

# American Board of Family Medicine



IN-TRAINING EXAMINATION

TIME-4 HOURS

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1. A 3-year-old male is brought to your office for a well child visit. The history indicates that the child has a vocabulary of about 100 single words and has not begun to speak in 2-word phrases. An ear examination is normal and the parents have no concerns regarding the child's hearing. They report that the child is interacting with others normally.

Which one of the following would you propose?

- A) Reassessment in 6 months
  - B) Limiting screen time to 2 hours per day
  - C) A 4-week intensive parent-administered reading program
  - D) Referral to a local early developmental intervention program
2. A previously healthy 29-year-old pediatric nurse has a 3-day history of malaise, arthralgias, and a nonpruritic rash. The rash is a faint, maculopapular, irregular, reticulate exanthem that covers her thighs and the inner aspects of her upper arms. Symmetric synovitis is present in several distal and proximal interphalangeal joints and in her metacarpophalangeal joints. Small effusions, warmth, and tenderness are noted in her left wrist and right elbow. No other joints are affected.

The most likely cause of this problem is

- A) varicella-zoster virus
  - B) measles (rubeola) virus
  - C) parvovirus B19
  - D) adenovirus
  - E) HIV
3. A previously healthy 5-year-old male is brought to your office because of painful swelling in his neck. His mother noted the swelling about 3 or 4 days ago and it has grown rapidly. This morning he was sent home from school with a temperature of 101.2°F.

On further questioning the patient reports no other symptoms and his mother confirms he has not complained of anything besides the pain in his neck. He has been eating well and has had no weight loss. They do not have a cat and he has not been around any cats. He is up to date on immunizations.

A physical examination reveals normal vital signs with the exception of a temperature of 38.5°C (101.3°F). He has a tender, erythematous, slightly fluctuant, enlarged lymph node in the left anterior cervical chain. He has no other enlarged lymph nodes and the examination is otherwise unremarkable.

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

- A) Monitoring for up to 4 weeks to see if the problem resolves
- B) Empiric antibiotic therapy directed at *Staphylococcus aureus* and group A *Streptococcus*
- C) CT of the neck
- D) Referral for a fine-needle aspiration biopsy of the enlarged lymph node
- E) Referral to a hematologist for evaluation of lymphadenopathy

4. A 65-year-old Hispanic male with known metastatic lung cancer is hospitalized because of a 2-week history of decreased appetite, lethargy, and confusion. Laboratory evaluation reveals the following:

Serum calcium . . . . .	15.8 mg/dL (N 8.4–10.0)
Serum phosphorus . . . . .	3.9 mg/dL (N 2.6–4.2)
Serum creatinine . . . . .	1.1 mg/dL (N 0.7–1.3)
Total serum protein . . . . .	5.0 g/dL (N 6.0–8.0)
Albumin . . . . .	3.1 g/dL (N 3.7–4.8)

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

- A) Calcitonin-salmon (Miacalcin) subcutaneously
  - B) Pamidronate by intravenous infusion
  - C) Normal saline intravenously
  - D) Furosemide intravenously
5. A 40-year-old white male has seen you in the past for hypertension and alcohol abuse. He comes to your office for an acute visit due to a swollen, painful right knee that developed over the past few days. He says he has been treated for gout flares in the past by another physician. He tells you his pain has always been in his knee, and he always has marked swelling of the knee when the pain is severe. He has never had any other swollen joints. The fluid from his knee has never been evaluated to his knowledge, although it has been drained, which resulted in pain relief. No past record of a uric acid level is found, and he does not recall having it checked. He has no fever, no systemic signs of illness, and no injury to his knee.

A physical examination reveals a swollen knee with no evidence of internal derangement, no erythema, and no other swollen joints. No nodules are appreciated. A knee radiograph reveals only the swelling within the joint. His uric acid level is 5.1 mg/dL (N 4.0–8.0).

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

- A) Dietary changes to decrease the risk of gout flares
  - B) Allopurinol (Zyloprim) for gout flare prevention
  - C) Colchicine (Colcrys) for the gout flare
  - D) Corticosteroid injection into the painful knee
  - E) Aspiration and evaluation of fluid from the knee joint, including crystal analysis
6. Which one of the following patients should be tested for *Helicobacter pylori* infection and, if positive, treated with eradication therapy without endoscopy?
- A) A 45-year-old male with a 2-month history of epigastric burning after eating
  - B) A 45-year-old male who has progressive epigastric pain with associated anorexia and weight loss
  - C) A 53-year-old female with a 6-week history of burning in the chest after eating
  - D) A 60-year-old female with a 2-month history of constant epigastric burning
  - E) A 60-year-old male who takes daily aspirin and has developed epigastric burning and associated vomiting over the past month

7. In patients with an acute ST-elevation myocardial infarction, fibrinolysis may be preferred as a reperfusion strategy over percutaneous coronary intervention (PCI), depending on factors such as when the symptoms began and the transport time to the nearest PCI-capable hospital. In which one of the following situations would fibrinolysis be most appropriate?
- A) An onset of symptoms 6 hours ago and a transport time of more than 2 hours
  - B) An onset of symptoms 10 hours ago and a transport time of approximately 30 minutes
  - C) An onset of symptoms 20 hours ago and evidence of ongoing ischemia when presenting to a PCI-capable hospital
  - D) A sudden onset of symptoms on day 2 of a hospitalization for an ischemic stroke and a transport time of more than 2 hours
8. Which one of the following hypoglycemic medications is proven to reduce mortality rates in patients with type 2 diabetes mellitus?
- A) Acarbose (Precose)
  - B) Glipizide (Glucotrol)
  - C) Metformin (Glucophage)
  - D) Rosiglitazone (Avandia)
9. A 74-year-old male with a history of diabetes mellitus, hypertension, and heart failure presents to the clinic with shortness of breath with an unknown etiology. Laboratory results that show an elevated procalcitonin level would help differentiate systolic heart failure from
- A) diastolic heart failure
  - B) bacterial pneumonia
  - C) acute coronary syndrome
  - D) pulmonary embolus
10. A 38-year-old healthy female comes to your office for preventive care. Her medical history is significant only for nephrolithiasis and controlled hypothyroidism. Her sexual history is significant for vaginal intercourse with three male partners in the past year, including her current partner who uses intravenous heroin. She has no fever, sore throat, swollen nodes, or other signs of acute illness. A fourth-generation HIV antibody/antigen test is negative and her serum creatinine level is 0.6 mg/dL (N 0.5–1.1).

Which one of the following additional test results must be documented before offering preexposure prophylaxis for HIV with emtricitabine/tenofovir (Truvada)?

- A) Hepatitis B surface antibody and antigen
- B) Hepatitis C antibody
- C) Liver enzymes
- D) HIV viral load
- E) Her sexual partner's HIV status

11. An 8-year-old female with a history of persistent asthma is interested in participating in a mile-long race for a school fundraiser. Her mother is very concerned and thinks she should not run, and she brings in a form to fill out to excuse the child from participation. The child states that she wants to participate. Her medications include fluticasone (Flovent HFA), 44 µg twice daily; loratadine (Claritin), 5 mg daily; and albuterol (Proventil, Ventolin) as needed. She has no nighttime symptoms, has not used her inhaler at all in the past week, and can keep up with other children during recess.

The best course of action is to

- A) fill out the form as requested with no change in medication
  - B) recommend that she take 2 puffs of albuterol 30 minutes prior to the event and let her run
  - C) increase the fluticasone dosage to 110 µg twice daily and let her run
  - D) add montelukast (Singulair) to her regimen and let her run
  - E) add a long-acting β-agonist to her regimen and let her run
12. A 28-year-old white male presents with pain in the right wrist since falling 2 weeks ago. On examination he is tender in the anatomic snuffbox. A radiograph reveals a nondisplaced fracture of the distal third of the carpal navicular bone (scaphoid).

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

- A) A bone scan
  - B) A referral for physical therapy
  - C) A Velcro wrist splint
  - D) A short arm cast
  - E) A thumb spica cast
13. A 65-year-old male with a 40-pack-year history of smoking presents with shortness of breath on exertion. Spirometry reveals the following:

FEV <sub>1</sub> /FVC .....	65% of predicted
FVC .....	normal
Bronchodilator therapy.....	no improvement in FEV <sub>1</sub>

Which one of the following is suggested by these results?

- A) Normal spirometry
- B) Reversible obstructive lung disease
- C) Irreversible obstructive lung disease
- D) Restrictive lung disease
- E) Mixed obstructive and restrictive lung disease

14. A 52-year-old male presents with moderate symptoms of prostatism. A prostate examination is normal. His post-void residual volume is 90 mL. His PSA level is 0.75 ng/mL (N 0.0–4.0). He says his nocturia has become troublesome and you decide to initiate therapy.

This patient does NOT meet the criteria for use of which one of the following?

- A) Doxazosin (Cardura)
- B) Finasteride (Proscar)
- C) Tadalafil (Cialis)
- D) Tamsulosin (Flomax)
- E) Silodosin (Rapaflo)

15. A 30-year-old male presents with intermittent right upper quadrant pain after meals. He has been in moderate pain for the past 3 hours. On examination the patient's vital signs are normal except for a temperature of 38.1°C (100.6°F). Examination of the abdomen reveals a positive Murphy's sign.

Laboratory Findings

WBCs .....	8100/mm <sup>3</sup> (N 4300–10,800)
ALT (SGPT).....	42 U/L (N 10–55)
AST (SGOT).....	28 U/L (N 10–40)
Alkaline phosphatase .....	128 U/L (N 45–115)
Bilirubin .....	1.0 mg/dL (N 0.0–1.0)
Lipase .....	12 U/dL (N 3–19)

Ultrasonography reveals cholelithiasis, an enlarged gallbladder, and thickening of the gallbladder wall. The diameter of the common bile duct is normal.

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

- A) Choledocholithiasis
- B) Acute cholecystitis
- C) Acute cholangitis
- D) Gallstone pancreatitis

16. A 62-year-old male with diabetes mellitus recently underwent angioplasty with placement of a drug-eluting stent for the treatment of left main coronary artery disease and acute coronary syndrome. The patient is not considered at high risk for bleeding and you initiate dual antiplatelet therapy with aspirin and clopidogrel (Plavix).

For how long should this patient continue dual antiplatelet therapy?

- A) 1 month
- B) 3 months
- C) 6 months
- D) 9 months
- E) At least 12 months

17. A 67-year-old female sees you because of a cough she has had for the past few days and a fever that started today. She is short of breath and generally does not feel well. She has no history of lung disease and is a nonsmoker. Her medical history is significant for hypertension, hyperlipidemia, and type 2 diabetes mellitus, all of which are well managed with medications and diet.

A physical examination reveals a mildly ill-appearing female with a temperature of 38.2°C (100.8°F), a pulse rate of 90 beats/min, a respiratory rate of 21/min, a blood pressure of 110/60 mm Hg, and an oxygen saturation of 98% on room air. Her heart has a regular rhythm and her respirations appear unlabored. She has rhonchi in the left lower lung field but has good air movement overall. A chest radiograph reveals a left lower lobe infiltrate.

Which one of the following is the most appropriate setting for the management of this patient's pneumonia?

- A) Home with close monitoring
  - B) An inpatient medical bed without telemetry monitoring
  - C) An inpatient medical bed with telemetry monitoring
  - D) An inpatient intensive care bed
18. A 67-year-old female reports hearing a ringing sound when she is in a quiet room. The ringing is not bothersome to her, but she wonders what is causing it. She has not noticed any hearing loss.

According to the American Academy of Otolaryngology—Head and Neck Surgery, neurologic imaging (such as contrast-enhanced MRI of the brain) would be indicated if

- A) the patient requests imaging
  - B) the tinnitus is nonpulsatile
  - C) the tinnitus is unilateral
  - D) treatment with an antidepressant such as fluoxetine (Prozac) fails
  - E) audiology testing identifies symmetric, mild, high-frequency hearing loss
19. A pregnant 30-year-old female comes to your office in October and asks if she should receive influenza vaccine. She is at 12 weeks gestation by dates and has a past history of a severe egg allergy.

Which one of the following would you recommend?

- A) No immunization, because of the pregnancy
- B) No immunization, because of the egg allergy
- C) Standard inactivated seasonal vaccine now
- D) High-dose inactivated seasonal vaccine now
- E) Immunization during the second trimester

20. A 2-year-old child stumbles, but his mother keeps him from falling by pulling up on his right hand. An hour later the child refuses to use his right arm and cries when his mother tries to move it.

The most likely diagnosis is

- A) dislocation of the ulna
  - B) dislocation of the olecranon epiphysis
  - C) subluxation of the head of the radius
  - D) subluxation of the head of the ulna
  - E) anterior dislocation of the humeral head
21. A 56-year-old female comes to your office for evaluation of fatigue and shortness of breath. She has a history of type 2 diabetes mellitus, hypertension, hyperlipidemia, and obesity. Her diabetes has been well controlled, and a recent hemoglobin A<sub>1c</sub> was 6.7%.

She reports that she has been more tired than usual for the past several months and that walking more than a block or going up a flight of stairs has now become difficult. She has no chest pain, palpitations, dizziness, or cough. She has had mild, stable lower extremity edema for years, and this is unchanged. She lives alone and is not sure if she snores. She has had difficulties with sleep for years and does not feel refreshed upon awakening. She does not use tobacco or drink alcohol.

On examination she has a blood pressure of 128/78 mm Hg, a pulse rate of 76 beats/min, a respiratory rate of 14/min, a temperature of 37.1°C (98.8°F), an oxygen saturation of 95% on room air, and a BMI of 38.2 kg/m<sup>2</sup>. Auscultation of the heart reveals a regular rate and rhythm with no murmur. Her lungs are clear to auscultation bilaterally. She has 1+ pitting edema of both lower extremities.

A chest radiograph is normal and an EKG reveals normal sinus rhythm. Echocardiography shows a left ventricular ejection fraction of 60% without impaired diastolic function.

Which one of the following evaluations is most likely to reveal the cause of her fatigue?

- A) 24-hour ambulatory blood pressure monitoring
- B) Spirometry
- C) A sleep study
- D) CT angiography of the chest
- E) Left heart catheterization

22. A 2-year-old white male is seen for a well child visit. His mother is concerned because he is not yet able to walk. A routine physical examination, including an orthopedic evaluation, is unremarkable. Speech and other developmental milestones seem normal for his age.

Which one of the following tests would be most appropriate?

- A) A TSH level
  - B) Random urine for aminoaciduria
  - C) Phenylketonuria screening
  - D) A serum creatine kinase level
  - E) Chromosome analysis
23. A 20-year-old female with a history of persistent depression sees you for follow-up. She reports unplanned weight loss, chronic insomnia, fatigue, a loss of interest in hobbies that she previously enjoyed, and decreased concentration. She has seen other physicians and has tried antidepressant medications, including paroxetine (Paxil), bupropion (Wellbutrin), and citalopram (Celexa). She reports that there was a week when her mood felt much more normal. She needed only about 3 hours of sleep each night during that week. She admits she was somewhat impulsive, however, and experienced racing thoughts. She does not abuse any substances but has several family members who are drug abusers. Her mother and older sister committed suicide. Her examination, laboratory work, and drug screen are all unremarkable.

Which one of the following is most likely to help this patient?

- A) Escitalopram (Lexapro)
  - B) Mirtazapine (Remeron)
  - C) Quetiapine (Seroquel)
  - D) Trazodone (Oleptro)
  - E) Venlafaxine (Effexor XR)
24. A 62-year-old male with a history of COPD sees you because of fever, chills, and redness and swelling in his right lower extremity that has been progressing. He has a temperature of 38.0°C (100.4°F), a blood pressure of 112/72 mm Hg, and a pulse rate of 94 beats/min. The physical examination is remarkable for an erythematous area with increased warmth that extends approximately 18 cm (7 in) between the knee and ankle. You note no apparent abscess formation. The patient does not recall any specific injury that could have caused this problem.

According to the guidelines of the Infectious Diseases Society of America, which one of the following would be the most appropriate antibiotic regimen for this patient?

- A) Ceftriaxone (Rocephin)
- B) Piperacillin/tazobactam (Zosyn)
- C) Vancomycin (Vancocin)
- D) Vancomycin plus ceftriaxone
- E) Vancomycin plus piperacillin/tazobactam

25. When you arrive at your office in the morning your nurse asks you to see an 80-year-old white female who has come in without an appointment. The patient has a long history of hypertension and has felt very nauseated and lightheaded since last night. She denies chest pain and dyspnea.

