

# **Pediatrics:**

## **PreTest® Self-Assessment and Review**

**Fourth Edition**

**Edited by**

**Richard E. Kravath**

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# Pediatrics:

## PreTest® Self-Assessment and Review

**Fourth Edition**

**Edited by**

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## Notice

Medicine is an ever-changing science. As new research and clinical experience broaden our knowledge, changes in treatment and drug therapy are required. The editor and the publisher of this work have checked with sources believed to be reliable in their efforts to provide drug dosage schedules that are complete and in accord with the standards accepted at the time of publication. However, readers are advised to check the product information sheet included in the package of each drug they plan to administer to be certain that the information contained in these schedules is accurate and that changes have not been made in the recommended dose or in the contraindications for administration. This recommendation is of particular importance in connection with new or infrequently used drugs.

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# Introduction

*Pediatrics: PreTest Self-Assessment and Review*, 4th Ed. provides comprehensive self-assessment and review within the field of pediatrics. The 500 questions contained in the book have been designed to be similar in format and degree of difficulty to the questions contained in the Part II examination of the National Board of Medical Examiners, the Federation Licensing Examination (FLEX), and the Foreign Medical Graduate Examination in the Medical Sciences (FMGEMS).

Each question has the correct answer, an explanation, and a specific reference to either a current journal article, a textbook, or both. A bibliography, listing the sources used in the book, follows the last chapter.

Perhaps the most effective way to use this book is to allow yourself about one minute to answer each question in a given chapter in order to approximate the time limits imposed by the examinations previously mentioned. As you proceed, indicate your answer to each question.

When you have finished answering the questions in a chapter, you should then spend as much time as you need verifying your answers and reading the explanations. Although you should pay special attention to the explanations for the questions you answered incorrectly, you should read every explanation. The author has designed the explanations to reinforce and supplement the information tested by the questions. If, after reading the explanations you want more information, you should consult and study the references indicated.

This book meets the criteria for up to 22 credit hours in Category 5(D) for the Physician's Recognition Award of the American Medical Association. We hope it provides an experience that is instructive as well as evaluative; we also hope that you enjoy it. We would be happy to receive your comments.

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# General Pediatrics

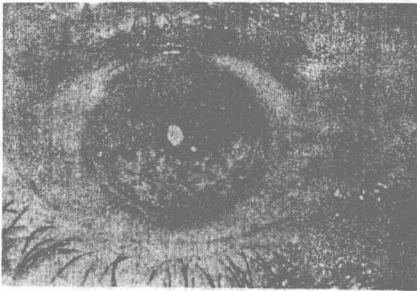
**DIRECTIONS:** Each question below contains five suggested responses. Select the one best response to each question.

1. Estimation of the surface area of a burn requires knowledge of how the body's total surface area is apportioned. The chief difference between infants and adults is that infants have a proportionally
  - (A) smaller surface area for the trunk
  - (B) smaller surface area for the genitals
  - (C) smaller surface area for the hands and feet
  - (D) larger surface area for the head and neck
  - (E) larger surface area for the buttocks
2. The vector of typhus, trench fever, and relapsing fever is
  - (A) *Pediculus humanis capitis*
  - (B) *Pediculus humanis pedis*
  - (C) *Pediculus humanis corporis*
  - (D) *Phthirus pubis*
  - (E) *Dermacentor andersoni*
3. Sudden infant death syndrome has all the following characteristics EXCEPT that
  - (A) it affects female infants predominantly
  - (B) it typically involves infants 2 to 4 months of age
  - (C) it is more common among siblings of affected infants
  - (D) it has a higher incidence among infants of drug-addicted mothers
  - (E) it has a higher incidence among infants of lower socioeconomic status
4. Salicylate poisoning is most likely to be associated with which of the following?
  - (A) Respiratory acidosis followed by metabolic alkalosis
  - (B) Respiratory alkalosis followed by metabolic alkalosis
  - (C) Respiratory alkalosis followed by metabolic acidosis
  - (D) Metabolic acidosis superimposed upon respiratory alkalosis
  - (E) Metabolic acidosis superimposed upon respiratory acidosis

5. All the following are manifestations of chronic hypervitaminosis A EXCEPT for

- (A) hepatomegaly
- (B) alopecia
- (C) desquamation of palms and soles
- (D) tender swelling of bones
- (E) subcutaneous calcifications

6. Iridocyclitis (anterior uveitis), which is depicted in the photograph below, is most likely to be associated with which of the following disorders?

