

American Board of Family Medicine



IN-TRAINING EXAMINATION

1. A 42-year-old Asian male presents for follow-up of elevated blood pressure. He has no additional chronic medical problems and is otherwise asymptomatic. An examination is significant for a blood pressure of 162/95 mm Hg but is otherwise unremarkable.

Laboratory Findings

Sodium	138 mEq/L (N 135–145)
Potassium	3.9 mEq/L (N 3.5–5.5)
Fasting glucose	86 mg/dL
BUN	14 mg/dL (N 10–20)
Creatinine	0.6 mg/dL (N 0.6–1.3)
Urine microalbumin	negative

According to the American College of Cardiology/American Heart Association 2017 guidelines, which one of the following would be the most appropriate medication to initiate at this time?

- A) Clonidine (Catapres), 0.1 mg twice daily
 - B) Hydralazine, 25 mg three times daily
 - C) Lisinopril/hydrochlorothiazide (Zestoretic), 10/12.5 mg daily
 - D) Metoprolol tartrate (Lopressor), 25 mg twice daily
 - E) Triamterene (Dyrenium), 50 mg daily
2. During rounds at the nursing home, you are informed that there are two residents on the unit with laboratory-confirmed influenza. According to CDC guidelines, who should receive chemoprophylaxis for influenza?
- A) Only symptomatic residents on the same unit
 - B) Only symptomatic residents in the entire facility
 - C) All asymptomatic residents on the same unit
 - D) All residents of the facility regardless of symptoms
 - E) All staff regardless of symptoms
3. A 24-year-old female presents with a 2-day history of mild to moderate pelvic pain. She has had two male sex partners in the last 6 months and uses oral contraceptives and sometimes condoms. A physical examination reveals a temperature of 36.4°C (97.5°F) and moderate cervical motion and uterine tenderness. Urine hCG and a urinalysis are negative. Vaginal microscopy shows only WBCs.

The initiation of antibiotics for treatment of pelvic inflammatory disease in this patient

- A) is appropriate at this time
- B) requires an elevated temperature, WBC count, or C-reactive protein level
- C) should be based on the results of gonorrhea and *Chlamydia* testing
- D) should be based on the results of pelvic ultrasonography

4. A 24-year-old patient wants to start the process of transitioning from female to male. He has been working with a psychiatrist who has confirmed the diagnosis of gender dysphoria.

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

- A) Clomiphene
 - B) Letrozole (Femara)
 - C) Leuprolide (Eligard)
 - D) Spironolactone (Aldactone)
 - E) Testosterone
5. Based on American Cancer Society guidelines for cervical cancer screening, when should HPV DNA co-testing first be performed along with Papanicolaou testing?
- A) At the onset of sexual activity
 - B) At age 21
 - C) At age 25
 - D) At age 30
 - E) At age 35
6. Long-term proton pump inhibitor use is associated with an increased risk for
- A) Barrett's esophagus
 - B) gout
 - C) hypertension
 - D) pneumonia
 - E) type 2 diabetes
7. An 87-year-old female comes to your office for an annual health maintenance visit. She appears cachectic and tells you that for the past 6 months she has had a decreased appetite and generalized muscle weakness. The patient is alert and oriented to person and place. She has a 10% weight loss, dry mucous membranes, and tenting of the skin on the extensor surface of her hands. While inflating the blood pressure cuff on her right arm you observe carpopedal spasms.
- Which one of the following is the most likely electrolyte disturbance?
- A) Hypercalcemia
 - B) Hypocalcemia
 - C) Hypokalemia
 - D) Hypernatremia
 - E) Hyponatremia

8. A 24-year old female presents to your office with a 3-month history of difficulty sleeping. She says that she struggles to fall asleep and wakes up multiple times at night at least three times a week. She tries to go to bed at 10:00 p.m. and wakes up at 6:30 a.m. to start her day. She lies awake for an hour in bed before falling asleep and spends up to 2 hours awake in the middle of the night trying to fall back asleep. Lately she has been feeling fatigued and having difficulty concentrating at work. You conduct a full history and physical examination and tell her to return in 2 weeks with a sleep diary. At this follow-up visit you see from her diary that she is sleeping an average of 5½ hours per night.

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

- A) Set her alarm for 5:30 a.m.
 - B) Add a mid-afternoon nap
 - C) Move her bedtime to 9:00 p.m.
 - D) Move her bedtime to 12:30 a.m.
 - E) Stay up for an hour if she wakes up at 3:00 a.m.
9. A 45-year-old female presents to the emergency department with a 1-week history of facial swelling and progressive dyspnea with exertion. She was diagnosed 1 week ago with non-Hodgkin's lymphoma but her medical history is otherwise unremarkable. A chest radiograph is shown below.

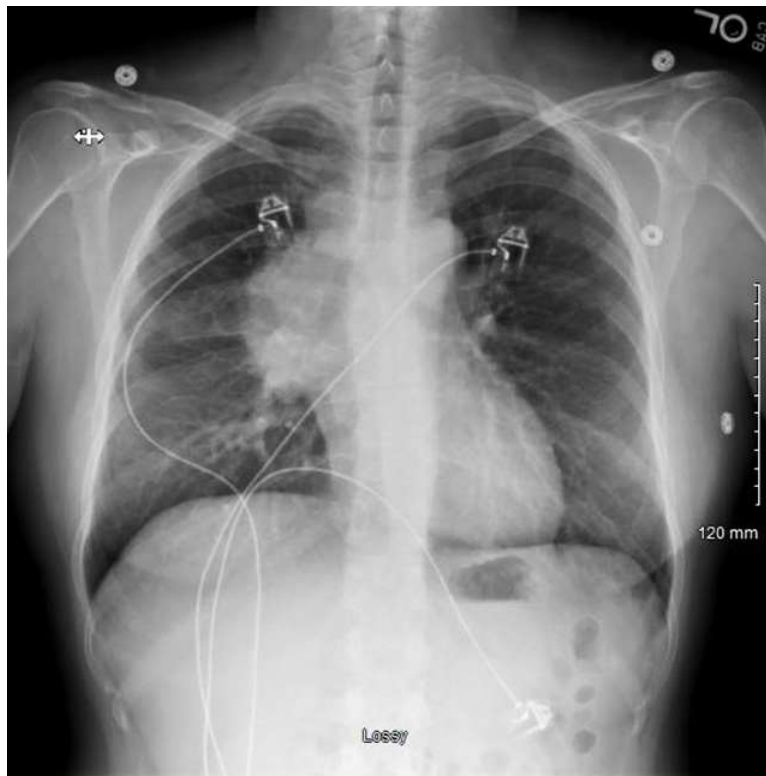
After hospital admission, which one of the following would be the most appropriate next step in the management of this condition?

- A) Intravenous antibiotics
 - B) Urgent chemotherapy and radiation
 - C) Urgent chemotherapy and plasmapheresis
 - D) Urgent echocardiography
 - E) Urgent bronchoscopy
10. A nonverbal 22-year-old male with intellectual disability is brought to your office by the staff of the group home where he lives. They report that the patient has been functioning at his baseline until this morning when he was found to have loud breathing. No other history is available at the time of this visit.

On examination he has a temperature of 37.3°C (99.1°F), a blood pressure of 124/82 mm Hg, a pulse rate of 100 beats/min, and a respiratory rate of 16/min. The patient appears to be in mild distress and a high-pitched whistling, crowing sound on inspiration is heard as you walk in the room.

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

- A) Oral antibiotics
- B) Oral corticosteroids
- C) Nebulized albuterol
- D) Nebulized epinephrine
- E) Urgent evaluation in the emergency department



Item #9

11. A 16-year-old female presents with chronic acne on her nose, forehead, and chin consisting of a few comedones and a few mildly inflamed papules and pustules. She says it is minimally improved after 12 weeks of daily adapalene 0.1% gel. There are no scars or cysts. The patient would like to try to achieve better control.

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

- A) Continue adapalene 0.1% gel for 12 more weeks
- B) Add clindamycin (Cleocin T) 1% gel for up to 12 weeks
- C) Add clindamycin 1% gel for maintenance
- D) Stop adapalene 0.1% gel and start clindamycin 1% gel for maintenance
- E) Stop adapalene 0.1% gel and start erythromycin 2% gel for maintenance

12. A 32-year-old female who is one of your longtime patients calls you because of a 24-hour history of painful urination with urinary frequency and urgency. She is otherwise healthy and does not have any fever, chills, back pain, or vaginal discharge. She uses an oral contraceptive pill and states that her last menstrual period was normal and occurred last week.

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

- A) Empiric antibiotic treatment
- B) A urinalysis
- C) A urine culture
- D) Plain abdominal radiographs
- E) Pelvic ultrasonography

13. A 70-year-old female develops thrombocytopenia during a prolonged hospitalization for endocarditis. Her current medications include scheduled unfractionated heparin injections for venous thromboembolism prophylaxis. You suspect heparin-induced thrombocytopenia (HIT).

Assuming that her thrombocytopenia is caused by HIT, which one of the following is the most likely complication?

- A) Anaphylaxis
- B) Disseminated intravascular coagulation
- C) Hemorrhage
- D) Sepsis
- E) Thrombosis

14. You are asked for your advice as part of a committee formed by your local health system to focus on fall prevention.

Based on U.S. Preventive Services Task Force recommendations, which one of the following interventions has the strongest evidence for preventing falls in community-dwelling older adults at increased risk for falls?

- A) Calcium supplementation
 - B) Vitamin D supplementation
 - C) Supportive footwear
 - D) Exercise classes
 - E) Cognitive-behavioral therapy
15. A 42-year-old male presents with a 10-day history of hoarseness. He also has a 2-month history of reflux symptoms and has been taking antacids as needed. He does not take any other medications. There is no history of fever, weight loss, night sweats, or appetite changes. You note that the patient is hoarse, and a physical examination is normal, including HEENT, cardiovascular, and pulmonary examinations. He is a member of a community choir that rehearses twice a week.

In addition to voice rest, which one of the following would be most appropriate at this time?

- A) Supportive care only
 - B) Azithromycin (Zithromax)
 - C) Omeprazole (Prilosec)
 - D) A course of prednisone
16. A 57-year-old male with a history of heart failure sees you for follow-up. He describes symptoms of mild dyspnea on exertion with ordinary activities such as shopping or yard work. An echocardiogram shows an ejection fraction of 37%.

According to the New York Heart Association criteria, this patient's heart failure would be classified as which one of the following?

- A) Class I
- B) Class II
- C) Class III
- D) Class IV

17. A 40-year-old runner presents with pain in the left leg. He is training for a marathon and has been increasing his running distance in recent weeks. He reports localized pain and swelling at the midpoint of the shin over the past 4 weeks that begins after a run and lasts for a few days, but now the swelling and tenderness have lasted for several days and there is severe pain when he tries to run. You suspect a tibial stress fracture.

Which one of the following imaging modalities would be indicated initially?

- A) A plain film
- B) Ultrasonography
- C) CT
- D) MRI
- E) Bone scintigraphy

18. A 24-year-old female presents with progressively worsening vulvar pain for 3 days. On examination a 3×3-cm tender, fluctuant mass is noted on the right labia minora. She had a similar episode of this problem last year.

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

- A) Expectant management
- B) Fine-needle aspiration
- C) Incision and drainage
- D) Marsupialization
- E) Excision under general anesthesia

19. Which one of the following should NOT be consumed during pregnancy due to a potentially high mercury content?

- A) Catfish
- B) Crawfish, shrimp, and lobster
- C) Flounder and haddock
- D) Salmon and trout
- E) Shark and swordfish

20. An 18-month-old female is brought to your office by her mother for evaluation of a cough. The patient has had low-grade fevers and a runny nose for 2 days. She now has a cough that is worse at night. On examination she has a temperature of 37.5°C (99.5°F), a pulse rate of 120 beats/min, a respiratory rate of 30/min, and an oxygen saturation of 92% on room air. She is noted to have hoarseness, mild inspiratory stridor, and a barking cough. She does not have drooling or a muffled voice.

Which one of the following should be ordered to confirm the diagnosis?

- A) No further testing
 - B) A CBC
 - C) A viral culture
 - D) Rapid antigen testing
 - E) A radiograph of the neck
21. A 25-year-old male presents with a 4-month history of crampy abdominal pain, diarrhea, and fatigue. His symptoms began gradually but have become more severe and he is now experiencing rectal bleeding. He says that his abdominal pain seems to temporarily improve after eating. He has smoked five cigarettes per day for the past 8 years. He is surprised to learn that he has lost 7 kg (15 lb) when he is weighed today.

His vital signs include a blood pressure of 116/70 mm Hg, a heart rate of 76 beats/min, a respiratory rate of 12/min, and a temperature of 37.7°C (99.9°F). A physical examination reveals abdominal tenderness and mild distention. An anorectal examination is significant for a perianal fistula. A laboratory evaluation is notable for mild anemia. His kidney and liver function are normal.

Which one of the following is the most likely diagnosis?

- A) Celiac disease
 - B) Chronic pancreatitis
 - C) Crohn's disease
 - D) Irritable bowel syndrome
 - E) Ulcerative colitis
22. A 34-year-old female at 32 weeks gestation presents with a right-sided, pounding headache that began 8 hours ago and is similar to headaches she has had in the past. She is sensitive to light and sound, and has vomited several times since the onset of pain. She has taken acetaminophen without relief. She takes prenatal vitamins but no other routine medications. On examination her blood pressure is normal.

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

- A) Dihydroergotamine
- B) Metoclopramide (Reglan)
- C) Naproxen
- D) Oxycodone (OxyContin)
- E) Sumatriptan (Imitrex)

23. Which one of the following U-100 insulin products has the longest duration of action?
- A) Degludec (Tresiba)
 - B) Glargine (Lantus)
 - C) Isophane NPH (Humulin N)
 - D) Lispro (Humalog)
 - E) Regular (Humulin R)
24. When performing a geriatric assessment, which one of the following is an instrumental activity of daily living?
- A) Bathing
 - B) Dressing
 - C) Transferring between the bed and a chair
 - D) Using the telephone
 - E) Using the toilet
25. A 21-year-old female sees you for a medical evaluation prior to admission to a treatment program for anorexia nervosa. The effects of anorexia on the hypothalamic-pituitary axis can cause which one of the following?
- A) Bone loss
 - B) Elevated testosterone
 - C) Hyperglycemia
 - D) Hypothyroidism
 - E) Menorrhagia
26. A 9-year-old male with a history of moderate persistent asthma is brought to the emergency department with an acute exacerbation. His symptoms began with a runny nose and nasal congestion 2 days ago. His parents state that he has not had any fevers or chills and he was eating and drinking well until a few hours ago when his breathing started to appear more labored. After multiple treatments with inhaled albuterol (Proventil, Ventolin) and oral prednisolone he remains tachypneic and wheezy.
- Which one of the following intravenous medications should be added to the patient's current treatment to reduce the likelihood of hospital admission?
- A) Ketorolac
 - B) Magnesium sulfate
 - C) Methylprednisolone
 - D) Omalizumab (Xolair)
 - E) Theophylline

27. A 10-year-old female is brought to your office for a sports preparticipation examination. You note thoracic rib asymmetry during the Adams forward bend test. Radiographs confirm rightward thoracolumbar scoliosis with a Cobb angle of 32°.