Physical Findings

Blood pressure	100/60 mm Hg
Temperature	36.5°C (97.7°F)
Pulse	40 beats/min
Respirations	18/min
Appearance	generalized pallor
HEENT	within normal limits
Chest	bibasilar rales
Heart	40 beats/min; no gallop, no murmur
Abdomen	soft, no masses
Rectal	stool negative for occult blood
Extremities	no edema

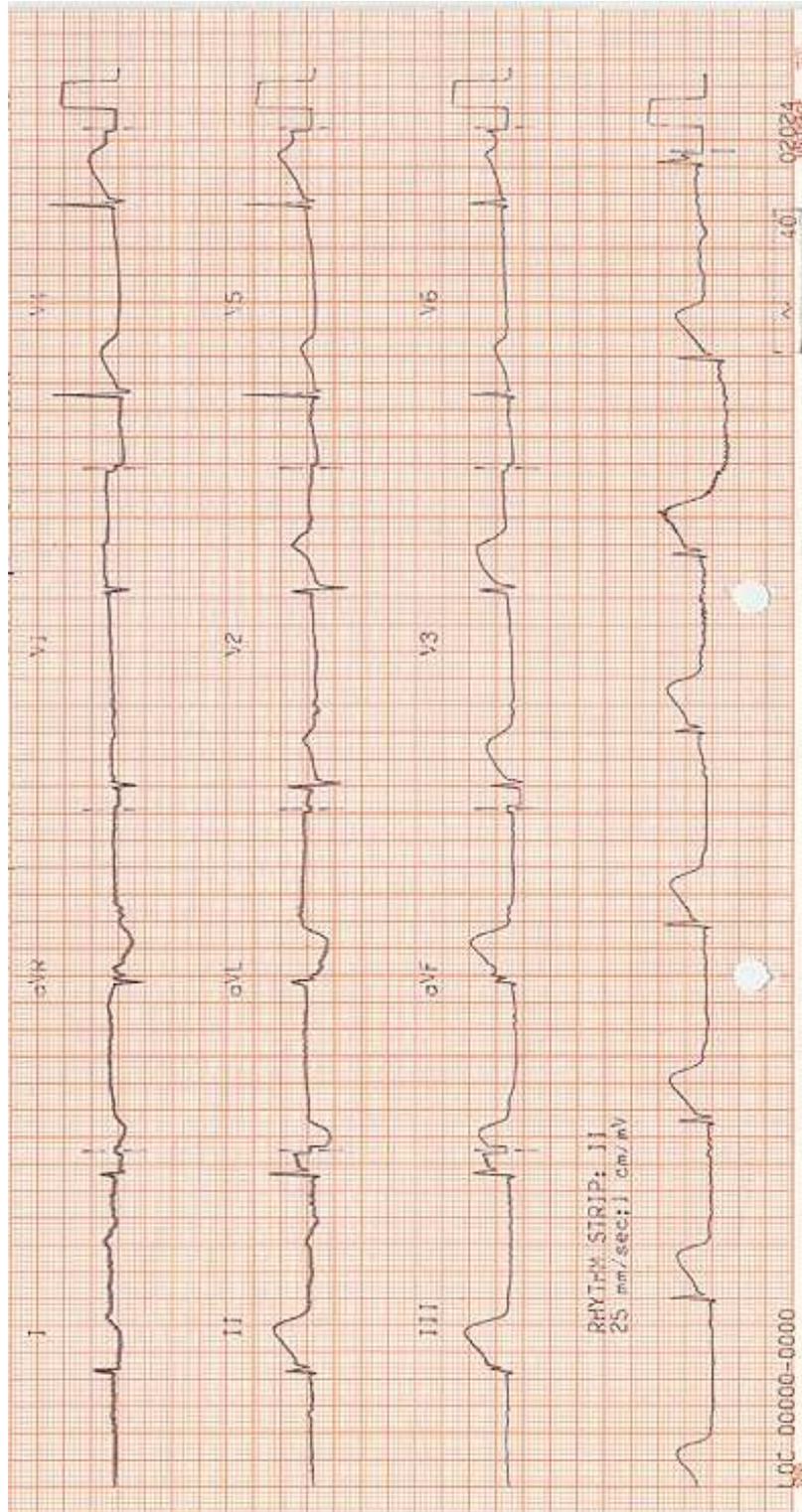
The patient's EKG is shown on the following page. Which one of the following does the EKG show?

- A) Pericarditis
  - B) Acute anteroseptal myocardial infarction
  - C) Acute inferior wall myocardial infarction
  - D) Idioventricular rhythm
26. The parents of a 40-day-old infant bring her to your clinic because she has had a persistent fever for the past 2 days with rectal temperatures up to 101.0°F. She has been fussy and wants to be held, but has been nursing well. She is crying when you enter the room, and on examination she has good skin turgor and capillary refill. The examination does not reveal any obvious source of infection. By the time you complete the examination the infant is resting quietly in her father's arms.

You obtain a CBC and urinalysis. The WBC count is 12,500/mm<sup>3</sup> (N 5000–19,500) with an absolute neutrophil count of 8500/mm<sup>3</sup> (N 1000–9000). The urinalysis is within normal limits.

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

- A) Home care and parental observation only, as long as the temperature remains under 39.0°C (102.2°F)
- B) Home care and reevaluation in 24 hours
- C) Oral antibiotics and reevaluation in 24 hours
- D) A complete sepsis workup, including blood cultures, stool studies, a chest radiograph, and cerebrospinal fluid studies



Item #25

27. A 56-year-old white male reports lower leg claudication that occurs when he walks approximately one block and is relieved by standing still or sitting. He has a history of diabetes mellitus and hyperlipidemia. His most recent hemoglobin A<sub>1c</sub> was 5.9% and his LDL-cholesterol level at that time was 95 mg/dL. Current medications include glyburide (DiaBeta), metformin (Glucophage), simvastatin (Zocor), and daily aspirin. He stopped smoking 1 month ago and began a walking program. A physical examination is normal except for barely palpable dorsalis pedis and posterior tibial pulses. Femoral and popliteal pulses are normal. Noninvasive vascular studies of his legs show an ankle-brachial index of 0.7 bilaterally and decreased flow.

Which one of the following would be most appropriate for addressing this patient's symptoms?

- A) Fish oil
  - B) Warfarin (Coumadin)
  - C) Cilostazol (Pletal)
  - D) Dipyridamole (Persantine)
  - E) Clopidogrel (Plavix)
28. A 78-year-old female with advanced dementia is brought to your office by her family for a wellness examination. Other than appearing chronically ill and showing significant cognitive impairment, she has an unremarkable examination.

Which one of the following should be offered to this patient?

- A) A clinical breast examination
  - B) A Papanicolaou test
  - C) Mammography
  - D) Colonoscopy
  - E) No cancer screening
29. A 4-year-old male is brought to your office by his maternal aunt, who is his new guardian. She is concerned that he is exhibiting problems with behavior and attention. On examination you note long, wide, protruding ears, an elongated face, and frontal bossing.

Which one of the following is the most likely cause of these dysmorphic features?

- A) Angelman syndrome
- B) Fragile X syndrome
- C) Klinefelter syndrome
- D) Marfan syndrome
- E) Prader-Willi syndrome

30. A 54-year-old female presents with painful sores in her mouth that appeared a few days ago. She has had some trouble eating due to the pain, but she is able to swallow without difficulty. She also began to have some pain around her right ear today. She has no fever, chills, nasal congestion, cough, or difficulty hearing. Her medical history is significant only for an anxiety disorder treated with sertraline (Zoloft). On examination her vital signs are all normal. You see vesicles on the right side of the hard palate and she has a swollen, red right pinna, with vesicles in the external auditory canal.

The organism responsible for this condition is

- A) coxsackievirus
  - B) Epstein-Barr virus
  - C) group A *Streptococcus*
  - D) herpes simplex virus
  - E) varicella zoster virus
31. A 75-year-old female with a 10-year history of type 2 diabetes mellitus presents with moderate bilateral burning pain in the distal portion of her feet. Her hemoglobin A<sub>1c</sub> is 8.1%.

Which one of the following is recommended as first-line therapy for improvement of this patient's pain?

- A) Amitriptyline
  - B) Ibuprofen
  - C) Pregabalin (Lyrica)
  - D) Tramadol (Ultram)
32. A 50-year-old female reports vaginal dryness, burning, and pain with penetration during sexual intercourse. On examination she is noted to have pale, dry vaginal epithelium that is smooth and shiny with loss of most rugation.

Which one of the following treatments is most likely to be effective for her sexual dysfunction?

- A) Cognitive-behavioral therapy
- B) Vaginal estrogen
- C) Testosterone therapy
- D) Bupropion (Wellbutrin)
- E) Sildenafil (Viagra)

33. A 62-year-old female with known systolic heart failure has a 2-month history of increased fatigue and worsening shortness of breath with ambulation. She says she has adhered to her medication regimen. Her oxygen saturation is 96% on room air and a physical examination is within normal limits. Laboratory studies, chest radiographs, and an EKG are ordered. The echocardiogram shows an ejection fraction of 35% and normal right heart function. Her estimated pulmonary pressure is 45 mm Hg.

The best option for treatment of her pulmonary hypertension at this point is to

- A) add a vasodilator
  - B) begin oxygen therapy
  - C) recommend lifelong anticoagulation
  - D) maximize treatment for heart failure
  - E) schedule right heart catheterization
34. An 11-year-old female who plays in a local youth soccer league presents with right heel pain that has persisted for several months. She does not recall a specific injury that could have caused the pain. On examination the skin is intact and she is tender over the right posterior heel. Examination of the ankle and forefoot is unremarkable and a neurovascular examination is normal. You decide that rest and physical therapy would be the best initial management.

Which one of the following is CONTRAINDICATED for this patient?

- A) Ice packs
  - B) Moist heat
  - C) Whirlpool therapy
  - D) An exercise prescription
  - E) Therapeutic ultrasound
35. An 18-year-old female presents with a painful right ankle after twisting it during a basketball game. On examination she has no tenderness over the lateral malleolus or posterior distal fibula, which she has identified as the location of the pain.

According to the Ottawa ankle rules, which one of the following would indicate that an ankle radiograph should be performed?

- A) Moderate ankle swelling
- B) The inability to bear weight on the right foot with the left foot elevated for 5 seconds
- C) The inability to stand for 5 seconds with weight evenly distributed on both feet, at the time of injury and during the evaluation
- D) The inability to take 4 steps at the time of the injury and during the evaluation
- E) The inability to walk 6 feet during the evaluation

36. A 70-year-old female presents with a complaint of recent fatigue and “not feeling well.” She is unable to provide further details about her fatigue but states that she has not felt like doing anything recently. She does not have shortness of breath, chest pain, weight gain or loss, hair loss, or constipation. Her past medical history is significant only for hypertension that is well controlled on hydrochlorothiazide. She is a nonsmoker, does not drink alcohol, and has no history of drug use. She is retired and lives alone. Her husband died 3 years ago and she has no family in the area but is involved in her church, although she says she has not enjoyed her church activities over the past few months.

In addition to laboratory testing, which one of the following would be appropriate at this time?

- A) Referral to Adult Protective Services
  - B) Evaluation with the Geriatric Depression Scale or the PHQ-9
  - C) Paroxetine (Paxil)
  - D) An EKG and stress testing
  - E) Pulmonary function testing
37. A 23-year-old gravida 1 para 0 at 35 weeks gestation presents with a 2-day history of ankle swelling and headache. She denies any abdominal pain or visual disturbances. On examination you note a fundal height of 35 cm, a fetal heart rate of 140 beats/min, 2+ lower extremity edema, and a blood pressure of 144/92 mm Hg. A urine dipstick shows 1+ proteinuria. A cervical examination reveals 2 cm dilation, 90% effacement, -1 station, and vertex presentation.

You send her to labor and delivery triage for further evaluation. Over the next 4 hours she has a reactive nonstress test and her blood pressure ranges from 142/90 mm Hg to 148/96 mm Hg. Laboratory results show a urine protein to creatinine ratio of 0.4 (N <0.3), normal BUN and creatinine levels, normal liver enzyme and LDH levels, normal hemoglobin and hematocrit levels, and a platelet count of 95,000/mm<sup>3</sup> (N 150,000–350,000).

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

- A) A biophysical profile
- B) Ultrasonography to check for fetal intrauterine growth restriction
- C) Initiation of antihypertensive treatment
- D) Immediate induction of labor
- E) Immediate cesarean delivery

38. A 46-year-old male comes to your office to discuss smoking cessation. You have advised him to quit smoking at past visits, and after several months of contemplation he is now ready to address this problem. He has smoked 1 pack of cigarettes per day for the past 25 years. He is highly motivated and wants to use the most effective regimen.

In addition to behavioral counseling, which one of the following interventions is associated with the most successful outcome?

- A) "Cold turkey" nicotine withdrawal
  - B) Electronic nicotine delivery systems
  - C) Hypnotherapy
  - D) Clonidine (Catapres)
  - E) Varenicline (Chantix)
39. A 30-year-old female is planning a trip to Australia and is concerned about motion sickness. Which one of the following medications is most effective for preventing this problem?

- A) Dimenhydrinate (Dramamine)
- B) Diphenhydramine (Benadryl)
- C) Meclizine (Antivert)
- D) Promethazine
- E) Scopolamine

40. A 34-year-old female consults you because of excessive body and facial hair. She has a normal body weight, no other signs of virilization, and regular menses. She had a bilateral tubal ligation 4 years ago.

Which one of the following would be the most appropriate treatment for her mild hirsutism?

- A) Leuprolide
- B) Metformin (Glucophage)
- C) Prednisone
- D) Spironolactone (Aldactone)

41. An 85-year-old male nursing home resident with a past history of a stroke has developed a pressure ulcer over his right greater trochanter. The ulcer is 2 cm in size and is noted to be shallow with a reddish-pink wound base. There is no evidence of secondary infection.

Which one of the following would be best for cleansing the wound?

- A) Tap water
- B) Aluminum acetate (Burow's solution)
- C) Hydrogen peroxide
- D) Povidone/iodine solution (Betadine)
- E) Sodium hypochlorite (Dakin's solution)

42. You evaluate a healthy 4-year-old female about an hour after she had 1 minute of generalized tonic-clonic jerking. She has no previous history of similar symptoms. Additional history reveals that last night she developed a runny nose, a cough, body aches, and a fever. Her past medical, social, and family histories are unremarkable. She takes no medications.

A thorough physical examination is notable only for a temperature of 39.2°C (102.6°F) and a clear nasal discharge. An influenza A test is positive.

Which one of the following would be most appropriate for the seizures?

- A) Reassurance only
  - B) A loading dose of valproic acid (Depakene)
  - C) A neurology consultation and an EEG
  - D) CT of the brain
  - E) A lumbar puncture and cerebrospinal fluid analysis
43. A 34-year-old sexually active female consults you about contraception options. She has late-stage kidney disease and her nephrologist has notified you that she will likely be recommended for kidney transplantation soon.

Which one of the following would you recommend for safety and efficacy?

- A) Condoms
  - B) Combined oral contraceptive pills
  - C) Medroxyprogesterone acetate (Depo-Provera) injections
  - D) An IUD
  - E) An etonogestrel/ethinyl estradiol vaginal ring (NuvaRing)
44. A 26-year-old female has a 4-month history of continuous right-sided headache. The headache is associated with tearing and nasal congestion only on the right, and has not responded to over-the-counter analgesics. The patient went to the emergency department a few nights ago because of the pain, and CT of the head at that visit was normal. On examination you note conjunctival injection on the right. Findings are otherwise normal.

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

- A) Sumatriptan (Imitrex)
- B) Amitriptyline
- C) Indomethacin
- D) Topiramate (Topamax)

45. A 20-year-old female who is living alone for the first time reports that she has been having difficulty falling asleep for the past several months. She denies obsessive thoughts, fears, or intrusive ambient noise as obstacles to achieving sleep. She would prefer not to use a medication and hopes you can offer suggestions to improve her sleep.

Of the following, which one is most likely to improve this patient's sleep?

- A) A television in the bedroom that stays on during the night
- B) Cool temperatures in the bedroom
- C) Vigorous physical exercise 1 hour before bedtime
- D) A cup of warm coffee 30 minutes before bedtime
- E) Sleeping with her pet cat

46. A 33-year-old female comes to your office for follow-up of irritable bowel syndrome. You ruled out other causes of her abdominal bloating, abdominal pain, and diarrhea at earlier visits. She has no change in symptoms, such as constipation or blood in her stool. She has resisted treatment in the past, but her symptoms are becoming more frequent and she would now like to consider treatment.

Evidence shows that which one of the following would most likely be beneficial for this patient?

- A) Acupuncture
- B) Increased insoluble fiber in her diet
- C) Fluoxetine (Prozac), 20 mg daily
- D) Neomycin, 1000 mg every 6 hours for 7 days
- E) Polyethylene glycol (MiraLAX), 17 g daily

47. A 24-year-old male complains of feeling on edge all of the time. For the past 2 years he has had difficulty controlling his worrying about work, school, and relationships. He has had more difficulty concentrating at work and school, is more irritable, and has difficulty staying asleep all night. He drinks alcohol moderately and does not use drugs. You recommend regular exercise and refer him to a therapist for cognitive-behavioral therapy to help manage his symptoms.

Which one of the following would be first-line medical therapy for this patient?

- A) Bupropion (Wellbutrin)
- B) Fluoxetine (Prozac)
- C) Lorazepam (Ativan)
- D) Methylphenidate (Ritalin, Concerta)
- E) Quetiapine (Seroquel)

48. A 64-year-old male presents with increasing dyspnea on exertion. He feels well otherwise and has no chronic medical problems. A physical examination is normal. Pulmonary function testing reveals normal spirometry, with no evidence of an obstructive or restrictive pattern. However, his lung carbon monoxide diffusing capacity (DLCO) is low.

Based on these results, which one of the following is the most likely diagnosis?

- A) Asthma
- B) Bronchiectasis
- C) Chronic pulmonary emboli
- D) COPD
- E) Pulmonary fibrosis

49. A 46-year-old male with a prosthetic heart valve requests your advice regarding antibiotic prophylaxis for an upcoming dental procedure. The patient is allergic to penicillin.

Which one of the following would be most appropriate?

- A) Ciprofloxacin (Cipro)
- B) Clindamycin (Cleocin)
- C) Doxycycline
- D) Rifampin (Rifadin)
- E) Trimethoprim/sulfamethoxazole (Bactrim)

50. An elderly female who has been your patient for several years is discovered lying on the floor of her kitchen by a Meals on Wheels volunteer. She is transported to the hospital in an unresponsive state. After a thorough evaluation you diagnose a massive cerebral infarct. On several previous occasions the patient verbalized to you her desire to not be subjected to life-prolonging treatments should she ever be rendered incapacitated but she declined your suggestion that she confirm this in writing. The patient is admitted to the hospital with “do not resuscitate” (DNR) orders and supportive measures are instituted. A neurology consultant evaluates her and agrees that her condition is terminal and irreversible. The patient’s nephew, who is her closest relative, is angered by the DNR status and, noting that she has Medicare coverage, demands every medical treatment that might prolong his aunt’s life, including resuscitation.

Which one of the following would be the best course of action in terms of legality and ethics?

- A) Institution of aggressive medical therapies, including full resuscitation in the event of cardiac arrest and ventilator support in the event of respiratory arrest
- B) Continuation of a supportive treatment plan, provided full resuscitation is initiated in the event of cardiac arrest and ventilator support is provided in the event of respiratory arrest
- C) Performance of full CPR for cardiopulmonary arrest, but no ventilator support for respiratory failure
- D) Continuation of the current treatment plan

51. Which one of the following community health programs best fits the definition of secondary prevention?
- A) An antismoking education program at a local middle school
  - B) Blood pressure screening at a local church
  - C) A condom distribution program
  - D) Screening patients with diabetes mellitus for microalbuminuria

52. A 34-year-old male presents with a painful great toe after his foot was stepped on during a soccer game. He has significant bruising and tenderness over the first distal phalanx and has no rotational deformity. You obtain a radiograph and see a nondisplaced fracture of the distal first phalanx that involves 40% of the joint space.

Which one of the following would be the preferred treatment for this fracture?

