

Kidney Anatomy Quiz Answer Key PDF

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What is the shape of the kidneys?

- A. Spherical
- B. Cuboidal
- C. Triangular
- D. Bean-shaped ✓**

Where are the kidneys located in the body?

- A. In the thoracic cavity
- B. In the pelvic cavity
- C. In the retroperitoneal space ✓**
- D. In the cranial cavity

What is the primary function of the kidneys?

- A. Produce digestive enzymes
- B. Filter blood and produce urine ✓**
- C. Store bile
- D. Absorb nutrients

Which part of the nephron is responsible for the initial filtration of blood?

- A. Proximal convoluted tubule
- B. Loop of Henlé
- C. Bowman's capsule ✓**
- D. Collectin duct

What is the approximate number of nephrons in each kidney?

- A. 100,000
- B. 500,000
- C. 1 million ✓**
- D. 5 million

Which hormone is produced by the kidneys to stimulate red blood cell production?

- A. Insulin
- B. Erythropoietin ✓**
- C. Adrenaline
- D. Thyroxine

Which conditions can affect kidney function? (Select all that apply)

- A. Kidneys stones ✓**
- B. Diabetes ✓**
- C. Hypertension ✓**
- D. Osteoporosis

Which of the following are parts of the nephron? (Select all that apply)

- A. Glomerulus ✓**
- B. Renal pelvis
- C. Proximal convoluted tubule ✓**
- D. Loop of Henlé ✓**

Which structures are involved in urine transport from the kidneys to the bladder? (Select all that apply)

- A. Ureters ✓**
- B. Urethra
- C. Renal pelvis ✓**
- D. Collectin ducts

How do the kidneys contribute to maintaining acid-base balance in the body?

The kidneys contribute to maintaining acid-base balance by excreting excess hydrogen ions and reabsorbing bicarbonate, which helps regulate blood pH.

What structure collects urine from the renal pyramids?

- A. Renal cortex
- B. Renal pelvis ✓**
- C. Ureter
- D. Bladder

What are common diagnostic tools for assessing kidney health? (Select all that apply)

- A. Ultrasound ✓**
- B. CT Scan ✓**
- C. MRI
- D. Blood tests ✓**

Explain the role of the Loop of Henlé in urine concentration.

The Loop of Henlé is responsible for establishing a countercurrent multiplier system that enhances the osmotic gradient in the kidney, facilitating the reabsorption of water from the collecting ducts and leading to the concentration of urine.

Which blood vessel carries blood away from the kidneys?

- A. Renal artery
- B. Renal vein ✓**
- C. Aorta
- D. Inferior vena cava

What are the main differences between the renal cortex and renal medulla?

The main differences between the renal cortex and renal medulla are that the cortex is the outer layer involved in filtration and urine production, whereas the medulla is the inner layer that contains structures for urine concentration.

Discuss the impact of chronic kidney disease on overall health.

Chronic kidney disease can lead to a decline in kidney function, resulting in an accumulation of waste products in the body, increased risk of cardiovascular issues, weakened bones, and anemia, ultimately affecting the quality of life and increasing mortality risk.

Describe the process of blood filtration in the glomerulus.

The process of blood filtration in the glomerulus involves the passage of blood through the glomerular capillaries, where hydrostatic pressure forces water and solutes from the blood into the Bowman's capsule, forming the filtrate while preventing larger molecules like proteins and blood cells from entering.

What lifestyle changes can help maintain healthy kidney function?

Lifestyle changes that can help maintain healthy kidney function include eating a balanced diet low in sodium and processed foods, staying physically active, drinking plenty of water, managing blood pressure and blood sugar levels, and avoiding smoking and excessive alcohol consumption.

Which of the following are functions of the kidneys? (Select all that apply)

- A. Regulation of blood pressure ✓**
- B. Detoxification of blood ✓**
- C. Production of digestive enzymes
- D. Regulation of electrolytes ✓**

Which hormones are involved in kidney function? (Select all that apply)

- A. Renin ✓**
- B. Erythropoietin ✓**
- C. Insulin
- D. Cortisol