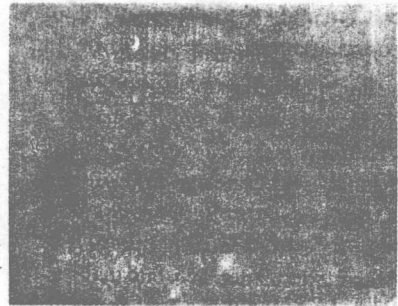


- (A) Juvenile rheumatoid arthritis
- (B) Slipped femoral epiphysis
- (C) Schönlein-Henoch purpura
- (D) Legg-Calvé-Perthes disease
- (E) Osgood-Schlatter disease

7. Lyme arthritis is usually preceded by a characteristic rash that is

- (A) erythema marginatum
- (B) erythema multiforme
- (C) erythema chronicum migrans
- (D) urticaria
- (E) morbilliform

8. A buccal smear is performed on a child to determine the presence and number of Barr bodies; the nucleus of a buccal cell is shown below. The sex-chromosome pattern of this cell is



- (A) XO
- (B) XY
- (C) XX
- (D) XXX
- (E) XXXX

9. The child shown below was brought to the emergency room because of an inability to urinate. The most likely diagnosis is

- (A) priapism
- (B) balanitis
- (C) balanoposthitis
- (D) phimosis
- (E) paraphimosis



10. In children, the most commonly recognized form of familial hyperlipidemia is

- (A) hypertriglyceridemia
- (B) hypercholesterolemia
- (C) hyperchylomicronemia
- (D) combined hyperlipidemia
- (E) type V hyperlipoproteinemia

11. Osgood-Schlatter disease involves the

- (A) tarsal navicular
- (B) metatarsal head
- (C) capital femoral epiphysis
- (D) tibial tuberosity
- (E) body of the sternum



12. The International Code of Ethics for Biomedical Research includes all the following principles EXCEPT

- (A) biomedical research involving human subjects must conform to generally accepted scientific principles and should be based on adequately performed laboratory and animal experimentation and thorough knowledge of the scientific literature
- (B) the design and performance of each experimental procedure involving human subjects should be clearly formulated in an experimental protocol, which should be transmitted to a specially appointed independent committee for consideration, comment, and guidance
- (C) biomedical research involving human subjects should be conducted only by scientifically qualified persons and under the supervision of a clinically competent medical person. The responsibility for the human subject must always rest with a medically qualified person and never rest with the subject of the research, even though the subject has given his or her consent
- (D) biomedical research involving human subjects cannot legitimately be done unless the importance of the objective is in proportion to the inherent risk to the subject
- (E) each potential subject should be informed that he or she is at liberty to abstain from participation in the study and may withdraw consent for participation at any time until the actual experiment has started

13. The results in a study of a new treatment favored the new treatment ( $P < .05$ ). This means that

- (A) the new treatment is 5 percent better than the old treatment
- (B) a critical threshold for medical significance has been reached
- (C) five percent of the time patients will not benefit from the new therapy
- (D) the odds are less than one in twenty that the differences observed were only a chance variation
- (E) it would be unethical to continue the old treatment

14. The two formulations of a drug that have been found to be of equal value by clinical trial may be said to be

- (A) therapeutically equivalent
- (B) biologically equivalent
- (C) chemically equivalent
- (D) different in bioavailability
- (E) identical

15. A 6-year-old asthmatic child is brought to the emergency room because of severe coughing and wheezing during the prior 24 hours. The child had been taking theophylline without relief. Physical examination reveals a child who is anxious, has intercostal and suprasternal retractions, expiratory wheezing throughout all lung fields, and a respiratory rate of 60 per minute. Initial treatment may include the administration of

- (A) intravenous penicillin
- (B) parenteral phenobarbital
- (C) subcutaneous epinephrine
- (D) enough intravenous fluids in the first 2 hours to correct a deficit of 100 ml/kg
- (E) *N*-acetyl cysteine and cromolyn by inhaler

16. Pityriasis rosea is a common, benign rash in children, characterized by a herald patch that usually precedes the generalized eruption. The etiologic agent of the disease is

- (A) viral
- (B) mycobacterial
- (C) fungal
- (D) spirochetal
- (E) unknown

17. Evaluation of cerebrospinal fluid is critical in evaluating children of all ages for possible central nervous system infections. Normally, the CSF should contain no more than five leukocytes and the protein should be 10–30 mg/dl. However, in newborns the values are different. Which of the following combinations is most typical?

