

REVIEW
OF
GENERAL
INTERNAL
MEDICINE:

A
SELF-ASSESSMENT
MANUAL

Edited by

LLOYD H. SMITH, Jr., M.D.

JAMES B. WYNGAARDEN, M.D.



REVIEW OF GENERAL INTERNAL MEDICINE: A SELF-ASSESSMENT MANUAL

Edited by

LLOYD H. SMITH, Jr., M.D.

Professor and Chairman, Department of Medicine
University of California, San Francisco

JAMES B. WYNGAARDEN, M.D.

Frederic M. Hanes Professor and Chairman, Department of Medicine
Duke University Medical Center



1980

W. B. SAUNDERS COMPANY • Philadelphia • London • Toronto

W.B. Saunders Company, West Washington Square
Philadelphia, PA 19105

1 St. Anne's Road
Eastbourne, East Sussex BN21, 3UN, England

1 Goldthorne Avenue
Toronto, Ontario M8Z 5T9, Canada

Library of Congress Cataloging in Publication Data
Review of general internal medicine: a self-assessment manual.

Includes bibliographies and index.

I. Internal medicine — Examinations, questions, etc.

I. Smith, Lloyd Holly, 1924—

II. Wyngaarden, James B. [DNLM: 1. Internal medicine —
Examination questions. WB18 R454]

RC58.R48 616'.007'6 79-3922

ISBN 0-7216-9419-X

Review of General Internal Medicine:
A Self-Assessment Manual

ISBN 0-7216-8419-X

©1980 by W.B. Saunders Company. Copyright under the International Copyright Union. All rights reserved. This book is protected by copyright. No part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from the publisher. Made in the United States of America. Press of W.B. Saunders Company. Library of Congress catalog card number 79-3922.

Last digit is the print number: 9 8 7 6 5 4 3 2 1

PREFACE

The scope of medicine, much like Einsteinian space, has no discrete boundaries. To the student this open-ended nature of the discipline evokes anxiety, for there are no limits — no margins that define when clinical medicine has been successfully mastered. During the years devoted to basic science, such an open-ended commitment does not appear to pertain, for there are lecture notes, syllabi, and standard textbooks that collectively encompass that portion of biochemistry or of histology that the student is expected to know. The clinical years, however, dispel any sense of certainty: How much should we know about hypertension, for example? As much as can be learned within the limits of the time, energy, and resourcefulness that one can devote to the demanding profession of medicine. To understand this single pathologic condition we must be knowledgeable of selective elements of epidemiology, physiology, biochemistry, pathology, pharmacology, and many of the specialties of internal medicine (cardiology, nephrology, endocrinology, neurology, etc.). The subject carries us further into preventive medicine, public health, and public policy. Similar ramifications spread out endlessly from all clinical problems. The physician must be primarily concerned with the unique individuality of the patient, whose welfare cannot be defined as the simple integral of these formidable disciplines into which biomedical science has been conveniently but arbitrarily segregated. It has been said that M.D. stands for “moderately done,” in contrast to Ph.D., which stands for “phenomenally done.” It is this continuing sense of incompleteness that is the main defense against complacency, the dry rot of our profession.

There are many ways in which to learn medicine. Each student or physician will differ in the methods by which he or she learns most easily and effectively. Education has been defined as what you have left when you have forgotten the facts. “The facts” are nowhere more transient than in medicine, so that a premium must be placed on education as defined above. This includes the ability to reason effectively from data that are often incomplete. This manual has been developed as a series of questions that test both knowledge and the ability to utilize it effectively in clinical medicine. As such it is designed to reinforce the use of knowledge already obtained from other sources or of skills already obtained through experience. The form of a question is a challenge which requires that we assess what we know or more importantly what we do not know about the topic at hand. It crystallizes a problem set and demands that we take a position. Answers are supplied not only to indicate what is correct or incorrect but also to offer a rational explanation for these choices. This book has been constructed primarily to assist in the education or continuing education of medical students in advanced clerkships, house, staff, internists, family physicians, or anyone who wishes to maintain competency in internal medicine. Both its content and form make it useful also to physicians preparing for certification or recertification by the American Board of Internal Medicine.

vi PREFACE

The *Cecil Textbook of Medicine* has been the standard definitive textbook of medicine in the United States since its introduction more than fifty years ago (1927). For convenience most of the references in the answer section have been directed to the fifteenth edition of *Cecil*, of which this is a companion book. Other useful general references are included as well. Through these references each topic can be pursued in much more depth than allowed within the confines of this book.

We would like to express special gratitude to our colleagues at the Duke University Medical Center and at the University of California, San Francisco, for their excellent contribution in preparing these self-assessment exercises in the respective disciplines of internal medicine.

We would also like to thank Ms. Carolyn Strecker, whose assistance, based on previous experience at The American Board of Internal Medicine, was invaluable in guiding us in the correct presentation of the question-answer format.

