

# TEST BANK



**Scientific Team**  
الفريق العلمي

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**Reviewed by:**

1-A 62-year-old man with congestive heart failure has been taking a loop diuretic to reduce peripheral edema. His labs reveal a serum potassium of 3.1 mEq/L, so a potassium-sparing diuretic, triamterene, is added to his regimen. Which of the following is the site of action of this agent?

- )A) Ascending limb of loop of Henle
- )B) Collecting tubule
- )C) Descending limb of loop of Henle
- )D) Distal convoluted tubule
- (E) Proximal convoluted tubule

Answer:D

2-A 55-year-old man complains of poor urinary flow and nocturia. He is found to suffer from benign prostatic hyperplasia. The physician prescribes finasteride to help his symptoms. What is the mechanism of action of this agent?

- (A) Antagonizes  $\alpha_1$ -adrenergic receptors
- (B) Blocks DHT receptors
- (C) Inhibits 5- $\alpha$ -reductase
- (D) Inhibits testosterone synthesis
- (E) Relaxes prostatic smooth muscle

Answer:C

3-A 69-year-old man with a history of hypertension on a thiazide diuretic once daily is planning to have hip replacement. He sees the anesthesiologist preoperatively and is found to have a serum potassium of 2.9mEq/L on routine laboratory studies. His blood pressure is 110/86 mm Hg. What is the best course of action for this patient at this time?

- )A) Begin exercise regimen immediately
- )B) Cardiac enzyme evaluation for possible myocardial infarction
- )C) Discontinue thiazide diuretic and begin ACE inhibitor therapy
- )D) Increase thiazide diuretic dose to be administered twice daily
- )E) Supplement potassium by increasing intake of fruits and bananas

Answer:E

4-A 23-year-old man with mild erectile dysfunction presents to his primary care physician. He has no other medical problems. He does have an anxiety disorder. Physical examination of the abdomen and genitalia are within normal limits. Which of the following is the best agent for treatment of this patient?

- (A) Penile prosthesis
- (B) Sildenafil
- (C) Tadalafil
- (D) Vardenafil
- (E) Vacuum erection device

Answer:C

5-A 27-year-old woman complains of right flank pain and hematuria. She has passed calcium oxalate stones in the past and likely has another stone. After treating her for her stone, which of the following diuretics should she avoid to prevent future calcium oxalate stones?

- (A) Amiloride
- (B) Furosemide
- (C) Hydrochlorothiazide
- (D) Mannitol
- (E) Spironolactone

Answer: B6-A 68-year-old man with congestive heart failure presents to the emergency department with shortness of breath. He has 12 pitting edema in his extremities as well. A chest X-ray confirms the presence of pulmonary edema. The patient is given ethacrynic acid to diurese the excess fluid. Where in the nephron does ethacrynic acid act?

- (A) Collecting tubule
- (B) Descending loop of Henle
- (C) Distal convoluted tubule
- (D) Proximal convoluted tubule
- (E) Thick ascending loop of Henle

Answer: E

7-A 54-year-old man with hypertension, alcoholic cirrhosis, and HIV disease is hospitalized for abdominal pain, fatigue, and weakness. His ascites and edema are markedly worse. Physical examination reveals a palpable abdominal fluid wave. Which of the following treatments may be beneficial for this patient?

- (A) Acetazolamide
- (B) Chlorthalidone
- (C) Furosemide
- (D) Hydrochlorothiazide
- (E) Spironolactone

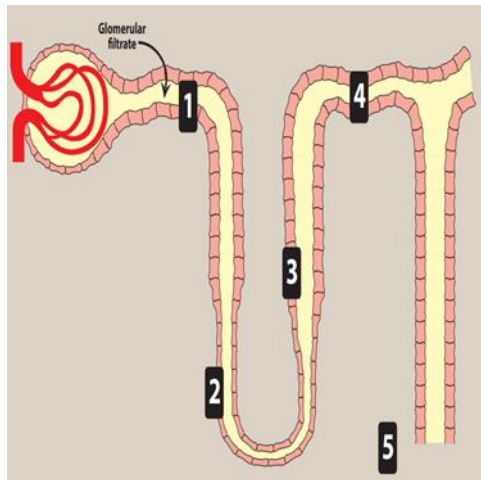
Answer:E

8-A 59-year-old man with a history of recurrent bilateral kidney stones is placed on a medication to decrease calcium excretion. Unfortunately, 3 months after beginning this medication, he develops gout in his right great toe. The most likely explanation of these findings relates to which of the following medications?

- (A) Furosemide
- (B) Hydrochlorothiazide
- (C) Spironolactone
- (D) Triamterene
- (E) This is not a medication effect

Answer:B

9-A 44-year-old man with multiple medical problems is placed on a carbonic anhydrase inhibitor which inhibits bicarbonate reabsorption and acts as a weak diuretic. This agent works at which of the following areas in the above diagram?



- (A) Location 1
- (B) Location 2
- (C) Location 3
- (D) Location 4
- (E) Location 5

Answer:A

10-A 76-year-old man with a history of falls, hypertension, and kidney stones presents to his primary care physician for follow-up. His blood pressure is 140/100 mm Hg. He is placed on hydrochlorothiazide. This agent may be helpful in prevention of renal stones through which of the following mechanisms?

- (A) Binding to urine calcium
- (B) Binding to urine sodium
- (C) Causing resorption of calcium in the renal tubules
- (D) Increasing calcium excretion in the renal tubules
- (E) Increasing sodium resorption in the renal tubules

Answer:C

11-A 79-year-old woman with diabetes mellitus, hypertension, and visual disturbances presents to her ophthalmologist for management of her eye condition. She is found to have open-angle glaucoma. Prescription for acetazolamide is given to produce which of the following responses?

