

# American Board of Family Medicine



## IN-TRAINING EXAMINATION

1. A 36-year-old female presents for evaluation of elevated blood pressure. She is asymptomatic and does not take any medications. On examination her blood pressure is 160/96 mm Hg and her BMI is 26 kg/m<sup>2</sup>. Fasting laboratory studies include the following:

Sodium . . . . .	142 mEq/L (N 136–145)
Potassium . . . . .	3.0 mEq/L (N 3.5–5.1)
Creatinine . . . . .	0.76 mg/dL (N 0.6–1.1)
Glucose . . . . .	97 mg/dL

Which one of the following additional laboratory evaluations should be performed to assess her blood pressure?

- A) A 24-hour urine collection for 5-hydroxyindoleacetic acid (5-HIAA)
  - B) A serum aldosterone/renin ratio
  - C) A serum cortisol level
  - D) A serum cystatin C level
2. A 26-year-old male diagnosed with coccidioidomycosis (valley fever) develops a rash on the extensor surfaces of his lower legs consisting of painful, subcutaneous, nonulcerated, erythematous nodules. This rash is consistent with which one of the following?
- A) Erythema ab igne
  - B) Erythema infectiosum
  - C) Erythema migrans
  - D) Erythema multiforme
  - E) Erythema nodosum
3. A 50-year-old male presents with chronic abdominal pain. A workup leads you to suspect peptic ulcer disease, and you refer him for endoscopy, which shows a small duodenal ulcer. The endoscopist also notes some small esophageal varices without red wale signs.

Further evaluation confirms that the patient has compensated cirrhosis in the setting of alcohol use disorder. He readily accepts this diagnosis and enters an Alcoholics Anonymous program. His ulcer symptoms resolve with antibiotic therapy for *Helicobacter pylori*. He says he has abstained from alcohol for 6 weeks, and he would like to further reduce his risks from cirrhosis.

The most appropriate next step in the management of his esophageal varices would be

- A) octreotide (Sandostatin)
- B) omeprazole (Prilosec)
- C) propranolol
- D) endoscopic variceal ligation
- E) repeat endoscopy in 1–2 years

4. An 83-year-old female with a history of Alzheimer's dementia presents with concerns about worsening agitation in the evenings. She is accompanied by her daughter who has power of attorney. The patient is dependent on her daughter for all instrumental activities of daily living and requires assistance with certain core activities of daily living such as dressing and bathing. She has no other chronic medical problems. Her daughter states that starting around 4:00 p.m., the patient becomes increasingly disoriented and agitated. There has been no physical aggression, but the daughter asks for medical intervention to "help calm her down."

Which one of the following should you recommend initiating first for the management of this patient's symptoms?

- A) Sensory stimulation including touch and music
  - B) Cognitive training
  - C) Haloperidol
  - D) Quetiapine (Seroquel)
  - E) Valproic acid
5. A 62-year-old female underwent a total knee replacement 3 months ago. She has no other surgical history and is in good health. Her dental office calls you to discuss antibiotic prophylaxis prior to a dental cleaning.

Based on current guidelines, which one of the following would be most appropriate regarding antibiotic prophylaxis prior to routine dental procedures in this patient?

- A) No prophylaxis
  - B) Prophylaxis for 6 months post knee replacement
  - C) Prophylaxis for 1 year post knee replacement
  - D) Prophylaxis for 5 years post knee replacement
  - E) Prophylaxis for the patient's lifetime
6. Which one of the following cardiovascular medications may lead to hyperthyroidism?
- A) Amiodarone
  - B) Digoxin
  - C) Flecainide
  - D) Metoprolol
  - E) Valsartan (Diovan)

7. An otherwise healthy 29-year-old gravida 2 para 1 at 28 weeks gestation presents to your office with a laceration sustained while doing yard work. After thoroughly cleaning the wound, you decide not to suture it because of the risk of infection. The patient received Tdap during her previous pregnancy 6 years ago and you confirm in her medical records that she completed her primary immunizations as a child.

Which one of the following would be most appropriate regarding tetanus prophylaxis?

- A) No tetanus prophylaxis
  - B) Tetanus immune globulin now
  - C) Td now
  - D) Tdap now
  - E) Tdap at 38 weeks gestation
8. Based on the current CDC treatment guidelines, which one of the following is recommended as first-line treatment of urethritis in a 24-year-old male who weighs 152 kg (335 lb), when nucleic acid amplification testing (NAAT) for gonorrhea is positive and *Chlamydia* testing is negative?
- A) One dose of ceftriaxone, 1 g intramuscularly
  - B) One dose of ceftriaxone, 500 mg intramuscularly, plus one dose of azithromycin (Zithromax), 1 g orally
  - C) One dose of ceftriaxone, 500 mg intramuscularly, plus doxycycline, 100 mg orally twice daily for 7 days
  - D) One dose of gentamicin, 240 mg intramuscularly, plus one dose of azithromycin, 2 g orally
9. Which one of the following statements regarding hormone therapy for transgender patients is true?
- A) Hormone therapy to facilitate development of secondary sex characteristics is generally reversible
  - B) Patients who receive hormone therapy generally report improved quality of life, higher self-esteem, and decreased anxiety
  - C) Masculinizing hormone therapy is associated with reduced muscle mass and fat redistribution
  - D) Patients receiving feminizing hormone therapy are at increased risk for erythrocytosis
10. A 42-year-old female presents with a 2-day history of a rash on her neck along her hairline (shown below). Which one of the following is the most likely diagnosis?
- A) Atopic dermatitis
  - B) Contact dermatitis
  - C) Psoriasis
  - D) Seborrheic dermatitis





**Item #10**

11. Which one of the following is the most common cause of prerenal acute kidney injury in the intensive-care setting?
- A) ACE inhibitor use
  - B) NSAID use
  - C) Membranoproliferative glomerulonephritis
  - D) Polyarteritis nodosa
  - E) Sepsis

12. A 37-year-old female presents to your clinic with a long-standing history of abnormal menstrual cycles, often occurring irregularly more than 40 days apart. She has ongoing struggles with weight gain, acne, and facial hair growth. She states that she is not currently sexually active. Her last Papanicolaou smear 2 years ago was normal. Her vital signs and a physical examination are unremarkable other than a BMI of 36 kg/m<sup>2</sup>. An office urine pregnancy test is negative. Laboratory evaluation reveals a hemoglobin A<sub>1c</sub> of 6.2%, and normal TSH, prolactin, and 17-hydroxyprogesterone levels.

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

- A) No additional evaluation
  - B) A serum C-peptide test
  - C) A dexamethasone suppression test
  - D) Ultrasonography of the pelvis
  - E) CT of the abdomen and pelvis
13. A 56-year-old male presents to your office with a new onset of nonvalvular atrial fibrillation. His CHA<sub>2</sub>DS<sub>2</sub>-VASc score is 3 based on his previous history of hypertension, diabetes mellitus, and heart failure. He has no major risk factors for bleeding.

Which one of the following would be recommended for the prevention of ischemic stroke secondary to atrial fibrillation in this patient?

- A) No antithrombotic therapy
  - B) Apixaban (Eliquis), 5 mg twice daily
  - C) Aspirin only, 81 mg daily
  - D) Aspirin only, 325 mg daily
  - E) Aspirin, 81 mg daily, plus full-dose warfarin, with a target INR of 2.0–3.0
14. Which one of the following is the most common radiologic finding in early pulmonary sarcoidosis?
- A) Bilateral hilar adenopathy
  - B) Caseating granulomas
  - C) Pleural granulomas
  - D) Peribronchiolar thickening

15. A 62-year-old male was recently diagnosed with adhesive capsulitis. Which one of the following is associated with a higher risk of developing adhesive capsulitis compared with the general population?

- A) Addison's disease
- B) Diabetes mellitus
- C) Hyperparathyroidism
- D) Hypertension
- E) Rheumatoid arthritis

16. Once hemolysis is excluded, the most common cause of unconjugated hyperbilirubinemia is

- A) alcoholic liver disease
- B) biliary tract disease
- C) fatty liver disease
- D) Gilbert syndrome
- E) Wilson disease

17. A 35-year-old female presents to your office with a feeling of vague fullness in her neck for the last month. She has noticed a gradual onset of fatigue, constipation, and cold intolerance over that time. A few weeks ago the patient took a selfie and was surprised by how puffy her face appeared in the photo.

On examination her thyroid is diffusely enlarged and nontender and feels pebbly on palpation. An HEENT examination, including an eye examination, is otherwise normal.

Which one of the following is the most likely diagnosis?

- A) Chronic autoimmune (Hashimoto) thyroiditis
- B) Graves disease
- C) Lymphadenitis
- D) Lymphoma
- E) Thyroid cancer

18. A 12-year-old female presents with a sore throat and tonsillar exudate, and a rapid antigen test is positive for streptococcal pharyngitis. She returns to your office after completing a 10-day course of penicillin this morning. She says that although she saw some initial improvement, she now has a sore throat again, accompanied by a runny nose and cough. Her mother asks if another antibiotic would be appropriate. A physical examination reveals nonexudative pharyngitis, but a rapid antigen test for group A *Streptococcus* is again positive.

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

- A) No further antibiotic therapy
- B) Oral azithromycin (Zithromax) for 5 days
- C) Oral ciprofloxacin (Cipro) for 10 days
- D) A single dose of intramuscular benzathine penicillin
- E) A single dose of intramuscular ceftriaxone

19. The American Academy of Pediatrics recommends obtaining a blood pressure reading at well child checks beginning at what age?

- A) 18 months
- B) 2 years
- C) 3 years
- D) 4 years
- E) 5 years

20. A 45-year-old male presents for follow-up of migraine headaches, which had previously responded well to occasional as-needed use of ibuprofen but have recently worsened in severity and frequency. He is interested in trying an abortive therapy.

Triptan use would be CONTRAINDICATED with a history of which one of the following in this patient?

- A) Coronary artery stent placement
- B) Depression with psychotic features
- C) Diabetes mellitus with a hemoglobin A<sub>1c</sub>  $\geq 7.5\%$
- D) Hypertension requiring two medications to achieve control
- E) Stage 4 chronic kidney disease

21. A 27-year-old male presents to establish care after relocating to the community. He was diagnosed with  $\beta$ -thalassemia major at birth and has been transfusion-dependent since early childhood. His microcytic anemia is stable with blood transfusions every 4 weeks, but his most recent DEXA scan indicates an advancement from osteopenia to osteoporosis.

In addition to bisphosphonates, calcium, and vitamin D, which one of the following medications may improve his bone density?

- A) Hydroxyurea (Hydrea)
- B) Vitamin C
- C) Zinc
- D) Deferoxamine (Desferal)
- E) Luspatercept (Reblozyl)

22. A 24-year-old female presents to your office in Maine in November because for the past few weeks she has been sleeping much more than usual and craving sweets. She says she has gained 8 lb since her symptoms started. She enjoys her job and is in a stable relationship. She feels somewhat depressed but does not have any suicidal or homicidal thoughts. She has had similar episodes in the fall and winter for the past 4 years, and her symptoms usually resolve in the spring. The symptoms are starting to affect her quality of life and she asks for your advice.

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

- A) Vitamin D supplementation
  - B) Trazodone
  - C) Light therapy
  - D) A high-protein diet
23. While reviewing laboratory studies for a patient who was recently started on antihypertensive medication, you note new hyperkalemia. Which one of the following medications is most likely to cause this finding?
- A) Amlodipine (Norvasc)
  - B) Chlorthalidone
  - C) Hydrochlorothiazide
  - D) Metoprolol
  - E) Olmesartan (Benicar)
24. An obese 40-year-old female with diabetes mellitus sees you for evaluation of painful, deep-seated nodules in both axillae. On examination you note nodules in the axillae with purulent drainage and associated scarring.

This condition is associated with which one of the following?

- A) Amyotrophic lateral sclerosis
- B) Crohn's disease
- C) Dermatitis herpetiformis
- D) Systemic lupus erythematosus
- E) Trauma

25. A 43-year-old female with lifelong asthma asks if she would be a candidate for treatment with a biologic agent such as omalizumab (Xolair). A CBC reveals mild eosinophilia, indicating type 2 inflammatory asthma.

In which one of the following patient scenarios should biologic treatment for asthma be considered?

- A) Any patient with poorly controlled, severe asthma
  - B) A patient with severe non-type 2 asthma that is poorly controlled despite adherence to optimal therapy with long-term controller medication
  - C) A patient with type 2 inflammatory asthma that is poorly controlled despite therapy with as-needed inhaled albuterol (Proventil, Ventolin) and low-dose inhaled corticosteroids
  - D) A patient with severe type 2 inflammatory asthma that is poorly controlled despite adherence to optimal therapy with long-term controller medication
26. A 35-year-old female at 36 weeks gestation presents to your office. She reports that for the past few days she has had itching of her palms and soles that has been quite bothersome. She has tried moisturizer with no improvement. A physical examination is unremarkable with no rashes, erythema, or warmth of the palm and soles. The patient otherwise feels well.

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

- A) A low-potency corticosteroid cream
  - B) Tacrolimus topical (Protopic)
  - C) Cetirizine (Zyrtec Allergy)
  - D) Bile acid levels
  - E) A BUN/creatinine ratio
27. Which one of the following interventions has the best evidence for effectiveness in the treatment of frailty syndrome in geriatric patients?
- A) Protein supplements
  - B) Vitamin D supplements
  - C) Hormonal treatment with anabolic steroids
  - D) Aerobic conditioning training
  - E) Progressive resistance training

28. A 70-year-old female presents to your office to discuss osteoporosis that was noted on a recent bone density test. Initial laboratory studies reveal an abnormal TSH level of 0.27  $\mu\text{U/mL}$  (N 0.36–3.74). Additional studies reveal the following:

Repeat TSH. . . . .	0.04 $\mu\text{U/mL}$
Free $T_3$ . . . . .	3.4 pg/mL (N 1.7–5.2)
Free $T_4$ . . . . .	1.4 ng/dL (N 0.7–1.6)

A radioactive iodine uptake scan is notable for multiple areas of increased and suppressed uptake.

Which one of the following is the most likely explanation for these findings?

- A) Exogenous thyroid hormone use
  - B) Graves disease
  - C) Painless thyroiditis
  - D) Recent excess iodine intake
  - E) Toxic multinodular goiter
29. An ill-appearing 50-year-old male presents with malaise, nausea, anorexia, and lethargy. He has a recent diagnosis of a high-grade lymphoma and is undergoing aggressive chemotherapy. His last chemotherapy session was 2 days ago. An examination is nonspecific. Initial laboratory studies reveal a creatinine level of 2.1 mg/dL (N 0.6–1.2). His baseline creatinine level is 1.0 mg/dL.

Which one of the following laboratory findings would be expected in this patient?

