & ulnar drain into the brachial
- basilic drains into the brachial
- brachial and cephalic drain into the axillary
- internal and external jugular drain into subclavian, now called brachiocephalic

Be able to trace a drop of blood throughout the body. For example trace a drug given orally from the small intestines to the kidneys where it is eliminated.

Capillaries in SI →	sup mesenteric v →	hepatic portal v →
hepatic sinusoids →	R&L Hepatic v →	inferior vena cava →
R atrium →	tricuspid →	R ventricle →
pulmonary semilunar valve →	R&L pulmonary art →	lung capillaries →
R&L pulmonary v →	L atrium →	bicuspid valve →
L ventricle →	aortic semilunar valve→	aorta →
aortic arch →	thoracic aorta →	renal artery →
kidneys		

Other problems for practice.

1. Trace a martini from the stomach where it is absorbed to the brain where it has its effect.
2. Trace a drug from the right median cubital vein, where it is given IV, to the liver and to the brain.
3. Trace estrogen from the right ovary, where it is produced, to the uterus where it will have an effect.

Be able to trace blood from a mother through a fetus. Look at pg 1118 of your lecture book or 448 of the cat book.

Lab List for Blood and Digestion

Digestive System on models or cat*

Fig 25.8, Tooth: know all structures mentioned in lecture

Fig 25.9 Salivary glands: parotid, sublingual, submandibular

Fig 25.12	Stomach*	fundus pylorus lesser omentum cardiac sphincter	cardiac greater curvature* pyloric sphincter*
	body greater omentum* lesser curvature* rugae		

Figs 25.21, 24	Small Intestines*	plicae circulares common bile duct gallbladder*	duodenal papilla hepatic duct pancreas*
	pancreatic duct cystic duct mesenteries*		

Model of Villus		muscularis mucosa lacteal	columnar cells intestinal crypts
	4 tunics villus		

Fig 25.31	Large Intestines*	ascending colon rectum*	transverse colon appendix
	cecum* descending colon hastrum		

Fig A.10 - pg 37	Sagittal Section of Abdominopelvic cavity	lesser omentum parietal peritoneum	greater omentum peritoneal cavity
	diaphragm visceral peritoneum mesenteries		

Fig 25.19	Liver*	left lobe	falciform ligament
	Right lobe		

Fig 25.20	Hepatic Sinusoids	hepatic portal vein hepatocytes	sinusoids bile canaliculus
	hepatic artery central vein bile ductule		

Spleen*

Microscope Identification

Slides of Blood - note there are several different blood slides

RBC	neutrophils	eosinophils
lymphocytes	monocytes	platelets

arteries	veins (pg 754)
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All Organs of Digestive System

tunica mucosa	tunica submucosa	tunica muscularis
tunica serosa (won't actually see on slide)		

<u>esophagus</u> -	3 tunics, stratified squamous, muscularis mucosa
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<u>stomach</u> -	3 tunics, gastric pits, simple columnar, muscularis mucosa
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small intestine - duodenum

3 tunics	villus	intestinal crypts
Brunner's glands	goblet cells	simple columnar cells

small intestine - ileum

3 tunics	villus	Peyer's patches
goblet cells	simple columnar cells	

large intestines

simple columnar cells	3 tunics	goblet cells
	muscularis mucosa	

lingual glands (salivary glands)

pancreas

acinar cells	islet of Langerhans
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liver

central vein	sinusoids	hepatocytes
portal vein	hepatic artery	bile ductule

Respiratory and Urinary

Respiratory System

Know all structures on models and following pages: 857, 858, 860, 862.

Slides: trachea: pseudostratified columnar, cilia, goblet cells, hyaline cartilage

lung: tertiary bronchi, bronchioles, smooth muscle, cuboidal cells
alveoli, simple squamous tissue

Urinary System

Know all structures on models and following pages: 897, 899, 900, 901, 902, and 905.

Slides:

kidneys: glomerular capillaries, Bowman's capsule, proximal tubule, distal tubule, collecting duct

Ureter: transitional epithelium, smooth muscle

Bladder: transitional epithelium, smooth muscle

List for Lab Final

Cat: Find the following:

thymus (rat)	pancreas	adrenal gland (rat)	kidney
ureter	bladder	urethra	ovaries
horn of uterus	body of uterus	vagina	scrotum
testis	epididymis	spermatic cord	vas deferens
prostate	inguinal canal	penis	glans penis
seminal vesicle (rat)			

Endocrinology

Slides: thyroid - follicles, follicular cells, colloid
parathyroid (same slide as thyroid, darker, more cells)
pituitary (hypophysis)-medium power
anterior (darker red, cellular) vs.
posterior pituitary (light, nervous tissue)
adrenal gland low or medium power
medulla - center of gland, darker
cortex
glomerulosa - outer portion, narrow, darker
fasciculata - middle portion, thick, lighter
reticularis - next to medulla, darker, channels

Reproduction - Male

Slides: testis: tunica albuginea, seminiferous tubules
spermatogonia, interstitial cells of Leydig
sperm

Know all structures covered in class on the following pages: 1046, 1044, 1047

testis	scrotum	epididymis	vas deferens
bladder	spermatic cord	ampulla	seminal vesicle
ejaculatory duct	prostate	prostatic urethra	membranous urethra
spongy urethra	bulbourethral gland	seminiferous tubules	rete testis
efferent ductules	epididymis	interstitial cells	penis
prepuce	corpora cavernosa	corpus spongiosum	

Reproduction - Female

Slides: ovary look at CAT OVARY, not human
secondary follicle, granulosa cells, graafian follicle
corpus luteum
uterus: endometrium, myometrium

Know all structures covered in class on the following pages: 1066, 1068, 1072

peritoneum	broad ligament	rectouterine pouch	vesicouterine pouch
ovaries	ovarian ligament	suspensory ligament	round ligament
uterine (fallopian)tubes	fimbriae	infundibulum	ampulla
uterus	body	cervix	fundus
myometrium	endometrium	vagina	urethra
bladder			
vulva	mons pubis	labia majora	labia minora
clitoris	prepuce		