LLOYD H. SMITH, JR., M.D.
JAMES B. WYNGAARDEN, M.D.

INSTRUCTIONS

This book is designed to provide a comprehensive review of internal medicine in the form of a self-assessment examination. The format enables you to answer the questions, to quickly determine which ones you got right and wrong, and then to review those questions you answered incorrectly. The examination is divided into 11 Parts. These Parts may be taken individually, in any order. To take advantage of this book's special features, we suggest the following steps:

1. Tear out the answer sheet (located on perforated pages at the end of the book) for the Part you want to use.
2. Take the test, recording your answers on the answer sheet. Note that there are three different question types used; be sure to read and follow the directions for each of them.
3. To quickly determine how many questions you answered correctly, compare your answers with the answer key (pp. 325-330). On your answer sheet, circle any questions you may have missed.
4. For a detailed discussion of questions answered incorrectly, refer to the Answers following the questions in each Part. References to Beeson, McDermott, and Wyngaarden: *Cecil Textbook of Medicine* and to other sources are provided for more extensive review. As time permits, reading the discussions of questions you answered correctly should also prove beneficial.

No criteria for deciding "how well" you did are provided because we believe that in a self-assessment examination you are the best judge. Read the discussions of the questions you missed and decide for yourself why you answered incorrectly, whether you should have known the answer, and whether the material deserves further study.

No time limits have been set, and no harm will be done by taking a Part over several days. We recommend that you do not look up any answers until you have completed the entire Part. In order to get maximum benefit from this style of review, it is essential that you treat the questions as you would questions in a "real" examination. Don't just "take a stab" at a question because you know the answer is easy to look up. Reading the answers is not an adequate substitute for taking as much time as you need and doing your best on each question.

An index to the questions is on pages 313-324. The purpose of the index is to lead you to questions about subjects in which you may have an interest. In particular, you may find it useful when, while preparing for an examination, you wonder "what they might ask about _____." It is important to note, however, that the index attempts to list only the general thrust of each question and thereby facilitate very directed review.

x INSTRUCTIONS

There is considerably more information present in the questions and discussions than is indexed. Because the index is by subject, it tends to provide clues to some correct answers. Therefore, for self-assessment, use of the index should be delayed until after you have taken the examination.

CONTENTS

	Instructions	ix
Part I.	Infectious Diseases	I
	<i>David T. Durack</i>	
	Questions	1
	Answers	15
	Bibliography	31
Part II.	Clinical Immunology and Rheumatology	32
	<i>John D. Stobo, Daniel P. Stites, Kenneth E. Sack, and Lanny Rosenwasser</i>	
	Questions	32
	Answers	45
	Bibliography	52
Part III.	Neurologic Disease	53
	<i>John J. Caronna and Roger P. Simon</i>	
	Questions	53
	Answers	67
	Bibliography	81
Part IV.	Respiratory Disease	82
	<i>Homer A. Boushey</i>	
	Questions	82
	Answers	94
	Bibliography	101
Part V.	Cardiovascular Diseases	102
	<i>Edward L. C. Pritchett and Robert A. Waugh</i>	
	Questions	102
	Answers	126
	Bibliography	144
Part VI.	Renal Disease	145
	<i>Vincent W. Dennis</i>	
	Questions	145
	Answers	157
	Bibliography	163

viii CONTENTS

Part VII. Gastrointestinal Disease	164
<i>John P. Cello, Emmet B. Keefe, and Bruce F. Scharschmidt</i>	
Questions	164
Answers	191
Bibliography	207
Part VIII. Hematology and Oncology	209
<i>Gerald Logue</i>	
Questions	209
Answers	222
Bibliography	236
Part IX. Endocrinology and Diabetes Mellitus	238
<i>Basil Rapoport, Clinton W. Young, and John K. Karam</i>	
Questions	238
Answers	261
Bibliography	281
Part X. Genetics and Metabolic Disease	282
<i>Edward W. Holmes</i>	
Questions	282
Answers	293
Bibliography	300
Part XI. Dermatology	301
<i>Brian Jegasothy</i>	
Questions	301
Answers	308
Bibliography	312
Index	313
Answers	325

PART 1

INFECTIOUS DISEASES

DAVID T. DURACK

DIRECTIONS: For questions 1 through 58, choose the *ONE BEST* answer to each question.

