

# Lab 5: Urogenital & Musculoskeletal Systems

**Urogenital System** pp. 199-207, p. 214 questions 1-3, 5, 7-11, 14, 17

**Long Bone & the Skeleton** pp. 249-251 & 252-255, p. 262 questions 1-6

**The Muscles** pp. 255-259 & C61, p. 262 questions 7, 8, 12-14

## **GOALS:**

### Urinary system:

- Describe the role of kidneys in the urinary system.
- Identify the parts of a sheep kidney.
- Locate and state the functions of the urinary system organs of the fetal pig.
- Trace the path of urine from its formation to its removal from the body.
- Compare and contrast the urinary systems/ path of urine in males & females.

### Reproductive system:

- Locate and state the functions of male & female reproductive organs in the fetal pigs.
- Trace the path of sperm from production to ejaculation.

### Musculoskeletal system:

- Locate and identify the functions of the tissues that make up a long bone.
- Locate and identify the bones of a human skeleton.
- Locate and identify selected muscles.
- Give examples of antagonistic pairs of muscles.

## **KEY TERMS:**

### Sheep kidney

renal vein/artery  
renal medulla  
renal pelvis  
renal cortex  
ureter

### Fetal pig

kidneys  
ureter  
urethra  
urinary bladder

### Long bone

periosteum  
medullary cavity  
compact bone  
yellow bone marrow  
spongy bone  
red bone marrow

### Muscles

origin  
insertion  
action of the muscle  
antagonistic pairs  
flexion  
extension  
adduction  
abduction  
pectoralis major  
biceps brachii  
quadriceps femoris group  
tibialis anterior  
trapezius  
deltoid  
triceps brachii  
hamstring group  
gastrocnemius  
gluteus maximus

### Reproduction ♂ pig

testes (testis)  
epididymides (epididymis)  
vasa deferentia (vas deferens)  
urethra  
bulbourethral glands  
penis

### Reproduction ♀ pig

ovaries  
oviducts  
uterine horns  
urethra  
vagina

### Skeleton

skull                      tarsals  
clavicle                      metatarsals  
scapula                      phalanges  
sternum                      sacrum  
ribs                              coccyx  
humerus  
radius  
ulna  
carpals  
metacarpals  
phalanges  
pelvis  
femur  
patella  
tibia  
fibula  
vertebral column

## **I. Urogenital system:**

- pp. 199-207: Read, follow directions and answer questions. We will look more closely at the human reproductive system in a few weeks.

-How is the urethra different in the male and female?

-Why do female pigs have a uterine horn and human females have a uterus?

- p. 222: Read and use diagram to locate the different structures of a sheep kidney. You may not be able to see all the structures, but be able to identify the region where you would find them.

-What is the major function of the kidneys?

## **II. Review:**

- p. 214: Answer questions 1-14, 17-18.

## **III. Musculoskeletal system:**

- p. 249: Read introduction and review Fig. 19.1.

- pp. 250-251: Use the cow femur in order to locate the long bone structures.

-You will not be able to see the red marrow on cow femur, but may have noticed it when you cut through the pelvic bone on your fetal pigs.

-Besides the yellow marrow in the center of the bone, what is the rest of the material in the center cavity (medullary cavity) of the cow femur?

- pp. 254-255: Be able to identify all of the bones listed in the key terms using the articulated skeleton in the lab. You will already know more than you think, so focus on the bones that you are unfamiliar with.

- pp. 255-257: Use the muscle model to locate all of the muscles listed in the key terms.

- pp. 258-259 (**STOP** at isometric and isotonic contractions): Read and answer questions.

- p. C61: Use the materials in chapter 19 to fill in the table on C61.

## **IV. Review:**

- p. 262: Answer questions 2, 4, 5, 7, 12-15