

The National Medical Series for Independent Study

pediatrics

Paul H. Dworkin

- **An outline: for independent study**
- **Board-type questions: for exam review**
- **Annotated answers: to clarify material**

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pediatrics

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Preface

Recent dramatic changes in the field of pediatrics have profoundly influenced medical education. As the duration and frequency of children's hospitalizations diminish, the ambulatory setting has become as essential a site for clinical instruction as the bedside. Changing patterns of pediatric morbidity have resulted in a wide range of new issues for practitioners, such as developmental and behavior problems and immunologic disorders. The growth of subspecialties has produced an explosion of new knowledge, as children are no longer therapeutic orphans who are treated as little adults.

This book is not designed to serve as a comprehensive text but rather to survey the major clinical areas of pediatrics. The contributors, all members of the Department of Pediatrics at the University of Connecticut School of Medicine, have attempted to achieve an appropriate balance between factual material and the concepts of pediatric problem solving as well as between issues reflecting the "new morbidity" and those of more traditional concern. Our hope is that this text will serve as a useful tool for students and residents as they strive to master this dynamic, exciting discipline.

Paul H. Dworkin

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Publisher's Note

The objective of the *National Medical Series* is to present an extraordinarily large amount of information in an easily retrievable form. The outline format was selected for this purpose of reducing to the essentials the medical information needed by today's student and practitioner.

While the concept of an outline format was well received by the authors and publisher, the difficulties inherent in working with this style were not initially apparent. That the series has been published and received enthusiastically is a tribute to the authors who worked long and diligently to produce books that are stylistically consistent and comprehensive in content.

The task of producing the *National Medical Series* required more than the efforts of the authors, however, and the missing elements have been supplied by highly competent and dedicated developmental editors and support staff. Editors, compositors, proofreaders, and layout and design staff have all polished the outline to a fine form. It is with deep appreciation that I thank all who have participated, in particular the staff at Harwal—Debra L. Dreger, Jane Edwards, Gloria Hamilton, Deborah G. Huey, Wieslawa B. Langenfeld, Keith LaSala, June Sangiorgio Mash, and Jane Velker.

The Publisher

Introduction

Pediatrics is one of six clinical science review books in the *National Medical Series for Independent Study*. This series has been designed to provide students and house officers, as well as physicians, with a concise but comprehensive instrument for self-evaluation and review within the clinical sciences. Although *Pediatrics* would be most useful to students preparing for the National Board of Medical Examiners examinations (Part II, Part III, FLEX, and FMGEMS), it should also be useful to students studying for course examinations. These books are not intended to replace the standard clinical science texts but, rather, to complement them.

The books in this series present the core content of each clinical science, using an outline format and featuring 300 study questions. The questions are distributed throughout the book, at the end of each chapter and in a pretest and post-test. In addition, each question is accompanied by the correct answer, a paragraph-length explanation of the correct answer, and specific reference to the outline points under which the information necessary to answer the question can be found.

We have chosen an outline format to allow maximal ease in retrieving information, assuming that the time available to the reader is limited. Considerable editorial time has been spent to ensure that the information required by all medical school curricula has been included and that the question format parallels that of the National Board examinations. We feel that the combination of the outline and the board-type study questions provides a unique learning device.

We hope that you will find this series interesting, relevant, and challenging. The authors, as well as the John Wiley and Harwal staffs, welcome your comments and suggestions.

Contents

Contributors	vii
Preface	xi
Acknowledgments	xiii
Publisher's Note	xv
Introduction	xvii
Pretest	1
1 Child Health Supervision	13
2 Injuries and Poisonings	35
3 Developmental Disabilities and Behavior Disorders	55
4 Adolescent Medicine	73
5 Neonatology	99
6 Genetic Disorders and Birth Defects	137
7 Immunologic, Allergic, and Rheumatic Diseases	165
8 Infectious Diseases	185
9 Gastrointestinal Diseases	215
10 Cardiovascular Diseases	241
11 Pulmonary Diseases	265
12 Renal Diseases	281

13	Hematologic Diseases	311
14	Oncologic Diseases	335
15	Endocrine and Metabolic Disorders	363
16	Neurologic Diseases	397
	Post-test	423
	Index	435