1. Filariasis due to *Wuchereria bancrofti* causes all of the following EXCEPT
 - A. Calabar swellings
 - B. lymphangitis
 - C. chronic lymphadenopathy
 - D. epididymitis
 - E. chyluria
2. All of the following were important factors in the apparent eradication of smallpox EXCEPT
 - A. absence of an animal reservoir
 - B. a high level of "herd immunity" due to vaccination
 - C. vaccination of contacts as soon as possible after a case was identified
 - D. administration of vaccinia immune globulin to household contacts as soon as possible after a case was identified
 - E. use of mobile public health teams to detect and contain outbreaks rapidly
3. A 23-year-old woman in the first trimester of pregnancy attends a suburban lunch party during which she picks up and comforts a fractious child who is later found to have rubella. A hemagglutination inhibition (HAI) titer is performed at once on the woman's blood, and proves negative. You should now
 - A. strongly urge a therapeutic abortion
 - B. offer an abortion, if the mother so wishes
 - C. administer cytosine arabinoside
 - D. administer rubella vaccine and gamma globulin
 - E. administer human immune serum globulin
 - F. wait 2 to 3 weeks and repeat the HAI titer
4. Which of the following statements about vancomycin is correct?
 - A. It should only be given intramuscularly
 - B. It has no activity against gram-negative bacteria
 - C. It has no activity against anaerobic bacteria
 - D. It causes peripheral neuropathy
 - E. It should be avoided in patients with renal failure
5. All of the following may produce gas in the tissues of a patient with cellulitis EXCEPT
 - A. *Bacteroides* species
 - B. *Escherichia coli*
 - C. *Peptostreptococcus intermedius*
 - D. *Pseudomonas aeruginosa*
 - E. *Clostridium perfringens*
6. A nurse working in the renal dialysis unit sticks her finger with a needle contaminated with the blood of a dialysis patient. This patient was found to be hepatitis B surface antigen (HBsAg)-positive when last tested 9 months ago. Which of the following should you do first?
 - A. Administer hepatitis B immune globulin (H-BIG) and repeat the dose in 1 month
 - B. Administer human gamma globulin, and repeat the dose in 1 month
 - C. Test the patient for HBsAg and "e" antigen
 - D. Test the nurse for HBsAg and "e" antigen
 - E. Test both patient and nurse for both HBsAg and antibody to HBsAg
7. Which of the following statements regarding California encephalitis virus is correct?
 - A. It has not been found east of the Rocky Mountains
 - B. It usually affects young adults between 15 and 20 years of age
 - C. It can be recovered from blood and cerebrospinal fluid early in illness
 - D. It results in a mortality rate of less than 5%, with no long-term motor or sensory sequelae
 - E. It is transmitted by ticks
8. A 46-year-old habitual drunkard was knocked down in a fight 6 days ago, and he has noticed a thin unilateral nasal discharge ever since. He develops signs of meningitis and is admitted to the hospital. Cerebrospinal fluid findings are glucose 30 mg/100 ml, protein 96 mg/100 ml, cells 2250/cu mm, with 97% neutrophils. No organisms are seen on Gram stain. Which of the following is the best initial treatment for this patient?