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

- A) Genetic testing (ScoliScore)
- B) MRI of the thoracic and lumbar spine without contrast
- C) Scoliosis radiography in 1 year
- D) Referral to physical therapy
- E) Referral to a pediatric orthopedist

28. An 85-year-old nursing home patient with dementia who has bilateral hearing aids has been slightly more confused over the past 2 weeks according to the staff. He is also speaking at a louder volume than normal. He does not have any pain, but an examination shows impacted cerumen in both ears.

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

- A) No therapy
- B) Irrigation of the ears with cold water
- C) Use of olive oil drops
- D) Removal of the cerumen using peroxide
- E) Restraining the patient and attempting manual removal of the cerumen

29. A previously healthy 18-year-old female presents with finger pain. About 5 days ago she started to have mild burning of her left distal index finger. Two days later she developed worsening pain and redness of her fingertip. She does not remember injuring her finger or having a similar problem previously.

On examination you note erythema of the medial palmar tip of her affected finger, with several vesicles that have opaque fluid in them. The distal digital pulp is soft but tender.

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

- A) Warm water soaks
- B) Pain control and dressings
- C) Antibiotics
- D) Antifungals
- E) Incision and drainage

30. A 52-year-old gravida 4 para 4 presents with bothersome incontinence, predominantly with coughing and straining. In addition to a physical examination, urinalysis, and measurement of postvoid residual volume, which one of the following tests is recommended as part of the initial evaluation?
- A) Cough stress testing
 - B) Urodynamic testing
 - C) Pelvic ultrasonography with a vaginal probe
 - D) Cystoscopy
31. The mother of a 1-year-old child wants to know how useful influenza vaccine is for preventing influenza in young children. The influenza season is typically significant in your area and the child attends day care. You answer her question by explaining how many children need to be vaccinated in order to prevent one case of influenza.

This statistic is referred to as the

- A) absolute risk reduction
 - B) relative risk reduction
 - C) number needed to treat
 - D) number needed to harm
 - E) prevalence
32. A 45-year-old male comes to your office for a routine health maintenance examination. His medical history is significant for sarcoidosis, which was diagnosed 5 years ago during a workup for hilar adenopathy seen on a routine chest radiograph. He has been entirely asymptomatic for the past 2 years and has never required any treatment.

Which one of the following annual screenings would be most appropriate?

- A) Bone density screening
 - B) Echocardiography
 - C) High-resolution CT of the chest
 - D) An ophthalmologic examination
 - E) A urinalysis
33. A 34-year-old female has a “bump” on her middle finger (shown below). She thinks it has been there approximately a month but says that it only recently began to bother her. She has not tried to treat it.

This lesion is most likely a

- A) basal cell carcinoma
- B) dermatofibroma
- C) keratoacanthoma
- D) mucous cyst
- E) wart



Item #33

34. A 73-year-old female sees you for the first time for a health maintenance visit. Her medical history includes hyperlipidemia, GERD, insomnia, and osteoarthritis, but she is otherwise healthy. Her estimated 10-year risk of atherosclerotic cardiovascular disease is 14%. She lives independently. She has a past history of alcohol abuse but has not used alcohol in 20 years, and is a lifetime nonsmoker. Her current medication regimen includes aspirin, 81 mg once daily; melatonin, 3 mg at bedtime; acetaminophen, 500 mg three times daily; atorvastatin (Lipitor), 20 mg once daily; and famotidine (Pepcid), 20 mg once daily.

Today her blood pressure is 130/70 mm Hg, pulse rate 72 beats/min, and oxygen saturation 95% on room air.

Which one of the following changes to her current medication regimen would improve the likelihood of benefit and reduce the likelihood of harm?

- A) Stopping aspirin
 - B) Stopping melatonin
 - C) Stopping acetaminophen and starting diclofenac, 50 mg twice daily
 - D) Stopping atorvastatin and starting rosuvastatin (Crestor), 40 mg at bedtime
 - E) Stopping famotidine and starting omeprazole (Prilosec), 20 mg once daily
35. A 14-year-old female is brought to your office as a new patient for a routine well child examination. She has had very little medical care since the pre-kindergarten evaluation. She feels well and does not take any medications. Her past medical, surgical, family, and social histories are unremarkable. A review of systems is notable for no history of menstruation. An examination is notable for a height at the first percentile and a lack of any breast development. Laboratory studies reveal an elevated FSH level.

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

- A) Follow-up every 3–6 months for assessment of pubertal development
- B) A corticotropin stimulation test
- C) Karyotyping
- D) Radiography of the hand for bone age
- E) MRI of the brain and pituitary

36. A 42-year-old male sees you for follow-up after his third episode of pneumonia. He has no other significant medical history. He has never smoked, drinks alcohol occasionally, and has no other drug use or known exposures. A physical examination is normal. Pulmonary function tests demonstrate an FEV₁ of 72% of predicted and an FEV₁/FVC ratio of 0.68, which does not normalize with bronchodilator administration. A chest radiograph shows hyperinflation but no other significant findings.

Laboratory Findings

Platelets.....	102,000/mm ³ (N 150,000–450,000)
Creatinine.....	0.7 mg/dL (N 0.6–1.2)
AST.....	56 U/L (N 8–48)
ALT.....	43 U/L (N 7–55)
Albumin.....	3.3 g/dL (N 3.5–5.0)

Which one of the following conditions best explains this patient's abnormal findings?

- A) α_1 -Antitrypsin deficiency
 - B) Cystic fibrosis
 - C) Goodpasture syndrome
 - D) Hereditary hemochromatosis
 - E) Sarcoidosis
37. Which one of the following is most likely to cause a false-positive urine drug screen for amphetamines?
- A) Amlodipine (Norvasc)
 - B) Bupropion (Wellbutrin)
 - C) Levofloxacin (Levaquin)
 - D) Pantoprazole (Protonix)
 - E) Sertraline (Zoloft)
38. The U.S. Preventive Services Task Force recommends screening for depression for
- A) all adults
 - B) all women but not men
 - C) only adults with a family history of depression
 - D) only adults with a known personal history of depression
 - E) only adults with a history of disability, medical illness, complicated grief, chronic sleep disturbance, and/or loneliness

39. A 62-year-old female sees you for a routine health maintenance examination. She has a history of breast cancer diagnosed 6 years ago that was treated with lumpectomy, radiation, and endocrine therapy. She is feeling well today and has no symptoms of concern. There is no family history of breast, ovarian, colon, or prostate cancers.

In addition to mammography, which one of the following annual tests would improve this patient's chance of survival?

- A) No tests
 - B) CT of the chest
 - C) MRI of the breast
 - D) Breast ultrasonography
 - E) A bone scan
40. A 62-year-old male with hypertension presents to your office with substernal chest pain radiating into his left arm for the past 20 minutes. He also has diaphoresis and nausea. He has a blood pressure of 156/96 mm Hg, a pulse rate of 84 beats/min, and an oxygen saturation of 93% on room air. An EKG shows ST-segment elevations in leads V1 and V2. Your medical assistant calls 911 for immediate transport to the local hospital's emergency department. While awaiting the ambulance's arrival you give the patient low-dose aspirin and sublingual nitroglycerin.

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

- A) No oxygen therapy
 - B) Oxygen via nasal cannula at 2 L/min
 - C) Oxygen via nasal cannula at 6 L/min
 - D) 100% oxygen with a regular mask
 - E) 100% oxygen with a nonrebreathing mask
41. You see an 89-year-old female with advanced dementia who has stopped eating. The patient's daughter asks you about the role of tube feeding in this situation. You discuss the risks and benefits.

In patients with advanced dementia who have a feeding tube placed, there is evidence of increased

- A) nutritional status
- B) healing of pressure ulcers
- C) quality of life
- D) survival
- E) emergency department visits

42. A 55-year-old male with a BMI of 32 kg/m² presents to your office to discuss weight management. He has moderately well controlled type 2 diabetes and hypertension. He prefers not to modify his diet and would like to know if he can expect significant weight loss from exercising. He plans to walk briskly for 45 minutes daily.

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

- A) Moderate exercise alone is ineffective for weight loss
 - B) Moderate exercise alone is superior to dietary changes for weight loss
 - C) Moderate exercise alone is moderately beneficial for weight loss
 - D) Adding moderate exercise to dietary changes substantially increases weight loss
43. A 67-year-old female patient began taking a bisphosphonate for treatment of osteoporosis 2 years ago after a DXA scan revealed a T-score of -2.7. Her FRAX score showed a 10-year probability of hip fracture of 5%. You order a repeat DXA scan and her T-score is now -2.3 and her FRAX score is 3.5%.

Which one of the following should you recommend to this patient regarding the duration of treatment with a bisphosphonate?

- A) Stop taking it now
 - B) Continue taking it for 1 more year
 - C) Continue taking it for 3 more years
 - D) Continue taking it for 7 more years
 - E) Continue taking it indefinitely
44. A 43-year-old male presents to the emergency department with the acute onset of sharp, stabbing chest pain when inhaling and exhaling. The pain worsens with coughing and deep breathing. He has no significant previous medical history but recently returned from a work trip to Japan and has noted right leg swelling for the past week. He has no other symptoms. He is a smoker and has a family history of coronary artery disease in his paternal grandfather. On examination he appears uncomfortable, and his lungs are clear. A cardiac examination is notable for tachycardia. He has a blood pressure of 110/70 mm Hg, a heart rate of 112 beats/min, a respiratory rate of 18/min, a temperature of 37.7°C (99.9°F), and an oxygen saturation of 89% on room air.

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

- A) Elevated troponin levels
- B) Acid-fast bacilli on a Gram stain
- C) A filling defect on CT angiography
- D) Air in the pleural space on a chest radiograph
- E) Diffuse ST elevation on an EKG

45. You have assumed the care of a well established patient in your practice whose medications include chronic alprazolam (Xanax) treatment for anxiety and codeine for chronic back pain following a work accident years earlier. His Prescription Drug Monitoring Program report shows a consistent pattern of filling the medications as prescribed. You order a urine immunoassay for opioids and benzodiazepines. The results are positive for opioids but negative for benzodiazepines.

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

- A) Perform confirmatory testing for alprazolam
 - B) Repeat the urine immunoassay for benzodiazepines
 - C) Investigate for possible diversion of alprazolam
 - D) Stop prescribing alprazolam
 - E) Stop prescribing controlled substances
46. For patients with atrial fibrillation, which one of the following comorbid conditions represents the strongest indication for thromboprophylaxis with warfarin (Coumadin), rather than a direct oral anticoagulant?
- A) A CHA₂DS₂-VASc score ≥ 3
 - B) End-stage chronic kidney disease
 - C) A mechanical heart valve
 - D) Mild mitral stenosis
 - E) Severe mitral regurgitation
47. According to the Institute of Medicine, which one of the following domains of health care quality is most impacted by social determinants of health?
- A) Effectiveness
 - B) Efficiency
 - C) Equity
 - D) Safety
 - E) Timeliness
48. The most common symptom of alcohol withdrawal in the elderly is
- A) confusion
 - B) seizures
 - C) tachycardia
 - D) tremor
 - E) vomiting

49. According to the Ottawa ankle and foot rules, which one of the following patients with ankle or foot pain after a twisting injury requires radiographs to rule out a fracture?
- A) An 18-year-old male basketball player who landed on an opposing player's foot while rebounding the ball and has tenderness anterior to the lateral malleolus
 - B) A 23-year-old female who twisted her ankle while playing soccer and has tenderness at the base of the fifth metatarsal
 - C) A 30-year-old male who twisted his ankle a week ago after stepping on his child's toy and has persistent swelling with tenderness anterior to the medial malleolus
 - D) A 48-year-old female who slipped while going down stairs and has tenderness and bruising inferior to the lateral malleolus
50. A 65-year-old female presents to the emergency department with a 24-hour history of abdominal pain, nausea, and vomiting. She reports that her last bowel movement was 2 days ago and she has not passed any flatus. The pain is diffuse and she rates it as 4 on a scale of 10 but says that it reaches a level of 8 at times. She has hypertension, which has been controlled with amlodipine (Norvasc), 5 mg daily. She had an appendectomy at age 25 and had two normal vaginal deliveries. She has been postmenopausal since age 52.

An examination reveals a blood pressure of 120/80 mm Hg, a pulse rate of 110 beats/min, a respiratory rate of 16/min and nonlabored, and an oxygen saturation of 95% on room air. Examination of the heart and lungs is normal. On examination of the abdomen you note high-pitched bowel sounds, and the abdomen is distended and tympanic, and diffusely tender with no appreciable masses. A radiograph of the abdomen shows a small bowel obstruction.

Which one of the following is the most likely cause of this patient's small bowel obstruction?

- A) Constipation
- B) Intestinal adhesions
- C) A neoplasm
- D) Ventral herniation
- E) Volvulus

51. A 68-year-old female comes to your office to discuss results from recent laboratory testing. During routine monitoring of electrolytes while taking lisinopril (Prinivil, Zestril) for hypertension, she was found to have a serum calcium level of 10.6 mg/dL (N 8.6–10.0). Follow-up laboratory studies revealed a parathyroid hormone level of 106 pg/mL (N 10–65) and normal levels of vitamin D, phosphorus, albumin, and creatinine. The patient feels well today and has no symptoms of concern.

The patient's past medical history includes hypertension, hypothyroidism, and osteoporosis. Her current medications include lisinopril, levothyroxine (Synthroid), alendronate (Fosamax), and vitamin D. An examination today is normal, including a blood pressure of 122/74 mm Hg.

Which one of the following characteristics would be an indication for surgical management of this patient's condition?

- A) Age > 50
 - B) Hypertension
 - C) Hypothyroidism
 - D) Osteoporosis
 - E) A serum calcium level < 11 mg/dL
52. You are examining a 65-year-old male from Central America with a history of rheumatic valvular disease. Which one of the following is the principal auscultatory finding of aortic regurgitation?
- A) An S₃ gallop heard best at the cardiac apex with the patient supine
 - B) A triphasic pericardial friction rub with the patient seated and leaning forward
 - C) A low-pitched decrescendo diastolic murmur that is loudest at the lower left sternal border with the patient seated and leaning forward
 - D) A high-pitched crescendo/decrescendo midsystolic murmur that is loudest at the right upper sternal border and radiates to the carotid arteries with the patient sitting upright
 - E) A harsh holosystolic murmur that is loudest at the lower left sternal border and radiates to the left lateral chest wall with the patient in the left lateral decubitus position

53. A 50-year-old male with no significant past medical history presents with a 5-day history of fever to 101°F, chills, and mild diffuse joint and muscle pains. He also reports a mild headache but has not had any sore throat, rhinorrhea, cough, shortness of breath, nausea, vomiting, or change in bowel habits. He noticed a round red rash (shown below) a few days ago on his leg that has grown in size since then. It is minimally pruritic but not painful. He has no other rashes. He recently traveled to Vermont for his family's annual fall hiking trip but does not recall any insect bites. He does not take any medications and has no drug allergies. He has a blood pressure of 120/74 mm Hg, a pulse rate of 84 beats/min, and a temperature of 37.8°C (100.0°F). Cardiac, pulmonary, musculoskeletal, and abdominal examinations are normal.

