

Vancouver Community College

Biology 1120

Instructor Maria Morlin

March 2021– hybrid course

- Rat dissection lab review

Outline

Objectives, methods and resources for:

- Rat dissection

Rat dissection

Objectives

1. Locate and identify important external anatomical landmarks on the rat specimen.
2. Locate and identify important internal anatomical structures on the rat specimen.
3. Focus is on endocrine and reproductive structures
4. Use dissecting tools and follow safety protocol.
5. Relate structures to their function.

Methods

1. Methods for in-class lab are described in the A&P lab manual.
2. Following are review instructions along with VCC rat dissection videos.
3. Use the lecture notes for the endocrine, male and female reproductive systems to find functions for the structures listed.

Watch this series of videos and make note of the structures listed, and their functions.

Introductory video

https://www.youtube.com/watch?v=OjIMCScKnoY&list=PL3eh3yRNbgJ_D023LtszATa3p84wT-pnw&index=15

What is dissection protocol?

How can you tell the endocrine and reproductive systems apart?

Female structures:

https://www.youtube.com/watch?v=x04S0zPl1SE&list=PL3eh3yRNbgJ_D023LtszATa3p84wT-pnw&index=13

Uterine horn

Cervix

Vagina

Ovary

Fetus

Placenta

Male reproductive structures and endocrine glands:

https://www.youtube.com/watch?v=AA_1T2ivkzs&list=PL3eh3yRNbgJ_D023LtszATa3p84wTpnw&index=12

Male structures:

Two glands – seminal vesicles (vesicular gland on rat on the border – inside is the coagulating gland). Lead into the penis.

Bladder

Prostate gland

Ampullary gland (rat)

Penis

Testis

Epididymus

Vas (ductus) deferens

Scrotum

Rat - glands

Exocrine:

Landmark: trachea

Top of trachea = thyroid gland

Submandibular gland

Parotid gland

Sublingual gland

Those are all salivary

Top of the heart: thymus

Diaphragm

Stomach

Small intestine

spleen

Pancreas – distributed tissue – attached to mesentery

Adrenal glands

To review some other system structures

- Go to: https://www.biologycorner.com/worksheets/rat_dissection.html

Digestive

esophagus

Liver

Stomach

Pancreas

Small intestine

Large intestine

Immunity

Spleen

Circulatory & respiratory

Trachea

Lungs

Heart

Diaphragm

The following is extra practice for you.

Test yourself at this site. See how fast you can identify structures.

<https://www.purposegames.com/game/dbbe25f92f>

Use zygote body to find the following structures. <https://www.zygotebody.com>

We are using the basic version as it is free. On the left is a long rectangular box. Use your mouse on the bar and scroll up & down to see what happens to the model. Then, use the arrows at the top left and see how to move the model's aspect. You can also zoom in and out. Once you've seen where the structures are in the rat, try to find them on zygote body, but doing a kind of virtual dissection. You'll have to look through some layers to find the structures. Only use the search option if you can't find it by yourself.

HUMAN (female)

Reproductive

Breast: gland lobules, pectoral lymph nodes

Uterus, fallopian tube, ovary, pubic symphysis

(male)

Glans penis, corpus cavernosum, superficial fascia of

the scrotum, pampiniform venous plexus,

Seminal vesicles

Digestive (female or male)

Small intestine-ileum, small intestine-jejunum

Colon-transverse, ascending and descending

Stomach-pyloric, stomach body, fundus

Esophagus

Rectum

Anus

Liver

Pancreas

For the circulatory system and respiration: <https://www.youtube.com/watch?v=dySRgbfjsQo>

Heart: Coronary artery. Left and right ventricles.

Which is softer: left or right atrium? Right.

Which is larger: left ventricle or right ventricle? Left

Atrioventricular valves left and right

aorta

What are the cordon tendinae?

Septum

Pulmonary artery

Pulmonary vein

Vena cava

Trachea

Pleura

Lungs

Diaphragm