

URINARY SYSTEM LAB – 2008

1. Dissection of sheep kidney. P. 445-446 lab manual, Fig. 40.3. Work in groups of 3-4.

2. Urinary system of cat – work with your group to identify:

left and right kidney, left and right ureters, urinary bladder (fundus, body and neck), ureter. Try to find the urethra. You should be able to trace the path of urine from start to finish, identifying the structures and their particular functions in the urination process.

3. Label drawings:

Fig. 40.1

Fig. 40.2

Fig. 40.4

4. Slides – Please refer to the Rust book and your lab book while viewing slides.

kidney – (100X, 400X). p. 446-449, lab, Histology atlas lab book p. 737. Find Bowman's capsule, glomerulus, proximal convoluted tubule, microvilli (maybe).

What type of epithelial tissue makes up the tubule?

What are the structure/function relationships of these structures?

urinary bladder – p. 449-450 lab book, (also consult text and Rust book). Note mucosa with transitional epithelium, muscularis (what is the muscle name), serosa (visceral serous membrane)

5. Renal physiology – Read pages 451-457. Complete the urinalysis report on p. 454-455.

Urinalysis. Work in pairs, but both individuals' urine samples must be tested. Wear gloves as you handle the urine samples. You will perform urinalysis by using the Chemstrip dip stick method. Read the instructions carefully and compare your results to the color chart.

6. Microscopic analysis of urine sediment – p. 456-457 lab book. Centrifuge your urine sample and look for unorganized and organized sediment inclusions. Determine what type of crystals are present by comparing to the pictures on p. 457 and your handout. What would high levels of crystals indicate?

7. Work on “mini-cases” – be ready to discuss per Ms. Chapman's instructions.

8. Demos