PEDIATRIC BOARD CERTIFICATION AND RECERTIFICATION MULTIPLE CHOICE QUESTIONS AND ANSWERS

Volume 2

FZ

PEDIATRIC BOARD

CERTIFICATION AND RECERTIFICATION

MULTIPLE CHOICE QUESTIONS AND ANSWERS

AN EXCELLENT GUIDE

AN ESSENTIAL TOOL FOR BOARD CERTIFICATION

by

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DEDICATION

Dedicated to all the readers

INTRODUCTION

This is the first edition of Pediatric Board Certification and Recertification Multiple Choice Questions and Answers. A total of 1010 questions and answers are presented here.

This book will help candidates to prepare for the examination. You are well aware that reading only multiple choice questions and answers is not enough to pass the Board Examination.

First, try to answer these questions by yourself; then evaluate your knowledge. If you have answered more than 85% correctly, you will probably do well in the examination. I have written this book after repeated requests from candidates and residents for a practice book that replicates the exam format.

My sincere thanks go to Josh Furman for his continued support, Preeti Agarwal and Atul Kumar (atul_kumar@apyl.com) for their first-rate desktop publishing expertise Dr. Azfar Shabbir, M.D., Nivedita Kanjilal, Anirban Kanjilal for their support.

Good luck to all of you.

D. Kanjilal, M.D.

1. The most important preventable cause of blindness in the world is:
   a) Glaucoma
   b) Retinoblastoma
   c) Optic nerve glioma
   d) Eye injury
   e) Trachoma

2. A 6-year-old boy with Down syndrome is diagnosed to have acute appendicitis. Anesthesiologist may require the following investigation prior to general anesthesia:
   a) Echocardiogram
   b) EKG
   c) Lateral neck x-ray
   d) Upper GI series
   e) Barium enema

3. The number of feedings required per day at 1 year of age is:
   a) 1 – 2
   b) 3 – 4
   c) 5 – 6
   d) 7 – 8
   e) 9 – 10

4. Williams syndrome is due to the deletion of one elastin allele located in chromosome:
   a) 7
   b) 11
   c) 15
   d) 19
   e) 23

5. An 11-year-old girl with systemic juvenile rheumatoid arthritis appears with fever, lymphadenopathy, and hepatosplenomegaly. The blood test reveals anemia, leukopenia, and thrombocytopenia. This is most likely due to:
   a) Viral syndrome
   b) Macrophage activation syndrome
   c) Hemolytic anemia
   d) Spleen failure
   e) Disseminated intravascular coagulation

6. Parent-infant bonding should be initiated:
   a) Immediately after birth
   b) 1 hour after birth
   c) 15 minutes after birth
   d) Before birth
   e) After discharge from the hospital

7. The characteristic skin lesions of Pseudomonas are:
   a) Erythema multiforme
   b) Erythematous nodule
   c) Pustular melanosis
   d) Cellulitis
   e) Ecthyma gangrenosum

8. Which first-line agents are preferred in treating seizures secondary to hypoxic-ischemic encephalopathy (HIE):
   a) Benzodiazepines
   b) Paraldehyde
   c) Phenytoin
   d) Phenobarbital
   e) Propofol

9. Body mass index (BMI) should be calculated starting at age:
   a) 6 months
   b) 1 year
   c) 2 years
   d) 3 years
   e) 4 years

10. The following statement is **not** true about child abuse:
   a) Children younger than 2 years should have skeletal survey.
   b) The physician is legally obligated to report the incident.
   c) If the parents refuse hospitalization, emergency court order is not indicated.
   d) Other children baby-sat by abuser should be examined within 24 hours.
   e) Child should be admitted if the diagnosis is not clear.

11. Mode of inheritance of HDR syndrome is:
   a) Autosomal recessive
   b) Autosomal dominant
   c) X-linked recessive
   d) X-linked dominant
   e) Multifactorial

12. The first sign noted in patients with abetalipoproteinemia is:
   a) Loss of deep tendon reflexes
   b) Loss of vision
   c) Hypotension
   d) Cardiac failure
   e) Edema

13. A female child was diagnosed to have selective IgA deficiency. She suffered from an anaphylactic reaction after a blood transfusion that was properly matched. The appropriate blood for her transfusion should be:
   a) Rh (−)ve
   b) O (−)ve
   c) O (+)ve
   d) AB (−)ve
   e) Washed erythrocytes

14. A male child lives in a shelter. He has atopic dermatitis. Most serious viral infection in atopic dermatitis is:
   a) Cytomegalovirus
   b) Rhinovirus
   c) Rubella
   d) Rubeola
   e) Herpes simplex virus (HSV)

15. The following statement is **not** true about urine culture:
   a) In a catheterized specimen, urine colony count is significant if it is 1,000 organisms/mL or greater.
   b) In a clean-catch (midstream voided) specimen, urine colony count is significant if it is 100,000 organism/mL or greater.
   c) In a suprapubic specimen, any bacterial growth is significant.
   d) A urine specimen collected by placing a bag on the perineum is not acceptable because of contamination.
   e) Urine specimens should be delivered to the laboratory within 2 hours of collection.

16. The last dose of hepatitis B vaccine should not be given before age:
   a) 2 months
   b) 3 months
   c) 4 months
   d) 5 months
   e) 6 months

17. The best diagnostic clue of pulmonary tuberculosis (TB) is:
   a) Isolation of Mycobacterium tuberculosis

b) Positive chest x-ray results
c) Positive PPD test results
d) Mother has active TB
e) Father has active TB

18. The following statement is **not** true about the diagnosis of pulmonary TB in children:
a) Negative cultures exclude the diagnosis of TB.
b) Early morning gastric aspirate is the best specimen for younger children.
c) Sputum specimens are the best for older children and adolescents.
d) Three consecutive morning gastric aspirates yield the organisms in less than 50% of cases.
e) The culture yield from bronchoscopy is less than that of gastric aspirates.

19. A child appears with systemic lupus erythematosus (SLE)-like syndrome without characteristic SLE serology. Most likely complement deficiency is:
a) C 5
b) C 6
c) C 7
d) C 8
e) C 1q

20. The following treatment in spinal cord injury improves the motor outcome:
a) Methylprednisolone
b) Intravenous immunoglobulin (IVIG)
c) Vigorous physiotherapy
d) IV antibiotics
e) Spinal splint

21. Phosphorus moves into the intracellular space resulting in hypophosphatemia in the following condition:
a) Metabolic acidosis
b) Metabolic alkalosis
c) Respiratory alkalosis
d) Respiratory acidosis
e) Compensated metabolic alkalosis

22. The physician noted pink to dark brown staining in diapers during a routine newborn physical examination. Most likely diagnosis is:
a) Phenylketonuria (PKU)
b) Homocystinuria
c) Hemolytic jaundice
d) Nephrotic syndrome
e) Congenital erythropoietic porphyria (CEP)

23. The daily amount of intralipid required in preterm infants to prevent essential fatty acid deficiency is:
a) 0.5 mg/kg
b) 1.0 mg/kg
c) 1.5 mg/kg
d) 2.0 mg/kg
e) 2.5 mg/kg

24. In newborns with polycythemia, highly elevated viscosity is due to:
a) Large number of RBCs
b) Reduced plasma volume
c) Reduced capillary size
d) Reduced number of capillaries
e) Decreased deformability and filterability of RBCs

25. The best growth chart indicator in patients with acute malnutrition is:
a) Body mass index (BMI)
b) Body weight

c) Length
d) Head circumference
e) Weight-for-height

26. The following growth indicator may appear relatively normal in patients with chronic severe malnutrition:
a) Weight-for-height
b) Weight
c) Length
d) Head circumference
e) Cognitive development

27. The diagnosis of an umbilical arterial thrombus in a preterm newborn is usually made by:
a) Thrombocytopenia
b) Leukopenia
c) Aortogram
d) Aortic ultrasonography
e) Unable to draw blood from the umbilical arterial line

28. Most common organism causing cervicitis is:
a) Herpes simplex virus
b) E. coli
c) C. trachomatis
d) Group B streptococci
e) Mycoplasma hominis

29. Most frequent humoral immunologic abnormality in patients with ataxia-telangiectasia is:
a) Elevated IgA level
b) Selective absence of IgA
c) Elevated IgE level
d) Elevated total IgG level
e) Elevated IgM level

30. Inhaled glucocorticoid therapy can cause dysphonia in patients with asthma. The cause of dysphonia is:
a) Vocal cord myopathy
b) Fungal infection in vocal cord
c) Vocal card paralysis
d) Pharyngitis
e) Laryngitis

31. Most common side effects of inhaled glucocorticoids are oral thrush and dysphonia. The cause of oral thrush formation is:
a) Local immunosuppression
b) Dry mouth
c) Excessive salivation
d) Herpes simplex virus
e) Infectious mononucleosis

32. A 2-week-old boy appears with nonbilious vomiting. He is being treated with oral erythromycin. Most likely diagnosis is:
a) Gastritis
b) Enteritis
c) Duodenal atresia
d) Allergic reaction
e) Infantile hypertrophic pyloric stenosis

33. Most common organism responsible for acute hemorrhagic conjunctivitis is:
a) Enterovirus 70
b) Enterovirus 71
c) Coxsackievirus B2
d) Echovirus 4
e) Herpes simplex virus

34. Neonatal lupus results from maternal transfer of the following antibodies:
    a) Anti-Ro IgM antibodies
    b) Anti-Ro IgA antibodies
    c) Ro-IgA antibodies
    d) Anti-Ro IgG antibodies
    e) Ro-IgG antibodies

35. Reye hepatic encephalopahty can occur due to use of the following medication:
    a) Acetaminophen
    b) NSAIDs
    c) Phenytoin
    d) Phenobarbital
    e) Aspirin

36. An infant of a diabetic mother (IDM) appears with hypoglycemia is mostly due to:
    a) Increased glucagon secretion
    b) Islet cell tumor
    c) Hyperinsulinemia
    d) Hypoinsulinemia
    e) Maternal reduced intake of glucose in the third trimester

37. Gonadoblastoma may occur in the following condition:
    a) Down syndrome
    b) Turner syndrome
    c) Trisomy 18
    d) Trisomy 13
    e) Klinefelter syndrome

38. A girl with Turner syndrome developed some form of masculinization. Her mother is worried because her daughter might develop gonadoblastoma. The following screening test is indicated:
    a) ESR
    b) Urinalysis
    c) CBC
    d) Look for X chromosome material
    e) Look for Y chromosome material

39. A child is admitted in a pediatric intensive care unit (PICU) after a motor vehicle accident. The mother is acting very hostile towards the PICU staff. The appropriate way to handle the situation is:
    a) Transfer the patient to another facility
    b) Let the mother decide about the medical management in order to make her happy.
    c) Ignore the mother and concentrate on patient care
    d) Only allow father to talk to the PICU staff because he is a nice person.
    e) Extensive discussion and counselling for the mother may be useful.

40. Most common cause of severe mental retardation is:
    a) Chromosomal disorder
    b) Genetic syndrome
    c) Perinatal causes
    d) Postnatal causes
    e) Unknown

41. Most common cause of all mild mental retardation is:
    a) Genetic syndrome
    b) Chromosomal disorder
    c) Perinatal causes
    d) Postnatal causes
    e) Unknown

42. Biological causes of mild mental retardation includes all of the following **except**:
    a) Excessive fetal movements
    b) Maternal drug use
    c) Perinatal insults
    d) Sex chromosomal abnormalities
    e) Genetic syndromes with multiple minor congenital anomalies

43. Most common cause of hypovolemic hyponatremia in children is:
    a) Increased ADH secretion
    b) Diabetes insipidus
    c) Diabetes mellitus
    d) Gastroenteritis
    e) Meningitis

44. A child was treated with baking soda for an upset stomach. Most likely complication is:
    a) Hyponatremia
    b) Hypernatremia
    c) Hypokalemia
    d) Hyperkalemia
    e) Metabolic acidosis

45. Most common cause of hypernatremia in hospitalized patients is:
    a) Iatrogenic
    b) Diabetes insipidus
    c) Diabetes mellitus
    d) Prolactinoma
    e) Food contains high sodium for growth

46. A child is being treated for hypernatremic dehydration. Suddenly, she develops seizures. Most likely cause of seizure is:
    a) Movement of water from serum into brain cells
    b) Movement of water from brain cells into serum
    c) Movement of sodium from serum into brain cells
    d) Movement of sodium from brain cells into serum
    e) Increased ADH secretion

47. In hypernatremic dehydration, a rapid correction results in seizures due to:
    a) Idiogenic osmoles inside the brain cells
    b) Decreased size of brain cells
    c) Rupture of brain cells
    d) Increased size of the ventricles
    e) Intraventricular hemorrhage

48. During therapy for hypernatremic dehydration, the goal is to decrease the serum sodium by:
    a) Less than 12 mEq/L/day
    b) More than 12 mEq/L/day
    c) Less than 10 mEq/L/day
    d) Less than 5 mEq/L/day
    e) Less than 3 mEq/L/day

49. A 5-day-old girl appears for a routine physical examination. She is receiving breast milk. Mother is worried. The child had 5 loose, greenish-yellow stools containing mucus for the past 2 days. The next step in management is:
    a) Admit the child for observation
    b) Admit the child for hydration therapy
    c) Obtain stool culture
    d) Admit the child for sepsis work up
    e) Reassurance only

50. A 16-month-old boy refuses to ear properly. His mother stated that he was eating properly up to 12 months of age. She started a part time job 2 months ago. She is extremely concerned. The boy is very active. The next step in management is:

a) Provide high caloric food
b) Reduce milk intake
c) Reduce juice intake
d) Force feeding is indicated
e) Reassurance only

51. Hungry bone syndrome can occur in the following condition:
a) After thyroidectomy
b) Hyperthyroidism
c) Osteoclastoma
d) Osteosarcoma
e) After removal of parathyroid glands

52. All of the following professionals participate in genetic counseling **except**:
a) Hospital administrator
b) Physician
c) Nurse
d) Genetic counselor
e) Medical geneticist

53. During genetic counseling, choices for reproduction are decided by the:
a) Physician
b) Nurse
c) Genetic counselor
d) Medical geneticist
e) Family

54. A child appears with metabolic acidosis. Basic laboratory tests should include all of the following **except**:
a) Urinalysis
b) Serum electrolytes
c) Serum glucose
d) Liver enzymes
e) BUN and creatinine

55. Mode of inheritance in adrenoleukodystrophy is:
a) Autosomal recessive
b) X-linked
c) Autosomal dominant
d) Single gene mutation
e) Multifactorial

56. Best diagnostic study to detect the carrier of adrenoleukodystrophy is:
a) Elevated of VLCFA in RBCs
b) Elevated levels of VLCFA in plasma
c) Cultured skin fibroblast
d) Chromosome study
e) Mutation analysis

57. Best diagnostic study to diagnose patients with adrenoleukodystrophy is:
a) Elevated levels of VLCFA in plasma and RBCs
b) Elevated levels of cholesterol in plasma
c) Decreased levels of VLCFA in plasma and RBCs
d) Decreased levels of triglyceride in plasma
e) Decreased levels of cholesterol in plasma

58. Prenatal diagnosis of affected male fetus with adrenoleukodystrophy is made by:
a) Elevated VLCFA levels in cultured amniocytes
b) Decreased VLCFA levels in chorionic villus cells
c) Prenatal ultrasonography performed by an expert

d) Fetal hyperactivity in utero
e) Fetal seizure activities in utero

59. Most common cause of anaphylaxis noted in emergency department is:
a) Medication allergic reaction
b) Aerosol allergic reaction
c) Food allergic reaction
d) Insecticide allergic reaction
e) Pesticide allergic reaction

60. Listeria monocytogenes is sensitive to all of the following antibiotics **except**:
a) Cephalosporins
b) Ampicillin
c) Gentamycin
d) Vancomycin
e) Erythromycin

61. Best single drug of choice for an uncomplicated listeria infection is:
a) Ampicillin
b) Gentamycin
c) Vancomycin
d) Erythromycin
e) Trimethoprim-sulfamethoxazole

62. Best drug of choice for a severe listeria infection is:
a) Ampicillin
b) Gentamicin plus vancomycin
c) Vancomycin
d) Vancomycin plus erythromycin
e) Ampicillin plus gentamicin

