

# American Board of Family Medicine



IN-TRAINING EXAMINATION

TIME-4 HOURS



1. A 4-week-old white male is brought to your office with a 2-week history of increasing dyspnea, cough, and poor feeding. The child appears nontoxic and is afebrile. On examination you note conjunctivitis, and a chest examination reveals tachypnea and crackles. A chest film shows hyperinflation and diffuse interstitial infiltrates and a WBC count reveals eosinophilia.

What is the most likely etiologic agent?

- A) Staphylococcus species
  - B) Chlamydia trachomatis
  - C) Respiratory syncytial virus
  - D) Parainfluenza virus
2. A 36-year-old obese female presents to your office with a chief complaint of amenorrhea. On examination you note hirsutism and body acne. She is on no medications and a pregnancy test is negative. Serum testosterone is at the upper limits of normal and TSH is within normal limits.

In addition to weight loss and exercise, which one of the following would be the most appropriate initial management?

- A) High-dose combined oral contraceptives
  - B) Progestin-only contraceptives
  - C) Metformin (Glucophage)
  - D) Levothyroxine (Synthroid)
3. A factory worker sustains a forced flexion injury of the distal interphalangeal (DIP) joint, resulting in a small bone fragment at the dorsal surface of the proximal distal phalanx (mallet fracture). Which one of the following is the most appropriate management strategy?
- A) Buddy taping and early range of motion
  - B) Splinting the DIP joint in extension
  - C) Splinting the DIP joint in flexion
  - D) Referral for surgical repair

4. Which one of the following drugs is NOT effective for maintenance therapy in bipolar disorders?
- A) Haloperidol
  - B) Lamotrigine (Lamictal)
  - C) Lithium
  - D) Quetiapine (Seroquel)
  - E) Valproate sodium (Depacon)

5. A 30-year-old ill-appearing male presents with right hand and arm pain and a rapidly expanding area of redness. On examination he has a temperature of 38.9°C (102.0°F), a pulse rate of 120 beats/min, and a blood pressure of 116/74 mm Hg. He also has erythema from the dorsal hand to the elbow, violaceous bullae on the dorsal hand and wrist, and severe pain with dorsiflexion of the wrist or fingers.

Which one of the following is the most appropriate initial step in the management of this patient?

- A) Oral dicloxacillin and outpatient follow-up within the next 24 hours
  - B) Intravenous metronidazole
  - C) Consultation with an infectious disease specialist for antibiotic management
  - D) Immediate surgical consultation for operative debridement
  - E) Incision and drainage with wound cultures in the emergency department
6. Patients being treated with amiodarone (Cordarone) should be monitored periodically with serum levels of
- A) cortisol
  - B) creatine phosphokinase
  - C) creatinine
  - D) LDH
  - E) TSH
7. A mother brings her 2-year-old daughter to your office because the child is not using her left arm. Earlier in the day the mother left the toddler under the supervision of her 12-year-old sister while she went to the store. When she returned the toddler was playing with toys using only her right arm, and was holding the left arm slightly pronated, flexed, and close to her body. The older daughter was unaware of any injury to the girl's arm, and the child does not seem distressed or traumatized.

Physical examination of the child's clavicle, shoulder, wrist, and hand do not elicit any signs of pain or change in function. She does seem to have some tenderness near the lateral elbow and resists your attempts to examine that area. There is no ecchymosis, swelling, or deformity of the elbow.

Which one of the following would be most appropriate at this point?

- A) Plain radiographs of the affected elbow
- B) Ultrasonography of the affected elbow
- C) Evaluation by an orthopedic surgeon within 24 hours
- D) Attempted reduction of the subluxed radial head
- E) Placement in a splint and follow-up in the office if there is no improvement in the next 1-2 weeks

8. A 12-year-old male uses a short-acting bronchodilator three times per week to control his asthma. Lately he has been waking up about twice a week because of his symptoms.

Which one of the following medications would be most appropriate?

- A) Inhaled medium-dose corticosteroids
  - B) A scheduled short-acting bronchodilator
  - C) A scheduled long-acting bronchodilator
  - D) A leukotriene inhibitor
9. Which one of the following is the most appropriate first-line therapy for primary dysmenorrhea?
- A) Combined monophasic oral contraceptives
  - B) Combined multiphasic oral contraceptives
  - C) Subdermal etonogestrel (Nexplanon)
  - D) Intramuscular medroxyprogesterone (Depo-Provera)
  - E) NSAIDs
10. While performing a routine physical examination on a 42-year-old female you discover an apparent nodule in the left lobe of the thyroid measuring approximately 1 cm in diameter, which is confirmed on ultrasonography. The most appropriate next step in the evaluation of this finding is a
- A) serum calcitonin level
  - B) serum free T<sub>3</sub> level
  - C) serum TSH level
  - D) serum thyroglobulin level
  - E) radionuclide thyroid scan
11. Which one of the following medications should be started at a low dosage and titrated slowly to minimize the risk of Stevens-Johnson syndrome?
- A) Carbamazepine (Tegretol)
  - B) Divalproex (Depakote)
  - C) Lamotrigine (Lamictal)
  - D) Lithium
  - E) Ziprasidone (Geodon)

12. You are the medical director of a long-term-care facility that has 60 residents. Several patients experience fever, cough, and upper respiratory symptoms. Two of these patients test positive for influenza A (H1N1) virus.

Which one of the following is recommended by the Centers for Disease Control and Prevention (CDC) for this situation?

- A) Chemoprophylaxis with appropriate medications for all residents
  - B) Treatment initiated on an individual basis once testing confirms that a resident has influenza
  - C) Prophylaxis only for staff who have had direct patient contact with a resident with laboratory-confirmed infection
  - D) No chemoprophylaxis for staff or residents who have been appropriately vaccinated
13. Information derived from which one of the following provides the best evidence when selecting a specific treatment plan for a patient?
- A) Meta-analyses
  - B) Prospective cohort studies
  - C) Expert opinion
  - D) Consensus guidelines
14. Examination of a 2-day-old infant reveals flesh-colored papules with an erythematous base located on the face and trunk, containing eosinophils. Which one of the following would be most appropriate at this time?
- A) An allergy evaluation
  - B) Low-dose antihistamines
  - C) Hydrocortisone cream 0.5%
  - D) A sepsis workup
  - E) Observation only
15. American Urological Association guidelines define asymptomatic microscopic hematuria as which one of the following in the absence of an obvious benign cause?
- A)  $\geq 1$  RBCs/hpf
  - B)  $\geq 3$  RBCs/hpf
  - C)  $\geq 10$  RBCs/hpf
  - D) A positive dipstick reading for blood

16. A 70-year-old male with widespread metastatic prostate cancer is being cared for through a local hospice. Surgery, radiation, and hormonal therapy have failed to stop the cancer, and the goal of his care is now symptom relief. Over the past few days he has been experiencing respiratory distress. His oxygen saturation is 94% on room air and his lungs are clear to auscultation. His respiratory rate is 16/min.

Which one of the following would be best at this point?

- A) Morphine
  - B) Oxygen
  - C) Albuterol (Proventil, Ventolin)
  - D) Haloperidol
17. A 30-year-old female with a history of prolonged QT syndrome presents with severe acute bacterial sinusitis. Which one of the following antibiotics should be avoided?
- A) Amoxicillin
  - B) Clarithromycin (Biaxin)
  - C) Amoxicillin/clavulanate (Augmentin)
  - D) Moxifloxacin (Avelox)
  - E) Cefuroxime (Ceftin)
18. Which one of the following is associated with treatment of COPD with inhaled corticosteroids?
- A) An increased risk of monilial vaginitis
  - B) An increased risk of bruising
  - C) Consistent improvement in FEV<sub>1</sub>
  - D) A decreased risk of pneumonia
  - E) Decreased mortality
19. A 56-year-old male complains of daily early awakening and low energy for the past 3 weeks. Six weeks ago he had a myocardial infarction treated with a coronary artery stent. During that hospitalization his CBC, fasting glucose level, and thyroid function were normal. A recent phone note from the cardiac rehabilitation nurse indicates that he became apathetic and stopped attending his rehabilitation sessions. He admits to a feeling of hopelessness. He denies chest pain, dyspnea, orthopnea, and palpitations. His vital signs and physical examination are remarkable for a healing radial artery catheterization wound.

In addition to resumption of cardiac rehabilitation, which one of the following would be most appropriate at this point?

- A) Reassurance and a follow-up appointment in 6 weeks
- B) A Patient Health Questionnaire 9 (PHQ-9)
- C) Polysomnography
- D) A BNP level
- E) An exercise thallium stress test

20. A 5-year-old white male is brought to your office with a chief complaint of chronic nocturnal limb pain. His mother states that his pain is often severe enough that it awakens him at night and she often gives him ibuprofen to help alleviate his calf pain, but she has never seen him limp or heard him complain of pain during the day. She also has not noticed any grossly swollen joints, fever, rash, or weight change. She is concerned because of a family history of juvenile rheumatoid arthritis in a distant cousin. The physical examination is within normal limits, as are a CBC and an erythrocyte sedimentation rate.

Which one of the following would be most appropriate at this point?

- A) Bilateral plain radiographs of the lower extremities
  - B) Testing for antinuclear antibody
  - C) Testing for rheumatoid factor
  - D) Referral to orthopedic surgery
  - E) No further workup
21. According to the guidelines developed by the JNC 8 panel, which one of the following should NOT be used as a first-line treatment for hypertension?
- A) ACE inhibitors
  - B) Angiotensin receptor blockers
  - C) Calcium channel blockers
  - D)  $\beta$ -Blockers
  - E) Thiazide-type diuretics
22. A 67-year-old male presents with a 10-day history of bilateral shoulder pain and stiffness accompanied by upper arm tenderness. On examination there is soreness about both shoulders and the patient has great difficulty raising his arms above his shoulders. There is no visual disturbance, and no tenderness over the temporal arteries. C-reactive protein is elevated and the erythrocyte sedimentation rate is 65 mm/hr (N 0–17).

Which one of the following would help to confirm the most likely diagnosis?

- A) The use of published validated diagnostic criteria
- B) Synovitis of the glenohumeral joint on ultrasonography
- C) A response to treatment with prednisone
- D) A response to NSAIDs
- E) A lack of systemic symptoms



23. A 70-year-old male with hypertension, benign prostatic hyperplasia, depression, and well-controlled diabetes mellitus sees you because of increasing fatigue. His medical history also includes stent placement for coronary artery disease. A physical examination is unremarkable except for decreased peripheral pulses. A CBC, basic metabolic profile, hemoglobin A<sub>1c</sub> level, free T<sub>4</sub> level, and TSH level are all normal, except for a serum sodium level of 125 mEq/L (N 135–145). His serum osmolality is 268 mOsm/kg (N 275–290). His urine sodium level is 50 mEq/L (N <20) and his urine osmolality is 300 mOsm/kg.

Which one of the patient's medications is most likely to cause this problem?

- A) Losartan (Cozaar)
  - B) Tamsulosin (Flomax)
  - C) Metformin (Glucophage)
  - D) Atorvastatin (Lipitor)
  - E) Sertraline (Zoloft)
24. A 21-year old female comes to her family physician's office with an unintended pregnancy and states that she wishes to have a medical abortion. Elective abortion is against the physician's personally held moral principles.

According to the American Academy of Family Physicians, which one of the following would be the most appropriate course of action for the physician in this situation?

- A) Explaining the rationale for morally opposing medical abortions
  - B) Providing no further assistance at this visit
  - C) Offering to match the patient with prospective adoptive parents
  - D) Advising the patient that it would be safer for her to continue the pregnancy
  - E) Providing resources that explain how to access a safe and legal medical abortion
25. A 65-year-old male presents to an urgent care center with a foot ulcer. His past medical history is significant for hypertension, COPD, and diabetes mellitus. He has been hospitalized several times in the past year for COPD exacerbations and a hip fracture. He does not have any other current problems.

On examination he has a temperature of 37.3°C (99.1°F), a pulse rate of 105 beats/min, a respiratory rate of 16/min, and a blood pressure of 142/83 mm Hg. His examination is unremarkable except for a 2-cm ulcer on the ball of his left foot that has 3 cm of surrounding erythema and some purulent drainage. His CBC is normal except for a WBC count of 14,300/mm<sup>3</sup> (N 4300–10,800).

Which one of the following would be the most appropriate choice for initial treatment?

- A) Amoxicillin/clavulanate (Augmentin)
- B) Linezolid (Zyvox)
- C) Ciprofloxacin (Cipro)
- D) Ceftriaxone (Rocephin) and levofloxacin (Levaquin)
- E) Piperacillin/tazobactam (Zosyn) and vancomycin (Vancocin)

26. Which one of the following is the most common cause of unintentional deaths in children?

- A) Motor vehicle accidents
- B) Drowning
- C) Poisoning
- D) Fires
- E) Falls

27. A 45-year-old male presents with shortness of breath and a cough. On pulmonary function testing his FVC is < 80% of predicted, his FEV<sub>1</sub>/FVC is 90% of predicted, and there is no improvement with bronchodilator use. The diffusing capacity of the lung for carbon monoxide (DLCO) is also low.

Based on these results, which one of the following is most likely to be the cause of this patient's problem?

- A) Asthma
- B) Bronchiectasis
- C) COPD
- D) Cystic fibrosis
- E) Idiopathic pulmonary fibrosis

28. A 45-year-old male presents to the emergency department with a complaint of acute, sharp chest pain relieved only by leaning forward. On examination you hear a pericardial friction rub. An EKG shows diffuse ST elevations. Echocardiography reveals a small pericardial effusion.

Which one of the following is the most appropriate initial treatment?

- A)  $\beta$ -Blockers
- B) Nitrates
- C) Glucocorticoids
- D) NSAIDs

29. A 4-year-old male has a BMI of 17.5 kg/m<sup>2</sup>, which places him between the 90th and 95th percentiles for BMI. According to the CDC, he should be classified as being

- A) at a healthy weight
- B) overweight
- C) obese
- D) morbidly obese

30. A 13-year-old female is being evaluated for primary amenorrhea. On examination she has short stature, a webbed neck, and a low hairline. A physical examination reveals no signs of pubertal development.

Which one of the following is most likely to provide a diagnosis?

- A) MRI of the pituitary
  - B) FSH and LH levels
  - C) A prolactin level
  - D) Pelvic ultrasonography
  - E) Karyotyping
31. A 71-year-old female comes in for follow-up of hypertension. She is worried about her heart and says that some of her friends have had stress tests and she would like to get one as well just to be on the safe side. She has no chest pain, shortness of breath, or exercise intolerance, and a complete review of systems is negative.

The patient's current medications include lisinopril (Prinivil, Zestril), 20 mg daily; metoprolol succinate (Toprol-XL), 25 mg daily; and omeprazole (Prilosec), 20 mg daily. Her past medical history includes hypertension, obesity, and gastroesophageal reflux disease. A physical examination reveals a blood pressure of 130/70 mm Hg, a heart rate of 90/min, and a BMI of 31.2 kg/m<sup>2</sup>. An EKG 2 years ago was normal.