- A) Buddy taping
  - B) A rigid-sole shoe
  - C) A short leg walking cast with a toe plate
  - D) Surgical fixation
53. A 72-year-old female taking hydrochlorothiazide for hypertension develops trigeminal neuralgia and you start her on carbamazepine (Tegretol). She is at risk for which one of the following metabolic consequences?
- A) Calcium pyrophosphate deposition
  - B) Hypercalcemia
  - C) Hyponatremia
  - D) Hyperuricemia

54. A 43-year-old female presents with an 8-month history of posttraumatic stress disorder following a motor vehicle accident that severely injured her and a friend. She has had a positive response to counseling and SSRI treatment but continues to have sleep disturbances and nightmares.

Which one of the following medications is most likely to decrease the frequency of her nightmares?

- A) Clonazepam (Klonopin)
- B) Divalproex (Depakote)
- C) Prazosin (Minipress)
- D) Propranolol

55. A 27-year-old male has been treating his plaque psoriasis with high-potency topical corticosteroids for several years. He comes to your office to discuss other options since the lesions on his trunk and extremities are becoming resistant to this therapy.

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

- A) Switch to topical tazarotene (Avage, Tazorac)
- B) Add topical calcipotriene (Dovonex, Sorilux)
- C) Begin oral acitretin (Soriatane)
- D) Begin an oral corticosteroid
- E) Begin etanercept (Enbrel) injections

56. A 78-year-old male presents for a routine health maintenance examination and is concerned about a gradual loss in his vision during the past year. He has smoked 1 pack of cigarettes per day for the past 60 years. He has no other medical problems. On Amsler grid testing he notes distorted grid lines.

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

- A) Watchful waiting
- B) Avoiding all vitamin supplements
- C) Treatment to reverse his visual changes
- D) Smoking cessation to prevent further vision loss

57. A patient is admitted to the hospital with severe acute pancreatitis, based on diagnostic criteria for severity. After appropriate intravenous hydration, which one of the following is associated with shorter hospital stays and lower mortality?

- A) Parenteral nutrition
- B) Nothing by mouth until the pain has resolved
- C) Clear liquids by mouth after 48 hours
- D) Bolus nasogastric enteral nutrition
- E) Continuous nasogastric enteral nutrition

58. An 8-year-old male is brought to your office because of a rash on his arms and legs that has been present for the last several weeks. It seems to be spreading gradually, according to his parents. No other family members have similar symptoms. A physical examination reveals excoriated erythematous papules on both forearms and both lower legs that drain a small amount of serous fluid. The child says that these are itchy. There are no signs of deeper inflammation and no lesions are present on the scalp, hands, thorax, or groin.

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

- A) Bedbugs
- B) Brown recluse spiders
- C) Mites/chiggers
- D) Scabies
- E) Ticks

59. A 72-year-old male sees you for an annual follow-up visit. He has well controlled type 2 diabetes mellitus, hypertension, and chronic kidney disease. His hemoglobin A<sub>1c</sub> is 6.2% today and his blood pressure is 122/76 mm Hg. Historically, his serum creatinine level has been rising by 0.1–0.2 mg/dL per year. Last year his creatinine level was 1.9 mg/dL (N 0.6–1.2), which translated to an estimated glomerular filtration rate (eGFR) of 39.8 mL/min/1.73 m<sup>2</sup> (N 90–120).

Which one of the following findings on this year's laboratory testing should prompt a referral to a nephrologist for management?

- A) A phosphorus level of 5.0 mg/dL (N 2.5–4.5)
  - B) A hemoglobin level of 9.2 g/dL (N 13.5–17.5) with normal iron studies
  - C) A serum creatinine level of 2.1 mg/dL (eGFR 36.0 mL/min/1.73 m<sup>2</sup>)
  - D) A urine microalbumin to creatinine ratio of 160 µg/mg (N < 30)
  - E) A serum vitamin D level of 10 ng/mL (N 20–100)
60. A 24-year-old asymptomatic female has a chest radiograph that incidentally shows bilateral hilar adenopathy. Additional evaluation supports a diagnosis of sarcoidosis.

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

- A) Monitoring only
  - B) Treatment with corticosteroids
  - C) Treatment with methotrexate
  - D) A transbronchial lung biopsy
61. A 62-year-old female presents with numbness and tingling in her feet. She first noticed tingling in the toes of her right foot several months ago; it is now present in both feet and is causing numbness. She has not experienced any weakness, or any changes in vision, speech, or memory. Her medical history includes hypertension controlled by lisinopril (Prinivil, Zestril), 20 mg daily, and she also takes aspirin, 81 mg daily. She drinks a glass of wine nightly and does not smoke. She does not have a family history of neurologic disorders.

On examination she has symmetric decreased sensation to light touch and vibration in her feet. Reflexes and strength are intact bilaterally. Laboratory findings include a normal CBC and normal TSH and vitamin B<sub>12</sub> levels. Her erythrocyte sedimentation rate is 32 mm/hr (N 0–20). A comprehensive metabolic panel is normal except for a total protein level of 8.5 g/dL (N 6.0–8.3).

Which one of the following tests would be most useful for making a diagnosis?

- A) An angiotensin converting enzyme level
- B) Serum protein electrophoresis
- C) A chest radiograph
- D) A lumbar puncture with cerebrospinal fluid analysis
- E) MRI of the lumbar spine

62. A 20-year-old female presents to your office with questions about her contraceptive method. She has been using a combined oral contraceptive pill for the past 2 years without any complications. She has learned that several of her friends recently switched to an IUD. She is concerned about the efficacy of her current method and asks about the failure rate.

You tell her that with typical use, the annual failure rate of a combined oral contraceptive pill is

- A) 0.2%
  - B) 2%
  - C) 9%
  - D) 18%
  - E) 22%
63. According to recommendations by the U.S. Preventive Services Task Force, physicians should screen all adolescents and adults for which one of the following disorders?
- A) Bipolar disorder
  - B) Generalized anxiety disorder
  - C) Major depressive disorder
  - D) Posttraumatic stress disorder
  - E) Schizophrenia
64. You see a 38-year-old male 11 days after his cat bit him on the thumb. He went to an urgent care clinic and was given a ceftriaxone (Rocephin) injection and 10 days of oral amoxicillin/clavulanate (Augmentin). He says the redness and pain in his thumb and hand have improved some, but the thumb remains very painful. He received a tetanus booster recently. His cat is well.

His vital signs are normal and examination of the thumb reveals a swollen, erythematous, tender, warm interphalangeal joint with decreased range of motion. There are healing 2-mm dorsal skin wounds over the joint.

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

- A) Continued amoxicillin/clavulanate
- B) Azithromycin (Zithromax)
- C) Clindamycin (Cleocin)
- D) Rabies vaccine and continued amoxicillin/clavulanate
- E) Consultation for surgery

65. An 85-year-old female is admitted to the hospital for surgery and develops confusion postoperatively. The patient is a widow and lived independently prior to admission. Her daughter says the confusion is atypical for her mother. She does not have a history of memory loss, forgetfulness, or confusion prior to admission.

Which one of the following cognitive assessment tests should be used to assess her acute change in mental status?

- A) Confusion Assessment Method (CAM)
  - B) Mini-Cog
  - C) Mini-Mental State Examination (MMSE)
  - D) Montreal Cognitive Assessment test (MoCA)
  - E) Saint Louis University Mental Status exam (SLUMS)
66. Which one of the following is true regarding direct observational therapy (DOT) in the treatment of active tuberculosis?
- A) It guarantees patient compliance with the prescribed regimen
  - B) It is recommended only in the office or clinic setting
  - C) It decreases drug-resistant tuberculosis
  - D) Patients require less monitoring for signs of treatment failure
67. Beyond short-term pain relief, local corticosteroid injection provides the best long-term improvement for which one of the following?
- A) Greater trochanteric bursitis
  - B) Knee osteoarthritis
  - C) Lateral epicondylitis
  - D) Subacromial impingement syndrome
  - E) Trigger finger
68. An 11-year-old female is brought to your office for a routine well child examination. The American Academy of Pediatrics recommends screening this patient for which one of the following?
- A) Anemia
  - B) Diabetes mellitus
  - C) Dyslipidemia
  - D) HIV

69. A 51-year-old female comes to your office for follow-up of fibromyalgia. She is currently taking amitriptyline, 10 mg at bedtime, and naproxen (Naprosyn), 500 mg twice daily, for her symptoms. A member of her fibromyalgia support group recommended fluoxetine (Prozac) to her and she asks you if it would be helpful.

It would be appropriate to tell her that SSRIs for the treatment of fibromyalgia

- A) do not affect depression scores
  - B) reduce fatigue
  - C) provide some pain reduction
  - D) help with sleep problems
  - E) are superior to tricyclics for pain control
70. A 77-year-old female with widely metastatic lung cancer is seen in her home with increased confusion, hallucinations, and combative behavior for the past 2 days. She has not slept and has a very poor appetite.

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

- A) Place her in gentle restraints for safety
  - B) Determine and treat the underlying cause of the behavior change
  - C) Start diphenhydramine (Benadryl) at bedtime for sleep
  - D) Start mirtazapine (Remeron) at bedtime for sleep and appetite
  - E) Start lorazepam (Ativan) as needed for agitation
71. You are called to a rapid response on the inpatient medical ward at your local hospital. A 66-year-old male who was admitted for pneumonia complains of the sudden onset of lightheadedness. Evaluation of his mental status shows that he is coherent. His heart rate is 175 beats/min and his blood pressure is 120/62 mm Hg. A cardiac rhythm strip reveals a widened, regular, monomorphic QRS.

Which one of the following would be the best initial management of this patient?

- A) Chest compressions
  - B) An isotonic fluid bolus
  - C) Adenosine (Adenocard)
  - D) Defibrillation
72. A 52-year-old male sees you for the first time for a health maintenance visit. He previously tested positive on a hepatitis C antibody test performed by another physician. He seeks your opinion regarding follow-up testing.

Which one of the following tests would you suggest at this point?

- A)  $\alpha$ -Fetoprotein
- B) Hepatitis B antigen
- C) Hepatitis C RNA
- D) Ultrasonography of the liver
- E) A liver biopsy

73. A 26-year-old male graduate student presents with concerns about having attention-deficit disorder (ADD). He reports inattentiveness and a lack of concentration for the last 2–3 years, resulting in poorer academic performance than when he was an undergraduate. He says his wife also complains of his lack of focus and attentiveness when attending to household responsibilities. He does not recall having similar symptoms in grade school or high school.

You explain that in order to diagnose adult ADD

- A) evidence of symptoms of ADD must be present before age 6
  - B) evidence of symptoms of ADD must be present before age 12
  - C) a therapeutic trial of a short-acting dextroamphetamine/amphetamine combination (Adderall) is indicated
  - D) a therapeutic trial of an SNRI such as atomoxetine (Strattera) is indicated
74. A 20-year-old male who is in college in another state calls to report that he has developed wheezing, oral itching, and a swollen lower lip after kissing his girlfriend. The symptoms reminded him of an allergic reaction to peanuts he had when he was a child, so he self-administered a dose of epinephrine with his auto-injector 15 minutes ago. His itching and wheezing have improved, and he asks what else he should do.

What advice should you provide?

- A) He should take oral diphenhydramine (Benadryl) now and prednisone for 3 days
  - B) He should go to the nearest emergency department
  - C) He should schedule a comprehensive reevaluation by an allergist
  - D) No further action is needed
75. A 30-year-old male presents to your office with a 10-day history of rhinorrhea, nasal congestion, cough, and headache. He initially had a low-grade fever that resolved, but over the past 2 days all of his symptoms have gotten worse. His past medical history is unremarkable and he does not smoke. On examination there is a purulent secretion noted from the right nasal cavity and tenderness over the right maxillary sinus region.

The most appropriate treatment is

- A) amoxicillin/clavulanate (Augmentin)
- B) azithromycin (Zithromax)
- C) cefuroxime (Ceftin)
- D) levofloxacin (Levaquin)
- E) trimethoprim/sulfamethoxazole (Bactrim)

76. A 7-month-old infant is hospitalized for the third time with lower-lobe bronchopneumonia. Findings include a weight and height below the 10th percentile. A sibling died of sudden infant death syndrome.

Laboratory testing reveals a hemoglobin level of 9.0 g/dL (N 10.5–14.0), a mean corpuscular volume of 85  $\mu\text{m}^3$  (N 72–88), and a serum calcium level of 9.0 mg/dL (N 9.0–10.5). A sweat chloride level is 20 mEq/L (N <60).

Which one of the following is the most likely cause of this infant's failure to thrive?

- A) Cystic fibrosis
  - B) DiGeorge's syndrome
  - C) Battered child syndrome
  - D) Gastroesophageal reflux
  - E)  $\beta$ -Thalassemia
77. Which one of the following treatments for cough has evidence of efficacy and safety when used for children from 1 to 2 years of age?
- A) Honey
  - B) Dextromethorphan
  - C) Diphenhydramine (Benadryl)
  - D) Codeine
  - E) Guaifenesin
78. While on call for your group practice you are called to admit a 23-year-old female with a history of sickle cell disease who presented to the emergency department with chest pain, a cough, and shortness of breath. She has no history of recent hospitalization.

#### Physical Findings

Blood pressure . . . . .	176/86 mm Hg
Pulse . . . . .	103 beats/min
Respiratory rate . . . . .	20/min
Temperature . . . . .	37.8°C (100.0°F)
Oxygen saturation. . . . .	89% on room air

A chest radiograph shows consolidation in the right lower lobe.

In addition to oxygen, intravenous fluids, an intravenous third-generation cephalosporin, and pain management, which one of the following is important to include in the patient's treatment plan?

- A) Azithromycin (Zithromax)
- B) Daptomycin (Cubicin)
- C) Ertapenem (Invanz)
- D) Gentamicin
- E) Vancomycin (Vancocin)

79. A 32-year-old obese female from Saudi Arabia presents with muscle aches. Her clothing limits sun exposure and you decide to test her for vitamin D deficiency.

Which one of the following is the most appropriate test for this condition?

- A) Calcium
- B) Alkaline phosphatase
- C) 25-hydroxyvitamin D
- D) 1,25-dihydroxyvitamin D
- E) Parathyroid hormone

80. A 22-year-old female with polycystic ovary syndrome comes in to discuss contraception. She has no other health conditions and takes no medications. Her menses are somewhat irregular, occurring every 28–42 days. She also asks about treatment for her mild hirsutism.

Which one of the following medications would be most likely to address her need for contraception and also improve her hirsutism?

- A) Spironolactone (Aldactone)
- B) Cyclic progesterone
- C) Progesterone-only contraceptive pills
- D) Oral combined hormonal contraceptives
- E) A levonorgestrel-releasing IUD (Mirena)

81. Which one of the following coexisting conditions could require the use of a much higher than expected dose of levothyroxine (Synthroid) to adequately treat hypothyroidism?

- A) Chronic kidney disease
- B) Diabetes mellitus
- C) *Helicobacter pylori* gastritis
- D) Hepatitis C infection
- E) Hyperparathyroidism

82. A 46-year-old female has a 3-day history of dysuria with burning, frequency, and urgency. She reports no fever, weakness, or hematuria. Her chronic health problems include obesity and prediabetes. She has no known allergies.

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

- A) Ibuprofen for 3 days
- B) Trimethoprim/sulfamethoxazole (Bactrim) for 3 days
- C) Ciprofloxacin (Cipro) for 3 days
- D) Levofloxacin (Levaquin) for 7 days
- E) Azithromycin (Zithromax) for 7 days

83. A 13-year-old female sees you for the first time. Her mother has brought her in because the patient has never menstruated. She feels well and has no other health concerns. Her medical history is unremarkable, and she takes no medications.

A physical examination is significant for the absence of both breast development and pubic hair. Her height is below the 2nd percentile and her weight is at the 6th percentile for her age.  $\beta$ -hCG, prolactin, and TSH levels are all normal. LH and FSH levels are elevated.

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

- A) A trial of combined oral contraceptive pills
  - B) A serum testosterone level
  - C) Pelvic ultrasonography
  - D) Karyotyping
  - E) MRI of the brain and brainstem
84. A 22-year-old gravida 1 para 0 with a history of homelessness and recent intravenous drug use presents for prenatal care. Mantoux tuberculin testing is performed and produces 20 mm of induration. She had a negative tuberculin test 1 year ago. A chest radiograph is normal. You decide to treat her with isoniazid for latent tuberculosis infection.

Which one of the following should also be given to prevent the development of peripheral neuropathy?

- A) Folate
- B) Vitamin B<sub>6</sub>
- C) Vitamin D
- D) Duloxetine (Cymbalta)
- E) Gabapentin (Neurontin)

85. An 85-year-old female presents to your office with her daughter to discuss the benefits and risks of oral anticoagulation, and to address her fall risk. She has chronic atrial fibrillation and mild cognitive impairment, and meets the criteria for frailty. She lives with the daughter and uses a walker but is independent for basic activities of daily living (ADLs) such as feeding, bathing, and toileting. She does need assistance with paying bills and other instrumental ADLs. Her quality of life is good overall and she enjoys interacting with friends and family. She has been falling about once a month but has not sustained a serious injury.

Her blood pressure is 140/70 mm Hg. She does not use tobacco, alcohol, or illicit drugs. She takes alendronate (Fosamax), 70 mg weekly, and hydrochlorothiazide, 12.5 mg daily. She has been on warfarin (Coumadin) for about 3 years for the atrial fibrillation, with an INR of 2–3. She has not had a stroke. Laboratory findings are significant for a serum creatinine level of 0.9 mg/dL (N 0.6–1.2) and normal liver enzyme levels.

You engage in shared decision making with the patient and her daughter regarding oral anticoagulation. Which one of the following would you advise them about the risks and benefits of oral anticoagulation for this patient?

- A) The benefits outweigh the risks
  - B) The risks outweigh the benefits because of her age
  - C) The risks outweigh the benefits because of her frequency of falls
  - D) The risks outweigh the benefits because of her cognitive impairment
  - E) The risks outweigh the benefits because of her frailty
86. A 75-year-old male presents with a 12-month history of chest pressure radiating to his left arm that occurs predictably after he walks briskly for 2 blocks and goes away with rest. A treadmill stress test suggests coronary artery disease. The patient would prefer medical therapy over revascularization if possible.