2 PART 1—INFECTIOUS DISEASES

- A. Aqueous penicillin G, 24 million units intravenously daily
 - B. Aqueous penicillin G, 24 million units, plus chloramphenicol, 4 g intravenously daily
 - C. Ampicillin, 12 g, plus chloramphenicol, 4 g intravenously daily
 - D. Ampicillin, 12 g intravenously daily, plus isoniazid and ethambutol until further lab results are available
 - E. Nafcillin, 10 g, plus gentamicin, 5 mg/kg, intravenously daily
9. A 10-month-old infant is brought to the emergency room because of a high fever for 12 hours. On examination he appears toxic and seriously ill. There is an area of bluish-red facial cellulitis on the right cheek. The best initial antibiotic treatment would be
- A. methicillin
 - B. aqueous penicillin G
 - C. ampicillin plus chloramphenicol
 - D. tetracycline
 - E. cephalothin plus clindamycin
10. A 67-year-old farmer comes to the emergency room 2 hours after he deeply punctured his calf with a splintered piece of wood while working in his barnyard. He cannot recall having received any immunizations in the past, and he has not served in any military units. He reports having suffered a severe urticarial reaction to penicillin 9 years ago. The wound is clean, with minimal bleeding. Roentgenogram of the calf shows no foreign body. The best management is
- A. careful probing of the wound, local application of peroxide, a course of tetanus toxoid, and tetracycline
 - B. tetanus antitoxin, careful probing of the wound, local application of peroxide, tetanus toxoid, and tetracycline
 - C. surgical exploration of the wound, tetanus toxoid, and desensitization to penicillin followed by treatment with penicillin
 - D. tetanus antitoxin, surgical exploration of the wound, tetanus toxoid, and desensitization to penicillin followed by treatment with penicillin
 - E. tetanus antitoxin, surgical exploration of the wound, tetanus toxoid, and chemoprophylaxis with tetracycline
11. A 28-year-old airplane pilot was treated for gonorrhea 2 weeks ago with aqueous procaine penicillin G, 4.8 million units intramuscularly, plus probenecid. His symptoms resolved, but over the last 3 days mild dysuria and urethral discharge have recurred. Gram stain of the discharge shows many polymorphonuclear leukocytes and rare gram-positive cocci. What is the best management?
- A. Repeat the same regimen, and send a urethral swab to the CDC for testing for penicillin resistance
 - B. Withhold treatment for now and send a urethral swab to the CDC for testing for penicillin resistance
 - C. Send a urethral culture to the routine laboratory, and administer tetracycline, 0.5 g orally 4 times daily for 7 days
 - D. Send a urethral culture to the routine laboratory, and administer ampicillin, 0.5 g orally 4 times daily for 10 days
 - E. Administer spectinomycin, 2 g intramuscularly
12. A 31-year-old heroin addict with staphylococcal endocarditis of the aortic valve had received methicillin, 4 g intravenously every 6 hours for 19 days, when he developed recurrent fever, eosinophilia, gross hematuria, and a rise in serum creatinine from 1.6 mg/100 ml to 2.3 mg/100 ml. The best management would be to
- A. stop methicillin and observe
 - B. stop methicillin, begin oxacillin, and observe
 - C. stop methicillin, begin cephalothin, and observe
 - D. stop methicillin, begin vancomycin, and perform a kidney biopsy
 - E. continue methicillin and perform a kidney biopsy
13. A 7-year-old boy is brought to you because of moderate malaise, fever, sore throat, conjunctivitis, and cervical lymphadenopathy. There is no neck stiffness, photophobia, headache, or rash. Seven days ago, while the family was on vacation in North Carolina, his mother removed an engorged tick from the child's head. Which of the following would you do?
- A. Order chloramphenicol, 500 mg orally 4 times daily for 7 days
 - B. Order tetracycline, 250 mg orally 4 times daily for 7 days
 - C. Draw 3 blood cultures
 - D. Perform a lumbar puncture
 - E. Treat the child for an upper respiratory infection and schedule a return visit
- Hepatic disease due to *Schistosoma mansoni* is most often manifest by
- A. mild jaundice
 - B. hematemesis
 - C. encephalopathy and asterix
 - D. hematuria
 - E. spider angiomas
15. All of the following are manifestations of trichinosis EXCEPT
- A. periorbital edema and splinter hemorrhages
 - B. hypoalbuminemia and normal erythrocyte sedimentation rate
 - C. gastrointestinal upset
 - D. myocarditis, meningitis, and encephalitis
 - E. positive Casoni test
16. A 68-year-old man with dysuria due to a urethral stricture has had three urinary tract infections with *Escherichia coli*, each eradicated by treatment with a cephalosporin. Three days after an elective urethral dilatation, he developed fever, leukocytosis, back pain, and a new murmur of aortic incompetence. Which of the following antibiotic regimens is most likely to be appropriate for this patient?

- A. Ampicillin
- B. Cephalothin
- C. Cephalothin plus gentamicin
- D. Ampicillin plus gentamicin
- E. Nafcillin plus gentamicin

17. Amikacin is likely to inhibit all of the following EXCEPT

- A. *Bacteroides fragilis*
- B. *Enterobacter cloacae*
- C. *Acinetobacter calcoaceticus*
- D. *Aeromonas hydrophila*
- E. *Proteus rettgeri*

18. Erythromycin will inhibit most strains of the following bacteria EXCEPT

- A. *Staphylococcus aureus* (coagulase-positive)
- B. *Streptococcus pneumoniae*
- C. *Mycoplasma pneumoniae*
- D. *Chlamydia psittaci*
- E. *Treponema pallidum*

19. All of the following side effects have been described in patients taking nitrofurantoin EXCEPT

- A. acute or chronic pneumonitis
- B. polyneuropathy
- C. hemolytic anemia in patients with glucose-6-phosphate dehydrogenase (G6PD) deficiency
- D. cholestatic hepatitis
- E. aplastic anemia

20. Which of the following antibiotics is *least* likely to cause anemia?

- A. Penicillin
- B. Doxycycline
- C. Sulfadiazine
- D. Co-trimoxazole (trimethoprim-sulfamethoxazole)
- E. Chloramphenicol

21. Which of the following statements regarding tularemia is correct?

- A. It occurs mainly in summer
- B. It is caused by an organism that cannot be cultured in vitro
- C. It causes granulomas in tissue
- D. It infects skin, lymph nodes, and blood, but not the lungs
- E. It should be treated with high doses of ampicillin

22. A 56-year-old teacher with Hodgkin's disease has developed headaches, fever, photophobia, somnolence, and stiff neck. Lumbar puncture reveals the following:

Opening pressure	220 mm H ₂ O
Protein	116 mg/100 ml
Glucose	21 mg/100 ml (serum glucose 93 mg/100 ml)
Leukocytes	2105/cu mm

PMN's	68%
Mononuclear cells	32%
Gram stain	small gram-positive rods

Which of the following would you order?