Which one of the following is the most likely diagnosis?

- A) Adenovirus
 - B) Ehrlichiosis
 - C) Influenza
 - D) Lyme disease
 - E) Rocky Mountain spotted fever
54. A 16-year-old male who was recently diagnosed with moderate persistent asthma sees you for follow-up in early September. He uses fluticasone propionate/salmeterol (Advair), 250/50 µg twice daily. He has an Asthma Control Test score of 22, which indicates well controlled asthma, and his peak flow is 90% of the predicted value. Spirometry performed 6 months ago showed an FEV₁ of 90% of the predicted value. He can demonstrate good technique for using his inhalers.

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

- A) Allergy testing
 - B) The Asthma Therapy Assessment Questionnaire
 - C) Increasing fluticasone propionate/salmeterol to 500/50 µg twice daily
 - D) Influenza vaccine
 - E) Spirometry
55. Which one of the following oral iron preparations is most effective for the treatment of iron deficiency anemia in a patient with non-dialysis-dependent chronic kidney disease?
- A) Ferric citrate (Auryxia)
 - B) Ferrous fumarate
 - C) Ferrous gluconate
 - D) Ferrous sulfate



Item #53

56. A 76-year-old male sees you for a routine health maintenance examination. He says that he has developed a mild tremor over the past few years, and it has now become bothersome to him because it affects his handwriting and his ability to eat in public. His mother had a similar tremor. He has no tremor at rest. When you ask him to hold out his hands, you note a tremor in both hands and wrists. His voice is also somewhat tremulous. He asks if there are any treatments to reduce the tremor.

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

- A) Observation only
 - B) A trial of a β -blocker
 - C) A trial of a dopaminergic agent
 - D) Serum ceruloplasmin and 24-hour urinary copper excretion levels
 - E) MRI of the brain
57. One of your patients will turn 65 in 2 weeks and your practice manager routinely encourages scheduling a Welcome to Medicare preventive visit soon after patients' 65th birthdays. This patient continues to work full time and is currently insured through his employer-sponsored health insurance.

In order to bill for a Welcome to Medicare visit after this patient turns 65, which one of the following is true?

- A) The patient must be enrolled in Medicare Part A
 - B) The patient must be enrolled in Medicare Part B
 - C) The patient must be enrolled in Medicare Part D
 - D) The patient must be over age 65 and the specific type of Medicare enrollment is not relevant
58. An obese 60-year-old male presents with knee pain after a fall. He reports that 2 days ago he slipped on some ice and fell forcefully onto his left knee. He is able to walk but does have a noticeable limp. On examination he is able to flex his knee past 90° and has no point tenderness.

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

- A) Anti-inflammatory medication
- B) A corticosteroid injection
- C) A knee brace
- D) A radiograph
- E) MRI

59. A 32-year-old female comes to your office because of palpitations. She reports a sensation of her heart racing that lasts for several seconds, occurs at rest, and has been occurring daily for the past couple of weeks. She has not had any loss of consciousness or other associated symptoms, has no history of recent stressors or anxiety, and does not drink caffeine or take any illicit drugs. She is otherwise healthy and takes no medications. An examination is unremarkable and an EKG and basic laboratory studies are all normal.

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

- A) Reassurance only
 - B) A 24-hour Holter monitor
 - C) A 30-day cardiac event monitor
 - D) An exercise stress test
 - E) Transthoracic echocardiography
60. A 55-year-old male with a 40-pack-year smoking history comes to your office with the results of spirometry he had at a health fair. He quit smoking 1 year ago. He does not have any cough, dyspnea, wheezing, or sputum production, but he is concerned that the spirometry results show an FEV_1/FVC ratio of 0.65 and an FEV_1 of 70% of predicted, which indicates mild to moderate airflow obstruction.

Based on the best available evidence, which one of the following should you recommend in order to prevent the development of symptomatic airflow obstruction?

- A) No treatment
 - B) A long-acting anticholinergic
 - C) A long-acting β -agonist
 - D) An inhaled corticosteroid
 - E) Combination therapy with a corticosteroid and long-acting β -agonist
61. A 37-year-old male sees you to discuss some mental health concerns. He states that he has recently been unable to meet deadlines at work and has been reprimanded by his boss. He feels he cannot complete the tasks during his work hours and is worried he is going to lose his job. Your evaluation indicates that he might have adult attention-deficit/hyperactivity disorder (ADHD).

Which one of the following is true regarding adult ADHD?

- A) Symptoms of ADHD must be present before age 6
- B) Inattention does not persist into adulthood
- C) Hyperactivity symptoms worsen into adulthood
- D) Stimulants should not be prescribed in adults over the age of 30
- E) Adults with ADHD should be screened for coexisting psychiatric disorders

62. An older patient presents to your office with findings consistent with polymyalgia rheumatica. This patient is at greatest risk for which one of the following associated conditions?
- A) Antineutrophil cytoplasmic antibody-associated vasculitis
 - B) Polyarteritis nodosa
 - C) Takayasu arteritis
 - D) Temporal arteritis
 - E) Wegener's granulomatosis
63. Routine follow-up blood tests for colorectal cancer survivors should include
- A) carcinoembryonic antigen (CEA) levels only
 - B) liver function tests only
 - C) CBCs and CEA levels only
 - D) CBCs and liver function tests only
 - E) CBCs, CEA levels, and liver function tests
64. An obese 45-year-old female returns for follow-up to discuss recent laboratory results. She has known hypertension and takes amlodipine (Norvasc), 5 mg daily. She has bilateral knee osteoarthritis and uses ibuprofen as needed for pain. Recent laboratory studies show a fasting glucose level of 120 mg/dL, normal electrolytes, and normal kidney and liver function. She has a total cholesterol level of 203 mg/dL, an LDL-cholesterol level of 134 mg/dL, an HDL-cholesterol level of 46 mg/dL, and a triglyceride level of 260 mg/dL. She has a strong family history of diabetes mellitus and cardiovascular disease.
- Which one of the following has been shown to be most effective in preventing diabetes in patients such as this?
- A) Participation in the National Diabetes Prevention Program
 - B) Acarbose (Precose)
 - C) Liraglutide (Victoza)
 - D) Metformin (Glucophage)
65. Which one of the following is considered one of the most common food allergens?
- A) Beef
 - B) Black beans
 - C) Fish
 - D) Onions
 - E) Watermelon

66. You are advising a group of medical students who are planning a tobacco cessation program for expectant mothers. The medical students want to build an advertising program that touts the pregnancy benefits of tobacco cessation.

You tell the medical students that evidence suggests that tobacco cessation in pregnant women

- A) decreases the risk for cesarean delivery
 - B) decreases the risk for preeclampsia
 - C) decreases the need for epidural anesthesia
 - D) increases infant birth weight
 - E) increases the risk for preterm delivery
67. A 49-year-old female presents to your office in northern California with a 6-week history of increasing cough, wheezing, fever, and increased shortness of breath. She has type 2 diabetes and persistent asthma uncontrolled on high-dose budesonide/formoterol (Symbicort) and montelukast (Singulair). Two weeks ago she was treated with azithromycin (Zithromax) and a 10-day taper of prednisone. Her symptoms initially improved but have worsened in the past 3 days. She has not traveled recently.

On examination today she has a temperature of 37.7°C (99.9°F), a respiratory rate of 22/min, and an oxygen saturation of 92% on room air. A pulmonary examination is significant for diffuse expiratory wheezing. A chest radiograph shows some interstitial thickening and is read as concerning for bronchiectasis. A CBC is significant for eosinophilia with an eosinophil count of 960/mm³ (N 30–350). HIV testing is negative.

Testing for which one of the following organisms is most likely to reveal a contributing factor to her illness?

- A) *Aspergillus*
- B) *Coccidioides immitis*
- C) *Histoplasma*
- D) *Mycobacterium tuberculosis*
- E) *Pneumocystis jiroveci*

68. A 28-year-old female presents with a several-month history of gradually worsening pain on the radial side of the right wrist that increases while she is at work. She does not have any numbness or tingling. Her symptoms began after she started a new job as a machinist operating a press, which involves repetitive grabbing and pulling.

An examination reveals no gross abnormalities and only minimal soft-tissue tenderness around the base of the thumb. Range of motion of the thumb is limited by pain that is provoked when she makes a fist over her thumb and moves the hand into ulnar deviation. There is no pain with axial compression or rotation of the first metacarpophalangeal joint.

Which one of the following is the most likely diagnosis?

- A) Arthritis of the first carpometacarpal joint
 - B) Carpal tunnel syndrome
 - C) de Quervain's tenosynovitis
 - D) Stress fracture of the scaphoid
 - E) Ulnar nerve entrapment
69. A 13-year-old female is brought to your office by her adoptive mother. They do not know the patient's biological family history. They are concerned because, unlike all of her friends, she has not yet started to menstruate. Breast development began 2 years ago. On examination her breasts show a secondary mound from the areola and nipple above the contour of her breast. She has dark, coarse hair covering the mons pubis consistent with a stage 4 sexual maturity rating.

If her sexual development continues to be normal, at what age should you recommend evaluation for primary amenorrhea?

- A) 13
 - B) 14
 - C) 15
 - D) 16
 - E) 17
70. A 42-year-old male presents to your office with colicky flank pain of several hours' duration. A urinalysis shows hematuria and CT confirms a 6-mm kidney stone in the right mid-ureter. In addition to pain control, he asks if there is anything that can be done to hasten stone passage.

Based on current evidence, you recommend

- A) furosemide (Lasix)
- B) hydrochlorothiazide
- C) oxybutynin
- D) sildenafil (Viagra)
- E) tamsulosin (Flomax)

71. A 57-year-old female with a history of diabetes mellitus, hypertension, and depression sees you for a routine follow-up visit. Her vital signs include a heart rate of 88 beats/min, a blood pressure of 162/84 mm Hg, and a BMI of 32 kg/m².

The recommended antihypertensive regimen for reducing cardiovascular events in this patient is an ACE inhibitor plus

- A) an α -blocker
- B) an angiotensin receptor blocker
- C) a calcium channel blocker
- D) a loop diuretic

72. A 56-year-old male with a long-standing history of severe COPD presents with a 1-week history of progressive dyspnea. He says that yesterday it worsened to the point where he could not speak in full sentences. On examination he appears pale and diaphoretic. He has a blood pressure of 100/58 mm Hg, a pulse rate of 122 beats/min, a respiratory rate of 28/min, and an oxygen saturation of 82% on room air. He has diminished air entry bilaterally. A chest radiograph is shown below.

Which one of the following is LEAST likely to relieve this patient's dyspnea?

- A) Supplemental 100% oxygen
- B) Nebulized albuterol and ipratropium (Atrovent)
- C) Needle thoracentesis
- D) Chest tube placement

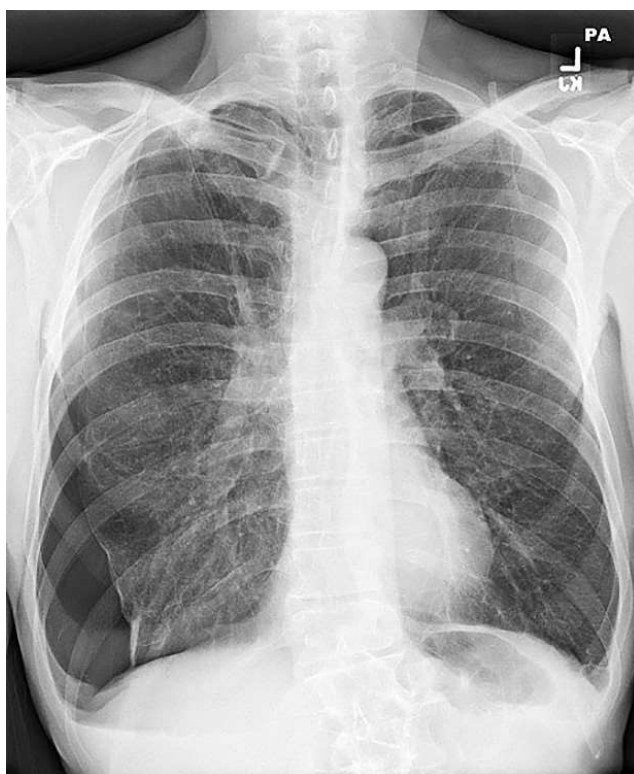
73. An elderly homeless male is brought to the emergency department. He is clearly hypothermic due to cold exposure and has superficial frostbite of his extremities. He is still conscious and shivering.

In addition to rewarming him, which one of the following should you administer?

- A) Acetazolamide (Diamox Sequels)
- B) Amitriptyline
- C) Ceftriaxone
- D) Ibuprofen
- E) tPA

74. A 56-year-old female with a BMI of 37 kg/m² seeks your advice regarding weight loss. Which one of the following medications in her current regimen is most likely to contribute to weight gain?

- A) Bupropion (Wellbutrin)
- B) Lisinopril (Prinivil, Zestril)
- C) Metformin (Glucophage)
- D) Mirtazapine (Remeron)
- E) Naproxen



Item #72

75. A 70-year-old male sees you for evaluation prior to cataract surgery. He has well controlled hypertension, as well as prediabetes and erectile dysfunction.

Which one of the following would be most appropriate prior to the procedure?

- A) No testing
- B) A prothrombin time and INR determination
- C) A CBC
- D) A resting EKG
- E) 2D echocardiography

76. A 72-year-old female presents with bothersome palpitations. She is otherwise healthy and is not taking any medications. A physical examination is normal, including thyroid and eye examinations. Laboratory studies reveal a serum TSH level of 0.2 $\mu\text{U/mL}$ (N 0.4–4.0) and normal T_3 and free T_4 levels. An EKG reveals frequent premature atrial contractions but is otherwise normal. Ultrasonography of the thyroid does not reveal any nodules, thyroid scintigraphy shows diffuse uptake, and an anti-thyrotropin-receptor (thyroid-stimulating immunoglobulin) antibody level is significantly elevated.

Which one of the following is the most likely diagnosis?

