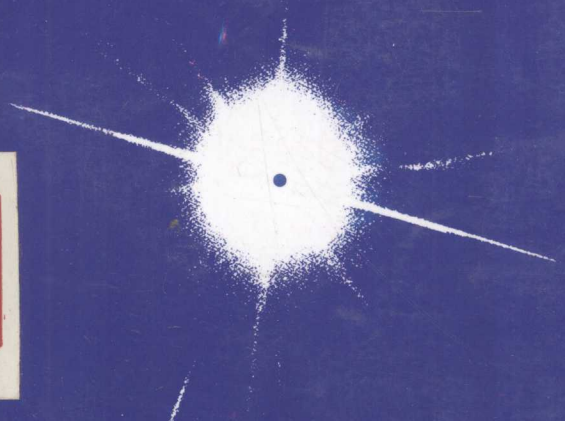
PreTest®
Self-Assessment
and Review

14th EDITION

Harrison's PRINCIPLES of INTERNAL MEDICINE

哈氏内科基础
—自测复习



Richard M. Stone

世界图书出版公司

Harrison's

PRINCIPLES OF INTERNAL MEDICINE

PreTest® Self Assessment and Review

FOURTEENTH EDITION

For use with the 14th edition of
HARRISON'S PRINCIPLES OF INTERNAL MEDICINE

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Harrison's Principles of Internal Medicine
——Pretest Self Assessment and Review
哈氏内科基础自测复习

by Stone

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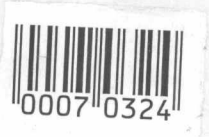

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NOTICE

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INTRODUCTION

Harrison's Principles of Internal Medicine: PreTest Self-Assessment and Review has been designed to provide physicians with a comprehensive, relevant, and convenient instrument for self-evaluation and review within the broad area of internal medicine. Although it should be particularly helpful for residents preparing for the American Board of Internal Medicine (ABIM) certification examination and for board-certified internists preparing for recertification, it should also be useful for internists, family practitioners, and other practicing physicans who are simply interested in maintaining a high level of competence in internal medicine. Study of this self-assessment and review book should help to (1) identify areas of relative weakness; (2) confirm areas of expertise; (3) assess knowledge of the sciences fundamental to internal medicine; (4) assess clinical judgment and problem-solving skills; and (5) introduce recent developments in general internal medicine.

This book consists of 823 multiple-choice questions that (1) are representative of the major areas covered in *Harrison's Principles of Internal Medicine,* 14th ed., and (2) parallel the format and degree of difficulty of the questions on the examination of the ABIM. Questions have been appropriately updated and chosen to reflect important recent developments in internal medicine, such as the increasing contributions of molecular biology to the understanding, diagnosis, and treatment of many disorders. Five experts in specific fields have contributed new and revised questions. Each question is accompanied by an answer, a paragraph-length explanation, and a reference to a specific chapter in *Harrison's.* In some cases references to more specialized textbooks and current journal articles are also given. A list of normal values used in the laboratory studies in this book can be found in the Appendix, followed by a Bibliography listing all the sources used for the questions. As in the current edition of *Harrison's,* the system of international units (SI) appears first in the text and the traditional units follow in parentheses. All color plates referred to in the text are found at the back of the book.

We have assumed that the time available to the reader is limited; therefore, this book has been designed to be used profitably a chapter at a time. By allowing no more than two and a half minutes to answer each question, you can simulate the time constraints of the actual board examinations. When you finish answering all the questions in a chapter, spend as much time as necessary verifying answers and carefully reading the accompanying explanations. If after reading the explanations for a given chapter, you feel a need for a more extensive and definitive discussion, consult the chapter in *Harrison's* or any of the other references listed.

Based on our testing experience, on most medical examinations, examinees who answer half the questions correctly would score around the 50th or 60th percentile. A score of 65 percent would place the examinee above the 80th percentile, whereas a score of 30 percent would rank him or her below the 15th percentile. In other words, if you answer fewer than 30 percent of the questions in a chapter correctly, you are relatively weak in that area. A score of 50 percent would be approximately average, and 70 percent or higher would probably be honors.