- A. Chloramphenicol, 4 g intravenously daily
- B. Ampicillin, 4 g intravenously daily
- C. Ampicillin, 12 g intravenously daily
- D. Sulfadiazine, 4 g orally daily
- E. Cephalothin, 12 g intravenously daily

23. All of the following are associated with *Candida* infections EXCEPT

- A. chronic granulomatous disease
- B. hypercalcemia
- C. narcotic addiction
- D. terminal gastric cancer
- E. hyperalimentation

QUESTIONS 24-25

A Labrador dog makes an unprovoked attack upon a postman delivering mail in a New Jersey suburb, breaking the skin of his leg in two places. The dog is impounded, and 2 hours later appears placid and perfectly normal. The dog's owner insists that it has not been ill and demands its immediate release; the postman's family, fearing rabies, demands that it be destroyed.

24. Which of the following would you recommend?

- A. Destroy the dog and incinerate the carcass
- B. Destroy the dog and send its head to the state laboratory for rabies test
- C. Send a sample of the dog's serum to the state laboratory for rabies tests, and keep the animal impounded under observation for 1 month
- D. Keep the dog impounded under observation for 10 days, then release it if no illness has developed
- E. None of the above

25. The postman described above should be treated with

- A. local cleaning and scrubbing of the wounds with benzalkonium
- B. treatment as in A, plus tetanus toxoid, if last booster was more than 5 years ago
- C. infiltration of rabies antiserum into the skin around the bites
- D. full rabies immunization using 23 doses of duck embryo vaccine (DEV)
- E. both C and D

26. Counterimmunoelectrophoresis (CIE) is presently used as an adjunctive diagnostic test for infections due to all of the following EXCEPT

- A. *Streptococcus pneumoniae*
- B. *Hemophilus influenzae* type B
- C. *Neisseria meningitidis*

4 PART 1—INFECTIOUS DISEASES

- D. *Neisseria gonorrhoeae*
E. *Escherichia coli* K1
27. Which of the following statements regarding shigellosis is correct?
- A. The incubation period is 36 to 72 hours
 - B. It has become rather rare in the United States over the past decade
 - C. Many mononuclear leukocytes appear in the stool
 - D. It usually causes inflammation in both the colon and the small bowel
 - E. Treatment with antibiotics may prolong the carrier state
28. All of the following are useful in the treatment of infections in patients with moderate azotemia EXCEPT
- A. doxycycline
 - B. rifampin
 - C. tetracycline
 - D. chloramphenicol
 - E. amphotericin B
29. Which of the following species of nematodes infects the greatest number of people in the United States?
- A. *Strongyloides stercoralis*
 - B. *Ascaris lumbricoides*
 - C. *Necator americanus*
 - D. *Enterobius vermicularis*
 - E. *Trichuris trichiura*
30. The tetracyclines may cause all of the following EXCEPT
- A. neuromuscular blockade
 - B. acute fatty degeneration of the liver
 - C. photosensitivity dermatitis
 - D. increased cerebrospinal fluid pressure in infants
 - E. hypoplasia and discoloration of dental enamel in children
31. In man, hydatid cysts are most likely to be found in
- A. brain
 - B. lung
 - C. spleen
 - D. muscle
 - E. liver
32. Enterobiasis may cause all of the following complications EXCEPT
- A. appendicitis
 - B. vulvitis
 - C. prostatitis
 - D. hepatitis
 - E. ischiorectal abscess
33. Trichuriasis (whipworm infection) can be complicated by all of the following EXCEPT
- A. bloody diarrhea
 - B. mild eosinophilia
 - C. respiratory symptoms due to migration of larvae through the lung
 - D. rectal prolapse
 - E. anemia
34. Mebendazole is a first-line drug for treatment of infections due to all of the following nematodes EXCEPT
- A. *Necator americanus*
 - B. *Trichuris trichiura*
 - C. *Strongyloides stercoralis*
 - D. *Enterobius vermicularis*
 - E. *Ascaris lumbricoides*
35. A patient from West Africa with an itching, erythematous, papular skin rash, subcutaneous nodules, punctate keratitis, and corneal scarring is most likely suffering from which of the following?
- A. Trachoma and scabies
 - B. Onchocerciasis
 - C. *Loa loa* infection
 - D. Dracontiasis (guinea worm infection)
 - E. Schistosomiasis
36. Tropical pyomyositis is usually due to infection with which of the following?
- A. *Staphylococcus aureus*
 - B. Mixed aerobic and anaerobic flora
 - C. *Dirofilaria tenuis*
 - D. *Pseudomonas pseudomallei*
 - E. None of the above
37. *Yersinia enterocolitica* is commonly associated with all of the following EXCEPT
- A. arthritis
 - B. bacteremia
 - C. osteomyelitis
 - D. bloody diarrhea
 - E. abdominal pain
38. Toxocariasis (visceral larva migrans) is associated with all of the following EXCEPT
- A. fever and tender hepatomegaly
 - B. endophthalmitis, sometimes simulating a retinal tumor
 - C. high eosinophil count (> 50%)
 - D. exposure to cats or dogs
 - E. intestinal obstruction or intussusception
39. A 38-year-old homosexual male with secondary syphilis is treated in the emergency room with benzathine penicillin, 2.4 million units intramuscularly. Six hours later he returns, complaining of severe generalized aching pains, chills, and headache. On examination he looks ill, with high fever and rigors. Which of the following is most appropriate?
- A. Admit to intensive care unit and prepare to treat shock or bronchospasm

