1. A 25-year-old woman comes to the physician for evaluation 1 week before a scheduled biopsy of a mass in her right breast. As an infant, she had four operations to manage necrotizing enterocolitis. She has no other history of serious illness and takes no medications. She does not smoke cigarettes. She started a new job as a medical assistant 1 month ago. Vital signs are within normal limits. Examination shows a patchy erythematous rash over the hands. There is a 1.5-cm firm, mobile, nontender mass in the upper outer quadrant of the right breast. There is a well-healed upper abdominal midline incision without evidence of hernia. The remainder of the examination shows no abnormalities. Use of which of the following is contraindicated during this patient's operation?

- A) Cotton-containing sponges
- B) Cyanoacrylate topical adhesive
- C) Iodine preparation solution
- D) Latex products
- E) Silk suture

2. A 37-year-old woman comes to the physician because of an itchy rash over her trunk for 2 weeks. She has not had fever, chills, shortness of breath, chest pain, or gastrointestinal symptoms. She has a history of recurrent urinary tract infections and has been taking trimethoprim-sulfamethoxazole prophylaxis for the past year. She is in mild distress. Her temperature is 37.5°C (99.5°F), blood pressure is 96/62 mm Hg, pulse is 78/min, and respirations are 14/min. Examination shows a maculopapular erythematous rash over the trunk. Laboratory studies show:

Leukocyte count	10,500/mm³
Segmented neutrophils	72%
Bands	1%
Eosinophils	15%
Lymphocytes	4%
Monocytes	8%
Serum	
Urea nitrogen	12 mg/dL
Creatinine	0.9 mg/dL
Urine	
WBC	2/hpf
RBC	2/hpf

Which of the following is the most likely cause of these findings?

- A) Eczema
- B) Medication adverse effect
- C) Staphylococcal skin infection
- D) Streptococcal skin infection
- E) Urinary tract infection

3. A 32-year-old woman is brought to the emergency department 30 minutes after a motor vehicle collision. On arrival, she is agitated and has shortness of breath. Her pulse is 130/min, respirations are 30/min, and blood pressure is 100/50 mm Hg. Breath sounds are absent on the right, and heart sounds are normal. An x-ray of the chest shows opacification of the right hemithorax. Which of the following is the most likely diagnosis?

- A) Acute diaphragmatic hernia
- B) Hemothorax
- C) Ruptured bronchus
- D) Simple pneumothorax
- E) Tension pneumothorax

4. An asymptomatic 47-year-old man comes for a preemployment examination. He has never been hospitalized. He is a computer programmer, and he plays handball once weekly. His maternal grandmother had type 2 diabetes mellitus, and a paternal uncle had heart disease. The patient's blood pressure is 126/80 mm Hg. Examination shows no abnormalities. His total serum cholesterol concentration is 225 mg/dL. Which of the following is the most appropriate next step in management?

- A) Step 2 American Heart Association cardiac diet
- B) Serum lipid studies while fasting
- C) Exercise stress test
- D) Oral cholestyramine and niacin therapy
- E) Oral pravastatin therapy at bedtime

5. A 17-year-old boy comes to the physician because of a 2-day history of shortness of breath with minimal exertion, nausea, weakness, and fatigue. He has had urinary frequency and excessive thirst for the past 2 weeks. His father and maternal uncle have type 2 diabetes mellitus. The patient is 173 cm (5 ft 8 in) tall and weighs 66 kg (145 lb); BMI is 22 kg/m². His pulse is 92/min, and blood pressure is 100/60 mm Hg while sitting; his pulse is 124/min, and palpable systolic blood pressure is 80 mm Hg while standing. His respirations are 36/min. Examination shows no other abnormalities. Serum studies show:

Na^+	128 mEq/L
Cl^-	82 mEq/L
K^+	6.2 mEq/L
HCO_3^-	10 mEq/L
Glucose	472 mg/dL
Ketones	positive

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

- A) Inadequate production of insulin
- B) Increased production of ACTH
- C) Increased production of cortisol
- D) Increased production of glucagon
- E) Peripheral resistance to the effects of insulin

6. A 27-year-old woman comes to the physician because of feelings of anxiety about attending her 10-year high school reunion. She has a 2-year history of profound anxiety, palpitations, and sweating associated with an uneasiness around people; she avoids family gatherings and visiting friends because she is afraid of being embarrassed. She acknowledges that this fear is unreasonable. She does not use illicit drugs but says that alcohol makes her more comfortable around people. Her blood pressure is 130/90 mm Hg, and pulse is 88/min. On physical examination, she appears healthy and well nourished. Occasional wheezing is heard over the left lung field. The remainder of the examination shows no abnormalities. On mental status examination, she appears worried. Her leukocyte count is 9000/mm^3 with a normal differential. Which of the following is the most likely diagnosis?