The patient's blood pressure is 120/85 mm Hg. His heart rate is 52 beats/min and has been in the low 50s at past visits. You initiate daily aspirin and a high-intensity statin, and prescribe sublingual nitroglycerin to use as needed for chest pain.

Which one of the following additional treatments is recommended for management of his angina?

- A) Isosorbide mononitrate
- B) Ivabradine (Corlanor)
- C) Metoprolol succinate (Toprol-XL)
- D) Ranolazine (Ranexa)
- E) Verapamil (Calan)

87. A 42-year-old male hair stylist presents with numbness and tingling of the right fifth finger that has been progressive over the last few months. He is particularly bothered after a long day of prolonged elbow flexion. He has no pain but has noticed some clumsiness and difficulty with fine coordination of his fingers. An examination clearly shows intrinsic muscle weakness.

Which one of the following is the most likely diagnosis?

- A) Anterior interosseous nerve syndrome
  - B) Carpal tunnel syndrome
  - C) Cubital tunnel syndrome
  - D) Pronator syndrome
  - E) Wartenberg syndrome
88. One of your patients recently went into atrial fibrillation and you order an echocardiogram. The diameter of which one of the following structures best predicts the likelihood that sinus rhythm will be maintained after successful cardioversion?

- A) The left atrium
- B) The right atrium
- C) The left ventricle
- D) The right ventricle
- E) The aortic root

89. A 16-year-old male is hit on his shoulder while playing football. A radiograph subsequently reveals a midclavicular fracture that is minimally displaced.

Appropriate management would be

- A) a weekly radiograph to monitor for displacement
  - B) a sling for 2–6 weeks
  - C) a shoulder immobilizer for 6 weeks
  - D) a figure-of-eight bandage for 8 weeks
  - E) immediate referral to an orthopedist
90. A 63-year-old male hospitalized for treatment of metastatic lung cancer develops a proximal deep vein thrombosis of the leg. Which one of the following anticoagulants should be prescribed when he is discharged from the hospital?
- A) Apixaban (Eliquis)
  - B) Dabigatran (Pradaxa)
  - C) Enoxaparin (Lovenox)
  - D) Rivaroxaban (Xarelto)
  - E) Warfarin (Coumadin)

91. A 36-month-old male has persistent deficits in social communication and interaction across multiple contexts. He displays restricted and repetitive patterns of behavior, interest, and activities.

According to the *DSM-5*, which one of the following is the most appropriate diagnosis?

- A) Asperger syndrome
- B) Autism spectrum disorder
- C) Autistic disorder
- D) Childhood disintegrative disorder
- E) Pervasive developmental disorder not otherwise specified

92. A 65-year-old male presents for follow-up for his chronic hypertension. He mentions that he has a rough spot on his arm that he has scratched off a few times, but it keeps returning. He asks if this spot should be removed. On examination you find several scaly, slightly raised lesions on his forearm as shown on the following page.

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

- A) Observation only
- B) Application of moisturizers twice daily
- C) Topical corticosteroids
- D) Destruction or removal

93. A 2-month-old male is brought to your office for a well child check. The parents tell you that he regurgitates with every meal, and they are getting very frustrated. He takes about 4–5 ounces of formula every 4 hours. With every feeding he will regurgitate a large amount of formula. They have tried frequent burping and elevating his head during and after feeding, but he continues to regurgitate. He does not appear to be uncomfortable and overall is a happy baby. He is growing well and a complete examination is normal.

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

- A) Reassurance
- B) Metoclopramide (Reglan)
- C) Omeprazole (Prilosec)
- D) Ranitidine (Zantac)
- E) Abdominal ultrasonography



**Item #92**

94. While making rounds at a nursing home you see a 70-year-old female with dementia. The staff tells you that she has recently developed serious aggressive behaviors that include lashing out physically at caregivers on a regular basis. Nonpharmacologic interventions have not curbed her violent outbursts. Your evaluation does not reveal any treatable underlying conditions.

After a conversation about risks and benefits with her family and the nursing home staff, which one of the following would you recommend for this patient?

- A) Diphenhydramine (Benadryl)
- B) Aripiprazole (Abilify)
- C) Clonazepam (Klonopin)
- D) Mirtazapine (Remeron)
- E) Ziprasidone (Geodon)

95. A 56-year-old male presents to your office with the rash shown on the following page. It started under his left arm 2 days ago and has spread slightly. It is itchy and burns a little. He has been treating it with cortisone 1% cream twice daily with some relief. He has no significant past medical history.

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

- A) Topical clobetasol
- B) Topical mupirocin (Bactroban)
- C) Oral cephalexin (Keflex)
- D) Oral prednisone
- E) Oral valacyclovir (Valtrex)

96. A 58-year-old male comes to your office for a routine health maintenance examination. He has smoked 1 pack of cigarettes per day for the last 35 years.

The U.S. Preventive Services Task Force recommends which one of the following lung cancer screening strategies for this patient?

- A) A chest radiograph annually
- B) Low-dose CT annually
- C) Sputum cytology every 3 years
- D) Bronchoscopy every 5 years

97. A pregnant 20-year-old female is diagnosed with a *Chlamydia* infection. She is treated and the infection is cured, but she tests positive again at a follow-up visit.

In this situation, contacting her sexual partners is considered a reasonable breach of confidentiality because

- A) there is a public health risk
- B) there is a risk to the fetus
- C) the patient's *Chlamydia* infection has become resistant to antibiotics
- D) there is a risk of pelvic inflammatory disease



**Item #95**

98. A 22-year-old male presents with shoulder pain after sustaining an injury while playing basketball. A radiograph of the shoulder is shown on the following page.

Which one of the following is the most likely diagnosis?

- A) Acromioclavicular separation
- B) Glenohumeral dislocation
- C) Sternoclavicular dislocation
- D) Clavicular fracture

99. A 75-year-old male is admitted to the intensive-care unit with sepsis. His past medical history is significant for diabetes mellitus and coronary artery disease.

Which one of the following would be the most appropriate maximum blood glucose goal?

- A) 100 mg/dL
- B) 140 mg/dL
- C) 180 mg/dL
- D) 220 mg/dL

100. A 10-year-old female is brought to your office by her parents on the recommendation of the school counselor. Her parents report that for at least the past year, both at home and at school, their daughter often loses her temper, is easily annoyed, and is “very touchy.” She is sullen and angry, arguing frequently with her parents and teachers. At school she irritates and annoys classmates, then blames them when they react negatively toward her. She also disrupts the classroom by refusing to comply with classroom rules and expectations or with the teacher’s authority.

This child’s behavior is most consistent with which one of the following?

- A) Attention-deficit/hyperactivity disorder
- B) Bipolar disorder
- C) Conduct disorder
- D) Intermittent explosive disorder
- E) Oppositional defiant disorder



Item #98

101. A 43-year-old female is very distressed about symptoms of postprandial fullness and early satiety. She has seen several physicians over the last 6 months but said she was always told “nothing’s wrong.” You review her most recent workup, including normal blood tests, normal gallbladder testing, and upper endoscopy that shows no abnormalities, including negative testing for *Helicobacter pylori*. She has tried multiple antacid medications, including omeprazole (Prilosec), lansoprazole (Prevacid), and ranitidine (Zantac), with no success.

Which one of the following medications has the best chance of providing this patient with symptom relief?

- A) Clonazepam (Klonopin)
  - B) Escitalopram (Lexapro)
  - C) Metoclopramide (Reglan)
  - D) Ondansetron (Zofran)
  - E) Sucralfate (Carafate)
102. A 12-year-old male has a 1-week history of fever, headache, sore throat, and a mildly productive cough. He also began having ear pain yesterday. On examination he does not appear to be toxic. He has a temperature of 37.8°C (100.0°F). Examination of his ears shows a bulla on the right tympanic membrane, as well as mild to moderate erythema of the posterior pharynx. The neck is supple. The lungs have a few scattered crackles. The remainder of the examination is unremarkable. A chest radiograph reveals thickened bronchial shadows, as well as interstitial infiltrates in the lower lobes.

The most appropriate treatment at this time would be

- A) amoxicillin
- B) azithromycin (Zithromax)
- C) ceftriaxone (Rocephin)
- D) cefuroxime (Zinacef)
- E) vancomycin

103. A 36-year-old female has had elevated blood pressure readings since establishing care with you 6 months ago. You have increased her antihypertensive therapy monthly in an attempt to treat her hypertension, and she is currently taking the maximum dosage of three antihypertensive medications from different classes. She confirms that her blood pressure is also elevated at home, typically ranging from 155/92 mm Hg to 165/98 mm Hg. She is otherwise well. She does not have chest pain, shortness of breath, headaches, daytime sleepiness, or lower extremity edema. Her family history is significant for hypertension diagnosed in her father in his 50s.

On examination the patient has a blood pressure of 168/95 mm Hg. Her pulse rate is 78 beats/min and her BMI is 28.1 kg/m<sup>2</sup>. She has a normal cardiac examination and no peripheral edema.

You order laboratory testing, with the following significant findings:

Sodium	144 mEq/L (N 136–142)
Potassium	3.0 mEq/L (N 3.5–5.0)
Creatinine	0.72 mg/dL (N 0.6–1.2)
Fasting glucose	98 mg/dL
TSH	1.46 $\mu$ U/mL (N 0.4–4.2)
EKG	normal

Which one of the following additional tests is most likely to reveal the cause of her hypertension?

- A) A dexamethasone suppression test
  - B) Plasma aldosterone/renin activity
  - C) Plasma free metanephrines
  - D) A sleep study
  - E) Renal ultrasonography
104. A 45-year-old female comes to your office for follow-up of palpitations and anxiety. Her pulse rate is 112 beats/min and her heart rate is regular with no audible murmurs. Her thyroid is nontender with no palpable nodules. You note bilateral exophthalmos as well as pretibial myxedema. Her TSH level is 0.05  $\mu$ U/mL (N 0.5–5.0); free T<sub>4</sub> and total T<sub>3</sub> levels are elevated. A pregnancy test is negative.

Which one of the following would be the best option for limiting the progression of this patient's ophthalmopathy?

- A) Atenolol (Tenormin)
- B) Cholestyramine (Questran)
- C) Methimazole (Tapazole)
- D) Prednisone
- E) Radioactive iodine

105. A 46-year-old female with bipolar I disorder in remission seeks your advice regarding discontinuation of her medications, which include sertraline (Zoloft), 50 mg daily; quetiapine (Seroquel), 200 mg nightly; and hydroxyzine, 25 mg taken occasionally as needed for anxiety.

Which one of the following would you advise this patient?

- A) Continue all current medications without change
- B) Discontinue all medications except for as-needed use of hydroxyzine
- C) Discontinue only quetiapine
- D) Discontinue either sertraline or quetiapine
- E) Discontinue quetiapine and start an alternative mood stabilizer

106. A 54-year-old male plumber presents with a 2-month history of nonpainful swelling in the elbow. He has no history of injury or trauma. An examination is significant for a nontender, soft nodule over the olecranon process with no erythema or warmth.

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

- A) Conservative management with ice, compression wraps, and activity modification
- B) Broad-spectrum antibiotics with coverage for MRSA
- C) An intrabursal corticosteroid injection
- D) An intrabursal hyaluronic acid (Synvisc) injection
- E) Aspiration of the bursa fluid under sterile conditions

107. A 74-year-old female comes to the emergency department with the acute onset of severe pain in the middle to lower back after lifting a small piece of furniture. Imaging demonstrates an acute nondisplaced wedge compression fracture of the T12 vertebra. An examination confirms that there is no neurologic deficit. She is admitted to the hospital.

In addition to pain management, which one of the following would you recommend?

- A) Early mobilization as tolerated
- B) Bed rest until a back brace is obtained
- C) Evaluation for kyphoplasty
- D) Evaluation for vertebroplasty
- E) A neurosurgical evaluation

108. A 69-year-old female presents with postmenopausal bleeding. You consider whether to begin your evaluation with transvaginal ultrasonography to assess the thickness of her endometrium.

In evaluating the usefulness of this test to either support or exclude a diagnosis of endometrial cancer, the most useful statistic is the

- A) likelihood ratio
- B) number needed to treat
- C) prevalence
- D) incidence
- E) relative risk

109. A 65-year-old male presents to your office with tremor, difficulty sleeping, nausea, agitation, and transient visual hallucinations 3 days after he stopped drinking alcohol following a 3-day binge. His wife has noted increasing confusion over the past several hours.

Which one of the following medications would be best for treatment of his alcohol withdrawal delirium?

- A) Carbamazepine (Tegretol)
  - B) Haloperidol
  - C) Lorazepam (Ativan)
  - D) Phenobarbital
  - E) Propofol (Diprivan)
110. Which one of the following strategies has been shown to improve the therapeutic alliance with the patient and can aid in the management of difficult patient encounters?
- A) Ignoring and putting aside the clinician's negative feelings about the encounter
  - B) Motivational interviewing to explore the patient's desire, ability, reason, and need to make a change
  - C) Setting a very limited amount of time for challenging appointments to keep from interfering with the rest of the clinician's schedule
  - D) Explaining why the patient's findings from an online search of symptoms is inaccurate and irrelevant
111. A 40-year-old African-American female brings you her lipid panel results from a work health fair and asks if she should start taking medication to lower her cholesterol. The results include a total cholesterol level of 295 mg/dL, an LDL-cholesterol level of 170 mg/dL, an HDL-cholesterol level of 42 mg/dL, and a triglyceride level of 200 mg/dL. The patient does not smoke and except for a BMI of 30.4 kg/m<sup>2</sup> she is otherwise healthy. Her blood pressure is 132/76 mm Hg and she takes no medications.

Which one of the following would be consistent with current guidelines?

- A) Initiating treatment with red yeast rice supplements
- B) Initiating treatment with a statin medication only if she has a cardiovascular event or develops diabetes mellitus
- C) Initiating treatment based on her calculated risk of a cardiovascular event in the next 10 years
- D) Initiating treatment with a statin based on her current LDL-cholesterol level

112. An adolescent male is concerned because he is the shortest boy in his class. His age is 14.3 years and his parents are of normal height. He has a negative past medical history and no symptoms. On examination he is 151 cm (59 in) tall. The average height for his age is 165 cm. His weight is 43 kg (95 lb). His sexual maturity rating is 3 for genitalia and 2 for pubic hair. A wrist radiograph shows a bone age of 12.2 years. The average height for this bone age is 152 cm.

On the basis of this evaluation you can tell the patient and his parents that

- A) he should have a growth hormone stimulation test
  - B) his adult height will be below average
  - C) his sexual development is about average for his age
  - D) he will begin to grow taller within approximately a year
  - E) an underlying nutritional deficiency may be the cause of his short stature
113. While you are volunteering at a shelter for victims of domestic violence, a mother asks you to examine her 12-year-old daughter who has an earache. During the examination you learn that the child grew up in a household where there was substance abuse, mental illness, and violent treatment of her mother. You are told that the child's father is now incarcerated.

Considering how adverse childhood experiences affect behavior and health, this child is at greatest risk for which one of the following?

- A) Alcoholism
  - B) Attention-deficit disorder
  - C) Borderline personality disorder
  - D) Dissociative disorder
  - E) Schizophrenia
114. A 41-year-old male presents to the emergency department with severe left-sided back pain. He is afebrile and a urinalysis shows red blood cells. Imaging reveals a 6-mm stone in the lower ureter and no hydronephrosis.

In addition to NSAIDs and narcotics for pain control, which one of the following would be most effective for hastening passage of the stone?

- A) An  $\alpha_1$ -blocker such as tamsulosin (Flomax)
- B) A 5- $\alpha$ -reductase inhibitor such as finasteride (Proscar)
- C) A nonselective  $\beta$ -blocker such as propranolol
- D) A phosphodiesterase inhibitor such as sildenafil (Viagra)
- E) A thiazide diuretic such as hydrochlorothiazide

115. A 42-year-old female who has been your patient for 5 years has uncontrolled type 2 diabetes mellitus. She asks your opinion about bariatric surgery to reduce her BMI of 41.1 kg/m<sup>2</sup> and improve her diabetes because she is “sick of all the pills and doctor visits.”

You inform her that bariatric surgery

- A) decreases the risk of dying from obesity-related illness
  - B) usually results in weight loss similar to that seen with diet and exercise
  - C) usually allows patients to lose weight without changing their diet
  - D) often allows patients to stop all medications and supplements
116. A 29-year-old male presents to your office with a 2-week history of anal pain and bright red blood on his stool with bowel movements. He says he typically has bowel movements every 3–5 days and his stool is usually hard. He has not noted any purulent drainage or perianal masses.

Which one of the following is the most likely diagnosis?

- A) Anal fistula
  - B) Anal fissure
  - C) Internal hemorrhoids
  - D) External hemorrhoids
  - E) Perirectal abscess
117. A 48-year-old female is treated appropriately for MRSA bacteremia. An echocardiogram is negative for endocarditis. There are no indwelling devices such as prosthetic heart valves or vascular grafts.

Assuming that the patient improves with an excellent response to antibiotics, which one of the following is recommended?

- A) No repeat blood cultures
  - B) Repeat blood cultures when the antibiotic course is completed
  - C) Repeat blood cultures when the patient’s temperature is  $\leq 37.5^{\circ}\text{C}$  ( $99.5^{\circ}\text{F}$ )
  - D) Repeat blood cultures 2–4 days after the initial set and as needed thereafter
  - E) Repeat blood cultures 2 weeks after the antibiotic course is completed
118. GLP-1 agonists such as exenatide (Byetta) can be used as second-line agents to help improve glycemic control in patients with type 2 diabetes mellitus. Which one of the following is a CONTRAINDICATION to their use?
- A) Hypothyroidism
  - B) Thyroid cancer
  - C) Coronary artery disease
  - D) Heart failure

119. A 4-year-old male is brought to your office for evaluation of fever, coryza, and cough. On examination the child appears mildly ill but in no respiratory distress. His temperature is 37.4°C (99.3°F) and other vital signs are within the normal range. An HEENT examination is significant only for light yellow rhinorrhea and reddened nasal mucous membranes. Lung auscultation reveals good airflow with a few coarse upper airway sounds. While performing the examination you note multiple red welts and superficial abrasions scattered on the chest and upper back. When you question the parents they tell you the marks are where “the sickness is leaving his body,” and were produced by rubbing the skin with a coin.

This traditional healing custom is practiced principally by people from which geographic region?