63. Most common cause of metabolic acidosis in children is:
a) Vomiting
b) Renal tubular acidosis
c) Kidney failure
d) Sepsis
e) Diarrhea

64. All of the following are basic mechanisms of metabolic acidosis **except**:
a) Decreased excretion of acid by the kidney
b) Increased excretion of acid by the kidney
c) Loss of bicarbonate from the body
d) Addition of acid to the body (endogenous)
e) Addition of acid to the body (exogenous)

65. Most common initial manifestation of childhood cerebral form of adrenoleukodystrophy (ALD) is:
a) Hyperactivity
b) Seizures
c) Visual disturbances
d) Difficulty in using telephone
e) Impaired spatial orientation

66. All of the following conditions cause fetal bradycardia (heart rate less than 120 beats/minute) **except**:
a) Fetal hypoxia
b) Mother receiving beta blocking agents
c) Fetal infection
d) Heart block
e) Mother receiving local anesthetic agents

67. All of the following conditions cause fetal tachycardia **except**:
    a) Early fetal hypoxia
    b) Maternal fever
    c) Fetal anemia
    d) Maternal hyperthyroidism
    e) Maternal use of sympatholytic agent

68. The most accurate assessment of gestational age in first trimester is:
    a) Femoral length
    b) Biparietal diameter
    c) Abdominal circumference
    d) Crown-rump length
    e) Chest circumference

69. The most accurate assessment of gestational age in the second trimester is:
    a) Femoral length
    b) Biparietal diameter
    c) Abdominal circumference
    d) Crown-rump length
    e) Chest circumference

70. The most accurate assessment of gestational age at term is:
    a) Genital size
    b) Biparietal diameter
    c) Chest circumference
    d) Crown-rump length
    e) Abdominal circumference and femoral length

71. Most nosocomial infections in neonatal intensive care unit (NICU) is associated with:
    a) Intravascular catheter
    b) Heel sticking
    c) Blood pressure monitoring
    d) Endotracheal suctioning
    e) Use of same stethoscope on many patients

72. Best method used to reduce nosocomial infection in NICU is:
    a) Handwashing
    b) Wearing gloves
    c) Wearing gown
    d) Wearing shoe covers
    e) Wearing mask

73. All of the following statements are true **except**:
    a) Use of gloves reduces need for handwashing.
    b) Handwashing reduces nosocomial infection.
    c) Handwashing should be performed before entering the NICU.
    d) Handwashing should be performed before each patient contact.
    e) Antimicrobial soap or alcohol-based preparation is effective.

74. The best diagnosis study to detect calcium disorder in children is:
    a) Total serum calcium
    b) X-ray of long bones
    c) Calcium phosphorus ratio
    d) Total serum phosphorus
    e) Ionized calcium

75. A child is diagnosed with hypoalbuminemia. Her total serum calcium level is normal. Most likely associated finding that may be missed is:
    a) Hypocalcemia

b) Hypercalcuria
c) Hypomagnesemia
d) Hypercalcemia
e) Hypermagnesemia

76. The following statement is **not** true about Williams syndrome:
a) Supravalvular aortic stenosis is present in about two third of patients.
b) This syndrome is due to deletion of chromosome 7.
c) Most children have mild to moderate psychomotor retardation.
d) Narrowing of pulmonary arteries, renal arteries, and cerebral blood vessels may be present.
e) Hypercalcemia is diagnosed during infancy and resolves within a couple of years.

77. The most common cardiovascular anomaly in Williams syndrome is:
a) Supravalvular aortic stenosis
b) Pulmonic stenosis
c) Subvalvular aortic stenosis
d) Hypoplastic left ventricle
e) Supravalvular aortic dilatation

78. Most common cause of hypercalcemia in Williams syndrome is:
a) Hyperparathyroidism
b) Hyperthyroidism
c) Increased calcium absorption
d) Increased calcium mobilization from bones
e) Unknown

79. A 15-year-old boy recently immigrated into America. He has an outgoing "cocktail party" personality but also seems nervous. He appears with an elongated face, full cheeks, and thicker lips but a decrease in both the periorbital fullness. Most likely diagnosis is:
a) Fetal alcohol syndrome
b) Williams syndrome
c) Noonan syndrome
d) Down syndrome
e) Klinefelter syndrome

80. An infant appears with periorbital fullness, full cheeks, long philtrum, anteverted nares, broad nasal bridge, and an open mouth. Physical examination reveals an absence of heart murmur. Laboratory findings reveal normal CBC, normal electrolytes, and high serum ionized calcium. Most likely diagnosis is:
a) Hyperthyroidism
b) Hyperparathyroidism
c) Fetal phenytoin syndrome
d) Hyperpituitarism
e) Williams syndrome

81. A newborn appears with multiple seizures within the first few hours of life. Multiple anticonvulsant medications have failed to control seizure activities. Most likely enzyme deficiency in this patient is:
a) Isovaleryl CoA dehydrogenase
b) Glutamic acid decarboxylase
c) Glutathione synthetase
d) Cystathionine synthase
e) Tyrosine hydroxylase

82. The deficiency in brain and spinal fluid in patients with pyridoxine (vitamin B_6) dependency with seizures is:
a) Gamma aminobutyric acid
b) Ornithine
c) Argininosuccinic acid
d) Glutamic acid
e) Pyruvic acid

83. Appropriate therapy for patients with pyridoxine dependency with seizures is:
    a) Cyanocobalamine
    b) Ascorbic acid
    c) Vitamin B_6 (1 – 4 mg/kg)
    d) Vitamin B_6 (5 – 9 mg/kg)
    e) Vitamin B_6 (10 – 100 mg/kg)

84. The maternal occupational limit of exposure to radiation for the entire 40 weeks of pregnancy is:
    a) 10 mrad
    b) 100 mrad
    c) 200 mrad
    d) 500 mrad
    e) 1,000 mrad

85. Therapeutic abortion is recommended when maternal radiation exposure exceeds:
    a) 500 mrad
    b) 1,000 mrad
    c) 5,000 mrad
    d) 10,000 mrad
    e) 25,000 mrad

86. CNS (central nervous system) damage such as microcephaly, intrauterine growth retardation, mental retardation is caused at these radiation dosages:
    a) 5,000 – 10,000 mrad
    b) 10,000 – 15,000 mrad
    c) 15,000 – 20,000 mrad
    d) 20,000 – 50,000 mrad
    e) Unknown

87. All infants should receive vitamin K at birth. Additional vitamin K is indicated in all of the following conditions **except**:
    a) Breast-fed infant
    b) Steatorrhea
    c) Formula-fed infant
    d) Prolonged antibiotic therapy
    e) Prolonged diarrhea

88. An adolescent is admitted for encephalopathy. He is comatose and occasionally responds to commands. Physical examination reveals irregular breathing, decorticate posturing, and deviation of eyes. Most likely clinical staging of encephalopathy is:
    a) 1
    b) 2
    c) 3
    d) 4
    e) 5

89. A child is admitted for encephalopathy. She is lethargic but follows commands. Physical examination reveals normal breathing, muscle tone, and pupillary response to light. Most likely clinical staging of encephalopathy is:
    a) 1
    b) 2
    c) 3
    d) 4
    e) 5

90. A 16-year-old boy is admitted for encephalopathy. He is intubated and comatose. He has no response to pain. Physical examination reveals absence of spontaneous breathing, no pupillary response to light, and absent tendon reflexes. Most likely clinical staging of encephalopathy is:
    a) 1
    b) 2
    c) 3

d) 4
e) 5

91. A child is admitted for encephalopathy. She is combative and follows commands inconsistently. Physical examination reveals hyperventilation, sluggish pupillary response to light, and inconsistent tendon reflexes. Most likely clinical staging of encephalopathy is:
a) 1
b) 2
c) 3
d) 4
e) 5

92. A 14-year-old girl is admitted for encephalopathy. She is comatose and responds only to pain. Physical examination reveals irregular breathing, weak pupillary response to light, and decerebrate posturing. Most likely clinical staging of encephalopathy is:
a) 1
b) 2
c) 3
d) 4
e) 5

93. Most common site of necrotizing enterocolitis (NEC) is:
a) Proximal jejunum
b) Distal jejunum
c) Distal colon
d) Proximal ileum
e) Distal ileum

94. The greatest risk factor for NEC is:
a) Oral formula feedings
b) Breast milk
c) E. coli infection
d) Prematurity
e) Perinatal asphyxia

95. A preterm infant was diagnosed with NEC. Blood culture was obtained. Ampicillin and gentamicin were started. In most patients with NEC, blood culture usually yields:
a) No pathogen
b) E. coli
c) Rotavirus
d) Clostridium perfringens
e) Staphylococcus epidermidis

96. The triad of NEC is:
a) Prematurity, breast milk, and pathogenic organism
b) Postmaturity, formula feedings, and pathogenic organisms
c) Prematurity, oral formula feedings, and intestinal ischemia
d) Full term, oral formula feedings, and intestinal ischemia
e) Intestinal ischemia, oral formula feedings, and pathogenic organisms

97. A 19-year-old pregnant mother likes all-night dance parties. She took methylenedioxymetamphetamine (MDMA, 'X', Ecstasy) routinely before and during pregnancy. The most likely fetal defect is:
a) Pulmonary
b) Gastrointestinal
c) CNS
d) Cardiac
e) Chromosomal anomaly

98. The following statement is **not** true about lung function abnormalities in asthma:
a) Peak flow morning-to-afternoon variation less than 20%

b) Spirometry reveals low (forced expiratory volume) FEV_1
c) Spirometry reveals FEV_1/FVC (forced vital capacity) ratio is less than 0.8
d) Inhaled beta 2-agonist improve FEV_1 12% or more
e) Exercise causes worsening in FEV_1 15% or more

99. The most common cause of anaphylaxis occurring in the hospital is:
a) Food
b) Oral medications
c) Fire ants
d) Idiopathic
e) Intravenous medication and latex

100. A 9-year-old boy was treated in the ER (emergency room) for an anaphylactic reaction secondary to insect sting. He improved significantly within 1 hour. His mother wants to take him home as soon as possible. The child should be observed in the ER for an least how many hours:
a) 1 hour
b) 2 hours
c) 3 hours
d) 4 hours
e) 6 hours

101. Pediatric autoimmune neuropsychiatric disorders (PANDAS) is associated with the following organisms:
a) Streptococcus pyogenes
b) Staphylococcus aurius
c) E. coli
d) Herpes simplex virus
e) Pseudomonas

102. A 17-year-old boy is allergic to penicillin. He is diagnosed with acquired syphilis. The best method to treat this patient is:
a) Ceftriaxone
b) Cefotaxime
c) Erythromycin
d) Azithromycin
e) Desensitization followed by penicillin

103. The following statement is **not** true about syphilis:
a) The concentration 0.018 microgram/mL (0.03 U/mL) of pencillin is toxic in all age groups.
b) Jarisch-Herxheimer reaction occurs in 15–20% of all patients who are treated with penicillin.
c) T. pallidum is not becoming resistant to penicillin.
d) The patient who develops Jarisch-Herxheimer reaction should be treated with penicillin.
e) Penicillin is the drug of choice for treatment of syphilis.

104. The diagnosis of neurosyphilis is made by all of the following **except**:
a) Neurologic symptoms
b) Increased WBC counts in CSF
c) Increased protein in CSF
d) Increased glucose in CSF
e) Positive CSF VDRL

105. The papular-purpuric "gloves and stocks" syndrome (PPGSS) is most likely due to:
a) Parvovirus B19
b) Herpes simplex virus
c) Pseudomonas
d) S. aureus
e) Streptococcus pyogenes

106. A 7-year-old boy appears with fever, pruritis, painful erythema, and edema of the distal part of both upper and lower extremities. Mother denies history of allergy. Most likely diagnosis is:
a) Child abuse

b) Sunburn
c) S. aureus infection
d) Group A streptococcus infection
e) Papular-purpuric "gloves and stocks" syndrome

107. The most serious complication of loiasis (Loa Loa) infection is:
a) Osteomyelitis
b) Septic arthritis
c) Pneumonia
d) Filariasis
e) Encephalitis

108. The following statement is **not** true about loiasis (Loa Loa):
a) Loiasis causes **Calabar swellings** which are nonerythematous areas of subcutaneous edema 10–20 cm in diameter typically noted around joints (e.g., knee, wrist).
b) Patients appear with **transient** episodes of pruritis, erythema, localized edema in skin, subcutaneous tissue, and subconjunctiva.
c) The blood smears collected between 6 AM and 9 AM usually detect microfilariae.
d) Diethylcarbamazine is the drug of choice for eradication of microfilaremia but the medicine does not kill adult worms.
e) The dose of diethylcarbazine should be increased gradually in children to avoid treatment-associated complications, especially with high microfilarial levels.

109. The following statement is **not** true about propofol:
a) Propofol should be considered as a "sedation" agent.
b) Propofol causes less respiratory depression but it does produce hypotension.
c) Propofol should not be used for prolonged sedation (i.e., more than 12 hours) in children.
d) Propofol can be used solely for MRI, CT-scan, and radiotherapy procedures.
e) A combination of propofol and narcotics can be used for bone marrow aspiration and lumbar puncture.

110. A 10-year-old critically ill child is admitted in the PICU. He has been receiving propofol over the past 12 hours. All of the following complications can occur **except**:
a) Death
b) Metabolic acidosis
c) Profound shock
d) Cardiac failure
e) Intracranial hemorrhage

111. Prenatal ultrasonography in a fetus with Down syndrome may detect all of the following **except**:
a) A shortened femur
b) Absent nasal bones
c) A thickened nuchal fold
d) Cardiac anomalies
e) Elongated fingers

112. Gene therapy is effective in treating patients with the following disease:
a) Cystic fibrosis
b) Sickle cell disease
c) Leukemia
d) HIV infection
e) X-linked severe combined immunodeficiency (SCID)

113. All of the following is true about emergency contraception **except**:
a) Emergency contraceptive pills (ECP_5) should not be prescribed prior to need.
b) ECPs should be given as soon as possible and must be given within 72 hours of unprotected or inadequately protected sexual intercourse.
c) Antinausea medication (e.g., meclizine) should be taken 1 hour prior to intake combination oral contraceptive (COC) or PREVEN.
d) The patient should be counseled to use contraceptive pills until the next menstrual period.
e) Repeat the same dose of ECP 12 hours later.

114. A 17-year-old girl had unprotected sexual intercourse and received emergency contraceptive pills (ECPs). A 2 week follow up appointment has been made. All of the following should be done in the follow up visit **except**:
   a) To find the effectiveness of the ECP therapy
   b) To counsel the patient
   c) To test for sexually transmitted diseases (STDs)
   d) To diagnose early pregnancy
   e) To avoid continuing contraception

115. The most specific diagnostic test for Wegener granulomatosis is:
   a) Chest x-ray revealing pulmonary hemorrhage
   b) Lung CT scan
   c) Presence of anti-PR 3 antibodies to nuclear cytoplasmic antigens (ANCAs)
   d) Renal biopsy reveals nonnecrotizing nongranulomatous angitis.
   e) Sinus biopsy reveals nonnecrotizing nongranulomatous angitis.

116. Indications for intrapartum antimicrobial prophylaxis (IAP) are to prevent early-onset group B streptococcus (GBS) infection using a universal prenatal culture screening strategy at 35–37 weeks gestation for all women. The routine rectovaginal cultures are not indicated in women with GBS bacteriuria during the current pregnancy or women with a previous infant with invasive GBS disease because these women must receive IAP. IAP is indicated in all of the following women **except**:
   a) Previous pregnancy with a positive GBS screening culture but the culture is negative in the current pregnancy and there is no history of invasive GBS disease with the previous infant.
   b) Positive GBS screening culture during current pregnancy unless a planned cesarean section is performed without labor or rupture membrane.
   c) Unknown GBS status associated with any one of the following: intrapartum fever (100.4°F or more), rupture membrane (18 hours or more), or premature delivery (less than 37 weeks gestation).
   d) GSB bacteriuria during current pregnancy
   e) Previous infant with invasive GBS disease

117. An asymptomatic infant is at 38 weeks gestation or more at delivery and whose mother received IAP (intrapartum antimicrobial prophylaxis) 4 hours or more before delivery. The next step in the management of the infant should be:
   a) To discharge the infant home after 24 hours if other discharge criteria have been met and a person should be able to observe the baby at home properly.
   b) To discharge the infant home after 48 hours if other discharge criteria have been met and a person should be able to observe the baby at home properly.
   c) If laboratory results and clinical course are benign, infants should be discharge as early as 24 hours.
   d) Full sepsis work up is indicated.
   e) Partial sepsis work up is indicated.