- A) Alcohol abuse
- B) Anxiety disorder due to a general medical condition
- C) Asthma
- D) Generalized anxiety disorder
- E) Panic disorder with agoraphobia
- F) Social phobia

7. An asymptomatic 32-year-old man comes for a routine health maintenance examination. He has a 10-year history of frequent sinus and pulmonary infections. He had an anaphylactic reaction to a blood transfusion following a motor vehicle collision 3 years ago. His temperature is 37°C (98.6°F). Examination shows mild erythema in the posterior pharynx. The lungs are clear to auscultation. A complete blood count and serum protein electrophoresis are within normal limits. Which of the following is the most likely cause of the frequent infections?

- A) Colonization with *Streptococcus pneumoniae*
- B) Common variable immunodeficiency
- C) HIV infection
- D) Selective IgA deficiency
- E) X-linked agammaglobulinemia

8. A 23-year-old woman has pain, cramping, and swelling of the right calf 3 days after an uncomplicated labor and delivery. The right foot is swollen, and there is marked tenderness with dorsiflexion and palpation of the right calf. Examination shows no other abnormalities. A complete blood count and serum electrolyte concentrations are within normal limits. Which of the following is the most likely cause of this condition?

- A) Hypercoagulable state of pregnancy
- B) Hyperuricemia
- C) Peripheral artery aneurysm
- D) Platelet embolus
- E) Prolonged pressure on the vena cava during delivery

9. A 21-year-old college student comes to the physician because of acne that developed 4 days ago while she was taking her medical college admission test. She is concerned about her appearance and plans to be in a wedding in 3 weeks. She has had similar episodes that have resolved completely without treatment. Examination shows acute acne over the face with a predominance of comedones and pustules. There is no evidence of chronic scarring. Which of the following is the most appropriate initial step in treatment?

- A) Dietary restriction of chocolates and simple sugars
- B) Dietary restriction of milk products
- C) Topical acyclovir
- D) Topical hydrocortisone cream
- E) Topical retinoic acid

10. A 5-week-old boy is brought to the physician because of vomiting for 3 days. Switching from a cow's milk-based formula to a soy-based formula and one bottle of an electrolyte solution has not decreased his vomiting. His mother says that there is no yellow color to the vomitus, but it is forceful and occurs immediately after he has had 1 to 2 ounces of liquid. He appears to vomit more liquid than he drank. He has one mustard-colored seedy stool daily. Examination shows no abnormalities. Which of the following is the most likely explanation for his vomiting?

- A) Duodenal atresia
- B) Gastroesophageal reflux
- C) Hypertrophic pyloric stenosis
- D) Lactose intolerance
- E) Protein malabsorption
- F) Rotavirus infection

11. A 62-year-old man has had the gradual onset of fatigue and shortness of breath over the past 3 years. There is striking jugular venous distention with a large wave occurring with S_2. The carotid upstroke is normal. Cardiac examination shows a lifting systolic motion of the sternum and no palpable point of maximal impulse. A grade 3/6, holosystolic, plateau-shaped murmur that is loudest on inspiration is heard at the lower left sternal border. The liver is enlarged and tender, and the abdomen is swollen with a fluid wave. There is marked ankle edema. Which of the following is the most likely cause of the murmur?

- A) Aortic stenosis
- B) Mitral regurgitation
- C) Mitral stenosis
- D) Tricuspid regurgitation
- E) Ventricular septal defect

12. Four weeks after a low transverse cesarean delivery for cephalopelvic disproportion, a 27-year-old woman, gravida 1, para 1, comes to the physician because of a pulling feeling on the right side of her incision for the past 4 days; the feeling is exacerbated by movement. She was discharged on postoperative day 3. Within the past 2 weeks, she has initiated an exercise regimen to get back into shape and has resumed sexual activity. She has been breast-feeding and plans to continue for another month. She is 168 cm (5 ft 6 in) tall and weighs 82 kg (180 lb); BMI is 29 kg/m². Her temperature is 37°C (98.6°F). Examination shows breast engorgement. The abdomen is soft and nontender without rebound in the right and left upper quadrants. There is mild tenderness to deep palpation just lateral to the right and left aspects of the abdominal incision. The surgical wound is clean, dry, and intact. The uterus is nontender on bimanual examination. Which of the following is the most appropriate next step in management?