- A) Hypercalcemia
  - B) Hyperuricemia
  - C) Hypokalemia
  - D) Hypophosphatemia
  - E) Low LDH
30. Cardiac stress testing would be most appropriate for which one of the following patients?
- A) A 57-year-old female who is scheduled for a knee replacement and has dyspnea when walking up a few stairs
  - B) A 60-year-old male with diabetes mellitus who was admitted to the hospital for chest pain and acute stroke and has a normal EKG and troponin levels
  - C) A 66-year-old male with diabetes and hypertension without cardiac symptoms who would like to stratify his risk for heart disease
  - D) A 68-year-old female with coronary artery disease who is scheduled for a knee replacement and does not have cardiac symptoms when walking up a flight of stairs
  - E) A 79-year-old male who is scheduled for a transcatheter aortic valve replacement for severe aortic stenosis and has dyspnea when walking up a few stairs

31. An 8-year-old male is brought to your office because of acute lower abdominal pain. He does not have constipation and has never had abdominal surgery. You suspect acute appendicitis.

Which one of the following imaging modalities would be most appropriate to consider first?

- A) Plain radiography
- B) Ultrasonography
- C) CT without contrast
- D) CT with contrast
- E) MRI

32. A 33-year-old male presents to your office with a 4-week history of a runny and itchy nose, nasal congestion, watery eyes, sneezing, and cough. He reports that he always has similar symptoms this time of year. He has tried taking over-the-counter diphenhydramine (Benadryl Allergy) for the past week but finds it too sedating. He reports that his symptoms are interfering with his quality of life. On examination he has pale, boggy nasal mucosa with clear rhinorrhea. Lung auscultation is normal.

Which one of the following is the most appropriate treatment?

- A) Butterbur herbal supplement
- B) Oral amoxicillin
- C) Oral montelukast (Singulair)
- D) Intranasal fluticasone (Flonase Allergy Relief)
- E) Intramuscular methylprednisolone

33. A 45-year-old male sees you for a routine visit. His medical history includes hypertension treated with hydrochlorothiazide, amlodipine (Norvasc), and losartan (Cozaar). He also has type 2 diabetes treated with metformin and empagliflozin (Jardiance). Laboratory findings are significant for an LDL-cholesterol level of 167 mg/dL and you prescribe simvastatin (Zocor), 80 mg daily. At a follow-up visit 3 months later he tells you that he stopped taking the simvastatin after a week due to muscle pain and weakness.

Which one of the following medications in this patient's current regimen most likely contributed to his risk for developing statin-induced myopathy?

- A) Amlodipine
- B) Empagliflozin
- C) Hydrochlorothiazide
- D) Losartan
- E) Metformin



34. A 77-year-old female presents to your office as a new patient. She recently moved from New York to Florida to live with her daughter, after her partner died 2 years ago. Her past medical history is significant for hypertension, hypothyroidism, osteoarthritis, and cachexia. Her current medications, which were prescribed by her previous primary care physician, include the following:

Acetaminophen  
Hydrochlorothiazide  
Levothyroxine (Synthroid)  
Losartan (Cozaar)  
Megestrol (Megace)  
A multivitamin

Her vital signs are unremarkable except for a 7% weight loss in the past year. A recent TSH level was within the normal range.

Which one of the following medications should be discontinued?

- A) Acetaminophen
  - B) Hydrochlorothiazide
  - C) Levothyroxine
  - D) Losartan
  - E) Megestrol
35. A 12-year-old female is brought to your office for a routine well child examination. The U.S. Preventive Services Task Force recommends screening this patient for which one of the following?
- A) Anemia
  - B) Depression
  - C) Diabetes mellitus
  - D) Dyslipidemia
  - E) HIV
36. A 35-year-old female presents with very pruritic, recurrent, grouped papules, vesicles, and erosions on her knees and elbows. She does not have any known connective tissue diseases, gastrointestinal disturbances, sexually transmitted infections, or recurrent exposures. A skin biopsy is consistent with dermatitis herpetiformis.
- A positive test for which one of the following is most consistent with this diagnosis?
- A) Anti-thyroid antibodies
  - B) Herpes simplex virus antibody titers
  - C) Intrinsic factor antibodies
  - D) IgA tissue transglutaminase (tTG) antibodies
  - E) Varicella zoster virus antibody titers

37. Which one of the following regimens is recommended for the treatment of hypertension in a patient with stage 3 chronic kidney disease and proteinuria?
- A) A loop diuretic and a  $\beta$ -blocker
  - B) An ACE inhibitor and an angiotensin receptor blocker
  - C) An ACE inhibitor and a thiazide diuretic
  - D) A calcium channel blocker and a thiazide diuretic
  - E) A potassium-sparing diuretic and a thiazide diuretic
38. The most effective therapy to improve quality of life in patients with tinnitus is
- A) a benzodiazepine
  - B) an SSRI
  - C) transcutaneous electrical nerve stimulation (TENS)
  - D) acupuncture
  - E) cognitive behavioral therapy
39. A 65-year-old male is discharged following placement of a drug-eluting stent in the left anterior descending artery. Which one of the following is NOT appropriate first-line therapy in this patient?
- A) Aspirin plus clopidogrel (Plavix)
  - B) Diltiazem (Cardizem)
  - C) Metoprolol
  - D) Rosuvastatin (Crestor)
40. A recently divorced 47-year-old male comes to your office appearing disheveled, with the smell of alcohol on his breath. His Patient Health Questionnaire-9 (PHQ-9) score today is 20, and his last PHQ-9 score was 7. He has a history of depression and is currently taking citalopram (Celexa). The patient is tearful during the encounter and admits to thinking the world would be better without him in it. He does not have a weapon with him but keeps a gun in an unlocked drawer in his nightstand.
- Which one of the following would be most appropriate at this point?
- A) Avoiding direct inquiry about suicide
  - B) Calling 911
  - C) Crisis planning
  - D) Creating a suicide prevention contract
  - E) Withholding psychogenic medications

41. A 4-year-old female is brought to your office by her father for a well child check. The father reports that the child is having difficulty using her albuterol (Proventil, Ventolin) metered-dose inhaler for asthma exacerbations and he is not sure whether it is improving her symptoms. On demonstration in the office, the child is unable to time her breathing with inhaler actuation.

Which one of the following would you recommend?

- A) Montelukast (Singulair)
  - B) Albuterol via oral liquid
  - C) Albuterol metered-dose inhaler via a spacer device
  - D) Albuterol via nebulizer
  - E) Salmeterol inhaled (Serevent Diskus)
42. A 70-year-old female who is an established patient at your practice calls you late on a Saturday afternoon. Earlier in the day she misjudged the location of a bench at a neighbor's house and sat down hard on the porch floor. She felt immediate pain in her back. She went home and took naproxen, 440 mg, and sustained-release acetaminophen, 1300 mg, 3 hours ago. She still describes her pain as unbearable, rating it as 10 on a scale of 10. You agree to meet her in the emergency department, where you confirm an acute T12 vertebral compression fracture.

Of the following, the most appropriate treatment option for this patient's acute pain is a short course of

- A) prescription-strength NSAIDs
  - B) methadone
  - C) transdermal fentanyl
  - D) immediate-release oxycodone (Roxicodone)
43. Which one of the following classes of diabetes medications is most associated with hypoglycemia?
- A) Biguanides
  - B) DPP-4 inhibitors
  - C) SGLT2 inhibitors
  - D) Sulfonylureas
  - E) Thiazolidinediones
44. The front office staff reports that a patient has been difficult to deal with. Which one of the following is an effective strategy for managing a difficult patient encounter?
- A) Avoiding any mention of the patient's anger
  - B) Listening with empathy and a nonjudgmental attitude
  - C) Ignoring one's own internal emotional responses
  - D) Limiting the encounter to discussion of a single problem
  - E) Using a directive approach to the patient's care with a predetermined agenda

45. A 75-year-old male sees you for evaluation of a unilateral resting tremor of his right hand. The tremor resolves if he is touched on the hand by someone. His wife notes that he seems to drag his feet now, but he has no history of falls.

Which one of the following has been shown to delay progression of his disease?

- A) No currently available pharmacologic agents
- B) Amantadine
- C) Carbidopa/levodopa (Sinemet)
- D) Rasagiline (Azilect)
- E) Ropinirole

46. Which one of the following is necessary to make the diagnosis of a functional gastrointestinal disorder?

- A) Symptom-based clinical criteria
- B) Noninvasive testing for *Helicobacter pylori* infection
- C) Celiac serology
- D) Gastric emptying studies
- E) Esophagogastroduodenoscopy

47. A 30-year-old gravida 3 para 2 sees you for prenatal care at 13 weeks gestation. During her previous pregnancies she became hypertensive and had bilateral leg edema and proteinuria. These conditions resolved after delivery. Her only current medication is a prenatal vitamin.

In order to prevent this condition, which one of the following should be started today?

- A) No new medications
- B) Aspirin
- C) Fish oil
- D) Magnesium
- E) Vitamin C

48. A 55-year-old male comes to your clinic for follow-up of his recent diagnosis of New York Heart Association class II heart failure with an ejection fraction of 40%. His past medical history is notable only for coronary artery disease. His current medications include the following:

Aspirin, 81 mg daily  
Atorvastatin (Lipitor), 80 mg daily  
Furosemide (Lasix), 40 mg daily  
Lisinopril (Zestril), 40 mg daily  
Metoprolol succinate (Toprol-XL), 100 mg daily  
Spironolactone (Aldactone), 25 mg daily

Today he is asymptomatic. His vital signs include a temperature of 37.0°C (98.6°F), a blood pressure of 118/75 mm Hg, and a heart rate of 60 beats/min. A physical examination is unremarkable.

Which one of the following additional medications would be most appropriate to reduce his risk for worsening heart failure?

- A) Dapagliflozin (Farxiga)
- B) Digoxin
- C) Isosorbide dinitrate/hydralazine (BiDil)
- D) Ivabradine (Corlanor)
- E) Liraglutide (Victoza)

49. Montelukast (Singulair) has an FDA boxed warning related to an increased risk of

- A) delirium
- B) myocardial infarction
- C) suicidality
- D) venous thromboembolism

50. A 28-year-old female presents with a 2.5-cm pruritic, erythematous, oval macule on her left thigh. She was seen at an urgent care facility 2 days ago for a urinary tract infection (UTI) and was treated with sulfamethoxazole/trimethoprim (Bactrim). Her UTI symptoms have improved. She reports that she was called earlier this morning and told that her infection was caused by *Escherichia coli*. The patient reports a similar lesion in the same area about a year ago at the time of her last UTI.

You explain this is most likely secondary to

- A) an immunologic reaction to *E. coli*
- B) erythema multiforme
- C) nummular eczema
- D) the Shiga toxin sometimes produced by *E. coli*
- E) the sulfamethoxazole/trimethoprim used to treat the infection

51. A 72-year-old female presents with progressive hand pain and stiffness. She is a seamstress and is concerned because sewing has been more difficult over the past 6 months. She recalls that her mother's hands were misshapen, but her mother never received a diagnosis. You examine her hands, which are shown below.

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

- A) Colchicine (Colcrys)
- B) Diclofenac (Zorvolex)
- C) Hydroxychloroquine (Plaquenil)
- D) Infliximab (Remicade) injections
- E) Methotrexate (Trexall)

52. Which one of the following is an individual risk factor for committing intimate partner violence?

- A) A belief in flexible gender roles
- B) Having many friends
- C) High income
- D) Planned pregnancy
- E) Young age

53. A 39-year-old female presents to the urgent care clinic on a Saturday evening with fever, cough, diarrhea, and malaise. She is undergoing treatment for breast cancer and her last chemotherapy treatment was 2 weeks ago. On examination her temperature is 38.6°C (101.5°F), her heart rate is 120 beats/min, her blood pressure is 124/68 mm Hg, her respiratory rate is 24/min, and her oxygen saturation is 95% on room air. You order stat laboratory studies, a chest radiograph, a urinalysis, and blood cultures. A CBC reveals a WBC count of 1200/mm<sup>3</sup> (N 4800–10,800), 34% neutrophils, 4% bands, and 48% lymphocytes. A COVID-19 rapid antigen test is negative.

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

- A) No treatment until results are available for the remainder of the laboratory studies, chest radiograph, and urinalysis
- B) Oral acetaminophen, 1000 mg
- C) Empiric oral high-dose amoxicillin/clavulanate (Augmentin)
- D) Empiric intravenous piperacillin/tazobactam (Zosyn)



**Item #51**

54. A 15-year-old female presents for a well adolescent examination and reports painful, heavy periods. Menarche occurred at age 11, and by age 12 her menses were regular but quite painful. She misses at least 1 day of school each month due to the discomfort. She has tried acetaminophen/caffeine/pyrilamine (Midol Complete) and ibuprofen, 200 mg, without much relief. She is not sexually active. Her past medical history and surgical history are unremarkable. A urine pregnancy test is negative.

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

- A) Empiric treatment with maximum-dose naproxen
  - B) Screening for sexually transmitted infections
  - C) A pelvic examination
  - D) Pelvic ultrasonography
  - E) Referral to a gynecologist
55. A patient is brought to the emergency department by his wife due to acute anxiety, jittery movements, confusion, vomiting, and fever, all of which started without warning a few hours ago. The wife reports that he has had a cough and upper respiratory symptoms recently, and he took an over-the-counter medication with dextromethorphan this morning. His usual medications include fluoxetine (Prozac), 30 mg daily for depression, and methylphenidate (Metadate CD), 50 mg daily for attention-deficit/hyperactivity disorder. She checked his medication bottles and does not think he has taken extra doses.

His vital signs include a blood pressure of 160/95 mm Hg, a heart rate of 116 beats/min, a respiratory rate of 25/min, a temperature of 38.5°C (101.3°F), and an oxygen saturation of 98% on room air. A physical examination is remarkable for restlessness, anxiety, diaphoresis, and inducible clonus most prominent in the lower extremities. His lungs are clear and his neck is supple. He is alert and oriented to self only.

Laboratory studies reveal a WBC count of 14,000/mm<sup>3</sup> (N 4500–11,000) and a serum bicarbonate level of 20 mEq/L (N 23–30), and a urine drug screen is positive for amphetamines only. A COVID-19 polymerase chain reaction test is negative.

The most likely cause of his symptoms is

- A) an overdose of methylphenidate
  - B) an infectious process
  - C) malignant hyperthermia
  - D) serotonin syndrome
56. Which one of the following medications for the treatment of type 2 diabetes has been associated with ketoacidosis?
- A) Dapagliflozin (Farxiga)
  - B) Liraglutide (Victoza)
  - C) Metformin
  - D) Pioglitazone (Actos)
  - E) Sitagliptin (Januvia)



57. A 47-year-old female sees you for a health maintenance visit. During the course of your discussion she discloses a long history of significant alcohol intake that has impaired her work and personal life, meeting criteria for moderate to severe alcohol use disorder. She began working with a therapist to address this issue several months ago and reports that her last drink was 26 days ago. Her health is otherwise good and laboratory studies reveal normal liver and renal function.

Which one of the following medications would help reduce the risk of relapse?

- A) Buspirone
- B) Duloxetine (Cymbalta)
- C) Fluoxetine (Prozac)
- D) Naltrexone
- E) Quetiapine (Seroquel)

58. A 53-year-old female sees you for a routine health maintenance visit. The patient reports that she is newly menopausal and asks you about osteoporosis screening. Her past medical history includes morbid obesity, and her family history includes type 2 diabetes in her mother and hypertension in her father. The patient is a nonsmoker and rarely consumes alcohol. Her only medication is loratadine (Claritin), 10 mg daily.