- B. Admit to general ward for observation
- C. Admit to general ward, give intramuscular diphenhydramine and oral aspirin, and observe
- D. Administer methylprednisolone, 1 g intravenously immediately, plus cephalothin and gentamicin, and observe
- E. Prescribe aspirin, and ask him to return to the emergency room if symptoms do not resolve in 6 hours

40. A farmer developed a painless, 1-cm papule on the dorsum of his right thumb. After 2 weeks, it ulcerated and drained a small amount of pus. Meanwhile, a series of six similar lesions developed in a chain extending up his forearm. There were no systemic symptoms. Biopsy of one of these papules showed a granulomatous reaction and dimorphic fungi in the skin, with branching, septate, hyphae-bearing conidia. Which of the following would you recommend?

- A. Saturated solution of potassium iodide, 2 ml orally 4 times daily
- B. Amphotericin B intravenously, to a total of 2 g
- C. Flucytosine, 100 mg/kg orally daily for 6 weeks
- D. Miconazole, 1 g intravenously daily
- E. Sulfadiazide, 1 g orally 4 times daily

41. A patient with Hodgkin's disease in remission developed mild headache and lethargy, slowly progressive over 2 months. In the past week, he developed low-grade fever, became confused and somnolent, and was admitted to the hospital. Lumbar puncture reveals CSF with

Pressure	230 mm H ₂ O
Protein	97 mg/100 ml
Glucose	26 mg/100 ml (blood glucose 70 mg/100 ml)
Leukocytes	105/cu mm (41% neutrophils, 59% lymphocytes)
Gram stain	negative

The most likely pathogen in this patient is

- A. *Candida albicans*
- B. *Cryptococcus neoformans*
- C. *Actinomyces israelii*
- D. *Histoplasma capsulatum*
- E. *Nocardia asteroides*

42. Which of the following statements regarding the organism that causes tetanus is correct?

- A. It is a nonmotile, spore-forming, gram-positive bacillus
- B. It is inhibited only by penicillin, erythromycin, and clindamycin
- C. It can cause moderately severe hemolysis due to an exotoxin (tetanolysin)
- D. It does not give rise to effective immunity in a patient who develops tetanus and survives
- E. It elaborates an exotoxin that acts on the motor end-plate, causing muscle contraction

43. Yellow fever causes all of the following EXCEPT

- A. relapses 1 to 2 weeks after initial improvement
- B. hemorrhages
- C. albuminuria
- D. Councilman bodies in hepatocytes
- E. relative bradycardia

44. Which of the following statements regarding syphilitic aortitis is correct?

- A. It causes characteristic calcification in the arch of the aorta
- B. It is one cause of dissecting aortic aneurysm
- C. It does not occur as a result of congenital syphilis
- D. It is associated with neurosyphilis in about 75% of cases
- E. It can cause aortic stenosis

45. The best treatment of brucellosis is

- A. tetracycline
- B. streptomycin
- C. tetracycline plus streptomycin
- D. co-trimoxazole (trimethoprim-sulfamethoxazole)
- E. none of the above

46. Which of the following statements regarding plague is correct?

- A. In the United States, it usually occurs in the Southeast
- B. In severe cases it often causes neutropenia
- C. It is transmitted from rats to men by lice
- D. High-dose penicillin is the treatment of choice
- E. It commonly causes disseminated intravascular coagulation

47. Staphylococci cause all of the following EXCEPT

- A. scalded-skin syndrome
- B. enterocolitis
- C. carbuncles
- D. ecthyma gangrenosum
- E. parotitis

48. Major manifestations of rheumatic fever include all of the following EXCEPT

- A. carditis
- B. polyarthritides
- C. chorea
- D. subcutaneous nodules
- E. erythema nodosum

49. Rickettsial diseases commonly display all of the following EXCEPT

- A. headache
- B. hypotension
- C. leukocytosis
- D. disseminated focal infection of small blood vessels
- E. altered mental status

6 PART 1—INFECTIOUS DISEASES

50. All of the following drugs are potentially useful for treatment of anaerobic infections EXCEPT

- A. penicillin VK
- B. metronidazole
- C. cefoxitin
- D. amikacin
- E. doxycycline
- F. ticarcillin

