

Histology MCQs/Urinary System

1 Which vessel leaves the glomerulus (vas efferens)?

- ☐ Arteriole
- ☐ Artery
- ☐ Venule
- ☐ Vein

2 Which structure is associated with vasa recta?

- ☐ Proximal convoluted tubule
- ☐ Distal convoluted tubule
- ☐ Loop of Henle
- ☐ Glomerulus

3 Where take place the podocytes?

- ☐ In the space between sheets of Bowman's capsule
- ☐ In the inner sheet of Bowman's capsule only
- ☐ In the outer sheet of Bowman's capsule only
- ☐ In both sheets of Bowman's capsule

4 Where takes place the nephrin?

- ☐ Close to the nucleus of epithelial cells of proximal tubules
- ☐ On basolateral pole of epithelial cells of proximal tubules
- ☐ Close to the nucleus of podocytes
- ☐ Between processes of podocytes

5 Which type of capillaries is inside the glomerulus?

- ☐ With endothelium without fenestrations and with discontinuous basement membrane
- ☐ With endothelium without fenestrations and with continuous basement membrane
- ☐ With fenestrated endothelium and with discontinuous basement membrane
- ☐ With fenestrated endothelium and with continuous basement membrane

6 What is main biophysical mechanism behind production of the primary urine?

- ☐ Active transportation
- ☐ Filtration
- ☐ Diffusion
- ☐ Osmosis

7 Which of following statements about the primary urine is not true?

- ☐ Concentration of albumin in primary urine is similar to concentration in blood
- ☐ Daily production of primary urine is about 120 liters
- ☐ Primary urine can contain glucose physiologically
- ☐ Primary urine is an isotonic fluid

8 Which of following statements about the epithelial cells of proximal convoluted tubule is not true?

- ☐ Cells contain abundant rough endoplasmic reticulum
- ☐ Cells contain numerous mitochondria
- ☐ Cells have basal labyrinth
- ☐ Cells have brush border

9 Which part of nephron is part of the juxtaglomerular apparatus?

- ☐ Proximal convoluted tubule
- ☐ Distal convoluted tubule



Drinking regime...

- ☐ Connecting duct
- ☐ Collecting duct

10 Which vessel is part of the juxtaglomerular apparatus?

- ☐ Arteria arcuata
- ☐ Vas afferens
- ☐ Vas efferens
- ☐ Vas rectum

11 What is main function of the aquaporin?

- ☐ It is a membrane protein preventing transcellular leak of water
- ☐ It is a membrane receptor of water potential
- ☐ It is a membrane channel for water
- ☐ It is a transcription factor

12 What is main function of the intercalated cells in collecting ducts?

- ☐ Acid-base balance (pH of inner environment)
- ☐ Regulation of secretion of potassium
- ☐ Regulation of secretion of sodium
- ☐ Regulation of secretion of water

13 Urine in the urinary bladder (resulting urine) is described as hypertonic- What does it mean?

- ☐ Urine has higher concentration of osmotically active particles than blood plasma
- ☐ Urine has lower concentration of osmotically active particles than blood plasma
- ☐ Osmotic pressure of urine is higher than atmospheric pressure
- ☐ Osmotic pressure of urine is lower than atmospheric pressure

14 What is not true about the umbrella cells (facet cells)?

- ☐ Cell membrane of their apical pole is asymmetric
- ☐ They have numerous junctional complexes
- ☐ Their mitotic activity is high
- ☐ They have usually two nuclei

15 What is a uropod?

- ☐ Transmembrane protein on apical pole of umbrella cells (facet cells)
- ☐ Transmembrane protein on basal pole of umbrella cells (facet cells)
- ☐ Cytoplasmic protein inside umbrella cells (facet cells)
- ☐ Intracellular protein of umbrella cells (facet cells)

16 What is true about the detrusor muscle?

- ☐ Detrusor muscle is name of striated muscle adjacent to the wall of the urinary bladder
- ☐ Detrusor muscle is name of smooth muscle adjacent to the wall of the urinary bladder
- ☐ Detrusor muscle is name of striated muscle inside the wall of the urinary bladder
- ☐ Detrusor muscle is name of smooth muscle inside the wall of the urinary bladder

17 How does appearance of the umbrella cells (facet cells) depend on the content of the urinary bladder?

- ☐ Shape of the cells does not depend on the volume of urine inside the bladder
- ☐ During emptying of the bladder, the cells oscillate
- ☐ If the bladder is empty, the cells are flattened
- ☐ If the bladder is full, the cells are flattened

18 Which type of epithelium is inside the ureter?

- ☐ Pseudostratified columnar epithelium
- ☐ Transitional epithelium (urothelium)
- ☐ Stratified squamous epithelium
- ☐ Simple columnar epithelium

19 Which epithelium is main epithelium of the male urethra inside the navicular fossa?

- ☐ Simple stratified non-keratinizing epithelium

- ☐ Urothelium (transitional epithelium)
- ☐ Stratified columnar epithelium
- ☐ Simple columnar epithelium

20 What is true about external sphincter muscle (of urethra)?

- ☐ It is composed of smooth muscle in men and of striated muscle in women
- ☐ It is composed of smooth muscle in women and of striated muscle in men
- ☐ It is composed of striated muscle in both men and women
- ☐ It is composed of smooth muscle in both men and women

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