We have used three basic question types in accordance with the format of the ABIM certification and recertification examinations. In accordance with the changing format of these examinations, the number of matching and true/false questions has been reduced in this edition. Considerable editorial time has been spent trying to ensure that each question is clearly stated and discriminates between those physicians who are well prepared in the subject and those who are less knowledgeable.

This book is a teaching device that provides readers with the opportunity to evaluate and update their clinical expertise, their ability to interpret data, and their ability to diagnose and solve clinical problems.

Harrison's

PRINCIPLES OF INTERNAL MEDICINE

PRETEST® SELF-ASSESSMENT AND REVIEW

I. INFECTIOUS DISEASES

QUESTIONS

DIRECTIONS: Each question below contains five suggested responses. Choose the **one best** response to each question.

I-1. A 21-year-old female with relapsed acute lymphoblastic leukemia is treated with a five-drug induction regimen (cyclophosphamide, daunorubicin, vincristine, prednisone, and L-asparaginase). On the sixth day after the initiation of this therapy the patient develops a fever and is started on intravenous ceftazidime. The patient defervesces but develops another fever 5 days later and is started on amphotericin B. Ten days later the patient, still on oral steroids, remains febrile, neutropenic, and thrombocytopenic and is noted to have shortness of breath. Chest x-rays show a densely consolidated pulmonary infiltrate in the left lung zone. A sputum culture demonstrates normal oral flora and several colonies of *Aspergillus*. The most appropriate conclusion to draw is that

(A) the patient most likely has invasive pulmonary aspergilliosis
(B) the *Aspergillus* is a contaminant; the patient most likely has bacterial pneumonia
(C) biopsy is not required for a definitive diagnosis
(D) the patient most likely has viral pneumonitis
(E) the patient is colonized with *Aspergillus*, but the most likely etiology of the infiltrate is drug toxicity

I-2. A 28-year-old Egyptian farmer presents with left flank pain. Ultrasonography reveals enlargement of the left ureter and hydronephrosis of the left kidney. Cystoscopy reveals a mass extending from the left ureter into the bladder. Parasitic ova (150 by 50 mm) are noted in the urine and in a biopsy of the ureteral mass. Which of the following statements is correct?

(A) Renal failure is likely in the absence of treatment
(B) The lesion is not reversible by chemotherapy
(C) In the absence of treatment, the patient has an increased risk for transitional cell carcinoma of the bladder
(D) The patient is suffering from schistosomiasis
(E) The organism causing this problem is spread by fecal-oral contact

I-3. A 30-year-old homosexual male with known HIV infection and a CD4+ count of 200/μL presents for advice regarding an upcoming trip to Peru. Each of the following statements represents sound advice EXCEPT

(A) the patient should determine if Peru routinely denies entry to HIV-positive individuals
(B) the patient should receive pneumococcal polysaccharide and influenza vaccine
(C) the patient should not receive yellow fever vaccine
(D) no vaccines should be given because of the increased risk of HIV viremia after vaccination
(E) prophylaxis against traveler's diarrhea using bismuth subsalicylate is recommended

I-4. Which of the following patients would be most likely to harbor a *Helicobacter pylori* infection in the stomach?

(A) A 60-year-old middle-income American
(B) A 25-year-old American in a low-income group
(C) A 60-year-old Pakistani
(D) A 25-year-old Zairian
(E) A 70-year-old Dane

I-5. A 55-year-old woman from Oregon presents with diplopia 24 h after eating home-canned fruit. Within a few hours of presentation she is also noted to have dysphonia and arm weakness. Other symptoms include nausea, vomiting, dizziness, blurred vision, and dry mouth. The patient is afebrile, alert, and oriented. Which of the following is LEAST important in managing this patient's illness?