- (A) Up to 15 leukocytes, 5,000 red cells, and 300 mg/dl protein
- (B) Up to 5 leukocytes and less than 10 mg/dl protein
- (C) Up to 15 leukocytes, 500 red cells, and 100 mg/dl protein
- (D) Zero cells and 100 mg/dl protein
- (E) Up to 100 red blood cells and 300 mg/dl protein

18. Treatment of a child who has acute lead encephalopathy should include prompt administration of

- (A) edetate calcium disodium (Ca EDTA)
- (B) edetate calcium disodium and dimercaprol (British anti-lewisite)
- (C) D-penicillamine
- (D) D-penicillamine and dimercaprol
- (E) D-penicillamine, edetate calcium disodium, and dimercaprol

**Questions 19–20**

An 8-month-old girl is admitted to a hospital because of poor weight gain despite a voracious appetite. The presence of steatorrhea and a right upper lobe pneumonia points to cystic fibrosis.

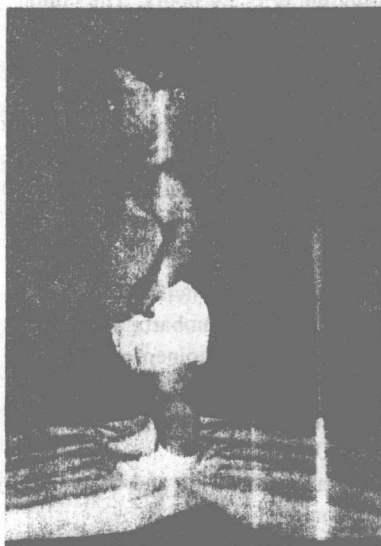
19. If cystic fibrosis is the correct diagnosis, results of her sweat test would be expected to show

- (A) low sodium and chloride concentrations
- (B) low sodium concentration and high chloride concentration
- (C) normal sodium and chloride concentrations
- (D) high sodium concentration and normal chloride concentration
- (E) high sodium and chloride concentrations

20. The parents of the girl described want to know whether future offspring also will be born with cystic fibrosis. They should be advised that the chance that their next child will have the disease is approximately

- (A) 0 percent
- (B) 25 percent
- (C) 33 percent
- (D) 50 percent
- (E) 100 percent

21. The child pictured below has the most common type of generalized skeletal dysplasia. The disorder is



- (A) achondrogenesis
- (B) achondroplasia
- (C) metatropic dwarfism
- (D) thanatophoric dwarfism
- (E) chondroectodermal dysplasia

22. The bone most frequently fractured at the time of delivery is the

- (A) cranium
- (B) radius
- (C) femur
- (D) tibia
- (E) clavicle

23. Milk is indicated after ingestion of a poison

- (A) to distend the stomach after giving ipecac
- (B) when a caustic agent has been ingested and prompt endoscopy is not planned
- (C) as a dilutant for activated charcoal
- (D) following irritant ingestions prior to endoscopy
- (E) in place of activated charcoal for amphetamine poisoning

DIRECTOR: Each question below contains one or more correct answers. Select the correct answer(s).

- A. 1, 2, 3, 4, 5
- B. 1, 2, 3, 4
- C. 1, 2, 3, 4, 5
- D. 1, 2, 3, 4, 5
- E. 1, 2, 3, 4, 5

24. Which of the following is a characteristic of the first 6 weeks of life? Select all that apply. (1) The infant is a "social" being. (2) The infant is a "social" being. (3) The infant is a "social" being. (4) The infant is a "social" being. (5) The infant is a "social" being.

25. In addition to characteristic skin lesions, Schöten-Henrich purpura (an aplastic purpura) also is associated with which of the following conditions? (1) Anemia. (2) Abdominal pain. (3) Nephritis. (4) Leukemia.

26. Excessive weight gain in a pregnant woman can indicate the presence of which of the following congenital diseases in the fetus? (1) Acanthosis nigricans. (2) Thyroid disease. (3) Cerebral palsy. (4) Neural tube defects.

27. Among those entities that cause enlarged testes after puberty is the "fragile X syndrome." Affected males also present with (1) precocious puberty. (2) penile enlargement. (3) hormonal changes. (4) mental retardation.

28. Which of the following is a characteristic of the first 6 weeks of life? Select all that apply. (1) The infant is a "social" being. (2) The infant is a "social" being. (3) The infant is a "social" being. (4) The infant is a "social" being. (5) The infant is a "social" being.