QUESTIONS

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

1. Typical signs and symptoms of brain tumors in children include all of the following EXCEPT
 - (A) headache
 - (B) seizures
 - (C) vomiting
 - (D) impaired vision
 - (E) increased head circumference
2. Disease-free survival has increased for patients with osteogenic sarcoma because of the use of
 - (A) limb salvage operations
 - (B) radiotherapy to treat involved bone
 - (C) preoperative chemotherapy
 - (D) amputation
 - (E) adjuvant chemotherapy
3. Common causes of hydrocephalus in the first month of life include all of the following EXCEPT
 - (A) intraventricular hemorrhage
 - (B) brain tumor
 - (C) meningitis
 - (D) aqueductal stenosis
 - (E) Arnold-Chiari deformity
4. A boy presents with indications of mental retardation. All of the following evaluations are indicated for this patient EXCEPT
 - (A) chromosome analysis
 - (B) fragile X study
 - (C) urinalysis for amino aciduria
 - (D) serum α -fetoprotein (AFP)
 - (E) pedigree analysis
5. All of the following statements are true about ventricular septal defect EXCEPT
 - (A) left atrial size is directly related to pulmonary blood flow
 - (B) left ventricular size is directly related to pulmonary blood flow
 - (C) pulmonary blood flow is directly related to pulmonary vascular resistance
 - (D) pulmonary vascular obstructive disease does not develop in small ventricular defects
 - (E) cyanosis may be seen if pulmonary vascular disease develops
6. Asphyxia is a fairly common occurrence in the perinatal period. During an episode of mild asphyxia, the oxygen tension is highest in the
 - (A) brain
 - (B) gastrointestinal tract
 - (C) kidney
 - (D) liver
 - (E) skeletal muscle
7. All of the following statements concerning dextrotransposition (simple transposition) of the great arteries are true EXCEPT
 - (A) the aortic valve is left of the pulmonary valve
 - (B) the aortic valve is anterior to the pulmonary valve
 - (C) right ventricular pressure is high
 - (D) severe hypoxia is present
 - (E) a balloon atrial septostomy should be performed as the first step in treatment

8. Chromosome analysis is indicated for all of the following conditions EXCEPT

- (A) suspected Down syndrome
- (B) recurrent pregnancy loss
- (C) primary amenorrhea and short stature
- (D) meningomyelocele and hydrocephalus
- (E) ambiguous genitalia

9. Lesions involving either systemic or pulmonary blood flow dependence on patency of the ductus arteriosus include all of the following EXCEPT

- (A) total anomalous pulmonary venous return
- (B) pulmonary atresia with intact ventricular septum
- (C) critical aortic stenosis
- (D) hypoplastic left-heart syndrome
- (E) pulmonary atresia with ventricular septal defect

10. The urinalysis may provide useful information about all of the following renal parameters EXCEPT

- (A) renal concentrating capacity
- (B) renal protein loss
- (C) renal phosphate handling
- (D) possible urinary tract infection
- (E) possible glomerulonephritis

11. Which of the following sexually transmitted diseases is most prevalent in the United States?

- (A) Gonorrhea
- (B) Genital herpes
- (C) Chlamydial infection
- (D) Syphilis
- (E) Trichomoniasis

12. A medical indication for the circumcision of male infants is

- (A) redundancy of the foreskin
- (B) hypospadias
- (C) epispadias
- (D) adhesions of the foreskin
- (E) none of the above

13. Anorexia nervosa is characterized by all of the following features EXCEPT

- (A) weight loss of at least 25% of original body weight
- (B) onset in early childhood
- (C) an intense fear of becoming obese
- (D) a disturbed body image
- (E) a high predominance in girls

14. Proper management of a child with an absolute neutrophil count (ANC) of $100/\text{mm}^3$ would be

- (A) the start of broad-spectrum intravenous antibiotics after blood cultures are obtained
- (B) careful physical examination and chest x-ray; close observation pending results of blood cultures
- (C) granulocyte transfusion
- (D) nutritional support with oral iron and intramuscular injection of vitamin B₁₂
- (E) steroid therapy

15. Which of the following symptoms would suggest a diagnosis of recurrent abdominal pain?

- (A) Pain awakening a child from sleep
- (B) Pain associated with vomiting
- (C) Pain located periumbilically
- (D) Well-localized pain
- (E) Pain radiating to the back

16. The most common injury resulting in an emergency ward visit is

- (A) that due to a motor vehicle accident
- (B) a burn
- (C) that due to a fall
- (D) poisoning
- (E) drowning

17. Which of the following constitutes the safest and most direct mode of treatment for allergic rhinitis?

- (A) Antihistamines
- (B) Avoidance of the offending allergen
- (C) Desensitization
- (D) Local steroids
- (E) Antibiotics

18. All of the following conditions are causes of acute pancreatitis in childhood EXCEPT

- (A) abdominal trauma
- (B) mumps
- (C) cholelithiasis
- (D) cystic fibrosis
- (E) Schwachman-Diamond syndrome

19. All of the following bacteria are common causes of acute otitis media EXCEPT

- (A) *Branhamella catarrhalis*
- (B) *Haemophilus influenzae*
- (C) group A streptococcus
- (D) *Staphylococcus aureus*
- (E) *Streptococcus pneumoniae*