(A) Intravenous penicillin
(B) Spirometric monitoring
(C) Antitoxin therapy
(D) Laxatives
(E) Enema

I-6. Each of the following is a risk factor for the development of pneumonia in a hospitalized patient EXCEPT

(A) altered consciousness
(B) administration of ranitidine
(C) administration of sucralfate
(D) use of an endotracheal tube
(E) delayed gastric emptying

I-7. A 35-year-old male patient undergoing initial therapy for acute myeloid leukemia has tolerated the chemotherapy well. However, 6 days after the initiation of chemotherapy and approximately 10 days after the insertion of an indwelling transthoracic intravenous device (Hickman catheter), he develops a fever. Examination is negative except for erythema and tenderness at the insertion site and along the subcutaneous tunnel. Blood cultures and chest x-ray are negative. The most appropriate course of action at this point is to

(A) remove the line and insert a new one over a guidewire
(B) begin intravenous vancomycin
(C) begin intravenous vancomycin and gentamycin
(D) remove the line
(E) begin intravenous vancomycin, gentamycin, and amphotericin B

I-8. A 70-year-old male with a history of heavy smoking and moderately severe chronic obstructive pulmonary disease has been feeling poorly. He reports cough, chills, pleuritic chest pain, and low-grade fever. Chest x-ray reveals a small dense infiltrate in the right lower lobe. Gram's stain of the patient's sputum reveals numerous gram-negative cocci, many of which occur in pairs. The most appropriate therapy would be

(A) no antimicrobial therapy is required
(B) tetracycline
(C) ciprofloxacin
(D) trimethoprim-sulfamethoxazole
(E) penicillin-clavulanic acid

I-9. All the following statements regarding infection with *Shigella* are correct EXCEPT

(A) ingestion of significant numbers of *Shigella* is required for infection because of the relative inability of *Shigella* to survive the acidic conditions of the stomach
(B) examination of the stool from an infected patient will reveal polymorphonuclear leukocytes
(C) the hemolytic uremic syndrome may be associated with infection
(D) although the *Shigella* organisms are directly invasive, the colonic pathology also can be accounted for on the basis of toxin elaboration
(E) antibiotic treatment usually is unnecessary

A 35-year-old male with a history of abrasion of the right hand presents with acute pain in the right shoulder. His physical examination reveals a temperature of 103°F and rigor, and he appears to be quite ill. There is dusky erythema and edema of the right shoulder and right upper extremity with marked tenderness. Within a few hours the patient is unresponsive and is found to be hypotensive. Laboratory evaluation reveals an elevated serum creatinine, thrombocytopenia, and elevated hepatic transamenases. The soft tissues in the left upper extremity have begun to necrose. Blood culture, obtained at the time of initial presentation, has already turned positive.

I-10. The organism that is most likely to be responsible for this clinical syndrome is

(A) group A streptococci
(B) group D streptococci
(C) *Staphylococcus aureus*
(D) *Bacteroides fragilis*
(E) *Clostridium septicum*

I-11. The most appropriate therapy for this patient is

(A) penicillin G
(B) penicillin G–clavulanic acid
(C) erythromycin
(D) vancomycin
(E) surgery

I-12. Which of the following statements regarding cryptosporidiosis is correct?

(A) Symptomatic infection in immunocompetent hosts is unusual
(B) Serologic techniques are needed for the diagnosis
(C) While it is a common cause of diarrhea in patients with the acquired immune deficiency syndrome, severe manifestations, including weight loss and pain, are uncommon
(D) The disease is transmitted by the fecal-oral route
(E) The treatment of choice is praziquantel

I-13. Several weeks after eating a meal in rural France that included meat from locally bred horses and pigs, a 35-year-old female presents with muscle aches and swelling, particularly in both biceps and the neck. Physical examination reveals periorbital edema. Laboratory evaluation reveals eosinophilia, elevated serum IgE, and elevated creatinine phosphokinase levels. The most likely diagnosis is

(A) ocular larva migrans (*Toxocara canis* infection)
(B) trichinosis
(C) viral myositis
(D) polymyositis (autoimmune)
(E) typhoid fever

I-14. A 65-year-old alcoholic male is hospitalized with fever, hypotension, and a lobar infiltrate. A sputum culture obtained two days before admission is growing *Streptococcus pneumoniae*. Susceptibility testing will be available in 24 h. Which of the following is the most appropriate antibiotic choice for this patient?