29. Which of the following is a characteristic of the first 6 weeks of life? Select all that apply. (1) The infant is a "social" being. (2) The infant is a "social" being. (3) The infant is a "social" being. (4) The infant is a "social" being. (5) The infant is a "social" being.

30. Which of the following is a characteristic of the first 6 weeks of life? Select all that apply. (1) The infant is a "social" being. (2) The infant is a "social" being. (3) The infant is a "social" being. (4) The infant is a "social" being. (5) The infant is a "social" being.

**DIRECTIONS:** Each question below contains four suggested responses of which one or more is correct. Select

- |   |    |                |             |
|---|----|----------------|-------------|
| 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 |

24. Otitis media occurring during the first 6 weeks of life deserves special consideration because the bacteria responsible during this time may be different than in older infants and children. Among these organisms are

- (1) *Klebsiella pneumoniae*
- (2) *Escherichia coli*
- (3) *Pseudomonas aeruginosa*
- (4) *Haemophilus influenzae*

25. In addition to characteristic skin lesions, Schönlein-Henoch purpura (anaphylactoid purpura) also is associated with which of the following conditions?

- (1) Arthritis
- (2) Abdominal pain
- (3) Nephritis
- (4) Paresis

26. Excessive weight gain in a pregnant woman can indicate the presence of which of the following congenital disorders in the fetus?

- (1) Anencephaly
- (2) Trisomy 18
- (3) Duodenal atresia
- (4) Renal agenesis

27. Among those entities that cause enlarged testes after puberty is the "fragile X syndrome." Affected males also present with

- (1) precocious puberty
- (2) penile enlargement
- (3) hormonal changes
- (4) mental retardation

28. Plumbism (lead intoxication) can be associated with which of the following hematologic findings?

- (1) Decreased activity of delta-aminolevulinic acid dehydratase
- (2) Decreased level of erythrocyte protoporphyrin
- (3) Increased urinary excretion of protoporphyrin
- (4) Increased uptake and utilization of iron

29. At 28 weeks of age a normal baby should be able to

- (1) sit with support
- (2) roll over
- (3) utter repetitive vowel sounds
- (4) reach for and grasp large objects

30. Familial dysautonomia (Riley-Day syndrome) is a genetic disease that manifests disturbances in autonomic and sensory functions. This entity is important in the differential diagnosis of a number of chronic problems of childhood, such as

- (1) failure to thrive
- (2) chronic pulmonary infection
- (3) indifference to pain
- (4) hypertension

31. Children with cleft palate need to be treated with a team approach if complications are to be avoided. Among the complications that are frequently encountered are

- (1) speech disorders
- (2) dental caries
- (3) malocclusion
- (4) otitis media

32. The child pictured below has Down's syndrome. Her surgical scar and purpuric lesions are likely to be consequences of



- (1) leukemia
- (2) thrombotic thrombocytopenic purpura
- (3) congenital duodenal atresia
- (4) intussusception

33. *Enterobius vermicularis* is a ubiquitous organism that frequently causes more concerns than its medical importance would justify. Among the signs and symptoms that may be related to this parasite's presence are

- (1) eosinophilia
- (2) anal pruritus
- (3) bowel obstruction
- (4) sleeplessness

34. Down's syndrome can be seen with which of the following chromosomal patterns?

- (1) t(14q21q) centric fusion
- (2) 46,XX
- (3) Trisomy 21
- (4) D/G translocation

35. The infant born to a heroin-addicted mother may show signs of withdrawal as late as 4 to 6 weeks after delivery. The signs of withdrawal may include

- (1) flapping tremors
- (2) diarrhea
- (3) flushing
- (4) flaccid extremities

36. The increasing use of organophosphate insecticides has led to a rise in the number of organophosphate poisonings. Physical findings associated with organophosphate intoxication can include

- (1) tachycardia
- (2) muscle fasciculations
- (3) mydriasis
- (4) wheezing



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**SUMMARY OF DIRECTIONS**


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

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37. Among conditions that cause edema of the eyelids is orbital cellulitis, which is a serious infection that must be recognized early and treated aggressively if complications are to be avoided. The condition is usually associated with which of the following?

- (1) Chemosis
- (2) Normal temperature
- (3) Limitation of movement of the eye
- (4) Absence of pain

38. Teenage pregnancies and their complications are an increasing problem that calls for a comprehensive approach. In teenage pregnancy there is an increased incidence of

- (1) preeclampsia and eclampsia
- (2) premature delivery
- (3) mental retardation in offspring
- (4) nutritional disorders

39. Children who have been abused are likely to develop which of the following?

- (1) Fearfulness
- (2) Aggressiveness
- (3) Hyperactivity
- (4) Abusiveness to their own children

40. Whereas in older children the pattern of scabies is similar to that seen in adults, the findings in infants differ in which of the following ways?