- A) Sub-Saharan Africa
  - B) Southeast Asia
  - C) The Middle East
  - D) The Caribbean
  - E) The Andes Mountains
120. A 48-year-old female presents to the emergency department with chest pain. The evaluation, including CT angiography, reveals a pulmonary embolus.

Which one of the following initial findings would be the strongest indication for thrombolytic therapy?

- A) Elevated troponin
  - B) Hypotension
  - C) Hypoxia
  - D) Bilateral pulmonary emboli
  - E) Right ventricular dysfunction on echocardiography
121. A 50-year-old male sees you for a health maintenance visit. He has a 20-year history of smoking 1 pack of cigarettes per day but his history is otherwise unremarkable. He is not aware of any disease that runs in his family, including diabetes mellitus. He has not visited a physician for the past 5 years.

A physical examination reveals a BMI of 28.2 kg/m<sup>2</sup>, normal blood pressure, and no other significant findings. Laboratory testing reveals a fasting plasma glucose level of 107 mg/dL.

According to the U.S. Preventive Services Task Force, which one of the following would be most appropriate at this point?

- A) No further diabetes screening unless his BMI increases to  $\geq 30$  kg/m<sup>2</sup>
- B) A repeat fasting plasma glucose level in 1–2 weeks
- C) A repeat fasting plasma glucose level in 1 year
- D) A repeat fasting plasma glucose level in 3 years
- E) Treatment with metformin (Glucophage)

122. You are discharging a mother and her infant after delivery. The infant was born at 35 weeks gestation, is exclusively breastfed, and has a weight that is appropriate for her gestational age. No blood transfusions were necessary and all evaluations have been unremarkable.

According to the guidelines of the American Academy of Pediatrics, at what age should you recommend initiation of iron supplementation for this infant?

- A) Now
- B) 1 month
- C) 3 months
- D) 6 months
- E) 9 months

123. A nursing home resident is hospitalized, and shortly before she is to be discharged she develops a skin ulcer that proves to be infected with MRSA. Which one of the following is most important in terms of infection control when she returns to the nursing home?

- A) Surveillance cultures of residents with rooms near the patient
- B) Aggressive housekeeping in the patient's room
- C) Masks, gowns, and gloves for anyone entering the patient's room
- D) Strict handwashing practices by all staff, visitors, and residents
- E) Isolation of the patient in a room by herself

124. A 46-year-old runner presents with left heel pain. The pain has been occurring mostly with running, but more recently it is painful with walking. On examination there is tenderness and a palpable nodule on the midsubstance of the left Achilles tendon.

Which one of the following therapeutic options is most likely to be effective for long-term recovery?

- A) Oral NSAIDs
- B) Eccentric calf-strengthening exercises
- C) Corticosteroid injection of the Achilles tendon sheath
- D) Surgical debridement or excision of the tendon nodule
- E) Fixation in a walking boot

125. A 65-year-old white female is diagnosed with hypertension. She has no significant past medical history.

According to the JNC 8 panel, which one of the following would be an appropriate systolic blood pressure goal for this patient?

- A) < 120 mm Hg
- B) < 130 mm Hg
- C) < 140 mm Hg
- D) < 150 mm Hg
- E) < 160 mm Hg

126. A mother who recently immigrated to the United States from Mexico brings her 4½-year-old son to your clinic for his pre-kindergarten examination. The child's examination is normal except for a hemangioma located on his left arm. His mother says that the lesion appeared at about 4 weeks of age, continued to grow until he was about 5 months of age, and then began to flatten, shrink, and fade. She is concerned because it has not improved in the past 18 months. When you examine the lesion more closely you note telangiectasia, fibrofatty tissue, dyspigmentation, and scarring where involution has occurred.

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

- A) Oral propranolol
  - B) Corticosteroid injection
  - C) Referral for laser therapy
  - D) Referral for surgical excision
127. A 53-year-old male sees you for follow-up of his hypertension. His medical history includes prediabetes and gout, and he is currently taking lisinopril (Prinivil, Zestril), 40 mg daily, to control his blood pressure. His blood pressure after resting is 148/86 mm Hg. Laboratory findings include a serum creatinine level of 0.8 mg/dL (N 0.6–1.2) and a serum potassium level of 4.5 mEq/L (N 3.5–5.1).

Which one of the following would be the most appropriate management of this patient's hypertension?

- A) No change in medication
  - B) Add amlodipine (Norvasc)
  - C) Add hydrochlorothiazide
  - D) Add losartan (Cozaar)
  - E) Add metoprolol succinate (Toprol-XL)
128. In a study to evaluate a test as a screen for the presence of a disease, 235 of the 250 people with the disease had a positive test and 600 of the 680 people without the disease had a negative test. Based on this data, the specificity of the test for the disease is
- A)  $235/250 = 94\%$
  - B)  $15/250 = 6\%$
  - C)  $600/680 = 88\%$
  - D)  $80/680 = 12\%$
  - E)  $15/80 = 19\%$

129. A 45-year-old female presents with a 6-month history of fatigue and arthralgias. When asked about recent illnesses the only thing she can recall is that she developed a rash on her face after a picnic about 1 month ago. An examination reveals swelling and tenderness in her left knee and over the proximal interphalangeal joints of the second and third digits of her right hand. An antinuclear antibody test and an anti-double-stranded DNA test are both positive. A CBC and blood chemistries are within normal limits.

Which one of the following medications would be the best initial treatment for this patient?

- A) Azathioprine (Imuran)
- B) Cyclosporine
- C) Hydroxychloroquine (Plaquenil)
- D) Mycophenolate (CellCept)
- E) Rituximab (Rituxan)

130. A 64-year-old male presents to your office after vomiting blood twice over the last 2 hours. He is healthy otherwise, except for hyperlipidemia. On the initial examination he has mild hypotension and tachycardia, which normalize after fluid resuscitation. He has no further vomiting episodes.

What level of hemoglobin should be the threshold for transfusion of red cells in this situation?

- A) 6.0 g/dL
- B) 7.0 g/dL
- C) 8.0 g/dL
- D) 9.0 g/dL
- E) 10.0 g/dL

131. You order an NT-proBNP level in a patient with symptoms and signs of heart failure. Which one of the following would contribute to a result that is higher than expected?

- A) Male sex
- B) Elevated BMI
- C) Elevated albumin
- D) Elevated creatinine

132. While you are examining a 3-day-old for a routine newborn checkup, his mother, who is also your patient, tells you that she has been crying very easily and feeling overwhelmed, and that some of her friends have suggested she ask about an antidepressant medication. She has no previous history of depression or other mood disorders. She does not have any thoughts of self-harm or intent to harm the baby or anyone else. She is breastfeeding and is otherwise healthy.

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

- A) Reassurance that she likely has baby blues that will resolve in a few days
  - B) Encouraging her to make an appointment with a therapist if she does not feel better in 1 week
  - C) Referral to a counselor for psychotherapy
  - D) Use of a validated screening tool to evaluate for postpartum depression
  - E) Starting an SSRI for postpartum depression
133. In the development of clinical guidelines, which one of the following is rated as the strongest and highest-quality evidence?
- A) Evidence from randomized, placebo-controlled studies
  - B) Evidence from nonrandomized, double-blind, placebo-controlled studies
  - C) Evidence from nonrandomized, double-blind, crossover, placebo-washout-controlled studies
  - D) Evidence from well designed cohort or case-control analytical studies from more than one center or research group
  - E) Evidence based on reports of expert committees or opinions of respected authorities in the appropriate specialty area
134. A 62-year-old male sees you the day after returning from a 4-day cruise. He says he developed a fever and a productive cough on the day before the ship returned to Los Angeles following a trip down the coast of Baja California. He tells you that several other passengers had similar symptoms. The examination is remarkable for tachypnea and you hear crackles in both lungs.

This patient's history should raise concerns about infection with which one of the following pathogens?

- A) Asian avian influenza A virus
- B) *Coxiella burnetii*
- C) *Hantavirus*
- D) *Histoplasma capsulatum*
- E) *Legionella* species

135. You see a 12-year-old female for a well child check. She is healthy without any medical problems and neither she nor her father have any concerns today. She is up to date on her immunizations except for her third dose of HPV vaccine. She received the first dose of the vaccine at her 11-year-old well child check and her second dose 1 month later. However, she was told by a few friends that they only needed to get two doses of HPV vaccine, so she is very excited that she does not need any shots today.

According to the CDC, which one of the following is true regarding HPV vaccine for this patient?

- A) She has completed her HPV vaccine series
  - B) She should receive a third dose of HPV vaccine today
  - C) She needs an HPV booster at age 21 but does not need a third dose of vaccine today
  - D) She should have HPV titers drawn today and receive a third dose of vaccine only if the titers are low
136. A 90-year-old female with severe dementia is seen in the emergency department for a left knee strain. She was at home alone for 2 hours and no fall or injury was witnessed. A radiograph of the knee is negative, and she is referred to you for follow-up the next day. At the follow-up visit the patient is confused and agitated, and cries out at any attempt to examine her. She is unable to bear weight on her left leg and it appears to be externally rotated.

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

- A) Reassurance and pain medication
  - B) A repeat radiograph of the left knee
  - C) A radiograph of the left hip
  - D) A radiograph of the lumbosacral spine
  - E) MRI of the left knee
137. In which one of the following scenarios would additional consent from a child's parent or guardian be necessary before proceeding with treatment in nearly every U.S. state?
- A) A 6-year-old female with divorced parents who lives primarily with her mother is brought to the clinic by her father to discuss his concerns of possible abuse
  - B) An 8-year-old unconscious male is brought to the emergency department by a neighbor after falling out of a tree and striking his head
  - C) A 13-year-old male is brought to the clinic by a babysitter with a note giving permission to treat signed by a parent
  - D) A 15-year-old female who is considered emancipated under state law comes to your office to discuss family planning
  - E) A 16-year-old female who has driven herself to her clinic appointment reports a 2-day history of ear pain; she says her mother made this appointment for her

138. A 30-year-old female presents to your office for evaluation of a 5-mm pulmonary nodule noted on CT of the chest performed after a motor vehicle accident 2 weeks ago. She has had no symptoms and she is not a smoker. A physical examination is unremarkable.

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

- A) Noncontrast chest CT in 1 year
- B) A PET scan
- C) Referral for a needle biopsy
- D) Referral for bronchoscopy
- E) Referral for wedge resection

139. A 45-year-old female visits your office for her annual health maintenance visit and mentions that her hair has been thinning over the past few years. She is now concerned that it may be noticeable. She takes no medications and is otherwise healthy with normal menstrual cycles. On examination she has a negative pull-away test. You note diffuse thinning in the parietal regions, with sparing of the frontal hairline. She has no scalp scarring, scale, or erythema.

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

- A) Finasteride (Propecia), 1 mg daily
- B) Griseofulvin, 500 mg daily
- C) Hydroxychloroquine (Plaquenil), 200 mg twice daily
- D) Minoxidil 2% (Rogaine), applied to the scalp twice daily
- E) Triamcinolone 0.05% (Trianex), applied to the scalp twice daily

140. A 16-year-old male is brought to your office by his mother for “stomachaches.” On the review of systems he also reports headaches, occasional bedwetting, and trouble sleeping. His examination is within normal limits. His mother says that he is often in the nurse’s office at school, and doesn’t seem to have any friends. When you discuss these problems with him he admits to being teased and called names at school.

Which one of the following would be most appropriate?

- A) Explain that he must try to conform to be more popular
- B) Explain that these symptoms are a stress reaction and will lessen with time
- C) Explore whether his school counselor has a process to address this problem
- D) Order a TSH level

141. A 67-year-old male is admitted to the intensive-care unit with complications of sarcoma of the leg, including multiple pulmonary emboli. He most likely will require an urgent above-the-knee amputation.

A spiritual assessment in this patient

- A) should be delegated to the hospital chaplain
- B) can be performed by the physician
- C) is not appropriate if the patient has not listed a religion in his demographics
- D) should be postponed until the patient is in less critical condition

142. A 60-year-old male with COPD returns for a follow-up visit. He has been treated twice for pneumonia in the past year and is using his albuterol metered-dose inhaler (Proventil, Ventolin) several times a day. His FEV<sub>1</sub> is 60% of predicted.

To reduce symptoms and prevent hospitalization, which one of the following would be the most appropriate medication to add to this patient's treatment regimen at this time?

- A) Roflumilast (Daliresp)
- B) A long-acting  $\beta_2$ -agonist bronchodilator
- C) A long-acting  $\beta_2$ -agonist and an inhaled corticosteroid
- D) A long-acting anticholinergic inhaler
- E) Long-acting theophylline

143. A 2-year-old female is brought to your office because of a round lesion on her lip that appeared 2 days ago. Her temperature and all vital signs are normal. She has no past medical history and takes no medications. Further history reveals that she was playing with a toy trumpet in a busy store a few days before the lesion appeared. A physical examination reveals a 1-cm round lesion with crusting, and no other skin abnormalities.

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

- A) Bacitracin
- B) Mupirocin (Bactroban)
- C) Neomycin
- D) Cephalexin (Keflex)
- E) Clindamycin (Cleocin)

144. A 9-year-old female presents with a 4-week history of right knee pain with activity. There is no history of trauma or recent illness. Your examination reveals lateral patellar tracking with extension of the knee.

Which one of the following is the most likely diagnosis?

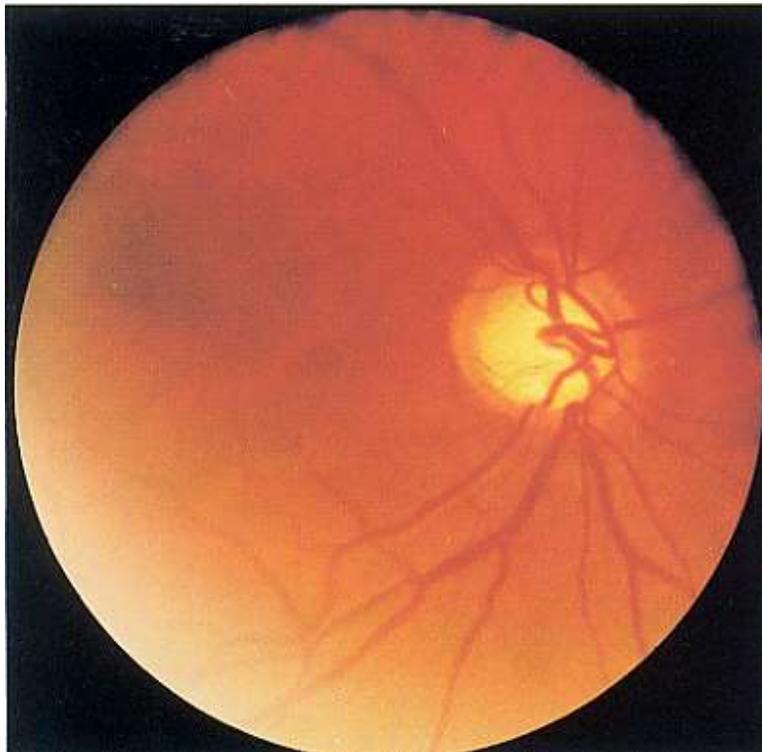
- A) Patellofemoral pain syndrome
  - B) Osgood-Schlatter disease
  - C) Growing pains
  - D) Patellar tendinopathy
  - E) Sever's disease
145. When evaluating a 52-year-old farmer for complaints of possible visual loss, headaches, and a suspected corneal lesion, you note the fundoscopic findings shown on the following page. These findings are highly suggestive of
- A) optic neuritis
  - B) glaucoma
  - C) papilledema
  - D) optic atrophy
  - E) rubeosis
146. A 36-year-old female calls your office because of a 2-day history of dysuria, urinary urgency, and urinary frequency. She has not had any fever, nausea, or vaginal discharge. She tells you her symptoms are similar to a previous urinary tract infection. She uses subdermal etonogestrel (Nexplanon) for contraception, takes no oral medications, and has no drug allergies.

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

- A) Prescribe ciprofloxacin (Cipro)
  - B) Prescribe nitrofurantoin (Macrobid, Macrochantin)
  - C) Prescribe a urinary analgesic such as phenazopyridine (Pyridium)
  - D) Ask the patient to come in today for evaluation
  - E) Ask the patient to submit a urine specimen before you prescribe antibiotics
147. A 50-year-old female comes to your office for routine health maintenance. She jogs 2 miles a day and has had left medial knee pain for the last 6 months. Radiographs reveal moderate degenerative arthritis of the knee. Her BMI is 24.1 kg/m<sup>2</sup> and her physical examination, including an examination of the knee, is otherwise normal.

Which one of the following would be most effective for this patient's arthritis?

- A) Weight loss
- B) A knee brace
- C) Foot orthoses
- D) Hyaluronic acid injection
- E) Exercise-based physical therapy



Item #145

148. A home health nurse calls you about a 62-year-old male who is recovering at home several days after spinal surgery. His recovery was going well until he became unable to urinate despite the sensation of needing to do so. His last normal void was about 12 hours ago and felt incomplete. Catheterization produced 900 mL of clear-appearing urine that she will send for urinalysis. His bowel movements have been normal and his need for pain medications has been decreasing.

In addition to stopping medications that may be promoting his urinary retention, which one of the following management strategies would be most appropriate?

- A) Leaving the indwelling catheter in place for 48–72 hours
- B) Starting finasteride (Proscar), 5 mg daily
- C) Starting oxybutynin, 10 mg daily
- D) Sending the patient to the emergency department

149. A 65-year-old female comes to your office in June for her Welcome to Medicare visit. She has no health concerns but believes she is due for some immunizations. She received Tdap 10 years ago. She has never had MMR and she did not receive influenza vaccine this past winter.

According to the CDC adult immunization schedule, which one of the following is indicated for this patient?

- A) Influenza vaccine
- B) MMR
- C) 13-valent pneumococcal conjugate vaccine (PCV13, Prevnar 13)
- D) 23-valent pneumococcal polysaccharide vaccine (PPSV23, Pneumovax 23)
- E) Tdap

150. A 29-year-old mother of three young children asks your opinion on giving probiotics to her children. Which one of the following is a benefit of the use of probiotics in children?