51. All of the following are associated with bronchiectasis EXCEPT

- A. cystic fibrosis
- B. Kartagener's syndrome
- C. alpha₁-antitrypsin deficiency
- D. hypogammaglobulinemia
- E. bronchopneumonia

52. Amphotericin B can cause all of the following side effects EXCEPT

- A. hypokalemia
- B. shaking chills, headache
- C. anemia
- D. neuromuscular blockade
- E. renal tubular acidosis

53. Ecthyma gangrenosum is a manifestation of infection with

- A. *Pseudomonas aeruginosa*
- B. *Bacillus anthracis* (anthrax)
- C. *Erysipelothrix*
- D. Group A β -hemolytic streptococci
- E. *Clostridium perfringens*

54. All of the following may cause retinal abnormalities EXCEPT

- A. *Mycobacterium tuberculosis*
- B. *Pneumocystis carinii*
- C. *Candida albicans*
- D. *Toxoplasma gondii*
- E. *Histoplasma capsulatum*

55. The drug of choice for treatment of Legionnaires' disease is

- A. tetracycline
- B. rifampin
- C. chloramphenicol
- D. erythromycin
- E. streptomycin

56. Which of the following is the prophylactic regimen of choice for close household contacts of a patient with meningococcemia, before the sensitivity of the organism is known?

- A. Minocycline, 250 mg orally 4 times daily for 7 days
- B. Sulfadiazine, 1.0 orally twice daily for 2 days
- C. Penicillin V, 250 mg orally 4 times daily for 7 days
- D. Rifampin, 600 mg orally twice daily for 2 days
- E. Polyvalent meningococcal vaccine

57. Which of the following is most appropriate to assess the response of a patient with neurosyphilis to therapy?

- A. CSF cell count and VDRL titer
- B. CSF cell count, protein, and VDRL titer
- C. CSF cell count, glucose, and protein
- D. CSF fluorescent treponemal antibody absorption (FTA-ABS) titer
- E. Serum FTA-ABS titer and CSF VDRL titer

58. A 69-year-old man with angina pectoris was treated in the hospital 1 year ago with procaine penicillin G, 1.2 million units twice daily for 1 month for a lung abscess. Now he is found to have typical roentgenographic findings of syphilitic aortitis; serologic test for syphilis (VDRL) is positive (1:4), and serum FTA-ABS is positive. Cerebrospinal fluid VDRL test is nonreactive; CSF cell count shows 1 lymphocyte/cu mm, and CSF protein is 52 mg/100 ml. You would

- A. administer cephalothin, 1 g intravenously every 8 hours for 10 days
- B. administer aqueous penicillin G, 10 million units daily for 10 days
- C. administer tetracycline, 0.5 g orally 4 times daily for 14 days
- D. order *Treponema pallidum* immobilization test on serum and CSF
- E. take no further action

DIRECTIONS: For questions 59 through 124, *one or more* of the answers may be correct.
Choose

A	if	1, 2, and 3	are correct
B	if	1 and 3	are correct
C	if	2 and 4	are correct
D	if	only 4	is correct
E	if	all	are correct

59. Which of the following statements regarding varicella-zoster is/are true?

1. A susceptible child exposed to a patient with shingles (herpes zoster) has about a 50% chance of developing chickenpox
2. The secondary attack rate in susceptible children exposed to chickenpox is greater than 80%
3. Inapparent (subclinical) infections with chickenpox are common
4. Up to one third of adults with chickenpox will show evidence of pneumonia

60. Enteroviruses cause

1. herpangina
2. pericarditis and myocarditis
3. pleurodynia
4. hand-foot-and-mouth disease

61. Live attenuated mumps virus vaccine

1. is contraindicated in children with eczema
2. protects greater than 90% of recipients
3. when combined with measles and rubella vaccines, should be given at age 9 to 12 months
4. induces an inapparent infection that is noncommunicable

62. Pneumococcal capsular polysaccharide

1. can be detected in the blood, urine, and cerebrospinal fluid of patients with pneumococcal meningitis
2. confers virulence on pneumococci
3. forms the basis for distinguishing more than 80 individual pneumococcal types
4. causes fever, toxemia, and shock in severe cases of pneumococcal disease

63. Which of the following statements regarding mucormycosis (zygomycosis) is/are true?

1. It most often affects patients with serious underlying diseases like diabetes, cancer, and uremia
2. It causes thrombosis in small and medium arteries
3. It can cause lung lesions that are clinically indistinguishable from *Aspergillus* bronchopneumonia
4. In the rhinocerebral form, the disease often responds to therapy with amphotericin B alone

64. A 33-year-old diabetic woman has mitral stenosis. During which of the following procedures may antibiotic prophylaxis for infective endocarditis be *omitted*?

