

Structured Board Review 1408 Questions – Adults 11-21; Cardio 6-10; Children 6-10; MSK 68-72; Skin 25-30; Special sensory 7-11; Endo 1-5

Adults

11. In patients at risk of acute kidney injury who are taking angiotensin-converting enzyme (ACE) inhibitors, which one of the following statements is accurate?
- A. ACE inhibitors decrease intraglomerular pressure.
 - B. ACE inhibitors increase kidney perfusion.
 - C. Angiotensin receptor blockers (ARBs) are less likely to be nephrotoxic than ACE inhibitors.
 - D. ARBs cause a delayed decrease in serum creatinine (SCr) level approximately 10 to 14 days after initiation.
 - E. ACE inhibitor or ARB therapy should be discontinued if the SCr level increases to more than 10% of baseline.
12. Which one of the following statements about antibiotic-associated nephrotoxicity is accurate?
- A. Antibiotic-induced interstitial nephritis can be reliably diagnosed by the presence of eosinophilia.
 - B. Cephalosporins rarely cause acute kidney injury (AKI).
 - C. To help prevent aminoglycoside nephrotoxicity, the aminoglycoside should be taken in small doses multiple times per day.
 - D. Trimethoprim-sulfamethoxazole can cause toxicity by crystallization within tubules.
 - E. Antibiotics predominantly cause AKI by damaging glomerular vessels.
13. Which one of the following substances has been implicated as an etiology of Fanconi syndrome?
- A. Methamphetamine.
 - B. *Taxus celebica*.
 - C. Chinese herbs containing aristolochic acid.
 - D. Phenylbutazone.
 - E. Ma huang (*Ephedra sinica*).
14. Which one of the following statements about contrast-induced nephropathy (CIN) is accurate?
- A. The incidence of CIN is approximately 10% in patients with healthy kidney function and no risk factors.

- B. Patients with acute myocardial infarction are at high risk of CIN.
 - C. CIN is indicated by a 50% increase in serum creatinine (SCr) level from baseline within 24 hours of exposure.
 - D. The SCr level usually peaks 24 hours after contrast agent exposure.
 - E. Baseline kidney function is rarely regained following CIN.
15. The rationale for use of N-acetylcysteine in preventing contrast-induced nephropathy is based on its ability to do which one of the following?
- A. Increase blood flow to the kidneys.
 - B. Decrease the osmotic load of contrast material.
 - C. Counteract formation of free radicals.
 - D. Induce diuresis.
 - E. Increase intraglomerular pressure.
16. Which one of the following statements is accurate about new potential markers for nephrotoxicity?
- A. Cystatin C levels can be influenced by hydration.
 - B. The neutrophil gelatinase-associated lipocalin level can provide early indication of tubular damage.
 - C. Kidney injury molecule-1 provides early indication of glomerular damage.
 - D. Interleukin 18 is a highly sensitive marker for tubular damage.
 - E. Sodium-hydrogen exchanger isoform-3 can predict development of kidney injury and need for renal replacement therapy.
17. Which one of the following is the most common composition of renal stones?
- A. Uric acid.
 - B. Calcium phosphate.
 - C. Calcium oxalate.
 - D. Cystine.
 - E. Struvite.

18. Which one of the following types of kidney stones is a patient likely to form after an infection with *Proteus* or *Klebsiella* organisms?
- A. Uric acid.
 - B. Calcium phosphate.
 - C. Calcium oxalate.
 - D. Cystine.
 - E. Struvite.
19. Which one of the following clinical findings is most consistent with the diagnosis of nephrolithiasis?
- A. Pain is paroxysmal.
 - B. Patients typically lie still to minimize movement of the flank area.
 - C. Nausea and vomiting are rare.
 - D. Hematuria is always present.
 - E. Hematuria indicates the stone is in the lower urinary tract (eg, bladder, urethra).
20. In which one of the following situations might ultrasonography be the diagnostic modality of choice for a patient with suspected nephrolithiasis?
- A. Stone impacted in the lower ureter.
 - B. Small stones.
 - C. Struvite stones.
 - D. Pregnant patient.
 - E. Patient with sepsis.
21. Which one of the following statements about medical expulsive therapy (MET) for kidney stones is accurate?
- A. A meta-analysis has shown a significantly higher rate of stone passage with an alpha blocker or nifedipine than with observation.
 - B. Beta blockers are commonly used for MET.
 - C. Angiotensin-converting enzyme inhibitors are commonly used for MET.
 - D. The time to stone expulsion has been shown to be shorter with nifedipine than with an alpha blocker.

