

# Biology 47 – Human Anatomy

West Valley College - Norris

## Lecture Outline – Urinary System

### I. Definitions

- A. Interstitial Fluid
- B. Plasma
- C. Urine (waste)

### II. Function (= physiology)

- A. Regulation of Water Balance
- B. Elimination of Waste

### III. Gross Anatomy Of The Urinary System

- A. Kidneys
- B. Ureter
- C. Bladder
- D. Urethra

### IV. Gross Anatomy Of The Kidneys

- A. Renal Capsule
- B. Renal Cortex

#### C. Renal Medulla

- 1. Pyramids
- 2. Renal Papilla
- 3. Renal Columns

#### D. Renal Pelvis

- 1. Minor Calyx
- 2. Major Calyx

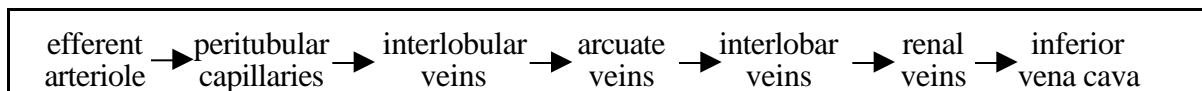
#### E. Renal Sinuses

### V. VASCULAR SYSTEM

#### A. Arteries



#### B. Veins



## C. Renal Blood Flow Summary

<u>ARTERIES:</u>	<u>VEINS:</u>
descending aorta	--> inferior vena cava
--> renal artery	--> renal veins
--> segmental artery	--> segmental veins
--> interlobar artery	--> interlobar veins
--> arcuate artery	--> arcuate veins
--> interlobular arteries	--> interlobular veins
--> afferent arterioles	--> peritubular capillaries
---> <b>renal corpuscle</b> ---> efferent arteriole	
glomerular capillaries enclosed within Bowman's capsule	

## VI. Microscopic Anatomy

### A. Renal Corpuscle

1. Glomerulus
2. Bowman's Capsule
  - a. Visceral Epithelium
  - b. Parietal Epithelium

### B. Renal Tubule

1. Proximal Convoluted Tubule (PCT)
2. Loop of Henle
3. Distal Convoluted Tubule (DCT)
4. Collecting Ducts
5. Juxtaglomerular Apparatus ("near" the glomerulus)
  - a. Macula Densa
  - b. Juxtaglomerular Cells (JG Cells)

## VII. Additional Key Terms

excretion	fenestrated	filtration	micturition	natriuresis
peritubular fluid	podocytes	reabsorption	secretion	transport maximum (T <sub>m</sub> )
vasa recta				