Which one of the following should be ordered to assess this patient's cardiovascular risk?

- A) A lipid profile
  - B) A coronary artery calcification score
  - C) A C-reactive protein level
  - D) An EKG
  - E) An exercise stress test
32. Which one of the following is true regarding respiratory syncytial virus (RSV) infection?
- A) Most infections in the United States occur between August and December
  - B) Corticosteroids should be a routine part of treatment
  - C) The diagnosis is usually based on positive serology
  - D) It is rarely associated with bacterial co-infection

33. An 80-year-old female is seen for progressive weakness over the past 8 weeks. She says she now has difficulty with normal activities such as getting out of a chair and brushing her teeth. Her medical problems include hypertension, diabetes mellitus, and hyperlipidemia. Her medications include glipizide (Glucotrol), simvastatin (Zocor), and lisinopril (Prinivil, Zestril). Findings on examination are within normal limits except for diffuse proximal muscle weakness and normal deep tendon reflexes. A CBC, urinalysis, erythrocyte sedimentation rate, TSH level, and serum electrolyte levels are normal. Her blood glucose level is 155 mg/dL and her creatine kinase level is 1200 U/L (N 40–150).

Which one of the following is the most likely diagnosis?

- A) Statin-induced myopathy
  - B) Polymyalgia rheumatica
  - C) Guillain-Barré syndrome
  - D) Diabetic ketoacidosis
34. A 3-year-old female is brought to your office with coughing and a tactile fever. Her only other symptom is mild rhinorrhea. She has a temperature of 38.2°C (100.8°F) and is mildly tachypneic. Her vital signs are otherwise normal and she appears to be well and in no respiratory distress. Her examination is unremarkable except for decreased breath sounds and crackles in the right lower lung field. She has no allergies to medications.

Which one of the following would be the most appropriate treatment?

- A) Amoxicillin
  - B) Azithromycin (Zithromax)
  - C) Cefdinir
  - D) Moxifloxacin (Avelox)
  - E) Ceftriaxone (Rocephin)
35. When compared to a figure-of-eight dressing, which one of the following modalities of treatment has been shown to have similar fracture-healing outcomes and increased patient satisfaction for nondisplaced mid-shaft clavicular fractures?
- A) A shoulder sling
  - B) A short arm cast
  - C) A long arm cast
  - D) Operative fixation

36. The mother of a 6-year-old male is concerned about his snoring, and she recently observed him stop breathing for a few seconds while he was sleeping. He has also been more sleepy during the day recently. His height and weight are normal. Polysomnography confirms obstructive sleep apnea.

Which one of the following would be the most appropriate primary treatment?

- A) Methylphenidate (Ritalin)
  - B) Lorazepam (Ativan)
  - C) Fluoxetine (Prozac) on a daily basis
  - D) A mouthguard
  - E) Adenotonsillectomy
37. A 70-year-old male sees you for a routine annual evaluation. He complains of fatigue but has no other symptoms. He has a history of hypertension but has not fully adhered to his drug regimen, which includes hydrochlorothiazide, amlodipine (Norvasc), and lisinopril (Prinivil, Zestril).

#### Laboratory Findings

Hemoglobin. . . . .	9.0 g/dL (N 13.5–17.2)
Serum creatinine. . . . .	2.2 mg/dL (N 0.6–1.2)
Glomerular filtration rate. . . . .	26 mL/min/1.73 m <sup>2</sup>
Serum iron. . . . .	30 µg/dL (N 60–170)
Total iron binding capacity. . . . .	300 µg/dL (N 240–450)
Ferritin. . . . .	55 ng/mL (N 46–100)
Mean corpuscular volume. . . . .	77 µm <sup>3</sup> (N 80–100)

One year ago the patient had a serum creatinine level of 2.0 mg/dL. A colonoscopy 6 months ago was unremarkable and a stool test for occult blood is negative.

Which one of the following would be most appropriate at this point?

- A) An erythropoietin level
  - B) Transfusion of packed RBCs
  - C) Epoetin alfa (Procrit)
  - D) Ferrous sulfate orally
  - E) Intravenous iron therapy
38. Which one of the following is most likely to be seen with diastolic dysfunction?
- A) A dilated left ventricle
  - B) A preserved ejection fraction
  - C) Aortic insufficiency
  - D) Pericardial effusion

39. Slipped capital femoral epiphysis is most likely in which one of the following patients with no history of trauma?
- A) A 3-day-old male with a subluxable hip
  - B) A 7-year-old male with groin pain and a limp
  - C) A 13-year-old male with knee pain
  - D) A 16-year-old female with lateral thigh numbness

40. A 43-year-old female smoker has type 2 diabetes mellitus, morbid obesity, and a recent diagnosis of symptomatic peripheral arterial disease. You have started her on atorvastatin (Lipitor), offered a supervised exercise program, and discussed smoking cessation and interventions.

Which one of the following should be recommended to prevent cardiovascular events in this patient?

- A) Aspirin
  - B) Cilostazol (Pletal)
  - C) Enoxaparin (Lovenox)
  - D) Pentoxifylline
  - E) Warfarin (Coumadin)
41. A 56-year-old female comes in for evaluation of gradually worsening right hip pain. She describes her pain as located in the groin and dull in nature, and with activity often notes a clicking sensation associated with sharp pain. On examination her hip range of motion is intact but pain is elicited with extremes of internal and external rotation and her groin pain is exacerbated with the FABER test (knee flexion, abduction and external rotation of the leg until the ankle rests proximal to the contralateral knee) and FADIR test (knee flexion, adduction, and internal rotation of the leg).

Which one of the following is the most likely diagnosis?

- A) Femoral neck fracture
  - B) Femoral hernia
  - C) Trochanteric bursitis
  - D) Hip labral tear
42. A doctor and patient are discussing using a particular drug to treat the patient's uncontrolled hypertension. Which one of the following potential effects of the drug is a patient-oriented outcome that should be discussed during shared decision-making?
- A) A decrease in diastolic blood pressure
  - B) A decrease in hemoglobin A<sub>1c</sub>
  - C) A decrease in carotid intimal thickness
  - D) A decrease in all-cause mortality
  - E) Improvement in the Framingham cardiac risk score

43. A 12-month-old male is brought to your office for a routine well child visit. His father has epilepsy and takes seizure medication.

Which one of the following vaccines will slightly increase the child's risk of a febrile seizure for up to 2 weeks after administration?

- A) Hepatitis B
- B) MMR
- C) HiB
- D) Pneumococcal
- E) Polio

44. A right-hand-dominant 38-year-old male comes to your office because of right elbow pain. He recently began participating in a highly competitive adult volleyball league, and 2 weeks after he first began playing he developed mild pain in the medial elbow of his right arm. While completing an overhead serve last night he felt an acute worsening of the elbow pain. After the match he noted bruising over his medial elbow.

When you examine him you find bruising and pain to palpation around the medial elbow. With his shoulder in 90° of abduction and external rotation you rapidly flex and extend the elbow while maintaining valgus torque on the elbow (the moving valgus stress test). The patient reports pain between 70° and 120° of flexion.

This clinical presentation is most consistent with which one of the following causes of elbow pain?

- A) Medial epicondylitis
- B) Biceps tendinopathy
- C) Cubital tunnel syndrome
- D) Ulnar collateral ligament injury
- E) Triceps tendinopathy

45. Which one of the following is true regarding the live attenuated intranasal influenza vaccine?

- A) It is preferred in all children >6 months of age
- B) It is more effective in children age 2–6 years than the inactivated vaccine
- C) It is more effective in children >6 years of age than in younger children
- D) It is the vaccine of choice for pregnant women
- E) It is less effective in adults age 18–49 than the inactivated vaccine

46. A 63-year-old female with corticosteroid-dependent COPD has developed pneumonia. Which one of the following pathogens should the antibiotic regimen cover in this patient that would be unlikely in someone with pneumonia and otherwise healthy lungs?
- A) *Streptococcus pneumoniae*
  - B) *Mycoplasma pneumoniae*
  - C) *Haemophilus influenzae*
  - D) *Staphylococcus aureus*
  - E) *Pseudomonas aeruginosa*

47. A 30-year-old male presents to your office because he thinks he may be suffering from alcohol withdrawal. He was dependent on alcohol for at least 10 years and has completed treatment programs twice. He had been abstinent for over a year until he began drinking heavily after his wife filed for divorce 2 weeks ago. A friend found him in a bar last night and has kept him from consuming alcohol for the past 12 hours.

The patient is now nauseated, miserable, restless, shaky, and sweating, and says he can feel his heart pounding. He has not had any seizures or episodes of delirium tremens. His temperature is 37.5°C (99.6°F), pulse rate 100 beats/min, and blood pressure 150/92 mm Hg. His palms are moist and he has a mild tremor on arm extension. He is oriented but cannot perform serial additions. A CBC, basic metabolic panel, and urine drug screen are normal.

You decide that outpatient treatment would be appropriate. Which one of the following alcohol withdrawal management options is supported by the best evidence?

- A) Thiamine and magnesium
  - B) Carbamazepine (Tegretol)
  - C) Phenytoin (Dilantin)
  - D) Chlordiazepoxide
  - E) Clonidine (Catapres)
48. In the United States, cow's milk is not recommended for children until the age of
- A) 4 months
  - B) 6 months
  - C) 9 months
  - D) 12 months
  - E) 15 months
49. A 15-year-old male presents to the emergency department after suffering a lateral dislocation of his patella. Which one of the following would be the best method for reducing this dislocation?
- A) Medially directed pressure on the patella while extending the leg
  - B) Medially directed pressure on the patella while flexing the leg
  - C) Rapid leg extension
  - D) Lateral retinacular release



50. In a 15-year-old female with no known chronic medical conditions, which one of the following is essential before initiating oral combined hormonal contraception?
- A) Bimanual pelvic examination
  - B) Clinical breast examination
  - C) Cervical cytology and HPV screening
  - D) Blood pressure measurement
  - E) Weight measurement

51. A 68-year-old male with end-stage lung cancer is being treated for pain secondary to multiple visceral and skeletal metastases. He has been on oral ibuprofen and parenteral morphine. However, over the past few weeks he reports progressive worsening of his pain. In order to achieve better pain control his morphine dosage has been continuously titrated up. In spite of this increase he continues to report severe pain that is now diffuse and occurs even when his caregivers touch him.

Which one of the following would be most appropriate at this time?

- A) Increase the morphine dosage until continuous sedation is obtained
  - B) Attempt a reduction in the morphine dosage
  - C) Add an anxiolytic to help relieve anxiety
  - D) Advise the family that nothing more can be done for his pain
52. A 42-year-old male with a 4-year history of multiple sclerosis (MS) presents with an acute attack manifested by ataxia, incoordination, and dysarthria. Which one of the following is indicated for managing this flare-up of his MS?
- A) Fingolimod (Gilenya)
  - B) Glatiramer (Copaxone)
  - C) Interferon- $\beta$  (Avonex, Betaseron)
  - D) Methylprednisolone (Medrol)
  - E) Pramipexole (Mirapex)

53. A 24-year-old female presents to the emergency department because she thinks she is having an allergic reaction to her medication for depression. About 3 hours after taking her first dose of citalopram (Celexa) she noted extreme anxiety, agitation, palpitations, and a dry mouth. On examination she has a blood pressure of 180/110 mm Hg, a pulse rate of 120 beats/min, a respiratory rate of 24/min, and a temperature of 37.2°C (99.0°F). Her pupils are dilated and she has slow, continuous horizontal eye movements. Marked hyperreflexia is noted in the lower extremities.

In addition to supportive care, the patient should be given intravenous

- A) propranolol
- B) diphenhydramine
- C) haloperidol lactate (Haldol Lactate)
- D) flumazenil (Romazicon)
- E) diazepam

54. In a patient with sepsis, which one of the following would confirm a diagnosis of septic shock?
- A) A 1.0 mg/dL increase in the creatinine level
  - B) A platelet count of 20,000/mm<sup>3</sup> (N 150,000–350,000)
  - C) A WBC count of 25,000/mm<sup>3</sup> (N 4300–10,800)
  - D) A serum bilirubin level of 7.0 mg/dL (N < 1.0)
  - E) A serum lactate level of 2.0 mmol/L (N 0.5–1.0)
55. A study finds that the positive predictive value of a new test for breast cancer is 75%, which means that
- A) among patients with known breast cancer who had the test, 75% had a positive test
  - B) among patients with no breast cancer who had the test, 75% had a negative test
  - C) 75% of patients who tested positive actually had breast cancer
  - D) 75% of patients who tested negative did not have breast cancer

56. A 49-year-old male brings you a copy of his laboratory results obtained during an insurance examination. The patient says he feels fine, but his bilirubin level was 2.5 mg/dL (N < 1.0). He says he averages 5 alcoholic beverages per week and takes no medications other than occasional ibuprofen. On examination he is not jaundiced and has no scleral icterus, and the remainder of the examination is within normal limits, including palpation of the liver and spleen. Laboratory testing reveals a normal CBC, normal liver enzyme levels, and normal serum haptoglobin. Bilirubin fractionation reveals an indirect level of 2.0 mg/dL and a direct level of 0.5 mg/dL (N < 0.4).

The most likely diagnosis is

- A) asymptomatic cholecystitis
  - B) alcoholic liver disease
  - C) Gilbert's syndrome
  - D) hemolytic anemia
57. A healthy 18-year-old female sees you for a preparticipation evaluation and well care visit prior to soccer season. She has no significant previous medical history and no current problems. She says she is not sexually active. She has completed the HPV vaccine series.

Which one of the following would be most appropriate for cervical cancer screening for this patient?

- A) No screening at this visit
- B) Annual Papanicolaou tests
- C) Papanicolaou testing alone every 3 years
- D) Papanicolaou testing and HPV testing every 3 years

58. Which one of the following can help to minimize the pain of lidocaine (Xylocaine) injection?

- A) Slowly inserting the needle through the skin
- B) Avoiding injection into the subcutaneous tissue
- C) Injection of the solution only after fully inserting the needle at the target site
- D) Cooling the solution to refrigerator temperature prior to injecting it
- E) Buffering the solution with sodium bicarbonate

59. Which one of the following is most appropriate for patients with asplenia?

- A) Lifelong daily antibiotic prophylaxis
- B) Antibiotics for any episode of fever
- C) An additional dose of Hib vaccine
- D) Avoiding live attenuated influenza vaccine
- E) Withholding pneumococcal vaccine

60. A 37-year-old graphic designer presents to your office with a history of several months of radial wrist pain. She does not recall any specific trauma but notes that it hurts to hold a coffee cup. Finkelstein's test is positive and a grind test is negative, and there is tenderness to palpation over the radial tubercle.

Which one of the following would be most appropriate at this point?