(A) Erythromycin
(B) Penicillin G
(C) Vancomycin
(D) Cefotaxime
(E) Clindamycin

I-15. Which of the following is LEAST likely to yield a diagnosis that will detect the specific parasite?

(A) String test for duodenal sampling to detect *Cryptosporidium*
(B) Scotch tape technique on the perianal skin to detect beef tapeworm
(C) Aspiration of a liver abscess to detect *Entamoeba histolytica*
(D) Urine sediment examination to detect *Schistosoma haematobium*
(E) Silver stain on induced sputum to detect *Pneumocystis carinii*

I-16. All the following statements concerning predisposition to parasitic infections are correct EXCEPT

(A) depression of the CD4+ lymphocyte count predisposes to cryptosporidiosis
(B) patients infected with human T-lymphotropic virus type I are prone to infection with *Strongyloides*
(C) splenectomized patients are at risk for babesiosis
(D) patients with multiple myeloma may develop giardiasis
(E) Patients with cystic fibrosis are at a markedly increased risk for toxoplasmosis

I-17. Treatment strategies for patients with endemic trachoma include all the following EXCEPT

(A) single-dose oral tetracycline
(B) single-dose oral azithromycin
(C) topical ophthalmic tetracycline
(D) topical ophthalmic erythromycin
(E) surgical correction of inturned eyelids

I-18. Nonvenereal treponemal infections are best characterized by

(A) pulmonary infections with a tendency to form nodules
(B) biliary tract invasion
(C) infection of the genitourinary tract with episodes of hematuria and eventual renal failure
(D) primary cutaneous lesions that progress to include lymphadenopathy and bone destruction
(E) meningeal irritation with occasional parenchymal involvement

I-19. A 53-year-old black male who received a renal allograft seven months ago is now receiving azathioprine and prednisone. He presents to the hospital one week after developing fever, night sweats, and anorexia. He also complains of coughing and chest pain. Chest film reveals biapical infiltrates with an apparent cavity in the left upper lobe. Auramine-rhodamine staining reveals the presence of microorganisms consistent with tubercle bacilli. The patient's creatinine is 1.2 mg/dL. The treatment of choice at this time would be

(A) isoniazid, rifampin, and pyrazinamide
(B) isoniazid, rifampin, pyrazinamide, and ethembutol
(C) isoniazid and rifampin
(D) rifampin, pyrazinamide, and ethambutol
(E) isoniazid, rifampin, pyrazinamide, ethambutol, and streptomycin

I-20. A 43-year-old-sexually active female presents with low-grade fever, headache, malaise, dysuria, and vaginal discharge. Physical examination reveals several vesicular lesions on the labia bilaterally. She also has tender inguinal lymphadenopathy. All the following statements regarding the current situation are correct EXCEPT

(A) oral acyclovir will be effective in speeding the resolution of her symptoms
(B) if the patient has had prior HSV-1 infection, she will be less likely to have severe systemic symptoms
(C) recurrent infection will be equally likely whether the patient is infected with HSV-1 or HSV-2
(D) if her sexual partner uses a condom, transmission will be less likely
(E) prolonged acyclovir use could reduce the likelihood of recurrent infection

I-21. A 55-year-old male with a history of seasonal allergic rhinitis develops a low-grade fever and cough. He complains to his physician that he is producing copious amounts of greenish sputum and coughing quite a bit. Since the patient is known to be allergic to penicillin, the physician prescribes erythromycin. The patient is also taking terfenadine because of his allergic symptoms. Which of the following is a potential complication in this clinical scenario?

(A) Decreased bioavailability of erythromycin with failure to treat pulmonary infection
(B) Congestive heart failure
(C) Increased bleeding
(D) Stevens-Johnson syndrome
(E) A disulfiram-like reaction if ethanol is ingested

I-22. A 12-year-old girl presents with painful epitrochlear lymphadenopathy associated with low-grade fever and malaise. The patient has a cat and also gave a history of a papillary lesion in the left forearm about 1 week or ten days ago. The most likely etiologic agent in this situation is

(A) *Bartonella henselae*
(B) *Staphylococcus aureus*
(C) Epstein-Barr virus
(D) *Sporothrix schenkii*
(E) *Yersinia pestis*

I-23. Which of the following statements concerning catheter-associated urinary tract infection is correct?.