- A) Reassurance
- B) Discontinuation of breast-feeding
- C) Ultrasonography of the incision site
- D) MRI of the pelvis
- E) Intravenous heparin therapy
- F) Oral broad-spectrum antibiotic therapy

13. A 62-year-old woman comes to the physician because of generalized weakness for 2 weeks. She has a 20-year history of arthritis of the hands treated with aspirin and acetaminophen. She had two episodes of urinary tract infections 5 and 11 years ago, respectively. Examination shows no abnormalities except for Heberden's nodes on the hands. Laboratory studies show:

Erythrocyte sedimentation rate	15 mm/h
Serum	
Na^+	136 mEq/L
Cl^-	100 mEq/L
K^+	4.9 mEq/L
HCO_3^-	20 mEq/L
Urea nitrogen	41 mg/dL
Creatinine	4 mg/dL
Urine	
Protein	1+
WBC	2–4/hpf
RBC	none
Bacteria	none
Squamous epithelial cells	occasional
Granular casts	occasional

Renal ultrasonography shows no abnormalities. Which of the following is most likely to have prevented this condition?

- A) Periodic PPD skin testing
- B) Screening for autoimmune causes of glomerulonephritis
- C) Periodic renal ultrasonography
- D) Avoidance of analgesics
- E) Suppressive antibiotic therapy for treatment of urinary tract infections

14. After an uncomplicated laparoscopic cholecystectomy, a 62-year-old man has not had any urine output since the Foley catheter was removed 12 hours ago. During the hour before the operation, the 40 minutes of operating room time, and the 2 hours in the recovery room, his fluid input was 2.5 L and urine output was 1 L. Since that time, he has been receiving intravenous 5% dextrose in water with 0.45% saline and morphine. He is awake and alert and has a moderate amount of abdominal pain. Preoperative serum studies showed:

Na^+	137 mEq/L
K^+	4.2 mEq/L
Urea nitrogen	18 mg/dL
Creatinine	1.2 mg/dL

One hour after receiving an intravenous bolus of 0.9% saline, the patient does not produce any urine. Which of the following is the most appropriate next step in management?

- A) Increase in the dose of morphine
- B) Intravenous administration of an additional bolus of 0.9% saline
- C) Intravenous administration of doxazosin
- D) Intravenous administration of furosemide
- E) Reinsertion of a Foley catheter

15. A 67-year-old man is brought to the emergency department 4 hours after the onset of severe midlumbar back pain. He is anxious, pale, and diaphoretic. His temperature is 37.1°C (98.8°F), blood pressure is 105/65 mm Hg, and pulse is 120/min. Examination shows no other abnormalities. X-rays of the lumbar spine show degenerative disc disease with calcifications anterior to the vertebral bodies. Which of the following is the most likely diagnosis?

- A) Aortoiliac occlusion
- B) Herniated nucleus pulposus
- C) Lumbar discitis
- D) Lumbar strain
- E) Pyelonephritis
- F) Ruptured aortic aneurysm
- G) Spinal stenosis

16. A 35-year-old man is brought to the emergency department because of intractable nausea and vomiting of nonbilious fluid over the past 48 hours. He has a history of duodenal ulcer disease treated with H_2-receptor blocking agents. His temperature is 37°C (98.6°F), blood pressure is 90/60 mm Hg, pulse is 130/min, and respirations are 10/min. Examination shows mild epigastric tenderness. Which of the following are the most likely serum electrolyte findings?

	Na^+ (mEq/L)	Cl^- (mEq/L)	K^+ (mEq/L)	HCO_3^- (mEq/L)
○ A)	115	80	4.0	25
○ B)	140	80	2.5	40
○ C)	145	100	5.0	15
○ D)	150	105	2.5	25
○ E)	160	135	5.0	25

Question | Media Player

The item has associated media that may require the use of headphones

17. A previously healthy 4-year-old boy is brought to the physician because of a 3-day history of fever, cough, and runny nose. He has not had wheezing, vomiting, or diarrhea. He is at the 75th percentile for height and 10th percentile for weight. His temperature is 37.5°C (99.5°F). The skin is warm and pink. Capillary refill time is 2 seconds. Examination shows clear rhinorrhea. Breath sounds are normal. To view the cardiac examination, click the "Media Player" tab. The remainder of the examination shows no abnormalities. Which of the following is the most likely diagnosis?

- A) Congestive heart failure
- B) Idiopathic pulmonary hypertension
- C) Pericarditis
- D) Upper respiratory tract infection
- E) Ventricular septal defect

18. An 8-year-old girl with type 1 diabetes mellitus is brought to the emergency department 10 minutes after being involved in a motor vehicle collision. She was in the back seat of a small automobile that was rear-ended. Initially, she was alert during transport and reported bilateral thigh pain, but then she stopped talking, closed her eyes, and became unresponsive to voice; on arrival, she responds to noxious stimuli with brief grimaces and no withdrawal. Her blood pressure is 40/palpable mm Hg, pulse is 148/min, and respirations are 28/min. Air entry is symmetric. The pupils are equal and react to light. No cardiac murmur is heard. The abdomen is soft. There is swelling of the upper portions of both thighs. Her hematocrit is 37%. Which of the following is the most appropriate next step in management?