Which one of the following would you recommend regarding osteoporosis screening for this patient?

- A) No screening now or in the future, and calcium supplementation only
- B) No screening now or in the future, and calcium and vitamin D supplementation
- C) Radiography of her hip and lumbar spine now
- D) A DEXA scan now
- E) A DEXA scan at age 65

59. A 48-year-old male with schizophrenia presents for a new patient visit after recently relocating to your area. He has been stable on clozapine (Clozaril) for the past 15 years and asks you to refill his prescription. He has been told the earliest available appointment with a local psychiatric provider is in 3 months.

Under the Clozapine Risk Evaluation and Mitigation Strategy (REMS) program, which one of the following is required to prescribe clozapine to this patient?

- A) A signed patient consent form
- B) Serum clozapine levels
- C) Creatinine levels
- D) Neutrophil counts
- E) Specialty training in psychiatry

60. Chronic cough in an adult is defined as a cough that has been present for longer than 8 weeks. Which one of the following is the most common cause of chronic cough in an adult?

- A) Asthma
- B) Laryngopharyngeal reflux disease
- C) Nonasthmatic eosinophilic bronchitis
- D) Protracted bacterial bronchitis
- E) Upper airway cough syndrome

61. A 70-year-old female tells you she is confused about recommendations regarding aspirin. She has heard through friends and news articles that new guidelines seem to be discouraging people from taking a daily aspirin due to the risk of bleeding, especially severe gastrointestinal bleeding. She has no history of bleeding but has decided to stop taking her aspirin, 81 mg daily. Her blood pressure is well controlled on her current antihypertensive regimen, and she also takes a daily statin. Her medical history includes a stroke a few years ago.

Which one of the following would you recommend?

- A) No antithrombotic therapy
- B) Resuming aspirin, 81 mg daily
- C) Starting aspirin, 500 mg daily
- D) Starting apixaban (Eliquis), 2.5 mg daily
- E) Starting warfarin, with a target INR >3.0

62. Patients with autosomal dominant polycystic kidney disease are most likely to develop extrarenal cysts in which one of the following locations?

- A) Liver
- B) Pancreas
- C) Spleen
- D) Central nervous system
- E) Reproductive system

63. A 32-year-old female comes to your office because of chronic diarrhea, abdominal cramping, and bloating. She has had these symptoms for many years but has never discussed them in depth with a physician. A thorough history and physical examination are most consistent with irritable bowel syndrome (IBS). You order IgA tissue transglutaminase (tTG) antibody and fecal calprotectin testing to rule out other conditions and both are negative. She has expressed an interest in nonpharmacologic measures as initial management of her IBS.

Which one of the following should you recommend initially, given that it has the best evidence of benefit for her condition?

- A) A gluten-free diet
- B) A low-FODMAP diet
- C) Soluble fiber
- D) Prebiotics
- E) Probiotics

64. Your patient lives in an unincorporated community located about 30 miles from the nearest town and does not have access to municipal water. She reports her family gets their water from a well and that all the members of her family have had intermittent diarrheal illnesses for the past few months. Currently everyone is feeling better. There is no relevant travel history.

Which one of the following would you advise?

- A) Discontinuing use of the well water for any purpose until it is tested
  - B) Routinely testing the well water every 2 years
  - C) Pouring a gallon of bleach into the well
  - D) Drinking, cooking, and bathing with boiled or bottled water until the well is uncontaminated
  - E) A stool culture and testing for ova and parasites for all family members
65. A 34-year-old gravida 2 para 2 presents for a postpartum examination 6 weeks after an uncomplicated vaginal delivery. Both the mother and infant are doing well. Her only complication during the pregnancy was an abnormal 3-hour glucose tolerance test. She managed her blood glucose with a combination of diet and exercise and delivered at 39 weeks gestation. The patient's vital signs and a physical examination are normal today.

Which one of the following should you recommend for this patient based on her history of gestational diabetes?

- A) No glucose testing today, and initiation of metformin to prevent diabetes
  - B) No glucose testing today, and annual screening with a fasting plasma glucose level starting 1 year after delivery
  - C) No further glucose testing unless she becomes pregnant again
  - D) A 2-hour plasma glucose level using a 75-g oral glucose load
66. A 64-year-old male is hospitalized with anorexia, intractable abdominal pain, and dehydration due to locally advanced pancreatic cancer. He is started on intravenous fluids and morphine, along with a prophylactic dose of subcutaneous heparin. Shortly after admission he develops right-sided chest pain and shortness of breath. His vital signs are normal, except for a respiratory rate of 24/min. An abdominal examination reveals tenderness in the epigastric area. An examination of the heart and lungs is normal. There is no calf tenderness or leg edema. An EKG shows new right bundle branch block.

Which one of the following tests should you order next?

- A) A D-dimer level
- B) A troponin level
- C) Doppler ultrasonography of the lower extremities
- D) A ventilation-perfusion (V/Q) scan
- E) Computed tomography pulmonary angiography (CTPA)

67. Which one of the following disorders is caused by an underlying mechanism of osteochondrosis rather than apophysitis?

- A) Legg-Calvé-Perthes disease
- B) Osgood-Schlatter disease
- C) Sever's disease
- D) Sinding-Larsen-Johansson syndrome

68. A 40-year-old female presents with several pruritic, thickened, scaly areas on her lower back, knees, and elbows. She says that when she tries to remove the scales they often bleed.

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

- A) Clobetasol propionate 0.05% lotion (Clobex)
- B) Selenium sulfide 2.5% lotion
- C) Permethrin cream (Nix)
- D) Terbinafine cream 1%
- E) Loratadine (Claritin), 10 mg daily

69. A 55-year-old female comes to your clinic for follow-up of her poorly controlled hypertension. Her medical history also includes type 2 diabetes and worsening obstructive sleep apnea (OSA). Her BMI is 52 kg/m<sup>2</sup>. Her heart rate is 62 beats/min and regular. Her blood pressure in the clinic today is 160/96 mm Hg, and she reports similar average readings at home. She is asymptomatic and says she has been following lifestyle modifications including a low-salt diet. She also reports that she has been adherent with her current antihypertensive regimen, which includes the following:

Amlodipine (Norvasc), 10 mg daily  
Carvedilol (Coreg), 25 mg twice daily  
Chlorthalidone, 25 mg daily  
Losartan (Cozaar), 100 mg daily

Which one of the following antihypertensive medication changes would benefit both her blood pressure and her OSA?

- A) Switching chlorthalidone to hydrochlorothiazide, 25 mg daily
- B) Switching carvedilol to an equivalent dosage of metoprolol tartrate (Lopressor)
- C) Switching losartan to an equivalent dosage of an ACE inhibitor
- D) Increasing the current dosage of losartan to 100 mg twice daily
- E) Adding a low dosage of spironolactone (Aldactone) to her current regimen

70. A 17-year-old cross country runner sees you to discuss the results of pulmonary function tests to evaluate his episodic shortness of breath and chest tightness. He had previously been diagnosed with exercise-induced asthma and prescribed albuterol (Proventil, Ventolin), which provided minimal relief. You tell him that the pulmonary function tests revealed normal expiratory findings including normal FEV<sub>1</sub> and FVC and a flattened inspiratory flow loop.

The test most likely to confirm a diagnosis for this patient's shortness of breath is

- A) a sleep study
  - B) chest radiography
  - C) chest CT
  - D) esophagogastroduodenoscopy
  - E) nasolaryngoscopy
71. You see a 45-year-old male with fatigue, arthralgias, and mildly elevated liver function tests. You are considering hereditary hemochromatosis as a possible diagnosis.

Which one of the following should you order first?

- A) A serum ferritin level and transferrin saturation
  - B) Genetic testing for HFE mutations
  - C) T2-weighted MRI for hepatic iron concentration
  - D) A liver biopsy
72. A 32-year-old female presents to your office 3 months after surviving a serious rollover car accident. Since the accident she has had flashbacks, nightmares, and difficulty sleeping. She has been unable to resume work or care for her young children due to difficulty concentrating and feeling like she is in a daze. She has not been able to drive, and riding in a vehicle triggers anxiety and fear. She tells you that she cannot stop feeling responsible for the accident. She does not take any medications and has no history of substance use. After performing a structured diagnostic interview and review of *DSM-5* criteria to confirm your diagnosis, you discuss treatment options. She is not willing to consider psychotherapy at this time.

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

- A) Clonazepam (Klonopin)
- B) Divalproex (Depakote)
- C) Fluoxetine (Prozac)
- D) Quetiapine (Seroquel)
- E) Risperidone (Risperdal)

73. Which one of the following interventions has been shown to increase retinal screening rates in patients with diabetes mellitus?

- A) One minute of counseling about the importance of retinal screening at each primary care visit
- B) Digital reminders sent monthly to patients' cell phones until they complete their retinal screenings
- C) Conducting an office-wide prize drawing for patients who complete retinal screenings
- D) Asynchronous teleretinal screening performed at the primary care provider's office
- E) Sharing office/clinic space with an ophthalmologist

74. An 18-year-old football player collapses on the field at the beginning of summer conditioning workouts. There was no obvious contact or injury. Upon assessment, he is awake but somnolent and diaphoretic. He reports a headache and is unable to identify where he is or the day of the week. His core temperature is 40.2°C (104.4°F).

Which one of the following is the most likely diagnosis?

- A) Exercise-associated collapse
- B) Heat edema
- C) Heat exhaustion
- D) Heat injury
- E) Heatstroke

75. A 62-year-old male is found to have an alkaline phosphatase (ALP) level of 152 U/L (N 32–91). Laboratory studies performed last year showed an ALP level of 134 U/L. The review of systems today is negative, including for pain, nausea, and dyspnea. You note that his AST and ALT levels are in the normal range, and a gamma-glutamyl transaminase level is also normal.

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

- A) Plain radiography of the skull, pelvis, and tibia
- B) Right upper quadrant ultrasonography
- C) A full-body CT scan
- D) A HIDA scan
- E) A radionuclide bone scan

76. A 37-year-old male presents for a physical evaluation prior to starting a new job in a hospital. He recently immigrated from Uganda. An interferon-gamma release assay (IGRA, QuantiFERON-TB Gold) is positive. He is otherwise healthy. He has not had any cough, fever, unintended weight loss, or night sweats.

Which one of the following is the most appropriate next step?

- A) Tuberculin skin testing
  - B) Inducing sputum for mycobacterial culture
  - C) Chest radiography
  - D) Proceeding with treatment for latent tuberculosis
  - E) Proceeding with treatment for active tuberculosis
77. A 67-year-old male with a history of hypertension comes to your clinic for a follow-up visit. He has had two myocardial infarctions in the past 5 years and has undergone stent placement. He is currently asymptomatic. His vital signs are stable and his blood pressure is well controlled. Laboratory studies reveal a normal hemoglobin A<sub>1c</sub> and lipid profile. In addition to high-dose statin therapy, his current medication regimen includes the following:

Aspirin  
Carvedilol (Coreg)  
Chlorthalidone  
Clopidogrel (Plavix)  
Lisinopril (Zestril)

Adding which one of the following would help to provide secondary prevention of cardiovascular events in this patient?

- A) Azithromycin (Zithromax)
  - B) Colchicine (Colcrys)
  - C) DHA
  - D) Niacin
  - E) Omega-3 supplements
78. Despite limited evidence, systemic corticosteroids are frequently prescribed for multiple conditions in primary care. Which one of the following conditions has grade A evidence for treatment with systemic corticosteroids?
- A) Acute bronchitis
  - B) Acute pharyngitis
  - C) Acute sinusitis
  - D) Bell's palsy
  - E) Lumbar radiculopathy

79. A 22-year-old female presents to your clinic after awakening to find a rash on her hands (shown below). She does not have any other medical issues today.

Which one of the following is the most likely cause of this rash?

- A) Addison's disease
- B) An allergic reaction
- C) Cellulitis
- D) A chemical burn
- E) Phytophotodermatitis

80. Which one of the following vaccines is CONTRAINDICATED during pregnancy?

- A) Hepatitis A
- B) Hepatitis B
- C) Rabies
- D) Tdap
- E) Varicella

81. The diagnosis of type 2 diabetes can be confirmed by two hemoglobin A<sub>1c</sub> values at or above a threshold of

- A) 5.5%
- B) 6.0%
- C) 6.5%
- D) 7.0%
- E) 8.0%

82. An 11-year-old female is brought to your office by her parent who is concerned that the child's spine might be curved. The most appropriate evaluation for scoliosis at this point is

- A) comparing the length from the pelvic brim to the pelvic floor on the left and the right
- B) scoliometer measurement with the patient bent over to 90°
- C) scoliometer measurement with the patient upright and arms to her side
- D) determination of the Cobb angle with the patient bent over to 90°
- E) determination of the Cobb angle with the patient upright and arms to her side





**Item #79**

83. A 73-year-old female with diabetic neuropathy and osteoarthritis of the knees sees you to request a prescription for an assistive mobility device. The neuropathy has caused poor balance and the knee pain has made walking more painful. As a result her physical endurance has declined over the last several months.

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

- A) A cane
- B) Crutches
- C) A walker
- D) A wheelchair

84. A 55-year-old female with a BMI of 50 kg/m<sup>2</sup> and recently diagnosed severe obstructive sleep apnea (OSA) presents for follow-up after a sleep study. She was unable to tolerate positive pressure therapy.

Her OSA could be most effectively addressed by which one of the following interventions?

- A) Use of a nasal dilator device
- B) A positional sleep alarm to avoid the supine position
- C) Clonidine, 0.1 mg orally before bedtime
- D) Uvulopalatopharyngoplasty
- E) Bariatric surgery

85. A healthy 40-year-old male is concerned about his risk for myocardial infarction (MI) because his father had an MI at age 45. The patient is a nonsmoker and does not take any medications. He states that he plans to start a regular exercise program, and asks for your advice regarding the best dietary approach for him. His vital signs are normal, including his BMI.

Which one of the following would be most likely to reduce this patient's cardiovascular risk?

- A) Intermittent fasting (fasting for up to 16 hours each day, or eating only one meal on certain days)
- B) A low-fat, low-cholesterol diet
- C) A low-carbohydrate diet (Atkins diet)
- D) A very-low-carbohydrate, high-fat diet (ketogenic diet)
- E) A Mediterranean diet

86. A previously healthy 44-year-old female presents to the emergency department (ED) with severe, sharp, right upper quadrant abdominal pain and nausea that began shortly after eating dinner. On examination she is noted to have a low-grade fever with a positive Murphy sign. A laboratory analysis is notable for leukocytosis with a left shift and a mildly elevated total bilirubin level. A lipase level and liver transaminases are normal. Ultrasonography reveals several small gallstones, gallbladder wall thickening, and pericholecystic fluid. After receiving intravenous fluids, pain management, and antiemetic treatment in the ED, her symptoms improve.