- A) Central hypothyroidism
- B) Graves disease
- C) Iodine deficiency
- D) Solitary toxic thyroid nodule
- E) Toxic multinodular goiter

77. A 52-year-old male sees you for a routine follow-up visit for diabetes mellitus. His hemoglobin A_{1c} is 7.6%. He also notes that he has been having increasing pain in his right shoulder over the past few months but he cannot recall any specific injury. The pain is a dull, poorly localized ache that radiates into the biceps and is aggravated when he reaches overhead. On examination you note decreased range of motion in forward flexion, internal and external rotation, and abduction. There is normal strength with resisted activation of the rotator cuff muscles and there are no impingement symptoms.

Which one of the following is the most likely diagnosis?

- A) Osteoarthritis of the shoulder
- B) Adhesive capsulitis
- C) SLAP lesion
- D) Infraspinatus tendinopathy
- E) Supraspinatus tendinopathy

78. A 25-year-old female at 28 weeks gestation comes to your office for a routine prenatal visit. She received Tdap vaccine 3 years ago after she was bitten by a horse.

Which one of the following would be most effective to reduce the newborn's risk of contracting pertussis?

- A) Tdap vaccination of the mother now
 - B) Tdap vaccination of the mother post partum
 - C) No Tdap vaccination of the mother now or post partum, and Tdap vaccination of other family members
 - D) No Tdap vaccination of the mother now or post partum, and Tdap vaccination of the newborn within 72 hours of birth
 - E) No Tdap vaccination of the mother now or post partum, and a recommendation for good hand hygiene to protect the newborn
79. A 45-year-old female returns to your clinic after pulmonary function testing for dyspnea. Her prebronchodilator FEV₁/FVC ratio was 0.65, which improved to 0.9 post bronchodilator.

These findings are most consistent with which one of the following?

- A) Asthma
 - B) COPD
 - C) Interstitial lung disease
 - D) Pulmonary hypertension
80. A 42-year-old male sees you because of abnormal laboratory results from a recent health fair.

Laboratory Findings

Albumin	4.1 g/dL (N 3.5–5.5)
Alkaline phosphatase	88 U/L (N 36–92)
AST	152 U/L (N 10–59)
ALT	70 U/L (N 13–40)
Total bilirubin	0.9 mg/dL (0.3–1.2)

Based on these results, which one of the following is the most likely cause of his elevated liver transaminase levels?

- A) Acute viral hepatitis
- B) Alcoholic liver disease
- C) Cholestasis
- D) Nonalcoholic fatty liver disease

81. A 47-year-old male with obesity, hypertension, and type 2 diabetes sees you because of growth of his breasts. An examination confirms gynecomastia.

Stopping which one of the following medications in this patient's current regimen would most likely result in regression of his gynecomastia?

- A) Amlodipine (Norvasc)
- B) Hydrochlorothiazide
- C) Liraglutide (Victoza)
- D) Pioglitazone (Actos)
- E) Spironolactone (Aldactone)

82. A 68-year-old male with a history of diabetes mellitus, hypertension, coronary artery disease, and heart failure with reduced ejection fraction sees you for a follow-up visit 2 weeks after cardiac catheterization and placement of two drug-eluting stents. He tells you that shortness of breath slightly limits his physical activity. Before the procedure an echocardiogram revealed apical hypokinesis and an estimated left ventricular ejection fraction of 25%. His current medications include carvedilol (Coreg), atorvastatin (Lipitor), aspirin, clopidogrel (Plavix), spironolactone (Aldactone), sacubitril/valsartan (Entresto), metformin (Glucophage), and empagliflozin (Jardiance). On examination the patient is euvolemic, his pulse rate is 58 beats/min, his blood pressure is 112/60 mm Hg, and his hemoglobin A_{1c} is 7.2%.

Which one of the following would be the most appropriate management of his heart disease?

- A) No medication changes and repeat echocardiography in 2 months
- B) Replacing empagliflozin with sitagliptin (Januvia)
- C) Replacing sacubitril/valsartan with lisinopril (Prinivil, Zestril)
- D) Immediate placement of an implantable cardiac defibrillator
- E) Referral for left atrial appendage closure

83. An 81-year-old female with a history of hypothyroidism, type 2 diabetes, and stage 4 chronic kidney disease presents to your clinic with moderate to severe low back pain that began 2 days ago. A history is negative for trauma, fever, and other systemic symptoms. Her vital signs are within normal limits. A physical examination reveals moderate point tenderness to palpation across the lower thoracic and upper lumbar spine, but is otherwise unremarkable, including a negative straight leg raising test.

A plain radiograph of the thoracic and lumbar spine reveals degenerative changes and suggests an osteoporotic compression fracture. A CBC, erythrocyte sedimentation rate, and C-reactive protein level are normal.

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

- A) Denosumab (Prolia)
- B) Scheduled ketorolac
- C) Scheduled acetaminophen and lidocaine patches
- D) A fentanyl patch (Duragesic), 25 µg/hr
- E) Referral to a neurosurgeon for percutaneous vertebral augmentation

84. A 70-year-old female is admitted to the hospital with right upper quadrant pain determined to be secondary to acute cholecystitis. After initial stabilizing treatment the surgeon recommends cholecystectomy but the patient declines. Her family wants her to have the surgery and they tell you they think she has dementia and cannot make this decision.

Determining the patient's capacity to make a specific medical decision should include assessment of which one of the following?

- A) Beliefs, values, reasoning, and communication
- B) Integrity, competence, fears, and communication
- C) Understanding, appreciation, reasoning, and communication
- D) Understanding, personal wishes, intelligence, and communication
- E) Values, intelligence, expression, and dialogue

85. A 45-year-old female sees you for the first time for a health maintenance examination. She has a 20-pack-year history of smoking. She has been sexually active with women only, has been in a monogamous relationship for 15 years, and has never been pregnant. A Papanicolaou smear 2 years ago was normal. She was tested 15 years ago for syphilis and hepatitis B with negative results. She has not had any other screening tests for sexually transmitted infections.

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

- A) Bacterial vaginosis
- B) *Chlamydia trachomatis* and gonorrhea
- C) HIV
- D) HPV
- E) Syphilis

86. A 40-year-old female presents for follow-up of a recent diagnosis of severe persistent asthma. Skin testing for common inhalant allergens is negative, and her serum IgE levels are normal. She has a history of rhinorrhea and wheezing with exposure to aspirin.

Which one of the following additional conditions is most likely to be present?

- A) Allergic rhinitis
- B) Aspergillosis
- C) Eczema
- D) Nasal polyps
- E) Obesity

87. A 34-year-old female with type 2 diabetes that had previously been managed with metformin (Glucophage) and liraglutide (Victoza) was switched to insulin for glycemic management during her pregnancy. In the week before delivery she was achieving fasting and postprandial glucose targets with an insulin regimen of insulin detemir (Levemir), 16 U daily, and insulin lispro (Humalog), 4 U with meals. Her labor was induced at 37 weeks gestation due to elevated blood pressures and she had an uncomplicated vaginal delivery. She is planning to breastfeed.

Which one of the following glucose management regimens would you recommend for her in the immediate postpartum period?

- A) Continue the current dosages of insulin
 - B) Continue insulin detemir and stop insulin lispro
 - C) Continue insulin lispro and stop insulin detemir
 - D) Discontinue insulin and reinstitute metformin
 - E) Discontinue insulin and reinstitute liraglutide
88. Which one of the following cancers consistently declined in both incidence and mortality between 1975 and 2015?
- A) Breast cancer
 - B) Cervical cancer
 - C) Hodgkin's lymphoma
 - D) Lung cancer
 - E) Prostate cancer
89. An EKG performed on a patient with a history of heart failure and an ejection fraction of 30% reveals sinus rhythm with a heart rate of 55 beats/min and new left bundle branch block with a QRS interval of 160 msec. The patient is taking a β -blocker but has a history of acetylcholinesterase inhibitor-induced angioedema.

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

- A) Amiodarone
 - B) Ivabradine (Corlanor)
 - C) Sacubitril/valsartan (Entresto)
 - D) Sinoatrial node ablation
 - E) Cardiac resynchronization therapy
90. Which one of the following antihypertensive medications is associated with reduced progression of diabetic kidney disease?
- A) Amlodipine (Norvasc)
 - B) Chlorthalidone
 - C) Labetalol (Trandate)
 - D) Spironolactone (Aldactone)
 - E) Valsartan (Diovan)

91. A 22-year-old Russian female has recently been hired to work at your clinic. She is going through the orientation and screening process and you are asked to screen her for tuberculosis. She tells you that she received the bacille Calmette-Guérin (BCG) vaccine as a child.

Which one of the following would be the recommended screening for this patient?

- A) No screening
- B) A tuberculin skin test (TST)
- C) A two-step TST
- D) An interferon-gamma release assay (IGRA, QuantiFERON-TB Gold)
- E) A chest radiograph

92. A 66-year-old male with a history of diabetes mellitus, hypertension, and venous insufficiency presents with a 3-cm diameter ulceration on his lateral lower leg. Recent vascular studies show no significant arterial occlusion and a foot monofilament examination is normal. You assess the wound and do not find significant devitalized tissue or signs of infection.

Which one of the following interventions is most likely to promote wound healing?

- A) A compression bandage
- B) Dermal matrix dressing
- C) Hydrogel dressing
- D) Wet-to-dry dressings
- E) Prescription diabetic footwear

93. Your practice is starting a screening program for depression. Which one of the following is a cardinal symptom of depression included in the Patient Health Questionnaire-2 (PHQ-2) screening instrument?

- A) Fatigue
- B) Lack of appetite
- C) Little interest or pleasure in doing things
- D) Restlessness
- E) Sleep disturbance

94. A 17-year-old male presents to your office to be screened for celiac disease. His older sister was recently diagnosed with biopsy-confirmed celiac disease. He has had intermittent abdominal bloating but no other symptoms.

Which one of the following is the current best practice to screen for celiac disease in this situation?

- A) No screening and treatment based on family history
- B) Antigliadin antibodies
- C) Endomysial antibodies
- D) Serum total IgA levels and IgA tTG antibodies
- E) Esophagogastrroduodenoscopy with small bowel biopsies

95. A 3-year-old male is brought to your office by his mother because he has been limping. The mother reports that she saw him fall while playing at the park with some other children yesterday, but that he seemed fine afterward. This morning, however, he did not want to put any weight on the leg when he got up. The child has also had a fever off and on for 3–5 days. His mother states that he had a temperature of 102°F today. The child does not want to bear weight on the affected extremity. Plain film imaging of both lower extremities is negative.

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

- A) A CBC, erythrocyte sedimentation rate, and C-reactive protein level
- B) Joint aspiration
- C) Ultrasonography
- D) Bone scintigraphy
- E) MRI

96. A 72-year-old male comes to your office for an annual health maintenance visit. He mentions that some of his friends recently underwent health screenings and he asks if there are any cardiovascular screening tests recommended for him. His blood pressure is well controlled and he does not have any shortness of breath or chest pain. He exercises regularly. He started smoking cigarettes while he attended college but quit at age 25. He does not have a significant family history of cardiovascular disease.

Which one of the following tests is recommended by the U.S. Preventive Services Task Force for patients such as this?

- A) An ankle-brachial index
- B) A high-sensitivity C-reactive protein level
- C) A coronary artery calcium score
- D) Abdominal aortic aneurysm screening with ultrasonography
- E) Echocardiography

97. You see a 22-year-old female at 12 weeks estimated gestation. Antibody testing indicates that she is rubella equivocal.

Which one of the following is recommended by the CDC's Advisory Committee on Immunization Practices?

- A) Recheck her rubella antibody titer after delivery
- B) Administer MMR vaccine immediately
- C) Administer MMR vaccine after the first trimester
- D) Administer MMR vaccine after delivery
- E) Recommend vaccination only if the patient has no prior record of receiving MMR

98. A healthy 2-month-old female born at term is brought to your office for a well child check. The parents report that the child is exclusively breastfed and ask whether they should be providing any additional nutrition.

Which one of the following would you advise?

- A) No supplementation until the child is 6 months old
- B) Water
- C) Fluoride
- D) Vitamin D
- E) Rice cereal

99. A 66-year-old female with multiple medical problems has routine laboratory work performed during a regularly scheduled clinic visit. All of the laboratory values are normal except for a serum calcium level of 11.0 mg/dL (N 8.5–10.2).

Which one of the following medications in her current regimen is most likely to cause an elevated calcium level?

- A) Alendronate (Fosamax)
- B) Lithium
- C) Omeprazole (Prilosec)
- D) Sertraline (Zoloft)
- E) Spironolactone (Aldactone)

100. The inability to use and make sense of numbers is a common problem encountered in physician-patient communication that can make it difficult to achieve shared decision-making. Which one of the following methods has been shown to be a helpful strategy when discussing numbers?

- A) Using relative risk instead of absolute risk
- B) Using icon arrays (pictographs) to show ratios
- C) Using percentages instead of frequencies
- D) Framing outcomes in either positive or negative terms, but not both

101. A 65-year-old female with hypertension and hyperlipidemia sees you for follow-up after a visit 1 week ago because of uncontrolled hypertension and new-onset type 2 diabetes. She has smoked one pack of cigarettes per day for the past 40 years. Her medications include amlodipine (Norvasc), 10 mg daily; hydrochlorothiazide, 12.5 mg daily; and atorvastatin (Lipitor), 20 mg daily. At last week's visit you added metformin (Glucophage), 500 mg twice daily, and lisinopril (Prinivil, Zestril), 5 mg daily.

The patient is physically active and asymptomatic. She is 165 cm (65 in) tall and weighs 59 kg (130 lb) with a BMI of 22 kg/m². A physical examination is normal. A summary of her recent vital signs and laboratory data is listed below.

	One week ago	Today
Blood pressure	165/92 mm Hg	162/88 mm Hg
Pulse	72 beats/min	76 beats/min
Hemoglobin A _{1c}	7.2%	not measured
Glucose	183 mg/dL	156 mg/dL
Sodium	140 mEq/L (N 135–145)	141 mEq/L
Potassium	4.2 mEq/L (N 3.5–5.0)	5.1 mEq/L
BUN	12 mg/dL (N 8–25)	20 mg/dL
Creatinine	0.8 mg/dL (N 0.6–1.2)	1.4 mg/dL

You diagnose resistant hypertension and consider evaluating for an underlying cause of secondary hypertension. Which one of the following tests would most likely yield a diagnosis in this case?

- A) Plasma free metanephrines
 - B) A low-dose dexamethasone suppression test
 - C) MR angiography of the renal arteries
 - D) Polysomnography
102. A 60-year-old male with a long-standing history of type 2 diabetes is admitted to the hospital. He takes four oral medications for the treatment of diabetes at home. You decide to switch him to insulin instead of continuing oral medications while he is hospitalized. He is eating his meals well.

After calculating the total daily insulin dose, which one of the following would be most appropriate?