- A) Plain radiography focusing on the scaphoid
- B) Rest and a thumb spica wrist splint
- C) MRI of the wrist
- D) A short arm cast

61. A 19-year-old college wrestler presents with cellulitis of his left arm extending from a small pustule on his hand to the axilla. He appears acutely ill and has a temperature of 38.9°C (102.0°F). His WBC count is 22,000/mm<sup>3</sup> (N 4300–10,800). He is admitted to the hospital.

The initial drug of choice for this patient would be

- A) ciprofloxacin (Cipro)
- B) clindamycin (Cleocin)
- C) doxycycline
- D) trimethoprim/sulfamethoxazole
- E) vancomycin

62. Which one of the following is an indication for a second dose of pneumococcal polysaccharide vaccine in children?
- A) A cerebrospinal fluid leak
  - B) Cyanotic congenital heart disease
  - C) Type 1 diabetes mellitus
  - D) Sickle cell disease
  - E) Chronic bronchopulmonary dysplasia

63. A 66-year-old male who was hospitalized 2 months ago for an episode of heart failure sees you for follow-up. He complains of pain in his chest and on examination you note tenderness and a slight fullness deep to his nipple bilaterally.

Which one of the following drugs on his medication reconciliation list is most likely to cause this type of discomfort?

- A) Digoxin (Lanoxin)
  - B) Enalapril (Vasotec)
  - C) Eplerenone (Inspra)
  - D) Hydralazine
  - E) Spironolactone (Aldactone)
64. A 30-year-old female reports that she and her husband have not been able to conceive after trying for 15 months. She takes no medications, has regular menses, and has no history of headaches, pelvic infections, or heat/cold intolerance. Her physical examination is unremarkable. Her husband recently had a normal semen analysis.

Which one of the following would be the most appropriate next step?

- A) Observation for 1 year
- B) TSH, free T<sub>4</sub>, and prolactin levels
- C) Hysterosalpingography
- D) An estradiol level
- E) A luteal-phase progesterone level

65. A 48-year-old male sees you for a routine health maintenance examination. His blood pressure is 142/90 mm Hg and you recommend that he return for a repeat blood pressure measurement. Eight weeks later his blood pressure is 138/88 mm Hg. He denies any symptoms on a review of systems. He tells you that on his 40th birthday he abruptly stopped smoking after smoking a pack of cigarettes a day since his early twenties. He is adopted and cannot provide a family history.

According to U.S. Preventive Services Task Force guidelines, which one of the following conditions should this patient be screened for now?

- A) Abdominal aortic aneurysm
  - B) Peripheral arterial disease
  - C) Colon cancer
  - D) Type 2 diabetes mellitus
  - E) Hemochromatosis
66. Which one of the following conditions is the leading cause of death for patients with rheumatoid arthritis?
- A) Infections
  - B) Coronary artery disease
  - C) Thromboembolic disease
  - D) Lymphoma
  - E) Lung cancer
67. A 67-year-old male presents with a persistent, intermittent cough. He says that his exercise tolerance has decreased, noting that he becomes short of breath more easily while playing tennis. He smoked briefly while in college but has not smoked for over 45 years, and reports no history of known pulmonary disease.

You obtain pulmonary function testing in the office to help you diagnose and manage his respiratory symptoms. His FVC and FEV<sub>1</sub>/FVC are both less than the lower limit of normal as defined by the Third National Health and Nutrition Examination Survey. Repeat testing following administration of a bronchodilator does not correct these values.

Which one of the following would be most appropriate at this time?

- A) A methacholine challenge test
- B) A mannitol inhalation challenge test
- C) Exercise pulmonary function testing
- D) Testing for diffusing capacity of the lung for carbon monoxide (DLCO)

68. You see a 5-year-old white female with in-toeing due to excessive femoral anteversion. She is otherwise normal and healthy, and her mobility is unimpaired. Her parents are greatly concerned with her appearance and possible future disability, and request that she be treated.

You recommend which one of the following?

- A) Observation
- B) Medial shoe wedges
- C) Torque heels
- D) Sleeping in a Denis Browne splint for 6 months
- E) Derotational osteotomy of the femur

69. Effective treatments for obsessive-compulsive disorder include

- A) Freudian analysis
- B) benzodiazepines
- C) amphetamine salts
- D) atypical antipsychotics
- E) repetitive exposure to fearful stimuli

70. A 77-year-old male presents with significant postherpetic neuralgia in a chest wall distribution. Which one of the following is most likely to be effective in diminishing his discomfort?

- A) Oral valacyclovir (Valtrex)
- B) Topical lidocaine (Xylocaine) patches
- C) Thoracic epidural corticosteroid injections
- D) Herpes zoster vaccine
- E) Acupuncture

71. A 50-year-old male presents to your office with a 1-hour history of an intense retro-orbital headache. This started while he was jogging and eased somewhat when he stopped, but has persisted along with some pain in his neck. Other than a blood pressure of 165/100 mm Hg, his examination is unremarkable. Noncontrast CT of the head is also unremarkable. His pain has persisted after 2 hours in the emergency department.

Which one of the following would be most appropriate at this time?

- A) MRI of the head
- B) Angiography
- C) Nifedipine (Procardia) sublingually
- D) Sumatriptan (Imitrex) subcutaneously
- E) A lumbar puncture

72. A healthy 68-year-old male is seen in December for a routine examination. A review of his immunizations indicates that he received a standard dose of inactivated influenza vaccine at the health clinic in September. He received 23-valent pneumococcal vaccine (Pneumovax 23) at age 65.

He should now receive which one of the following?

- A) High-dose influenza vaccine
- B) 13-valent pneumococcal conjugate vaccine (Prevnar 13)
- C) 23-valent pneumococcal vaccine
- D) No vaccines at this time

73. A 68-year-old female with diabetes mellitus, coronary artery disease, fibromyalgia, and dyspepsia presents for follow-up. She has been taking omeprazole (Prilosec) for 10 years. It was started during a hospitalization, and her symptoms have returned with previous trials of discontinuation.

Which one of the following adverse events is this patient at risk for as a result of her omeprazole use?

- A) Hypermagnesemia
- B) Urinary tract infections
- C) Nephrolithiasis
- D) Hip fractures

74. A 14-year-old female bumped heads with another player in a soccer game. She was knocked down, appeared briefly dazed, and now has a headache and mild dizziness while seated on the sidelines.

Which one of the following would be most appropriate at this point?

- A) Return to play after symptoms have resolved for at least 30 minutes
- B) Immediate neuroimaging to rule out intracranial injury
- C) Complete cognitive and physical rest for 24 hours before returning to normal activities
- D) Initial complete cognitive and physical rest followed by an individualized graded return to activity
- E) No sports participation until symptoms have been absent for 1 week

75. A 62-year-old male comes to your office as a new patient. He has a past history of a myocardial infarction and is currently in stage C heart failure according to the American Heart Association classification. His ejection fraction is 30%.

Which one of the following medications that the patient is currently taking is potentially harmful and should be discontinued if possible?

- A) Diltiazem (Cardizem)
  - B) Lisinopril (Prinivil, Zestril)
  - C) Carvedilol (Coreg)
  - D) Spironolactone (Aldactone)
  - E) Atorvastatin (Lipitor)
76. You evaluate an 18-month-old male with fecal impaction and determine that disimpaction is indicated. Which one of the following would be most appropriate initially?
- A) An oral stimulant such as sennosides (Senokot)
  - B) An oral osmotic agent such as polyethylene glycol 3350 (MiraLax)
  - C) An enema using saline, mineral oil, or phosphate soda
  - D) A bisacodyl (Dulcolax) rectal suppository
  - E) Manual disimpaction
77. A school nurse discovers head lice on a fourth-grade student. When should the student be permitted to return to class?
- A) Immediately
  - B) When there are no visible nits
  - C) After a single treatment with a topical agent
  - D) After two treatments with a topical agent, 7 days apart
78. A 42-year-old female presents with a cough productive of blood-streaked sputum for the past 3 days. Her hemoptysis was preceded by several days of rhinorrhea, congestion, and subjective fever. She estimates the total amount of blood loss to be approximately 1 tablespoon. She is a nonsmoker and her past medical history is unremarkable. Vital signs are within normal limits, and other than an intermittent cough there are no abnormal findings on the physical examination.
- Which one of the following would be the most appropriate next step?
- A) Observation
  - B) A chest radiograph
  - C) Chest CT
  - D) Bronchoscopy
  - E) Antibiotics



79. A 33-year-old female presents with highly pruritic raised wheals on her extremities and torso. They only last for a few hours but have recurred over the last several days. There has been no oral swelling or respiratory symptoms.

Which one of the following is the best first-line treatment for this condition?

- A) Topical corticosteroids
- B) H<sub>1</sub>-histamine blockers
- C) H<sub>2</sub>-histamine blockers
- D) Leukotriene-receptor antagonists
- E) Injectable epinephrine

80. A 30-year-old female is referred to you by a local optometrist after she was treated several times for anterior uveitis. You are concerned about an associated systemic disease. She feels well otherwise, and denies back or joint pain, rash, cough, or fever. A chest radiograph reveals enlarged mediastinal lymph nodes.

Which one of the following is most likely to be associated with her recurrent uveitis?

- A) Cat-scratch disease
- B) Lyme disease
- C) Sarcoidosis
- D) Syphilis
- E) Tuberculosis

81. In addition to exercise, which one of the following vitamin supplements is recommended by the U.S. Preventive Services Task Force to help prevent falls in elderly patients living at home?

- A) A
- B) B complex
- C) C
- D) D
- E) E

82. Which one of the following is a significant risk factor for esophageal adenocarcinoma?

- A) Aspirin therapy
- B) Ibuprofen therapy
- C) Helicobacter pylori infection
- D) Obesity
- E) Crohn's disease

83. In older patients with aortic stenosis and a systolic murmur, which one of the following would be most concerning?
- A) Weight loss
  - B) Frequent urination
  - C) Jaundice
  - D) Worsening headache
  - E) Exertional dyspnea

84. A 30-year-old female presents with dysuria and flank pain. She reports a fever of 102°F yesterday morning. She has not taken any antipyretics since that time, and today her temperature is 36.7°C (98.1°F). She has a pulse rate of 93 beats/min, a respiratory rate of 16/min, and a blood pressure of 116/58 mm Hg. The remainder of her physical examination is unremarkable, except for marked costovertebral angle tenderness.

A CBC reveals a WBC count of 14,590/mm<sup>3</sup> (N 4300–10,800) with 85% neutrophils, 12% lymphocytes, and 3% basophils, but is otherwise normal. A urine β-hCG is negative. A urine dipstick is positive for leukocyte esterase, and urine microscopic analysis is notable for <1 RBC and >50 WBCs/hpf. Urine culture results are pending.

You confirm she has no medication allergies. Which one of the following oral antibiotics would be most appropriate for empiric therapy?

- A) Amoxicillin
  - B) Ciprofloxacin (Cipro)
  - C) Erythromycin
  - D) Metronidazole (Flagyl)
  - E) Nitrofurantoin (Furadantin)
85. A 40-year-old male respiratory therapist presents for a health examination prior to hospital employment. His history indicates that as a child he lived on a farm in Iowa. His examination is unremarkable, but a chest radiograph shows that both lung fields have BB-sized calcifications in a miliary pattern. No other findings are noted. A PPD skin test is negative.

The findings in this patient are most likely a result of

- A) HIV infection
- B) histoplasmosis
- C) coccidioidomycosis
- D) tuberculosis
- E) cryptococcosis

86. A 43-year-old female complains of easy bruising. She is otherwise asymptomatic. A CBC reveals a platelet count of  $23,000/\text{mm}^3$  (N 150,000–450,000). A peripheral smear reveals giant platelets. A workup is negative for autoimmune causes, including Graves disease, HIV, Epstein-Barr virus, cytomegalovirus, varicella zoster, hepatitis C, and *Helicobacter pylori*. She is on no prescription or over-the-counter medications and denies alcohol or drug use.

Which one of the following would be the most appropriate initial management?

- A) Platelet transfusion
  - B) Corticosteroids
  - C) Thrombopoietin-receptor agonists
  - D) A bone marrow biopsy
  - E) Splenectomy
87. A 22-year-old female with a 2-week history of paroxysmal cough is found to have pertussis confirmed by a polymerase chain reaction test and a nasal swab culture. Which one of the following is the antibiotic of choice for this patient?
- A) Amoxicillin
  - B) Azithromycin (Zithromax)
  - C) Ciprofloxacin (Cipro)
  - D) Clindamycin (Cleocin)
  - E) Doxycycline
88. While performing a digital rectal examination of the prostate on a 67-year-old patient with diabetes mellitus, you note the findings shown below. The patient confirms that the area has been itchy for some time but he has been reluctant to seek care. He has tried a variety of over-the-counter moisturizing lotions with limited success.

Of the following topical treatments, which one is most likely to provide significant improvement?

- A) Antibacterial ointment
- B) Antifungal cream
- C) Antiviral ointment
- D) Corticosteroid cream
- E) Rubbing alcohol

89. A 73-year-old male is seen for follow-up of elevated blood pressure. He has no comorbidities. His blood pressure after several months of lifestyle modifications is 160/102 mm Hg. He is started on lisinopril (Prinivil, Zestril), 10 mg daily.

According to the JNC 8 panel, the blood pressure goal for this patient is which one of the following?

- A) < 160/100 mm Hg
  - B) < 150/90 mm Hg
  - C) < 140/90 mm Hg
  - D) < 130/85 mm Hg
  - E) 120/80 mm Hg
90. Terminally ill cancer patients who receive palliative chemotherapy
- A) survive longer
  - B) are less likely to die at home
  - C) are less likely to undergo CPR
  - D) are less likely to undergo mechanical ventilation
  - E) are referred to hospice earlier in their disease course
91. A 14-year-old male presents to your office with a high fever that began suddenly. He has a diffuse petechial rash and some nuchal rigidity on examination. A lumbar puncture is performed, and gram-negative diplococci are found. You admit him to the hospital for treatment.

Which one of the following would be most appropriate for prevention of secondary disease at this time?

- A) Immediate chemoprophylaxis for his entire school
  - B) Immediate vaccination of all contacts
  - C) Chemoprophylaxis for family members and very close contacts only
  - D) Isolation of all family members for 1 week
  - E) No preventive measures until culture results are available
92. A 58-year-old male with COPD presents with a 5-day history of increased dyspnea and purulent sputum production. He is afebrile. His respiratory rate is 24/min, heart rate 90 beats/min, blood pressure 140/80 mm Hg, and oxygen saturation 90% on room air. Breath sounds are equal, and diffuse bilateral rhonchi are noted. He is currently using albuterol/ipratropium by metered-dose inhaler three times daily.

In addition to antibiotics, which one of the following would be most appropriate for treating this exacerbation?