- A) They reduce diarrhea associated with irritable bowel syndrome
- B) They reduce colic symptoms in formula-fed infants
- C) They prevent the development of allergies
- D) They prevent antibiotic-associated diarrhea

151. A 30-year-old male is taking a motorcycle trip in 6 weeks to Colorado, including a ride to the top of Pikes Peak (elevation 14,100 ft). He has never been above 5000 ft prior to this trip and is concerned about developing acute mountain sickness (AMS). He is generally healthy and takes no medications, but smokes 1 pack of cigarettes per day. He is allergic to penicillin.

Which one of the following is the best option for this patient to reduce his risk of developing AMS?

- A) An intensive aerobic fitness program
- B) Varenicline (Chantix) for smoking cessation
- C) Prophylaxis with acetazolamide
- D) Prophylaxis with *Ginkgo biloba*

152. A 21-year-old female asks you about Papanicolaou (Pap) testing recommendations. You determine she is at average risk for cervical cancer and recommend which one of the following?
- A) Pap testing without HPV co-testing now and in 1 year if results are normal
  - B) Pap testing without HPV co-testing now and in 3 years if results are normal
  - C) Pap testing with HPV co-testing now and in 3 years if results are normal
  - D) Pap testing with HPV co-testing now and in 5 years if results are normal
  - E) HPV testing only, now and in 5 years if results are normal

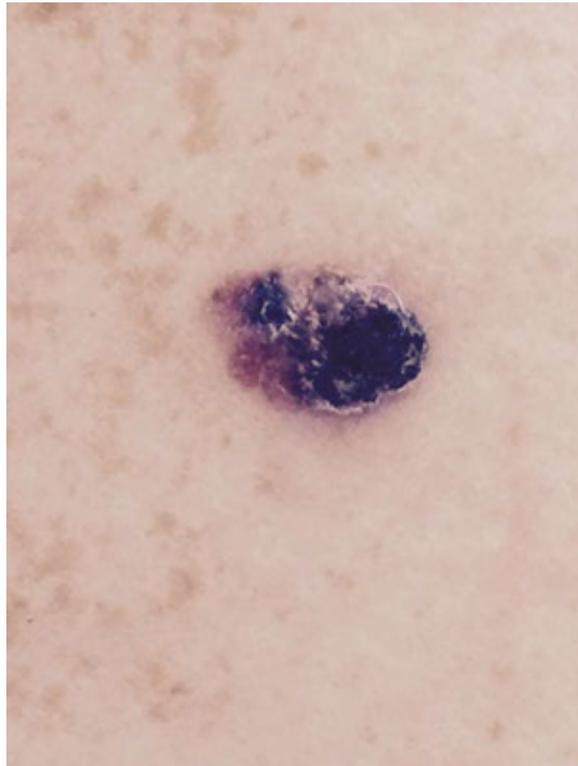
153. A 34-year-old female with systemic sclerosis sees you for a follow-up visit. She is afebrile, with a blood pressure of 132/76 mm Hg, a heart rate of 82 beats/min, and an oxygen saturation of 94% on room air. On examination you note that the patient is thin and has fibrotic skin changes proximal to the elbows and knees, and facial tightening. She does not have increasing shortness of breath but does have ongoing chronic musculoskeletal pain. She is currently taking cyclophosphamide prescribed by her rheumatologist. Pulmonary function tests reveal an FVC < 50%, consistent with restrictive lung disease. CT of the chest shows ground-glass opacities and honeycombing of the lower lobes of the lungs.

Which one of the following do these findings suggest?

- A) Emphysema
  - B) Idiopathic pulmonary fibrosis
  - C) Interstitial lung disease
  - D) Pulmonary edema
  - E) Sarcoidosis
154. While percussing the chest of a 38-year-old male during his annual health maintenance examination, you notice the lesion shown on the following page on the upper left side of his back. The lesion is approximately 1.2 cm across the long axis.

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

- A) A superficial shave biopsy
  - B) A punch biopsy of the peripheral margin
  - C) A punch biopsy at the center of the lesion
  - D) An excisional biopsy with a 1- to 3-mm border around the lesion
  - E) Wide excision with a 2-cm border around the lesion
155. Which one of the following variables is the most important risk factor for being a victim of domestic abuse?
- A) Educational background
  - B) Psychological problems
  - C) Race
  - D) Gender
  - E) Socioeconomic status



**Item #154**

156. A 50-year-old female undergoes screening colonoscopy and a 1.2-cm polyp is discovered and removed. She is told that it is benign but she is concerned about her future risk for developing colon cancer.

Which histologic type of colonic polyps > 1.0 cm in size has the highest likelihood of becoming malignant?

- A) Hamartomatous polyps
- B) Hyperplastic polyps
- C) Inflammatory polyps
- D) Tubular adenomas
- E) Villous adenomas

157. Which one of the following is diagnostic for type 2 diabetes mellitus?

- A) A fasting plasma glucose level  $\geq 126$  mg/dL on two separate occasions
- B) An oral glucose tolerance test (75-g load) with a 2-hour glucose level  $\geq 160$  mg/dL
- C) A random blood glucose level  $\geq 200$  mg/dL in an asymptomatic person
- D) A hemoglobin A<sub>1c</sub>  $\geq 6.0\%$  on two separate occasions

158. A 66-year-old male with nonalcoholic steatohepatitis, hyperlipidemia, and hypertension sees you for follow-up. He was recently diagnosed with cirrhosis. He has no new health complaints today. His medications include metoprolol, simvastatin (Zocor), and low-dose aspirin. His vital signs include a blood pressure of 120/75 mm Hg, a heart rate of 72 beats/min, and an oxygen saturation of 96% on room air. The physical examination is notable for mild ascites and trace lower extremity edema.

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

- A) Fluid restriction
- B) Limiting sodium intake
- C) A low-protein diet
- D) Discontinuation of metoprolol
- E) Discontinuation of simvastatin

159. A 26-year-old female presents with a 3-month history of abdominal pain, lightheadedness with standing, and some hyperpigmentation. Her CBC is normal, but a basic metabolic panel reveals a slightly low sodium level and a slightly high potassium level.

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

- A) A serum aldosterone level
- B) A corticotropin (ACTH) stimulation test
- C) Paired morning cortisol and melanocyte stimulating hormone levels
- D) 21-hydroxylase antibodies and 17-hydroxyprogesterone levels

160. A 54-year-old male presents to your office with a 2-day history of mild right anterior chest pain with deep breathing. He reports that it has been sharp and constant and is preventing him from sleeping. He also describes shortness of breath and a cough productive of white sputum. He reports that prior to this episode he had been in good health, and he has not experienced these symptoms in the past.

On examination his blood pressure is 140/88 mm Hg, his temperature is 37.1°C (98.8°F), his pulse rate is 88 beats/min, and his oxygen saturation is 95% on room air. Heart auscultation reveals a regular rhythm with no murmur. His lungs are clear. Examination of the lower extremities reveals no edema or tenderness. A chest radiograph is normal. An EKG reveals right bundle branch block.

Which one of the following would you order next?

- A) A D-dimer level
  - B) Compression ultrasonography
  - C) Echocardiography
  - D) A ventilation-perfusion scan of the lungs
  - E) CT angiography of the lungs
161. Which one of the following has the best evidence supporting its use for acute low back pain without radicular symptoms?
- A) Acupuncture
  - B) Bed rest
  - C) Lumbar support
  - D) Oral corticosteroids
  - E) Cyclobenzaprine
162. A 70-year-old male is being treated with medication for type 2 diabetes mellitus. Which one of the following hemoglobin A<sub>1c</sub> values is associated with the lowest mortality in this situation?
- A) 5.0%–5.9%
  - B) 6.0%–6.9%
  - C) 7.0%–7.9%
  - D) 9.0%–9.9%
163. An 80-year-old male presents with a 4-hour history of generalized abdominal pain, vomiting, and fever to 101°F. On examination you note normal cardiovascular findings, generalized moderate abdominal tenderness, absent bowel sounds, and a normal rectal examination.
- The diagnostic abdominal film shown on the following page suggests
- A) a leaking abdominal aortic aneurysm
  - B) toxic megacolon
  - C) small bowel obstruction
  - D) diverticulitis
  - E) a perforated viscus



Item #163

164. A 64-year-old male presents with a 2-week history of a worsening constant burning pain in his right foot. The physical examination reveals an absent dorsalis pedis pulse, and pallor develops with elevation of the foot. The resting right ankle-brachial index is 0.45 and Doppler waveform analysis indicates an isolated severe stenosis of the right posterior tibial artery.

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

- A) A supervised walking program
- B) Cilostazol (Pletal)
- C) Warfarin (Coumadin)
- D) Revascularization

165. An otherwise healthy 32-year-old female sees you for a routine health maintenance examination after having required laboratory screening at work. She has no significant past medical history and the physical examination is normal. Laboratory results are unremarkable except for an elevated alkaline phosphatase level.

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

- A) A gamma-glutamyl transferase level
- B) A parathyroid hormone level
- C) Hepatitis C antibody testing
- D) Ultrasonography of the liver
- E) Bone scintigraphy

166. A rural community college has requested your guidance in offering a preventive health program to its students. The most appropriate plan would include which one of the following?

- A) Mammograms for female students
- B) Lead poisoning screening for all students
- C) Stool occult blood kits for all students
- D) Smoking cessation programs for students who smoke
- E) An annual routine physical examination for all students

167. A 72-year-old male has newly diagnosed systolic heart failure due to hypertensive cardiomyopathy. The patient has an estimated left ventricular ejection fraction of 30% and was dyspneic at rest and with minimal exertion at the time of diagnosis.

Which one of the following drugs is indicated to reduce mortality in this patient?

- A) Atenolol (Tenormin)
- B) Digoxin
- C) Furosemide (Lasix)
- D) Lisinopril (Prinivil, Zestril)
- E) Nifedipine (Procardia)

168. A 65-year-old female develops gram-negative septicemia from a urinary tract infection. Despite the use of fluid resuscitation she remains hypotensive, with a mean arterial pressure of 50 mm Hg.

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

- A) Vasopressin
- B) Phenylephrine (Neo-Synephrine)
- C) Epinephrine
- D) Norepinephrine (Levophed)
- E) Low-dose dopamine

169. A 5-year-old male fell while playing yesterday and complained that his wrist hurt. He is brought to your office today because he refuses to use his arm.

Which one of the following best describes the condition seen in the radiographs of his wrist, shown on the following page?

- A) A normal appearance
- B) A distal radial buckle fracture
- C) An ulnar greenstick fracture
- D) A radioulnar diaphyseal fracture
- E) A Salter-Harris II radial physeal fracture

170. A 20-year-old female visits your office for advice regarding contraceptives. She expresses interest in long-acting reversible contraception (LARC).

Which one of the following is the recommended timing for LARC placement?

- A) Any time during the menstrual cycle
- B) 14 days before the anticipated onset of menses
- C) 7 days before the anticipated onset of menses
- D) 7 days after the onset of menses
- E) 14 days after the onset of menses



Item #169



Item #169

171. A 55-year-old male with chronic paranoid schizophrenia, mild intellectual disability, and hypertension is brought to your office with foot pain. He resides in a personal care home and is accompanied by his caregiver, who says the patient had pain this morning and could not walk. His medications include hydrochlorothiazide, lisinopril (Prinivil, Zestril), risperidone (Risperdal), and metformin (Glucophage). On examination he has an erythematous, warm, tender metacarpophalangeal joint of his right great toe. He refuses joint aspiration but does agree to allow blood work. A CBC and metabolic profile are both normal and his uric acid level is 6.8 mg/dL (N 3.4–7.0).

Which one of the following is the most likely diagnosis?

- A) Gout
  - B) Osteoarthritis
  - C) Reactive arthritis
  - D) Rheumatoid arthritis
  - E) Trauma
172. A 33-year-old female with a BMI of 35.2 kg/m<sup>2</sup> presents to your office for follow-up of her recently documented blood pressure elevation. Her blood pressure is elevated again today. You diagnose hypertension and decide to start pharmacologic therapy in addition to lifestyle modifications.

Which one of the following agents would be the best first-line choice for this patient?

- A) Verapamil (Calan)
  - B) Clonidine (Catapres)
  - C) Hydrochlorothiazide
  - D) Metoprolol tartrate (Lopressor)
  - E) Spironolactone (Aldactone)
173. A 60-year-old male presents with a 6-week history of worsening bilateral shoulder, upper arm, and neck pain. He has morning stiffness that lasts at least an hour. The review of systems is otherwise negative. There is no localized tenderness or motor weakness on physical examination. His erythrocyte sedimentation rate is 55 mm/hr.

Which one of the following is the best treatment option for this patient at this time?

- A) Aspirin, 1000 mg 3 times daily
- B) Indomethacin, 25–50 mg 3 times daily
- C) Methotrexate, 7.5 mg once a week
- D) Prednisone, 10–20 mg once daily
- E) Prednisone, 20 mg 3 times daily

174. A 20-year-old male college student comes to your office to ask what he can do to prevent meningitis. His roommate was just hospitalized with invasive meningococcal disease. The patient has no symptoms at this time, a physical examination is normal, and he received meningococcal vaccine at the recommended times. He lives in a campus dormitory that houses 22 students.

Which one of the following would be most appropriate?

- A) Reassure him that as long as he did not have direct contact with respiratory secretions he is at low risk of infection and does not need prophylaxis
  - B) Reassure him that because of his immunization status he is at low risk of infection and does not need prophylaxis
  - C) Tell him there is no preventive treatment so he should monitor his symptoms very closely and return immediately if he develops a fever, headache, or stiff neck
  - D) Treat him and the rest of the students in the dormitory with a single dose of ciprofloxacin (Cipro)
175. A 43-year-old female presents with marked proximal muscle weakness, dysphagia, and pain in the shoulders and hips, all beginning within the past 5 weeks. She reports difficulty getting out of a chair. On examination she has a violaceous rash involving the periorbital skin, and macular erythematous lesions over the anterior chest and upper lateral thighs.

Which one of the following additional findings would you expect?

- A) Hyperkeratotic plaques in intertriginous areas
  - B) Macules over the extensor surfaces of her joints
  - C) Polygonal papules on the flexor surface of her wrists
  - D) Distal onycholysis
  - E) Atrophic cuticles with contracted nail-fold capillaries on dermoscopy
176. A 60-year-old male presents with a 3-day history of abdominal pain and urinary urgency. He also reports chills, fatigue, and decreased appetite. His temperature is 38.4°C (101.1°F), his pulse rate is 96 beats/min, and his blood pressure is 126/84 mm Hg. On examination he is tender in the left lower quadrant, and a rectal examination reveals a normal-size, nontender prostate gland. A urinalysis reveals 5–10 WBCs/hpf and 5–10 RBCs/hpf. A CBC reveals a normal hemoglobin and hematocrit, with a WBC count of 15,000/mm<sup>3</sup> (N 4300–10,800) and 85% neutrophils. A CT scan of the abdomen is shown on the following page.

Which one of the following is the most likely diagnosis?

- A) Acute prostatitis
- B) Appendicitis
- C) Colon cancer
- D) Diverticulitis
- E) Pyelonephritis



Item #176

177. A 2-year-old male has a 3-day history of a runny nose and cough, and a 2-day history of fever reaching 40.0°C (104.0°F). He woke up with a rash this morning. His appetite is good and his activity level is normal. On examination the child is afebrile with normal vital signs, and has a fine, maculopapular, erythematous rash on the trunk and extremities. The remainder of the examination is normal.

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

- A) Atopic dermatitis
- B) Erythema infectiosum
- C) Molluscum contagiosum
- D) Pityriasis rosea
- E) Roseola infantum

178. A 47-year-old female is concerned about a change in her menstrual pattern. Her monthly periods continue, but for the past several months they have been heavier than usual and have been lasting a few days longer. Last month she also noted some spotting for several days prior to the onset of her menses. Her pelvic examination is normal.

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

- A) Observation only, and reexamination in 3 months
- B) A serum FSH level
- C) Transvaginal ultrasonography
- D) Progestin-only therapy to normalize bleeding
- E) Cyclic estrogen-progestin therapy to normalize bleeding

179. A 63-year-old male presents to your office because his COPD is worsening. He indicates that his exercise tolerance is steadily decreasing but he can still walk approximately 100 yards on flat ground. His medications include formoterol (Perforomist) twice daily and albuterol (Proventil, Ventolin) as needed, which he requires only occasionally. He had an exacerbation requiring prednisone 7 months ago. He quit smoking 6 years ago. His oxygen saturation is 93% on room air and 89% after walking briskly for 8 minutes. His FEV<sub>1</sub> is 1.91 L (62% of predicted) and his FEV<sub>1</sub>/FVC ratio is 0.57.

Which one of the following is most likely to improve his progressive dyspnea?

- A) Stop formoterol and start fluticasone/salmeterol (Advair)
- B) Stop formoterol and start tiotropium
- C) Add tiotropium
- D) Start oxygen at 2 L/min with exertion
- E) Refer for pulmonary rehabilitation

180. A 45-year-old male comes to the urgent care center with left foot pain that began at a ballroom dancing competition. He states that he put all of his weight on the lateral portion of his foot while on tiptoe, and felt the pain immediately. He now cannot bear weight on the foot. On examination it appears slightly edematous with a small amount of ecchymosis. A radiograph reveals a proximal fifth metatarsal metadiaphyseal fracture. The patient is eager to return to competitive dancing as soon as possible.

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

- A) Full weight bearing with the use of a compression dressing as needed for pain and swelling
  - B) A posterior splint with no weight bearing for 4 weeks
  - C) A walking cast for 6 weeks
  - D) Surgical referral
181. A 45-year-old female comes to your outpatient clinic for a routine health maintenance examination. She has no complaints, is generally healthy, and has an unremarkable family history. She has been having regular periods and is sexually active with her husband, who had a vasectomy 9 years ago.

As you perform a pelvic examination you notice a fullness in the left adnexal region that is mildly tender to palpation. The remainder of the examination is normal. You order pelvic ultrasonography, which demonstrates a 4×5-cm cystic structure on the left ovary. There are no internal septations or echogenic internal structures. A pregnancy test is negative.

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

- A) Reassurance only
  - B) Repeat pelvic ultrasonography in 8–10 weeks
  - C) A serum CA-125 level
  - D) An oral contraceptive and repeat pelvic ultrasonography in 6–8 months
  - E) Referral to a gynecologist for diagnostic cystectomy
182. A 4-year-old female is brought in by her mother because of a 3-day history of left ear drainage and a low-grade fever. The patient has bilateral ventilation tubes that were placed 2 months ago.

Which one of the following would be most effective for resolving this child's condition?