- A) Measurement of arterial blood gases
- B) X-ray of the chest
- C) CT scan of the head
- D) Administration of 50% dextrose in water
- E) Infusion of 0.9% saline

19. A 13-year-old girl is brought for a well-child examination. Menses have occurred every other month since menarche 10 months ago. Her last menstrual period was 1 week ago. She is not sexually active. Sexual development is Tanner stage 3. Examination shows no abnormalities. Which of the following is the most appropriate next step in management?

- A) Discussion of pregnancy prevention
- B) Measurement of serum luteinizing and follicle-stimulating hormone concentrations
- C) Urine β-hCG test
- D) Pelvic examination
- E) Estrogen therapy
- F) Diagnostic laparoscopy

20. A 32-year-old woman, gravida 2, para 2, comes to the physician because she has been amenorrheic for 4 months. Examination shows a well-estrogenized vagina and no evidence of virilization or other abnormalities. A serum pregnancy test is negative. She is given medroxyprogesterone and has the onset of bleeding 3 days later. Which of the following is the most likely cause of her condition?

- A) Anovulation
- B) Asherman's syndrome
- C) Hypopituitarism
- D) Menopause
- E) Premature ovarian failure

21. A healthy 21-year-old college student comes for an annual health maintenance examination. She has never been sexually active. She does not smoke or use drugs. She drinks one to two beers each weekend. Two years ago, her mother underwent a mastectomy for breast cancer at the age of 54 years. The patient is 165 cm (5 ft 5 in) tall and weighs 57 kg (125 lb); BMI is 21 kg/m^2. Examination shows no abnormalities. Which of the following is the most appropriate screening test for this patient?

- A) Pap smear
- B) PPD skin test
- C) Test of the stool for occult blood
- D) Complete blood count
- E) Urinalysis
- F) Baseline mammography

22. A previously healthy 52-year-old man comes to the emergency department because of hiccups for 1 week. He has smoked two packs of cigarettes daily for 30 years. He does not drink alcohol. He is alert and oriented. His temperature is 37°C (98.6°F), blood pressure is 150/95 mm Hg, pulse is 70/min, and respirations are 12/min. Physical and neurologic examinations show no abnormalities. His serum sodium concentration is 120 mEq/L. An x-ray of the chest shows a right hilar mass. Which of the following is the most appropriate next step in treatment?

- A) Bisphosphonate therapy
- B) Calcitonin therapy
- C) Calcium therapy
- D) Dexamethasone therapy
- E) 5% Dextrose in 0.225% saline therapy
- F) 5% Dextrose in 0.45% saline therapy
- G) 5% Dextrose in water therapy
- H) Fluid restriction
- I) Hydrocortisone therapy
- J) Lactated Ringer's solution
- K) Mannitol therapy
- L) Potassium therapy
- M) 0.9% Saline therapy
- N) 3% Saline therapy
- O) Sodium bicarbonate therapy

23. A 22-year-old woman comes to the physician for a health maintenance examination before beginning nursing school. She has no history of serious illness. Her medications are loratadine for seasonal allergies and an oral contraceptive. She received the three-dose series for hepatitis B vaccine 3 years ago. Her measles-mumps-rubella and tetanus-diphtheria-acellular pertussis immunizations are up-to-date. She had chickenpox 17 years ago. She does not smoke cigarettes. She drinks up to four glasses of wine weekly. Examination shows no abnormalities. Serum studies show:

Hepatitis A IgG	positive
Hepatitis A IgM	negative
HBsAg	negative
HBsAb	negative
Hepatitis B core antibody	negative
Hepatitis C antibody	negative

Which of the following is the most appropriate next step in management?

- A) Complete blood count with differential
- B) Measurement of serum α-fetoprotein concentration
- C) Ultrasonography of the abdomen
- D) Administration of hepatitis A vaccine
- E) Administration of hepatitis B vaccine
- F) No intervention is indicated at this time

24. A previously healthy 16-year-old boy is brought to the emergency department 20 minutes after an episode of left arm shaking that lasted approximately 3 minutes. Over the past 2 days, he has had fever and emotional lability. On arrival, his temperature is 38.9°C (102°F). He is somnolent and disoriented to person, place, and time. He responds poorly to pain. Neurologic examination shows no other abnormalities. Laboratory studies show:

Hematocrit	34%
Leukocyte count	6000/mm³
Segmented neutrophils	50%
Lymphocytes	50%
Platelet count	280,000/mm³

Analysis of cerebrospinal fluid shows:

Leukocyte count	120/mm³
Segmented neutrophils	20%
Lymphocytes	80%
Erythrocyte count	300/mm³
Glucose	60 mg/dL
Protein	400 mg/dL

Which of the following is the most likely cause of this patient's neurologic findings?