- A) A single dose of intramuscular dexamethasone
- B) Oral prednisone for 5 days
- C) Daily inhaled fluticasone (Flovent)
- D) Hospital admission for intravenous methylprednisolone sodium succinate (Solu-Medrol)
- E) No corticosteroids at this time

93. A 25-year-old male daycare worker presents with a 3-week history of bloating and foul-smelling stools. On examination the patient has mild, diffuse abdominal tenderness and increased bowel sounds.

Which one of the following is the most likely cause of this patient's problem?

- A) Hepatitis A
  - B) Clostridium difficile
  - C) Enterotoxigenic Escherichia coli
  - D) Giardia lamblia
  - E) Campylobacter
94. A 60-year-old female has a strong family history of breast cancer and is considering tamoxifen (Soltamox) to reduce her risk. Which one of the following is an effect associated with this treatment that should be included in the shared decision-making discussion with the patient?
- A) An increased risk of bone fractures
  - B) An increased risk of endometrial cancer
  - C) A reduction in leg cramps
  - D) A decreased risk of thromboembolic events
  - E) A reduction in vasomotor symptoms
95. A 57-year-old male presents to the emergency department complaining of dyspnea, cough, and pleuritic chest pain. A chest radiograph shows a large left-sided pleural effusion. Thoracentesis shows a pleural fluid protein to serum protein ratio of 0.7 and a pleural fluid LDH to serum LDH ratio of 0.8.

Which one of the following causes of pleural effusion would be most consistent with these findings?

- A) Cirrhosis
  - B) Heart failure
  - C) Nephrotic syndrome
  - D) Pulmonary embolism
  - E) Superior vena cava obstruction
96. A copper T 380A intrauterine device (ParaGard) would be preferred over a levonorgestrel-releasing intrauterine device (Mirena) in a patient with a history of which one of the following?
- A) Nulliparity
  - B) Current smoking
  - C) Acute deep vein thrombosis
  - D) Severe cirrhosis
  - E) Heart failure

97. The mother of a 2-year-old calls you for advice because her child has an acute cough that is keeping him awake at night. Which one of the following has been shown in a double-blind, randomized, placebo-controlled study to decrease nighttime cough and improve sleep in children with this problem?
- A) Sugar water
  - B) Cinnamon
  - C) Turmeric
  - D) Ginger
  - E) Honey
98. Which one of the following is an effect of long-term treatment for narcotic addiction with methadone and buprenorphine?
- A) Greater success at producing minimal opiate use than detoxification programs
  - B) Significant teratogenic effects
  - C) Frequent diversion of opiates
  - D) Decreased associated cocaine abuse
99. How many arteries and veins are normally found in the umbilical cord on a newborn examination?
- A) 1 artery, 1 vein
  - B) 1 artery, 2 veins
  - C) 2 arteries, 1 vein
  - D) 2 arteries, 2 veins
  - E) 2 arteries, 3 veins
100. A 12-month-old male is brought to your office by his mother because of concerns about his eating. She states that he throws tantrums while sitting in his high chair, dumps food on the floor, and refuses to eat. She has resorted to feeding him cookies, crackers, and juice, which are “all he will eat.” A complete physical examination, including a growth chart of weight, length, and head circumference, is normal.
- Which one of the following would be the most appropriate recommendation?
- A) Use disciplinary measures to force the child to eat a healthy breakfast, lunch, and dinner
  - B) Leave the child in the high chair until he has eaten all of the healthy food provided
  - C) Play feeding games to encourage consumption of healthy meals or snacks
  - D) Skip the next meal if the child refuses to eat
  - E) Provide healthy foods for all meals and snacks, and end the meal if the child refuses to eat

101. A 55-year-old female presents with lateral hip pain over the outer thigh. She has no history of injury, although she has just begun a walking program to lose weight. She has increased pain when she lies on that side at night. Her examination is unremarkable except that she is overweight and has tenderness over the greater trochanter. There is no pain with internal and external rotation of the hip. A radiograph reveals minimal osteoarthritic changes.

Which one of the following would be most appropriate at this point?

- A) Serum protein electrophoresis
  - B) A bone scan
  - C) A bone density study
  - D) MRI
  - E) A corticosteroid injection
102. A 70-year-old male who recently moved to your area sees you for the first time. He has a previous history of myocardial infarction, has a pacemaker, and has hypertension that had been well controlled on hydrochlorothiazide and atenolol (Tenormin) for several years. About 6 months ago his previous physician had to add amlodipine (Norvasc) to his regimen. On examination he has mild arteriolar narrowing in his fundi and there is a systolic bruit just to the right of his umbilicus. He has a log of home blood pressure readings that average 138/88 mm Hg for the past 2 months. His serum creatinine level has gone from 1.2 mg/dL to 1.4 mg/dL (N 0.6–1.2) in the past 2 months.

Which one of the following would be most appropriate at this time?

- A) Referral for stent placement
  - B) Scheduling an arteriogram
  - C) A captopril renal scan
  - D) Adding losartan (Cozaar) to his regimen
  - E) Continued monitoring of serum creatinine
103. A 25-year-old male presents with a 3-day history of cough, chills, and fever. The patient was previously healthy and has no chronic medical problems. He has no known drug allergies. On examination he is alert and oriented, and has a temperature of 38.4°C (101.1°F), a pulse rate of 88 beats/min, a blood pressure of 120/70 mm Hg, a respiratory rate of 16/min, and an oxygen saturation of 98%.

Auscultation of the lungs reveals no wheezing and the presence of right basilar crackles. A chest radiograph shows a right lower lobe infiltrate.

There is a low rate of macrolide-resistant pneumococcus in the community. Which one of the following is the most appropriate initial management of this patient?

- A) Outpatient treatment with azithromycin (Zithromax)
- B) Outpatient treatment with cefuroxime (Ceftin)
- C) Inpatient treatment on the medical floor with ceftriaxone (Rocephin) and azithromycin
- D) Inpatient treatment on the medical floor with piperacillin/tazobactam (Zosyn) and levofloxacin
- E) Inpatient treatment in the intensive-care unit with ceftriaxone, levofloxacin, and vancomycin (Vancocin)

104. A mother brings in her 10-year-old son because of a swollen area in his neck that she first noticed yesterday. He has also had symptoms of an upper respiratory infection. On examination the child has a runny nose but otherwise appears well. Palpation reveals a soft, 1.5-cm, slightly tender mass, inferior to the angle of the mandible and anterior to the sternocleidomastoid muscle.

The most likely diagnosis is

- A) thyroglossal duct cyst
  - B) dermoid cyst
  - C) branchial cleft cyst
  - D) thyroid tumor
105. Treatment of rhabdomyolysis should routinely include which one of the following?

- A) Bicarbonate-containing fluids
- B) Loop diuretics
- C) Mannitol
- D) Parenteral corticosteroids
- E) Isotonic saline

106. A 26-year-old pet groomer sustained a dog bite to her left hand 2 hours ago. On examination a 4-cm × 2.5-cm laceration is noted on the thenar eminence of her palm. Although the wound shows some gaping there is minimal active bleeding. No neurovascular injury is noted.

Which one of the following is an indication for antibiotics in this patient?

- A) A wound size > 2 cm
  - B) The presence of wound gaping
  - C) A bite involving the hand
  - D) The patient's occupation
107. You see a 27-year-old male with autosomal dominant polycystic kidney disease. He has no other medical problems and his renal function has always been normal on annual testing. Today the patient reports his blood pressure at home has been 142–150/84–90 mm Hg. His blood pressure at this visit is 145/88 mm Hg.

Which one of the following medications is preferred for the initial management of hypertension in this patient?

- A) Amlodipine (Norvasc)
- B) Chlorthalidone
- C) Furosemide (Lasix)
- D) Lisinopril (Prinivil, Zestril)



108. A 30-year-old female is being evaluated for chronic pain, fatigue, muscle aches, and sleep disturbance. Which one of the following would be best for making a diagnosis of fibromyalgia?
- A) A structured symptom history
  - B) Examination for tender points
  - C) Laboratory testing
  - D) A muscle biopsy
  - E) Electromyography
109. Sympathomimetic decongestants such as pseudoephedrine and phenylephrine can be problematic in elderly patients because they can
- A) decrease blood pressure
  - B) cause bradycardia
  - C) worsen existing urinary obstruction
  - D) enhance the anticholinergic effects of other medications
  - E) enhance the sedative effects of other medications
110. You have prescribed oral iron replacement for a 46-year-old female with iron deficiency anemia related to heavy menses. She wants to be sure that the iron she takes will be absorbed well.
- Which one of the following would you suggest for improving iron absorption?
- A) Calcium
  - B) Vitamin C
  - C) Coffee
  - D) Tea
111. Which one of the following conditions can affect hemoglobin A<sub>1c</sub> levels?
- A) Heart failure
  - B) Chronic hemolytic anemia
  - C) COPD
  - D) Hypothyroidism
112. Many of the changes that occur as part of aging affect pharmacokinetics. Which one of the following is INCREASED in geriatric patients?
- A) Drug absorption
  - B) The glomerular filtration rate
  - C) Lean body mass
  - D) The volume of distribution of water-soluble compounds such as digoxin
  - E) The percentage of body fat

113. A 60-year-old male with a long-standing history of hypertension seeks your advice about pain relief from his osteoarthritis. He has tried acetaminophen and topical capsaicin cream without much benefit. He is concerned about media reports of NSAIDs causing heart problems and is unsure which ones would be safest for him to use.

Based on current evidence, which one of the following NSAIDs would you recommend as being LEAST likely to be associated with an increased risk of myocardial infarction?

- A) Celecoxib (Celebrex)
  - B) Diclofenac (Zorvolex)
  - C) Ibuprofen
  - D) Meloxicam (Mobic)
  - E) Naproxen (Naprosyn)
114. A 26-year-old male presents with a sore throat and a temperature of 38.3°C (101.0°F). On examination you note muffling of the voice and unilateral tonsillar swelling with a shift of the uvula away from the affected tonsil. A rapid test for *Streptococcus pyogenes* is negative.

Which one of the following would be most appropriate at this point?

- A) Laboratory testing for infectious mononucleosis
  - B) Immediate tonsillectomy
  - C) Initiation of antibiotics with close clinical follow-up
  - D) Culture of the throat and delayed initiation of antibiotics pending results
115. A 7-year-old male is brought to your office with a 2-day history of rash. He developed two itchy spots on his legs yesterday and today he has multiple purple, slightly painful lesions on his legs. A few days ago he was ill with cold-like symptoms, stomach pain, and a fever up to 101.2°F. He complained of leg pain at the time and his left ankle is now swollen. His fever resolved 2 days ago and he now feels fine but limps when he walks.

On examination he is afebrile with a normal blood pressure and pulse rate. He is active in the examination room. His physical examination is normal except for purpuric lesions on his legs and buttocks and edema and mild pain of the left ankle. A urinalysis is negative.

Which one of the following would be most appropriate in the management of this patient?

- A) Acetaminophen
- B) Amlodipine (Norvasc)
- C) Amoxicillin
- D) Cyclophosphamide
- E) Prednisone

116. A 32-year-old male smoker presents with a 4-day history of progressive hoarseness. He is almost unable to speak, and associated symptoms include a cough slightly productive of yellow sputum, as well as tenderness over the ethmoid sinuses. He is afebrile and has normal ear and lung examinations. His oropharynx is slightly red with no exudate, and examination of his nasal passages reveals mucosal congestion.

Which one of the following would be the most appropriate treatment?

- A) Amoxicillin for 10 days
- B) Omeprazole (Prilosec), 40 mg daily
- C) Azithromycin (Zithromax) for 5 days
- D) Symptomatic treatment only

117. A 26-year-old female presents with acute low back pain. She says it started a week ago after she lifted a sofa when helping a friend move. The patient's medical history is otherwise negative. The patient says the pain is limited to the lower back. The physical examination is normal, including the neurologic examination.

Which one of the following would be the most appropriate choice for imaging at this time?

- A) No imaging
- B) A plain film of the lumbar spine
- C) MRI of the lumbar spine
- D) A DXA scan
- E) A PET scan

118. A 50-year-old female sees you for follow-up of uncontrolled hypertension. Her recent blood pressure measurements average  $> 175/105$  mm Hg. The patient has diabetes mellitus and a BMI of  $32.3 \text{ kg/m}^2$ . Physical findings are otherwise noncontributory. Recent laboratory studies include three different potassium levels  $< 3.5 \text{ mEq/L}$  (N  $3.5\text{--}5.0$ ) despite increasing dosages of oral potassium supplements, with the dosage now at 100 mEq daily.

Which one of the following would be most appropriate at this point?

- A) Measurement of peripheral aldosterone concentration and peripheral renin activity
- B) CT of the abdomen
- C) Renal CT angiography
- D) An aldosterone suppression test

119. You are asked to medically manage a 66-year-old patient who is scheduled for an elective cholecystectomy. He is also being treated for panhypopituitarism secondary to a pituitary macroadenoma resection many years ago. His medications include levothyroxine (Synthroid), 125 µg/day; prednisone, 10 mg in the morning and 5 mg in the evening; and fludrocortisone, 10 mg/day.

Preoperative orders for this patient should include which one of the following?

- A) Normal saline intravenously as a bolus
  - B) ACTH daily while on intravenous fluids
  - C) Hydrocortisone, 25 mg intravenously every 8 hr
  - D) Levothyroxine, 250 µg intravenously daily
120. In which one of the following patients should a creatine kinase level be obtained to detect Duchenne muscular dystrophy?
- A) A 2-month-old male who is unable to roll over from prone to supine
  - B) A 7-month-old male who is unable to get into a sitting position unassisted
  - C) A 15-month-old male who is walking but is unable to stand up from a supine position without support
  - D) A 16-month-old male who is not walking unassisted
  - E) A 6-month-old with high neuromuscular tone on physical examination
121. You see a 4-year-old male in your office for evaluation of persisting fever, rash, and red eyes. In a discussion with his father you learn that the child has had temperatures in the 99°F–102°F range for 6 days, along with what the father describes as “pink eye.” Today the child broke out in a rash on his chest and back and also has cracked red lips. On examination you confirm that he has bilateral nonpurulent conjunctival injection and a generalized maculopapular rash, as well as erythema of his hands and feet.

Which one of the following is recommended at this time to evaluate for cardiac complications?

- A) An EKG
  - B) Transthoracic echocardiography
  - C) Cardiac CT
  - D) Magnetic resonance (MR) coronary angiography
  - E) A radionuclide myocardial perfusion scan
122. Which one of the following is true regarding electronic cigarettes?
- A) They release lower concentrations of particulate matter than tobacco cigarettes
  - B) They are a nicotine-free alternative to tobacco
  - C) They are not regulated by the FDA
  - D) They have been proven to be effective for smoking cessation
  - E) They have been shown to be safe in pregnancy

123. Which one of the following is the leading cause of human death in the world as a whole?

- A) Ischemic heart disease
- B) Premature birth
- C) Diarrheal diseases
- D) HIV/AIDS
- E) Cancers of the lungs, bronchi, and trachea

124. A 25-year-old female who is 3 months post partum presents with multiple complaints, including increasing weakness and fatigue, intolerance to warm environments, a weight loss of 30 lb despite an increased appetite, difficulty sleeping, awareness that her heart is beating faster and “pounding” in her chest, increasing restlessness and difficulty concentrating, increased tremulousness, and a significant swelling in her neck. She takes no medication, has experienced no recent trauma, and has not ingested large amounts of iodine.