In addition to intravenous antibiotics, the most appropriate next step in management would be to offer

- A) expectant management
  - B) endoscopic retrograde cholangiopancreatography (ERCP)
  - C) laparoscopic cholecystectomy
  - D) outpatient general surgery consultation
87. Increasing greenhouse gas concentrations are resulting in multiple climate changes that can adversely affect the health of patients. Which one of the following examples describes a direct effect of climate change?
- A) Weather-related disasters have lessened, leading to an improvement in overall mental health
  - B) Shorter and warmer winters allow insect vectors to spread into new areas, increasing the rate of multiple infectious diseases
  - C) Increasing global temperatures have decreased the production of highly allergenic pollens such as ragweed
  - D) Increasing consumption of plant-based foods has resulted in increased air pollution, further exacerbating many cardiopulmonary conditions
88. A 31-year-old nulligravida presents to your office with an inability to conceive for the past 12 months. She reports irregular menses for the past 2 years. Her medical history is significant for Hashimoto thyroiditis that is currently controlled. A urine pregnancy test is negative. On examination you note vaginal dryness and labial atrophy. You suspect primary ovarian insufficiency.

Which one of the following combinations of FSH and LH levels is consistent with this diagnosis?

- A) Normal FSH and normal LH
- B) Low FSH and low LH
- C) Low FSH and elevated LH
- D) Elevated FSH and elevated LH

89. Your patient, who is overweight and says she has struggled with bulimia in the past, asks for your advice on strategies to help prevent obesity and eating disorders in her 12-year-old daughter. Which one of the following strategies should be incorporated?

- A) Implementing a diet of moderate calorie restriction for healthy adolescents and adults 1 week per month
- B) Having more frequent discussions regarding weight control and healthy eating
- C) Limiting home-prepared dinners to 1–2 times per week
- D) Eating meals together as a family  $\geq 7$  times per week
- E) Watching television during mealtimes

90. A 44-year-old female presents to your office reporting that she hurts all over. After performing a thorough history and physical examination and appropriate laboratory studies you diagnose fibromyalgia.

You explain to the patient that the initial treatment recommendation with the most proven efficacy is

- A) acupuncture
- B) aerobic exercise
- C) amitriptyline
- D) duloxetine (Cymbalta)
- E) tramadol

91. A 69-year-old male is found to have an infrarenal abdominal aortic aneurysm (AAA) on screening ultrasonography. Which one of the following is most important when determining the risk of his AAA rupturing?

- A) His age
- B) His sex
- C) His history of hypertension
- D) His history of smoking
- E) The diameter of his aneurysm

92. A 22-year-old female sees you to establish care. She describes firing her previous primary care physician because he was not adequately treating her. She states that she was diagnosed with borderline personality disorder 1 year ago and is seeking better treatment.

Which one of the following would be the most appropriate first-line therapy?

- A) Lamotrigine (Lamictal), 25 mg daily
- B) Lithium, 300 mg twice daily
- C) Omega-3 fish oil (Lovaza), 4 g daily
- D) Quetiapine (Seroquel), 50 mg at bedtime
- E) Cognitive behavioral therapy

93. A 51-year-old patient asks about recommended lung cancer screenings. The U.S. Preventive Services Task Force recommends annual lung cancer screening with low-dose CT for individuals starting at age
- A) 45 with a 15-pack-year smoking history
  - B) 50 with a 20-pack-year smoking history
  - C) 55 with a 30-pack-year smoking history
  - D) 60 with a 35-pack-year smoking history
  - E) 65 with a 40-pack-year smoking history

94. You receive a call from a hospitalist reporting that a 77-year-old male who is a patient of yours has been admitted to the hospital. You note that this is his third hospital admission over the last 4 months, due to a variety of acute medical concerns. His medical history includes heart failure, mild dementia, chronic kidney disease, and type 2 diabetes. You consider transitions of care planning for this patient upon discharge.

Which one of the following interventions would offer the best efficacy for this patient?

- A) Rapid medication reconciliation, a home visit, and follow-up with you within 7 days of discharge
  - B) Rapid medication reconciliation, a home visit, and follow-up with his endocrinologist within 7 days of discharge
  - C) Rapid post-discharge laboratory studies, and follow-up with his cardiologist within 7 days of discharge
  - D) Rapid post-discharge laboratory studies, and follow-up with both you and his cardiologist within 7 days of discharge
  - E) Rapid medication reconciliation, rapid post-discharge laboratory studies, and follow-up with his endocrinologist within 7 days of discharge
95. A 69-year-old male with a history of diabetes mellitus presents to your clinic with concerns of mild vision problems. His brother lost his vision due to glaucoma and encouraged the patient to seek care.

Which one of the following is most consistent with the typical vision changes of glaucoma?

- A) Central vision loss with peripheral sparing
- B) Halos and decreased night vision
- C) Intermittent complete blackening of the visual field
- D) Patchy peripheral vision blurring
- E) Sudden scattered floaters

96. A 39-year-old gravida 3 para 3 comes to your office for a routine health maintenance visit. She reports gradual leaking of urine over the past year. It mostly occurs when she does strength training at the gym and has become so bothersome that she has limited her exercise. She also notices leaking when coughing, sneezing, and picking up her young children.

Her BMI is 27 kg/m<sup>2</sup>. A pelvic examination is notable for a normal urethral body and thick, pink vulvar tissue. The vaginal vault is without prolapse. You ask her to cough with a full bladder and note leakage of urine. A urinalysis is normal.

You counsel her on appropriate fluid intake, timed voiding, the reduction of caffeinated and carbonated beverages, regular moderate physical activity, and weight loss. In addition to these behavioral modifications, which one of the following is the most appropriate intervention at this time?

- A) An oral antimuscarinic agent
  - B) Intravaginal estrogen
  - C) OnabotulinumtoxinA (Botox)
  - D) Pelvic floor muscle training
  - E) Urethropexy
97. A 62-year-old male presents with a 2-day history of a painful abscess in his perianal area. He has a history of well controlled type 2 diabetes and hypertension and he currently takes metformin and lisinopril (Zestril). He also has a history of recurrent skin abscesses, which have responded well to oral sulfamethoxazole/trimethoprim (Bactrim). He has occasional chills but has not had a fever. On examination his vital signs are normal and you note the presence of a 2.5×2.5-cm perianal abscess. A point-of-care glucose level is 172 mg/dL and the results of a CBC are pending.

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

- A) Continue current management and follow up in 48 hours
  - B) Perform incision and drainage, obtain a culture, and start sulfamethoxazole/trimethoprim only
  - C) Perform incision and drainage, obtain a culture, and start oral linezolid (Zyvox)
  - D) Perform incision and drainage, obtain a culture, and start sulfamethoxazole/trimethoprim plus amoxicillin/clavulanate (Augmentin)
98. A 27-year-old female with hypothyroidism presents to your clinic at 5 weeks gestation. Her current medications include levothyroxine (Synthroid), 100 µg daily, and a prenatal vitamin. She had a normal TSH level 3 months ago. She is very concerned about the negative effects of medication during pregnancy and asks if she should continue taking levothyroxine.

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

- A) Continuing the current levothyroxine dosage and referring her to an endocrinologist
- B) Increasing the levothyroxine dosage by 30% by taking an extra dose twice weekly
- C) Checking her TSH level today and increasing the levothyroxine dosage by 12.5 µg daily if it is >2.5 µU/mL
- D) Discontinuing levothyroxine and checking her TSH and free T<sub>4</sub> levels in 6 weeks

99. A 67-year-old male presents for follow-up of ongoing chest pain that he experiences when walking up hills. His medical history is significant for hypertension and coronary artery disease. Four months ago he had a positive exercise stress test and underwent coronary angiography, which showed diffuse atherosclerotic disease but no lesions suitable for percutaneous intervention. His current medications include aspirin, 81 mg; atorvastatin (Lipitor), 80 mg; and metoprolol succinate (Toprol-XL), 100 mg. His vital signs include a blood pressure of 120/66 mm Hg and a pulse rate of 68 beats/min. Recent laboratory studies are significant for an LDL-cholesterol level of 58 mg/dL, a triglyceride level of 120 mg/dL, and a troponin level of 0.05 ng/mL (N < 0.04).

The addition of which one of the following agents would decrease this patient's all-cause mortality risk?

- A) Clopidogrel (Plavix), 75 mg daily
  - B) Colchicine (Colcrys), 0.6 mg daily
  - C) Icosapent ethyl (Vascepa), 2 g twice daily
  - D) Isosorbide mononitrate, 30 mg daily
  - E) Rivaroxaban (Xarelto), 2.5 mg twice daily
100. A 35-year-old female presents to discuss her recent diagnosis of metastatic breast cancer. She has many questions about potential treatments and outcomes. You discuss palliative care with her.

Which one of the following is true regarding patients who receive palliative care?

- A) Patients must have a life expectancy of 6 months or less to qualify
- B) Care must be offered in person (outpatient or inpatient)
- C) Patients may simultaneously undergo aggressive chemotherapy
- D) Costs for palliative care are higher than for usual chronic disease care
- E) Medicare and most commercial insurances provide bundled payments for palliative care

101. A 45-year-old female presents to your clinic with a 2-day history of worsening sinus pain and pressure that is worse on the right cheek and radiating into a maxillary molar. She recently recovered from a week-long cold and was getting better when she suddenly relapsed. Her symptoms have progressed over the last 12 days, culminating in a fever of 102°F last night. The patient reports a foul taste in the back of her throat. She has been drinking plenty of fluids, performing sterile saline sinus rinses twice daily, and using acetaminophen and ibuprofen for pain relief. She has not had a cough except when clearing thick postnasal phlegm. She does not have itching of the eyes or nose, or a history of environmental allergies.

On examination her lungs are clear to auscultation bilaterally. She has a temperature of 38.9°C (102.0°F), a pulse rate of 100 beats/min, and a respiratory rate of 14/min. She has no known drug allergies.

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

- A) Supportive care for up to 2 additional days
  - B) Continued saline nasal rinses plus inhaled fluticasone (Flonase Allergy Relief) until symptoms resolve, and follow-up if symptoms worsen or the fever increases
  - C) Amoxicillin/clavulanate (Augmentin) for 5–7 days
  - D) Azithromycin (Zithromax) for 5 days, and follow-up if symptoms worsen or the fever increases
  - E) Levofloxacin for 28 days
102. A 67-year-old male presents to your office with a 1-month history of fever with edema and erythema of his right foot. His medical history is significant for peripheral artery disease and poorly controlled type 2 diabetes with diabetic neuropathy. Significant vital signs include a temperature of 38.6°C (101.5°F), a blood pressure of 155/90 mm Hg, and a pulse rate of 85 beats/min. A physical examination is most notable for a draining ulcer on the ball of his right foot. The edema and erythema are limited to his right foot and he has no calf tenderness. Dorsalis pedis and posterior tibial artery pulses are present but diminished at the right ankle. Sensation to monofilament testing of his right foot is diffusely diminished, which is consistent with his baseline.

The best initial imaging test of the foot ulcer would be

- A) radiography
- B) ultrasonography
- C) CT
- D) MRI
- E) technetium 99m bone scintigraphy



103. A 23-year-old female with a history of systemic lupus erythematosus presents to discuss contraceptive management. You note that she is no longer taking hydroxychloroquine (Plaquenil) and has not seen her rheumatologist in over a year. She reports generalized fatigue and intermittent joint pain. She is agreeable to obtaining laboratory studies at today's visit.

In addition to checking anti-double-stranded DNA, complement levels, an erythrocyte sedimentation rate, a C-reactive protein level, a CBC, and a comprehensive metabolic panel, which one of the following laboratory tests would be most helpful in monitoring her disease activity?

- A) An anti-cyclic citrullinated peptide level
- B) An antinuclear antibody titer
- C) A creatine kinase level
- D) A fasting lipid panel
- E) A urinalysis with microscopic examination

104. Which one of the following is true regarding acute gastroenteritis in children?

- A) Handwashing and general hygiene alone can prevent rotavirus infection
- B) Daily probiotics are recommended
- C) The majority of cases are caused by bacteria
- D) Oral rehydration is as effective as intravenous rehydration in mild to moderate dehydration
- E) Promethazine is the antiemetic of choice in patients with moderate dehydration and nausea

105. An 80-year-old female is brought to the emergency department after her family finds her on the floor at her home. They state that she has been confused and not acting like herself for the past 5–7 days. She lives independently and cares for herself, and she is active in a senior church group.

The patient is unable to explain why she was on the floor, so the history is obtained from the family. There are no other associated symptoms and no known inciting incident. There have been no recent medication changes and the family is unaware of any fever or chills. The patient has not had episodes like this in the past.

Her past medical history is notable for controlled blood pressure and a TIA several years ago with no residual neurologic deficit or impairment. A physical examination is negative except for her confusion, and there are no focal neurologic findings. Imaging shows no acute process.

Which one of the following is the most likely explanation for these findings?

- A) Alzheimer's disease
- B) Delirium
- C) Ischemic stroke
- D) Mild neurocognitive disorder
- E) Vascular dementia

106. A 45-year-old male presents for follow-up of a recent positive HIV test. He has not had any symptoms. An initial laboratory evaluation is significant for the following:

HIV viral load. . . . .	124,000 copies/mL
CD4 lymphocyte count. . . . .	289 cells/ $\mu$ L
Hepatitis C antibody. . . . .	negative
Anti-HBs. . . . .	positive
Anti-HBc. . . . .	positive
HBsAg. . . . .	negative

Renal function is normal. He has an upcoming appointment with the comprehensive HIV clinic to initiate antiretroviral therapy.

Which one of the following would be appropriate to recommend today?

- A) Prophylactic emtricitabine/tenofovir (Truvada)
  - B) Prophylactic sulfamethoxazole/trimethoprim (Bactrim)
  - C) Hepatitis B vaccine
  - D) Herpes zoster vaccine (Shingrix)
  - E) Meningococcal B (MenB) vaccine
107. Which one of the following medical conditions is most likely the result of severely elevated triglycerides?

- A) Asthma
- B) Chronic kidney disease
- C) Gallstones
- D) Hypothyroidism
- E) Pancreatitis

108. A 4-year-old male is brought to your office by his parents because of a 2-day history of cough and a runny nose, but no fever. The child's symptoms are not progressing. The patient has a history of wheezing when he has mild respiratory infections. The only findings on examination are yellow nasal discharge and mild wheezing.

The appropriate management with the LEAST amount of risk would be treatment for 10 days with

- A) amoxicillin
- B) montelukast (Singulair)
- C) an antihistamine decongestant
- D) an inhaled corticosteroid
- E) an oral corticosteroid

109. An otherwise healthy 37-year-old female presents to your office with elbow pain 1 day after falling while skiing. She has pain and tenderness along the lateral aspect of the affected elbow and limited range of motion of the elbow and forearm. Radiographs confirm a nondisplaced fracture of the radial head.

Which one of the following would be most likely to produce satisfactory outcomes?

- A) Immobilization for 3 days followed by range-of-motion exercises
- B) A long arm posterior splint for 6 weeks
- C) A long arm cast for 6 weeks
- D) Referral to an orthopedist for cast placement
- E) Referral to an orthopedist for surgical repair

110. A 49-year-old male presents to the urgent care center with a fever, cough, and pleuritic chest pain. His medical history is unremarkable with no cardiac risk factors. The patient's vital signs include a temperature of 39.0°C (102.2°F), a heart rate of 120 beats/min, a respiratory rate of 24/min, a blood pressure of 90/58 mm Hg, and an oxygen saturation of 95% on room air. The patient is awake and able to follow commands.