- A) Bacterial infection
- B) Congenital malformation
- C) Fungal infection
- D) Hemorrhage
- E) Immune-mediated demyelination
- F) Parasitic infection
- G) Viral infection

25. A 27-year-old woman comes to the physician because of a 2-year history of intermittent diarrhea and severe cramping abdominal pain. The stools are watery, occasionally foul-smelling, and nonbloody. She is currently pain-free and has not had diarrhea for 2 days. She also has intermittent constipation. She has not had fever or weight loss. She returned from a trip to Mexico 3 months ago. She had an appendectomy at the age of 12 years and a cesarean delivery 4 years ago. Examination shows no abnormalities. Which of the following is the most likely diagnosis?

- A) Bacterial gastroenteritis
- B) Crohn's disease
- C) Intermittent small-bowel obstruction
- D) Irritable bowel syndrome
- E) Laxative abuse

26. A 24-year-old woman comes to the physician because of constant, severe pain in her neck, shoulders, and back for 3 months. She has been unable to enjoy her usual activities because of the pain. Use of over-the-counter ibuprofen and aspirin has not relieved her symptoms. She has a history of irritable bowel syndrome. Examination shows multiple tender spots over the neck, shoulders, and lumbar spine. Range of motion of all joints is full. There is no evidence of synovitis. Fluorescent serum antinuclear antibody and rheumatoid factor assays are negative. Which of the following is the most likely diagnosis?

- A) Ankylosing spondylitis
- B) Fibromyalgia
- C) Polymyalgia rheumatica
- D) Polymyositis
- E) Seronegative rheumatoid arthritis

27. Five weeks after vaginal delivery of a healthy full-term newborn, a 22-year-old woman, gravida 1, para 1, is brought to the physician by her mother because of depressed mood for 2 weeks. Her mother is concerned that her daughter is not able to take care of her infant. Physical examination shows no abnormalities. She is quiet and tearful and does not engage in conversation easily. She states that she lives alone with her infant and has had thoughts of suicide and infanticide. Which of the following is the most appropriate next step in management?

- A) Reassurance
- B) Long-term outpatient counseling
- C) Antipsychotic therapy
- D) Selective serotonin reuptake inhibitor therapy
- E) Admission to the hospital for treatment

28. A 7-year-old girl is brought to the physician in September because of fever and sore throat for 1 day. She is in the third week of second grade. Her temperature is 38.6°C (101.5°F). Examination shows an erythematous pharynx and slightly enlarged tonsils without exudate. There is no significant cervical lymphadenopathy. A rapid test for group A streptococcus is negative. Which of the following is the most appropriate next step in management?

- A) Monospot test
- B) Throat culture
- C) Intramuscular penicillin therapy
- D) Oral erythromycin therapy
- E) Oral penicillin therapy

29. A previously healthy 4-year-old girl is brought to the physician because of fever and refusal to walk for 1 day. She appears mildly ill. Her temperature is 38.6°C (101.5°F), pulse is 120/min, and respirations are 22/min. The right knee is erythematous and swollen. She holds her right knee in flexion and resists any attempted movement of her right leg. She cries when the right knee is moved. Which of the following is the most appropriate next step in management?

- A) Acetaminophen with codeine therapy
- B) Arthrocentesis
- C) Bone marrow aspiration
- D) Bone scan
- E) Immobilization and traction
- F) Lyme titer
- G) MRI of the spine
- H) Physical therapy
- I) Reassurance
- J) Serum rheumatoid factor assay
- K) Systemic antibiotic therapy

30. A 52-year-old woman comes to the physician because of difficulty sleeping through the night and concentrating during the day since her son graduated from high school 2 months ago. At that time, she and her husband found a comment in their son's yearbook implying that he is gay. They were upset and confronted their son. He confirmed that he is gay and said he was surprised that they did not know. Since then, she has had constant scenarios running through her mind that involve her son and his friends. She occasionally feels short of breath and senses that her heart is racing. She has taken a 2-week leave of absence from her job, and she avoids talking to family members. She says that she still enjoys going out with her husband but starts to feel anxious when she is alone. She has no history of serious illness and takes no medications. She drinks a glass of wine with dinner most evenings. Physical examination shows no abnormalities. On mental status examination, she appears mildly anxious. Her thought process is logical and goal directed. She is preoccupied with her son's well-being. Which of the following is the most likely diagnosis?