118. The recommended duration of therapy for infant with GBS bacteremia without a focus is:
   a) 7 days
   b) 10 days
   c) 14 days
   d) 21 days
   e) 28 days

119. The recommended duration of therapy for infants with GBS meningitis is:
   a) 1 – 2 weeks
   b) 2 – 3 weeks
   c) 3 – 4 weeks
   d) 4 – 5 weeks
   e) 5 – 6 weeks

120. The recommended duration of therapy for infants with GBS ventriculitis or osteomyelitis is:
   a) 1 week
   b) 2 weeks
   c) 3 weeks
   d) 4 weeks
   e) 6 weeks

121. The most common type in late onset GBS disease is:
    a) Ia
    b) Ib
    c) II
    d) III
    e) V

122. The most common type in GBS meningitis is:
    a) Ia
    b) Ib
    c) II
    d) III
    e) V

123. Children between 2 – 5 years of age watch TV on an average of:
    a) 0 – 10 hours/week
    b) 10 – 20 hours/week
    c) 20 – 30 hours/week
    d) 30 – 40 hours/week
    e) 40 – 50 hours/week

124. The most obvious source of exposure to violence for children in the USA is:
    a) Television
    b) Newspaper
    c) Music
    d) Toys
    e) Books

125. At what age should a child's diet not differ from that of the rest of the family:
    a) After 6 months
    b) After 12 months
    c) After 24 months
    d) After 36 months
    e) After 48 months

126. What percentage of all households in the USA are food insecure?
    a) 1%
    b) 2%
    c) 5%
    d) 10%
    e) 15%

127. The preferred agent/s for routine hand hygiene is/are:
    a) Gloves
    b) Soap and water
    c) Only cold water
    d) Only hot water
    e) Waterless hand hygiene products

128. The following statement is **not** true about waterless hand hygiene products:
    a) Remove dirt
    b) Increase compliance
    c) Save time
    d) Kill microbes
    e) Used before and after every patient examination.

129. The nosocomial infection rate is highest in the following facility:
    a) Emergency rooms
    b) Hospital clinics

c) Doctors offices
d) Long-term care facilities
e) Intensive care units (ICU)

130. The medication that reduces the secondary attack rate of mycoplasma institutional outbreak is:
a) Penicillin
b) Ceftriaxone
c) Cefotaxime
d) Tetracycline
e) Azithromycin

131. The most frequently used agent in the management of severe Mycoplasma pneumoniae complications especially neurologic complications is:
a) Fresh frozen plasma
b) Interleukin
c) Corticosteroids
d) CNS radiation
e) Intravenous immunoglobulin

132. In clinical manifestations, the hallmark of the Henoch-Schonlein purpura is:
a) Intussuception
b) Arthritis
c) Rash
d) Glomerulonephritis
e) Edema of lower extremities

133. A 5–year–old boy is diagnosed with Henoch-Schonlein purpura. He passed current jelly stools. The next step in management is:
a) Air/barium enema
b) Stool Guiac test
c) Stool culture
d) Abdominal x-ray
e) Observation only

134. A patient with Henoch-Schonlein purpura and IgA nephropathy may have elevated plasma antibody titers against the following organism:
a) H. parainfluenzae
b) H. influenzae
c) Group A streptococcus
d) Herpes simplex virus
e) S. aureus

135. The following statement is **not** true about the treatment of patients with Henoch-Schonlein purpura:
a) The symptomatic therapies (e.g., adequate hydration, acetaminophen, bland diet) are indicated for patients with arthritis, fever, malaise, and edema.
b) The competitive activities are not allowed in patients with H–S purpura.
c) The hot compress plus elevation of the scrotum improve scrotal edema
d) Oral or intravenous corticosteroids therapy may offer significant improvement in gastrointestinal and CNS complications.
e) A 'baby' aspirin (81 mg) therapy is indicated in patients with thrombotic episodes and presence of anticardiolipin or antiphospholipid antibodies.

136. The preferred therapy for patients with pseudomonas meningitis is:
a) Ceftazidime and gentamicin
b) Cefotaxime
c) Ceftriaxone
d) Azlocillin and gentamicin
e) Mezlocillin and gentamicin

137. The preferred therapy for patients with cystic fibrosis and pseudomonas infection is:
a) Cefotaxime

b) Ceftazidime
c) Gentamicin
d) Carbenicillin
e) Ticarcillin

138. A 10-year-old girl is being treated with intravenous ceftazidime and gentamicin for pseudomonas meningitis. The repeated CSF culture reveals Pseudomonas aeruginosa despite therapy. The following therapy may be indicated for this patient is:
a) Discontinue ceftazidime and add ceftriaxone
b) Discontinue gentamicin and add cefotaxime
c) Add carbenicillin
d) Concomitantly intraventricular or intrathecal gentamicin (1 – 2 mg once daily, independent of body weight) may be given until the CSF becomes sterile
e) Concomitantly intraventricular or intrathecal gentamicin (1 – 2 mg/kg once daily) may be given until the CSF becomes sterile.

139. The best method to prevent follicular dermatitis caused by pseudomonas contamination of hot tubs or whirlpools is:
a) To clean the hot tubs or whirlpools daily.
b) To maintain pool water at a pH 7.2 – 7.8 and free chlorine concentration at 70.5 mg/L.
c) To maintain pool water at a pH 6.5 – 7.1 and free chlorine concentration at 60.5 mg/L.
d) To maintain pool water at a pH 7.9 – 8.5 and free chlorine concentration at 70.5 mg/L.
e) To maintain pool water at a pH 7.9 – 8.5 and free chlorine concentration at 80.5 mg/L.

140. The most common organism causing otitis media, bacteremia, and bacterial pneumonia in children is:
a) H. influenzae
b) P. aeruginosa
c) S. aurius
d) S. epidermidis
e) S. pneumoniae

141. All of the following serotypes of S. pneumoniae resistant to penicillin **except**:
a) 4
b) 6
c) 9
d) 14
e) 19

142. The preferred initial therapy for serious infections caused by penicillin-resistant S. pneumoniae is:
a) Ceftriaxone
b) Augmentin
c) Clindamycin
d) Cefotaxime
e) Vancomycin

143. The following statement is **not** true about the currently available heptavalent pneumococcal vaccine containing conjugated capsular polysaccharide:
a) Vaccine decreases invasive infections by more than 93% of cases.
b) Vaccine decreases lobar pneumonias by more than 73% of cases.
c) Vaccine decreases otitis media by 6-7% of cases.
d) Vaccine does not decrease the complications of otitis media.
e) Vaccine can cause local swelling, redness, and fever when used along with other vaccines.

144. The following statement is **not** true about penicillin prophylaxis against pneumococcal diseases:
a) Penicillin prophylaxis is recommended for patients with asplenia or sickle cell disease.
b) Oral penicillin V potassium or once monthly intramuscular benzathine penicillin G provides adequate prophylaxis.
c) Prophylaxis is recommended for at least 1 year after splenectomy or up to 4 years of age.
d) High risk children with fever should be treated immediately regardless of vaccination history or penicillin prophylaxis.
e) The efficacy of erythromycin is unknown but it can be used in patients with penicillin allergy.

145. The patency of the omphalomesenteric (vitelline) duct may produce all of the following conditions **except**:
   a) Intestinal fistula
   b) Prolapse of the intestine
   c) Meckel diverticulum
   d) A polyp (cyst)
   e) Bladder outlet obstruction

146. All of the following clinical features are noted in neonatal cold injury **except**:
   a) Blueness of the face, hands, and feet
   b) Edema
   c) Apnea
   d) Bradycardia
   e) Pulmonary hemorrhage

147. All of the following clinical features are noted in hypermagnesemia **except**:
   a) Hypoventilation
   b) Hyporeflexia
   c) Hyperreflexia
   d) Lethargy
   e) Meconium plug syndrome is an associated finding

148. Initial therapy for patients with hypermagnesemia is:
   a) Exchange transfusion
   b) Intravenous calcium
   c) Diuretics
   d) Intravenous hydration
   e) Only supportive care and respiratory support

149. All of the following are the complications of patients with bone marrow transplantation (BMT) **except**:
   a) Infections
   b) Renal failure
   c) Respiratory failure
   d) Fluid and electrolyte problems
   e) Thrombocytosis

150. The donation of organs is contraindicated in all of the following conditions **except**:
   a) Traumatic organ injury
   b) Severe organ dysfunction
   c) Active infection (including HIV)
   d) Serious vascular disease
   e) CNS injury

151. A small child received transplanted adult kidney. He is putting out several hundred mL of urine per hour. The urine output is replaced with normal saline. The recorded blood pressure is at levels 20-30% higher than normal. The management may include all of the following **except**:
   a) Renal biopsy
   b) Monitor serum electrolytes closely
   c) Replace urine output and insensible water losses
   d) Watch for pulmonary edema
   e) Ultrasound and Doppler flow studies of the transplanted kidney to monitor renal blood flow and to diagnose obstructive problems.

152. The most common organism causing **persistent** tympanostomy tube otorrhea is:
   a) Pseudomonas aeruginosa
   b) Streptococcus pneumoniae
   c) Haemophilus influenzae
   d) Group A Streptococcus
   e) Staphylococcus aureus

153. A child appears with tube otorrhea. All of the following therapy may be required **except**:
   a) Ofloxacin otic solution
   b) Aural toileting
   c) A short course of oral prednisone
   d) Removal of the tube
   e) Outpatient management

154. A newborn is diagnosed with transient tachypnea of the newborn (TTNB). The chest x-ray findings include all of the following **except**:
   a) Fluid lines in the fissures
   b) Overaeration of both lungs
   c) Flat diaphragm
   d) Coarsely granular pattern
   e) Prominent pulmonary vascular markings

155. The adverse long-term outcome in polycythemia is most likely due to:
   a) Chronic intrauterine hypoxia and hyperviscosity
   b) Acute hypoxia
   c) Hyperoxia
   d) Hypercarbia
   e) Hypocarbia

156. Accelerated pubertal development in patients with shunted hydrocephalus or meningomyelocele is most likely due to:
   a) Increased gonadotropin secretion
   b) Decreased gonadotropin secretion
   c) Increased thyroxine secretion
   d) Decreased thyroxine secretion
   e) Increased ADH secretion

157. The following statement is not true about the treatment of hydrocephalus:
   a) Acetazolamide and furosemide reduce the rate of CSF production and provide temporary relief, but long-term outcome is poor.
   b) Shunt infection rate is about 10-15%.
   c) The outcome of intrauterine surgical treatment is poor because of high rate of associated cerebral anomalies.
   d) Most patients are treated with ventriculoperitoneal shunt.
   e) S. epidermidis is the most common organism causing shunt infection.

158. All of the following statements are true in determining the adequate milk supply during nursing **except**:
   a) Weighing the infant before and after every nursing
   b) Infants sleep 2-4 hours between feedings.
   c) Infants gain weight adequately.
   d) Infants pampers are wet adequately.
   e) Infants who are 'light sleepers' have adequate milk intake but need maternal body contact for comfort.

159. The following statement is **not** true about the treatment of hyperkalemia:
   a) The first drug of choice is intravenous sodium bicarbonate.
   b) Intravenous calcium stabilizes the cell membrane of heart cells and prevents arrythmias immediately when infused within a few minutes.
   c) Intravenous bicarbonate moves potassium within the cells and is useful in hyperkalemia associated with metabolic acidosis.
   d) Insulin moves potassium within the cells and is used along with glucose infusion to avoid hypoglycemia.
   e) Nebulized albuterol moves potassium within the cells by stimulating beta 1-receptor.

160. The average composition of diarrhea is:
   a) Sodium 55 mEq/L, potassium 25 mEq/L, bicarbonate 15 mEq/L
   b) Sodium 60 mEq/L, potassium 10 mEq/L, bicarbonate 10 mEq/L
   c) Sodium 40 mEq/L, potassium 25 mEq/L, bicarbonate 15 mEq/L
   d) Sodium 55 mEq/L, potassium 15 mEq/L, bicarbonate 25 mEq/L
   e) Sodium 50 mEq/L, potassium 20 mEq/L, bicarbonate 30 mEq/L

161. The fluid composition to treat diarrhea (replace stool mL per mL every 1-6 hours) is:
   a) D_{10} 1/4 NS + 15 mEq/L bicarbonate + 25 mEq/L Kcl
   b) D_5 1/4 NS + 15 mEq/L bicarbonate + 25 mEq/L Kcl
   c) D_5 1/2 NS + 20 mEq/L bicarbonate + 20 mEq/L Kcl
   d) D_5 1/5 NS + 15 mEq/L bicarbonate + 20 mEq/L Kcl
   e) D_5 1/4 NS + 10 mEq/L bicarbonate + 10 mEq/L Kcl

162. The average composition of gastric fluid is:
   a) Sodium 50 mEq/L, potassium 10 mEq/L, chloride 80 mEq/L
   b) Sodium 60 mEq/L, potassium 10 mEq/L, chloride 90 mEq/L
   c) Sodium 55 mEq/L, potassium 15 mEq/L, chloride 70 mEq/L
   d) Sodium 50 mEq/L, potassium 20 mEq/L, chloride 60 mEq/L
   e) Sodium 70 mEq/L, potassium 25 mEq/L, chloride 90 mEq/L

163. The fluid composition to treat gastric fluid loss (replace output mL/mL every 1-6 hours) is:
   a) D_5 1/2 NS + 20 mEq/L Kcl
   b) D_5 1/2 NS + 10 mEq/L Kcl
   c) D_{10} 1/2 NS + 10 mEq/L Kcl
   d) D_5 1/4 NS + 15 mEq/L Kcl
   e) D_{10} 1/4 NS + 25 mEq/L Kcl

164. The mean airway pressure (MAP) is increased by all of the following parameters **except**:
   a) Increased positive inspiratory pressure (PIP)
   b) Increased positive end expiratory pressure (PEEP)
   c) Increased inspiratory flow
   d) Prolonged expiratory time
   e) Increased ventilatory rate without changing the inspiratory time

165. All of the following statements are true about PKU (phenylketonuria) **except**:
   a) A pregnant mother with hyperphenylalaninemia should be on phenylalanine-restricted diet during pregnancy.
   b) Infants with persistent plasma phenylalanine level above 6 mg/dL should be treated with phenylalanine-restricted diet as soon as the diagnosis is confirmed.
   c) Infants do not need dietary restriction if the plasma phenylalanine levels are between 2–6 mg/dL.
   d) All patients should be on phenylalanine-restricted diet for life.
   e) Phenylalanine is not synthesized in the body.