An examination reveals warm skin with a capillary refill time of 2–3 seconds. The patient has normal heart sounds with a rapid peripheral pulse and no evidence of jugular vein distention. A chest radiograph is suggestive of pneumonia.

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

- A) Administering a 1-L bolus of half-normal saline
- B) Administering epinephrine by auto-injector
- C) Administering a minimum of 30 mL/kg of lactated Ringer's solution within the first 3 hours
- D) Starting a dobutamine drip at 2 µg/kg/min
- E) Starting a norepinephrine drip at 0.05 µg/kg/min

111. A patient sees you because of eye pain and swelling that have been present for a few days. A physical examination reveals a small, pink, tender area of the upper eyelid with an adjacent, slightly inflamed gland opening at the eyelid margin.

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

- A) Warm compresses and gentle massage of the eyelid
- B) Topical moxifloxacin ophthalmic solution 0.5% (Vigamox)
- C) Topical tobramycin/dexamethasone ophthalmic solution 0.3%/0.1% (Tobradex)
- D) Oral cephalixin (Keflex)
- E) Incision and drainage

112. A 24-year-old gravida 2 para 2 presents to your office for evaluation of breast pain. The patient reports that the pain affects both breasts, particularly during the week prior to her menses. She does not report any redness, nipple discharge, or fever. This is the first time the patient has presented for evaluation of this problem.

In addition to conservative measures, which one of the following would be most appropriate to manage the patient's pain without interfering with fertility?

- A) Diclofenac gel (Voltaren Arthritis Pain)
  - B) Danazol
  - C) Goserelin (Zoladex)
  - D) Tamoxifen (Soltamox)
113. A 57-year-old female presents for follow-up 6 weeks after falling and breaking her wrist. The fracture has healed but she has developed burning pain in the area of the fracture, which she rates as 9 on a scale of 10. On examination you note moderate hyperalgesia in the area with some minimal localized swelling. You suspect complex regional pain syndrome (CRPS).

CRPS is best diagnosed with which one of the following?

- A) The patient history and physical examination
  - B) Ultrasonography
  - C) MRI
  - D) Nerve conduction testing
  - E) A technetium 99m bone scan
114. A 67-year-old male with a history of diabetes mellitus, hypertension, and heart failure with reduced ejection fraction has developed stage 5 chronic kidney disease. Which one of the following would be the best option for treatment of his diabetes?

- A) Glimepiride (Amaryl)
  - B) Insulin glargine (Lantus)
  - C) Metformin
  - D) Pioglitazone (Actos)
115. A 62-year-old male sees you for a routine health maintenance examination, and you note that he has not yet received the recombinant zoster vaccine (Shingrix). Which one of the following approaches is most likely to result in your patient accepting this immunization?
- A) "Are there any immunizations you would like today?"
  - B) "You have been a bit negligent on obtaining your shingles vaccine. May we give that to you?"
  - C) "You have not yet received your shingles vaccine. May we give that to you before you leave?"
  - D) "You have not yet received your shingles vaccine. We are preparing to administer that today. Do you have any questions?"

116. A 74-year-old male whom you have not seen for several years presents with fatigue, an 8-lb weight loss, and musculoskeletal pain for the last 6 months. He had been in good health before these symptoms started. He states that he has a “deep ache” in his lower back, hips, and shoulders that awakens him at night. Plain films of the lumbar spine ordered by an orthopedic surgeon revealed osteopenia and degenerative disease with osteophytes. A bone scan was within normal limits for his age. The only abnormalities you detect on a thorough physical examination are tenderness to percussion over the scapulae, lumbar vertebrae, and posterior pelvis, and a mildly enlarged but smooth prostate.

Laboratory Findings

Hematocrit	31 % (N 40–50)
Hemoglobin	10.3 g/dL (N 14.0–17.0)
Mean corpuscular volume	90 $\mu\text{m}^3$ (N 80–100)
PSA	4.6 ng/mL (N 0.0–4.0)
Calcium	10.9 mg/dL (N 9.0–10.5)
Phosphorus	4.2 mg/dL (N 3.0–4.5)
Albumin	3.0 g/dL (N 3.5–5.5)
Globulin	6.7 g/dL (N 2.0–3.5)
Alkaline phosphatase	86 U/L (N 30–92)
BUN	26 mg/dL (N 8–20)
Creatinine	2.5 mg/dL (N 0.7–1.5)

Of the following, the most likely diagnosis is

- A) carcinoma of the prostate metastatic to bone
- B) hyperparathyroidism
- C) multiple myeloma
- D) osteomalacia
- E) polymyalgia rheumatica

117. A 45-year-old male presents to the urgent care clinic with a 2-hour history of central chest pain that began at rest with associated shortness of breath. In addition, he has had a mild dry cough and rhinorrhea for a few days but no fever. He has not had any nausea, dizziness, or diaphoresis, and the chest pain does not radiate. He has no past medical history, takes no medications, consumes 4–6 alcoholic drinks per night, and does not smoke.

On examination the patient has a temperature of 37.0°C (98.6°F), a blood pressure of 150/100 mm Hg, a heart rate of 118 beats/min, a respiratory rate of 14/min, and an oxygen saturation of 98% on room air. The patient appears well, and an HEENT examination reveals no jugular vein distention. A cardiovascular examination is significant for tachycardia without murmur. There is no chest wall tenderness to palpation. The lungs reveal decreased breath sounds on the right compared to the left, and there are no crackles or wheezes.

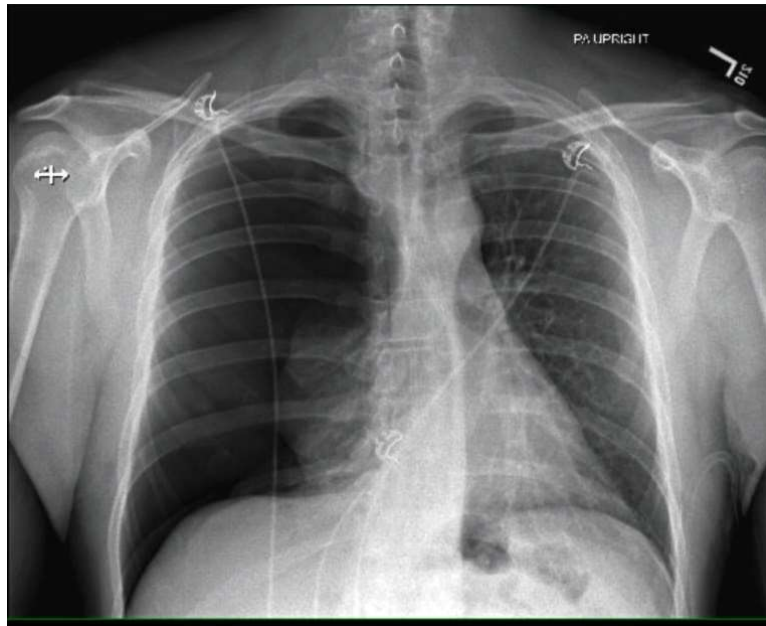
A chest radiograph and an EKG are shown below.

Which one of the following is the most likely etiology of his chest pain?

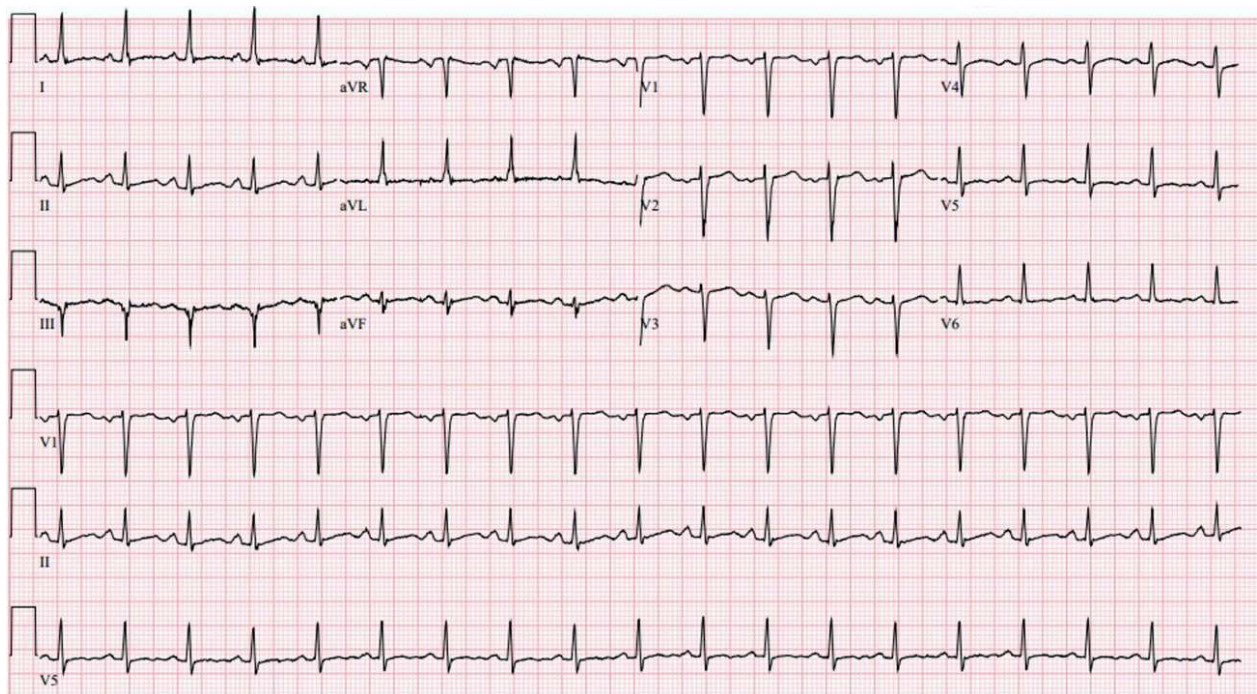
- A) Aspiration pneumonia
  - B) Community-acquired pneumonia
  - C) Non-ST-elevation myocardial infarction
  - D) Pneumothorax
  - E) Pulmonary embolus
118. A 68-year-old patient sees you for treatment of depression. When considering potential adverse effects of antidepressants, which one of the following would be the most appropriate pharmacotherapy for this patient?
- A) Amitriptyline
  - B) Duloxetine (Cymbalta)
  - C) Nortriptyline (Pamelor)
  - D) Sertraline (Zoloft)
  - E) Venlafaxine (Effexor XR)
119. A 75-year-old male smoker presents with intermittent, throbbing pain in both lower extremities that is relieved with rest. An ankle-brachial index is 0.7.

All of the following would be appropriate for this patient EXCEPT

- A) apixaban (Eliquis), 5 mg twice daily
- B) enteric-coated aspirin, 81 mg daily
- C) rosuvastatin (Crestor), 10 mg daily
- D) a structured exercise program
- E) tobacco cessation



Item #117



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120. A 4-month-old female is brought to your clinic for a routine well child visit. She has not been seen by a physician since 2 weeks of age due to parental concerns about seeking care during the COVID-19 pandemic. Her growth and development appear to be normal.

Which one of the following vaccines is CONTRAINDICATED today?

- A) *Haemophilus influenzae* type b
- B) Hepatitis B
- C) Inactivated poliovirus
- D) 13-valent pneumococcal conjugate (PCV13, Prevnar 13)
- E) Rotavirus

121. A registered nurse at the local hospital calls to notify you of a newborn admission. She reports that the neonate was born at 40 weeks gestation to a G2P2002 via vaginal delivery. The mother was noted to be group B *Streptococcus* positive, and delivery was complicated by a maternal fever of 38.3°C (101.0°F) and suspected intra-amniotic infection for which the mother received 6 hours of broad-spectrum antibiotics. Her membranes ruptured 6 hours before delivery. The nurse notes that the infant has normal vital signs and appears healthy.

Which one of the following would be recommended for the newborn to reduce antibiotic administration in this case?

- A) Categorical risk factor assessment
- B) Use of the neonatal early-onset sepsis calculator
- C) A C-reactive protein level
- D) A CBC and differential
- E) Blood cultures

122. A 26-year-old recreational baseball player presents with recurrent right shoulder pain that tends to gradually worsen during play and is relieved by rest. His other daily activities have not been affected and he has no nighttime pain.

Examination of the right shoulder reveals a normal appearance, no tenderness to palpation, normal abduction strength, and a positive painful arc at 90°. The drop-arm rotator cuff test is negative, the Hawkins impingement sign is mildly positive, the empty-can supraspinatus test is moderately positive, and the Gerber liftoff test is negative. Radiographs of the right shoulder are normal.

Which one of the following would be appropriate at this time to provide long-term pain relief?

- A) Complete shoulder rest with temporary use of a shoulder sling
- B) Recommending that he permanently stop playing baseball
- C) A subacromial corticosteroid injection
- D) Physical therapy
- E) Referral for arthroscopic surgery



123. You are utilizing shared decision-making with patients while determining whether to recommend starting a statin for the primary prevention of atherosclerotic cardiovascular disease. In which one of the following patients would a screening coronary artery calcium score be most appropriate for guiding this recommendation?

- A) A 35-year-old at low ( $<5\%$ ) 10-year risk
- B) A 55-year-old at high ( $\geq 20\%$ ) 10-year risk
- C) A 55-year-old with diabetes mellitus at high ( $\geq 20\%$ ) 10-year risk
- D) A 60-year-old at low ( $<5\%$ ) 10-year risk
- E) A 60-year-old at intermediate ( $7.5\%$  to  $<20\%$ ) 10-year risk

124. A 62-year-old male presents with bright red hemoptysis. While not severe, it is recurrent and has persisted for several weeks. He is otherwise asymptomatic.

A thorough history and physical examination does not provide any additional clues. Gastrointestinal and ear, nose, and throat etiologies are considered and are not thought to be the cause. Posteroanterior and lateral chest radiographs are normal.

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

- A) Antineutrophil cytoplasmic antibody (ANCA) testing
- B) A sputum smear for acid-fast bacillus
- C) Sputum cytology
- D) CT of the chest
- E) Bronchoscopy

125. A 48-year-old male presents for follow-up of his hypertension. His medications include generic amlodipine, 10 mg; lisinopril (Zestril), 20 mg; and hydrochlorothiazide, 25 mg. His blood pressure today is 156/92 mm Hg. He says that he forgot to take his medications this morning, and reports that he often forgets to take them. He does not have any specific concerns about side effects.

Which one of the following would be most likely to increase this patient's medication adherence?

- A) Taking his medications before bed
- B) Changing generic amlodipine to branded Norvasc
- C) Changing generic amlodipine to generic nifedipine
- D) Replacing lisinopril and hydrochlorothiazide with combination lisinopril/hydrochlorothiazide (Zestoretic)
- E) Adding metoprolol

126. A 46-year-old female with known chronic kidney disease presents to discuss treatment of her recently diagnosed type 2 diabetes. She also has long-standing hypertension and her current medications include telmisartan/hydrochlorothiazide (Micardis HCT), amlodipine (Norvasc), and metformin. Her most recent estimated glomerular filtration rate is 52 mL/min/1.73 m<sup>2</sup> and her hemoglobin A<sub>1c</sub> is 7.6%. Her serum electrolytes are all within the normal range. You refer her to a diabetes educator for counseling on self-management and lifestyle modification.