- E. Adverse effects are typically more common with alpha blockers than calcium channel blockers.

Cardio

6. Fondaparinux is a synthetic anticoagulant composed of a high-affinity pentasaccharide to antithrombin that produces its anticoagulant effect by inhibiting factor Xa. In which one of the following ways does fondaparinux differ from low-molecular-weight heparin?
- A. Doses are based on weight.
- B. It should be used with caution in patients with impaired renal function.
- C. Heparin-induced thrombocytopenia should not develop due to fondaparinux exposure.
- D. It is approved for deep venous thrombosis (DVT) prevention.
- E. It can be used to treat acute symptomatic DVT with or without pulmonary embolism.
7. Direct thrombin inhibitors (DTIs) bind thrombin and block its enzymatic activity, producing an anticoagulant effect. Which one of the following is an indication for DTI use?
- A. Deep venous thrombosis (DVT) prevention.
- B. DVT treatment.
- C. Massive pulmonary embolism treatment.
- D. Heparin-induced thrombocytopenia treatment.
- E. None of the above.
8. Your patient is currently receiving a low-molecular-weight heparin for a deep venous thrombosis associated with recent bariatric surgery. Because the patient is obese, you decide to monitor the anti-Xa level. Which one of the following is also an indication for monitoring anti-Xa levels?
- A. Pregnancy.
- B. Diabetes.
- C. Heart disease.
- D. Osteoporosis.
- E. Chronic obstructive pulmonary disease.
9. Your patient currently taking once-daily low-molecular-weight heparin (LMWH) is scheduled for an epidural injection for back pain. Which one of the following should occur before the procedure?

- A. Discontinue LMWH for 5 days before the procedure.
 - B. Discontinue LMWH for 1 day before the procedure.
 - C. Time the procedure so it occurs 4 hours after the dose of LMWH.
 - D. Time the procedure so it occurs 8 hours after the dose of LMWH.
 - E. Time the procedure so it occurs 18 hours after the dose of LMWH.
- 10.** Unfractionated heparin inadvertently binds some platelet-derived proteins and can lead to a life-threatening immune condition called heparin-induced thrombocytopenia (HIT). Which one of the following would raise suspicion of HIT?
- A. Platelet count decrease of 10%.
 - B. Platelet count decrease of 50% or more.
 - C. Thrombotic event occurring between days 5 and 14 after heparin initiation.
 - D. Both B and C.
 - E. None of the above.

Children

- 6.** A child presents with painful hemorrhagic colitis with frank blood in the stool. As the gastrointestinal symptoms subside, she develops microangiopathic hemolytic anemia, thrombocytopenia, and renal failure. The most likely etiology is:
- A. *Giardia lamblia*.
 - B. *Vibrio cholera*.
 - C. Enterohemorrhagic *Escherichia coli*.
 - D. Rotavirus.
 - E. *Salmonella*.
- 7.** Several children develop gastroenteritis symptoms after a party at which they ate cream-filled pastries. The most likely etiology is:
- A. *Staphylococcus aureus*.
 - B. *Escherichia coli*.
 - C. *Salmonella*.

D. *Bacillus cereus*.

E. Norovirus.

8. In treating the infant with vomiting and diarrhea:

A. Breast-feeding can continue.

B. Formula should be diluted to half strength with additional water.

C. Use of manzanilla tea should be encouraged.

D. Antiemetics are beneficial.

E. Agents that decrease intestinal motility shorten the course of the disease.

9. An 18-week-old presents with fever and appears toxic. She is admitted to the hospital. Pending culture results, you should administer vancomycin and:

A. Ceftriaxone.

B. Acyclovir.

C. Gentamicin.

D. Aztreonam.

E. Ampicillin sodium-sulbactam sodium.

10. Which of the following statements regarding meningococcal vaccination is true?

A. 11- to 12-year-old children or previously unvaccinated adolescents at high school entry should receive meningococcal polysaccharide vaccine (MPSV4).