- A) Acute stress disorder
- B) Adjustment disorder with anxiety
- C) Generalized anxiety disorder
- D) Panic disorder
- E) Post-traumatic stress disorder
- F) Primary insomnia

The response options for the next **2** items are the same. Select one answer for each item in the set.

For each patient with papilledema, select the most likely diagnosis.

- A) Bacterial meningitis
- B) Cerebral infarction
- C) Cryptococcal meningitis
- D) Glioblastoma multiforme
- E) Herpes simplex encephalitis
- F) Hypertensive encephalopathy
- G) Idiopathic intracranial hypertension
- H) Intracerebral hemorrhage
- I) St. Louis encephalitis

31. A 25-year-old woman comes to the emergency department because of increasingly severe bifrontal headaches over the past 6 months. During this period, she has had transient episodes of blindness lasting 1 to 2 seconds. She has not had nausea or vomiting. She has a long-standing history of difficulty losing weight. She currently weighs 113 kg (250 lb) and is 152 cm (60 in) tall. Her blood pressure is 120/80 mm Hg. Visual field testing shows enlarged blind spots. The remainder of the neurologic examination shows normal findings. A CT scan of the head with and without contrast shows no abnormalities. Examination of the cerebrospinal fluid shows:

Opening pressure	300 mm H_2O
Glucose	70 mg/dL
Protein	25 mg/dL
WBC	1/mm^3
RBC	0/mm^3

Gram stain and cultures are negative.

For each patient with papilledema, select the most likely diagnosis.

- A) Bacterial meningitis
- B) Cerebral infarction
- C) Cryptococcal meningitis
- D) Glioblastoma multiforme
- E) Herpes simplex encephalitis
- F) Hypertensive encephalopathy
- G) Idiopathic intracranial hypertension
- H) Intracerebral hemorrhage
- I) St. Louis encephalitis

32. A 25-year-old man with a history of intravenous drug use comes to the emergency department because of a progressive diffuse headache, generalized malaise, and low-grade fever for 2 months. During this period, he has had a poor appetite resulting in a 6.8-kg (15-lb) weight loss. His temperature is 38°C (100.4°F). Examination shows neck stiffness. Mental status examination shows no abnormalities. Cranial nerve examination shows weakness of the lateral rectus muscle on the right and bilateral papilledema. A CT scan of the head with and without contrast shows moderate ventricular enlargement. Examination of cerebrospinal fluid shows:

Opening pressure	220 mm H_2O
Glucose	35 mg/dL
Protein	150 mg/dL
WBC	100/mm^3
Lymphocytes	100%
RBC	1/mm^3

33. A 52-year-old Cantonese woman comes to the physician with her husband and brother for a follow-up visit 7 days after she underwent removal of a 10-cm complex, solid, cystic adnexal mass. The patient insists that the physician disclose the results only to her husband and not to her or to other family members. Which of the following is the most appropriate course of action?

- A) Consult the hospital ethics committee
- B) Contact the hospital attorney
- C) Share the results with the husband only
- D) Share the results with the patient only
- E) Obtain a psychiatric evaluation of the patient

34. A 42-year-old woman comes to the physician because of a 3-month history of a recurrent vivid dream that several men are assaulting her and her children. Upon awakening, she is anxious and distressed by the frightening images. She realizes that it is just a dream but is afraid to go back to sleep. She does not know why she is having this particular dream because she has never been the victim of an assault. She drinks two to three cups of coffee each morning. She does not use illicit drugs. Physical examination shows no abnormalities. There is no evidence of depressed mood or hallucinations. Laboratory studies are within normal limits. Which of the following is the most likely diagnosis?

- A) Acute stress disorder
- B) Nightmare disorder
- C) Panic disorder
- D) Sleep apnea
- E) Sleep terror disorder

The response options for the next **2** items are the same. Select one answer for each item in the set.

For each patient with urinary incontinence, select the most likely cause.

- A) Detrusor instability
- B) Interstitial cystitis
- C) Overflow incontinence
- D) Stress incontinence
- E) Urethra diverticulum
- F) Urinary fistula

35. A previously healthy 44-year-old woman, gravida 4, para 4, comes to the physician because of a 9-month history of progressive loss of small amounts of urine while running; she now has to wear an absorbent pad. Examination shows a second-degree cystourethrocele.

For each patient with urinary incontinence, select the most likely cause.

- A) Detrusor instability
- B) Interstitial cystitis
- C) Overflow incontinence
- D) Stress incontinence
- E) Urethra diverticulum
- F) Urinary fistula

36. One day after an uncomplicated spontaneous vaginal delivery, a 23-year-old woman, gravida 1, para 1, has the onset of loss of small amounts of urine. She received epidural anesthesia during labor and delivery. Examination shows an episiotomy without evidence of hematoma. She is voiding 50 to 75 mL of urine at a time. Postvoid residual volume is 300 mL.

