

Urinary System Dissection

Fetal Pig Protocol:

1. Locate the two **kidneys** in the abdominal cavity.
2. Find the **adrenal glands**: small, white bands of tissue on the top, inside edge of each kidney. Be aware that the peritoneum holds the adrenal gland against the kidney; because you have removed the peritoneum, the adrenal will no longer be resting on the kidney but will instead be near the spinal column. Also, although there are left and right adrenal glands, often the left adrenal is missing due to the removal of tissue during the dissection of the posterior blood vessels earlier in the semester.
3. Note the tubes that go from each kidney to the **bladder**, the muscular structure located between the two umbilical arteries. These tubes are the **ureters**.
4. Note the **urethra** coming off the base of the bladder (note: you will get a much better view of the urethra after you have completed the dissection of the reproductive systems).
5. Remove one kidney from the fetal pig by severing the ureter. Make a longitudinal incision through the kidney, so that you cut it into two equal halves.
6. Within the kidney, find the **interlobar** arteries and/or veins, which are the large blood vessels extending up through the renal pelvis.
7. The **arcuate** arteries and veins are the vessels that connect one interlobar artery or vein to another.
8. The **interlobular** arteries and veins are the very small blood vessels that extend from the interlobars into the renal cortex.

Sheep Kidney Protocol:

1. Obtain a sheep kidney from those provided. Make a longitudinal incision through this kidney, just as you did in the fetal pig kidney. You only need one half of the sheep kidney to work with, so give your other half to someone else.
2. Observe the **renal capsule**, the thin membranous covering of the kidney.
3. The **renal pelvis** is the large sac at the base of the kidney. It may be filled with white adipose tissue.
4. The **pyramids** are the smooth, discolored structures located in the inner core of the kidney, above the pelvis. Note that you will need to remove some of the pyramids to see the remaining

structures, which lie underneath. Be sure that in doing this you do not remove all of the pyramids, but just a portion on one side.

5. The **calyces** are the tube-like extensions from the renal pelvis. The openings at the ends of the calyces are the **papillae**. The **columns** are the tissue between each calyx.

6. The **renal medulla** is the region of the kidney containing the calyces, pyramids, columns, and papillae. The **renal cortex** is the outer layer of tissue beyond the papillae