1. Incision and drainage of an abscess at a site where she injected insulin
2. Cardiac catheterization
3. Cystoscopy for investigation of asymptomatic bacteriuria
4. Fiberoptic bronchoscopy

65. Enteroviruses

1. are most likely to cause clinical infections in late winter and spring
2. cause common colds and bronchiolitis in children
3. are all infectious for suckling mice
4. cause acute hemorrhagic conjunctivitis

66. A 7-year-old child with meningococcal meningitis dies in the hospital despite appropriate treatment. Who should receive chemoprophylaxis?

1. The child's parents
2. The child's classmates in school
3. The child's siblings
4. The nurses and residents who cared for the child in the hospital

67. Manifestations of tetanus include

1. extreme hypertension and sudden bradycardia
2. hyperpyrexia, with major losses of salt and water through sweating
3. supraventricular tachycardia
4. vasoconstriction

68. Eastern equine encephalitis (EEE) virus

1. is the most common cause of summertime arbovirus encephalitis in the eastern United States
2. has a mortality of about 50%
3. often causes long-term neurologic damage in survivors
4. is caused by a group A arbovirus that can be recovered from a large number of species of wild birds as well as mosquitoes, horses, and man

A	B	C	D	E
1,2,3 only	1,3 only	2,4 only	4 only	All are correct

69. Arboviruses causing encephalitis

1. can cause serious disturbance of central temperature-regulating mechanisms
2. are transmitted by mosquitoes
3. are transmitted by ticks
4. usually cause leukopenia

70. *Mycoplasma pneumoniae* pneumonia

1. is often associated with headache
2. occurs most often in winter
3. is often associated with pharyngitis, and sometimes with bullous myringitis
4. usually causes bilateral infiltrates

71. Colorado tick fever

1. often has a biphasic course lasting about 1 week
2. has an incubation period of 3 to 7 days
3. often causes striking leukopenia
4. is best treated with tetracycline

72. Which of the following statements regarding cutaneous diphtheria is/are true?

1. It is infectious for contacts
2. Diphtheritic myocarditis or neuropathy are occasional complications
3. It occurs commonly among poor children in underdeveloped tropical countries
4. It should be treated by giving antitoxin intravenously

73. A 25-year-old medical student is admitted during an influenza A epidemic complaining of fever, cough, and chest pain. He had a mild fever with headaches 1 week ago, seemed to recover, then noticed the sudden onset of the present symptoms. Likely causes of these symptoms include which of the following?

1. *Staphylococcus aureus*
2. *Pseudomonas aeruginosa*
3. *Streptococcus pneumoniae*
4. *Pneumocystis carinii*

74. Pulmonary *Nocardia asteroides* infection

1. is a relatively common complication in alveolar proteinosis
2. may be associated with abscesses in skin and brain
3. should be treated with high-dose sulfadiazine
4. is often a self-limited disease

75. The prognosis for a patient with infective endocarditis is much worse if there is

1. a high titer of circulating immune complexes
2. aortic valve involvement with heart failure
3. gross hematuria due to renal infarction
4. infection on a prosthetic valve

76. *Aspergillus fumigatus* is recovered repeatedly from small specimens of mucoid sputum obtained from a patient who complains of intermittent wheezing and dyspnea. Which of the following is/are likely to be true?

1. Precipitins to *Aspergillus* are present in the serum
2. Counterimmunoelectrophoresis will show *Aspergillus* antigen in the blood and sputum
3. Eosinophilia is present in the peripheral blood
4. The patient should receive a course of amphotericin B, intravenously

77. Meningitis due to *Escherichia coli*

1. is usually caused by strains carrying the K100 antigen
2. is frequently complicated by ventriculitis
3. is most common between 1 and 5 years of age
4. results in a mortality rate of approximately 50%

78. Examination of stool frequently reveals polymorphonuclear leukocytes (PMN's) in which of the following disorders?

1. Staphylococcal enterocolitis
2. Ulcerative colitis
3. Shigellosis
4. Travelers' diarrhea

79. Which of the following drugs is/are useful in treatment of *Plasmodium falciparum* malaria?

1. Quinine
2. Pyrimethamine
3. Sulfadiazine
4. Chloroquine

80. Antiviral agents effective in prophylaxis or therapy of viral infections include

1. idoxuridine
2. adenine arabinoside
3. amantadine
4. thiosemicarbazone

81. True fungi include which of the following?

1. *Actinomyces israelii*
2. *Sporothrix schenckii*
3. *Nocardia asteroides*
4. *Candida albicans*

82. A patient recovering from untreated secondary syphilis has approximately a

1. 30% chance of developing tertiary syphilis
2. 25% chance of relapsing, with recurrent manifestations of secondary syphilis
3. 10% chance of developing cardiovascular syphilis
4. 7% chance of developing neurosyphilis