When you examine her you find no exophthalmos or lid lag and no pretibial edema, but her skin is warm, smooth, and moist. You also find a smooth, non-nodular, nontender, enlarged thyroid gland, clear lungs, a resting tremor, and hyperactive reflexes.

Laboratory testing reveals a low TSH level, elevated free T<sub>3</sub> and free T<sub>4</sub>, and high uptake on a radioactive iodine uptake scan.

Which one of the following is the most likely diagnosis?

- A) Postpartum thyroiditis
- B) Silent thyroiditis
- C) Subacute thyroiditis
- D) Graves disease
- E) Exogenous thyroid ingestion

125. A previously healthy 59-year-old male is brought to the emergency department by his wife, who describes symptoms of confusion and ataxia. She also says that he has had a fever and cough for the past 2 weeks. On examination he has a temperature of 39.0°C (102.2°F), a heart rate of 125 beats/min, a respiratory rate of 25/min, a blood pressure of 85/46 mm Hg, and an O<sub>2</sub> saturation of 88%. Laboratory findings include a WBC count of 15,500/mm<sup>3</sup> (N 4300–10,800), a glomerular filtration rate of 45%, and a hemoglobin level of 9.1 g/dL (N 13.0–18.0). A chest radiograph reveals a large left lower lobe infiltrate.

You start the patient on an appropriate antibiotic regimen. Which one of the following is the most appropriate initial treatment of this patient’s hypotension?

- A) Dobutamine
- B) Dopamine
- C) Norepinephrine
- D) Aggressive fluid resuscitation
- E) Packed red blood cell transfusion

126. A 17-year-old male high school football running back is hit on the lower leg by an opposing player's helmet when the other player dives for a fumble. The running back presents to the emergency department after the game with significant swelling and bruising of the lower leg. Symptoms include exceptionally severe pain that is worse with stretching the calf muscles. There is no weakness of the extremity and sensation is intact. You examine the leg and can palpate pulses. Plain radiographs do not show a fracture.

Which one of the following should be ordered next?

- A) Noninvasive arterial ultrasonography of the leg
  - B) Noninvasive venous ultrasonography of the leg
  - C) CT of the calf region
  - D) MRI of the calf region
  - E) Tissue pressure studies
127. A 23-year-old healthy male is sexually active with other men and does not use condoms. He is interested in reducing his risk of contracting HIV by using a daily oral antiretroviral medication.

Which one of the following laboratory tests should be done no more than 7 days before initially prescribing pre-exposure prophylaxis with emtricitabine/tenofovir disoproxil (Truvada)?

- A) A CD4 cell count
  - B) Antibody testing for HIV
  - C) Hemoglobin concentration
  - D) A platelet count
  - E) An ALT level
128. A patient is admitted to the hospital for acute deep vein thrombosis of the lower extremity and started on anticoagulation therapy. The nursing staff asks for an activity order.

Which one of the following should be ordered?

- A) Activity as tolerated
  - B) Bed rest until the patient has been hospitalized for 24 hours
  - C) Bed rest with bathroom privileges until the patient has been hospitalized for 24 hours
  - D) Bed rest until discharged
  - E) Bed rest with bathroom privileges until discharged
129. Which one of the following potential bioterrorism agents requires treatment with 60 days of continuous antibiotics?

- A) Anthrax
- B) Botulism
- C) Pneumonic plague
- D) Smallpox
- E) Tularemia

130. Which one of the following is recommended in all patients with croup, including those with mild disease?

- A) Humidification therapy
- B) Oral dexamethasone as a single dose
- C) Oral diphenhydramine (Benadryl) every 6 hours until improvement
- D) Subcutaneous epinephrine as a single dose
- E) Intramuscular ceftriaxone (Rocephin) as a single dose

131. A 17-year-old male presents to the urgent care clinic 15 minutes after being stung by a wasp. He feels weak, his voice is hoarse, and he is beginning to have trouble breathing.

Which one of the following should be administered first?

- A) Intramuscular epinephrine
- B) Intravenous diphenhydramine (Benadryl)
- C) Intravenous famotidine (Pepcid)
- D) Intravenous methylprednisolone sodium succinate (Solu-Medrol)
- E) An intravenous bolus of normal saline

132. A pet reptile is most likely to transmit which one of the following to human contacts?

- A) Hantavirus
- B) Psittacosis (*Chlamydophila psittaci*)
- C) Plague (*Yersinia pestis*)
- D) *Pasteurella multocida*
- E) *Salmonella*

133. A mother brings in her 2-month-old infant for a routine checkup. The baby is exclusively breastfed, and the mother has no concerns or questions.

In addition to continued breastfeeding, which one of the following would you recommend continuing or adding at this time?

- A) Iron supplementation
- B) Vitamin D supplementation
- C) A multivitamin
- D) 8 oz of water daily
- E) 4 oz of cereal daily

134. A 78-year-old white male presents to your office with his daughter for a follow-up visit for his diabetes. He has a history of peripheral neuropathy and mild Alzheimer's dementia. He continues to be socially active in his community. He is on several medications, including insulin glargine (Lantus), amitriptyline, donepezil (Aricept), and clonazepam (Klonopin). His daughter asks whether he should continue to drive his car.

Which one of the following would be most appropriate in the context of this office visit with regard to evaluating his driving safety?

- A) A thorough history focused on the patient's driving, from both him and his daughter
  - B) A written driving test
  - C) A road test to observe his driving
  - D) A letter to the local agency in charge of drivers' licenses advising license removal
135. Which one of the following is more typical of a keloid rather than a hypertrophic scar?
- A) Location on an extensor surface
  - B) Expansion beyond the margins of the inciting injury
  - C) Development soon after the inciting trauma
  - D) Regression over time
136. Which one of the following should be monitored during testosterone replacement therapy?
- A) Patient Health Questionnaire 9 (PHQ-9) scores
  - B) Fasting glucose levels
  - C) Fasting lipid profiles
  - D) Hematocrit
  - E) Overnight polysomnography

137. A 67-year-old male presents with thoracic spine pain and is found to have two thoracic vertebral compression fractures. He has no history of recent trauma. His general health has been satisfactory except for a seizure disorder controlled with levetiracetam (Keppra). He does not smoke and uses alcohol rarely. A CBC, comprehensive metabolic panel, and erythrocyte sedimentation rate are within normal limits. A DXA scan shows a T-score of -2.8.

Which one of the following would be most appropriate at this time?

- A) Protein electrophoresis
- B) HIV screening
- C) A testosterone level
- D) A parathyroid hormone level



138. A 45-year-old male was admitted to the hospital for nausea resulting from chemotherapy for colon cancer. He has no other chronic diseases and takes no routine medications. He was mildly dehydrated on admission and has been receiving intravenous fluids (D5 ½-normal saline with potassium chloride) at slightly higher than maintenance rates through an indwelling port for the last 24 hours. The nausea is being controlled by antiemetics, and his condition is improving. Results of routine blood work at the time of admission and from the following morning are shown below.

Test	Admission	Following Morning
Glucose	109 mg/dL (N 65–110)	371 mg/dL
BUN	13 mg/dL (N 7–21)	9 mg/dL
Creatinine	0.9 mg/dL (N 0.6–1.6)	0.9 mg/dL
Sodium	143 mEq/L (N 136–144)	129 mEq/L
Potassium	3.7 mEq/L (N 3.6–5.1)	6.6 mEq/L
Chloride	110 mEq/L (N 101–111)	108 mEq/L
Total CO <sub>2</sub>	20 mEq/L (N 22–32)	22 mEq/L

Which one of the following would be the most appropriate next step?

- A) Start an intravenous insulin drip
  - B) Order blood work taken from a peripheral vein
  - C) Restrict the patient's free water intake
  - D) Switch from normal saline to hypertonic saline
  - E) Treat with diuretics
139. Which one of the following is most likely to be associated with resistant hypertension in adults?
- A) Obstructive sleep apnea
  - B) Primary aldosteronism
  - C) Renal artery stenosis
  - D) Renal parenchymal disease
  - E) Thyroid disease
140. A 78-year-old female presents with a red eye. She reports drainage and pain in her left eye since she woke up today, but no photophobia. Examination of the eye shows conjunctival erythema and a mucopurulent discharge. The pupil is normal in size and reactive to light.

Which one of the following should prompt immediate referral to an ophthalmologist?

- A) Bilateral eye redness
- B) A corneal abrasion noted on fluorescein staining
- C) Copious mucopurulent drainage from the eye
- D) Bright red blood noted under the conjunctiva
- E) Reduction of visual acuity

141. A long-term care resident is admitted to the hospital. The patient has a living will which specifies that “treatment be withheld or withdrawn and that I be permitted to die naturally with only the administration of medication or the performance of any medical treatment deemed necessary to alleviate pain.” The patient has appointed his wife as his health care surrogate. He has mild Alzheimer’s disease and scored 26 out of 30 on a Mini-Mental State Examination performed within the last month. He is alert and pleasant and responds appropriately to questions but cannot remember the current date. His wife is with him.

Which one of the following would be most appropriate with regard to decision making and ordering related to the patient’s code status?

- A) Determine the patient’s competence
  - B) Assess the patient’s decision-making capacity
  - C) Confirm the code status with the patient’s wife
  - D) Write a Do Not Resuscitate (DNR) order
  - E) Order comfort measures only
142. A 42-year-old female presents with a 2-month history of right-sided shoulder pain. A history reveals that her job requires repetitive motion, including abduction of the shoulder. Ibuprofen has not been helpful and the pain interferes with her sleep. The physical examination suggests rotator cuff tendinitis. A radiograph of the shoulder is normal.

You discuss treatment options and the patient decides to proceed with a corticosteroid injection. Which one of the following is the appropriate anatomic location for the injection?

- A) The acromioclavicular joint
  - B) The subacromial space
  - C) The intra-articular shoulder joint under fluoroscopy
  - D) The area of insertion of the deltoid muscle
  - E) The area of insertion of the long head of the biceps
143. A 35-year-old female asks you about options for weight loss. She weighs 104 kg (229 lb) and has a BMI of 34 kg/m<sup>2</sup>. Her health problems include hypertension and depression.

According to the U.S. Preventive Services Task Force, which one of the following is the most appropriate initial recommendation for weight-loss management in this patient?

- A) A high-protein diet
- B) A low-carbohydrate diet
- C) Behavioral counseling
- D) Bariatric surgery

144. A 7-year-old male is brought to your office with a 10-day history of cough and fever. A chest radiograph shows no acute air-space process but four posterior healing rib fractures. The child's past medical history is unremarkable.

Which one of the following would be most appropriate at this point?

- A) A skeletal survey
  - B) Studies to evaluate for osteogenesis imperfecta
  - C) Studies to evaluate for rickets
  - D) An immediate referral to initiate a child abuse investigation
145. A 50-year-old male sees you for a health maintenance visit. He has not been to a physician for 5 years because he feels very healthy and believed he was up-to-date on all preventive screenings. You review his medical record and notice he has never had an HIV screening test. On further questioning you confirm that he is at very low risk for contracting HIV.

Based on recommendations from the U.S. Preventive Services Task Force, you tell him that you routinely conduct opt-out HIV screening for

- A) all patients age 5 to 75
  - B) all patients age 15 to 65
  - C) all patients younger than 50, and patients 50 or older who are at high risk
  - D) only patients at high risk for HIV, regardless of age
146. A 28-year-old gravida 1 para 0 at 39 weeks gestation presents for routine outpatient obstetric care and is found to have a blood pressure of 145/95 mm Hg. A complete review of systems is notable only for chronic low back pain causing poor sleep. The physical examination is normal, including a nontender, gravid uterus and a fetal heart rate of 150 beats/min. The cervical examination reveals firm consistency, 1 cm dilation, 50% effacement, and -3 station. The patient's blood pressure is checked 5 hours later and is 142/94 mm Hg.

Based on the 2013 ACOG guidelines for management of hypertension in pregnancy, which one of the following should be the next step in management?

- A) Admit the patient for induction of labor
- B) Measure 24-hour urine protein, with induction of labor if the level exceeds 300 mg
- C) Begin oral nifedipine (Procardia) and recheck her blood pressure in 24-48 hours
- D) Place the patient on strict bed rest and check her blood pressure twice weekly
- E) Begin twice-weekly office visits with assessment for preeclampsia

147. A 40-year-old obese African-American male presents with a history of excessive daytime drowsiness. At home he falls asleep shortly after starting to read or watch television. He admits to nearly crashing his car twice in the past month because he briefly fell asleep behind the wheel. Most frightening to the patient have been episodes characterized by sudden loss of muscle tone, lasting about 1 minute, associated with laughing. An overnight sleep study shows decreased sleep latency and no evidence of obstructive sleep apnea.

Appropriate treatment includes which one of the following?

- A) Methylphenidate (Ritalin)
  - B) Zolpidem (Ambien) at bedtime
  - C) Carbidopa/levodopa (Sinemet)
  - D) Weight reduction
  - E) Avoidance of daytime napping
148. A 68-year-old female presents with a 2-month history of painful, swollen wrists and knees. The pain is always present and is accompanied by stiffness in these joints for 2–3 hours every morning. Her past medical history, family history, and social history are unremarkable. She takes a daily multivitamin.

A complete physical examination is notable only for symmetric, moderately swollen, slightly erythematous, and very tender wrists and knees. Range of motion is intact but increases her pain. Plain radiographs of these joints show erosions at the ulnar styloids. Lyme disease serologies are negative. Anti-cyclic citrullinated peptide (CCP) antibody testing is positive.

Which one of the following would be appropriate for this patient as a sole therapy for her joint condition?

- A) Aspirin
  - B) Doxycycline
  - C) Methotrexate
  - D) Naproxen
  - E) Prednisone
149. A 50-year-old female presents to your office for evaluation of a 2-month history of dyspnea on exertion and a nonproductive cough. She has a previous history of hypertension, overactive bladder, gastroesophageal reflux disease, and recurrent urinary tract infections. Vital signs are unremarkable and she has an oxygen saturation of 94%. She has inspiratory crackles in the posterior lung bases that do not clear with coughing. Office spirometry shows that the FVC is only 80% of normal, but the FEV<sub>1</sub>/FVC ratio is 0.85.

Which one of the patient's current medications is most likely to be the cause of her problem?

