**Kidney:** **Cortex and medulla**

**Practical Histology 1st stage Urinary system Lec.3**

Lec.1

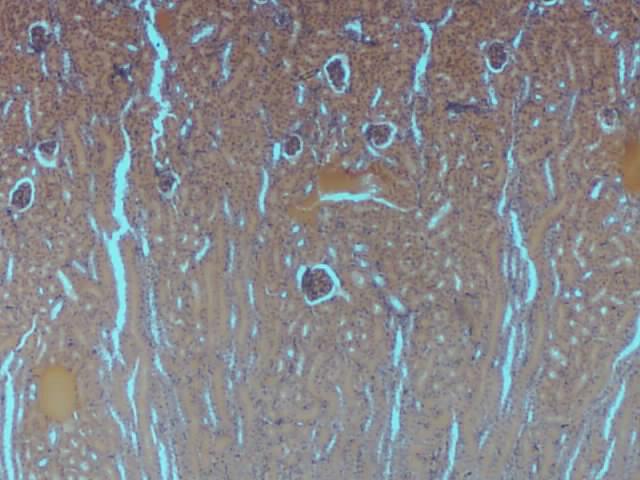
The kidney is sub divided in to an outer darker –staining cortex and an inner light staining medulla ,the **cortex** contains both the proximal and distal convoluted tubules ,glomeruli ,medullary rays(**1**) and interlobular arteries and veins ,The **medulla** comprises the renal pyramids .

The functional unite of the kidney is the microscopic uriniferous tubule it consists of anephron and a collecting duct. The nephron consists of renal corpuscle and renal tubules.

Renal corpuscles consist of a glomerulus (is a tuft of capillaries) ,and bowman's capsule

There are two type of nephron: Cortical nephron ,and jucstamedullary nephron.(small arrow)

Renal tubules consists of proximal convoluted tubules, loop of henle, and distal convoluted tubules the proximal is begins at the renal corpuscle is more tortuous and longer than distal ,its located in the cortex and have brush border. The distal convoluted tubules is less tortuous , and shorter than the proximal and lack the brush border.



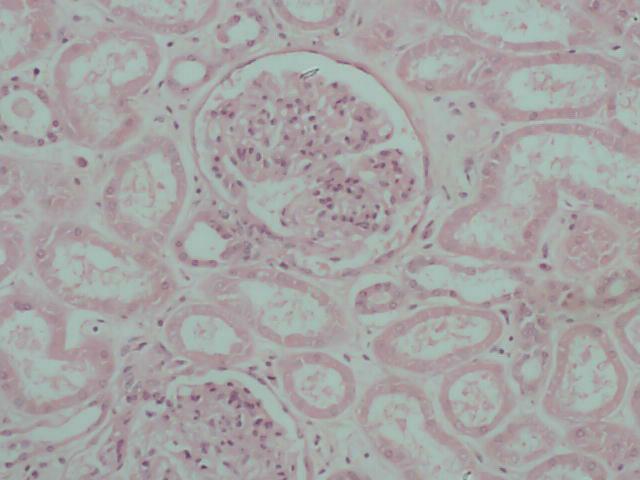
**Medulla**

**Cortex**

**1**

**Practical Histology 1st stage Urinary system Lec.3**

Lec.1

**Kidney: Cortex the Nephron**

**1**

**2**

**4**

**3**

**a**

**b**

**c**

**5**

**6**

The renal corpuscle have 2 layer

a-Visceral layer b-parietal layer and(c) capsular space .

Each renal corpuscle has a vascular pole(1) where the afferent arteriole enters and efferent arteriole leaves the corpuscle and urinary pole(2)

3-proximal convoluted tubule

4-distal convoluted tubule

5-Jucstaglumerular cells

6-macula densa

**3**

**2**

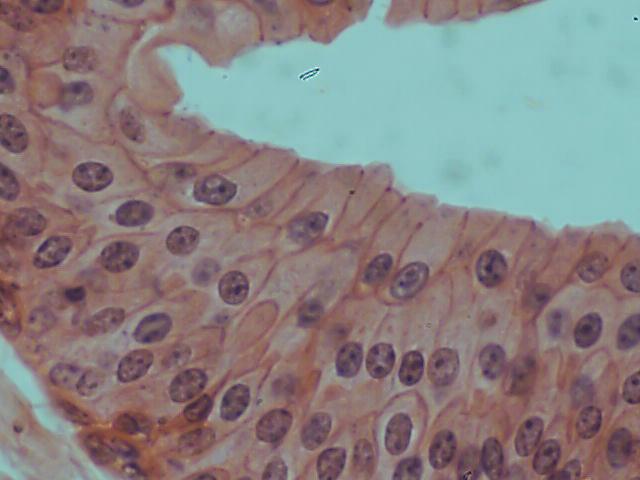
**1**

**4**

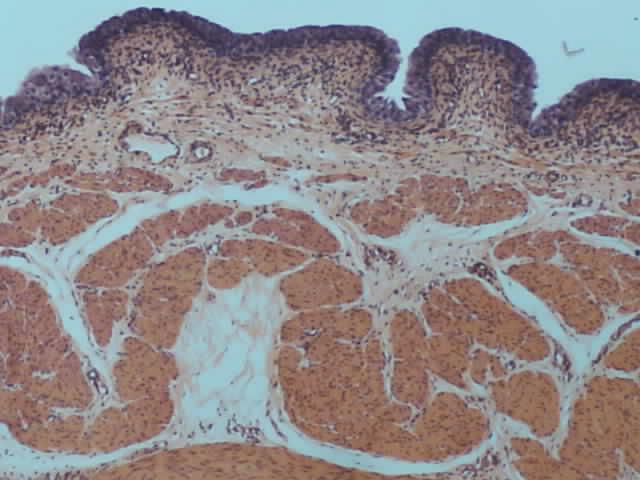
**Ureter** :

Show numerous longitudinal mucosal folds formed by muscular contraction .

The wall of Ureter consists of mucosa, muscularis, and adventitia.

 (1) Mucosa: thick transitional epithelia. (2) Muscularis :contains two smooth muscle layer inner longitudinal and middle circular smooth muscle layers .Third longitudinal smooth muscle layer added in the lower third of ureter .

3-Adventatia 4-Adipose tissue



**Practical Histology 1st stage Urinary system Lec.3**

Lec.1

**Urinary bladder :**

The bladder wall are similar to those in the ureter .

**1**

**2**

An empty bladder :exhibits numerous mucosal folds that disappear when bladder is distended the transitional epithelium in empty bladder show about 6 layers cells ,when stretched transitional epithelia appears stratified squamous .

Muscularis: is thick and 3 layers are arranged in anastomosing bundles between which is found interstitial connective tissue with blood vessels and capillaries .

1-venule and arteriole

2-interstitial connective tissue