37. A 62-year-old woman is admitted to the hospital because of a 3-day history of progressive shortness of breath and cough productive of yellow sputum. She has a 7-year history of chronic obstructive pulmonary disease treated with albuterol and ipratropium inhalers. Increased use of the inhalers has not relieved her symptoms. On admission, her temperature is 37.2°C (99°F), pulse is 96/min, respirations are 28/min, and blood pressure is 158/80 mm Hg. Pulse oximetry on room air shows an oxygen saturation of 90%. Breath sounds are decreased, and diffuse wheezes are heard bilaterally. Laboratory studies show:

Leukocyte count	9500/mm³
Segmented neutrophils	72%
Eosinophils	1%
Lymphocytes	22%
Monocytes	5%

An x-ray of the chest shows no abnormalities. Treatment with nebulized ipratropium and albuterol and intravenous methylprednisolone is begun. Two days later, she feels well. Her pulse is 86/min, respirations are 18/min, and blood pressure is 135/80 mm Hg. Air movement is good, and occasional wheezes are heard. Laboratory studies today show:

Leukocyte count	18,500/mm³
Segmented neutrophils	80%
Bands	5%
Lymphocytes	10%
Monocytes	5%

Which of the following is the most likely mechanism of this patient's increased leukocyte count?

- A) Differentiation of plasma cells to segmented neutrophils
- B) Endotoxin-mediated release of interleukin-1 and tumor necrosis factor
- C) Glucocorticoid-induced demargination and storage pool release of segmented neutrophils
- D) Increased epinephrine from stress of occult infectious process
- E) Overproduction of granulocyte-macrophage colony-stimulating factor

38. A 3-month-old boy is brought for a well-child examination. He has poor head control. Examination shows generalized hypotonia. The point of maximal impulse is at the left anterior axillary line. The liver edge is palpated 4 cm below the right costal margin. The spleen is not palpable. Which of the following is the most likely diagnosis?

- A) Congenital muscular dystrophy
- B) Glycogen storage disease, type II (Pompe's disease)
- C) GM_1 gangliosidosis
- D) Infant botulism
- E) Ventricular septal defect

39. A 5-month-old boy is brought for a follow-up examination. He was born at 37 weeks' gestation and has had persistent wheezing since shortly after birth despite treatment with nebulized and oral bronchodilators and oral corticosteroids. His diet consists of 32 ounces of iron-fortified cow's milk-based formula daily. He appears well nourished and happy. On examination, there is moderate relief of wheezing with extension of the neck. Which of the following is the most likely mechanism of this infant's wheezing?

- A) Allergic reaction to cow's milk
- B) Aspiration of a foreign body
- C) Compression of the airway by a vascular ring
- D) Concurrent upper respiratory tract infection
- E) Persistent immaturity of lungs

40. A 14-year-old boy is brought to the physician by his parents because of a 2-year history of increasing academic problems. His parents say that he has always been hyperactive and distractible, but now his academic performance has deteriorated to the point that he is failing ninth grade. His teachers say that his hyperactivity is disrupting the classroom. He weighs 54 kg (120 lb) and is 152 cm (60 in) tall. Sexual development is Tanner stage 5; examination shows macro-orchidism, which was not shown on previous examinations. He has a high forehead and long, protruding ears. He exhibits poor eye contact during the examination. Psychoeducational testing shows an IQ of 70. Which of the following is the most likely diagnosis?

- A) Attention-deficit/hyperactivity disorder
- B) Autistic disorder
- C) Down syndrome
- D) Fetal alcohol syndrome
- E) Fragile X syndrome
- F) Lesch-Nyhan syndrome
- G) Pervasive developmental disorder, not otherwise specified
- H) Prader-Willi syndrome
- I) Rett's disorder
- J) Seminiferous tubule dysgenesis (Klinefelter's syndrome)

41. A 57-year-old woman with breast cancer comes to the physician because of increasing neck pain over the past 3 days. She has fallen frequently because of muscle weakness. Vital signs are within normal limits. Examination shows hyperreflexia of all extremities. There is tenderness over the cervical spine. Serum calcium concentration is 11 mg/dL. X-rays show metastases to the cervical spine. Which of the following is the most appropriate next step in management?

