

**LABORATORY EXERCISE 48
KIDNEY STRUCTURE**

Figure Labels

FIG. 48.1

- | | |
|-----------|--------------------|
| 1. Kidney | 3. Urinary bladder |
| 2. Ureter | 4. Urethra |

FIG. 48.2

- | | |
|------------------|------------------|
| 1. Minor calyx | 6. Renal pyramid |
| 2. Major calyx | 7. Renal column |
| 3. Renal pelvis | 8. Renal capsule |
| 4. Renal papilla | 9. Renal medulla |
| 5. Ureter | 10. Renal cortex |

FIG. 48.4

- | | |
|--|---|
| 1. Glomerular capsule | 7. Cortical radiate (interlobular) vein |
| 2. Proximal convoluted tubule | 8. Afferent arteriole |
| 3. Glomerulus | 9. Distal convoluted tubule |
| 4. Efferent arteriole | 10. Peritubular capillary |
| 5. Descending limb of the nephron loop | 11. Collecting duct |
| 6. Ascending limb of the nephron loop | |

Laboratory Report Answers

PART A

- | | |
|------|------|
| 1. e | 6. c |
| 2. a | 7. d |
| 3. h | 8. g |
| 4. f | 9. b |
| 5. i | |

PART B

1. A renal corpuscle is the cluster of capillaries (glomerulus) and the saclike structure (glomerular capsule) that surrounds it; a renal tubule is the coiled tube that leads away from the glomerular capsule and empties into a collecting duct.
2. 4 6 3 5 1 2 7
3. 1 3 2 4 5

PART C

(sketch)

PART D

(sketch)

LABORATORY EXERCISE 58
CAT DISSECTION: URINARY SYSTEM

Laboratory Report Answers

1. In the human, the kidneys are located between the levels of the twelfth thoracic and the third lumbar vertebrae; in the cat, the kidneys are found at the level of the third to the fifth lumbar vertebrae. In the human, the left kidney is usually higher than the right one; in the cat, the right kidney is usually somewhat anterior to the left one. In both cases, the kidneys are retroperitoneal.
2. In the human, the adrenal glands are located on the superior ends of the kidneys; in the cat, the adrenal glands are located anteriorly and medially to the kidneys.
3. In the cat, the kidneys, ureters, and urinary bladder are retroperitoneal.
4. The wall of the urinary bladder is relatively thick, tough, and somewhat elastic. Its inner surface is irregular.
5. In the human kidney, there are about twelve renal pyramids that communicate with the renal pelvis by calyces. Each calyx bears one or more papillae. In the cat kidney, there is a single pyramid and one papilla.