(A) Most catheter-associated infections are symptomatic
(B) Topical periurethral antibiotics should be applied
(C) Routine antimicrobial prophylaxis is indicated
(D) The majority of patients catheterized for longer than 2 weeks develop bacteriuria
(E) Skin organisms such as *Staphylococcus* and *Streptococcus* are the most common cause of infections

I-24. Each of the following represents a reasonable hospital-wide strategy for reducing the incidence of *Aspergillus* infections EXCEPT

(A) routine inspection of air-handling equipment
(B) use of HEPA filters for air supply to rooms housing immunosuppressed patients
(C) routine surveillance of air for the presence of *Aspergillus* spores
(D) routine use of itraconazole in immunocompromised patients
(E) extreme care in hospital renovations

I-25. A 23-year-old previously healthy female letter carrier works in a suburb in which the presence of rabid foxes and skunks has been documented. She is bitten by a bat, which then flies away. Initial examination reveals a clean break in the skin in the right upper forearm. She has no history of receiving treatment for rabies and is unsure about vaccination against tetanus. The physician should

(A) clean the wound with a 20% soap solution
(B) clean the wound with a 20% soap solution and administer tetanus toxoid
(C) clean the wound with a 20% soap solution, administer tetanus toxoid, and administer human rabies immune globulin intramuscularly
(D) clean the wound with a 20% soap solution, administer tetanus toxoid, administer human rabies immune globulin intramuscularly, and administer human diploid cell vaccine
(E) clean the wound with a 20% soap solution and administer human diploid cell vaccine

I-26. During the summer, a previously healthy 10-year-old boy living in rural Louisiana presents with a brief illness characterized by 2 days of fever, headache, and vomiting that progresses to lethargy, disorientation, and most recently a grand mal seizure. Laboratory examination is remarkable for peripheral blood leukocytosis and a normal CSF examination except for the presence of 35 monocytes per microliter. An IgM enzyme–linked immunoassay for the LaCrosse virus returns positive. Anticonvulsive medicine has been administered. At this point the physician should

(A) tell the family that there is a high likelihood of improvement during the coming week and a good chance for discharge within 2 weeks
(B) order a brain biopsy to exclude herpes encephalitis
(C) administer empiric acyclovir
(D) administer empiric chloramphenicol and ampicillin
(E) share with the parents your concern that this illness, for which there is no specific therapy, is often fatal

I-27. The most common source of bacterial infection of intravenous cannulas is

(A) contamination of fluids during the manufacturing process
(B) contamination of fluids during insertion of the cannula
(C) contamination at the site of entry through the skin
(D) contamination during the injection of medications
(E) seeding from remote sites as a result of intermittent bacteremia

I-28. A 73-year-old previously healthy man is hospitalized because of the acute onset of dysuria, urinary frequency, fever, and shaking chills. His temperature is 39.5°C (103.1°F), blood pressure is 100/60 mmHg, pulse is 140 beats per minute, and respiratory rate is 30 breaths per minute. Which of the following interventions would be the most important in the treatment of this acute illness?

(A) Catheterization of the urinary bladder
(B) Initiation of antibiotic therapy
(C) Infusion of Ringer's lactate solution
(D) Infusion of dopamine hydrochloride
(E) Intravenous injection of methylprednisolone

I-29. Infection with *Pseudomonas* organisms is frequently associated with each of the following EXCEPT

(A) osteomyelitis after a nail puncture wound of the foot
(B) ecthyma gangrenosum
(C) both a mild form and an invasive form of otitis externa
(D) meningitis in neonatal infants
(E) endocarditis in drug addicts

I-30. A 65-year-old Greek woman visiting her children in New York City complains of upper abdominal pain. The patient is brought to the family physician, who notices icteric sclera and a mass in the right upper quadrant. CT reveals a 10-cm multiloculated cyst with mural calcification that is compressing the common bile duct. Which of the following statements is correct concerning this clinical situation?