B. A 14-year-old who previously received MPSV4 at 5 years of age needs no further meningococcal vaccination.

C. College freshmen living in dorms and military recruits should be immunized with meningococcal conjugate vaccine (MCV4).

D. Fever is more likely in recipients of MPSV4 than MCV4.

E. MCV4 is indicated for a 3-year-old child with asplenia.

Musculoskeletal

68. Baseline treatment for all patients with rheumatoid arthritis should include which one of the following?
- A. Patient education.
 - B. Physical therapy.
 - C. Regular dosing with acetaminophen regardless of pain.
 - D. A short course of corticosteroids.
 - E. Initiation of a biologic treatment agent.
69. You are seeing a patient with mild rheumatoid arthritis. Her rheumatology subspecialist prescribed low-dose methotrexate 1 month ago and provided patient education materials. She is experiencing only mild gastrointestinal symptoms but continued pain. You administer vaccines and agree to increase her dose of methotrexate. Which one of the following should also be instituted?
- A. Intra-articular injection of corticosteroids.
 - B. Folic acid.
 - C. Addition of a second nonbiologic agent.
 - D. Addition of a biologic agent.
 - E. Bed rest until the pain decreases.
70. A patient with moderate rheumatoid arthritis is about to begin taking a biologic agent. He exercises regularly and his pain is well controlled. You administer vaccines and obtain which one of the following?
- A. Cyclic citrullinated peptide antibody.
 - B. Erythrocyte sedimentation rate.
 - C. Hand x-rays.
 - D. Chest x-ray to assess for tuberculosis.
 - E. Complete blood count.
71. A 32-year-old woman presents to your office with an acutely swollen wrist and ankle but no history of trauma. She has a vesicopustular skin rash but no other findings on physical examination. You suspect gonococcal arthritis and aspirate the wrist joint. Because you know that only 10% of synovial fluid cultures test positive for *Gonococcus* in patients with this infection, you also obtain which one of the following?
- A. Blood cultures.

- B. Cultures from the skin lesions.
- C. Serum for C-reactive protein and white blood cell count.
- D. Genital cultures.
- E. Both B and D.

72. Of the many risk factors for septic arthritis, which one of the following is most useful in predicting the probability of a septic joint (ie, highest positive likelihood ratio)?

- A. Recent joint surgery.
- B. Age older than 80 years.
- C. Presence of diabetes.
- D. Skin infection.
- E. HIV infection.

Skin

25. A 2-year-old patient presents with superficial honey-crusted lesions around the face and nose. Which one of the following topical agents is recommended?

- A. Metronidazole.
- B. Mupirocin.
- C. Neomycin.
- D. Erythromycin.
- E. Terbinafine.

26. A 78-year-old patient presents with well-demarcated, painful, fiery red plaques on the cheeks of his face. Which one of the following antibiotics is recommended?

- A. Ciprofloxacin.
- B. Cephalexin.
- C. Penicillin.

D. Linezolid.

E. Rifampin.

27. Which one of the following is the outpatient drug of choice for a patient with an infected animal bite located on the hand?

A. Dicloxacillin.

B. Amoxicillin-clavulanate.

C. Cephalexin.

D. Clindamycin.

E. Doxycycline.

28. Which one of the following is the drug of choice for a 19-year-old college soccer player with suspected methicillin-resistant *Staphylococcus aureus* skin infection?