- (A) Decrease production of aqueous humor
- (B) Increasing intraocular pressure
- (C) Inhibition of sodium-calcium transport
- (D) Stimulating carbonic anhydrase
- (E) Stimulating ciliary body function in acute glaucoma

Answer:A

12-A 49-year-old woman with a history of hypertension is treated with spironolactone. She has good blood pressure control and in the last 6 months has shown an improvement in her hirsutism. What is the most likely explanation for these findings?

- (A) Androgen receptor inhibition of the hair follicle
- (B) Drug toxicity
- (C) Hypoaldosteronism
- (D) Testosterone levels are elevated
- (E) Idiopathic effect

Answer:A

13-A week-old newborn male presents to clinic for a routine checkup. His birth history and delivery were uncomplicated. He is being breastfed and has had no difficulty feeding. The parents are concerned because he does not seem to have male genital characteristics. Physical examination reveals female external genitalia seen without a scrotum or descended testicles. What androgen is the patient lacking that is the cause of his condition?

- (A) Androstenedione
- (B) Androsterone
- (C) Dehydroepiandrosterone (DHEA)
- (D) Dihydrotestosterone (DHT)
- (E) Testosterone

Answer:D

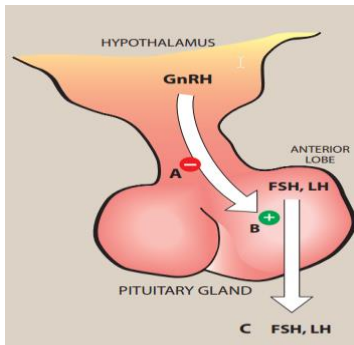
14-A 76-year-old man presents to the clinic for follow-up of his benign prostatic hyperplasia. He has been doing well with his symptoms since starting finasteride. He no longer has as much difficulty starting his stream and feels that he empties his bladder completely. What is the mechanism of action of finasteride?

- (A) 5 $\alpha$ -Reductase inhibitor
- (B)  $\alpha$ 1-Antagonist
- (C) GnRH agonist
- (D) GnRH antagonist
- (E) Nonsteroidal competitive inhibitor at the testosterone receptor

Answer:A



15-A 75-year-old man with metastatic prostate cancer is placed on leuprolide administered monthly in an intramuscular injection. This agent will act at which of the following areas on the succeeding diagram?



- (A) Letter A
- (B) Letter B
- (C) Letter C
- (D) Cannot be determined

Answer:A

16-An elderly patient with a history of heart disease has difficulty breathing and is diagnosed with acute pulmonary edema. Which treatment is indicated?

- A. Acetazolamide
- B. Chlorthalidone
- C. Furosemide
- D. Spironolactone

Answer:C

17-A group of college students is planning a mountain climbing trip to the Andes. Which is most appropriate for them to take to prevent altitude sickness?

- A. A thiazide diuretic such as hydrochlorothiazide
- B. An anticholinergic such as atropine
- C. A carbonic anhydrase inhibitor such as acetazolamide
- D. A loop diuretic such as furosemide

Answer:C

18-An alcoholic male has developed hepatic cirrhosis. To control the ascites and edema, which should be prescribed?

- A. Acetazolamide
- B. Chlorthalidone
- C. Furosemide
- D. Spironolactone

Answer:D

19-A 55-year-old male with kidney stones needs a medication to decrease urinary calcium excretion. Which diuretic is best for this indication?

- A. Torsemide
- B. Hydrochlorothiazide
- C. Spironolactone
- D. Triamterene

Answer:B

20-A 75-year-old woman with hypertension and glaucoma is being treated with a chlorthalidone, amlodipine, lisinopril, and acetazolamide. In clinic today, she complains of acute joint pain and redness in her great toe which is diagnosed as gout. Which medication is most likely to have caused the gout attack?

- A. Amlodipine
- B. Acetazolamide
- C. Chlorthalidone
- D. Lisinopril

Answer:C

21-Which is contraindicated in a patient with hyperkalemia?

- A. Acetazolamide
- B. Chlorothiazide
- C. Ethacrynic acid
- D. Eplerenone

Answer:D

22-A 59-year-old male patient in the intensive care unit has a metabolic alkalosis. Which therapy will treat this condition?

- A. Amiloride
- B. Hydrochlorothiazide
- C. Mannitol
- D. Acetazolamide

Answer:D

23-A male patient is placed on a new medication and notes that his breasts have become enlarged and tender to the touch. Which medication is he most likely taking?

- A. Furosemide
- B. Hydrochlorothiazide
- C. Spironolactone
- D. Triamterene

Answer:C

24-A patient with heart failure with reduced ejection fraction researched his medications on the Internet and found he was taking two “diuretics,” bumetanide and spironolactone. He asks if this is a mistake with his therapy. What is the best response?

- A. Spironolactone is used to prevent hyponatremia.
- B. Spironolactone is used to reduce heart structure changes and decrease the risk of death.
- C. Bumetanide is used to decrease the potassium lost from spironolactone therapy.
- D. This is a duplication error and one diuretic should be stopped.B

Answer:B

25-Which diuretic has been shown to improve blood pressure in resistant hypertension or those already treated with three blood pressure medications including a thiazide or thiazide-like medication?

- A. Indapamide
- B. Furosemide
- C. Mannitol
- D. Spironolactone

Answer:D

26-Use of testosterone is most appropriate in which patient?

- A. A 25-year-old competitive athlete
- B. A 30-year-old man with hypogonadism due to testicular injury
- C. A 50-year-old man with low testosterone related to aging
- D. A 65-year-old man with low testosterone and a history of myocardial infarction

Answer:B