- (1) Bullae and pustules are common
- (2) Burrows are absent
- (3) Palms and soles are often involved
- (4) Face is spared

41. Anorexia nervosa, which is increasing in frequency, is associated with which of the following symptoms?

- (1) Decreased pulse rate
- (2) Hyperactivity
- (3) Diminished leukocyte count
- (4) Increased body temperature

42. Which of the following clinical signs can help differentiate acute otitis externa from acute otitis media?

- (1) Pain heightened by movement of the tragus
- (2) A red tympanic membrane
- (3) Preauricular adenitis
- (4) A foul-smelling discharge

43. Type I homocystinemia and Marfan's syndrome have many similar clinical findings, and their ultimate differentiation is sometimes based upon laboratory data. Features associated with both syndromes include

- (1) abnormal skeletal appearance
- (2) cardiovascular problems
- (3) ectopia lentis
- (4) mental retardation

**DIRECTIONS:** Each group of questions below consists of lettered headings followed by a set of numbered items. For each numbered item select the **one** lettered heading with which it is **most** closely associated. Each lettered heading may be used **once, more than once, or not at all.**

**Questions 44–48**

For each disorder that follows, select the dietary deficiency that is most likely to be responsible.

- (A) Caloric deficiency
- (B) Thiamine deficiency
- (C) Niacin deficiency
- (D) Vitamin D deficiency
- (E) None of the above

- 44. Marasmus
- 45. Kwashiorkor
- 46. Pellagra
- 47. Beriberi
- 48. Rickets

**Questions 49–52**

For each of the following syndromes that can cause childhood deafness, select the clinical finding with which it is most likely to be associated.

- (A) Pulmonary stenosis
- (B) White forelock
- (C) Goiter
- (D) Retinitis pigmentosa
- (E) Polydactyly

- 49. Waardenburg's syndrome
- 50. Pendred's syndrome
- 51. Usher's syndrome
- 52. Leopard syndrome

**Questions 53–57**

Some of the numerous forms of dwarfism recognizable at birth or within the newborn period have distinguishing features that are useful in differential diagnosis. For each distinguishing feature listed below, select the disorder with which it is most likely to be associated.

- (A) Achondrogenesis
- (B) Diastrophic dwarfism
- (C) Thanatophoric dwarfism
- (D) Chondrodystrophia calcificans congenita
- (E) Chondroectodermal dysplasia

- 53. Marked micromelia
- 54. Congenital heart disease
- 55. Flattened vertebral bodies
- 56. Natal teeth
- 57. Swollen ears

**Questions 58–63**

Drug and alcohol abuse is a problem that endangers a significant percentage of the adolescent population in the United States. For each of the specific drugs listed below that are currently abused, select the class to which it most likely belongs.

- (A) Opiates
- (B) Hallucinogens
- (C) Intoxicants
- (D) Stimulants
- (E) Hypnotic sedatives

58. Marihuana

59. Phencyclidine

60. Alcohol

61. Cocaine

62. Heroin

63. Mescaline

**Questions 64–67**

For each disorder listed below, select the sex and age distribution with which it is most likely to be associated.

- (A) Males 4 to 10 years of age
  - (B) Males 13 to 18 years of age
  - (C) Females 4 to 10 years of age
  - (D) Females 10 to 16 years of age
  - (E) None of the above
64. Legg-Calvé-Perthes disease
65. Slipped capital femoral epiphysis
66. Idiopathic scoliosis
67. Subluxation of the head of the radius

**Questions 68–72**

For poisoning by each substance below, match the treatment most indicated.

- (A) Atropine and pralidoxime (2-PAM)
- (B) *N*-acetylcysteine (Mucomyst)
- (C) Dimercaprol (BAL)
- (D) Naloxone (Narcan)
- (E) None of the above

68. Lead

69. Acetaminophen

70. Morphine

71. Salicylate

72. Organophosphate insecticide

**Questions 73–75**

For poisoning by each substance below, match the treatment most indicated.

- (A) Deferoxamine mesylate
- (B) Diphenhydramine (Benadryl)
- (C) Acetazolamide and sodium bicarbonate
- (D) Ethanol
- (E) None of the above

73. Phenothiazine

74. Iron

75. Methanol