- A) Administer the total daily dose as long-acting insulin in equal doses every 12 hours
- B) Administer half of the total daily dose of insulin as long-acting insulin and the other half as short-acting insulin in three divided doses, given with each meal
- C) Administer the total daily dose as short-acting insulin in three divided doses, given with each meal
- D) Administer the total daily dose as short-acting insulin in four divided doses, given with each meal and at bedtime
- E) Administer the total daily dose as a short-acting sliding scale regimen based on bedside glucose readings, in four divided doses

103. A 60-year-old male presents with dyspnea on exertion, occasional wheezing, and a chronic cough that is productive. He has never been hospitalized. He has smoked one pack of cigarettes per day since the age of 20. An examination reveals diminished breath sounds but no crackles, jugular venous distention, gallop, or edema. Spirometry shows a postbronchodilator FEV₁ that is 45% of the predicted value, and the severity of his disease is rated as Global Initiative for Chronic Obstructive Lung Disease (GOLD) group C.

In addition to albuterol as needed for symptomatic relief and smoking cessation, the initial treatment should include

- A) beclomethasone
 - B) budesonide/formoterol (Symbicort)
 - C) roflumilast (Daliresp)
 - D) theophylline
 - E) tiotropium (Spiriva)
104. A 63-year-old female presents to your office with a sudden onset of lightheadedness and mild nausea that she first noted when getting out of bed this morning. She has had repeated episodes of a spinning sensation when tilting her head up or down. Her symptoms have been so severe that she could not go to work today. She has a history of essential hypertension that is well controlled on hydrochlorothiazide. She has not had any headache, hearing loss, tinnitus, or recent illness or trauma. She has a temperature of 36.8°C (98.2°F), a blood pressure of 136/80 mm Hg, a heart rate of 80 beats/min, a respiratory rate of 12/min, and an oxygen saturation of 96% on room air. You perform the Dix-Hallpike maneuver with her right ear down and in the dependent position and note a latent torsional, upbeat nystagmus.

The most appropriate intervention at this time would be

- A) prolonged upright positioning
 - B) canalith repositioning procedures
 - C) vestibular function testing
 - D) vestibular suppressant medication
 - E) MRI of the brain
105. A 24-year-old male presents for evaluation of clavicular pain after a fall while mountain biking. On examination he has a painful palpable lump and bruising over the middle third of his left clavicle. He has normal peripheral pulses, and strength and sensation of his left arm are intact. Radiographs reveal a midshaft clavicular fracture that is displaced approximately 1.5 times the width of the clavicle and is shortened by 2 cm. The proximal portion is upwardly displaced.

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

- A) A figure-of-eight splint
- B) A sling
- C) Closed reduction and a sling
- D) Casting
- E) Evaluation for surgical fixation

106. A 30-year-old male has moderate to severe rectal pain that occurs with bowel movements and lasts for several hours. He reports minimal bright red blood on the toilet tissue. On examination he is noted to have an anal fissure in the posterior midline. Sitz baths and fiber supplementation have provided no relief, and topical nifedipine therapy did not resolve his symptoms.

Which one of the following would be an effective treatment?

- A) β -Blocker injection
 - B) Botulinum toxin injection
 - C) Corticosteroid injection
 - D) Lidocaine injection
 - E) Rubber band ligation
107. A 72-year-old female has a known history of aortic stenosis. Which one of the following symptoms or physical findings would indicate a need for urgent repeat echocardiography and cardiology referral?
- A) Headache
 - B) Palpitations
 - C) Presyncope
 - D) Edema of both lower extremities
 - E) A grade 2/6 systolic ejection murmur radiating to the aorta
108. A 25-year-old female is concerned about skin lesions that have repeatedly appeared and resolved, sometimes lasting for months. She has tried treatment with topical over-the-counter antibiotic ointments with no success. She states that her mother has similar lesions.

On examination her vital signs are unremarkable except for a BMI of 32 kg/m². The examination also reveals multiple deep-seated inflammatory nodules in both axillae that are up to 1.5 cm in size and painful to touch. You also note some malodorous drainage and scars in her axillae that she says are from previous lesions. No other areas are affected. She is afebrile and has no other symptoms.

Which one of the following is the most likely diagnosis?

- A) Acne conglobata
- B) Cutaneous Crohn's disease
- C) Hidradenitis suppurativa
- D) Pilonidal cyst
- E) Recurrent primary bacterial abscess

109. A 50-year-old female sees you for the first time. She is active and has not seen a physician for 2 years. The last vaccine she received was Tdap following the birth of her granddaughter 2 years ago. She has a past history of essential hypertension and hyperlipidemia but her medical history is otherwise unremarkable.

Based on CDC guidelines, which one of the following vaccines should you recommend for this patient today?

- A) HPV
- B) Pneumococcal conjugate (PCV13, Prevnar 13)
- C) Pneumococcal polysaccharide (PPSV23, Pneumovax 23)
- D) Live zoster (Zostavax)
- E) Recombinant zoster (Shingrix)

110. A 48-year-old male presents with a 1-year history of feeling nervous. He feels well otherwise except for mild discomfort from arthritis in both knees. A physical examination is normal, and laboratory studies, including thyroid function, are also normal. You make a diagnosis of generalized anxiety disorder. The patient declines psychotherapy and prefers pharmacologic treatment.

Which one of the following is the first-line long-term treatment for this patient?

- A) Alprazolam (Xanax)
- B) Buspirone
- C) Duloxetine (Cymbalta)
- D) Imipramine (Tofranil)
- E) Quetiapine (Seroquel)

111. A 50-year-old female sees you for a routine health maintenance visit. On examination you note a thyroid nodule and ultrasonography confirms a solid 1.5-cm nodule. Her TSH level is normal.

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

- A) Antithyroid antibody titers
- B) A thyroid scan
- C) A fine-needle aspiration biopsy
- D) Surgical excision of the nodule
- E) Repeat ultrasonography in 6 months

112. A 58-year-old athletic trainer presents with acute low back pain. He thinks the pain began after he started a new weightlifting regimen 3 weeks ago. The pain does not radiate, and prolonged standing exacerbates the pain. He does not have any bowel or bladder incontinence, fever, or saddle anesthesia. He asks which type of therapy is most likely to shorten the course of the pain.

Which one of the following would be the best recommendation?

- A) Ice
 - B) Targeted exercises
 - C) Oral analgesics
 - D) Spinal manipulation
 - E) Evidence does not support the superiority of any modality
113. Which one of the following patient factors would be most likely to contraindicate use of a thiazide diuretic such as chlorthalidone?
- A) Chronic gout
 - B) An ejection fraction of 45%
 - C) Hypothyroidism
 - D) Stage 3b chronic kidney disease
 - E) A history of a rash when taking trimethoprim/sulfamethoxazole (Bactrim) in childhood
114. A family in your practice includes an 11-year-old female and a 17-year-old male who are both healthy. They are seen separately with and without their parents and have no evidence of genital warts or other lesions. The 11-year-old is not sexually active but the 17-year-old has given and received oral sex from a previous girlfriend. He says he is not sexually active at this time. Neither of these patients has received HPV vaccine in the past.

Which one of the following should you recommend regarding HPV vaccination?

- A) No HPV vaccine for either sibling
 - B) A two-dose HPV vaccine series for both siblings
 - C) A three-dose HPV vaccine series for both siblings
 - D) A two-dose HPV vaccine series for the 11-year-old and a three-dose HPV vaccine series for the 17-year-old
 - E) A three-dose HPV vaccine series for the 11-year-old and a two-dose HPV vaccine series for the 17-year-old
115. Which one of the following medications should be considered for patients taking more than 50 morphine milligram equivalents (MMEs) daily for chronic pain?
- A) Clonazepam (Klonopin)
 - B) Clonidine (Catapres)
 - C) Methadone
 - D) Naloxone
 - E) Naltrexone (Vivitrol)

116. Long-term oxygen therapy is recommended for patients with COPD who have a resting oxygen saturation at or below a threshold of

- A) 88 %
- B) 89 %
- C) 90 %
- D) 93 %
- E) 95 %

117. A healthy 29-year-old female sees you for a health maintenance visit. You recommend influenza vaccine but she declines because she has angioedema with ingestion of any eggs or egg products. She has an epinephrine auto-injector (EpiPen) and last used it approximately 9 months ago when she accidentally ingested a small amount of egg. She has not seen her allergist in more than 3 years but is planning to call soon for an appointment.

Based on CDC guidelines, which one of the following would you recommend for this patient regarding influenza vaccination?

- A) No influenza vaccination regardless of vaccine form
- B) Vaccination only with inactivated influenza vaccine
- C) Vaccination with any licensed form of influenza vaccine
- D) Referral to an allergist for specific allergen testing prior to vaccination

118. A 67-year-old female with a history of type 2 diabetes, hypertension, osteoarthritis, and hyperlipidemia sees you for follow-up of laboratory results after hepatic steatosis and mild splenomegaly were noted on abdominal ultrasonography performed during a recent emergency department visit for right upper quadrant pain. She is currently asymptomatic. Her vital signs include a blood pressure of 128/72 mm Hg and a BMI of 34 kg/m². An examination is significant only for trace bilateral lower extremity edema. A cardiovascular examination is otherwise normal and neurologic and abdominal examinations are normal.

Laboratory Findings

Platelets.....	112,000/mm ³ (N 150,000–450,000)
Creatinine.....	0.8 mg/dL (N 0.6–1.2)
Hemoglobin A _{1c}	6.6 %
AST.....	68 U/L (N 8–48)
ALT.....	55 U/L (N 7–55)
Albumin.....	3.2 g/dL (N 3.5–5.0)
Bilirubin.....	0.5 mg/dL (N 0.1–1.2)
INR.....	1.0 (N <1.2)

Which one of the following medications should be AVOIDED in this patient to reduce the likelihood of complications of her medical condition?

- A) Acetaminophen
- B) Atorvastatin (Lipitor)
- C) Ibuprofen
- D) Lisinopril (Prinivil, Zestril)
- E) Metformin (Glucophage)

119. Which one of the following types of hallucinations is associated with Parkinson's disease?

- A) Auditory only
- B) Auditory and visual
- C) Hypnagogic
- D) Hypnopompic
- E) Visual only

120. A 23-year-old male presents for evaluation of wrist pain after he fell while skateboarding. On examination he has left wrist pain with snuffbox tenderness. A radiograph of his wrist shows a fracture through the midportion of the scaphoid with 2 mm of displacement.

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

- A) A thumb spica cast
- B) A short arm cast
- C) A long arm cast
- D) Closed reduction followed by a thumb spica cast
- E) Surgical fixation

121. A 21-year-old female comes to your office because of concerns about excess hair growth. She has dark hairs on her upper lip and chin and around her nipples that have been consistently present since puberty, and she is dissatisfied with the cosmetic results of various hair removal methods. She has regular menses and does not wish to become pregnant at this time. An examination is consistent with some terminal hairs in the distribution she describes and is otherwise unremarkable.

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

- A) An early morning total testosterone level
- B) A full hormonal workup including thyroid function testing, prolactin, 17-hydroxyprogesterone, and dehydroepiandrosterone sulfate (DHEAS) levels
- C) Transvaginal ultrasonography
- D) A 6-month trial of oral contraceptive pills

122. The initial treatment of choice for head lice is

- A) lindane 1% shampoo
- B) permethrin 1% shampoo (Nix)
- C) pyrethrum 0.3%/piperonyl butoxide 4% shampoo (Rid)
- D) ivermectin 0.5% lotion (Sklice)
- E) malathion 0.5% lotion (Ovide)

123. You are working in an urgent care clinic when a 68-year-old male with chronic hypertension sees you for refills of his medications. He has been out of his medication for the past month and could not get an appointment with his primary care physician for refills. His blood pressure is persistently 190/115 mm Hg, even after he has rested in a quiet room for 30 minutes. His blood pressure previously had been well controlled. He has a moderate headache but otherwise feels well. An examination, including a fundoscopic examination, is normal.

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

- A) Refill his usual medications and arrange for follow-up in 1 week
 - B) Administer oral labetalol (Trandate) every 30 minutes until his blood pressure is <180/110 mm Hg
 - C) Administer oral nifedipine (Procardia) every 30 minutes until his blood pressure is <180/110 mm Hg
 - D) Administer sublingual nifedipine every 30 minutes until his blood pressure is <180/110 mm Hg
 - E) Refer for immediate hospitalization for intravenous antihypertensive treatment
124. The U.S. Preventive Services Task Force recommends which one of the following for breast cancer screening?
- A) Annual screening mammography for women ages 40–75
 - B) Annual screening mammography for women ages 50–75
 - C) Biennial screening mammography for women ages 35–75
 - D) Biennial screening mammography for women ages 50–75
 - E) Biennial screening mammography for women ages 45–50 and annual screening mammography for women ages 51–75
125. You advise a 58-year-old male with chronic kidney disease to limit his salt intake. He asks about the benefit of this change, since he thoroughly enjoys his high-salt diet.

For patients with chronic kidney disease, current evidence shows that a low-salt diet

- A) decreases mortality
- B) lowers blood pressure
- C) increases proteinuria
- D) increases the time to end-stage renal disease and the need for dialysis

126. A 65-year-old male presents to your office with bilateral weakness that has been present for several weeks. He notes increasing difficulty in climbing stairs but is able to walk on his toes and heels normally. He can open a jar and turn a doorknob without difficulty but has trouble reaching up to an overhead shelf. The history is confirmed by a physical examination.

Which one of the following is most often associated with this type of muscle weakness?

- A) Fluoroquinolone use
- B) Frailty syndrome
- C) Guillain-Barré syndrome
- D) Multiple sclerosis
- E) Polymyositis

127. At a routine visit, a 65-year-old male former smoker reports shortness of breath and a cough that has been worsening slowly over the last 6 months. On examination you hear bibasilar inspiratory crackles. An EKG, chest radiograph, and echocardiogram are normal. CT of the chest shows multiple bilateral patchy areas of consolidation.

The most appropriate next step is to

- A) take a detailed history of medication use and lifetime environmental exposures
- B) start an antibiotic
- C) start furosemide (Lasix)
- D) start an inhaled short-acting β -agonist as needed
- E) refer for pulmonary rehabilitation

128. A 24-year-old male with sickle cell disease (Hb SS) presents to the emergency department (ED) with a 5-day history of severe pain in his lower back, legs, and shoulders. The review of systems is positive for jaundice and scleral icterus, but is negative for headache, chest pain, shortness of breath, and priapism. He reports that his symptoms are typical of his previous vaso-occlusive pain, and he believes this episode was triggered by the recent cold weather. He tried to avoid coming to the ED by using oral medication at home, including naproxen, 500 mg twice daily, and immediate-release oxycodone (Roxicodone), 10 mg every 4 hours as needed. He takes no other medications and reports no known drug allergies. He is pain free on approximately 75% of days, and he can typically manage his pain at home during the remaining times.