166. An infant is being treated with phenylalanine-restricted diet. He develops rash, lethargy, anemia, anorexia, diarrhea, and failure to thrive. The most likely diagnosis is:
   a) Secondary infection
   b) Viral gastroenteritis
   c) Phenylalanine deficiency
   d) Phenylalanine toxicity
   e) Iron deficiency anemia

167. The mode of inheritance of PKU (phenylketonuria) is:
   a) Autosomal recessive
   b) Autosomal dominant
   c) X-linked recessive
   d) X-linked dominant
   e) Multifactorial

168. The enzyme deficiency in PKU is:
   a) Phenylalanine hydrogenase
   b) Phenylalanine synthetase
   c) Phenylalanine hydroxysynthase
   d) Phenylalanine aminotransferase
   e) Phenylalanine hydroxylase

169. The most important organ affected in PKU is:
   a) CNS
   b) Peripheral nervous system
   c) Cardiovascular
   d) Liver
   e) Gastrointestinal tract

170. Pulmonary interstitial emphysema (PIE) can be prevented by:
   a) Avoiding high positive inspiratory pressure (PIP)
   b) Avoiding high oxygen use
   c) Increasing high PIP
   d) Increasing mean ventilatory pressure
   e) Avoiding low positive end-expiratory pressure (PEEP)

171. The treatment of pulmonary interstitial emphysema (PIE) includes all of the following **except**:
   a) Selective intubation and ventilation of the involved lung and bronchus
   b) High frequency ventilation
   c) Oxygen
   d) Bronchoscopy performed in patients with mucus plug
   e) General respiratory care

172. The predominant source of bleeding in pulmonary hemorrhage is:
   a) Tracheal
   b) Bronchial
   c) Interstitial
   d) Laryngeal
   e) Alveolar

173. The treatment of pulmonary hemorrhage includes all of the following **except**:
   a) Blood transfusion
   b) Increased PEEP
   c) Intratracheal administration of epinephrine
   d) Suctioning to clear the airway
   e) Increased PIP

174. The following statement is **not** true about RhoGAM:
   a) RhoGAM is administered either at 28-32 of gestational age or at birth (40 weeks) in Rh-negative mothers.
   b) RhoGAM (1 mL or 300 microgram of human anti-D globulin) can remove approximately 10 mL of antigenic fetal cells from the maternal circulation.
   c) RhoGAM reduces the risk of sensitization of Rh-negative mothers to less than 1%.
   d) The proportionately larger amounts of RhoGAM are required in cases of large fetal-to-maternal transfusions.
   e) RhoGAM is given intramuscularly in Rh-negative mothers carrying a Rh-positive fetus, having an abortion, ectopic pregnancy, amniocentesis, chorionic villus biopsy, or uterine injury that may cause placental separation and fetal-to-maternal transfusions.

175. All of the following are clinical manifestations in patients with T-cell deficiency **except**:
   a) Otitis media
   b) Rhinitis
   c) Mucocutaneous candidiasis
   d) Pneumonia
   e) Chronic constipation

176. The following statement is **not** true about patients with B-cell defects:
   a) The clinical manifestations appear within first 2 months of age.
   b) The clinical manifestations may include recurrent otitis media, pneumonia, meningitis, bacteremia, and bronchitis.
   c) S. pneumoniae and H. influenzae type b infections are more common in patients with IgG_2 deficiency, X-linked agammaglobulinemia, or common variable immunodeficiency.
   d) Allergies and autoimmune disorders are common in selective IgA deficiencies.
   e) The patients with hyper-IgM syndrome may present with recurrent neutropenia, hemolytic anemia, or aplastic anemia.

177. A 14-month-old boy required a left myringotomy tube placement due to recurrent ear infections. The following investigation can lead to this diagnosis:
   a) ESR
   b) X-ray sinuses
   c) Head CT-scan
   d) Throat culture
   e) Serum immunoglobulin levels

178. Intravenous immunoglobulin (IVIG) is the preferred therapy for patients with primary antibody deficiencies. IVIG can cause anaphylactic reaction in the following condition:
   a) IgG deficiency
   b) IgM deficiency
   c) IgA deficiency
   d) IgE deficiency
   e) IgD deficiency

179. The most common organism producing peritonitis in patients with continuous ambulatory peritoneal dialysis (CAPD) is:
   a) S. aureus
   b) S. epidermidis
   c) Staphylococcus hemolyticus
   d) Group A Streptococcus
   e) Streptococcus pneumoniae

180. This organism produces exopolysaccharide protective biofilm or slime layer:
   a) S. aureus
   b) S. epidermidis
   c) E. coli
   d) Pseudomonas
   e) S. pneumoniae

181. S. epidermidis is the most common organism in all of the following infections **except**:
   a) Recurrent otitis media
   b) CSF shunt meningitis
   c) Premature infants with a central catheter
   d) Full term infants with an umbilical arterial line
   e) A child with malignancy and central venous catheter (e.g., Hickman or Broviac)

182. The following is **not** true about the real diagnosis of coagulase-negative staphylococci (e.g., S. epidermidis) infection:
   a) A full term infant is admitted for rule out sepsis due to maternal GBS infection. The infant's blood culture reveals S. epidermidis. The infant is receiving ampicillin and gentamicin.
   b) A preterm infant is admitted with respiratory distress syndrome. Umbilical arterial and venous lines are placed. After 7 days, the infant became symptomatic. The blood culture became positive for S. epidermidis.
   c) True bacteremia is suspected when blood cultures grow within 24 hours.
   d) True bacteremia is suspected when two blood cultures are positive for S. epidermidis.
   e) Two separate blood cultures are useful in differentiating true culture from contaminated culture before the initiation of antibiotic therapy.

183. The resistance to semisynthetic penicillins of S. aureus is related to:
   a) Penicillin-binding protein (PB2A)
   b) Penicillin-nonbinding protein
   c) Antibodies against S. aureus
   d) Penicillin-binding protein (PB2B)
   e) Penicillin-binding protein (PB2C)

184. The following statement is not true about methicillin-resistant staphylococcus aureus (MRSA) infections:
   a) The strict isolation of affected patients is the most effective way of preventing nosocomial infections in the hospital.
   b) Vancomycin is the drug of choice in MRSA infections.
   c) The patient who stayed next to the patient affected with MRSA infection should receive prophylactic antibiotics.

d) The strict isolation of newly colonized patients are indicated.
e) MRSA organisms are equally virulent like methicillin-sensitive S. aureus organisms.

185. The urine odor of a newborn smells like **boiled cabbage**. The most likely diagnosis is:
a) Glutaric acidemia
b) Isovaleric acidemia
c) Phenylketonuria
d) Maple syrup urine disease
e) Tyrosinemia

186. The urine odor of a newborn smells like **tomcat urine**. The most likely diagnosis is:
a) Tyrosinemia
b) Trimethylaminuria
c) Isovaleric acidemia
d) Hawkinsinuria
e) Multiple carboxylase deficiency

187. The urine odor of a newborn smells like **sweaty feet**. The most likely diagnosis is:
a) Glutaric acidemia (type II)
b) Oasthouse urine disease
c) Phenylketonuria
d) Maple syrup urine disease
e) Hawkinsinuria

188. All of the following conditions can **cause** white matter disorders (WMD) in preterm infants **except**:
a) Maternal toxemia
b) Fetal vasculitis
c) Fetal growth restriction
d) Hypothyroxinemia
e) Hypocarbia and hypercarbia

189. All of the following conditions can **protect** from white matter disorders (WMD) in preterm infants **except**:
a) Maternal toxemia
b) Magnesium sulfate
c) Prostaglandin inhibitors
d) Antenatal corticosteroids
e) Hypercarbia

190. The rate of bilirubin production in newborns is:
a) 2-4 mg/kg/day
b) 4-6 mg/kg/day
c) 6-8 mg/kg/day
d) 8-10 mg/kg/day
e) 10-12 mg/kg/day

191. All of the following conditions cause **indirect** hyperbilirubinemia **except**:
a) Sepsis
b) Down syndrome
c) Hypothyroidism
d) Gilbert syndrome
e) Crigler-Najjar syndrome

192. All of the following conditions cause **direct** hyperbilirubinemia **except**:
a) TORCH infection
b) Biliary atresia
c) Cystic fibrosis
d) Galactosemia
e) Spherocytosis

193. A 4-day-old newborn appears with jaundice and poor feeding. The serum total and direct bilirubin levels are 18 and 8 mg/dL respectively. The most likely diagnosis is:
   a) Urinary tract infection
   b) Spherocytosis
   c) G6PD deficiency
   d) Neonatal asphyxia
   e) Breast feeding

194. All of the following conditions can cause indirect hyperbilirubinemia and positive Coombs test **except**:
   a) Mother is 'O' and baby is 'A'
   b) Mother is 'O' and baby is 'B'
   c) Mother is 'Rh-negative' and baby is 'Rh-positive'
   d) Minor group incompatibilities
   e) G6PD deficiency

195. All of the following conditions can cause indirect hyperbilirubinemia and polycythemia **except**:
   a) Giant cell hepatitis
   b) Small for gestational age
   c) Delayed cord clamping
   d) Twin transfusion
   e) Maternal-fetal transfusion

196. The following statement is not true about the guidelines for evaluation of sexual abuse in children:
   a) Genital, rectal, and pharyngeal cultures should be obtained in all patients prior to antibiotic therapy.
   b) Nonculture gonococcal tests (e.g., Gram stain, DNA probes, enzyme immunoassays, or nucleic acid amplification tests) of oropharyngeal, rectal, or genital tract specimens are also diagnostic.
   c) Children should be evaluated for sexual transmitted diseases (e.g., Chlamydia trachomatis, syphilis, hepatitis B, and HIV).
   d) In prepubertal children, when culture is not available, a positive nucleic acid amplification test on vaginal swab can be useful if the result can be verified by another nucleic acid amplification test.
   e) Appropriate cultures should be obtained from people who had contact with sexually abused child.

197. A 7-year-old girl is diagnosed with Lyme disease. The preferred therapy is:
   a) Amoxicillin
   b) Doxycycline
   c) Cefuroxime
   d) Erythromycin
   e) Azithromycin

198. An 8-year-old girl is diagnosed with Lyme disease. The preferred therapy is:
   a) Doxycycline
   b) Amoxicillin
   c) Erythromycin
   d) Cefuroxime
   e) Azithromycin

199. A 12-year-old boy developed dermatitis in sun-exposed areas. He is being treated for Lyme disease. The most likely cause of dermatitis is:
   a) Amoxicillin
   b) Cefuroxime
   c) Tetracycline
   d) Isolated sun-burn
   e) Doxycycline

200. A 6-year-old boy is allergic to penicillin. He is diagnosed with Lyme disease. The preferred therapy is:
   a) Amoxicillin
   b) Doxycycline
   c) Tetracycline
   d) Erythromycin
   e) Cefuroxime

201. Most infants should begin to take solid foods at:
    a) 4 months of age
    b) 5 months of age
    c) 6 months of age
    d) 8 months of age
    e) 9 months of age

202. Most infants develop interest in solid foods at about:
    a) 2 months of age
    b) 3 months of age
    c) 4 months of age
    d) 6 months of age
    e) 8 months of age

203. Most infants show preferences for sweet and salty foods at about:
    a) 1 month of age
    b) 2 months of age
    c) 3 months of age
    d) 4 months of age
    e) 7 months of age

204. A fetus can swallow amniotic fluid as early as:
    a) 10 weeks of gestation
    b) 12 weeks of gestation
    c) 16 weeks of gestation
    d) 20 weeks of gestation
    e) 24 weeks of gestation

205. American Academy of Pediatrics recommended that infants should sleep in the following position to reduce the risk of sudden infant death syndrome (SIDS):
    a) Supine position
    b) Prone position
    c) Head up position (30 degrees angle)
    d) Head down position
    e) Head up position (45 degrees angle)

206. The most common cause of nasal polyposis in children is:
    a) Chronic sinusitis
    b) Acute sinusitis
    c) Chronic rhinitis
    d) Deviated nasal septum
    e) Cystic fibrosis

207. A 10-yar-old boy is diagnosed with nasal polyposis. He has no respiratory and gastrointestinal symptoms. The most likely diagnosis is:
    a) Allergy to dust
    b) Allergy to pollen
    c) Chronic sinusitis
    d) Nasal foreign body
    e) Cystic fibrosis

208. A child is diagnosed with Samter triad. Samter triad includes all of the following:
    a) Asthma, aspirin sensitivity, and nasal polyposis
    b) Asthma, tylenol sensitivity, and nasal polyposis
    c) Constipation, bronchitis, and nasal polyposis
    d) Constipation, asthma, and nasal polyposis
    e) Pancreatitis, diarrhea, and nasal polyposis

209. A boy is diagnosed with severe scoliosis and breathing problems during sleep. The most likely long-term complication is:
   a) Asthma
   b) Bronchitis
   c) Bronchiectasis
   d) Herniated disc
   e) Pulmonary hypertension

210. The gold standard for assessment of scoliosis is:
   a) Physical examination and an upright posteroanterior radiograph and measurement of the angle of curvature (cobb technique)
   b) CT scan
   c) MRI
   d) Ultrasonography
   e) Anteroposterior and lateral x-ray of the spine

211. The most common organism causing lymphangitis is:
   a) Staphylococcus aureus
   b) Group B Streptococcus
   c) E. coli
   d) Streptococcus pneumoniae
   e) Plasmodium falciparum

212. The antenatal diagnosis of Finnish type of congenital nephrotic syndrome is confirmed by:
   a) Ultrasonography of kidneys
   b) Elevated amniotic fluid protein level
   c) Edematous fetus
   d) DNA analysis
   e) Elevated amniotic fluid alpha-fetoprotein level

213. An adolescent girl appears for a routine physical examination. Physical examination reveals breast asymmetry and Tanner stage 3. The next step in management is:
   a) Ultrasonography
   b) Mammography
   c) MRI
   d) Breast tissue biopsy
   e) Reassurance

214. Hemifacial microsomia is characterized by all of the following **except**:
   a) Microstomia
   b) Deformed external ears
   c) Unilateral hypoplasia of mandible
   d) Blind fistulas between the angles of the mouth and the ears.
   e) Partial paralysis of the facial nerve

215. Persistence of unconjugated serum bilirubin levels above 20 mg/dL after the first week of life without hemolysis should suggest:
   a) 'AO' set up and Coombs positive
   b) 'BO' set up and Coombs positive
   c) G6PD deficiency
   d) Polycythemia
   e) Crigler-Najjar syndrome (type I)

216. The mode of inheritance of Crigler-Najjar syndrome (type I) is:
   a) Autosomal recessive
   b) Autosomal dominant
   c) X-linked recessive
   d) X-linked dominant
   e) Multifactorial

217. The mode of inheritance of Crigler-Najjar syndrome (type II) is:
   a) Autosomal recessive
   b) Autosomal dominant
   c) X-linked recessive
   d) X-linked dominant
   e) Multifactorial

218. There is a persistence of serum unconjugated bilirubin levels in a range of 1.5-22 mg/dL into and after the third week of life without hemolysis. The reduction of bilirubin with phenobarbital therapy should suggest:
   a) Crigler-Najjar syndrome (type I)
   b) Crigler-Najjar syndrome (type II)
   c) Dubin-Johnson syndrome
   d) Rotor syndrome
   e) 'ABO' incompatibility and Coombs negative

219. All of the following therapeutic modalities are indicated in patients with Crigler-Najjar syndrome (type I) **except**:
   a) Phototherapy
   b) Exchange transfusion
   c) Phenobarbital
   d) Plasmapheresis
   e) Orthotopic hepatic transplantation

220. The serum bilirubin levels producing brain injury beyond the neonatal period are:
   a) above 20 mg/dL
   b) above 25 mg/dL
   c) above 28 mg/dL
   d) above 30 mg/dL
   e) above 35 mg/dL

221. Ebstein anomaly is associated with the following:
   a) Tricuspid stenosis
   b) Tricuspid regurgitation
   c) Mitral stenosis
   d) Pulmonic stenosis
   e) Aortic regurgitation

222. Mitral valve prolapse is commonly associated with all of the following conditions **except**:
   a) Marfan syndrome
   b) Scoliosis
   c) Pectus excavatum
   d) Straight back syndrome
   e) Noonan syndrome

223. A prenatal evaluation of a fetus reveals short femur length, edema, hydrops, and normal chromosomes. The most likely diagnosis is:
   a) Noonan syndrome
   b) Turner syndrome
   c) Klinefelter syndrome
   d) Down syndrome
   e) Hypoplastic left heart syndrome

224. All of the following features are present in Noonan syndrome **except**:
   a) Aortic stenosis
   b) Short stature
   c) Web neck
   d) Cubitus valgus
   e) Pectus carinatum

225. Acanthosis nigricans (i.e., dark pigmentation of skin creases/flexural areas) is present in majority of patients with:
   a) Type I diabetes mellitus
   b) Type II diabetes mellitus
   c) Addison disease
   d) Liver failure
   e) Pituitary tumor

226. The most vulnerable areas of the brain in status epilepticus include all of the following **except**:
   a) Thalamus
   b) Amygdala
   c) Cerebellum
   d) Hippocampus
   e) Anterior cortical area

227. Congenital muscular dystrophy is associated with cerebral dysgenesis of the following condition:
   a) Walker-Warburg syndrome
   b) Thyroid myopathies
   c) Myasthenia gravis
   d) Mitochondrial myopathies
   e) Spinal muscular atrophies