- A) Lisinopril (Prinivil, Zestril)
- B) Conjugated estrogens (Premarin)
- C) Omeprazole (Prilosec)
- D) Solifenacin (Vesicare)
- E) Nitrofurantoin (Macrochantin)

150. A 25-year-old gravida 1 para 0 sees you for a routine prenatal visit. This is a planned pregnancy and you calculate her to be at approximately 14 weeks gestation based on the dates of her last menstrual period. She is healthy without any medical problems, takes no medication, and does not use tobacco products. She is adopted and does not know her family history. She feels well today and has no specific concerns. Her vital signs are stable, her weight is normal, and fetal heart tones are auscultated with a Doppler stethoscope at approximately 140 beats/min.

Which one of the following should be completed today?

- A) A 1-hour glucose tolerance test
- B) A group B Streptococcus screen
- C) A TSH level
- D) A urinalysis and urine culture
- E) Evaluation for bacterial vaginosis

151. A 2-year-old male is brought to your office for a well child examination. Developmental screening reveals that he has about a 10-word vocabulary. His mother attributes this to their bilingual home but admits she is concerned about autism.

Which one of the following behaviors would provide additional evidence that the child may have autism?

- A) Use of gestures rather than words to communicate ideas
- B) Frequently being engrossed in pretend play with dolls
- C) Becoming upset by normal noises
- D) Seemingly excessive attempts to attract attention with his behavior
- E) Repeated copying of parental facial expressions

152. A 16-year-old female presents for follow-up after a tibial stress fracture. The fracture was diagnosed 5 weeks ago by characteristic physical examination findings and radiographs showing a transverse fracture of the tibial diaphysis. She was placed on non-weight-bearing status for 2 weeks and after that was advised to limit activities that caused discomfort. In addition, she was placed on appropriate calcium and vitamin D supplementation based on results of her laboratory workup. The patient is a basketball player and would like to begin practicing with the team in 1 week. She says she is now able to walk without discomfort but has not tried running or jumping.

Which one of the following is necessary for this patient to be able to return to basketball participation next week?

- A) Consultation with a sports medicine physician
- B) A normal physical examination of the affected area
- C) Normal radiographs of the tibia
- D) A normal hydroxyvitamin D level

153. A 28-year-old male has had bright red blood in his semen with his last three ejaculations. He is sexually active. He considers himself in good health, takes no medications, has no other symptoms to suggest a coagulopathy, and has no other genitourinary symptoms. Examination of the testes shows no masses or tenderness. Findings on a digital rectal examination are normal.

Which one of the following would be appropriate at this time?

- A) Coagulation studies including a platelet count and a prothrombin time
- B) A serum PSA level
- C) A urine probe for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*
- D) CT of the pelvis
- E) Referral to a urologist

154. A 34-year-old female with newly diagnosed diarrhea-predominant irritable bowel syndrome (IBS) presents with worsening abdominal discomfort. Her abdominal discomfort is not severe but it is constant. She has tried dicyclomine (Bentyl) without relief and is interested in trying a different approach.

The patient has had negative testing for inflammatory bowel disease and celiac disease, along with normal blood tests. She asks about specific dietary modifications or medications that may be helpful for her abdominal discomfort.

Which one of the following interventions would you recommend?

- A) Amitriptyline
- B) Clarithromycin (Biaxin)
- C) Loperamide (Imodium)
- D) Increased intake of insoluble dietary fiber

155. A 22-year-old male presents to your office for evaluation of fatigue, poor appetite, and nausea. He states that when he stands too long he often gets dizzy but this is relieved by sitting. His symptoms have been gradually getting worse over the past year. His vital signs are normal but he is found to be orthostatic. A physical examination is unremarkable except for hyperpigmentation in his palmar creases and around his nipples. A basic metabolic panel is notable for a sodium level of 131 mEq/L (N 135–145) and a potassium level of 5.1 mEq/L (N 3.5–5.0).

Which one of the following is the most likely cause of this patient's symptoms?

- A) Addison's disease
- B) Cushing syndrome
- C) Neurally mediated hypotension
- D) Postural orthostatic hypotension and tachycardia syndrome
- E) Hypothyroidism

156. A 26-year-old female has had a severe anaphylactic reaction to eggs in the past. Which one of the following influenza vaccines would be safest for her?
- A) Live attenuated trivalent influenza vaccine
  - B) Recombinant trivalent influenza vaccine
  - C) Inactivated trivalent influenza vaccine
  - D) Inactivated quadrivalent influenza vaccine
157. A 35-year-old male with a 4-month history of pain in the medial aspect of his right knee sees you for follow-up. He has been doing physical therapy for the past month with minimal benefit. A plain radiograph is negative and MRI shows a tear in the medial meniscus.
- Which one of the following is most likely to yield the best long-term result?
- A) Referral for meniscectomy
  - B) Corticosteroid injection
  - C) Hylan GF 20 (Synvisc) injection
  - D) Continued physical therapy
  - E) A knee brace
158. Which one of the following effects of antioxidant supplementation has been demonstrated in randomized clinical trials?
- A) Decreased mortality with vitamin A supplementation
  - B) Decreased mortality with  $\beta$ -carotene supplementation
  - C) Decreased mortality with vitamin E supplementation
  - D) Increased mortality with some antioxidant supplements
159. A 42-year-old male has symptoms of hypogonadism. Which one of the following should be ordered first?
- A) Early morning total serum testosterone
  - B) Early morning total and free serum testosterone
  - C) Early morning total and late afternoon total serum testosterone
  - D) Early morning and late afternoon free serum testosterone
  - E) Early morning and late afternoon total and free serum testosterone
160. Which one of the following is the recommended first-line test for investigating suspected hyper- or hypothyroidism?
- A) Free  $T_3$
  - B) Free  $T_4$
  - C) TSH
  - D) Antithyroglobulin
  - E) Antithyroid peroxidase

161. A 34-year-old G2P0101 at 11 weeks gestation comes to your office to establish care for her pregnancy. In reviewing her history you find that her first pregnancy was complicated by preeclampsia and she required induction of labor at 33 weeks. She also has chronic hypertension treated with chlorthalidone. Her blood pressure today is 128/78 mm Hg.

Which one of the following medications, if started today, will lower her risk of preeclampsia in this pregnancy?

- A) Aspirin
- B) Calcium
- C) Labetalol
- D) Nifedipine (Procardia)
- E) Vitamin E

162. A 45-year-old female has ultrasonography of her kidneys as part of an evaluation for uncontrolled hypertension. The report notes an incidental finding of stones in the gallbladder, confirmed on right upper quadrant ultrasonography. She has no symptoms you can relate to the gallstones. Other than hypertension she has no chronic medical problems.

Which one of the following should you recommend to her at this time regarding the gallstones?

- A) Expectant management
- B) Oral dissolution therapy
- C) Extracorporeal lithotripsy
- D) Endoscopic retrograde cholangiopancreatography (ERCP)
- E) Laparoscopic cholecystectomy

163. A mother brings her 7-year-old son in for a well child check and you find that their main concern is bedwetting. He has never achieved consistent nighttime continence. He currently wets the bed about 4 nights per week but has no difficulty maintaining continence during the day and reports no symptoms such as dysuria or urinary frequency. The parents have tried limiting his evening fluid intake but this has not helped. He is otherwise healthy. The patient wants to stop wearing nighttime diapers.

Which one of the following interventions has the best evidence of long-term success in addressing this condition?

- A) A reward system for achieving dry nights
- B) Use of a bed alarm
- C) Desmopressin (DDAVP)
- D) Imipramine (Tofranil)
- E) Oxybutynin



164. A 55-year-old nonsmoking African-American female with diabetes mellitus sees you for a routine visit. She has no other cardiac risk factors. Her blood pressure is 120/74 mm Hg and she has a fasting total cholesterol level of 180 mg/dL, an HDL-cholesterol level of 52 mg/dL, and an LDL-cholesterol level of 100 mg/dL. Her calculated 10-year risk of atherosclerotic cardiovascular disease is 5.8%.

According to the 2013 American College of Cardiology/American Heart Association cholesterol guidelines, which one of the following is recommended for this patient?

- A) No statin therapy
  - B) Low-intensity statin therapy
  - C) Moderate-intensity statin therapy
  - D) High-intensity statin therapy
165. A 65-year-old male with end-stage renal disease requires postoperative pain management. Which one of the following medications would be safest to use?
- A) Fentanyl
  - B) Hydrocodone
  - C) Hydromorphone (Dilaudid)
  - D) Meperidine (Demerol)
  - E) Morphine
166. A 30-year-old male presents with a 2-week history of swelling of the right posterior elbow. He recalls bumping his elbow against a door, but his pain quickly subsided. He began to notice the swelling over the next 2 days. On examination he has normal range of motion with a boggy, nontender mass over the olecranon.

Which one of the following would be most appropriate at this point?

- A) A posterior splint
- B) Aspiration
- C) A corticosteroid injection
- D) A uric acid level and erythrocyte sedimentation rate
- E) A compression dressing

167. A 23-year-old female sees you for the first time for a routine health maintenance evaluation. She tells you that her father just had a “heart valve replacement” at age 47. On examination you note a harsh 3/6 systolic murmur at the right upper sternal border. She feels well and her exercise tolerance is normal. Her history indicates that she has been well throughout her life and received appropriate childhood vaccinations and care for routine illnesses. She denies tobacco, alcohol, and drug use now and in the past. Her blood pressure today is 132/84 mm Hg. You are concerned about aortic valve disease and order an echocardiogram for further evaluation.

Which one of the following is the most likely cause of aortic valve disease in this patient?

- A) Hypertension
- B) Endocarditis
- C) Bicuspid aortic valve
- D) Rheumatic heart disease
- E) Coronary atherosclerosis

168. A resting ankle-brachial index of 1.50 indicates which one of the following?

- A) Normal circulation to a lower extremity
- B) Borderline normal circulation which may not be problematic in an asymptomatic patient
- C) Mild peripheral artery disease in a lower extremity
- D) Severe peripheral artery disease in a lower extremity
- E) Incompressible vessels in a lower extremity

169. A 69-year-old male sees you for a routine evaluation. He has been in good health and takes no medication other than tamsulosin (Flomax) for symptoms of benign prostatic hyperplasia. He has never smoked. His blood pressure is 121/78 mm Hg, pulse rate 72 beats/min, and respiratory rate 18/min. His general physical examination is unremarkable, including cardiac and abdominal examinations. A digital rectal examination reveals mild enlargement of the prostate, without nodules.

According to the U.S. Preventive Services Task Force, this patient should be screened for

- A) elder abuse
- B) aortic aneurysm
- C) multifactorial fall risk
- D) dementia
- E) hepatitis C

170. Which one of the following has been shown to be effective for Lyme disease prophylaxis after removal of an engorged deer tick?

- A) Amoxicillin
- B) Ceftriaxone (Rocephin)
- C) Cefuroxime axetil (Ceftin)
- D) Doxycycline
- E) Clarithromycin (Biaxin)

171. A 58-year-old female sees you 3 days after she was clearing her sinuses with steam and burned her face. She developed small patches of dry, painful erythema without blisters on her chin, the left side of her mouth, and her left cheek. She had no difficulty breathing. She applied cold water to the burn and decided to self-treat initially but came in because she was experiencing some pain. Her injury is shown below.

She received Td vaccine last year. In addition to analgesics for pain control, which one of the following would be appropriate?

- A) Cleaning the wound with povidone iodine (Betadine)
- B) Covering the wound with an occlusive dressing
- C) Applying aloe
- D) Applying hydrocortisone 1% cream
- E) Starting broad-spectrum antibiotics

172. A 61-year-old female tells you that her brother was recently diagnosed with hereditary hemochromatosis and his physician suggested that she get tested. She feels well and has no significant health problems.

Which one of the following would be most appropriate for initial screening?

- A) Serum transaminases
- B) A CBC and a serum iron level
- C) Testing for the HFE gene
- D) Ferritin and transferrin saturation
- E) Total iron binding capacity

173. Complications of hypoparathyroidism include

- A) somnolence
- B) low vitamin D
- C) muscle flaccidity
- D) hyperkalemia
- E) refractory heart failure

174. A 42-year-old female presents to the emergency department with a 2-hour history of palpitations. Her physical examination is normal except for what seems to be a regular rhythm tachycardia and a blood pressure of 84/54 mm Hg. An EKG reveals a regular narrow-complex tachycardia at a rate of 180 beats/min without clear atrial activity.

The optimal treatment for this patient is

- A) intravenous adenosine (Adenocard)
- B) intravenous amiodarone (Cordarone)
- C) intravenous diltiazem
- D) intravenous verapamil
- E) electrical cardioversion

175. You see a 2-year-old African-American male for a well child check. He is a new patient and his examination is within normal limits except for an approximately 0.75-cm umbilical hernia that is easily reducible. The father states that the hernia has been present since birth, although he thinks it has grown slightly over the last year. The child does not seem to be bothered by the hernia and the father does not think it has ever become incarcerated.

Which one of the following should you do now?

- A) Reassure and observe
  - B) Advise daily application of pressure dressings
  - C) Order an ultrasound examination
  - D) Refer for surgical repair
176. Which one of the following medications is associated with a higher risk of death due to stroke or sudden cardiac death in patients with dementia?
- A) Diazepam (Valium)
  - B) Fluoxetine (Prozac)
  - C) Paroxetine (Paxil)
  - D) Quetiapine (Seroquel)
  - E) Venlafaxine
177. A 65-year-old female is admitted to the hospital for a carotid endarterectomy and you are asked to make preoperative recommendations in advance of her surgery scheduled for tomorrow. She takes only low-dose aspirin. The physical examination is normal, including her blood pressure, as is an EKG. She has good exercise capacity and denies any symptoms of angina. You judge her to be stable for surgery.

Which one of the following should you recommend that the patient start today?

- A) An ACE inhibitor
  - B) A  $\beta$ -blocker
  - C) A statin
  - D) A diuretic
178. The intensely pruritic rash shown below is typical of
- A) contact dermatitis
  - B) herpes simplex
  - C) pityriasis rosea
  - D) tinea corporis

179. A 76-year-old male completed chemotherapy for carcinoma of the pancreas 3 months ago. He was seen 6 weeks ago by his oncologist and thought to be in remission. He presents to your office today with a 2-week history of malaise and epigastric pain. You perform an examination that indicates a possible epigastric mass.

Elevation of which one of the following laboratory studies would suggest recurrent pancreatic cancer?

- A)  $\alpha_1$ -Antitrypsin
- B)  $\alpha$ -Fetoprotein
- C) Serum amylase
- D) CA 19-9
- E) CA-125

180. The most common source of chest pain in children is

- A) pulmonary
- B) cardiac
- C) musculoskeletal
- D) gastroesophageal
- E) psychogenic

181. A 59-year-old male is being evaluated for a 2-day history of intermittent "heart fluttering." He reports that he has had high blood pressure for several years and has been reluctant to start treatment for it. His EKG is shown below.

Which one of the following laboratory tests is most likely to be abnormal in this patient?