The patient's vital signs are unremarkable except for a mildly elevated pulse rate of 102 beats/min. His WBC count is 17,000/mm³ (N 5000–10,000) and his hemoglobin level is at its baseline of 8.0 g/dL. The patient is admitted to the hospital for intravenous fluids and pain medications via patient-controlled analgesia. This is his second admission of the year for a vaso-occlusive pain crisis. He responds well over the next few days and is discharged to home in good condition.

Which one of the following should be discussed with the patient at follow-up?

- A) Daily hydroxyurea therapy
 - B) Oral penicillin prophylaxis
 - C) Switching from immediate-release oxycodone to long-acting oxycodone (OxyContin) twice daily
 - D) Annual transcranial Doppler ultrasonography
 - E) Scheduled blood transfusions to maintain a hemoglobin level > 10 g/dL
129. A healthy 26-year-old female would like to start using regular contraception and asks about her options. Her menses are normal and her last menstrual period was 10 days ago.
- If initiated today, which one of the following contraceptive methods does NOT require the use of backup contraception?
- A) Oral contraceptives
 - B) An etonogestrel subdermal implant (Nexplanon)
 - C) A copper-containing IUD (ParaGard)
 - D) A levonorgestrel IUD (Mirena)
130. In a patient with documented *Helicobacter pylori* infection, which one of the following studies should be performed to document clearance of the infection?
- A) An *H. pylori* IgG level
 - B) An *H. pylori* IgM level
 - C) A stool antigen test 1 week after the completion of antibiotic therapy
 - D) A urea breath test 1 month after the completion of antibiotic therapy
 - E) A gastric biopsy

131. A 26-year-old female with a history of bipolar disorder sees you for follow-up of chronic joint pain. The review of systems is positive for intermittent rashes on the dorsal hands and face and left-sided pleuritic chest pain. An examination reveals tender swelling of the hand and wrist joints bilaterally. Examination of the lungs reveals diminished breath sounds at the left base with point-of-care ultrasonography findings consistent with a small pleural effusion. Initial laboratory tests are significant for a platelet count of $96,000/\text{mm}^3$ (N 130,000–450,000), a positive antinuclear antibody test with a 1:80 titer (N < 1:40), and negative Lyme disease and HIV tests.

Which one of the following would help confirm your suspected diagnosis?

- A) Elevated anticyclic citrullinated peptide antibodies
 - B) Elevated anti-smooth muscle antibodies
 - C) Elevated anti-centromere antibodies
 - D) Low complement levels
 - E) Positive HLA-B27
132. A 40-year-old female presents with a 3-month history of symptoms suggestive of carpal tunnel syndrome. Which one of the following typically results from impairment of the median nerve in this condition?
- A) Weakness of thumb abduction
 - B) Weakness of flexion in the thumb, index, and middle fingers
 - C) Numbness on the dorsum of the hand
 - D) Numbness in the ulnar side of the ring finger and in the little finger
 - E) Paresthesias or pain in the thumb, index finger, middle finger, and radial side of the ring finger
133. An 18-year-old male is brought to your clinic by his parents. He reports daily use of alcohol and opioids that he has been getting illegally from his friends. This habit started 3 years ago when he started high school.

In addition to counseling, which one of the following pharmacologic agents is indicated to treat both of his substance use disorders?

- A) Acamprosate
- B) Bupropion (Wellbutrin)
- C) Disulfiram (Antabuse)
- D) Methadone
- E) Naltrexone

134. While serving as team physician at a football game on a hot afternoon you are asked to evaluate an obese 17-year-old player who has begun limping. The player reports that he is very hot. An examination is normal except for a gastrocnemius spasm. You diagnose heat cramps. As you prepare to start treatment with isotonic fluid, stretching, and massage, the coach asks you how soon the athlete can return to play.

You inform the coach that the player can resume participation

- A) now
 - B) tomorrow
 - C) upon resolution of his symptoms
 - D) when his temperature is $<38.3^{\circ}\text{C}$ (100.9°F)
 - E) after acclimating to the heat for 1 week
135. Which one of the following patients should receive antibiotic prophylaxis to prevent infective endocarditis prior to having dental work that will include periodontal manipulation?
- A) A 6-year-old male with an unrepaired atrial septal defect
 - B) A 32-year-old female with mitral valve prolapse with significant regurgitation
 - C) A 52-year-old male with a past history of a transcatheter aortic valve replacement
 - D) A 60-year-old male with atrial fibrillation due to rheumatic mitral valve disease
 - E) A 70-year-old female with hemodynamically significant aortic stenosis/aortic insufficiency
136. A 55-year-old female presents to your office because she has intermittent locking of her right ring finger when it is flexed. It is painful and she often has to use her other hand to extend the finger. Her work involves repetitive movement of her hands and she requests a treatment option that will involve as little missed time from work as possible.

Which one of the following would be the most cost-effective option?

- A) NSAIDs
 - B) A corticosteroid injection
 - C) Splinting of the distal interphalangeal joint
 - D) Physical therapy
 - E) Surgical correction
137. In patients hospitalized with acute respiratory infections, procalcitonin levels are useful for
- A) nutritional status assessment
 - B) reducing inappropriate use of antibiotics
 - C) ruling out pulmonary embolism
 - D) early identification of the syndrome of inappropriate secretion of antidiuretic hormone (SIADH)
 - E) identifying acute respiratory distress syndrome

138. A 36-year-old male sees you for follow-up of progressive fatigue and lightheadedness that has worsened over the past 3 months. He has lost 5 kg (11 lb) during this time. On examination he has a BMI of 21 kg/m², a blood pressure of 88/48 mm Hg, and a pulse rate of 66 beats/min. A skin examination is notable for patches of nonpigmented skin on the hands. Initial laboratory testing is significant for a sodium level of 132 mEq/L (N 135–145) and a potassium level of 5.3 mEq/L (N 3.5–5.0).

Which one of the following tests would confirm the most likely diagnosis?

- A) 17-hydroxyprogesterone
- B) ACTH stimulation
- C) Dexamethasone suppression
- D) Late night salivary cortisol
- E) Plasma renin and aldosterone

139. A 45-year-old female sees you for the first time for a health maintenance visit. She has a history of chronic low and midback pain for several years, which she treats with ibuprofen, muscle relaxers, and a heating pad. She takes a combined oral contraceptive pill to control heavy menstrual cycles. She recently went to an urgent care clinic for treatment of an upper respiratory tract infection. She also mentions the gradual appearance of a rash on her back but says that it does not bother her. A skin examination is notable for reticular brown hyperpigmentation of her entire back (shown below).

Which one of the following is the most likely cause of the skin changes?

- A) Erythema ab igne
- B) Henoch-Schönlein purpura
- C) Idiopathic guttate hypomelanosis
- D) Tinea versicolor

140. A patient born in 1954 requests screening for hepatitis C. His anti-HCV antibody screen is positive.

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

- A) A confirmatory second anti-HCV test in 4–6 weeks
- B) A qualitative HCV RNA test
- C) Quantitative HCV genotyping
- D) Treatment with a dual antiviral regimen pending additional testing
- E) Referral for a percutaneous liver biopsy



Item #139

141. You are caring for an 84-year-old female with Alzheimer's dementia. She is disoriented to time but usually oriented to person and place. She is homebound but is frequently visited by family. The patient's daughter feels conflicted but wants her mother to go to a skilled care facility. The patient is adamant that she does not want to leave her home. During a recent home visit you noted that she smelled of urine and had a severe intertriginous rash suspicious for *Candida*. Her bedside Mini-Mental State Examination score was 24/30.

Which one of the following ethical principles should be the primary consideration when determining whether this patient should continue to live at home?

- A) Autonomy
 - B) Competence
 - C) Harm
 - D) Justice
 - E) Safety
142. A 38-year-old male presents with a 2-month history of increased postprandial nausea and nonbloody, painless, loose stools. He feels well otherwise. Ten months ago he underwent bariatric surgery, which involved creating a small stomach pouch. There were no complications from the surgery and he does not take any medications. A review of his diet reveals that he has three small meals and two snacks daily. He has one serving of vegetables or bread with each meal. He has 16 oz of coffee with breakfast, 12 oz of soda with lunch, 12 oz of beer with dinner, and a cup of water or milk with snacks. His snack is usually cheese or peanut butter and a cracker. An examination is unremarkable.

You are concerned with his diet habits and your recommendations include

- A) no fluid for 15 minutes before or after meals and snacks
- B) limiting carbonated beverages to 8 oz per meal or snack
- C) increasing daily servings of fibrous vegetables and whole grain breads
- D) eating one meal and three snacks daily
- E) eating a diet lower in fat

143. A healthy 52-year-old male who runs for 40 minutes 4–5 times per week comes to your office because he has recently noted pain in the inner aspect of his right knee along the joint line. He also reports mild swelling and stiffness in his knee along with a “clicking” sensation when he flexes and extends it. In addition, he says that at unpredictable times he feels like his knee “might give way.” During the examination he reports pain along the medial joint line with palpation, and the McMurray test is positive. A subsequent MRI demonstrates a degenerative tear in the lateral portion of the medial meniscus with no significant degenerative arthritis. You begin to discuss a management plan with him, considering various surgical and nonsurgical options.

Given this patient’s age and clinical findings, which one of the following has been shown to produce better long-term outcomes than conservative management?

- A) Intra-articular corticosteroids
 - B) Hyaluronate (Synvisc)
 - C) Arthroscopic meniscectomy
 - D) Arthroscopic meniscus repair
 - E) No additional treatment strategies
144. Which one of the following clinical features is a component of the STOP-Bang questionnaire used as a screening tool for obstructive sleep apnea?
- A) Blood pressure
 - B) Pulse rate
 - C) Resting oxygen saturation
 - D) Smoking status
 - E) Waist circumference
145. A 12-year-old male is brought to your office by his guardian. In the last 12 months he was suspended from school multiple times for bullying and fighting. He kicks the family dog and goes out at night without permission. He ran away from home 2 weeks ago and he lies constantly. He skips school and does not care about his grades. Attention-deficit/hyperactivity disorder was previously ruled out. Two days ago he was grounded and retaliated by destroying his guardian’s computer. During the office visit he says school is “boring and stupid.”

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

- A) Carbamazepine (Tegretol)
- B) Haloperidol
- C) Lithium
- D) Quetiapine (Seroquel)
- E) Referral for psychosocial intervention

146. A 35-year-old female presents with fatigue. She follows a strict vegan diet and does not take any medications. There is no history of any abnormal bleeding. Although she has had fatigue for 2 years, she now notices that she has a craving for ice. Results of a laboratory evaluation are shown below.

WBCs	5100/mm ³ (N 3400–10,800)
Basophils	0.0 × 10 ³ /μL (N 0.0–0.2)
Immature granulocytes	0%
Immature granulocyte count	0.0 × 10 ³ /μL (N 0.0–0.1)
Platelets	271,000/mm ³ (N 150,000–379,000)
RBCs	4.75 million/mm ³ (N 3.77–5.28)
Reticulocytes	1.2% (N 0.6–2.6)
Hemoglobin	9.2 g/dL (N 11.1–15.9)
Hematocrit	32.3% (N 34.0–46.6)
Mean corpuscular volume	68 μm ³ (N 79–97)
Mean corpuscular hemoglobin	19.4 pg/cell (N 26.6–33.0)
Mean corpuscular hemoglobin concentration	28.5 g/dL (N 31.5–35.7)
RDW	18.1% (N 12.3–15.4)
Total iron binding capacity	519 μg/dL (N 250–450)
Unsaturated iron binding capacity	482 μg/dL (N 131–425)
Iron	37 μg/dL (N 27–159)
Iron saturation	7% (N 15–55)
Transferrin	405 mg/dL (N 200–370)
Ferritin	4 ng/mL (N 15–150)
Vitamin B ₁₂	353 pg/mL (N 160–950)

Given these results, which one of the following would be the next step in the management of this patient?

- A) Recheck her hemoglobin level in 3 months
 - B) Start ferrous sulfate, 325 mg orally
 - C) Order an intravenous iron infusion
 - D) Order a blood transfusion
 - E) Refer for colonoscopy
147. In a patient on chronic warfarin (Coumadin) therapy who has a stable INR in the therapeutic range, which one of the following antibiotics would be most likely to elevate the INR?
- A) Cephalexin (Keflex)
 - B) Clindamycin (Cleocin)
 - C) Penicillin G
 - D) Rifampin (Rifadin)
 - E) Trimethoprim/sulfamethoxazole (Bactrim)

148. A 6-month-old male is brought to your office by his parents for a well child check. He is their first child. On examination you note that he has two erupted teeth. The family lives in a town with fluoridated water and the parents would like to know how to care for their child's teeth.

Which one of the following is the most effective preventive measure for this child's newly erupted teeth?

- A) No care is needed at this point
- B) A parent wiping or brushing the teeth with water twice daily
- C) A parent brushing the teeth with a smear of low-fluoride toothpaste twice daily
- D) A fluoride supplement daily
- E) Topical sealants

149. A 36-year-old male presents with a 6-week history of a mildly pruritic rash in his groin. An examination reveals small red-brown macules and larger patches with a sharp border. A Wood's lamp examination reveals coral-red fluorescence.

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

- A) 0.1% triamcinolone cream
- B) 2.5% hydrocortisone cream
- C) Nystatin cream
- D) Erythromycin gel
- E) Fluconazole (Diflucan) orally

150. A 46-year-old female with symptoms of solid and liquid dysphagia undergoes esophageal manometry for suspected achalasia. These symptoms of achalasia are caused by which one of the following pathophysiologic mechanisms?

- A) More than 50% of swallows being weak or failed
- B) Aperistalsis in the distal two-thirds of the esophagus, with incomplete lower esophageal sphincter relaxation
- C) High-pressure esophageal contractions, with normal relaxation of the esophagogastric junction
- D) Increased premature contractions of the distal esophagus, with normal relaxation of the esophagogastric junction
- E) Mechanical obstruction due to an upper esophageal web

151. Which one of the following symptoms is most consistent with plantar fasciitis?

- A) Burning over the inferomedial aspect of the calcaneus
- B) Pain with resisted flexion of the great toe
- C) Paresthesia in the plantar aspect of the foot
- D) Swelling and pain in the retrocalcaneal region
- E) Stabbing pain over the anteromedial plantar aspect of the heel

152. A 65-year-old female comes to your office for her Welcome to Medicare visit. Her current medication regimen includes losartan (Cozaar), 50 mg daily, for hypertension; oxybutynin, 5 mg daily, for overactive bladder; doxepin, 5 mg at night, for depression and insomnia; and atorvastatin (Lipitor), 10 mg daily, for hyperlipidemia. She is doing well on her current medications and is requesting refills today.