20. All of the following statements about coarctation of the aorta are true EXCEPT

- (A) the obstruction is usually opposite the ductus or ligamentum arteriosum
- (B) more than 50% of patients have an associated bicuspid aortic valve
- (C) left ventricular afterload and proximal aortic pressure are elevated
- (D) a blood pressure differential is present between upper and lower extremities
- (E) the "E" and "3" signs are seen on echocardiographic examination

21. Children have an increased risk for cancer if they have any of the following conditions EXCEPT

- (A) Wiscott-Aldrich syndrome
- (B) neurofibromatosis
- (C) Guillain-Barré syndrome
- (D) Fanconi's anemia
- (E) aniridia

22. The most common lung disease of children is

- (A) asthma
- (B) bronchopulmonary dysplasia
- (C) cystic fibrosis
- (D) pulmonary sequestration
- (E) desquamative interstitial pneumonitis

23. Which of the following diseases represents a slow virus infection?

- (A) Varicella
- (B) Papovavirus encephalitis
- (C) Subacute sclerosing panencephalitis
- (D) Rubella
- (E) None of the above

24. An infant is seated on her mother's lap in the examining room. She sits well with support, grasps a rattle, and puts it in her mouth. When placed on the examining table, she promptly rolls over from front to back. She smiles spontaneously and laughs and squeals with delight. This child's age is most likely

- (A) 2 months
- (B) 4 months
- (C) 6 months
- (D) 8 months
- (E) 10 months

25. When considering substance abuse in adolescents, all of the following statements are true EXCEPT

- (A) substance abuse may retard psychosocial development
- (B) alcohol is the most commonly abused substance
- (C) tobacco use is associated with use by parents
- (D) cocaine is not considered to be an addictive drug
- (E) most forms of substance abuse are decreasing in adolescents

Directions: Each question below contains four suggested answers of which **one or more** is correct. Choose the answer

- A** if 1, 2, and 3 are correct
- B** if 1 and 3 are correct
- C** if 2 and 4 are correct
- D** if 4 is correct
- E** if 1, 2, 3, and 4 are correct

26. Causes of acute viral hepatitis in childhood that may affect a child who does not have coexisting liver disease include

- (1) hepatitis A virus
- (2) hepatitis B virus
- (3) non-A, non-B hepatitis virus
- (4) hepatitis D virus (delta agent)

27. Reasons that a newborn does not gain weight during the first week of life may include

- (1) extracellular water loss occurs
- (2) phototherapy for hyperbilirubinemia increases insensible water loss
- (3) nutritional intake is suboptimal
- (4) basal metabolism decreases

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

28. True statements about head lice infestation include

 - (1) head lice are spread by direct contact
 - (2) lice live for long periods on fomites
 - (3) diagnosis usually is made by identifying nits (dry eggs)
 - (4) children with long hair are more commonly affected

29. Signs and symptoms of seasonal allergic rhinitis might include which of the following?

 - (1) Nosebleeds
 - (2) Nasal polyps
 - (3) Loss of smell and taste
 - (4) Serous nasal discharge

30. Signs and symptoms of early neonatal sepsis include

 - (1) neutropenia
 - (2) apnea
 - (3) unexplained respiratory distress
 - (4) lethargy

31. Studies indicated in the evaluation of a patient with neutropenia include

 - (1) bone marrow aspiration
 - (2) nitroblue tetrazolium test
 - (3) antineutrophil antibodies
 - (4) leukocyte alkaline phosphatase

32. An adverse outcome resulting from a potentially teratogenic agent is influenced by the

 - (1) dose of the exposure
 - (2) genetic susceptibility of the fetus
 - (3) gestational age at which the fetus is exposed
 - (4) age of the mother at the time of exposure
33. Epstein-Barr virus infection is associated with which of the following neoplasms?

 - (1) Rhabdomyosarcoma
 - (2) Hepatocellular carcinoma
 - (3) Wilms' tumor
 - (4) Burkitt's lymphoma

34. True statements regarding syndromes include

 - (1) all major features of a known syndrome must be present before a diagnosis can be made
 - (2) internal abnormalities often are associated with dysmorphic features in a syndrome
 - (3) syndromes can almost always be recognized shortly after birth
 - (4) once a diagnosis of a known syndrome has been made, the prognosis for the patient and recurrence risks for family members can usually be determined

35. Oral contraceptives prevent pregnancy by

 - (1) suppressing ovulation
 - (2) decreasing implantation
 - (3) changing the cervical mucus
 - (4) blocking sperm

36. Microbiology laboratory techniques that are useful for determining the correct type and dosage of an antimicrobial agent include

 - (1) latex agglutination
 - (2) susceptibility tests
 - (3) counter immunoelectrophoresis (CIE)
 - (4) tests for β -lactamase production

37. Hematologic abnormalities that are found in patients with disseminated intravascular coagulation include

 - (1) thrombocytopenia
 - (2) microangiopathic blood smear
 - (3) hypofibrinogenemia
 - (4) prolonged partial thromboplastin time (PTT)