

The Urinary System

Text: Human Biology, by Mader. pp. 208-222

1. Introduction (p. 208)

A. Excretion

B. Role in Homeostasis

2. Major Organs (p. 208 - 209)

A. Kidneys

i. Renal Arteries and Veins

ii. Location

B. Ureters

i. Peristalsis

C. Urinary Bladder

i. Epithelia

a. Transitional Epithelia

ii. Smooth Muscle

iii. Rugae

iv. Internal and external sphincters

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D. Urethra

i. Male / Female Differences

ii. Urinary Tract Infections

3. Major Function of the Urinary System (p. 209 - 210)

A. Excretion

i. Urea

B. Water Salt Balance

C. Acid Base Balance

D. Homeostasis of Erythropoiesis

4. Kidney Structure (p. 212)

A. Renal Cortex and Medulla

B. Renal Pelvis

5. Functional Unit: The Nephron (p. 213 - 214)

A. Vascular Components

- i. Efferent Arteriole
- ii. Afferent Arteriole

B. Tubular Components

- i. Glomerular Capsule
 - a. Functions
- ii. Proximal Convolved Tubule
 - a. Functions
- iii. Loop of Nephron
 - a. Functions
- iv. Distal Convolved Tubule
 - a. Functions
- v. Collecting Ducts

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6. Renal Function (pp. 215 - 222)

A. Glomerular Filtration (p. 215 - 216)

i. Filtration Apparatus

ii. Arteriole Diameter Size

iii. Glomerular Filtrate

a. Components

b. What should not be in Filtrate

B. Tubular Reabsorption (p. 216)

i. Proximal Covoluted Tubule

ii. What is reabsorbed and Why

C. Reabsorption of Salt and Water from Medulla (p. 219 - 220)

i. Ascending Limb

ii. Descending Limb

D. Collecting Duct and Regulation (p. 220)

i. Antidiuretic Hormone and Regulation (p. 220; also p. 219)