(A) Treatment with the antiamebic agent chloroquine is indicated
(B) Treatment with an antiechinococcal agent such as albendazole is sufficient
(C) The adult parasite resides in the patient's intestine
(D) Infection was probably caused by exposure to infected dogs
(E) Surgery is contraindicated because of the risk of anaphylaxis from dissemination of infectious material

I-31. Diagnostic accuracy has been enhanced by the ability to detect specific DNA sequences in all the following infecting microorganisms EXCEPT

(A) cytomegalovirus (CMV)
(B) *Staphylococcus aureus*
(C) *Mycobacterium tuberculosis*
(D) *Legionella*
(E) human immunodeficiency virus (HIV)

I-32. The most common cause of "traveler's diarrhea" ("turista") in Americans traveling abroad is

(A) *Staphylococcus aureus*
(B) *Clostridium perfringens*
(C) *Escherichia coli*
(D) *Bacillus cereus*
(E) rotavirus

I-33. All the following vaccines are recommended for use in immunocompromised adults EXCEPT

(A) bacillus Calmette-Guerin (BCG) vaccine (against tuberculosis)
(B) inactivated influenza vaccine for current year
(C) 23-valent pnemococcal vaccine
(D) quadrivalent meningococcal vaccine
(E) inactivated polio vaccine

I-34. A 38-year-old homosexual male who is known to be infected with the HIV virus presents with a week of fever and tachypnea. Chest x-ray reveals bilateral alveolar infiltrates. Arterial blood gas determination reveals a Pa_{O_2} of 55 mmHg on room air. Bronchoalveolar lavage is positive for methenamine silver staining material. Which of the following statements is correct concerning the current clinical situation?

(A) Transbronchial biopsy should be carried out to confirm the diagnosis
(B) Corticosteroids are contraindicated given the risk of other opportunistic infections in Kaposi's sarcoma
(C) Pentamidine therapy by the aerosolized route would be appropriate if the patient had a known allergy to sulfa drugs
(D) Trimethoprim-sulfamethoxazole and pentamidine should be administered in combination
(E) Trimethoprim-sulfamethoxazole alone should be administered

I-35. A 50-year-old woman emigrated from El Salvador approximately 10 years ago and currently resides in Washington, DC. She complains of shortness of breath. Chest x-ray reveals biventricular cardiac enlargement. An echocardiographic study shows biventricular enlargement, thin ventricular walls, and an apical aneurysm. The patient has no history of alcohol abuse, thyroid disease, risk factors for atherosclerotic heart disease, or family history of hemochromatosis. In considering a potential etiology for the patient's current problem, which of the following statements is correct?

(A) The etiologic agent can be demonstrated on Giemsa stain of the peripheral blood
(B) Other manifestations of infection could include involvement of the gastrointestinal tract
(C) The vector for the transmission of this disease is the tsetse fly
(D) Corticosteroids may be beneficial
(E) Given the progressive and ultimately fatal course, cardiac transplantation should be considered

I-36. Production of all the following factors contributes to the pathogenicity of staphylococci EXCEPT

(A) penicillinase
(B) coagulase
(C) enterotoxin
(D) exotoxin
(E) catalase

I-37. Which of the following organisms is most likely to cause infection of a shunt implanted for the treatment of hydrocephalus?

(A) *Staphylococcus epidermidis*
(B) *Staphylococcus aureus*
(C) *Corynebacterium diphtheriae*
(D) *Escherichia coli*
(E) *Bacteroides fragilis*

I-38. Meningococcal meningitis can be prevented by the administration of all the following preparations EXCEPT

(A) group A vaccine
(B) group B vaccine
(C) group C vaccine
(D) ciprofloxacin
(E) rifampin

I-39. A 25-year-old man who was recently admitted to a psychiatric hospital with the diagnosis of severe depression complicated by psychosis is brought to the emergency room because of worsening mental status and fever. The patient is unable to give a history because he is profoundly confused and claims to be on Mars. The psychiatrist informs you that the patient has been started recently on haloperidol and amitriptyline. Physical findings include a rectal temperature of 40.6°C (105°F), muscle rigidity, and dry skin. A cooling blanket is ordered, and you administer acetaminophen. Which of the following agents would be most appropriately ordered at this time?