228. The following treatment is not useful in patients with Landouzy-Dejerine disease:
   a) Physiotherapy
   b) Orthopedic measures for footdrop
   c) Orthopedic measures for scoliosis
   d) Cosmetic surgery of the facial muscles
   e) Reconstructive surgery

229. A full term male newborn, appropriate for gestational age, was born by normal spontaneous vaginal delivery. His respiratory rate drops 10 breaths per minute during sleep but is 40 breaths per minute when awake. Arterial blood gas (ABG) during sleep reveals pH 7.0, $Paco_2$ 80, and Pao_2 50. However, ABG is normal when awake. He passed a hyperoxia test (i.e., Pao_2 becomes 260 with 100% oxyhood). His urine toxicology results are negative. His blood culture results are negative. He is being treated with ampicillin and gentamicin. His chest x-ray results are normal. The most likely diagnosis is:
   a) Transient tachypnea of the newborn (TTNB)
   b) Congenital central hypoventilation syndrome
   c) Critical Pulmonic stenosis
   d) Phenylketonuria
   e) Group B Streptococcal meningitis

230. Congenital central hypoventilation syndrome can be treated with all of the following **except**:
   a) Ventilatory support
   b) Nutritional care
   c) Phrenic nerve pacing after 2 years of age
   d) Prevention of acidosis, cerebral hypoxia, and ischemia
   e) Pharmacologic respiratory stimulation

231. The major cause of respiratory failure in patients with congenital central hypoventilation syndrome is:
   a) CNS defects
   b) Peripheral nervous system defects
   c) Intercostal muscle weakness
   d) Deformed ribs
   e) Diaphragmatic muscle fatigue

232. The most common cause of recurrent pneumonia in children:
   a) Gastroesophageal reflux
   b) Tracheoesophageal fistula
   c) Bronchopleural fistula
   d) Laryngeal atresia
   e) Oropharyngeal incoordination

233. The gold standard for evaluation of the swallowing mechanism in patients with chronic aspiration is:
    a) Esophagoscopy
    b) Bronchoscopy
    c) Laryngoscopy
    d) Salivagram
    e) A modified barium swallow with videofluroscopy

234. The long-term effect of using-over-the counter antacids containing magnesium in children is:
    a) Diarrhea
    b) Constipation
    c) Vomiting
    d) Obstipation
    e) Abdominal distension

235. The long-term effect of using over-the-counter antacids containing aluminum in children is:
    a) Diarrhea
    b) Constipation
    c) Vomiting
    d) Obstipation
    e) Abdominal distension

236. The immediate postoperative complication after surgical repair of coarctation of aorta is:
    a) Rebound hypertension
    b) Hypotension
    c) Aortic aneurysm
    d) Upper extremities hypotension
    e) Anastomotic leak

237. The treatment for postoperative hypertension after surgical repair of coarctation of aorta is:
    a) Antihypertensive medication
    b) Reoperation because of operative failure
    c) Renal failure
    d) Cardiac failure
    e) Fluid retention because of increased ADH secretion

238. The development of recoarctation after surgical repair of coarctation of the aorta is best treated with:
    a) Repeat surgical repair
    b) Reassurance
    c) Aspirin
    d) Vasodilator medication
    e) Balloon angioplasty

239. A 5-month-old girl appeared with history of respiratory infections followed by congestive cardiac failure. She was completely asymptomatic prior to this episode. She appeared with dyspnea, cough, and failure to thrive. Physical examination revealed edema, hepatomegaly, and pulmonary congestion. Chest x-ray revealed cardiomegaly and clear lung fields. EKG reveals left atrial and left ventricular hypertrophy. Echocardiogram revealed a bright endocardial surface and a dilated, poorly contracting left ventricle. The most likely diagnosis is:
    a) Hypoplastic left ventricle
    b) Aortic stenosis
    c) Tetralogy of Fallot
    d) Cardiomyopathy
    e) Endocardial fibroelastosis

240. The preferred therapy for patients with end-stage endocardial fibroelastosis is:
    a) Digoxin
    b) Lasix
    c) Pacemaker
    d) Removal of endocardial tissue
    e) Heart transplantation

241. All of the following are indications of platelet transfusions in infants within 4 months of age **except**:
   a) Platelet counts less than 20,000 and clinically stable
   b) Platelet counts less than 50,000 and invasive procedure
   c) Platelet counts less than 100,000 and bleeding
   d) Platelet counts less than 100,000 and clinically unstable
   e) Platelet counts less than 150,000 and normal platelet functions but bleeding

242. All of the following are indications of platelet transfusions in children and adolescents **except**:
   a) Platelet counts less than 10,000, marrow failure without bleeding risk factors
   b) Platelet counts less than 20,000, marrow failure with bleeding risk factors
   c) Platelet counts less than 50,000 and bleeding
   d) Platelet counts less than 50,000 and invasive procedures
   e) Platelet counts more than 100,000 and normal platelet functions but bleeding

243. All of the following are indications of fresh frozen plasma (FFP) transfusions in neonates **except**:
   a) Prophylactic FFP transfusion to prevent intraventricular hemorrhage (IVH) in premature infants
   b) Bleeding in vitamin K deficiency
   c) Disseminated intravascular coagulation (DIC) with bleeding
   d) Bleeding in congenital coagulation factor deficiency when more specific therapy is either unavailable or inappropriate
   e) FFP is mixed with packed RBCs to simulate whole blood for use in massive transfusion or cardiovascular surgery.

244. The following is **not** an indication for pediatric FFP transfusion:
   a) Factor VII deficiency
   b) Emergency reversal of warfarin effects which are actively bleeding or require emergency surgery
   c) Protein C, protein S, and antithrombin III deficiencies
   d) Plasma exchange replacement fluid for thrombotic thrombocytopenic purpura
   e) Dilutional coagulopathy and bleeding

245. A meticulous surgeon performed a thyroidectomy operation. All four parathyroid glands were undisturbed. This complication may occur:
   a) Tetany
   b) Hyperparathyroidism
   c) Hyperthyroidism
   d) Hypopituitarism
   e) Hypoadrenalism

246. The probable etiology of craniosynostosis:
   a) Dysfunctional osteoblasts
   b) Dysfunctional osteoclasts
   c) Small size of ventricles
   d) Excessive maternal intake of calcium
   e) Abnormal development of the base of the skull

247. The following condition is **not** associated with craniosynostosis:
   a) Crouzon syndrome
   b) Apert syndrome
   c) Pfeiffer syndrome
   d) Carpenter syndrome
   e) Aqueductal stenosis

248. Craniosynostosis may be associated with the following:
   a) Mutations of fibroblast growth factor receptors (FGFR)
   b) Mutations of epidermal growth factor receptors
   c) Trisomy 18
   d) Tuner syndrome
   e) Klinefelter syndrome

249. A child develops lethargy, bradycardia, hypotension, and myosis within 1 hour of ingestion of a medication. He is recently diagnosed with a syndrome. The most likely cause of the clinical presentation is:

a) Attention deficit hyperactivity disorders (ADHD)
b) Tic syndrome
c) Clonidine toxicity
d) Atropine toxicity
e) Over-the-counter cough medicine ingestion

250. The following therapy is **not** true about clonidine toxicity:
a) Gastric decontamination should be performed as soon as possible.
b) Aggressive supportive care is indicated
c) Naloxone reverses CNS and respiratory depression.
d) Continuous infusion of naloxone may be necessary.
e) Extracorporeal removal of clonidine is not indicated.

251. A child is admitted for iron toxicity and is treated with intravenous deferoxamine. The most likely complication of deferoxamine therapy is:
a) Hypotension
b) Hypertension
c) Hyperpigmentation
d) Hypopigmentation
e) Diarrhea

252. The antidote for organophosphate and carbamate pesticide poisoning is:
a) Atropine
b) Diphenhydramine
c) Naloxone
d) Physostigmine
e) Benztropine

253. The antidote for methemoglobinemia is:
a) Naloxone
b) Atropine
c) Methylene blue
d) Benztropine
e) N-Acetylcysteine

254. The antidote for organophosphate insecticide poisoning is:
a) Dimercaprol
b) Fomepizole
c) Physostigmine
d) Pyridoxine
e) Pralidoxine

255. The antidote for acetaminophen toxicity is:
a) Atropine
b) Naloxone
c) Pyridoxine
d) Flumazenil
e) N-Acetylcysteine

256. The antidote for anticholinergic agents is:
a) Physostigmine
b) Atropine
c) Naloxone
d) N-Acetylcysteine
e) Diphenhydramine

257. The antidote for lead poisoning is:
a) Dimercaptosuccinic acid
b) Benztropine

c) Deferoxamine
d) Naloxone
e) Fomepizole

258. The antidote for INH toxicity is:
a) Pyridoxine
b) Diphenhydramine
c) Cyanocobalamine
d) Thiamine
e) Niacin

259. The antidote for benzodiazepines toxicity is:
a) Fomepizole
b) Flumazenil
c) Benztropine
d) Pralidoxime
e) Naloxone

260. The antibody for digoxin toxicity is:
a) Atropine
b) Physostigmine
c) Naloxone
d) Diphenhydramine
e) Digoxin-specific Fab antibodies

261. The antidote for narcotic toxicity is:
a) Atropine
b) Ethanol
c) Pyridoxine
d) Benztropine
e) Naloxone

262. The following statement is **not** true about the basic safety tips that children should learn to prevent animal bite injuries:
a) Children should not disturb any animal that is eating or sleeping.
b) Children should not go near an unfamiliar animal.
c) Children should not disturb a mother dog that is caring for or feeding her puppies.
d) Children should run away from an unaccompanied dog.
e) Children should remain still if an unfamiliar animal approaches.

263. The most common organism in rat-bite fever is:
a) Spirillum minus
b) Pasteurella multocida
c) Mixed anaerobes
d) Eikenella
e) Streptobacillus moniliformis

264. The most common organism responsible for sodoku is:
a) Spirillum minus
b) Streptobacillus moniliformis
c) P. multocida
d) Haemophilus influenzae
e) S. aureus

265. The most common organism in dog bite wound infection is:
a) Mixed anaerobes
b) H. influenzae
c) Spirillum minus
d) Eikenella corrodens
e) Alpha-hemolytic streptococci

266. The most common organism in cat bite wound infection is:
   a) Pasteurella multocida
   b) S. aureus
   c) S. intermedius
   d) Spirillum minus
   e) Streptobacillus moniliformis

267. The most common organism in clenched fist injury infection is:
   a) Anaerobic bacteria
   b) Eikenella
   c) S. aureus
   d) P. multocida
   e) S. intermedius

268. All of the following organisms are responsible for human bite wound infections **except**:
   a) Nontypable Haemophilus influenzae
   b) S. aureus
   c) Alpha-hemolytic streptococci
   d) Eikenella corrodens
   e) Streptobacillus moniliformis

269. An 8-year-old female child has recently immigrated from a Papua New Guinea. She is asymptomatic. Physical examination reveals goiter. Thyroid function tests on a patient with endemic goiter should reveal:
   a) Lower serum T_4, higher serum T_3, and moderately higher serum TSH
   b) Lower serum T_4, Lower serum T_3, and higher serum TSH
   c) Normal serum T_4, Normal serum T_3, and normal serum TSH
   d) Higher serum T_4, higher serum T_3, and lower serum TSH
   e) Normal serum T_4, higher serum T_3, and normal serum TSH

270. A 12-year-old girl has problems with her school work and her friends. She appears with a history of emotional disturbances (i.e., irritable, excitable, cries easily) and motor hyperactivities. She has a voracious appetite. She has been losing weight for the last 9 months. Physical examination reveals mildly enlarged thyroid gland and a fine tremor in hands. The most likely diagnosis is:
   a) Anorexia nervosa
   b) Pituitary tumor
   c) Graves disease
   d) Addison disease
   e) Emotional stress

271. A nursing mother is diagnosed with Graves disease. The preferred therapy is:
   a) Propylthiouracil
   b) Methimazole
   c) Radioiodine
   d) Total thyroidectomy
   e) Subtotal thyroidectomy

272. A 17-year-old girl is diagnosed with Graves disease. The preferred therapy is:
   a) Methimazole
   b) Propylthiouracil
   c) Radioiodine
   d) Subtotal thyroidectomy
   e) Total thyroidectomy

273. Congenital hyperthyroidism is due to the transfer of the following antibody through the placenta:
   a) Thyroid stimulating antibody
   b) Thyroid releasing antibody
   c) Thyrotropin receptor-stimulating antibody (TRSAb)
   d) Thyrotropin receptor-blocking antibody (TRBAb)
   e) Thyroid inhibiting antibody

274. A prenatal use of propranolol in maternal thyrotoxicosis may have the following adverse effect in a newborn:
   a) Respiratory depression
   b) Bradycardia
   c) Tachycardia
   d) Hypotension
   e) Hypertension

275. A full-term newborn is born by normal spontaneous vaginal delivery. He is asymptomatic. His mother was treated with propylthiouracil for hyperthyroidism. The boy was discharged on the second day of life. On the fourth day, he became irritable, restless, anxious, and alert. The maternal history of GBS colonization was missed. The most likely diagnosis:
   a) GBS meningitis
   b) Sepsis
   c) Hyperthyroidism
   d) Hypothyroidism
   e) GBS bacteremia

276. The preferred therapy for congenital hyperthyroidism:
   a) Methimazole
   b) Lugol solution
   c) Thyroxine
   d) Partial thyroidectomy
   e) Propranolol and propylthiouracil (PTU)

277. All of the following treatments may be required in a newborn with severe thyrotoxicosis **except**:
   a) Propranolol
   b) Propylthiouracil
   c) Lugol solution
   d) Corticosteroids
   e) Thyroidectomy

278. The anticonvulsants that bind to **beta-subunit of $GABA_A$** receptor to increase the action of endogenous agonist GABA and prolong opening time of chloride ion channels are:
   a) Benzodiazepines
   b) Barbiturates
   c) Vigabatrin
   d) Tiagabin
   e) ACTH

279. The anticonvulsants that bind to **alpha-subunit of $GAGA_A$** to increase the frequency of opening of chloride ion channels are:
   a) Benzodiazepines
   b) Vigabatrin
   c) Tiagabin
   d) Barbiturates
   e) Valproic acid

280. The anticonvulsant that **irreversibly binds to GABA-transaminase** to inhibit degradation of inhibitory neurotransmitter GABA resulting in an increase of GABA levels is:
   a) Vigabatrin
   b) Carbamazepin
   c) Ethosuximide
   d) Tiagabine
   e) Zonisamide

281. The anticonvulsant that **blocks uptake of synaptically released GABA** into both presynaptic neurons and glial cells, and allows GABA to remain at the site of action for longer periods is:
   a) Tiagabine
   b) Topiramate
   c) Phenytoin

d) Leviractam
e) Oxcarbazepine

282. The anticonvulsant that acts by decreasing the sustained repetitive firing of neurons by blocking sodium-dependent channels and by reducing depolarization-dependent calcium uptake is:
a) Carbamazepine
b) Ethosuximide
c) Gabapentin
d) Lamotrigine
e) Phenobarbital

283. The mechanism of action of carbamazepine is **similar** to the following anticonvulsant:
a) Benzodiazepines
b) Ethosuximide
c) Tiagabine
d) ACTH
e) Phenytoin

284. The anticonvulsant that **blocks calcium channels** associated with thalamocortical pathway is:
a) Topiramate
b) Ethosuximide
c) Gabapentin
d) Phenytoin
e) Tiagabine

285. The anticonvulsant that **blocks voltage-dependent sodium channels and increases calcium-dependent potassium conductance** is:
a) Valproic acid
b) Phenobarbital
c) Nitrazepam
d) Phenytoin
e) Tiagabine

286. The anticonvulsant that **blocks voltage-dependent sodium channels** is:
a) Topiramate
b) Phenytoin
c) Clobazam
d) Phenobarbital
e) ACTH

287. The anticonvulsant that acts as **voltage-sensitive sodium channels** to stabilize neuronal membranes and **inhibits neuronal release of glutamate** (excitatory neurotransmitter) is:
a) Lamotrigine
b) Phenytoin
c) Gabapentin
d) Phenobarbital
e) Ethosuximide

288. The mechanism of action of gabapentin (anticonvulsant) is:
a) To bind with the neuronal membranes (glutamate synapses) and increase GABA (inhibitory neurotransmitter) turnover.
b) To block reuptake of the GABA into neuronal and glial cells.
c) To bind with the GABA transaminase receptors and increase GABA levels.
d) To bind with the alpha-subunit of $GABA_A$ receptors to potentiate the action of GABA and increase frequency of opening of chloride ion channels.
e) To bind with the beta-subunit of $GABA_A$ receptors to potentiate the action of GABA and prolong opening time of chloride ion channels.