A. Dicloxacillin.

B. Trimethoprim-sulfamethoxazole.

C. Amoxicillin-clavulanate.

D. Cephalexin.

E. Doxycycline.

29. Which one of the following is most characteristic of smallpox?

A. The rash occurs most densely on the trunk of the body.

B. Vesicle crops develop at different times.

C. All of the lesions appear similar.

D. The incubation period is 5 to 7 days.

E. Fever.

30. A patient who has skin with coarse wrinkles, severe blotches, and discolorations caused by aging requests a chemical peel. Assuming no contraindications, which one of the following agents is most likely to be successful?
- A. Alpha-hydroxy acid.
 - B. Trichloroacetic acid.
 - C. Salicylic acid.
 - D. Phenol.
 - E. Alpha-lipoic acid.

Special Sensory

7. An adolescent in your practice is listening to music with an MP3 player when she arrives for the office visit, which provides you with an opportunity to discuss noise exposure. Which of the following should you tell the patient?
- A. If an individual less than 1 foot away from her can hear the music, the volume is acceptable.
 - B. If another individual can hear the music, the volume is excessive.
 - C. Nothing; adolescents are not receptive to counseling about the need for ear protection.
 - D. Hair cells can regenerate once they are destroyed as long as high levels of noise do not continue.
8. Which of the following statements is true regarding communicating over the telephone with a patient who is Deaf?
- A. Video relay service (VRS) is required by law.
 - B. VRS is available only in English.
 - C. A physician can use an Internet relay to call a patient with hearing loss.
 - D. Some VRS is available free of charge.
9. You have been treating a patient with hypertension for greater than 1 year. You discover that his blood pressure level is still poorly controlled despite written instructions for diet and exercise and prescriptions for three different drugs. You can best screen for health literacy by asking which of the following questions?
- A. What grade did you complete in school?
 - B. What were your usual grades in reading and language arts in school?
 - C. How many adults' books do you have in your home?

D. How confident are you in filling out medical forms by yourself?

E. Do you think you have lower reading ability than average?

10. The best interpreter for the patient with limited English proficiency is:

A. A trained medical interpreter.

B. The patient's spouse.

C. The patient's adult daughter.

D. A friend of the patient.

E. Your office assistant.

11. A 2-day-old infant presents with bilateral conjunctival hyperemia, mild swelling, and nonpurulent discharge. Which one of the following is the most common etiology of this condition?

A. Chemical conjunctivitis.

B. Herpes simplex virus.

C. *Chlamydia trachomatis*.

D. *Neisseria gonorrhoeae*.

E. *Staphylococcus aureus*.

Endo

1. A 46-year-old woman weighs 79.8 kg (176 lb) and is 1.6 m (64 in) tall. Using the body mass index (BMI), her weight may be classified as which one of the following?

A. Underweight.

B. Normal weight.

C. Overweight.

D. Obesity.

E. None of the above; her BMI cannot be classified according to the parameters provided.

2. **You are assessing a 51-year-old patient for insulin resistance syndrome. Which one of the following is a criterion used to make this diagnosis?**

- A. Total cholesterol level.
- B. Low-density lipoprotein cholesterol level.
- C. Blood pressure level.
- D. Increased trifold skin measurement.
- E. Body mass index.

3. **Obesity increases an individual's risk of which one of the following cancers?**

- A. Lung.
- B. Kidney.
- C. Pancreatic.
- D. Lymphatic.
- E. Brain

4. **To help a patient lose weight, which one of the following actions is the most important?**

- A. Accurately measuring the patient's weight.
- B. Classifying the patient's risk category by weight.
- C. Calculating body mass index.
- D. Prescribing weight-loss drugs.
- E. Helping the patient change behavior.

5. **Your patient is a 42-year-old woman with a body mass index (BMI) of 33 kg/m². You tell her that although she may be feeling well and have no medical conditions now, the BMI measurement means she is at risk of developing such health conditions as high blood pressure, diabetes, and heart disease. She indicates she is not interested in changing any of her behaviors. You should:**

- A. Recommend she schedule an appointment with a nutritionist.
- B. Spend another 10 minutes discussing simple ways she could address her obesity.
- C. Offer to prescribe a weight-loss drug.
- D. Explain the risks of obesity and revisit the issue at another time.
- E. Provide details about the evidence linking her behaviors as etiologies of obesity and the mechanisms through which they promote obesity.