- A) Saline rinses of the affected ear canal
- B) Oral amoxicillin/clavulanate (Augmentin)
- C) Ciprofloxacin eardrops (Cetraxal)
- D) Fluocinonide eardrops

183. Which one of the following is appropriate in the care of adolescent patients?
- A) Recommending that parents accompany their children at all times during visits in order to increase rapport and trust
  - B) Avoiding discussion of weight with teenagers who are obese, because of the negative impact on self-image
  - C) Recommending education about sex and contraception, aimed at reducing the rate of unintended pregnancy
  - D) Beginning cervical cancer screening at age 18, or earlier with sexually active patients

184. Which one of the following populations should be screened for asymptomatic bacteriuria?
- A) Patients with diabetes mellitus
  - B) Patients who are pregnant
  - C) Hospitalized patients who have an indwelling Foley catheter
  - D) Hospitalized patients at the time of removal of an indwelling Foley catheter
  - E) Residents of long-term care facilities

185. A 35-year-old male amateur rugby player presents with right anterolateral hip pain of several months' duration that has progressed to the point of interfering with his athletic performance. The pain is accentuated when he transitions from a seated to a standing position, and especially when he pivots on the hip while running, but he cannot recall any significant trauma to the area. Over-the-counter analgesics do not relieve the pain. On examination his gait is stable. The affected hip appears normal and is neither tender to palpation nor excessively warm to touch. Although he has a full range of passive motion, obvious discomfort is evident with internal rotation of the flexed and adducted right hip.

Which one of the following is most strongly suggested by this clinical picture?

- A) Osteoarthritis
  - B) Avascular necrosis
  - C) Bursitis
  - D) Impingement
  - E) Pathologic fracture
186. A 60-year-old male sees you for a routine health maintenance visit. One of the patient's friends recently underwent screening for an abdominal aortic aneurysm (AAA), and he asks if he should be screened. He is asymptomatic, has never smoked, and has no other risk factors.

Which one of the following does the U.S. Preventive Services Task Force advise with regard to AAA screening for this patient?

- A) There is insufficient evidence to recommend for or against screening
- B) He does not require screening now or in the future
- C) He should not be screened now, but should have abdominal duplex ultrasonography in 5 years
- D) He should have abdominal duplex ultrasonography now, with no future screening
- E) He should have abdominal duplex ultrasonography now and in 5 years

187. A 55-year-old male presents with shortness of breath and abdominal pain. He has a history of diabetes mellitus, coronary artery disease, and hepatitis C. He usually is very active and continues to work at a steel plant. He smokes 1 pack of cigarettes each day and drinks alcohol daily. A chest radiograph shows a moderate right-sided pleural effusion. Thoracentesis reveals a pleural fluid protein to serum protein ratio of 0.3, and a pleural LDH to serum LDH ratio of 0.4. The pleural glucose level is 140 mg/dL and his serum glucose level is 150 mg/dL.

Which one of the following is the most likely cause of this pleural effusion?

- A) Asbestosis
  - B) Cirrhosis with ascites
  - C) Malignancy
  - D) Pneumonia
  - E) Viral illness
188. Opioid therapies provide the greatest analgesic relief for most patients with a terminal illness. However, concerns about which one of the following can inappropriately limit the use of opioids in these patients?

- A) Angina
- B) Dementia
- C) Gastritis
- D) Renal failure
- E) Respiratory depression

189. You see a 37-year-old asymptomatic male for the first time for a health maintenance visit. He underwent a splenectomy 6 years ago following a motor vehicle accident.

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

- A) Routine health care only, given that he became asplenic as an adult
- B) Instructing him to report any fever  $> 101.5^{\circ}\text{F}$  that lasts more than 72 hours
- C) Providing oral amoxicillin or levofloxacin (Levaquin) for initial empiric treatment of a fever if he is unable to obtain medical care within a few hours
- D) Forgoing influenza vaccine if inactivated vaccine is not available
- E) Administering 23-valent pneumococcal polysaccharide vaccine (PPSV23, Pneumovax 23) every 5 years indefinitely after the initial vaccination

190. A 15-year-old female comes to your office for treatment of acne vulgaris. Her complete history and physical examination are unremarkable other than a moderate amount of closed comedones and inflamed papules on her nose, forehead, and upper back. She has not previously tried any topical or oral therapies, including over-the-counter medications.

Which one of the following would be indicated for this patient as monotherapy?

- A) Topical benzoyl peroxide
- B) Topical clindamycin (Cleocin T)
- C) Oral isotretinoin (Absorica)
- D) Oral minocycline (Minocin)
- E) Oral spironolactone (Aldactone)

191. A 38-year-old female who recently underwent a laparoscopic sleeve gastrectomy for weight loss presents to your office for a follow-up visit. She has had no complications with her recent postoperative course. Her medical history includes diabetes mellitus, hypertension, and hyperlipidemia. She has also had problems with bilateral knee pain from osteoarthritis.

Patient education should include advising the patient to

- A) drink extra fluids with meals
- B) increase her intake of fibrous vegetables
- C) avoid pregnancy for 3 years
- D) take ibuprofen as needed for pain
- E) have a bone density test in 2 years

192. Which one of the following is a cause of pseudohyponatremia?

- A) Hypercalcemia
- B) Hyperkalemia
- C) Hypermagnesemia
- D) Hyperphosphatemia
- E) Hypertriglyceridemia

193. A 13-year-old female with asthma sees you for the first time in a year. The patient has a cough and you discover that she has not been taking her medications since you last saw her. She has been having symptoms 3–4 days a week and has been awakening at night about 3 times a month. Her FEV<sub>1</sub> in the office is 90% of predicted.

This patient's asthma should be classified as

- A) intermittent
- B) mild persistent
- C) moderate persistent
- D) severe persistent

194. A 37-year-old female who smokes 1 pack of cigarettes per day has just had her third child and requests contraception. She does not intend to have any more children.

Which one of the following is the safest option for this patient?

- A) Traditional combined oral contraceptive pills
- B) Extended-cycle combined oral contraceptive pills
- C) The contraceptive patch (Ortho Evra)
- D) The contraceptive vaginal ring (NuvaRing)
- E) The etonogestrel implant (Nexplanon)

195. A 42-year-old male comes to your office with acute right flank pain that awakened him from sleep. The pain is colicky and he says it is the most intense pain that he has ever felt. The findings on a physical examination, in addition to blood on his urinalysis, make you suspect a urinary tract stone.

Which one of the following imaging modalities would be most appropriate for confirming your suspicion?

- A) Abdominal radiography (KUB)
- B) Standard CT of the abdomen and pelvis with intravenous contrast
- C) Low-dose helical (spiral) noncontrast CT of the abdomen and pelvis
- D) MRI of the abdomen and pelvis without contrast
- E) Ultrasonography of the kidneys and bladder

196. A 45-year-old premenopausal female with a BMI of 34.0 kg/m<sup>2</sup> presents to your office with increasing dyspnea on exertion. She has a recent history of iron deficiency anemia and wonders if her iron level is low again. Her history is negative for heavy menses, bloody or melanotic stools, abdominal pain, and unusual bleeding or bruising. Her evaluation for anemia has included upper and lower endoscopy with normal findings. Last year the patient underwent gastric bypass surgery and has been on a fairly restricted diet since that time. She uses a levonorgestrel IUD (Mirena) for contraception.

A physical examination is unremarkable. Her serum ferritin level is 6 ng/mL (N 10–120) and her hemoglobin level is 8.0 g/dL (N 12.0–16.0) with microcytic indices. You determine that she has iron deficiency anemia.

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

- A) Oral iron replacement
- B) Intravenous iron replacement
- C) Blood transfusion
- D) Urgent referral to a hematologist

197. A patient returns to your office for a refill of oxycodone (Roxicodone), which he has been taking for 6 months for pain secondary to chronic osteomyelitis of his knee. His pain relief is adequate at a dosage of 10 mg every 6–8 hours. He took his prescribed dose approximately 4 hours prior to his visit. A urine drug screen using an enzyme-linked test is negative.

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

- A) Stop prescribing pain medication for this patient
- B) Order chromatography
- C) Switch the patient to a codeine product and retest him
- D) Refer the patient to a pain management specialist

198. A 75-year-old male presents with weight loss, fatigue, and sleep disturbance. He also has a 6-week history of feeling depressed and not enjoying life anymore. He is not suicidal. After an appropriate evaluation to rule out other causes, you diagnose major depressive disorder.

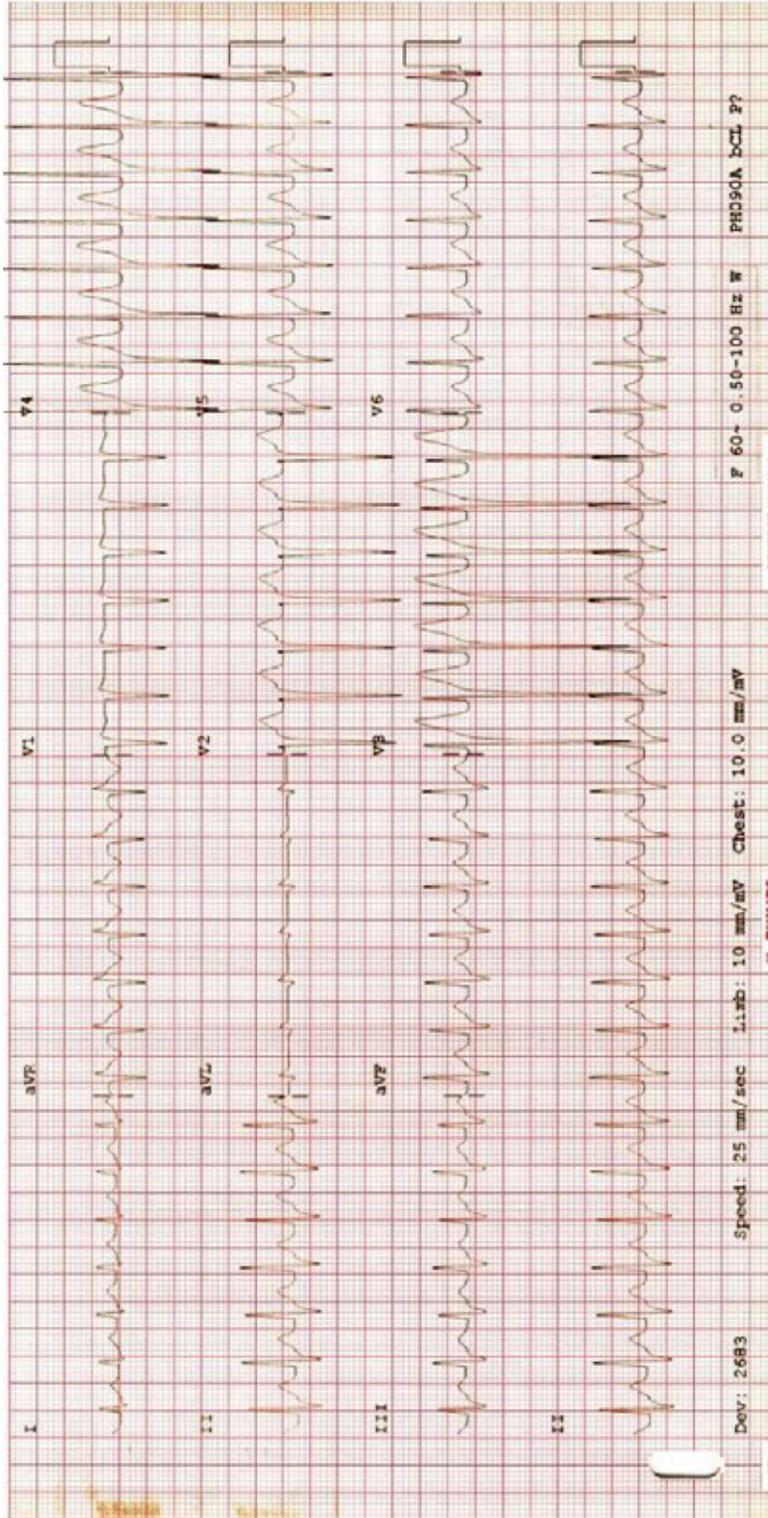
Which one of the following agents is indicated as first-line pharmacotherapy for this patient?

- A) Aripiprazole (Abilify)
- B) Dextroamphetamine/amphetamine (Adderall)
- C) Nortriptyline (Pamelor)
- D) Sertraline (Zoloft)
- E) Venlafaxine (Effexor XR)

199. A 24-year-old female who has been treated for panic attacks presents for follow-up and is noted to have a heart rate of 170 beats/min. Her blood pressure is 125/82 mm Hg and the remainder of her vital signs are normal. She states that she feels anxious at this time but does not have dizziness, chest pain, or other symptoms. She says this is similar to how she felt during panic attacks in the past. An EKG is shown on the following page.

Which one of the following would be the best initial management?

- A) Valsalva maneuvers
- B) A short-acting benzodiazepine to use as needed for panic attacks
- C) Intravenous adenosine (Adenocard)
- D) Synchronized cardioversion
- E) Urgent referral to a cardiologist



Item #199

200. A 55-year-old male sees you for follow-up. His medical problems include morbid obesity, type 2 diabetes mellitus, hypertension, hyperlipidemia, and major depressive disorder. His medications include metformin (Glucophage), glipizide (Glucotrol XL), lisinopril (Prinivil, Zestril), aspirin, simvastatin (Zocor), and fluoxetine (Prozac). His BMI is 52.4 kg/m<sup>2</sup> and he is struggling to lose weight.

Which one of the following medication replacements could help promote weight loss?

- A) Atorvastatin (Lipitor) instead of simvastatin
- B) Canagliflozin (Invokana) instead of glipizide
- C) Carvedilol (Coreg) instead of lisinopril
- D) Paroxetine (Paxil) instead of fluoxetine
- E) Pioglitazone (Actos) instead of glipizide

201. A 45-year-old white female presents to your office after recent routine laboratory tests revealed a platelet count of 100,000/mm<sup>3</sup> (N 150,000–350,000). Six months ago the patient's platelet count was 283,000/mm<sup>3</sup>. All other indices are within normal limits. The history is negative for easy bruising, bleeding, fever, rash, or arthralgias. She has no family history of blood disorders or recent illness. Her medications include ranitidine (Zantac), fluticasone (Flonase), and inhaled albuterol (Proventil, Ventolin). She is otherwise healthy. A peripheral smear confirms thrombocytopenia.

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

- A) Stopping ranitidine and repeating the CBC in 2 weeks
- B) Oral prednisone, 50 mg daily for 7 days, and a repeat CBC in 1 week
- C) Outpatient transfusion of 1 unit of platelets
- D) Referral to a hematologist for further evaluation
- E) Referral for a bone marrow biopsy

202. An 82-year-old white male consults you following several syncopal episodes that are clearly orthostatic in nature. During the course of your evaluation you find that he has a large tongue, mild cardiomegaly, and findings that suggest bilateral carpal tunnel syndrome.

The most likely diagnosis at this time is

- A) pernicious anemia
- B) cervical spondylosis
- C) amyloidosis
- D) polymyalgia rheumatica

203. A 60-year-old male returns for a reevaluation of his asthma that you have been working to control. In the past he has been adequately maintained with daily use of inhaled fluticasone/salmeterol (Advair), along with montelukast (Singulair). Last month he experienced an exacerbation of his asthma that responded well to oral prednisone. However, each time you have attempted to wean him off the prednisone his asthma symptoms have returned.

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

- A) Adding oral azithromycin (Zithromax)
- B) Adding oral methotrexate
- C) Adding oral theophylline
- D) Adding long-term oral prednisone
- E) Increasing the dosage of the corticosteroid

204. A 41-year-old healthy female presents for a health maintenance examination. Her last preventive care visit was 3 years ago, when she had negative cervical cytology and HPV co-testing and a normal lipid panel. She does not use tobacco, alcohol, or illicit drugs. She has not been sexually active since her last visit, and her menstrual periods are regular. A complete physical examination is normal, including blood pressure.

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

- A) Daily folic acid supplementation
- B) A manual breast examination
- C) *Chlamydia* screening
- D) A fasting lipid profile
- E) A Papanicolaou test

205. An 82-year-old male presents to the emergency department with severe generalized abdominal pain. He has a history of paroxysmal atrial fibrillation and stopped taking rivaroxaban (Xarelto) 2 months ago because of the cost. The physical examination reveals generalized abdominal tenderness and an epigastric bruit. You suspect mesenteric ischemia.

Which one of the following is the recommended imaging study?

- A) Ultrasonography
- B) Endoscopy
- C) Catheter angiography
- D) CT angiography
- E) MR angiography

206. A 21-year-old male presents to an acute care center with pain in his left shoulder after a bicycle accident. His left arm is externally rotated and slightly abducted. A neurovascular examination is normal. Plain radiographs show an anterior shoulder dislocation. Reduction is successful, which is confirmed by a plain radiograph.

Which one of the following complications would be reduced by gentle range-of-motion exercises during immobilization?

- A) Acromioclavicular joint injury
- B) Adhesive capsulitis (frozen shoulder)
- C) Recurrent dislocation
- D) Rotator cuff injury
- E) Shoulder impingement syndrome

207. A 14-year-old female with mild depression sees you for follow-up. After her last visit she began a trial of psychotherapy but her mother asks about additional treatment options. The daughter has no other significant past medical history.

Which one of the following is recommended as first-line pharmacotherapy for this patient?

- A) Citalopram (Celexa)
- B) Fluoxetine (Prozac)
- C) Mirtazapine (Remeron)
- D) Paroxetine (Paxil)
- E) Venlafaxine (Effexor XR)

208. A 38-year-old previously healthy Ethiopian female presents with a 4-day history of sharp chest pain that improves when she sits up. She entered the United States 1 week ago to begin a postdoctoral research position. She had a recent negative HIV-1/HIV-2 test. She has no history of allergies and is not pregnant. Her only medication is ibuprofen, 400 mg every 8 hours as needed for menstrual cramps. The remainder of her history and physical examination are notable only for a pericardial friction rub. After further evaluation she is presumptively diagnosed with pericarditis.