- A) D-dimer
- B) Potassium
- C) Troponin
- D) TSH

182. An asymptomatic 60-year-old male sees you for a health maintenance visit. His past medical history is significant for hypertension and hyperlipidemia. His medications include chlorthalidone, 25 mg daily, and atorvastatin (Lipitor), 20 mg daily. He smoked 2 packs of cigarettes a day for 20 years but quit 5 years ago. The physical examination is normal. Laboratory findings include a normal basic metabolic panel, a cholesterol level of 210 mg/dL, an HDL-cholesterol level of 34 mg/dL, an LDL-cholesterol level of 150 mg/dL, and a triglyceride level of 200 mg/dL.

Which one of the following screening tests is recommended by the U.S. Preventive Services Task Force for this patient?

- A) Prostate-specific antigen (PSA)
  - B) A bone density test
  - C) Abdominal ultrasonography
  - D) Low-dose chest CT
  - E) Carotid ultrasonography
183. A 63-year-old female with community-acquired pneumonia is being treated with appropriate antibiotics. The only abnormality on a basic metabolic panel is a serum sodium level of 121 mEq/L (N 135–145). She reports that her shortness of breath and cough are improving. She has no other complaints on a review of systems.

On examination the patient is noted to have normal vital signs and mucous membranes are moist. She has crackles in her right lower lobe. Skin turgor is normal. The remainder of the physical examination is normal. Further testing reveals the following:

Urine sodium. . . . .	50 mEq/L
Serum osmolality. . . . .	276 mOsm/kg (N 280–285)
Urine osmolality. . . . .	300 mOsm/kg

Which one of the following would be most appropriate at this point?

- A) Intravenous diuretics
- B) Intravenous hypertonic saline
- C) Intravenous isotonic saline
- D) Fluid restriction
- E) No further interventions

184. A 53-year-old female without risk factors for colorectal cancer undergoes a screening colonoscopy. A high-quality examination reveals five 3- to 7-mm sessile polyps in the sigmoid and rectal areas. Biopsy results show that they are hyperplastic polyps. No other abnormalities are noted.

When should this patient have her next colonoscopy?

- A) 1 year
- B) 3 years
- C) 5 years
- D) 10 years
- E) No further colonoscopies are needed

185. Screening for chronic hepatitis B infection is NOT recommended for which one of the following?

- A) Patients on chronic immunosuppressive therapy
- B) Patients with end-stage renal disease who are on hemodialysis
- C) Household contacts of individuals with chronic hepatitis B
- D) Pregnant women with no risk factors for hepatitis B
- E) All newborns

186. A 67-year-old male with moderate macrocytosis complains of paresthesias of his feet. If the patient has a borderline low vitamin B<sub>12</sub> level, elevated levels of which one of the following would suggest vitamin B<sub>12</sub> deficiency?

- A) Serum gastrin
- B) Reticulocytes
- C) Methylmalonic acid
- D) Serum ferritin
- E) Serum folate

187. In the United States the most common form of child abuse is

- A) physical abuse
- B) emotional abuse
- C) sexual abuse
- D) neglect

188. A 65-year-old female presents to the emergency department as directed by her primary care physician because of “high potassium” that was found today during routine laboratory monitoring. The patient has a past medical history significant for diet-controlled diabetes mellitus, hypertension, and asthma. She feels well and specifically denies palpitations, fatigue, changes in urine output, and muscle cramps. You do not have access to the patient’s outpatient medical records and order a chemistry panel in the emergency department with the following results:

Sodium.....	143 mEq/L (N 135–145)
Potassium.....	6.3 mEq/L (N 3.5–5.0)
CO <sub>2</sub> .....	27 mEq/L (N 22–30)
Creatinine.....	1.6 mg/dL (N 0.6–1.0)
BUN.....	30 mg/dL (N 7–21)

Which one of the following is the first additional test that should be obtained in the diagnostic evaluation of this patient?

- A) A urinalysis
  - B) A CBC
  - C) Arterial blood gases
  - D) An EKG
  - E) Renal ultrasonography
189. A 58-year-old male delivery truck driver is diagnosed with type 2 diabetes mellitus and after several months of working on lifestyle modification his hemoglobin A<sub>1c</sub> is 8.0%. You suggest it is time to start a medication to help control his condition but he is very worried about having a “low sugar reaction” that would prevent him from driving. He is on no other medications at this time. His only other health problem is long-standing controlled hypertension. His BMI is 33.1 kg/m<sup>2</sup> and his serum creatinine level is 1.2 mg/dL (N 0.6–1.5).

Which one of the following medications would be least likely to cause hypoglycemia in this patient?

- A) Canagliflozin (Invokana)
  - B) Glimepiride (Amaryl)
  - C) Glipizide (Glucotrol)
  - D) Insulin glargine (Lantus)
  - E) Metformin (Glucophage)
190. The most common carcinoma diagnosed in the United States is
- A) colon adenocarcinoma
  - B) prostate carcinoma
  - C) breast carcinoma
  - D) basal cell carcinoma
  - E) malignant melanoma



191. The parents of a 5-year-old male bring him in for evaluation of likely attention deficit/hyperactivity disorder. You have suspected this diagnosis for some time, and the parents have brought in surveys filled out by themselves and the child's kindergarten teacher which confirm your suspicions.

The most appropriate initial treatment is

- A) behavioral therapy
  - B)  $\alpha_2$ -receptor agonists such as guanfacine (Intuniv, Tenex)
  - C) psychostimulants such as methylphenidate (Ritalin)
  - D) atomoxetine (Strattera)
192. Which one of the following is most characteristic of hoarding disorder?
- A) Collecting eccentric or bizarre items
  - B) Collecting only seemingly worthless items
  - C) Deriving pleasure from collected items
  - D) Anxiety and emotional distress if collected items are disposed of
193. A 24-year-old female presents with a painless ulcer on her labia, which has been present for a week. You suspect primary syphilis, but a rapid plasma reagin (RPR) test is negative.

Which one of the following is the best strategy for confirming or ruling out syphilis in this situation?

- A) A spinal fluid analysis
  - B) A serum fluorescent treponemal antibody absorption (FTA-ABS) test now
  - C) A Treponema pallidum particle agglutination (TPPA) test now
  - D) A Venereal Disease Research Laboratory (VDRL) test now
  - E) Repeating the RPR test in 2 weeks
194. A 53-year-old female with a past medical history of hypertension and high cholesterol presents to discuss options for tobacco cessation. She has a 30-pack-year history of smoking and currently smokes between 1 and 1½ packs per day. She tried varenicline (Chantix) but had nightmares while she was using it and does not want to try it again. Many of her family members have seizure disorders and she is therefore hesitant to try bupropion (Wellbutrin). She has used nicotine patches with minimal success.

Which one of the following pharmacotherapies would be most likely to help in her effort to stop smoking?

- A) Fluoxetine (Prozac)
- B) Naltrexone (ReVia)
- C) Nortriptyline (Pamelor)
- D) Selegiline (Eldepryl)
- E) St. John's wort

195. The specificity of a screening test is best described as the proportion of persons
- A) with the condition who test positive
  - B) with the condition who test negative
  - C) with the condition who test positive, compared to the total number screened
  - D) without the condition who test positive
  - E) without the condition who test negative

196. An 18-month-old previously healthy infant is admitted to the hospital with bronchiolitis. Pulse oximetry on admission is 92% on room air.

Which one of the following should be included in the management of this patient?

- A) Tracheal suction to clear the lower airways
  - B) Nasal suction to clear the upper airway
  - C) Chest physiotherapy
  - D) Corticosteroids
  - E) Azithromycin (Zithromax)
197. Which one of the following is associated with bisphosphonate use for the treatment of osteoporosis?
- A) Hypercalcemia
  - B) Hyperphosphatemia
  - C) Vitamin D deficiency
  - D) Atypical femoral shaft fractures
  - E) Renal failure

198. A 20-year-old male college student comes to the emergency department in January acutely short of breath and looking very ill, with tachypnea, tachycardia, nausea, and a headache. Pulse oximetry shows an oxygen saturation of 100% on room air, and arterial blood gas measurement shows a PaO<sub>2</sub> of 95 mm Hg.

Of the following, which one is the most likely diagnosis?

- A) Carbon monoxide poisoning
- B) Adult respiratory distress syndrome
- C) Methemoglobinemia
- D) Lobar pneumonia
- E) Viral pneumonia

199. A 25-year-old gravida 1 para 1 presents for insertion of a levonorgestrel-releasing intrauterine device (Mirena). She is on the last day of her menses, which began 5 days ago. A urine pregnancy test in the office is negative. You insert the device without complications and she asks how long she needs to use backup contraception.

Which one of the following would be the most appropriate advice?

- A) Backup contraception is not necessary
- B) She should use backup contraception for the next 48 hours
- C) She should use backup contraception for the next 7 days
- D) She should use backup contraception for the next 14 days
- E) She should use backup contraception for the next month

200. Which one of the following classes of diabetes medications increases the risk of genitourinary infections by blocking glucose reabsorption by the kidneys?

- A) SGLT2 inhibitors such as canagliflozin (Invokana)
- B) GLP-1 receptor agonists such as exenatide (Byetta)
- C) DPP-4 inhibitors such as sitagliptin (Januvia)
- D) Meglitinides such as repaglinide (Prandin)
- E)  $\alpha$ -Glucosidase inhibitors such as acarbose (Precose)

201. Which one of the following is first-line treatment for chronic Achilles tendinopathy?

- A) NSAIDs
- B) Bracing
- C) Eccentric strengthening exercises
- D) Corticosteroid injection
- E) Therapeutic ultrasonography

202. A 69-year-old female presents with her first episode of *Clostridium difficile* colitis, which is characterized as severe. Which one of the following is the most appropriate initial therapy?

- A) Oral metronidazole (Flagyl)
- B) Intravenous metronidazole
- C) Oral vancomycin (Vancocin)
- D) Intravenous vancomycin
- E) Rifaximin (Xifaxan)

203. Which one of the following is the most common cause of sudden cardiac death in young athletes?

- A) Coronary artery abnormalities
- B) Myocarditis
- C) Hypertrophic cardiomyopathy
- D) Brugada syndrome
- E) Idiopathic left ventricular hypertrophy

204. A 44-year-old male is being evaluated for a 3-month history of cough. His chest radiograph is shown below.

Which one of the following abnormalities is seen on the radiograph?

- A) Bronchiectasis
- B) A pulmonary cavitory lesion
- C) A hiatal hernia
- D) A thoracic aortic aneurysm
- E) Pericardial effusion

205. A 15-year-old male presents to the emergency department at 10 p.m. with a 2-hour history of severe, acute scrotal pain associated with vomiting. On examination the right testicle is swollen. Ultrasonography is inconclusive.

Which one of the following would be most appropriate at this point?

- A) Repeat ultrasonography in the morning
- B) Antibiotics
- C) Corticosteroids
- D) Scrotal support
- E) Immediate surgical consultation

206. A 66-year-old female sees you for the first time. She has a history of iron deficiency anemia and chronic diarrhea associated with a diagnosis of celiac disease.

This history increases her risk for which one of the following?

- A) Diverticulitis
- B) Ulcerative colitis
- C) Crohn's disease
- D) Colon cancer
- E) Osteoporosis

207. A 44-year-old female is brought to your office by her mother. The patient was in a severe car accident 2 weeks ago. Her husband was killed instantly and she was extracted by emergency responders almost an hour later. She received a full examination at a local emergency department and was discharged home with only minor contusions and abrasions and no evidence of a closed head injury.

The patient has been panicked and unable to sleep. She has recurrent flashbacks of the event and dreams repeatedly about her husband's death. She says that sometimes, even while awake, she can almost sense her husband's lifeless body near her. She has refused to get into a car since the accident, which is the reason she has not sought care sooner. She has not been able to focus on daily tasks but has been able to eat and drink adequate amounts.

Which one of the following diagnoses best describes her condition?

- A) Acute stress disorder
  - B) Major depressive disorder
  - C) Obsessive-compulsive disorder
  - D) Panic disorder
  - E) Generalized anxiety disorder
208. You are covering the inpatient service and following up on a 67-year-old female admitted 3 days ago for severe pancreatitis. CT on admission showed edema and mild inflammation. Currently the patient is receiving intravenous fluids, daily laboratory evaluations, and pain medications. She is NPO and afebrile, with a blood pressure of 130/78 mm Hg and a pulse rate of 88 beats/min.

Which one of the following therapies should be initiated to lower complication rates and shorten the patient's hospital stay?

- A) Enteral nutrition
  - B) Parenteral nutrition
  - C) Surgical debridement
  - D) Prophylactic antibiotics
209. A 30-year-old female complains of dysmenorrhea, pelvic pain, and dyspareunia. Which one of the following would be appropriate to detect endometriosis?
- A) A CA-125 assay
  - B) Transvaginal ultrasonography
  - C) CT of the pelvis
  - D) MRI of the pelvis
  - E) Colonoscopy

210. The CDC has designated several diseases as neglected parasitic infections in the United States. Which one of these, if untreated, has potential consequences that include cardiomyopathy, heart failure, and fatal cardiac arrhythmias?
- A) Trichomoniasis
  - B) American trypanosomiasis (Chagas disease)
  - C) Toxoplasmosis
  - D) Cysticercosis
  - E) Toxocariasis
211. A 30-year-old female stepped off a curb earlier today and twisted her left ankle. She was able to bear weight immediately following the injury and tried to continue her normal routine, but the pain in her ankle and foot increased over the next few hours.
- She comes to your office and your examination reveals swelling of the ankle and bruising of the lateral foot. Tenderness to palpation is present over the distal aspect of the fibula and lateral malleolus and to a lesser degree over the proximal fifth metatarsal. No bony tenderness is present along the medial aspect of the ankle or foot.
- According to the Ottawa Ankle Rules, which one of the following would be most appropriate at this point?
- A) Radiographs of the ankle and foot
  - B) Radiographs of the foot only
  - C) Radiographs of the ankle only
  - D) No radiographs
212. A U.S. Preventive Services Task Force “D” recommendation indicates
- A) high certainty that the net benefit is substantial
  - B) high certainty that the net benefit is moderate
  - C) moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits
  - D) that the decision to provide the service should be based on professional judgment and patient preferences
  - E) that current evidence is insufficient to assess the balance of benefits and harms of the service
213. According to the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5), the severity of anorexia nervosa is based on which one of the following?
- A) Refusal to eat
  - B) The frequency of episodes of binge eating or purging behavior
  - C) Body mass index (BMI)
  - D) The presence or absence of amenorrhea
  - E) Orthostatic changes in pulse or blood pressure

214. A 29-year-old previously healthy male presents with a 1-hour history of the sudden onset of progressively worsening shortness of breath. On examination he has a blood pressure of 126/96 mm Hg, a heart rate of 110 beats/min, an oxygen saturation of 90%, and a respiratory rate of 24/min. A chest radiograph is shown below.