Which one of the following is the recommended additional pharmacologic treatment for this patient?

- A) Empagliflozin (Jardiance)
- B) Glipizide (Glucotrol)
- C) Insulin glargine (Lantus)
- D) Pioglitazone (Actos)
- E) Sitagliptin (Januvia)

127. A 63-year-old female presents with a 3-week history of vulvar itching and burning. The patient has not had any vaginal bleeding since her last period at age 51.

An examination reveals thin, dry labia minora and sparse pubic hair. The vaginal mucosa is smooth and pale with a frothy yellow discharge. A point-of-care urinalysis shows moderate leukocytes and trace protein. Microscopy of vaginal secretions reveals motile flagellates.

Which one of the following medications is most likely to resolve this patient's symptoms?

- A) Estradiol vaginal cream, 2 g vaginally daily
- B) Fluconazole (Diflucan), 150 mg as a single dose
- C) Doxycycline, 100 mg twice daily for 7 days
- D) Metronidazole, 500 mg twice daily for 7 days
- E) Sulfamethoxazole/trimethoprim (Bactrim), 800/160 mg twice daily for 7 days

128. A 39-year-old female with a BMI of 42 kg/m<sup>2</sup> and a history of hypertension, diabetes mellitus, hyperlipidemia, obstructive sleep apnea, and hypothyroidism has been struggling to lose weight. Her medical conditions are controlled. She asks you if weight loss surgery would be better for her than continued dietary efforts.

Which one of the following is true regarding weight loss surgery?

- A) Post-surgical dietary recommendations include consuming carbohydrates first at each meal
- B) Post-surgical dietary recommendations include drinking fluid with each meal
- C) Diabetes remission occurs in the majority of patients 2 years after a Roux-en-Y procedure
- D) Surgical treatment for obesity is equivalent to nonsurgical interventions in overall length of survival
- E) Surgical treatment for obesity leads to a lifelong need for quarterly laboratory studies to check for nutritional deficiencies

129. You suspect somatic symptom disorder in one of your patients. Supporting this diagnosis, the patient scores very high on the Somatic Symptom Scale–8 with “quite a bit” or “very much” back pain, chest pain, dizziness, low energy, headaches, stomach problems, and trouble sleeping. You have completed a thorough history and physical examination.

In addition to referral for cognitive behavioral therapy, which one of the following would be the most appropriate next step in patient care?

- A) Frequent, as-needed office visits
  - B) Frequent, regularly scheduled office visits
  - C) Infrequent, as-needed office visits
  - D) Infrequent, regularly scheduled office visits
  - E) Regularly scheduled annual examinations and as-needed office visits
130. A 60-year-old male with symptomatic low testosterone is started on a testosterone patch. You should order specific periodic monitoring of his PSA level and
- A) no other laboratory studies
  - B) ALT and AST levels
  - C) BUN and creatinine levels
  - D) C-reactive protein level
  - E) hematocrit
131. A 43-year-old male sees you because of popping and clicking at the base of his index finger. On examination you note a nodule on the palmar aspect of the metacarpophalangeal joint with the finger flexed.

Which one of the following is the most likely diagnosis?

- A) Calcific peritendinitis
- B) Dupuytren contracture
- C) Flexor tenosynovitis
- D) Rheumatoid arthritis
- E) Trigger finger

132. A 78-year-old male presents to the emergency department (ED) after experiencing a syncopal event witnessed by his spouse. The patient reports that he has been easily fatigued and has not been able to walk as long as usual during the past few months. He recently saw his cardiologist and completed Holter monitoring but has not received the results yet. Laboratory studies during the ED visit were unremarkable. However, an EKG showed sinus bradycardia with 44 beats/min as well as pauses of more than 3 seconds, during which the patient reported dizziness. He says he wants to recover quickly so he can resume his regular activities.

Which one of the following is the first-line treatment for the presumed diagnosis?

- A) Atropine
  - B) Cilostazol
  - C) Dopamine
  - D) Glucagon
  - E) Permanent pacemaker placement
133. In the U.S. legal system, which one of the following is a required finding to determine that medical malpractice has occurred?
- A) Conflict of interest
  - B) A financial charge rendered to the patient
  - C) A causal relationship between breach of duty and injury to the patient
  - D) Presentation of the case to a grand jury
  - E) Testimony from an expert witness for the plaintiff
134. In adolescents and adults, what proportion of cases of uncomplicated, acute bronchitis are caused by atypical organisms such as *Mycoplasma pneumoniae* and *Chlamydia pneumoniae*?
- A) 1%
  - B) 15%
  - C) 30%
  - D) 65%
  - E) 90%
135. A 42-year-old male presents for a routine health maintenance visit and asks about hepatitis C virus (HCV) testing. He reports that he experimented with intravenous drugs in college but never developed a habit. He consumes 1–2 alcoholic drinks a week and is a nonsmoker. He is not married but is in a monogamous, heterosexual relationship.

Which one of the following would confirm active hepatitis C infection?

- A) Anti-HCV antibody testing
- B) AST and ALT levels
- C) An AST/platelet ratio index
- D) A CBC with differential and peripheral smear
- E) HCV RNA polymerase chain reaction testing

136. A 30-year-old male presents to your office after sustaining a scratch to the eye while playing with his 2-year-old nephew. A penlight examination reveals sensitivity to light and mild conjunctival irritation with no foreign body. Pupillary response, extraocular movements, and visual acuity are all normal. Fluorescein staining reveals a 3-mm corneal abrasion.

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

- A) Patching the affected eye
- B) Patching the unaffected eye
- C) Prednisolone ophthalmic drops
- D) Tetracaine ophthalmic drops
- E) Oral naproxen

137. A 68-year-old male with type 2 diabetes with peripheral neuropathy presents for routine follow-up. On examination of his feet, you note that the majority of his toenails are thickened and discolored. The great toenails lift easily from the nailbeds. A clipping from one nail is sent for KOH evaluation with positive results.

Of the following, which one is the most effective treatment for this condition?

- A) Topical efinaconazole 10% (Jublia) daily for 48 weeks
- B) Topical tea tree oil daily until the nails grow out
- C) Oral fluconazole (Diflucan) once weekly until the nails grow out
- D) Oral terbinafine daily for 12 weeks
- E) Fractional carbon dioxide laser therapy

138. A 17-year-old female has a positive urine drug screen for cannabis. She does not use marijuana but recently attended a party where others were smoking it.

How long after passive exposure to cannabis smoke can an otherwise cannabis-naïve person test positive for it on a drug screen?

- A) Never
- B) Up to 24 hours
- C) 3 days
- D) 1 week
- E) 1 month

139. A 55-year-old female with type 2 diabetes, obesity, and hypertension presents for routine follow-up. Despite her best efforts with diet and exercise, she has been unable to achieve a healthy BMI. Her current medications include metformin, lisinopril (Zestril), and atorvastatin (Lipitor). A physical examination is remarkable only for a BMI of 32 kg/m<sup>2</sup>. A hemoglobin A<sub>1c</sub> is 7.5%, which is unchanged from 3 months ago. A basic metabolic panel shows normal electrolytes and renal function.

Which one of the following additional medications would be most likely to improve her glucose control and help her achieve weight loss?

- A) Glipizide (Glucotrol)
- B) Insulin glargine (Lantus)
- C) Liraglutide (Victoza)
- D) Nateglinide (Starlix)
- E) Sitagliptin (Januvia)

140. A 45-year-old male with no known medical history presents as a new patient for a physical examination. A review of symptoms is negative. He notes that his father died in his fifties of heart disease, but the patient does not know any further details. An examination is notable for a systolic murmur at the lower left sternal border.

Which one of the following additional findings in this patient would be most consistent with hypertrophic cardiomyopathy?

- A) Decreased intensity of the murmur when supine
- B) Decreased intensity of the murmur with the Valsalva maneuver
- C) Elevated jugular venous distention
- D) Elevated pulse pressure
- E) A differential in blood pressure between the arms

141. A 6-year-old male presents with a cough and a fever. His vital signs include a temperature of 38.0°C (100.4°F), a heart rate of 120 beats/min, a respiratory rate of 22/min, a blood pressure of 90/52 mm Hg, and an oxygen saturation of 94% on room air. An examination reveals a child who is occasionally coughing but is in no acute distress. The mucous membranes are moist and capillary refill time is 2 seconds. There are no retractions, nasal flaring, use of accessory muscles of respiration, or any other signs of respiratory distress. The heart is mildly tachycardic without murmur and the lungs have rhonchi in the left lung base. Rapid tests for influenza and COVID-19 are negative. You suspect typical community-acquired pneumonia.

Which one of the following would be the most appropriate next step in the management of this patient's condition?

- A) Oral amoxicillin
- B) Oral doxycycline
- C) Intramuscular ceftriaxone
- D) Withholding antibiotics until the diagnosis is confirmed with radiography
- E) Hospitalization for intravenous antibiotics

142. A 35-year-old female with rheumatoid arthritis currently being treated with adalimumab (Humira) injections sees you for evaluation after developing a red, swollen, warm, and painful right knee. Arthrocentesis is performed, and the synovial fluid analysis is concerning for septic arthritis.

Which one of the following organisms is the most likely cause of her infection?

- A) *Candida albicans*
- B) *Escherichia coli*
- C) *Mycobacterium tuberculosis*
- D) *Staphylococcus aureus*
- E) *Streptococcus pyogenes*

143. A 29-year-old male presents to your office because of pain and paresthesia in his right fourth and fifth fingers for the last several weeks. He has had some generalized weakness in his hands, noting that it is more difficult for him to grasp and pick up small objects with his thumb and forefinger. There is no history of trauma. He is very physically active and lifts weights 5–6 days per week. On physical examination you note weakness of the pincer mechanism and decreased sensation over the hypothenar eminence and fourth and fifth fingers.

These findings are associated with peripheral entrapment of which one of the following nerves?

- A) Axillary
- B) Median
- C) Radial
- D) Suprascapular
- E) Ulnar

144. A 56-year-old male comes to your office for a routine health maintenance examination. He has not seen a medical provider in the past 10 years. He has one sex partner, exercises regularly, and follows a Mediterranean diet. He has a 10-pack-year smoking history and quit 20 years ago. He has a family history of type 2 diabetes.

Based on U.S. Preventive Services Task Force guidelines, which one of the following screening recommendations requires shared decision-making with the patient?

- A) Office blood pressure measurement
- B) A depression assessment with the Patient Health Questionnaire–9
- C) A whole-body skin examination
- D) A fasting lipoprotein profile
- E) Prostate-specific antigen testing

145. A 17-year-old male with a history of type 2 diabetes sees you because of fatigue and a 15-lb weight loss in the past month. The patient reports excessive and frequent urination, thirst, and nausea. His only medication has been metformin, but he states that he stopped taking it 6 months ago. His current weight in your office is 93 kg (205 lb), which confirms the reported weight loss. His blood pressure is 130/78 mm Hg, his pulse rate is 90 beats/min, and his temperature is 37.0°C (98.6°F). A physical examination is otherwise unremarkable. A capillary blood glucose level is 348 mg/dL, a hemoglobin A<sub>1c</sub> is 11.5%, serum ketones are negative, and a urinalysis shows 3+ glucosuria with concentrated urine but is otherwise normal.

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

- A) Resuming oral metformin
  - B) Starting oral empagliflozin (Jardiance)
  - C) Starting subcutaneous insulin
  - D) Starting subcutaneous liraglutide (Victoza)
  - E) Hospitalization for continuous intravenous insulin
146. A 45-year-old male presents to your office accompanied by his sister. He tells you that 6 months ago he was laid off from a job where he had been employed for more than 20 years. He says that he declined a promotion 2 years ago because he was worried about working with a new team. He has been unable to secure a new job, stating that the interview process has been embarrassing and that he feels unfairly judged when his resume is critiqued. He reports feeling inadequate and says that he is more comfortable staying at home alone. His sister adds that he has been shy since he was a teenager, and now seems unwilling to change despite his dire financial situation. Depression and anxiety screenings are negative. He does not use alcohol or other substances.

Which one of the following personality disorders is most consistent with this patient's presentation?

- A) Antisocial
  - B) Avoidant
  - C) Borderline
  - D) Dependent
  - E) Histrionic
147. A 34-year-old male presents with a 2-week history of right plantar heel pain that began after he started training for a marathon. The pain is most severe immediately upon standing in the morning and then gradually improves somewhat after ambulation. It worsens again if he stands after sitting for a period of time or after excessive walking or running.

Which one of the following is supported by evidence as a first-line intervention to provide pain relief for this condition?

- A) Night splints
- B) Plantar fascia stretching exercises
- C) Acupuncture
- D) Extracorporeal shock wave therapy
- E) Platelet-rich plasma injection



148. An 18-month-old male is brought to your office by his parents for a well child check. The child was born at 28 weeks gestation and had a month-long NICU stay but has remained healthy and out of the hospital since that time. He is up to date on vaccines and his growth and development are appropriate. He was on omeprazole (Prilosec) for GERD but the parents have recently stopped the medication and he is doing well. He received palivizumab (Synagis) monthly last year during respiratory syncytial virus (RSV) season and never developed a respiratory infection. His parents are hoping that he can receive palivizumab again this year to prevent complications if he develops RSV. He recently started attending day care and they are worried about his exposure risk.

Which one of the following would you recommend this year for chemoprophylaxis against RSV in this patient?

- A) No chemoprophylaxis
  - B) A single dose of palivizumab only if RSV exposure is confirmed
  - C) A single dose of palivizumab prior to RSV season
  - D) Monthly administration of palivizumab during RSV season
149. A 62-year-old male presents with a 3-day history of left lower quadrant pain and a low-grade fever. Findings on CT are consistent with acute diverticulitis. The patient has a history of intolerance to metronidazole (Flagyl).

If antibiotics are given, the preferred agent for this patient would be

- A) amoxicillin/clavulanate (Augmentin)
  - B) azithromycin (Zithromax)
  - C) cephalexin (Keflex)
  - D) ciprofloxacin (Cipro)
  - E) doxycycline
150. A 48-year-old female sees you because she recently felt flutters in her chest while watching television. These were not associated with exertion. She has no significant past medical history and she does not take any medications or use illicit substances.

On examination you hear a regular rhythm with occasional premature beats. An EKG reveals multiple unifocal PVCs. You order 48-hour Holter monitoring, which shows a 15% PVC burden that is unifocal with no episodes of ventricular tachycardia.

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

- A) No further evaluation and reassurance that her palpitations are benign
- B) Initiation of a  $\beta$ -blocker
- C) Initiation of flecainide
- D) Echocardiography
- E) Left heart catheterization

151. A 17-year-old female sees you for a preparticipation evaluation for cross country running. She has not had any falls or other injuries and estimates that she runs 40 miles per week. Menarche occurred at age 12 but over the past year her periods have become irregular, with her last menses occurring about 4 months prior to presentation. She is not sexually active and a urine pregnancy test is negative. She and her parents tell you that she eats a healthy diet, although she does report an inadvertent weight loss of 15 lb as she has increased her running mileage over the past year. She takes a multivitamin and occasional acetaminophen for pain but does not take any chronic medications.