- A) Application of a soft cervical collar
- B) Physical therapy
- C) Mithramycin therapy
- D) Tamoxifen therapy
- E) Spinal cord decompression and cervical stabilization

42. A 37-year-old man is brought to the emergency department 6 hours after the onset of constant, increasingly severe abdominal pain and nausea. His symptoms awoke him from sleep, and he has vomited once since that time. He has no history of similar symptoms, and he does not take any medications or use alcohol or illicit drugs. Family history is noncontributory. He is in acute distress and lying in the fetal position. Any movement exacerbates the pain. His temperature is 37.8°C (100°F), blood pressure is 108/68 mm Hg, pulse is 112/min, and respirations are 24/min. The lungs are clear to percussion and auscultation. Examination shows a rigid abdomen; bowel sounds are absent. Laboratory studies show:

Hemoglobin	14 g/dL
Leukocyte count	18,200/mm^3
Platelet count	150,000/mm^3
Serum	
Urea nitrogen	34 mg/dL
Creatinine	1.9 mg/dL
Total bilirubin	1.2 mg/dL

An x-ray of the chest shows a small amount of free air under the left diaphragm. Administration of antibiotics and fluids is begun. Which of the following is the most appropriate next step in management?

- A) Barium swallow
- B) CT scan of the abdomen
- C) Intravenous administration of an H_2-receptor blocking agent
- D) Upper endoscopy
- E) Laparotomy

43. A 67-year-old woman has had anorexia, fatigue, and weakness for 4 months and low back pain for 3 months that has been unresponsive to therapy with nonsteroidal anti-inflammatory drugs. She has been treated for hypertension for 5 years but does not remember the name of her medication. The patient has been taking calcium supplements for 5 years because her mother had severe osteoporosis. She appears pale. There is tenderness to palpation over the lumbar spine. An x-ray of the lumbar spine shows lytic changes. A bone scan shows increased uptake in the right hip consistent with osteoporosis. Her hemoglobin concentration is 8 g/dL, and serum calcium concentration is 13 mg/dL. A blood smear shows rouleaux formation. Which of the following is the most likely diagnosis?

- A) Familial hypocalciuric hypercalcemia
- B) Metastatic malignancy
- C) Multiple myeloma
- D) Osteitis deformans (Paget disease)
- E) Primary hyperparathyroidism
- F) Squamous cell carcinoma
- G) Vitamin A toxicity
- H) Vitamin D toxicity

44. An 87-year-old nursing home resident with dementia, Alzheimer's type, is admitted to the hospital because of progressive lethargy and decreased appetite for 3 days. She had a flu-like illness followed by a deep cough 1 week ago. Over the past 10 months, she has been hospitalized once for bacterial pneumonia. She is responsive only to painful stimuli. Her temperature is 38.6°C (101.5°F), blood pressure is 110/60 mm Hg, pulse is 123/min and regular, and respirations are 28/min. Examination shows dry mucous membranes. There is no adenopathy. Crackles are heard in the right lung base. An x-ray of the chest shows an infiltrate at the right lung base. The remainder of the examination shows no abnormalities. Which of the following is the most likely predisposing factor for this patient's pneumonia?

- A) Decreased airway elasticity
- B) Decreased baroreflex
- C) Decreased gag reflex
- D) Decreased thyroid function
- E) Diastolic cardiac dysfunction
- F) Impaired cardiac response to exercise
- G) Impaired T-lymphocyte function
- H) Impaired thirst
- I) Increased lung compliance
- J) Renal salt wasting

45. A 42-year-old man comes to the physician because of progressive swelling of the legs over the past 2 months. He has a history of stage IIA Hodgkin's disease treated 1 year ago with radiation therapy to the neck and chest. His temperature is 37°C (98.6°F), blood pressure is 102/80 mm Hg, pulse is 110/min, and respirations are 22/min. Examination shows jugular venous distention that increases with inspiration. The lungs are clear to auscultation. Cardiac examination shows a nondisplaced point of maximal impulse; heart sounds are distant. An early diastolic sound is heard at the apex. Abdominal examination shows mild distention with shifting dullness. The liver is pulsatile, and its edge is palpated 4 cm below the right costal margin. There is 2+ peripheral edema extending up to the knees. Which of the following is the most likely mechanism of this patient's increased central venous pressure?

- A) Constrictive pericarditis
- B) Cor pulmonale
- C) Left-sided congestive heart failure
- D) Mitral stenosis
- E) Tricuspid stenosis

46. A 20-year-old man is brought to the emergency department on a summer day 20 minutes after developing headache, nausea, and unsteady gait while running the last 2 miles of a marathon. On arrival, he is confused and disoriented. His temperature is 40°C (104°F), blood pressure is 100/60 mm Hg, and pulse is 155/min. His skin is warm and dry. Neurologic examination shows no focal findings. Which of the following is the most likely mechanism of this patient's condition?

- A) Depletion of total body potassium
- B) Depletion of total body sodium
- C) High-output cardiac failure
- D) Inadequate dissipation of body heat
- E) Release of creatine kinase from muscle cells