Which one of the following is the recommended treatment?

- A) Observation
  - B) The Valsalva maneuver
  - C) Needle aspiration
  - D) Intravenous heparin
  - E) Intravenous methylprednisolone sodium succinate (Solu-Medrol)
215. Which one of the following comorbid conditions increases the risk that latent tuberculosis infection will progress to active disease?

- A) Hypertension
- B) Lung cancer
- C) Obesity
- D) Coronary artery disease
- E) Hyperlipidemia

216. Which one of the following immunizations is indicated for all pregnant women at any stage of pregnancy?

- A) MMR
- B) Varicella
- C) Influenza
- D) HPV

217. A 24-year-old gravida 2 para 1 at 9 weeks gestation sees you for a routine prenatal check. She complains of significant nausea, and recommended dietary modifications have not helped. She drives a school bus so she would like to avoid sedating medications. She appears well-hydrated and her examination is otherwise normal.

Which one of the following would be best for relieving this patient's nausea?

- A) Auricular acupressure
- B) A scopolamine patch (Transderm Scop)
- C) Vitamin B<sub>6</sub> (pyridoxine)
- D) Methylprednisolone (Medrol)

218. A local dentist contacts you for a prescription for the appropriate antibiotic dosage for one of your patients who has an appointment for dental cleaning to eliminate a significant plaque buildup. The patient is a 55-year-old male who has controlled hypertension and mitral valve prolapse with mitral regurgitation. He is allergic to sulfonamides.

Which one of the following would be the most appropriate prophylaxis for this patient?

- A) Amoxicillin, 2 g orally 1 hour prior to the procedure
  - B) Amoxicillin, 3 g orally 1 hour prior to the procedure and 1.5 g orally 6 hours after the procedure
  - C) Ceftriaxone (Rocephin), 1 g intramuscularly 1 hour prior to the procedure
  - D) Clindamycin (Cleocin), 600 mg orally 1 hour prior to the procedure
  - E) No antibiotic prophylaxis
219. A 40-year-old female sees you for a health maintenance visit. She has no complaints and other than being overweight she has an unremarkable examination. Laboratory results are also unremarkable except for her lipid profile. She has a total cholesterol level of 251 mg/dL, an HDL-cholesterol level of 31 mg/dL, and a triglyceride level of 1250 mg/dL. The LDL-cholesterol level could not be calculated and measured 145 mg/dL.

In addition to lifestyle changes, this patient would most likely benefit from

- A) niacin
- B) omega-3 fatty acid supplementation
- C) atorvastatin (Lipitor)
- D) ezetimibe (Zetia)
- E) fenofibrate (Tricor)



220. A 57-year-old female with a past medical history significant for well-controlled type 2 diabetes mellitus, hypertension, and hyperthyroidism presents to your office with a chief complaint of a sore throat and a fever to 101.5°F at home. She has had chills and night sweats but has not had a cough, chest pain, or abdominal pain.

Physical Findings

General.....	ill appearing
HEENT.....	diffuse tender anterior cervical adenopathy; thyroid nontender; oropharynx erythematous with some purulence on her tonsils
Cardiovascular.....	tachycardia without murmur
Lungs.....	clear to auscultation bilaterally
Skin.....	mild jaundice

Laboratory Findings

Rapid strep test.....	negative
Total WBC count.....	3000/mm <sup>3</sup> (N 4500–11,000) and absolute neutrophil count 0
Total bilirubin.....	5 mg/dL (N 0–1.0)
Alkaline phosphatase.....	151 U/L (N 38–126)

Which one of the following medications is most likely to cause these laboratory abnormalities?

- A) Amlodipine (Norvasc)
  - B) Aspirin
  - C) Metformin (Glucophage)
  - D) Methimazole (Tapazole)
221. A 31-year-old gravida 1 para 0 presents for a routine visit at 32 weeks gestation. She has gestational diabetes mellitus (GDM) and has been following the dietary guidelines from her dietitian. However, her blood glucose is still elevated and you discuss starting medications for management of her GDM. She is adamant about not starting insulin but is willing to consider taking metformin (Glucophage). Before making a decision she would like to know the specific benefits to her and her baby.

You would tell her that one benefit of treatment of GDM is a decreased risk for

- A) maternal type 2 diabetes mellitus after delivery
- B) maternal preeclampsia
- C) perinatal death
- D) a small-for-gestational-age infant

222. A 34-year-old white female sees you for a routine follow-up visit. She takes haloperidol, 2 mg after each meal, for schizophrenia, and you notice that she seems unable to sit still and is extremely anxious.

The most likely cause of her restlessness is

- A) drug-induced parkinsonism
  - B) akathisia
  - C) tardive dyskinesia
  - D) hysteria
  - E) dystonia
223. A 45-year-old male is seen for a well-demarcated, nonpruritic rash in the right axilla. It is fine-scaled with a cigarette-paper appearance. The rash has a coral-red fluorescence under a Wood's light.

Which one of the following is the most likely diagnosis?

- A) Candidiasis
  - B) Tinea cruris
  - C) Erythrasma
  - D) Inverse psoriasis
224. A 28-year-old female just delivered a male infant over an intact perineum. She has had polyhydramnios during this pregnancy, but her prenatal course has otherwise been normal. Her only significant chronic medical problem is asthma, treated with a long-acting  $\beta$ -agonist/corticosteroid combination inhaler. Vital signs were stable throughout her labor. After delivery of the placenta, bleeding becomes brisk and you note a soft, boggy, uterus.

Which one of the following medications is contraindicated in this patient?

- A) Carboprost (Hemabate)
- B) Methylergonovine
- C) Misoprostol (Cytotec)
- D) Oxytocin (Pitocin)

225. A 52-year-old male presents with a swollen and tender area anterior to the left ear and extending to below the left angle of the mandible. One week ago he had a Nissen fundoplication for intractable GERD. This was complicated by difficulty swallowing and drinking. On examination his tympanic temperature is 37.7°C (99.9°F), his blood pressure is 110/70 mm Hg, and his pulse rate is 95 beats/min and regular. His left parotid gland is diffusely enlarged and tender. Purulent material is noted coming from the left parotid duct orifice.

Which one of the following would be most appropriate at this point?

- A) Amoxicillin/clavulanate (Augmentin)
  - B) Penicillin
  - C) CT of the parotid gland
  - D) Incision and drainage of the parotid gland
  - E) Excision of the parotid gland
226. A 3-week-old infant is brought to your office with a fever. He has a rectal temperature of 38.3°C (101.0°F), but does not appear toxic. The remainder of the examination is within normal limits.

Which one of the following would be the most appropriate management for this patient?

- A) Admit to the hospital and obtain urine, blood, and CSF cultures, then start intravenous antibiotics
  - B) Admit to the hospital and treat for herpes simplex virus infection
  - C) Follow up in the office in 24 hours and admit to the hospital if not improved
  - D) Order a CBC and a urinalysis with culture, and send the patient home if the results are normal
227. A 70-year-old female presents to your office as a new patient. She is healthy and has no complaints. She walks for exercise 30–45 minutes daily and takes no prescription medications. Her blood pressure is 125/75 mm Hg, heart rate 72 beats/min, and respiratory rate 14/min.

On examination she has a systolic crescendo-decrescendo murmur heard loudest at the right upper sternal border. An EKG in the office is within normal limits. Echocardiography shows mild aortic stenosis based on peak aortic jet velocity, aortic valve area, and mean pressure gradient. Her ejection fraction is 55%. At a follow-up visit she states that she continues to be symptom free.

Which one of the following should be the next step in the evaluation and management of her aortic stenosis?

- A) Exercise treadmill testing
- B) Right heart catheterization
- C) Repeat echocardiography in 3 years
- D) Cardiothoracic surgery consultation
- E) Initiation of statin therapy

228. A 79-year-old female had a total knee replacement yesterday. She has mild dementia as a result of a stroke 10 years ago, but her dementia has been stable since then. Last night she became confused and agitated, striking out at nurses, and could not be consoled.

Which one of the following would be most appropriate at this time?

- A) Soft restraints
- B) CT of the head
- C) Adequate pain control
- D) A sedating SSRI such as paroxetine (Paxil)
- E) Lorazepam (Ativan) intravenously as needed

229. A 58-year-old male sees you for a physical examination so he can receive a commercial driver's license. On examination you note a 2-cm hard, nodular protuberance on his hard palate, shown below. He believes that this has been there for some time, but says it seems to be enlarging.

The most likely diagnosis is

- A) osteoid osteoma
- B) torus palatinus
- C) mucocele
- D) osteosarcoma
- E) calcinosis cutis

230. Which one of the following is the best diagnostic test for vitamin D deficiency?

- A) Ionized calcium
- B) Serum phosphorus
- C) 24-hour urine for calcium
- D) 1,25-hydroxyvitamin D
- E) 25-hydroxyvitamin D

231. A 31-year-old male has experienced multiple outbreaks of the rash shown below. He was initially told that the rash was due to an allergy to an antibiotic prescribed for a suspected dental abscess, but avoiding all medications has not prevented the recurrences.

Which one of the following oral medications has been shown to reduce the severity, duration, and recurrences of this type of rash?

- A) Acyclovir
- B) Cetirizine (Zyrtec)
- C) Prednisone
- D) Ranitidine (Zantac)
- E) Terbinafine (Lamisil)

232. Which one of the following is the only medication that has consistent evidence for decreasing depressive symptoms in children and adolescents?

- A) Fluoxetine (Prozac)
- B) Venlafaxine (Effexor XR)
- C) Nortriptyline (Pamelor)
- D) Aripiprazole (Abilify)
- E) Paroxetine (Paxil)

233. Which one of the following, especially in homeless people, is a vector for *Bartonella quintana*, which causes trench fever, an influenza-like syndrome with relapsing fever?

- A) Fleas
- B) Maggots
- C) Bedbugs
- D) Scabies
- E) Lice

234. A 72-year-old previously healthy female comes in for evaluation of recent headaches. She describes the pain as generalized all over her head and persisting over the past several months. She reports feeling more achy and fatigued in the past several weeks, with a decreased appetite and unintentional weight loss of 4 lb in the past 2 months. She denies any other symptoms including sinus congestion, nausea, vomiting, numbness, tingling, weakness, or vision changes. Acetaminophen has been minimally helpful for the pain.

On examination you note a temperature of 37.9°C (100.2°F), normal cranial nerves, a normal eye examination, and no tenderness to palpation of the head. She is mildly tender to palpation of the shoulders and upper arms. Laboratory testing reveals an erythrocyte sedimentation rate of 88 mm/hr (N 1–25).

Which one of the following is necessary to confirm the most likely diagnosis?

- A) EEG
- B) CT of the head
- C) MRI of the head
- D) A temporal artery biopsy
- E) A lumbar puncture

235. A 3-year-old male is brought to the urgent-care clinic on a Monday morning by his mother with a 1-day history of complaining of ear pain. The child's mother says she has not noticed any fever during this time. He is up to date on all immunizations and has no previous history of ear infections or history of recent illness. The history is negative for medication allergies.

On examination the child has a temperature of 38.2°C (100.8°F) and seems to be uncomfortable. When you examine his ears you note moderate bulging of the tympanic membrane in both ears. All other findings are normal.

According to the guidelines published by the American Academy of Pediatrics, which one of the following would be the most appropriate initial management?

- A) Amoxicillin, 40–50 mg/kg, for 10 days
  - B) Amoxicillin, 80–90 mg/kg, for 10 days
  - C) Amoxicillin/clavulanate (Augmentin), 90 mg/kg/day of amoxicillin and 6.4 mg/kg/day of clavulanate, divided into two doses, for 7 days
  - D) Cefdinir, 14 mg/kg/day for 10 days
  - E) Ciprofloxacin (Cipro), 10–20 mg/kg for 7 days
236. A 20-year-old male with a history of exercise-induced bronchoconstriction presents to your office with a complaint of cough and decreasing performance when he runs. He is training for a marathon and is currently running 30 miles/week, but has noted that his times have been worsening and that he is using his albuterol inhaler (Proventil, Ventolin) as needed for symptom relief 5 days a week.

Which one of the following is the best regimen for treatment of this condition?

- A) Inhaled albuterol before he runs
  - B) A daily low-dose inhaled corticosteroid
  - C) A daily inhaled long-acting  $\beta_2$ -agonist
  - D) A daily low-dose oral corticosteroid
  - E) Immunotherapy
237. A 44-year-old obese female complains of intermittent right upper quadrant pain that is worse after fatty meals. Which one of the following is the preferred initial imaging modality for evaluating her complaint and confirming the diagnosis?
- A) A plain radiograph
  - B) Ultrasonography
  - C) Cholescintigraphy
  - D) Contrast-enhanced CT
  - E) Contrast-enhanced MRI

238. A 52-year-old healthy male presents with a 2½-week history of diarrhea, consisting of 4–6 watery stools daily. He is afebrile and his examination is normal. You recommend symptomatic care. Two days later the laboratory notifies you that Salmonella is growing in his stool culture. You call the patient and he remains free of fever but with ongoing diarrhea.

Which one of the following would you recommend?

- A) Azithromycin (Zithromax)
  - B) Ciprofloxacin (Cipro)
  - C) Clindamycin (Cleocin)
  - D) Doxycycline
  - E) No treatment
239. A mother brings her 5-year-old daughter to see you because she found a mass in the child's neck. The mass appeared over the past week and was preceded by a sore throat. Her pharyngitis is now resolved but she still has a fever, although it is not as high. The mother is most concerned because the mass developed over a short span of time, and it is warm, red, and tender. When asked, she says that her daughter has had no recent exposure to cats.

When you examine the child you note that her temperature is 38.0°C (100.4°F). You also find shotty adenopathy in both anterior cervical lymph node chains, and a 2.5-cm warm, firm, moderately tender lymph node in the right anterior cervical chain. The overlying skin is also erythematous.

Which one of the following would be the most appropriate management at this time?

- A) Ultrasonography of the neck mass
  - B) CT with intravenous contrast of the neck mass
  - C) Ultrasound-guided fine-needle aspiration of the mass
  - D) Immediate referral to a head and neck surgeon
  - E) Empiric antibiotic therapy with observation for 4 weeks
240. A 45-year-old male with diabetes mellitus returns to your office for follow-up. He is on metformin (Glucophage), 1000 mg/day, as well as atorvastatin (Lipitor), 40 mg daily for hyperlipidemia. There is no diagnosis of hypertension, and his blood pressure at today's visit is 120/70 mm Hg. Laboratory results include a hemoglobin A<sub>1c</sub> of 6.4% and an LDL-cholesterol level of 105 mg/dL. His urine albumin/creatinine ratio is in the microalbuminuric range for the first time.

Which one of the following would be most appropriate at this point?

- A) Renal ultrasonography
- B) A repeat urine albumin/creatinine ratio
- C) 24-hour urine for microalbumin
- D) Increasing the atorvastatin dosage
- E) Stopping metformin