A physical examination reveals a thin female who does not show any signs of acute distress. Her vital signs include a weight of 52 kg (115 lb), a height of 173 cm (68 in), a BMI of 18 kg/m<sup>2</sup>, a heart rate of 50 beats/min, and a blood pressure of 85/44 mm Hg.

Which one of the following is the most likely underlying cause of her condition?

- A) Anemia
  - B) Anorexia nervosa
  - C) Low circulating estrogen levels
  - D) Low energy availability relative to needs
  - E) Vitamin D deficiency
152. A 25-year-old primigravida presents at 28 weeks gestation for a routine prenatal visit. She is undecided about breastfeeding versus bottle feeding and asks if breastfeeding provides any benefits for her own health.

You advise her that breastfeeding would decrease her risk of later developing

- A) colon cancer
  - B) diabetes mellitus
  - C) lung cancer
  - D) osteoarthritis
  - E) recurrent respiratory infections
153. You are providing medical care during a national emergency crisis and are tasked with triaging and allocating limited critical care resources when demand is greater than supply. Which one of the following processes is consistent with ethically sound crisis standards of care?
- A) Making triage decisions based on social and community value
  - B) Explaining triage decision practices and providing a process for appealing decisions
  - C) Allocating limited resources on a first-come, first-served basis when unable to distinguish medical need among patients
  - D) Continuing a patient's treatment without reassessment once resources have been allocated

154. A 55-year-old female presents for a telehealth visit because of a 2-month history of right lateral hip pain. Her symptoms began shortly after she started jogging. The pain worsened a week ago after a long car trip. She reports that the pain has been interfering with her sleep quality, particularly if she rests on her right side. You ask her to walk away from her video camera so you can observe her ambulation. You note a Trendelenburg gait with her body shifting to the right side.

Which one of the following is the most likely diagnosis?

- A) Femoroacetabular impingement
- B) Greater trochanteric pain syndrome
- C) A hamstring strain
- D) A labral tear
- E) Sacroiliac joint dysfunction

155. A 68-year-old female presents for an annual health maintenance visit. She says that she does not receive the influenza vaccine because she developed hives many years ago after eating eggs.

Which one of the following would you recommend?

- A) Avoiding influenza vaccine
- B) Proceeding with in-office vaccination without premedication
- C) Diphenhydramine (Benadryl Allergy), 50 mg 4 hours prior to vaccination
- D) Prednisone, 20 mg 4 hours prior to vaccination
- E) Referral to an allergist for desensitization

156. A 50-year-old male comes to your office for a health maintenance visit. He does not have any symptoms today. You last saw him 4 years ago and at that time his BMI was  $24 \text{ kg/m}^2$ , his blood pressure was 124/70 mm Hg, and a lipid panel was normal. Today he tells you that he gained some weight and started smoking due to a stressful job. He is concerned about his risk for cardiovascular disease.

Which one of the following would be the most appropriate screening test for this patient at this time?

- A) Hypertension screening
- B) An ankle-brachial index
- C) A coronary artery calcium score
- D) An EKG
- E) Abdominal duplex ultrasonography

157. A 20-year-old female comes to your office for routine follow-up after recently finishing neck irradiation treatment for Hodgkin's lymphoma. Her past medical history is otherwise significant for allergic rhinitis and GERD. She feels generally well after treatment. A physical examination is unremarkable.

Which one of the following should be performed to monitor for complications from radiation?

- A) No routine follow-up surveillance
- B) Parathyroid hormone levels
- C) Swallow studies
- D) Carotid artery ultrasonography
- E) Neck CT

158. You are evaluating a couple for infertility. The semen analysis demonstrates oligozoospermia on two separate samples. The history and physical examination of the male partner are otherwise unremarkable.

Which one of the following would be the most appropriate next step in the evaluation of his oligozoospermia?

- A) A CBC with differential and a basic metabolic panel
- B) FSH and early morning total testosterone levels
- C) Antisperm antibody testing
- D) Scrotal ultrasonography
- E) Referral for a testicular biopsy

159. You see a previously healthy 8-year-old female for a well child check. She was born at full term and adopted at birth. She has a history of methamphetamine exposure in utero. She is up to date on vaccinations and is doing well academically. She says she has friends at school and her mother confirms that her teachers report that she interacts well with the other students. Her mother notes, however, that the patient has persistent difficulties with anger and irritability. This behavior has been present since preschool, and while her mother thinks there has been some improvement, she is concerned that it has not resolved.

At home, the child has frequent outbursts, often speaks hatefully when upset, refuses to follow instructions, and throws herself on the floor and kicks in frustration at times. Her sisters sometimes worry about upsetting her because they know she will react dramatically, although she has not been physically aggressive. Her mother notes that the patient often blames her sisters or others when she misbehaves.

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

- A) Reassurance that the behavior should continue to improve with age
- B) Education on positive reinforcement of desired behaviors
- C) Obtaining further history to evaluate for additional mental health conditions
- D) A trial of risperidone (Risperdal)
- E) Referral for parent management therapy

160. A 2-year-old male is brought to the urgent care clinic by his parents in February with a low-grade fever that started the night before. His mother awoke early in the morning when she heard his barking cough. He recently started attending preschool and the mother does not know of any sick contacts.

On initial examination the patient is in mild respiratory distress and appears nontoxic. He does not have any rhinorrhea or congestion. He has a temperature of 38.2°C (100.8°F), a respiratory rate of 40/min, a heart rate of 145 beats/min, and an oxygen saturation of 96% on room air. No rashes or petechiae are present.

The most appropriate next step in management would be

- A) humidified air
  - B) albuterol via nebulizer
  - C) oral dexamethasone
  - D) a viral culture
  - E) a chest radiograph
161. Current guidelines recommend moderate-intensity exercise (approximately 3.0–5.9 METs) for 150 minutes per week. Which one of the following activities is equivalent to this level of energy expenditure?
- A) Brisk walking
  - B) High-intensity interval training
  - C) Light housework
  - D) Jogging
  - E) Sitting at a desk
162. A 23-year-old male presents with a skin rash on his chest and back. An examination reveals widespread, slightly pink macules on his chest and back. A KOH preparation is shown below.

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

- A) Topical nystatin cream
- B) Topical selenium sulfide
- C) Topical triamcinolone cream
- D) Oral fluconazole (Diflucan)
- E) Oral nystatin



**Item #162**

163. You see a 26-year-old male who was diagnosed with maturity-onset diabetes of the young at age 22. He has a BMI of 24 kg/m<sup>2</sup> and his hemoglobin A<sub>1c</sub> is now 8.5%.

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

- A) A ketogenic diet
- B) Glipizide (Glucotrol)
- C) Metformin
- D) Short-acting sliding scale insulin with meals
- E) Basal insulin at bedtime

164. A 40-year-old female presents with a low back strain that occurred when moving furniture over the weekend. She rates her pain as mild to moderate. She initially tried acetaminophen, 1 g every 8 hours, and when this was ineffective, she switched to ibuprofen, 600 mg every 6–8 hours without relief. She is in good health otherwise and does not take any other medications.

Which one of the following would be the most appropriate pharmacologic therapy to recommend next?

- A) A combination of acetaminophen, 500 mg, and ibuprofen, 600 mg, every 8 hours
- B) CBD oil applied to the low back up to four times daily
- C) Diclofenac topical (Voltaren Arthritis Pain) applied to the low back every 6 hours
- D) Hydrocodone/acetaminophen (Norco), 5/325 mg every 6 hours
- E) Oxycodone (Roxicodone), 5 mg, every 4–6 hours

165. A 40-year-old female presents to your office with jaundice and dark urine. Testing for acute hepatitis A is positive. Her 12-year-old twin boys, who are in good health, have not been vaccinated against hepatitis A or B and are currently asymptomatic.

Which one of the following would be the most appropriate postexposure prophylaxis for these children?

- A) No prophylaxis
- B) Hepatitis A vaccine only
- C) Immune globulin only
- D) Hepatitis A vaccine and immune globulin

166. You see a 15-year-old male for a well child check. He does not have any health concerns and his developmental and social histories are unremarkable. His vital signs include a height of 152 cm (60 in), a weight of 79 kg (174 lb), a blood pressure of 133/80 mm Hg, a heart rate of 85 beats/min, and a respiratory rate of 14/min.

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

- A) Discussing healthy lifestyle changes, with follow-up at the next annual visit
  - B) Repeating blood pressure measurements two more times during this visit
  - C) Checking blood pressure in the upper and lower extremities and starting an angiotensin receptor blocker
  - D) Screening for hyperlipidemia, diabetes mellitus, fatty liver, and kidney disease only
  - E) Screening for hyperlipidemia, diabetes, fatty liver, and kidney disease, and referral for intensive weight management and dietary therapy
167. The results of a meta-analysis of lung cancer screening using low-dose CT were as follows: the pooled lung cancer-specific mortality rate in the control group was 2.12%, the estimated lung cancer-specific mortality rate in the screened population was 1.72%, and the absolute risk reduction for lung cancer mortality was 0.4% (2.12% minus 1.72%).

What is the number needed to screen to prevent one death due to lung cancer?

- A) 5
  - B) 23
  - C) 47
  - D) 200
  - E) 250
168. You see a 50-year-old male in your office with a 2-week history of cough that began as mild and intermittent, but now occurs as paroxysms that frequently cause him to vomit. He feels very tired after these coughing fits. He also reports rhinorrhea throughout the course of his symptoms. He has been feeling overheated but does not report documented fevers. He notes that he does not typically receive routine vaccinations. His vital signs include a temperature of 37.4°C (99.3°F), a pulse rate of 85 beats/min, a respiratory rate of 20/min, and an oxygen saturation of 93% on room air. He has no medication allergies. A test for COVID-19 is negative.

Of the following treatments, which one would be the most beneficial for this patient's most likely condition?

- A) Continued supportive care only
- B) Tdap vaccination
- C) Azithromycin (Zithromax)
- D) Doxycycline
- E) Oseltamivir (Tamiflu)



169. A 12-year-old female is brought to your office by her mother for evaluation of a knee abrasion sustained earlier that day when she fell off her bike onto a gravel driveway. Her immunizations are up to date, including Tdap vaccination last year. A physical examination reveals an irregular, superficial abrasion measuring roughly 1×2 cm, containing dirt and stony debris.

Which one of the following infection prevention measures would be most appropriate in this situation?

- A) Irrigation with tap water
- B) Irrigation with 3% hydrogen peroxide
- C) A topical antibiotic
- D) An oral antibiotic
- E) A tetanus booster

170. A 61-year-old male is found to have a 2-cm right adrenal incidentaloma on CT. He has no history of hypertension, electrolyte abnormalities, headaches, flushing, or sweating.

Which one of the following studies should be performed in patients found to have an adrenal incidentaloma?

- A) An ACTH stimulation test
- B) A dexamethasone suppression test
- C) Paired serum aldosterone and plasma renin activity
- D) Serum or urine metanephrines
- E) A PET scan

171. A 24-month-old female is brought to your office by her mother because the child will not stand on her right leg. Yesterday the patient was playing at the park and her mother did not notice any injury occur. There has been no recent illness or fever. The child was born at full term, has had no medical problems, and is up to date on vaccinations.

The patient's vital signs are normal. A physical examination reveals a healthy-appearing child in no apparent distress. She grimaces and pulls away with palpation of the right leg over the lower tibia and she will not bear weight. She has full passive range of motion of her hip, knee, and ankle joints bilaterally without apparent pain. Anteroposterior and lateral radiographs of her right tibia and fibula show no abnormalities.

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

- A) Reassurance only
- B) A CBC and C-reactive protein level
- C) Immobilization with a cam boot, and repeat radiographs in 7 days
- D) Bone scintigraphy
- E) Referral to an orthopedic surgeon

172. A 75-year-old female with no significant past medical history presents to your office with a recent onset of postural dizziness and lightheadedness. An evaluation reveals a diagnosis of orthostatic hypotension with no underlying etiology identified. After an unsuccessful trial of managing her symptoms with nonpharmacologic measures, she returns to discuss additional treatment options.

Which one of the following oral medications would be the preferred initial treatment?

- A) Atomoxetine (Strattera)
- B) Clonidine
- C) Midodrine
- D) Phenylephrine
- E) Pyridostigmine (Mestinon)

173. A 57-year-old male who uses tobacco presents with cough and dyspnea. His symptoms were previously controlled with an albuterol (Proventil, Ventolin) inhaler once or twice a month. After a 3-week trial of a tiotropium (Spiriva) inhaler his symptoms are better, but he is still having frequent episodes of coughing and dyspnea. He has been smoking 1–2 packs of cigarettes a day since age 13 and is not interested in quitting.

On examination he is afebrile, his vital signs are stable, and his oxygen saturation is 95% on room air. His lung sounds are diminished, and the remainder of the examination is unremarkable. His in-office peak flow is 300 L/min. You suspect he has moderate COPD and recommend pulmonary function tests but he declines.

In addition to continuing tiotropium, which one of the following medications would you recommend adding to his current regimen?

- A) An oral antibiotic
- B) An oral corticosteroid
- C) An inhaled corticosteroid
- D) An inhaled long-acting  $\beta$ -agonist
- E) A nebulized short-acting  $\beta$ -agonist

174. A 25-year-old female presents to your office for an annual health maintenance visit. You note a BMI of 17 kg/m<sup>2</sup>, a heart rate of 66 beats/min, and a blood pressure of 110/64 mm Hg. The patient reports exercising for 2 hours each day, incorporating cardio and light weights. The patient presents a detailed food diary and asks for advice about how to adjust her nutrition to lose weight.

In order to provide the best care for this patient, which one of the following would you order?

- A) A fecal calprotectin level
- B) Stool cultures
- C) A DEXA scan
- D) Chest radiography
- E) Thyroid ultrasonography

175. Which one of the following is consistent with best practices for prescribing hormonal contraception?

- A) Delaying initiation until the patient's next menstrual period to avoid incidental use in early pregnancy
- B) Limiting prescription refills to 3 months at a time
- C) Obtaining a thorough medical history to screen for contraindications
- D) Requiring in-person visits rather than telehealth visits for contraceptive counseling due to the need for a gynecologic examination
- E) Requiring patients to have an up-to-date Papanicolaou test and sexually transmitted infection screening

176. A 4-year-old male is brought to your office by his mother because of fevers, irritability, runny nose, and cough for the past week. On examination he is noted to have bilateral conjunctivitis; dry cracked lips; a maculopapular rash; edema and erythema of his palms and soles bilaterally; and a nontender, enlarged, right anterior cervical lymph node.

Which one of the following should be included in the evaluation of this patient's condition?

- A) Chest radiography
- B) Neck ultrasonography
- C) Echocardiography
- D) Neck CT
- E) Cardiac MRI

177. A 35-year-old female presents with a 3-week history of radial-sided wrist pain without acute trauma. Her symptoms are most prominent when lifting her 4-month-old infant into his car seat.