289. A healthy 6-month-old child is brought to the emergency room with history of sudden onset of seizures. The seizures are characterized by sudden flexions of neck and trunk, and extensions of both upper and lower extremities. He was born by normal

spontaneous vaginal delivery with good Apgar scores. On second day of life, he was discharged. He received all required immunizations at 2 months, 4 months, and 6 months of age. The last immunization was given by a private doctor 2 days prior to this episode. This is the first episode of seizure activities. The mother noticed seizure activities when he was sleeping. Mother denies history of trauma. Physical examination reveals normal vital signs and neurological findings. Head CT scan is normal. EEG reveals hypsarrythmia. The most likely diagnosis is:

a) Meningitis
b) Child abuse
c) Infantile spasms
d) Normal newborn movements
e) Immunization induced seizures

290. The following is **not** true about the treatment of infantile spasms:

a) ACTH is the preferred therapy.
b) Prednisone is less effective than ACTH.
c) ACTH and prednisone can control seizures up to 70% of cases.
d) About 33% of patients suffer relapse when ACTH or prednisone is discontinued.
e) There is no relation between the degree of seizure control and the neurologic and cognitive outcome.

291. All of the following are the side effects of ACTH **except**:

a) Hypoglycemia
b) Hypertension
c) Infection
d) Gastrointestinal disturbances
e) Transient brain shrinkage

292. All of the following are the side effects of carbamazepine **except**:

a) Hypernatremia
b) Leukopenia
c) Elevated AST
d) Elevated ALT
e) Idiosyncratic reaction

293. The active metabolite of carbamazepine:

a) Carbamazepine –8, 9– epoxide
b) Carbamazepine –10, 11– epoxide
c) Carbazine –10, 11– epoxide
d) Carbapine –8, 9– epoxide
e) Carbamazepine –12, 13– epoxide

294. The rare side effects of valproic acid includes all of the following **except**:

a) Reye-like syndrome
b) Irreversible hepatotoxicity
c) Lethargy
d) Coma
e) Increased serum carnitine levels

295. A child developed lethargy, weakness, and hypotonia. He is being treated with valproic acid for seizure activities. The most likely cause of these clinical manifestations is:

a) Recurrence of seizures
b) Valproic acid toxicity
c) New onset of seizures
d) Carnitine deficiency
e) Valproic acid subtherapeutic level

296. The use of the following anticonvulsant is contraindicated in patients who are receiving ketogenic diet:

a) Valproic acid
b) Phenobarbital
c) Phenytoin

d) ACTH
e) Vigabatrin

297. A 3-year-old boy has been walking on his toes for the last 2 years. His mother is worried. He is developmentally normal for his age. The next step in the management is:
a) Orthopedic consultation
b) Bilateral x-ray of both ankles
c) Ankle splint
d) Surgical release of Achilles tendon
e) Reassurance

298. A 4-year-old girl with history of unilateral toe walking. The most likely diagnosis is:
a) Cerebral diplegia
b) Habitual
c) Tethered spinal cord
d) Duchenne muscular dystrophy
e) Hip dislocation

299. A newborn is diagnosed with congenital muscular torticollis. A careful examination of the following is indicated:
a) Heart
b) Kidney
c) CNS
d) Hip
e) Spleen

300. The most important physical examination finding in a newborn with development dysplasia of the hip (DDH) is:
a) The Barlow test
b) The Ortolani test
c) Asymmetric thigh skin folds
d) Asymmetric leg lengths
e) Hips are flexed and abducted

301. A newborn's routine physical examination reveals audible hip clicks. Hip clicks are due to all of the following conditions **except**:
a) Snapping of gluteal tendons
b) Breaking the surface tension across the hip joints
c) Rotating knee (femorotibial) joints
d) Moving patellofemoral joints
e) Dislocating hip joints

302. The best diagnostic study in **newborns** with developmental dysplasia of the hip (DDH) is:
a) MRI
b) CT-scan
c) Arthrography
d) Lateral x-ray of the hip joint
e) Dynamic ultrasonography

303. The best diagnostic study in **older infants and children** with developmental dysplasia of the hip is:
a) MRI
b) CT-scan
c) Arthrography
d) Ultrasonography
e) Anteroposterior and Lauenstein (frog) lateral x-ray of the pelvis

304. The preferred therapy **in newborns** with DDH is:
a) Open surgical reduction
b) Closed surgical reduction
c) Hip cast
d) Reassurance
e) Flexion and abduction of the hip for 1-2 months

305. The preferred therapy in patients with DDH **between 1-6 months of age** is:
   a) Pavlik harness
   b) Hip cast
   c) Reassurance
   d) Open surgical reduction
   e) Closed surgical reduction

306. The preferred therapy in patients with DDH **between 6-18 months of age** is:
   a) Closed surgical reduction
   b) Open surgical reduction
   c) Pavlik harness
   d) Frejka splint
   e) Hip cast

307. The preferred therapy in patients with DDH **between 18 months-8 years of age** is:
   a) Open surgical reduction
   b) Closed surgical reduction
   c) Hip cast
   d) Frejka splint
   e) Pavlik harness

308. The most severe complication of the DDH is:
   a) Acetabular dysplasia
   b) Recurrence of dislocation
   c) Postsurgical infection
   d) Residual subluxation
   e) Avascular necrosis of capital femoral epiphysis

309. A mother is receiving a drug during lactation. The best way to detect the amount of drug a breast-feeding infant receives is:
   a) Total amount of maternal drug intake
   b) Maternal serum drug level
   c) Infant serum drug level
   d) Infant saliva drug level
   e) Analyze the amount of drug in the breast milk

310. The amount of drug that is absorbed in the infants gastrointestinal tract from the mother's breast milk can be obtained by:
   a) Examining infant's saliva
   b) Performing urine toxicology test
   c) Examining infant's stool
   d) Examining infant's gastric pH
   e) A clinical pharmacy or pharmacology service

311. A predisposing condition that can cause labial adhesion is:
   a) Vaginal septum
   b) Rectovaginal fistula
   c) Urethral prolapse
   d) Imperforate anus
   e) Uterine prolapse

312. A newborn is diagnosed with the labial adhesion. She is treated with topical estrogen cream for one week. The following treatment is indicated after estrogen therapy to prevent the recurrence of labial adhesion:
   a) Petrolatum ointment
   b) Soak with saline solution
   c) Soak with estrogen solution
   d) Progesterone cream
   e) A combination of estrogen and progesterone ointment

313. All of the following allele of protease inhibitors (Pi) have normal liver function tests (LFTs) **except**:
   a) PiZZ

b) PiMM
c) PiMS
d) PiMZ
e) PiSZ

314. The diagnosis of alpha-1-antitrypsin deficiency is confirmed is:
a) PiZZ phenotype
b) Bone marrow biopsy
c) Liver scan
d) PiMM phenotype
e) Liver biopsy

315. The curative therapy for patients with alpha-1-antitrypsin deficiency is:
a) Ursodeoxycholic acid
b) Liver enzymes
c) Liver transplantation
d) Intramuscular alpha-1-antitrypsin
e) Intravenous alpha-1-antitrypsin

316. The preferred therapy for patients with recurrent respiratory papillomatosis is:
a) Intralaryngeal sclerosing agent
b) Intralaryngeal epinephrine
c) Intralaryngeal corticosteroids
d) Reassurance
e) Excision with CO_2 laser

317. A newborn developed noisy breathing and mild respiratory distress. He was diagnosed with recurrent respiratory papillomatosis. He acquired the disease from his mother:
a) At the time of delivery
b) In utero
c) Immediately after birth
d) During nursing
e) Within 7 days after birth

318. The recurrent respiratory papillomatosis (RRP) is caused by the following types of human papillomavirus (HPV):
a) Types 1 and 3
b) Types 2 and 4
c) Types 6 and 11
d) Types 12 and 14
e) Types 13 and 15

319. All of the following environmental irritants can cause cough, asthma, or chronic lung disease **except**:
a) Ozone
b) Nitrogen dioxide
c) Marijuana smoke
d) Tobacco smoke
e) Carbon dioxide

320. A mother is pregnant with her second child. Her first child suffered from a congenital heart disease. The incidence of heart disease in her second child is:
a) 0.8%
b) 1-2%
c) 2-6%
d) 10-20%
e) 20-30%

321. A mother is pregnant with her third child. Her first and second children suffered from congenital heart disease. The incidence of heart disease in her third child is:
a) 2-6%

b) 10-20%
c) 20-30%
d) 30-50%
e) 50-100%

322. The lateral thoracotomy was performed on a child with tetralogy of Fallot. All of the following complications can occur shortly after surgery **except**:
a) Chylothorax
b) Horner syndrome
c) Diaphragmatic paralysis
d) Cardiac failure
e) Hyperactive radial pulse

323. An infant is diagnosed with tetralogy of Fallot and admitted for the modified Blalock-Taussig shunt operation. Two days prior to surgery, in the early morning the infant developed cyanosis, tachypnea, and restlessness. The resident who was on call made the diagnosis hypoxic, 'blue', or 'tet' spells. The infant was placed on the abdomen in knee-chest position, received oxygen, and subcutaneous injection of morphine (0.2 mg/kg). The infant remained cyanotic and developed metabolic acidosis. The infant received a rapid intravenous infusion of sodium bicarbonate but did not improve. The next step in management is:
a) Sepsis work up
b) Repeat ABG
c) Repeat EKG
d) Repeat echocardiogram
e) Intravenous methoxamine

324. An infant is diagnosed with a **severe form of tetralogy of Fallot.** She is receiving prostaglandin E_1 infusion. The preferred therapy for the infant is:
a) Prostaglandin E_2 infusion
b) Continue PGE_1 infusion
c) Oral propranolol
d) Iron therapy
e) Open heat surgery and total correction

325. An infant is diagnosed with a **less severe form of tetralogy of Fallot.** He is growing normally and has no cyanotic spells. The time to perform surgical repair is:
a) Between 1 and 3 months
b) Between 4 and 12 months
c) Between 12 and 15 months
d) Between 15 and 18 months
e) Between 18 and 24 months

326. An infant is diagnosed with a less severe form of tetralogy of Fallot. She is waiting for a surgical repair but needs careful observation. All of the following treatments are useful **except**:
a) Hydration
b) Iron
c) Propranolol
d) Oxygen prn
e) Sodium bicarbonate

327. The survival of premature RBCs is:
a) 0-20 days
b) 20-40 days
c) 40-60 days
d) 60-80 days
e) 80-100 days

328. All of the following conditions cause impaired vitamin B_{12} absorption **except**:
a) Transcobalamin II deficiency
b) Surgical removal of terminal ileum
c) Duplications of small intestine

d) Diphyllobothrium latum infection
e) Imerslund-Grasbeck syndrome

329. The preferred therapy for vitamin B_{12} deficiency secondary to Imerslund-Grasbeck syndrome is:
a) Oral vitamin B_{12} plus iron
b) Oral vitamin B_{12}
c) Oral folic acid and vitamin B_{12}
d) Parenteral treatment with folic acid
e) Parenteral treatment with vitamin B_{12}

330. All of the following are complications of sickle cell trait **except**:
a) Intraocular bleeding
b) Hematuria
c) Splenic infarcts at high altitude
d) Hypersplenism
e) Sudden death during severe exercise

331. A pregnant mother was treated with trimethoprim-sulfamethoxazole for an urinary tract infection (UTI) 2 weeks prior to delivery. A full-term infant is delivered by normal spontaneous vaginal delivery with good Apgar scores. However, the infant appears pale and jaundice. The complete blood count reveals hemoglobin 8 g/dL, hematocrit 24%, reticulocyte 10%, WBC 15,000 cells/mm^3, polymorphonuclear leukocytes 55%, lymphocytes 43%, monocytes 2%, and platelets 250,000. Unstained or supravital preparations of RBCs reveal Heinz bodies. The serum total and direct bilirubin levels are 8 and 0.5 respectively at 4 hours of age. The mother's blood type is A+, and baby's type is O+ and Coombs negative. The infant is placed under photography. The most likely diagnosis is:
a) Urinary tract infection with jaundice
b) Rh-incompatibility with hemolytic jaundice
c) ABO-incompatibility with hemolytic jaundice
d) G6PD deficiency with hemolytic jaundice
e) Minor blood group incompatibility with jaundice

332. A child was recently diagnosed with acute rheumatic fever. She is receiving aspirin (60 mg/kg/day). She developed a severe hemolytic episode after aspirin therapy. The most likely diagnosis is:
a) Aspirin allergy
b) Aspirin anaphylaxis
c) G6PD deficiency and hemolysis
d) Rh-incompatibility and hemolysis
e) Rheumatic fever causing hemolysis

333. A preterm infant developed spontaneous hemolytic jaundice. The infant is O+ and Coombs negative. The mother is B+. The diagnosis of G6PD deficiency is made. The most likely variety of G6PD that can cause spontaneous hemolysis in preterm infants but **not** term infants is:
a) G6PD A+
b) G6PD A–
c) G6PD B+
d) G6PD B–
e) G6PD C+

334. A mother brought her three young children for a routine physical examination. Their father recently died of stroke at the age of 35. They have a paternal uncle who has high blood pressure. He is 30 years old. They moved recently to a new city. All children are healthy. The physical examination may reveal:
a) Abnormal hearing test results
b) Abnormal visual screening test results
c) Abnormal echocardiograms
d) Abnormal EKG findings
e) Abnormal blood pressure measurements

335. A child appears with a history of headache, dizziness, and visual disturbances. The physical examination reveals hypertension. Laboratory findings reveal elevated plasma and urine levels of aldosterone, 18-oxocortisol, and 18-hydroxycortisol, and decreased plasma renin activities. The preferred therapy is:

a) Spironolactone
b) Hydrochlorthiazide
c) Propranolol
d) Testosterone
e) Prednisone

336. The most common complication of bacterial meningitis is sensorineural hearing loss. The hearing loss is most commonly due to:
a) Labyrinthitis
b) Vestibulitis
c) Cerebritis
d) Otitis media with effusion
e) Edema of the auditory nerve

337. The most common bacterial meningitis causing sensorineural hearing loss in children is:
a) Pneumococcus
b) Meningococcus
c) Gonococococcus
d) Group B streptococcus
e) H. influenzae type b

338. A child developed seizure activities during the therapy for bacterial meningitis. Immediately, the child received intravenous lorazepam and seizure activities stopped. The preferred maintenance therapy for seizure activities is:
a) Phenobarbital
b) Phenytoin
c) Valproic acid
d) Carbamazepin
e) Diazepam

339. The following is **not** the clinical manifestation of pseudotumor cerebri:
a) Headache
b) Diplopia
c) Papilledema
d) Focal neurologic signs
e) Vomiting

340. The presence of diplopia in patients with pseudotumor cerebri is due to:
a) Paralysis of optic nerve
b) Paralysis of abducens nerve
c) Paralysis of facial nerve
d) Paralysis of vagus nerve
e) Paralysis of glossopharyngeal nerve

341. A 3-year-old girl appears with headache and vomiting. Ophthalmologic examination reveals bilateral papilledema with enlarged blind spots. These clinical findings are consistent with the diagnosis of:
a) Brain atrophy
b) Pseudotumor cerebri
c) Optic nerve glioma
d) Retinoblastoma
e) Metastatic neuroblastoma

342. The following statement is **not** true about the patients with pseudotumor cerebri:
a) The goal is to detect and treat the underlying cause.
b) Pseudotumor cerebri is not a self-limited condition.
c) Many patients require repeated follow-up and only monitoring of the visual acuties.
d) Some patients require several lumbar taps to reduce opening pressures.
e) Some patients require acetazolamide and corticosteroids therapies.