(A) Bromocriptine
(B) Atropine
(C) Levarterenol
(D) Chlorpheniramine
(E) Methylprednisolone

I-40. A 60-year-old insulin-dependent man with diabetes mellitus has had purulent drainage from his left ear for 1 week. Suddenly, fever, increased pain, and vertigo develop. The most likely causative agent is

(A) *Aspergillus*
(B) *Mucor*
(C) *Pseudomonas*
(D) *Staphylococcus aureus*
(E) *Haemophilus influenzae*

I-41. Typhoid fever can be characterized by all the following statements EXCEPT

(A) the illness usually is acquired from ingestion of contaminated food, water, or milk
(B) leukopenia is more common than leukocytosis in acutely ill persons
(C) rose spots usually are present at the time when the fever begins
(D) chloramphenicol is not effective in preventing relapse
(E) fluoroquinolone antibiotics eradicate the organism even in the presence of gallstones

I-42. Exposure to which of the following mandates passive immunization with standard immune serum globulin?

(A) Rabies
(B) Hepatitis A
(C) Hepatitis B
(D) Tetanus
(E) Cytomegalovirus

I-43. *Haemophilus influenzae* infections occur with increased severity in association with all the following conditions EXCEPT

(A) alcoholism
(B) sickle cell disease
(C) splenectomy
(D) agammaglobulinemia
(E) chronic granulomatous disease

I-44. To determine whether a child with paroxysmal coughing and gasping has whooping cough, a physician should order

(A) white blood cell count and differential
(B) Gram stain of the sputum
(C) blood cultures
(D) chest x-ray
(E) lateral x-ray of the neck

I-45. Hypersensitivity reactions—such as erythema nodosum, erythema multiforme, arthritis, and arthralgias—are most frequently associated with which of the following infections?

(A) Histoplasmosis
(B) Cryptococcosis
(C) Aspergillosis
(D) Blastomycosis
(E) Coccidioidomycosis

I-46. Imipenem, a newer antibiotic with a broad antibacterial spectrum, is coadministered with cilastatin because

(A) the combination of these antibiotics is synergistic against *Pseudomonas* spp.
(B) cilastatin aids the gastrointestinal absorption of the active moiety, imipenem
(C) cilastatin inhibits a β-lactamase that destroys imipenem
(D) cilastatin inhibits an enzyme in the kidney that destroys imipenem
(E) cilastatin prevents the hypoprothrombinemic effect of imipenem

I-47. A 35-year-old man is seen 6 months after a cadaveric renal allograft. The patient has been on azathioprine and prednisone since that procedure. He has felt poorly for the past week with fever to 38.6°C (101.5°F), anorexia, and a cough productive of thick sputum. Chest x-ray reveals a left lower lobe (5 cm) nodule with central cavitation. Examination of the sputum reveals long, crooked, branching, beaded gram-positive filaments. The most appropriate initial therapy would include the administration of which of the following antibiotics?

(A) Penicillin
(B) Erythromycin
(C) Sulfisoxazole
(D) Ceftazidime
(E) Tobramycin

I-48. A previously healthy 28-year-old man describes several episodes of fever, myalgia, and headache that have been followed by abdominal pain and diarrhea. He has experienced up to 10 bowel movements per day. Physical examination is unremarkable. Laboratory findings are notable only for a slightly elevated leukocyte count and an elevated erythrocyte sedimentation rate. Wright's stain of a fecal sample reveals the presence of neutrophils. Colonoscopy reveals inflamed mucosa. Biopsy of an affected area discloses mucosal infiltration with neutrophils, monocytes, and eosinophils; epithelial damage, including loss of mucus; glandular degeneration; and crypt abscesses. The patient notes that several months ago he was at a church barbecue where several people contracted a diarrheal illness. While this patient could have inflammatory bowel disease, which of the following pathogens is most likely to be responsible for his illness?

(A) *Campylobacter*
(B) *S. aureus*
(C) *E. coli*
(D) *Salmonella*
(E) Norwalk agent