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

- A) Ibuprofen hypersensitivity
- B) *Candida* infection
- C) *Enterovirus* infection
- D) Myocardial infarction
- E) Metastatic cancer

209. A 75-year-old male is noted to have palpitations. He has COPD from smoking for many years and uses an albuterol (Proventil, Ventolin) inhaler and inhaled corticosteroids. On examination his blood pressure is 130/70 mm Hg, his pulse rate is 110 beats/min, and his rhythm is irregularly irregular. Auscultation of the lungs reveals a few scattered wheezes and rhonchi. An EKG shows irregular R-R intervals with narrow QRS complexes and no P waves.

Which one of the following would be the best choice to control this patient's heart rate?

- A) Cardioversion
- B) Amiodarone (Cordarone)
- C) Digoxin (Lanoxin)
- D) Diltiazem (Cardizem)
- E) Propranolol

210. A 36-year-old female sees you for a 6-week postpartum visit. Her pregnancy was complicated by gestational diabetes mellitus. Her BMI at this visit is 33.0 kg/m<sup>2</sup> and she has a family history of diabetes.

Which one of the following is this patient's greatest risk factor for developing type 2 diabetes in the future?

- A) Her age
- B) Obesity
- C) The history of a completed pregnancy
- D) The history of gestational diabetes
- E) The family history of diabetes

211. The fee-for-service system of medical payments establishes a reimbursement for individual care episodes provided by physicians and hospitals. Which one of the following is the term for when this reimbursement is adjusted up or down based on quality and/or efficiency measures?

- A) Modified fee-for-service
- B) Bundled payments
- C) Flexible payment strategies
- D) Value-based reimbursement
- E) Accountable Care Organizations

212. A 70-year-old male presents with lower extremity pain. Increased pain with which one of the following would be most consistent with lumbar spinal stenosis?

- A) Lumbar spine extension
- B) Lumbar spine flexion
- C) Internal hip rotation
- D) Pressure against the lateral hip and trochanter

213. A 60-year-old female sees you because she has recently lost 20 lb without trying and is having trouble swallowing. Her other medical problems include obesity, tobacco abuse, and GERD.

Which one of the following is the most appropriate diagnostic test in this situation?

- A) A barium swallow
- B) Endoscopic esophageal ultrasonography
- C) Chest CT
- D) Upper endoscopy

214. A 60-year-old male presents for evaluation of mild pitting edema of both lower extremities for several months. He has daytime fatigue and drowsiness but no orthopnea or paroxysmal nocturnal dyspnea. His only medications are hydrochlorothiazide and lisinopril (Prinivil, Zestril).

A physical examination reveals normal vital signs but a BMI of 30.3 kg/m<sup>2</sup>. His lungs are clear and his heart sounds are normal. There is no organomegaly. The patient has mild pitting edema of both lower extremities up to the midcalf but no associated skin changes, ulcerations, or decrease in pulses. A CBC, a comprehensive metabolic panel, a prealbumin level, and a chest radiograph are all normal.

In addition to a sleep study, which one of the following would be the most appropriate next step in the evaluation of this patient?

- A) An ankle-brachial index
- B) A D-dimer assay
- C) Lymphoscintigraphy
- D) Echocardiography
- E) Magnetic resonance venography

215. A 22-year-old female who was diagnosed with bronchitis at an urgent care clinic 3 days ago sees you because her cough is still present. She is very annoyed by the cough and is concerned because she read online that she could have pneumonia. She asks if she should have a chest radiograph.

Which one of the following would be an indication for a chest radiograph in this patient?

- A) A cough lasting more than 14 days
- B) A respiratory rate >24/min
- C) A temperature >37.5°C (99.5°F)
- D) Wheezing on the lung examination
- E) Cigarette smoking

216. A 66-year-old asymptomatic male presents with a 6-month history of ongoing pruritus. A physical examination is normal. Laboratory studies are also normal except for an LDL-cholesterol level of 150 mg/dL, a free T<sub>4</sub> level of 1.4 ng/dL (N 0.9–2.3), and a TSH level of 6.22 μU/mL (N 0.4–4.5).

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

- A) No treatment at this time and a repeat TSH level in 3 months
- B) Testing for thyroid antibodies and treatment with levothyroxine if the test is negative
- C) A <sup>131</sup>I uptake and scan with no treatment pending results
- D) Liothyronine (Cytomel)
- E) Levothyroxine (Synthroid)

217. An otherwise healthy 64-year-old male presents with mild shortness of breath and lightheadedness with exertion. He has a grade 3/6 systolic ejection murmur at the right second intercostal space radiating to the neck. A transthoracic echocardiogram and cardiac catheterization with normal coronary arteries reveals severe aortic stenosis.

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

- A) No treatment, and monitoring for increasing symptoms every 6 months
- B) No treatment, and monitoring with echocardiography every 6 months
- C) Medical management with an ACE inhibitor and continued monitoring
- D) Medical management with a β-blocker and continued monitoring
- E) Prompt aortic valve replacement

218. A 38-year-old female with diabetes mellitus controlled by diet has a sodium level of 130 mEq/L (N 136–145) on a routine basic metabolic panel. She does not use any dietary supplements and is not taking a diuretic. You consider a diagnosis of syndrome of inappropriate secretion of antidiuretic hormone (SIADH) and take additional history and order additional laboratory studies.

Which one of the following would be most consistent with SIADH?

- A) A history of excessive beer drinking
- B) A history of polydipsia
- C) A serum glucose level of 350 mg/dL (N 70–100)
- D) A urine sodium level of 40 mEq/L (N 20)
- E) A urine osmolality of 90 mOsm/kg (N 300–900)

219. You see a 4-month-old male in your office with a 2-day history of cough, runny nose, fever, poor feeding, and difficulty breathing. He was born at 38 weeks gestation via a normal spontaneous vaginal delivery after an uncomplicated pregnancy. He did well after birth and went home with his mother after a 48-hour hospital stay. He is breastfed and had been doing well until now. He has breastfed much less than usual today and has had no wet diapers in the last 8 hours.

On examination you note a temperature of 38.9°C (102.0°F), a pulse rate of 176 beats/min, a respiratory rate of 66/min, and an oxygen saturation of 92% on room air. The patient generally appears tachypneic and clingy, is fussy during the examination, and has notable subcostal retractions and nasal flaring. A nasal examination reveals crusted mucus at the nares bilaterally. Examination of the mouth reveals no oral lesions. A cardiovascular examination reveals tachycardia with a regular rhythm and no murmur. Auscultation of the lungs reveals diffuse crackles and wheezes without focal findings. His extremities are warm, with a capillary refill time of <3 sec.

In addition to oral or intravenous rehydration, which one of the following treatment plans is most appropriate for this patient at this time?

- A) Send the child home and follow up tomorrow
  - B) Admit to the hospital for supportive care only
  - C) Admit to the hospital for inhaled bronchodilators
  - D) Admit to the hospital for inhaled bronchodilators and oral dexamethasone
  - E) Admit to the hospital for inhaled bronchodilators, oral dexamethasone, and intravenous antibiotics
220. A 13-year-old male is brought to your office because of pain in his foot. Two days ago he stepped on a nail that went through his sneaker and caused a puncture wound to the base of his foot. On examination today he has tenderness and erythema surrounding the wound, and you can express pus from the wound. He is afebrile.

Which one of the following would be best to treat this patient's cellulitis?

- A) Amoxicillin/clavulanate (Augmentin)
  - B) Cephalexin (Keflex)
  - C) Ciprofloxacin (Cipro)
  - D) Doxycycline
  - E) Trimethoprim/sulfamethoxazole (Bactrim)
221. You are called by the parents of a 6-year-old male because he has a 2-week history of awakening at night with severe back pain. You request an immediate evaluation in your office.

A likely cause of this pain is

- A) rheumatoid arthritis
- B) lumbar sprain
- C) compression fracture
- D) discitis
- E) scoliosis

222. A 55-year-old male comes to your office for a routine visit due to an insurance change. He has no health complaints and the physical examination is unremarkable except for some seborrheic keratoses, onychomycosis, and a blood pressure of 171/90 mm Hg. On two subsequent visits his blood pressure is 168/92 mm Hg and 171/91 mm Hg and you recommend treatment. The patient states that he will not take any prescription medications, as he believes they are harmful.

Which one of the following nonpharmacologic measures would be appropriate to recommend for this patient?

- A) Limiting sodium intake to 4 g per day
  - B) Limiting alcohol to no more than 3 drinks per day
  - C) Daily coenzyme Q<sub>10</sub>
  - D) Daily magnesium supplements
  - E) Moderate physical activity for 150 min or more per week
223. A 12-year-old male is brought to your office with a 3-day history of nausea, vomiting, and fever. His fever has resolved but he continues to have vomiting and diarrhea. He has had large-volume, loose, nonbloody stools, as well as abdominal cramping. A stool culture is positive for *Salmonella*.

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

- A) Supportive care only
  - B) Ampicillin
  - C) Ceftriaxone (Rocephin)
  - D) Ciprofloxacin (Cipro)
  - E) Trimethoprim/sulfamethoxazole (Bactrim)
224. A patient is evaluated and admitted through the emergency department with nausea and vomiting after receiving chemotherapy 1 day earlier. The admission diagnosis is dehydration and acute kidney injury. Over the next 2 days the patient's condition progressively declines. The diagnosis is changed to sepsis with multiple organ failure about 48 hours after admission. Antibiotics are not started in a timely manner. Upon review, it is felt that the diagnosis of sepsis and initiation of antibiotics could have been considered earlier in the hospital course.

Which one of the following cognitive processes most likely contributed to the diagnostic error?

- A) Anchoring bias
- B) Commission bias
- C) Hindsight bias
- D) Omission bias
- E) Outcome bias

225. A 45-year-old male sees you for a hypertension follow-up visit and points out a nonpainful bump that he noted on his neck 3–4 months ago. He does not use tobacco products and is otherwise healthy. He has not had any fever or pain. His blood pressure is controlled with lisinopril (Prinivil, Zestril). On further evaluation a firm, mobile, nontender 1.5-cm right anterior cervical lymph node is noted.

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

- A) Watchful waiting
- B) Discontinuation of lisinopril
- C) Antibiotics
- D) Corticosteroids
- E) Fine-needle aspiration

226. During a routine health maintenance visit a 38-year-old female expresses concern about her risk of breast cancer because her mother and another relative have had breast cancer. She is asymptomatic and your clinical breast examination reveals no masses.

For this patient, the U.S. Preventive Services Task Force recommends which one of the following?

- A) Administering a familial risk stratification tool
- B) *BRCA* mutation testing
- C) Bilateral screening mammography
- D) MRI of the breasts
- E) Referral for genetic counseling

227. A 2-year-old female is brought to your office with an occasional barking cough that began late last night. The child has mild intercostal indrawing and no stridor at rest.

Which one of the following would be most appropriate to help improve this child's symptoms?

- A) Humidification
- B) A helium-oxygen mixture (heliox)
- C) Oral dexamethasone
- D) Nebulized albuterol
- E) Nebulized budesonide (Pulmicort Respules)

228. At a routine visit, a 40-year-old female asks about beginning an exercise regimen. She has a family history of heart disease and hypertension. She currently has no medical problems, but she is sedentary.

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

- A) A baseline EKG and rhythm strip
- B) An exercise stress test prior to beginning exercise
- C) Jogging for 30 minutes twice a week
- D) Fast walking for 30 minutes 5 or more days per week

229. A 56-year-old male presents with a 2-day history of a fever and productive cough. He has mild dyspnea with exertion and has pain in his right side when he takes a deep breath. On examination his temperature is 38.4°C (101.1°F), his respiratory rate is 24/min, his pulse rate is 92 beats/min, and his oxygen saturation is 92% on room air. He has crackles in the right lower lung posteriorly. The remainder of the examination is normal.

The most likely diagnosis is

- A) upper respiratory infection
  - B) community-acquired pneumonia
  - C) heart failure
  - D) pulmonary embolus
  - E) acute leukemia
230. A 17-year-old seasonal farm worker presents with a 7-day history of left-sided facial weakness that he first noted upon awakening. He has no facial pain. Approximately 2 weeks prior to the onset of this problem he removed a tick from the left side of his neck, but he is uncertain how long it had been present. The redness at the site resolved spontaneously and he had no additional symptoms until the onset of facial weakness. He has not had any rash, fever, swollen glands, or neck stiffness.

On examination he has weakness of the muscles on the left side of his face, including the forehead, and he can only partially close his left eye. The remainder of the physical examination is normal, including the absence of rashes and lymphadenopathy.

In addition to corticosteroids, which one of the following would be indicated at this time?

- A) Amoxicillin as a single dose
  - B) Ceftriaxone (Rocephin) for 7 days
  - C) Doxycycline for 14 days
  - D) Trimethoprim/sulfamethoxazole (Bactrim) for 10 days
  - E) No antibiotics
231. A 23-year-old male presents with a lump in his left testicle that he found while showering last week. He has a history of orchiopexy for cryptorchidism at age 17. He is otherwise healthy. Testicular ultrasonography reveals a hypoechoic mass in his left testicle.

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

- A) Watchful waiting
- B) Serum  $\beta$ -hCG,  $\alpha$ -fetoprotein, and LDH levels
- C) CT of the abdomen and pelvis
- D) Referral to a urologist

232. A 40-year-old female presents with a 4-week history of a persistent sore throat despite supportive treatment for a viral upper respiratory infection provided by an urgent care facility. She reports palpitations, weight loss, frequent bowel movements, and anxiety with insomnia for the past month.

On examination she has a mildly enlarged thyroid gland. Laboratory evaluation is notable for a suppressed TSH level along with elevated free T<sub>4</sub> and total T<sub>3</sub> levels. A radioactive iodine uptake scan shows low uptake.

Which one of the following is the most likely diagnosis?

- A) Factitious thyrotoxicosis
  - B) Graves disease
  - C) Multinodular goiter
  - D) Subacute thyroiditis
  - E) TSH-secreting pituitary adenoma
233. A 22-year-old white female comes to your office for a routine health maintenance examination. She has a BMI of 27.0 kg/m<sup>2</sup> and a blood pressure of 113/78 mm Hg. She has no significant past medical history or family history and the examination is normal.

According to U.S. Preventive Services Task Force guidelines, this patient should be screened for diabetes mellitus beginning at age

- A) 25
  - B) 30
  - C) 35
  - D) 40
  - E) 45
234. A 26-year-old male presents with hand pain. He tells you he was out drinking with friends last night and does not remember sustaining any injuries. On examination there is diffuse swelling and tenderness across the dorsal and ulnar aspects of the hand. Radiographs are shown on the following page.

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

- A) A wrist extension splint
- B) A molded finger splint
- C) An ulnar gutter splint
- D) A short arm cast
- E) Surgical pin fixation



Item #234



Item #234

235. A 16-year-old female who plays competitive soccer develops anterior knee pain that is worse with downhill running and after prolonged sitting. An examination shows no effusion or instability, no joint line tenderness, an increased Q-angle, and a negative McMurray's test. A knee radiograph is negative.

Which one of the following is the most likely diagnosis?

- A) Osgood-Schlatter syndrome
- B) Patellofemoral pain syndrome
- C) Pes anserine bursitis
- D) Prepatellar bursitis
- E) A torn medial meniscus

236. You recently diagnosed diabetes mellitus in a 49-year-old male who also has chronic kidney disease and New York Heart Association class III heart failure. Laboratory studies are remarkable for a serum creatinine level of 2.0 mg/dL (N 0.6–1.2) and an estimated glomerular filtration rate of 40 mL/min/1.73 m<sup>2</sup>.

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

- A) A biguanide such as metformin (Glucophage)
- B) A GLP-1 agonist such as liraglutide (Victoza)
- C) An SGLT2 inhibitor such as canagliflozin (Invokana)
- D) A thiazolidinedione such as rosiglitazone (Avandia)

237. A 76-year-old female presents with a 3-month history of watery diarrhea with up to 12 episodes per day. She has no hematochezia and no travel history. You suspect microscopic colitis.

Which one of the following is the test of choice to confirm the diagnosis?

- A) A barium enema
- B) A stool test for calprotectin
- C) A celiac panel
- D) A biopsy of the colon
- E) A jejunal biopsy

238. A 2-year-old female is brought to your office with a 3-day history of rhinorrhea, fever, cough, and increasing dyspnea. Her past medical history is unremarkable and she is up to date on her immunizations. She has a respiratory rate of 40/min, a pulse rate of 120 beats/min, a temperature of 37.8°C (100.0°F), and an oxygen saturation of 93% on room air. She is alert and irritable, and has clear rhinorrhea and expiratory wheezing, but good airflow overall. The remainder of the examination is normal.

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

- A) Supportive treatment only
  - B) Nebulized racemic epinephrine (Asthmanefrin)
  - C) Nebulized albuterol
  - D) A single dose of dexamethasone
  - E) A 5-day course of methylprednisolone (Medrol)
239. A 47-year-old female with a 10-year history of type 2 diabetes mellitus is concerned about the recent onset of swelling in her legs accompanied by a sudden weight gain of 8 lb. She is also experiencing increased fatigue and shortness of breath with mild exertion.

On examination she has a blood pressure of 150/95 mm Hg, which is above her baseline of 130/85 mm Hg. Her lungs are clear to auscultation and a cardiac examination is also normal. She has no hepatosplenomegaly, but her legs are swollen to the level of the midtibia bilaterally. You are concerned that her symptoms and examination findings may be related to an underlying renal pathology.

To confirm your suspicion, the most appropriate diagnostic test at this time would be

- A) a spot urine protein to creatinine ratio
- B) a 24-hour urine creatinine determination
- C) renal ultrasonography
- D) renal enhanced MRI
- E) a renal biopsy

240. A mother brings in her 11-year-old daughter, stating that the child has not had a bowel movement in 5 days. Although she is very embarrassed to talk to you, the daughter confirms that this is the case, and that it has happened several times since she started middle school earlier this year, where the bathrooms are very unpleasant. Both the mother and the daughter state that this has not been a problem in the past.

The mother reports that the daughter is otherwise healthy, takes no medications, and has no past surgical history. The patient has no discomfort with urination but does have some abdominal pain that has grown worse over the last day or so. She is not having any trouble breathing. She reports a decreased appetite over the last 3 days. The physical examination reveals normal vital signs, a normal BMI, and no abdominal distention or tenderness to palpation.

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

- A) Observation only, as this problem will resolve on its own
- B) Dedicated “toilet time” before and after school and nightly before bed
- C) A phosphate soda (Fleet) enema nightly
- D) Polyethylene glycol (MiraLAX)
- E) An abdominal radiograph