Which one of the following physical examination findings is most consistent with the likely diagnosis?

- A) Focal tenderness in the anatomic snuffbox
- B) Focal tenderness over the triangular fibrocartilage complex
- C) Pain reproduced by repeated percussion over the volar wrist
- D) Pain reproduced by thumb passive circumduction with axial load to the first carpometacarpal joint
- E) Pain reproduced by ulnar wrist deviation with the thumb placed inside a closed fist

178. A 90-year-old male with metastatic prostate cancer and osteoarthritis of the knees is brought to the hospital with acute kidney injury due to dehydration, along with generalized weakness and ambulatory dysfunction. Prior to his hospitalization he lived independently with part-time caregiver assistance. Over the next 2 days his renal function improves, although physical and occupational therapy evaluations reveal significant deficits in his activities of daily living. The decision is made to transfer him to a skilled nursing facility.

In planning for his discharge, you discuss completion of a Physician Orders for Life-Sustaining Treatment (POLST) form with the patient and his daughter, who says that her father already has an advance directive. She asks you what distinguishes a POLST form from other advanced care planning documents.

You explain to her that, as opposed to an advance directive, a POLST form

- A) does not require a signature from a treating physician
  - B) is required for patients with a terminal illness in hospice care
  - C) provides specific orders for emergency medical services
  - D) should be completed for all patients during an annual Medicare wellness visit
  - E) supersedes the expressed wishes of a patient who can communicate
179. A 53-year-old male undergoes colon cancer screening with multitarget stool DNA testing (Cologuard). The result is negative and you are composing a message to send to his online patient portal to discuss the results.

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

- A) Fecal immunochemical testing (FIT) now
  - B) FIT in 1 year
  - C) Colonoscopy now
  - D) Repeat multitarget stool DNA testing in 3 years
  - E) Repeat multitarget stool DNA testing in 5 years
180. A 60-year-old male with moderate COPD presents to your office with shortness of breath and a cough with increased sputum volume. After appropriate evaluation, you diagnose an acute COPD exacerbation.

According to Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines, which one of the following additional factors would provide the strongest indication for treatment with antibiotics?

- A) A decline in oxygen saturation from baseline
- B) Diffuse wheezing on lung auscultation
- C) A fever
- D) Increased sputum purulence
- E) Leukocytosis

**181.** Which one of the following is the recommended duration of anticoagulation for a first episode of a provoked proximal deep vein thrombosis of the leg?

- A) 6 weeks
- B) 3 months
- C) 9 months
- D) 1 year
- E) Lifelong

**182.** A 40-year-old female sees you to discuss a thyroid nodule that was noted on a report from carotid ultrasonography performed by an independent organization. The patient is asymptomatic. Her family history is negative for malignancy.

On physical examination you confirm the presence of a thyroid nodule. The remainder of the examination, including the lymphatic system, is negative. A TSH level is normal.

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

- A) Observation only
- B) Thyroid ultrasonography
- C) A radionuclide thyroid uptake scan
- D) Fine-needle aspiration only
- E) Fine-needle aspiration with molecular testing

**183.** You see a 30-year-old male for a routine health maintenance visit. The physical examination is normal, but he mentions that he has an overwhelming urge to keep checking and rechecking doors to make sure they are locked. He senses that something dangerous will happen if he does not do this. These thoughts and behaviors have become very distressing to him, and have started to interfere with his work and home life.

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

- A) Alprazolam (Xanax)
- B) Risperidone (Risperdal)
- C) Sertraline (Zoloft)
- D) Referral for psychodynamic psychotherapy

184. A 50-year-old male presents with a 3-month history of persistent burning and numbness in his anterolateral left thigh. He has not had any injury, back pain, radiation of pain, or weakness. He has not noticed any exacerbating or remitting factors. He has type 2 diabetes and a BMI of 37 kg/m<sup>2</sup>, and his job is sedentary.

An examination reveals normal deep tendon reflexes in the patella and ankle, and the straight leg raising test is negative bilaterally. His strength is preserved throughout his lower extremities. His pinprick sensation is slightly reduced along the anterolateral thigh. Burning discomfort is reproduced with tapping over the lateral aspect of the inguinal ligament.

Which one of the following is the most likely diagnosis?

- A) Cauda equina syndrome
  - B) Diabetic neuropathy
  - C) Femoral neuropathy
  - D) Left S1 radiculopathy
  - E) Meralgia paresthetica
185. A 46-year-old female presents with a 2-week history of polyuria. She has not had any discomfort with urination or visible change in her urine. Her past medical history includes hysterectomy for fibroids. Further history reveals no concerning environmental exposures other than a 5-pack-year history of smoking in her twenties. A physical examination, including a pelvic examination, is unremarkable. A urine dipstick reveals only 1+ RBCs. A microscopic urinalysis is negative with the exception of 7 RBCs/hpf, and a urine culture is negative.

Which one of the following would you recommend at this point?

- A) Repeat urinalysis in 6 months
  - B) Renal ultrasonography only
  - C) Urine cytology and renal ultrasonography
  - D) Urine cytology and CT urography
  - E) Cystoscopy and CT urography
186. Three days after a camping trip in New Hampshire a patient develops influenza-like symptoms of a fever, mild myalgias, and malaise followed by an expanding, erythematous, annular rash with central clearing on his thigh. Which one of the following is the most likely diagnosis for the rash?
- A) Erythema migrans
  - B) Erythema multiforme
  - C) Nummular eczema
  - D) Pityriasis rosea
  - E) Tinea corporis

187. A 13-year-old male presents with a 3-week history of pain in the anterior right knee that is worse when descending stairs and jumping. He is active in sports but has no recent history of injury. On examination you note tenderness and swelling over the tibial tuberosity, but no redness or warmth.

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

- A) No imaging
- B) Plain film radiographs
- C) Ultrasonography
- D) MRI
- E) A bone scan

188. A patient's office spirometry results reveal a normal FEV<sub>1</sub>/FVC ratio and a decreased FVC. Which one of the following is the most likely explanation for these findings?

- A) A normal pattern
- B) A mixed pattern
- C) A restrictive pattern
- D) A reversible obstructive pattern
- E) An irreversible obstructive pattern

189. A 56-year-old male was recently diagnosed with hypertension and started on lisinopril (Zestril). At a follow-up visit his blood pressure remains elevated and his serum creatinine level has increased from 0.9 mg/dL to 1.8 mg/dL (N 0.7–1.3). He has no other known medical issues and has a normal BMI.

Which one of the following should be ordered to confirm the most likely cause of his hypertension?

- A) Renin and aldosterone levels
- B) A TSH level
- C) 24-hour urinary free cortisol
- D) 24-hour urinary fractionated metanephrines and normetanephrines
- E) CT angiography of the abdomen and pelvis

190. Which one of the following oral conditions shows the most significant response to oral antivirals?

- A) Behçet's syndrome
- B) Hand-foot-and-mouth disease
- C) Herpangina
- D) Herpes gingivostomatitis
- E) Vincent's angina

191. A 72-year-old male presents for follow-up of a recent emergency department (ED) visit for chest pain that was diagnosed as costochondritis. He has a history of hypertension and chronic atrial fibrillation. A CBC in the ED was significant for a hemoglobin level of 11.1 g/dL (N 13.5–17.5) and a mean corpuscular volume of 104  $\mu\text{m}^3$  (N 80–100). Follow-up laboratory studies showed the following:

Peripheral smear . . . . .	normal other than macrocytosis
Reticulocyte index . . . . .	1.7% (N 0.5–2.5)
Vitamin B <sub>12</sub> . . . . .	512 pg/mL (N 190–950)
Folate . . . . .	12 pg/mL (N 2.7–17)

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

- A) Anemia of chronic disease
  - B) Chronic alcohol use
  - C) Gastrointestinal bleeding
  - D) Hemolysis
  - E) Myelodysplastic syndrome
192. A 20-year-old pregnant female presents to your clinic to discuss the possibility of delivering her baby at her home. A few of her friends have had their babies at home and she asks for your advice about her delivery.

Which one of the following presents the greatest risk with an out-of-hospital birth?

- A) Nulliparity
  - B) Maternal age <25
  - C) Prior vaginal delivery
  - D) Single gestation
  - E) Cephalic presentation
193. Which one of the following would be most appropriate regarding screening for nonalcoholic fatty liver disease?
- A) No routine screening for any patients
  - B) Routine screening for patients with obesity
  - C) Routine screening for patients with hypothyroidism
  - D) Routine screening for patients with polycystic ovary syndrome
  - E) Routine screening for patients with type 2 diabetes



194. A healthy 80-year-old female sees you for a routine visit. She is active and follows a healthy diet. She is enthusiastic about vitamin supplements and asks you regularly about their benefits. Her laboratory chemistry profile demonstrates a persistent calcium level elevation at 10.9 mg/dL (N 8.5–10.2).

You review her prescription medications and do not find any associated with hypercalcemia. You also review her calcium and vitamin D intake. Because you know about her tendency to take supplements, you consider other vitamins that may contribute to the hypercalcemia.

Excessive intake of which one of the following would be the most likely explanation for these findings?

- A) Vitamin A
  - B) Vitamin B<sub>1</sub>
  - C) Vitamin C
  - D) Vitamin E
  - E) Vitamin K
195. You evaluate a patient with fatigue, anorexia, and nausea for adrenal insufficiency. A morning cortisol level is low.

Which one of the following would be the most appropriate confirmatory test?

- A) A 21-hydroxylase antibody level
  - B) An ACTH stimulation test
  - C) A low-dose dexamethasone suppression test
  - D) A high-dose dexamethasone suppression test
  - E) CT of the adrenal glands
196. You diagnose attention-deficit/hyperactivity disorder in a 4-year-old female. Which one of the following would be the most appropriate first-line treatment?
- A) Dietary modification
  - B) Vitamin supplementation
  - C) Behavioral intervention
  - D) Atomoxetine (Strattera)
  - E) Methylphenidate (Ritalin)
197. According to the Ottawa knee rule, which one of the following factors may warrant radiography in a patient with an acute knee injury?

- A) Age < 30
- B) Injury from a fall or blunt trauma
- C) A twisting mechanism of injury
- D) Inability to flex the knee to 90°
- E) The presence of a joint effusion within 24 hours of the injury

198. You admit a 50-year-old female to the hospital with pneumonia secondary to COVID-19. Her medical history is significant for controlled major depressive disorder. Upon admission, she requires respiratory support with oxygen via a high-flow nasal cannula. You ask her wishes regarding emergency measures and she states that she does not wish to be resuscitated or intubated. She reports that she watched her mother die a “horrible death” from COVID-19 about 6 months earlier and does not want to put herself through that. She does not have an advance directive and her only living relative is her father who is cognitively impaired. You are hesitant to write the DNR/DNI order given her good health and high likelihood of survival if she were to clinically decline.

Which one of the following would be most appropriate prior to writing a DNR/DNI order for this patient?

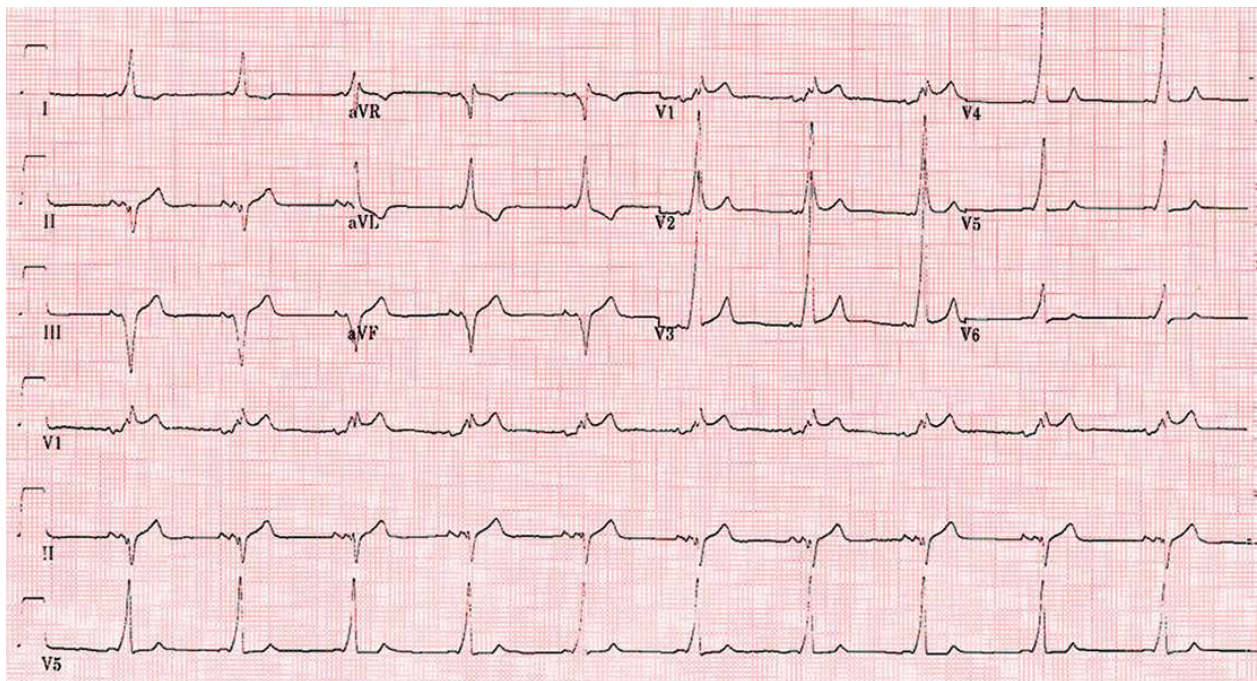
- A) No further actions prior to writing the order
  - B) Administering a Patient Health Questionnaire–9 (PHQ-9) and writing the order if her score is <10
  - C) Asking a second attending physician to verify her wishes
  - D) Consulting a psychiatrist for a formal assessment of mental capacity
  - E) Consulting the hospital ethics board
199. A 41-year-old male who is a construction worker sees you because he experienced palpitations followed by an episode of syncope after drinking four beers at a hotel bar while on vacation. He says that he was hospitalized briefly, and an electric shock was administered in the emergency department after medications were given. On discharge he was told that he had a brief episode of atrial fibrillation but that an echocardiogram was normal. He was advised to follow up promptly with his personal physician. An EKG performed in your office is shown below.

Which one of the following would you recommend for this patient?

- A) Aspirin
  - B) Oral flecainide to be taken if a similar episode occurs in the future
  - C) Oral metoprolol therapy
  - D) Warfarin therapy
  - E) Catheter ablation therapy
200. A 30-year-old gravida 2 para 1 at 20 weeks gestation presents with a 1-day history of a fever, cough, headache, and myalgias. A nasal swab confirms influenza B.

Which one of the following is the preferred antiviral treatment for this patient?

- A) No treatment because of her pregnancy
- B) No treatment because antiviral medication is indicated for influenza A but not influenza B
- C) Baloxavir marboxil (Xofluza)
- D) Oseltamivir (Tamiflu)
- E) Peramivir (Rapivab)



Item #199