343. All of the following conditions can cause pseudotumor cerebri **except**:
a) Lateral sinus thrombosis

b) Prolonged corticosteroid therapy
c) Vitamin A deficiency
d) Vitamin A toxicity
e) Hyperparathyroidism

344. The following condition does **not** cause pseudotumor cerebri:
a) Wiskott-Aldrich syndrome
b) Guillain-Barre syndrome
c) Addison disease
d) Rapid withdrawal of corticosteroid therapy
e) Obstruction of the inferior vena cava

345. The most common organism causing secondary infection in patients with tropical acne is:
a) S. aureus
b) S. epidermidis
c) Pseudomonas
d) Group A streptococcus
e) Herpes simplex virus

346. The most common organism causing acne vulgaris is:
a) S. aureus
b) S. epidermidis
c) Pityrosporum ovale
d) Pseudomonas aeruginosa
e) Propionibacterium acnes

347. The isotretinoin therapy in women is highly teratogenic. After discontinuation of the isotretinoin, pregnancy should be avoided for:
a) 2 weeks
b) 1 month
c) 2 months
d) 3 months
e) 6 months

348. The following statement is **not** true about acne vulgaris:
a) There is a good correlation between acne severity and psychological impact, particularly in adolescents.
b) Early treatment does not alter the course of acne except isotretinoin therapy.
c) Tretinoin (Retin-A) topical application is the most effective treatment for comedonal acne.
d) Oral isotretinoin (13-retinoic acid, Accutane) therapy is indicated in severe, scarring acne, acne associated with severe psychological disturbances, and moderate to severe nodulocystic acne that has not responded to conventional therapy.
e) For comedones and papulopustular acne, the most effective topical medications are retinoic acid, benzoyl peroxide gel, adapalene, and topical antibiotics (e.g., clindamycin, erythromycin).

349. Drug-induced acne is caused by all of the following drugs **except**:
a) Vitamin B_{12}
b) Isoniazid
c) Phenobarbital
d) Phenytoin
e) Vitamin D

350. The preferred therapy for patients with carbon monoxide poisoning is:
a) Nitric oxide therapy
b) High frequency ventilation
c) Exchange transfusion
d) High concentration of carbon dioxide
e) High concentration of oxygen

351. The best way to diagnose carbon monoxide poisoning is:
a) Carbonmonoxyhemoglobin levels in the blood.
b) Carbon monoxide levels during expiration

c) Carboxyhemoglobin levels in the blood
d) Carboxyhemoglobin levels during inspiration
e) Arterial blood gas

352. The **antitoxin** therapy is indicated in patients diagnosed with the following disease because of biological terrorism:
a) Botulism
b) Smallpox
c) Anthrax
d) Plague
e) Tularemia

353. The preferred therapy for patients diagnosed with anthrax because of biological terrorism:
a) Ciprofloxacin
b) Gentamicin
c) Chloramphenicol
d) Ribavirin
e) Penicillin

354. The preferred therapy for patients diagnosed with plague because of biological terrorism:
a) Gentamicin
b) Penicillin
c) Erythromycin
d) Cefotaxime
e) Ceftriaxone

355. All of the following antibiotics can be used in patients diagnosed with tularemia because of bioterrorism **except**:
a) Penicillin
b) Gentamicin
c) Doxycycline
d) Ciprofloxacin
e) Chloramphenicol

356. A group of children went to Caribbean island for a vacation. A few of them developed severely pruritic papules, vesicles, and urticarial plaques over the areas of the body that is mostly covered by bathing suits. They also have fever, chills, malaise, and headache. The most likely cause is:
a) Allergic reactions to venom from larvae
b) Allergic reactions to salt water
c) Fungal skin infections
d) Pseudomonas skin infections
e) S. aureus skin infections

357. The preferred therapy for patients with seabather's eruption is:
a) Ceftazidime
b) Vancomycin
c) Amphotericin
d) Topical antifungal ointment
e) Symptomatic and potent topical corticosteroids

358. The coagulation studies (e.g., PT, PTT) are usually normal in patients with hemolytic-uremic syndrome (HUS). However, the prolongation of coagulation studies can occur in HUS. The prolongation of coagulation studies is more commonly due to the following:
a) Calcium deficiency
b) Thrombocytopenia
c) Hemolysis
d) Vitamin K deficiency
e) Leukopenia

359. All of the following conditions can cause hemolytic-uremic syndrome **except**:
a) Undercooked meat

b) Unpasteurized milk
c) Contaminated apple cider
d) Peritoneal dialysis
e) Bathing in a contaminated swimming pool

360. All of the following medications can cause hemolytic-uremic syndrome **except**:
a) Cyclosporine
b) Mitomycin
c) Pyran copolymer
d) Oral contraceptives
e) Hydralazine

361. The side effect of hydralazine medication is:
a) Bronchospasms
b) Bradycardia
c) Hyperglycemia
d) Drug-induced lupus
e) Orthostatic hypotension

362. The antihypertensive medication that causes bronchospasms is:
a) Propranolol
b) Clonidine
c) Diazoxide
d) Enalaprilat
e) Captopril

363. The preferred therapy for patients with hypertensive emergencies is:
a) Intravenous labetalol
b) Intravenous propranolol
c) Intravenous enalaprilat
d) Intravenous hydralazine
e) Intravenous phentolamine

364. All of the following therapies are indicated initially in adolescents with an essential hypertension **except**:
a) Weight reduction in obese
b) Reduce sodium intake
c) Aerobic exercise
d) Avoid tobacco
e) A small amount of red-wine (15 mL per day)

365. In a patient with hypertensive crisis, the blood pressure should be reduced to about:
a) 95% of the total planned reduction within the first 2 hours and the remaining 5% reduction over the next 4 hours.
b) 80% of the total planned reduction within the first 30 minutes and the remaining 20% reduction over the next 24 hours.
c) 33% of the total planned reduction within the first 6 hours and the remaining 67% reduction over the next 48-72 hours.
d) 20% of the total planned reduction within the first 3 hours and the remaining 80% reduction over the next 12 hours.
e) 100% within the first 3 hours in order to avoid hypertensive encephalopathy that is a potential complication.

366. The following antihypertensive medication may be avoided in patients with abnormal renal functions:
a) Nifedipine
b) Furosemide
c) Captopril
d) Propranolol
e) Nitroprusside

367. The following treatment may be curative in patients with renal artery stenosis secondary to fibromuscular dysplasia:
a) Renal arteriovenous anastomosis
b) Aortorenal anastomosis
c) Bilateral nephrectomy

d) Percutaneous balloon angioplasty of renal arteries
e) Renal artery and superior mesenteric artery anastomosis

368. The Reed-Sternberg cell is the hallmark of Hodgkin disease. The Reed-Sternberg cell arise mostly from:
a) Germinal center A-cells
b) Germinal center B-cells
c) Germinal center C-cells
d) Thyroid glands
e) Parathyroid glands

369. A 16-year-old boy appears with painless, firm, cervical and supraclavicular lymphadenopathies. He denies history of trauma or infection. The next step in management prior to lymph nodes biopsy is:
a) Chest x-ray
b) Abdominal x-ray
c) Bone marrow biopsy
d) MRI of the neck
e) Upper gastrointestinal series

370. The preferred diagnostic study for primary brain tumors is:
a) EEG
b) Lumbar tap
c) Serum alpha-fetoprotein
d) CT-scan
e) MRI

371. The most common location of brain tumors in children is:
a) Infratentorial
b) Supratentorial
c) Spinal cord
d) Multiple sites
e) Meningeal

372. The most common type of brain tumor in children **less than 1 year of age is**:
a) Choroid plexus complex tumors
b) Medulloblastomas
c) Juvenile pilocytic astrocytomas
d) Diffuse astrocytomas
e) Ependymomas

373. The most common type of brain tumor in children **from 1-10 years of age** is:
a) Juvenile pilocytic astrocytomas
b) Brainstem gliomas
c) Ependymomas
d) Craniopharyngiomas
e) Chiasmal gliomas

374. The most common type of brain tumor in children **after 10 years of age** is:
a) Diffuse astrocytomas
b) Craniopharyngiomas
c) Brainstem gliomas
d) Medulloblastomas
e) Ependymomas

375. The most common brain tumor in **pediatric age groups** is:
a) Astrocytomas
b) Craniopharyngiomas
c) Ependymomas
d) Medulloblastomas
e) Brainstem gliomas

376. All of the following drugs cause **central diabetes insipidus** by the inhibition of vasopressin release **except**:
   a) Phenytoin
   b) Methicillin
   c) Halothane
   d) Opiate antagonists
   e) Alpha-adrenergic agents

377. All of the following drugs cause **acquired nephrogenic diabetes insipidus except**:
   a) Lithium
   b) Amphotericin
   c) Rifampin
   d) Foscarnet
   e) Ethanol

378. The most common primary brain tumor associated with diabetes insipidus is:
   a) Germinomas
   b) Craniopharyngiomas
   c) Optic gliomas
   d) Histiocytosis
   e) Lymphocytic hypophysitis

379. All of the following are the complications of growth hormone therapy **except**:
   a) Leukemia
   b) Pseudotumor cerebri
   c) Breast atrophy
   d) Worsening of scoliosis
   e) Slipped capital femoral epiphysis

380. An **young infant** appears with irritability, failure to thrive, and intermittent fever. Physical examination reveals moderate to severe dehydration. The urine output is 5 mL/kg/hour. SMA6 reveals Na 157, cl 116, glucose 90, BUN 35, creatinine 0.5, and K 4.0. The serum osmolality is 330 mOsm/kg and urine osmolality is 270 mOsm/kg. The preferred therapy is:
   a) Intravenous vasopressin
   b) Intranasal vasopressin analogs
   c) Vasopressin analogs (tablet)
   d) Restrict fluid intake
   e) Large volume of fluid

381. The preferred therapy for **older children** with central diabetes insipidus **without** neurosurgical intervention is:
   a) Large volume of fluid
   b) Restrict fluid intake
   c) Intravenous vasopressin
   d) Subcutaneous vasopressin
   e) Long-acting vasopressin analog dDAVP (desmopressin)

382. The preferred therapy for patients with central diabetes insipidus following a **neurosurgical intervention** is:
   a) Large volume of fluid
   b) Restrict fluid intake
   c) Intranasal vasopressin analog
   d) Vasopressin analog (tablet)
   e) Intravenous synthetic aqueous vasopressin (pitressin)

383. All of the following conditions can present a **cherry red spot** on the retina **except**:
   a) Tay-Sachs disease (GM_2 type I)
   b) Sialidosis (type I and II)
   c) Sturge-Weber syndrome
   d) Generalized gangliosidosis (GM_1 type I)
   e) Sandhoff variant (GM_2 type 2)

384. All of the following conditions can present with retinal detachments **except**:
   a) Retinoblastoma
   b) Coats disease
   c) Sickle cell disease
   d) Child abuse
   e) Tuberous sclerosis

385. The most common cause of **conductive hearing loss (CHL)** in children is:
   a) Middle air fluid
   b) Perforated tympanic membrane
   c) Anomalies of the pinna
   d) Anomalies of external auditory canal
   e) Cerumen

386. The most common cause of **sensorineural hearing loss (SNHL)** in children is:
   a) Genetic
   b) Congenital rubella infection
   c) Congenital CMV infection
   d) Ototoxic medication
   e) Idiopathic

387. The most common **infectious cause of congenital sensorineural hearing loss (SNHL)** in children is:
   a) Congenital rubella infections
   b) Congenital herpes infections
   c) Congenital syphilis infections
   d) Congenital toxoplasmosis infections
   e) Congenital CMV infections

388. The most common mode of inheritance of genetic causes of sensorineural hearing loss in children is:
   a) Autosomal recessive
   b) Autosomal dominant
   c) X-linked recessive
   d) X-linked dominant
   e) Multifactorial

389. All of the following conditions are **autosomal recessive genetic causes** of sensorineural hearing loss **except**:
   a) Waardenburg syndrome
   b) Usher syndrome
   c) Pendred syndrome
   d) Jervell syndrome
   e) Lange-Nielsen syndrome

390. All of the following **anticonvulsants** can cause **Stevens-Johnson syndrome except**:
   a) Phenytoin
   b) Phenobarbital
   c) Primidone
   d) Lamotrigine
   e) Carbamazepine

391. All of the following **antibiotics** can cause **Stevens-Johnson syndrome except**:
   a) Penicillin
   b) Isoniazid
   c) Sulfonamides
   d) Cephalosporins
   e) Gentamicin

392. All of the following **infectious agents** can cause **Stevens-Johnson syndrome except**:
   a) Mycoplasma pneumoniae
   b) Mycobacterium tuberculosis

c) Herpes simplex virus
d) Group A streptococci
e) S. aureus

393. A 6-year-old boy appears with a limp and mild or intermittent pain in the anterior part of his left thigh. A physical examination reveals antalgic gait, proximal left thigh atrophy, and mild restriction of abduction and internal rotation of the left thigh. The treatment goals include all of the following **except**:
a) Elimination of infection in the left hip
b) Elimination of left hip irritability
c) Restoration and maintenance of a good left hip motion
d) Prevention of capital femoral epiphysis collapse, extrusion, or subluxation
e) Formation of spherical left femoral head

394. The following is **not** true about the treatment of Legg-Calve-Perthes disease (LCPD):
a) Observation is indicated in all children younger than 7 years of age.
b) Nonsurgical or surgical treatment is indicated in patients with a loss of containment of the femoral head or involvement of the lateral portion of the capital femoral epiphysis (CFE).
c) Nonsurgical containment (e.g., Petrie abduction casts) is less effective than surgical containment (e.g., pelvic or femoral osteotomy to contain the femoral head).
d) In addition to observation, temporary or periodic treatment with bed rest or abduction stretching exercise is also useful.
e) The Atlanta Rite Hospital orthosis helps in reciprocal motion and ambulation without crutches or external support.

395. A 9-year-old boy is diagnosed with slipped capital femoral epiphysis (SCFE). The evaluation of the following system is indicated:
a) Nervous
b) Endocrine
c) Cardiac
d) Pulmonary
e) Gastrointestinal

396. An obese 14-year-old boy appears with the pain in the right knee. He denies history of trauma. The following investigation may lead to the diagnosis:
a) Anteroposterior and Lauenstein (frog) lateral x-ray of the pelvis
b) Anteroposterior and laternal x-ray of the knee
c) Ultrasonography of the knee
d) CT-scan of the knee
e) MRI of the thigh and knee

397. A 15-yar-old girl appears with moderate to severe pain in the left hip. Physical examination reveals antalgic gait, externally rotated left hip, and lack of internal rotation of the left hip. Hip x-ray reveals the left femoral neck rotates anteriorly and the left capital femoral epiphysis remains in the acetabulum. The preferred therapy is:
a) Epiphysiodesis (closure) of the capital femoral epiphysis (CFE)
b) Observation and rest
c) Observation, rest, and periodic abduction stretching exercise
d) Petrie abduction casts
e) The Atlanta Scottish Rite hospital orthosis

398. Chondrolysis and osteonecrosis are complications of slipped capital femoral epiphysis. Chondrolysis is usually associated with the following conditions **except**:
a) More severe slips
b) More common in Whites
c) More common in blacks
d) More common in females
e) Pins or screws protruding out of femoral head

399. The mode of inheritance in patients with osteogenesis imperfecta:
a) Autosomal recessive
b) Autosomal dominant
c) X-linked recessive

d) X-linked dominant
e) Multifactorial

400. A normal couple had a child with osteogenesis imperfecta (OI). She is pregnant. The risk of OI in the second child is:
a) 0-2%
b) 3-4%
c) 5-7%
d) 8-10%
e) 25%

401. One couple is normal and the other couple is a mosaic carrier of osteogenesis imperfecta (OI). She is pregnant. The risk of OI in the fetus is as high as:
a) 10%
b) 25%
c) 50%
d) 75%
e) 100%

402. The number of health care visits recommended for a child **from birth up to 1 year of age (infancy)** is:
a) Five
b) Six
c) Seven
d) Eight
e) Nine

403. The number of health care visits recommended for a child **after 1 year of age (early childhood)** is:
a) Three
b) Four
c) Five
d) Six
e) Seven

404. The number of health care visits recommended for a child **from 5 years of age and up to 10 years of age (middle childhood)** is:
a) Two
b) Three
c) Four
d) Five
e) Six

405. The number of health care visits recommended for an adolescent **from 11 years of age and up to 21 years of age** is:
a) Nine
b) Ten
c) Eleven
d) Twelve
e) Thirteen

406. The following is **not** true about the feeding recommendations for older infants and children with psychosocial failure to thrive (FTT):
a) A forceful feeding is required if the child refused to eat all the time.
b) Solid foods should be given before liquids.
c) The mealtimes should be about 20-30 minutes
d) High-calorie foods are recommended and low-calorie foods should be avoided.
e) Children should eat with other people.