You advise her that the benefits of her current regimen for her overactive bladder and depression need to be weighed against her increased risk of

- A) cirrhosis
- B) dementia
- C) Parkinson's disease
- D) peripheral vascular disease
- E) pulmonary fibrosis

153. The U.S. Preventive Services Task Force recommends vision screening to detect amblyopia

- A) at 2 years of age
- B) at 3–5 years of age
- C) the summer before the child enters first grade
- D) once at 4–5 years of age and once at 8–9 years of age

154. A 65-year-old female sees you to establish primary care. Her past medical history is significant only for hypertension, which is well managed on hydrochlorothiazide, and menopausal symptoms managed with oral estrogen/progestogen for the past 10 years. She has no current health concerns and her vital signs are normal. She requests a refill of her hormone medication.

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

- A) Refill her hormone medication, but with a tapering schedule to end the therapy
- B) Recommend switching from oral hormone therapy to vaginal estrogen and oral progestogen
- C) Discuss the possible risks of continued hormone therapy before deciding whether she should continue
- D) Order a bone density test and use the results to determine whether to continue hormone therapy
- E) Recommend discontinuation of hormone therapy as soon as possible, as she has already been on the treatment for more than 5 years

155. A 42-year-old male comes to your office for a health maintenance evaluation. He has not been to your office in the past 5 years and has no medical issues. He tells you that his father was diagnosed with hyperlipidemia and hypertension in his sixties. He recently used an online clinic where he could get free medical advice and testosterone testing. He was advised to see you for a stress test. He has recently started an exercise program and is walking 5 days a week for 30 minutes a day with no significant chest pain or shortness of breath. He wants to start running and work up to a 5K race.

Based on U.S. Preventive Services Task Force and other expert guidelines on stress testing, which one of the following would you advise for this patient?

- A) No stress testing
- B) An exercise EKG
- C) Exercise echocardiography
- D) An exercise sestamibi stress test
- E) Dobutamine stress echocardiography

156. A 28-year-old gravida 2 para 1 at 28 weeks gestation sees you because her 2-year-old son was diagnosed with influenza A earlier that day. She has a history of asthma. Her son had received the influenza vaccine this influenza season but she had declined due to concerns about adverse effects on her pregnancy.

In addition to influenza vaccine now, which one of the following is recommended for postexposure chemoprophylaxis of influenza in this patient?

- A) Baloxavir marboxil (Xofluza)
- B) Oseltamivir (Tamiflu)
- C) Peramivir (Rapivab)
- D) Rimantadine (Flumadine)
- E) Zanamivir (Relenza)

157. A 34-year-old female comes to your office for follow-up after an emergency department visit because of anxiety. She notes persistent anxiety, poor focus, and palpitations. She also reports that she is not hungry and has lost several pounds. She reports “odd things happening” such as sudden weakness in her legs, falling, and getting lost.

When taking her history you note that the patient is hyperverbal and displays tangential speech. She has a temperature of 37.4°C (99.3°F), a heart rate of 134 beats/min, a respiratory rate of 20/min, and a blood pressure of 117/69 mm Hg. A physical examination reveals an anxious-appearing female who is tremulous at rest. A HEENT examination shows exophthalmos but no thyromegaly. A cardiac examination is unremarkable aside from tachycardia. A pulmonary examination reveals faint bibasilar crackles. An EKG shows sinus tachycardia. Laboratory results are as follows:

CBC	within normal limits
Basic metabolic panel.....	within normal limits
TSH.....	<0.08 µU/mL (N 0.35–3.00)
Free T ₄	4.51 ng/dL (N 0.89–1.80)
Free T ₃	> 19.0 pg/dL (N 2.3–4.2)

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

- A) Start methimazole (Tapazole)
 - B) Check for thyroid receptor antibody
 - C) Obtain a radioactive iodine uptake scan
 - D) Refer her to endocrinology
 - E) Admit her to the hospital
158. A 19-year-old football player presents to your office after being removed from a game when he sustained a head injury. He has vomited twice since the injury and is disoriented. You determine that imaging is indicated.

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

- A) Plain radiography of the skull
- B) CT of the head
- C) MRI of the brain
- D) Functional MRI of the brain

159. A 58-year-old male with uncontrolled type 2 diabetes sees you for follow-up after a recent hospitalization for urosepsis treatment with intravenous antibiotic therapy. His hospital course was complicated by *Clostridioides (Clostridium) difficile* colitis, and he completed oral vancomycin (Vancocin) therapy 2 weeks ago. He was nearly back to his baseline but has had recurrent watery diarrhea for the past 3 days. You confirm a recurrent infection.

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

- A) Probiotics
- B) Fidaxomicin (Dificid), 200 mg twice daily for 10 days
- C) Metronidazole (Flagyl), 500 mg three times daily for 10 days
- D) Vancomycin, 125 mg four times daily for 10 days
- E) Fecal microbiota transplantation

160. A 26-year-old female presents to your office after surviving a tornado that destroyed her home 3 months ago. She reports continued intense fear and anxiety when there is a storm. You diagnose her with posttraumatic stress disorder.

Which one of the following has the best evidence of effectiveness for her condition?

- A) Amitriptyline
- B) Atypical antipsychotics
- C) Benzodiazepines
- D) Topiramate (Topamax)
- E) Cognitive-behavioral therapy

161. A 59-year-old male presents with pain over the lateral distal aspect of his right foot. He states that he accidentally struck a filing cabinet with his foot about 5 days ago. He immediately had pain and swelling over the dorsum of his foot and his second to fifth toes, and there has been no improvement. He has tried buddy taping his toes but this has not provided any relief.

A physical examination is notable for trace edema over the dorsum of the right foot and tenderness to palpation over the distal fifth metatarsal and fifth phalanx. The foot is neurovascularly intact with a strong dorsalis pedis pulse and normal sensation. A radiograph of the right foot is shown below.

In addition to pain control, which one of the following would be most appropriate?

- A) A rigid-sole shoe and weight bearing as tolerated
- B) A pneumatic brace and weight bearing as tolerated
- C) A short leg walking cast and weight bearing as tolerated
- D) A posterior splint and no weight bearing
- E) Immediate referral to an orthopedic surgeon and no weight bearing



Item #161

162. A 41-year-old Hispanic male presents to your office with a cough. He does not speak English and his 16-year-old daughter offers to translate for him.

Which one of the following is most appropriate regarding medical interpreters for patients who do not speak English?

- A) If a trained medical interpreter is not on staff, using a family member is an acceptable alternative
- B) A trained medical interpreter should be offered to decrease errors, improve clinical outcomes, and improve satisfaction in care
- C) When using an interpreter, the physician should address the interpreter directly to avoid confusion and promote better communication
- D) Using a family member for interpretation meets the legal requirement of Title VI of the Civil Rights Act for patients with limited English

163. You see an otherwise healthy 67-year-old male who is recovering in the hospital after a knee replacement. The patient's skin is cold and clammy and he is having trouble remembering where he is. He is receiving oxygen via nasal cannula, which has resolved some mild desaturations he was having this morning. The patient's temperature is 39.6°C (103.3°F) and his heart rate is 142 beats/min. The nurse tells you that the patient's WBC count was elevated this morning.

Which one of the following interventions should be performed immediately?

- A) An infusion of intravenous fluids
- B) An infusion of dopamine
- C) An infusion of norepinephrine
- D) CT angiography

164. An obese 10-year-old female has been diagnosed with hypertension and is starting treatment. Which one of the following should be the target for lowering the systolic and diastolic blood pressure?

- A) < 130/80 mm Hg
- B) < 140/90 mm Hg
- C) < 90th percentile for age, sex, and height
- D) < 95th percentile for age, sex, and height

165. A 48-year-old female presents with concerns about hair loss. She has noticed gradual thinning of the hair on the top of her head for the last year. Her scalp is now visible through the hair. She is not taking any oral medications. A levonorgestrel IUD (Mirena) was placed 4 years ago. She has not had any recent illnesses or stressors and a review of systems is negative. Her mother had similar hair loss starting in her fifties. On examination you note thin hair on the top of the scalp, an intact frontal hair line, and growth of thin, wispy hairs on her crown.

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

- A) Removal of the levonorgestrel IUD
- B) Spironolactone (Aldactone), 50 mg daily for 6 months
- C) Finasteride (Proscar), 5 mg daily indefinitely
- D) Minoxidil (Rogaine) 2% solution for 6 months
- E) Minoxidil 5% foam indefinitely

166. A healthy 18-year-old African-American female comes to your office with a 5-day history of sharp chest pain that worsens with both inspiration and expiration. She has also noticed that the pain worsens with laughing or coughing. She had symptoms of an upper respiratory infection a week ago with no fever or shortness of breath. She has no history of trauma and no significant past medical history, and takes no regular medications. Her vital signs are normal, including oxygen saturation, and a physical examination is unremarkable. A chest radiograph is also normal.

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

- A) A D-dimer level
- B) An EKG
- C) Spiral chest CT
- D) Diclofenac, 75 mg twice daily
- E) Prednisone, 50 mg daily for 5 days

167. A 53-year-old female who typically jogs 8–10 miles per week presents to your office with pain on the anterior part of her left kneecap that increases with running and when she goes up or down stairs. She has been taking ibuprofen, 600 mg three times daily, with partial relief. Plain film radiographs are negative.

Which one of the following is the most likely diagnosis?

- A) Iliotibial band syndrome
- B) Osgood-Schlatter disease
- C) Osteochondritis dissecans
- D) Patellofemoral osteoarthritis
- E) Patellofemoral pain syndrome

168. A 38-year-old male comes to your office for follow-up of his diabetes mellitus. He takes metformin (Glucophage) and dulaglutide (Trulicity) and his hemoglobin A_{1c} is 6.5%. He has an LDL-cholesterol level of 120 mg/dL, an HDL-cholesterol level of 55 mg/dL, and a triglyceride level of 190 mg/dL. He asks your advice about statin therapy for cholesterol management.

You advise him to start

- A) a low-intensity statin now
 - B) a moderate-intensity statin now
 - C) statin therapy at 40 years of age
 - D) statin therapy when his 10-year atherosclerotic cardiovascular disease (ASCVD) risk is > 5%
 - E) statin therapy when his 10-year ASCVD risk is > 7.5%
169. A 16-year-old Muslim male with type 1 diabetes would like to start fasting during Ramadan. He currently takes insulin glargine (Lantus) every morning and regular insulin with meals.

Which one of the following is the most appropriate recommendation for this patient during Ramadan?

- A) Avoid fasting because it is unsafe in patients with type 1 diabetes
 - B) Decrease insulin glargine by 50%
 - C) Decrease insulin glargine by 50% and take it at night
 - D) Decrease insulin glargine by 25% and use sliding scale regular insulin with meals
 - E) Stop insulin glargine and use sliding scale regular insulin four times a day
170. A 20-year-old female with no significant past medical history is brought to your office with a sudden onset of hives, shortness of breath, dizziness, and vomiting. The patient is in anaphylaxis.

Intramuscular administration of epinephrine should be given immediately at which one of the following sites?

- A) Mid-outer aspect of the shoulder
- B) Mid-outer aspect of the buttocks
- C) Mid-outer aspect of the thigh
- D) Mid-outer aspect of the calf
- E) Lower medial abdominal wall

171. A 72-year-old female comes to your office to discuss newly diagnosed peripheral artery disease. She has a history of long-standing type 2 diabetes, hypertension, and hyperlipidemia. Her current medications include atorvastatin (Lipitor), 80 mg daily; metformin (Glucophage XR), 2000 mg daily; lisinopril (Prinivil, Zestril), 40 mg daily; and aspirin, 81 mg daily. On examination she has a blood pressure of 114/62 mm Hg. Laboratory studies reveal an LDL-cholesterol level of 68 mg/dL and a hemoglobin A_{1c} of 7.7%.

If added to her current regimen, which one of the following medications would most likely improve her walking distance?

- A) Cilostazol
- B) Clopidogrel (Plavix)
- C) Ezetimibe (Zetia)
- D) Liraglutide (Victoza)
- E) Warfarin (Coumadin)

172. A 3-year-old female is brought to your office by her mother with a 3-day history of a rash. The patient's mother reports that the child is eating less than usual but tolerating fluids. The mother also reports that other children in the patient's day care have a similar rash.

On examination the patient's temperature is 38.2°C (100.8°F). The patient appears alert and active. Examination of the pharynx reveals ulcerations in the posterior oral cavity and soft palate. There is a maculopapular rash on the fingers, soles of the feet, and genitals. The remainder of the examination is normal.

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

- A) Symptomatic treatment only, and increased oral hydration
- B) Amoxicillin twice daily for 7 days
- C) Valacyclovir (Valtrex) twice daily for 7 days
- D) Antinuclear antibody testing
- E) Rapid plasma reagin testing

173. A 43-year-old male with uncomplicated appendicitis prefers antibiotic therapy alone over surgical treatment. You advise him that this will increase his risk for which one of the following?

- A) A longer absence from work
- B) The need for pain medications
- C) Disability
- D) Subsequent surgery

174. A 46-year-old male who injects heroin daily presents with a 6-month history of progressive dyspnea on exertion, a productive cough, and fatigue. He does not have any fever, chills, malaise, or hemoptysis. He has not had any sick contacts and has never smoked. On physical examination he shows no signs of distress, has a normal oxygen saturation on room air, and has normal breath sounds. A chest radiograph reveals bilateral perihilar shadowing.

A subsequent lung biopsy will most likely show

- A) adenocarcinoma
- B) branching hyphae
- C) foreign body granulomas
- D) caseating granulomas
- E) noncaseating granulomas

175. A 12-year-old female is brought to your office because of a lesion on her left lateral upper eyelid (shown below). The lesion started 3 days ago as a small, red “pimple,” and since then it has increased in size and is tender. She does not have any fever, tearing, or conjunctival irritation. No treatment has been attempted.

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

- A) Warm, damp compresses for 10 minutes four times daily
- B) Topical erythromycin ophthalmic ointment (Ilotycin)
- C) Topical hydrocortisone 0.5%
- D) Systemic antibiotics with coverage for staphylococci
- E) Incisional drainage using a sterile 18- or 20-gauge needle

176. You see a 60-year-old male for an initial office visit. He has a past history of a myocardial infarction. He has smoked two packs of cigarettes daily since the age of 18. He says that he enjoys smoking and has no plans to quit.

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

- A) I must advise you that smoking is very bad for your health
- B) Did you know that smoking increases your risk of another heart attack?
- C) What do you know about smoking’s effect on your health in general?
- D) Would it be okay if we discuss smoking?
- E) Can I schedule a follow-up appointment soon to focus on quitting smoking?



Item #175

177. A 68-year-old female with a history of diabetes mellitus, hypertension, and heart failure with preserved ejection fraction presents with a long-standing diabetic foot ulcer. The patient reports no signs of any gastrointestinal bleeding, no blood in her urine, no bleeding gums, and no vaginal bleeding. Her medications include metformin (Glucophage), insulin glargine (Lantus), lisinopril (Prinivil, Zestril), atorvastatin (Lipitor), and furosemide (Lasix).

A CBC reveals a WBC count of $7600/\text{mm}^3$ (N 4500–11,000), a hemoglobin level of 9.7 g/dL (N 14.0–17.5), a mean corpuscular volume of $89 \mu\text{m}^3$ (N 80–100), and a platelet count of $412,000/\text{mm}^3$ (N 150,000–400,000).

To further assess the patient's anemia you obtain the following laboratory results:

Ferritin	293 ng/mL (N 22–275)
Serum iron	43 $\mu\text{g/dL}$ (N 50–175)
Transferrin	190 mg/dL (N 177–264)
Reticulocyte count	3.2% (N 0.5–1.5)
Vitamin B ₁₂	564 pg/mL (N 230–1050)
Haptoglobin	198 mg/dL (N 63–273)

Which one of the following is the most likely cause of her anemia?

- A) Anemia of chronic disease
 - B) Bone marrow suppression
 - C) Hemolysis
 - D) Iron deficiency
 - E) Vitamin B₁₂ deficiency
178. A healthy 30-month-old male is brought to your office because of right elbow pain that began acutely today when his father grabbed his wrist as he fell off a stool at home. There are no other symptoms. An examination is notable for the patient's resistance to move his right arm, which he holds partially flexed and pronated at the elbow. The affected arm is otherwise normal.

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

- A) Splinting and close follow-up
- B) Attempted reduction of the subluxed radial head now
- C) A radiograph of the right elbow
- D) Referral to physical therapy
- E) Referral to an orthopedic surgeon

179. A 6-month-old female is brought to the emergency department by her parents with a 4-day history of fever, congestion, cough, shortness of breath, and decreased appetite. On examination of the lungs you note wheezes and crackles throughout. You also note subcostal retractions, an oxygen saturation of 91% on room air, and a respiratory rate of 42/min. A chest radiograph reveals peribronchial markings with no infiltrates. The parents say that the patient's teenage cousin visited recently and was having "cold symptoms." You suspect bronchiolitis.

Which one of the following would you recommend next?

- A) Maintaining hydration and keeping oxygen saturation > 90%
 - B) Deep nasal suctioning
 - C) Albuterol via nebulizer
 - D) Broad-spectrum antibiotics
 - E) Systemic corticosteroids
180. A 32-year-old white female presents to your office for a health maintenance visit required by her employer. The patient lives with her husband and two children. Her hobbies include water skiing and traveling. She does not have any significant past medical history. Her last Papanicolaou (Pap) smear was normal 1 year ago, and all of her previous Pap smears have been normal. A review of systems and a physical examination are unremarkable.

Based on U.S. Preventive Services Task Force recommendations, there is good evidence to screen this patient for

- A) illicit drug use
 - B) intimate partner violence
 - C) skin cancer
 - D) vitamin D deficiency
181. A 55-year-old male comes to your outpatient clinic for an annual health maintenance visit. He is a lifetime nonsmoker, consumes one alcoholic beverage a few days per week, and exercises at a local gym three times weekly. He reports a strong family history of cardiovascular disease. His father had a myocardial infarction (MI) at age 58, his mother had an MI at age 62, and his 58-year-old brother has been diagnosed with cardiovascular disease.

The patient asks for your clinical opinion regarding the best dietary approaches for the primary prevention of cardiovascular disease. Which one of the following is your evidence-based recommendation?

- A) Skip breakfast regularly to reduce total caloric intake
- B) Start β -carotene supplementation
- C) Start high-dose omega-3 fatty acid supplementation
- D) Start the Dietary Approaches to Stop Hypertension (DASH) diet
- E) Start the ketogenic diet

182. A 60-year-old male presents with left lower quadrant abdominal pain. His medical and surgical histories are remarkable only for a history of hypertension controlled with hydrochlorothiazide and lisinopril (Prinivil, Zestril), and no polyps seen on screening colonoscopy 5 years ago. He is afebrile, and a physical examination is notable only for mild abdominal tenderness in the left lower quadrant without peritoneal signs. A urinalysis is normal. You diagnose mild diverticulitis.

Which one of the following management options would be indicated at this time?

- A) Rest and clear liquids
- B) Avoidance of seeds, nuts, and popcorn
- C) Abdominal CT
- D) Referral for colonoscopy
- E) Hospital admission for intravenous fluids and intravenous antibiotics

183. A 36-year-old female with no significant past medical history presents to your office following a syncopal episode. A thorough history and physical examination are normal.

Based on American College of Cardiology/American Heart Association/Heart Rhythm Society guidelines, which one of the following would you recommend at this time?

- A) Reassurance, and follow-up only if she has another syncopal episode
- B) A troponin level
- C) Electrolyte levels
- D) A chest radiograph
- E) An EKG

184. A 60-year-old retired dock worker presents to your office with chronic low back pain due to multiple herniated lumbar discs, with radicular pain down both legs. He rates his pain as a 3 out of 10. He currently takes oxycodone (OxyContin), 10 mg every 12 hours; pregabalin (Lyrica), 150 mg every 12 hours; acetaminophen, 1000 mg every 8 hours; meloxicam (Mobic), 15 mg daily; and cyclobenzaprine, 10 mg every 8 hours. These medications have been prescribed by another physician for the past 5 years. He tells you that his pain is tolerable but his sex drive and energy level have steadily decreased since starting these medications.

Which one of the following medications in this patient's regimen would be most likely to decrease his libido?

- A) Acetaminophen
- B) Cyclobenzaprine
- C) Meloxicam
- D) Oxycodone
- E) Pregabalin

185. A 45-year-old female sees you for follow-up after an emergency department visit in which CT of the abdomen and pelvis was performed to detect kidney stones. Kidney stones were not seen and her flank pain was determined to be musculoskeletal in origin. She is feeling better now. However, the CT showed a simple-appearing 5.2-cm ovarian cyst with assessment limited by artifact. She does not have any symptoms, pelvic pain, bloating, fevers, night sweats, or unintentional weight loss. There is no family history of ovarian or breast cancer. She reports regular menstrual cycles.

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

- A) Reassurance only
 - B) A CA-125 level
 - C) Ultrasonography of the pelvis
 - D) MRI of the pelvis
 - E) Referral to a gynecologic oncologist
186. A 56-year-old male comes to your office because of right shoulder pain for the past week. It started when he lifted a heavy piece of furniture while helping a friend move. He felt immediate sharp pain in his shoulder, which has since radiated down the biceps toward the right radial forearm. On examination there is no deformity of the shoulder or arm. He has increased pain with palpation in the anterior shoulder near the bicipital groove of the humerus.

You suspect biceps tendinitis. Anterior shoulder pain with which one of the following examination maneuvers of the right arm would be most consistent with this diagnosis?

- A) Active or passive cross adduction of the arm at the shoulder
 - B) Shooting pain to the thumb with axial compression of the head with the neck flexed toward the right shoulder
 - C) Resisted extension of the elbow with the shoulder in a neutral position
 - D) Resisted internal rotation of the shoulder with the elbow flexed to 90°
 - E) Resisted supination of the hand with the elbow flexed to 90°
187. A 35-year-old male first presented to your office 4 months ago with a persistent chronic cough. He is a nonsmoker with no significant past medical history. Over the past few months he has been evaluated for GERD, asthma, eosinophilic bronchitis, and upper airway cough syndrome without symptomatic relief or diagnosis.

Which one of the following is recommended for chronic refractory cough in this otherwise healthy male?

- A) Cyclobenzaprine
- B) Duloxetine (Cymbalta)
- C) Gabapentin (Neurontin)
- D) Lorazepam (Ativan)
- E) Propranolol

188. A 35-year-old female comes to your office for follow-up of an emergency department (ED) visit for palpitations. She tells you that she was driving on the highway with her three small children when she suddenly felt her heart racing, along with chest tightness, lightheadedness, and severe anxiety. She pulled over and called 911. While she waited for EMS she took diltiazem (Cardizem), 30 mg orally, which had been prescribed following a similar episode several years ago. Her symptoms lasted about 10 minutes and had improved by the time EMS arrived. An examination, EKG, and chest radiograph in the ED were all normal.

Which one of the following findings in her previous medical record would confirm your diagnosis?

- A) A Generalized Anxiety Disorder-7 (GAD-7) score of 6
 - B) An elevated TSH level
 - C) P waves hidden within a narrow QRS complex on an event recorder
 - D) Mitral valve prolapse on an echocardiogram
 - E) Atherosclerotic plaque seen on carotid ultrasonography
189. A 36-year-old female presents to your office with a 24-hour history of redness in her right eye. It is associated with mild pain but no drainage. On examination her visual acuity is 20/20 bilaterally, her pupillary reflex is normal, extraocular movements are intact, and there is no discharge noted. There is a focal area of hyperemia of the episcleral blood vessels noted along the medial aspect of the eye. Fluorescein staining is normal.

This patient's presentation is most consistent with which one of the following?

- A) Bacterial conjunctivitis
- B) Viral conjunctivitis
- C) Episcleritis
- D) Iritis
- E) Keratitis

190. A fully immunized 7-month-old male is brought urgently to your office after his parents noted a possible seizure. The mother says that the infant began to “shake all over” for about 3–4 minutes and then promptly fell asleep for about 20 minutes. When he awoke he was alert but fussy and crying. He has been ill for the last few days with a cough, congestion, decreased oral intake, and fevers up to 101 °F.

On examination he has an oral temperature of 38.3 °C (100.9 °F), a heart rate of 170 beats/min, a respiratory rate of 50/min, and an oxygen saturation of 97% on room air. The infant is fussy but consolable. His mucous membranes are moist, his tympanic membranes are clear, and he has a normal oropharynx. He has clear rhinorrhea. Examination of the heart is normal, and examination of the lungs reveals rhonchi and wheezes. He is moving all of his extremities normally.

Which one of the following would be the most appropriate initial step in the evaluation of this child?

- A) A basic metabolic panel
 - B) Radiography of the chest
 - C) MRI of the brain
 - D) Electroencephalography
 - E) A lumbar puncture
191. Which one of the following developmental milestones would be expected in a typical 12-month-old child?

- A) Standing independently
- B) Identifying at least two body parts
- C) Using three words other than names
- D) Scribbling spontaneously
- E) Building a three-cube tower

192. An 18-year-old male is brought to the urgent care clinic by his friends several hours after he cut his hand when he punched someone in the mouth during a fight involving several people. On examination he is slightly intoxicated but alert, and shows no signs of apparent distress. He has multiple superficial scratches on his arms and legs, swelling over his left eye, and a 5-mm laceration over the third metacarpophalangeal joint of his right hand with intact sensation and motor function and no active bleeding. There is no appreciable erythema.

Which one of the following would be the most appropriate treatment of his hand injury?

- A) Irrigation of the wound alone
- B) Irrigation of the wound followed by suturing of the laceration
- C) Irrigation of the wound and oral amoxicillin/clavulanate (Augmentin), with follow-up in 24 hours
- D) Intramuscular ceftriaxone, with follow-up in 24 hours
- E) Referral to the hospital for admission and intravenous antibiotics

193. A 39-year-old female presents to your office for evaluation of a left-sided headache. She notes pain in the temporal region and inferior to the zygoma. The pain is constant and dull but worsens with chewing. There is no history of recent trauma. Her past medical history includes fibromyalgia and her only medication is amitriptyline, 25 mg at bedtime. Her vital signs are within normal limits and she is afebrile. On examination you note tenderness to palpation over the temporalis region but no mass or cord. There is no swelling or edema of the head, face, or neck.

Which one of the following is the most likely diagnosis?

- A) Giant cell arteritis
 - B) A salivary stone
 - C) Sinusitis
 - D) Temporomandibular disorder
 - E) Trigeminal neuralgia
194. A 3-year-old female is brought to your office by her mother with a 3-day history of cough, and you diagnose a common cold. The mother asks for a recommendation to relieve the cough.

You tell her that the safest and most effective management for cough would be

- A) honey
 - B) codeine
 - C) dextromethorphan
 - D) diphenhydramine
 - E) ibuprofen
195. Which one of the following types of cardiomyopathy is associated with a systolic murmur on examination that increases in intensity during Valsalva maneuvers?

- A) Dilated
- B) Hypertrophic
- C) Peripartum
- D) Restrictive
- E) Takotsubo

196. Which one of the following patients should undergo screening for vitamin D deficiency?

- A) A 27-year-old male with recurrent major depressive disorder
- B) A 58-year-old male with a glomerular filtration rate of 28 mL/min/1.73 m²
- C) A 69-year-old female with chronic osteoarthritis pain
- D) A 75-year-old female with recurrent falls
- E) An 88-year-old male with severe fatigue

197. A 46-year-old male presents to your office and asks you to screen him for pancreatic cancer. He tells you that his best friend was recently diagnosed with pancreatic cancer at age 45. His friend was previously healthy and had no family history of cancer. The patient is doing well and has no symptoms. He does not have a family history of cancer.

Based on U.S. Preventive Services Task Force recommendations, which one of the following would be most appropriate at this time?

- A) No screening
- B) Ultrasonography of the abdomen
- C) CT of the abdomen without contrast
- D) CT of the abdomen with contrast
- E) MRI of the abdomen

198. A 27-year-old male has noticed some small bumps around the tip of his penis and is concerned that he might have a sexually transmitted infection. An examination reveals a row of approximately 2-mm, dome-shaped, skin-colored papules in a ring-like distribution around the corona of the glans penis.

Which one of the following is the most likely diagnosis?

- A) Angiokeratomas
- B) Genital warts
- C) Lichen nitidus
- D) Pearly papules
- E) Squamous cell carcinoma

199. You diagnose polymyalgia rheumatica in a 63-year-old female and begin treatment with oral prednisone, 20 mg daily. You anticipate several months of treatment with prednisone and plan to taper the dose as tolerated but are concerned about her bone health.

Which one of the following would be most appropriate for helping to prevent osteoporotic fractures in this patient?

- A) A FRAX score based on DXA results now
- B) A FRAX score based on DXA results in 6 months
- C) A calcium intake of 1200 mg daily
- D) Alendronate, 35 mg weekly

200. A previously healthy 62-year-old female presents to your office with a 3-day history of fever and a cough productive of purulent sputum. On examination she has a temperature of 39.2°C (102.6°F), a blood pressure of 110/70 mm Hg, a pulse rate of 92 beats/min, a respiratory rate of 25/min, and an oxygen saturation of 94% on room air. She shows no signs of confusion. An examination is significant for crackles at the right lower lung base and a chest radiograph confirms an infiltrate in the same location.

Which one of the following treatment settings would be most appropriate at this time for this patient's community-acquired pneumonia?

- A) Outpatient
- B) The emergency department
- C) A regular hospital inpatient floor
- D) The intensive-care unit