407. The following condition establishes the diagnosis of psychosocial failure to thrive (FTT) in a child:
a) High-calorie food intake and maintain weight
b) High-calorie liquid intake and maintain weight
c) The child is happy after admission in a hospital.

d) The child is eating well after admission in a hospital.
e) Weight gain in response to an adequate caloric intake.

408. The following condition is **not** an indication for hospitalization in children with failure to thrive:
a) Severely malnourished
b) Lack of catch-up growth
c) Monitor parent-child feeding interactions
d) Monitor caloric intake
e) Family is poor and they do not have enough food to eat.

409. The goals of hospitalization for patients with failure to thrive (FTT) are:
a) To separate the child from both parents and grandparents
b) To separate the child from other family members
c) To provide a nurse who is specialized on nutrition
d) To arrange for medical and nutritional long-term care for the child
e) To educate parents and obtain sustained catch-up growth of the child

410. The following is **not** true about the prognosis of children with failure to thrive (FTT):
a) About two thirds of children with psychosocial FTT are developmentally delayed and have social and emotional problems.
b) Both organic and psychosocial FTT in first year of life is ominous because this is the vital time for brain developments.
c) The prognosis for organic FTT depends upon the underlying conditions.
d) All children with FTT need ongoing monitoring of cognitive development.
e) All children with FTT need ongoing monitoring of emotional development.

411. A child is evaluated for trauma in a community hospital. His weight is 17 kg and airway is maintainable. His systolic blood pressure is 80 mm Hg. A physical examination reveals a minor open wound, minor closed fracture, and loss of consciousness. The next step in the management is:
a) Admit the patient in a regular pediatric floor unit.
b) Stabilize the patient and then refer to a pediatric trauma center.
c) Stabilize the patient and follow up as an outpatient in 24 hours.
d) Stabilize the patient and then admit in a pediatric special care unit
e) Stabilize the patient and follow up as an outpatient after 7 days.

412. A child is evaluated for trauma in a pediatric trauma center. Her weight is 30 kg and airway is maintainable. Her systolic BP is 100 mm Hg. Physical examination reveals major multiples wounds, open multiple fractures, and a decerebrate posture. The total pediatric trauma score for this patient is:
a) minus 4
b) minus 2
c) plus 2
d) plus 3
e) plus 4

413. An infant was brought to the emergency room after a motor vehicle accident with an altered level of consciousness. He opens his eyes with painful stimulations. He is restless and agitated. He has a flexion motor response. The next step in the management is:
a) Mechanical ventilation and monitoring of an intracranial pressure (ICP) may be required.
b) Give oxygen by nasal canula and reevaluate after 15 minutes.
c) Give oxygen by face mask, obtain arterial blood gas, and reevaluate after the ABG results.
d) Give oxygen by face mask, and boluses with normal saline until the BP becomes normal.
e) Give oxygen by nasal canula and wait for the pediatric neurologist to make the final decision.

414. A child is brought to the ER by an ambulance after a motor vehicle accident. He is receiving oxygen by face mask. His neck is stabilized. He is breathing 8 breaths per minute. His systolic BP is 76 mm Hg. The Glasgow Coma scale score is 8. The following statement is true about this patient.
a) He does not have a serious injury.
b) He should be stabilized in the ER and then, follow up as on outpatient.
c) He should receive several normal saline boluses to maintain the normal BP.
d) He may receive mechanical ventilation.
e) He should be sent for anteroposterior and lateral x-rays of the neck because his condition is stable.

415. A child with Williams syndrome has a deletion in chromosome:
   a) 5
   b) 7
   c) 9
   d) 11
   e) 15

416. A child with velocardiofacial syndrome has a deletion in chromosome:
   a) 8
   b) 13
   c) 18
   d) 21
   e) 22

417. A child with Angelman syndrome has a deletion in chromosome:
   a) 1
   b) 13
   c) 15
   d) 18
   e) 21

418. A child with Prader-Willi syndrome has a deletion in chromosome:
   a) 4
   b) 11
   c) 15
   d) 20
   e) 22

419. A newborn appears with a high forehead, upward slanting of palpebral fissures, epicanthal folds, hypoplastic supraorbital ridges, hypotonia, neonatal seizures, and eye abnormalities (e.g., Brushfield spots, cataracts, glaucoma, corneal clouding, and optic nerve dysplasia). The most likely diagnosis is:
   a) Down syndrome
   b) Zellweger syndrome
   c) Klinefelter syndrome
   d) Williams syndrome
   e) Infantile refsum disease

420. The most effective screening strategy to detect the Down syndrome fetus is:
   a) Triple test
   b) Quadruple test
   c) Combined test
   d) Integral test
   e) Absence of nasal bones

421. All of the following fetal conditions **increase** the maternal serum alpha-fetoprotein (MSAFP) levels **except**:
   a) Trisomy 18
   b) Meningomyelocele
   c) Gastroschisis
   d) Omphalocele
   e) Congenital nephrosis

422. All of the following fetal conditions **decrease** the maternal MSAFP levels **except**:
   a) Trisomy 18
   b) Trisomy 21
   c) Twins
   d) Incorrect gestational age
   e) Intrauterine growth retardation

423. A preterm infant is diagnosed with bronchopulmonary dysplasia (BPD). The treatment for BPD includes all of the following **except**:
   a) Adequate fluid therapy
   b) Adequate nutritional therapy
   c) Bronchodilator therapy
   d) Diuretic therapy
   e) In severe cases, inhaled nitric oxide therapy

424. The most common cause of postnatal infections in hospitalized newborns is:
   a) Family member's contaminated hands
   b) Mother's contaminated hands
   c) Mother's contaminated breast milk
   d) Health care personnel's contaminated hands
   e) Hospital's contaminated equipment

425. The most common method of spread of postnatal meningitis is:
   a) Hematogenous
   b) Neuronal
   c) Direct spread from open neural tube defects
   d) Penetrating wounds from fetal scalp monitoring
   e) Penetrating wounds from fetal internal EKG monitoring

426. All of the following organisms cause neonatal meningitis. However, one of them is an important cause of brain abscess:
   a) GBS
   b) E. coli
   c) L. monocytogenes
   d) S. pneumoniae
   e) Citrobacter diversus

427. The following statement is **not** true about early-and late-onset neonatal infections:
   a) Term male infants have a two-fold higher incidence of sepsis than that of term female infants.
   b) Intrapartum antibiotics are used to reduce early-onset GBS infections in newborns.
   c) Intrapartum antibiotics are used to reduce late-onset GBS infections in newborns.
   d) Intrapartum antibiotic prophylaxis may increase E. coli infections in very-low-birth-weight (VLBW) infants.
   e) Meningitis develops less than 20% of newborn infants with early-onset bacterial infections.

428. Scoliosis is typically manifested in females during this year of peak height velocity:
   a) 10 years
   b) 11 years
   c) 12 years
   d) 13 years
   e) 14 years

429. Scoliosis is typically manifested in males during this year of peak height velocity:
   a) 12 years
   b) 13 years
   c) 14 years
   d) 15 years
   e) 16 years

430. A 12-year-old girl came for a routine physical examination that reveals a scoliosis. The x-ray of the spine reveals 11 degrees curvature. She is completely asymptomatic. The next step in management is:
   a) Refer to an orthopedist
   b) MRI of the spine
   c) CT-scan of the spine
   d) Spinal casting
   e) Reassurance

431. The most common organism responsible for peritonitis associated with a peritoneal dialysis catheter is:
   a) S. aureus
   b) Streptococci
   c) E. coli
   d) Pseudomonas
   e) Coagulase-negative staphylococci

432. The most common cause of an infection in patients with an orthopedic implant:
   a) Introduction of microorganisms during surgery
   b) Contaminated implant from a manufacturer
   c) Hematogenous
   d) Introduction of microorganisms before surgery
   e) Introduction of microorganisms after surgery

433. A 14-year-old boy appears with a fever, pain, and wound infection in his right thigh. He required a orthopedic implant 3 weeks ago in his right thigh. The next step in management is:
   a) Remove the implant immediately
   b) Start systemic antibiotics after appropriate cultures
   c) Start oral antibiotics and follow up in clinic after 10 days
   d) Start local antibiotics ointment after appropriate cultures
   e) Irrigate the wound with normal saline

434. A 16-year-old boy appears with a recent onset of pain and deterioration of the functions of his leg orthoses that were inserted 3 months ago. The next step in management is:
   a) Start systemic antibiotics and prosthesis may be removed
   b) Keep the prosthesis and give oral antibiotics
   c) Start oral antibiotics and follow up in clinic after 10 days
   d) Start local antibiotics and follow up in clinic
   e) Reassurance

435. The most common type of Aspergillus infection in children is:
   a) Aspergillus fumigatus
   b) Aspergillus flavus
   c) Aspergillus niger
   d) Aspergillus nidulans
   e) Aspergillus terreus

436. Atopic asthma may occur due to inhalation of Aspergillus spores. The bronchospasms are due to the release of:
   a) IgA
   b) IgM
   c) IgE
   d) Toxin
   e) IgG

437. All of the following are diagnostic criteria for allergic bronchopulmonary aspergillosis **except**:
   a) Distal bronchiectasis
   b) History of previous pulmonary infiltrates
   c) Serum antibodies against A. fumigatus
   d) Peripheral smear reveals eosinophilia
   e) Elevated total serum IgE levels

438. The treatment for patients with hypersensitivity pulmonary syndromes (e.g., allergic bronchopulmonary aspergillosis, extrinsic alveolar alveolitis) is:
   a) Cefotaxime
   b) Amphotericin
   c) Vancomycin
   d) Penicillin
   e) Prednisone

439. The carrier state of cystic fibrosis is resistant to the following infection:
   a) Enteropathogenic E. coli
   b) Malaria
   c) Salmonella
   d) Shigella
   e) Pneumococcal

440. The carrier state of the sickle cell disease is resistant to the following infection:
   a) Malaria
   b) Cholera
   c) Tuberculosis
   d) H. influenzae type b
   e) Enterococcus

441. The risk for having malformed offspring in a first cousin marriage is:
   a) 2-3%
   b) 4-5%
   c) 6-8%
   d) 9-10%
   e) 25%

442. The following statement is true about females with a fragile x-syndrome:
   a) All females have a severe mental retardation
   b) All females have an enlarged clitoris
   c) All females have a speech disorders
   d) All females have an enlarged ovaries
   e) They have varying degrees of mental retardation.

443. A child appears with coarsed face, localized alopecia, pigmented skin, cardiovascular defects, mild diaphragmatic hernia, and a severe mental retardation. The most likely diagnosis is:
   a) Fragile x-syndrome
   b) Down syndrome
   c) Turner syndrome
   d) Noonan syndrome
   e) Pallister-Killian syndrome

444. The risk of an allergic disease in a child when one parent is allergic is:
   a) 5%
   b) 10%
   c) 25%
   d) 50%
   e) 66%

445. The risk of allergic disease in a child when both parents are allergic is:
   a) 25%
   b) 50%
   c) 66%
   d) 75%
   e) 100%

446. All of the following chromosomes have been strongly associated with **atopic diseases except**:
   a) 5
   b) 6
   c) 11
   d) 12
   e) 13

447. All of the following chromosomes have been linked with an **atopic dermatitis** by genome screens **except**:
   a) 1

b) 3
c) 17
d) 20
e) 21

448. The following toxin causes **scalded skin syndrome** secondary to S. aureus infections:
a) Exfoliatin
b) Enterotoxin
c) Alpha-toxin
d) Protein A
e) Coagulase

449. A patient develops **food poisoning** secondary to S. aureus infections. The following toxin responsible for food poisoning is:
a) Enterotoxin
b) Protein A
c) Alpha-toxin
d) Beta-hemolysin
e) Gamma-hemolysin

450. A child develops **toxic shock syndrome** secondary to S. aureus infections. The following toxin responsible for toxic shock syndrome is:
a) Alpha-toxin
b) Leukocidin
c) Catalase
d) Toxic shock syndrome toxin-1
e) Toxic shock syndrome toxin-3

451. A child develops an **abscess, a boil, and sinusitis** secondary to S. aureus infections. The following enzyme is responsible for these clinical manifestations:
a) Coagulase
b) Catalase
c) Penicillinase
d) beta-lactamase
e) Lipase

452. Adhesions of S. aureus to mucosal cells are mediated by the following:
a) Sialic acid
b) Slime
c) Protein A
d) Peptidoglycan
e) Teichoic acid

453. The **slime layer** is produced by the following organism:
a) S. epidermidis
b) S. pneumoniae
c) H. influenzae
d) E. coli
e) Klebsiella

454. The protein A may be present in all of following organisms **except**:
a) S. aureus
b) S. epidermidis
c) S. saphrophyticus
d) S. hemolyticus
e) S. schleiferi

455. Kaposi sarcoma is strongly associated with the following organism:
a) Human herpesvirus 6
b) Human herpesvirus 7

c) Cytomegalovirus
d) Human herpesvirus 8
e) Herpes simplex virus type 1

456. Roseola (exanthem subitum, sixth disease) infection is due to the following organisms:
a) Human herpesvirus 5
b) Human herpesvirus 6
c) Human herpesvirus 8
d) Herpes simplex virus type 1
e) Herpes simplex virus type 2

457. The following statement is **not** true about the immunization schedule for HIV-infected children:
a) Influenza vaccines should be given every year beginning from 6 months of age to all-HIV infected children.
b) Pneumococcal conjugate vaccines (PCV) should be given from 2 months, 4 months, 6 months, between 12-15 months, and pneumococcal polysaccharide vaccine (PPV) every 5 years beginning in 10 years of age to all HIV-infected children.
c) The hepatitis A vaccine should be given in all HIV-infected children beginning from 2 years of age.
d) Two MMR vaccines should be given to all HIV-infected children between 12-15 months and 4-6 years of age.
e) Varicella vaccines can be given in HIV-infected children with categories A (mild disease) and B (moderate disease) beginning from 12 months of age.

458. A 2-day-old newborn develops poor feeding, vomiting, fever, and restlessness. She was born by NSVD with good Apgar scores. The mother came from India 2 weeks ago. The mother stated that she received malaria chemoprophylaxis. A physical examination reveals pallor, jaundice, mild cyanosis, and hepatosplenomegaly. The cyanosis improved after oxygen therapy. The patient is transferred to the NICU from the regular nursery. A sepsis work up is performed. Intravenous ampicillin and gentamicin are given. Her clinical conditions did not improve after 24 hours despite intravenous antibiotics and fluid therapies. Herpes cultures are performed and intravenous acyclovir are added. After 48 hours, her blood culture is still negative. Herpes cultures came back negative after 3 days. The most likely diagnosis is:
a) Congenital malaria
b) GBS infection
c) E. coli infection
d) Klebsiella infection
e) Pseudomonas infection

459. The best diagnostic study for malaria is:
a) Giemsa-stained smears of peripheral blood
b) Wright-stained smears of peripheral blood
c) Leishman-stained smears of peripheral blood
d) Blood culture
e) Liver biopsy

460. The preferred treatment for hypophosphatemia secondary to nutritional vitamin D deficiency is:
a) Increase dietary phosphorus intake
b) Oral phosphorus therapy
c) Intravenous phosphorus therapy
d) Oral phosphorus and calcium therapies
e) Oral vitamin D therapy

461. The preferred treatment for x-linked hypophosphatemic rickets is:
a) Oral phosphorus therapy
b) Oral vitamin D therapy
c) 1, 25-vitamin D and phosphorus
d) 1, 25-vitamin D, calcium, and phosphorus
e) Intravenous calcium and phosphorus

462. The most common cause of hyperphosphatemia in children:
a) Excessive phosphorus intake
b) Excessive calcium intake
c) Excessive vitamin D intake

d) Decreased liver functions
e) Decreased renal functions

463. The preferred method to calculate the deficits of water and electrolytes in patients with dehydration is:
a) Water deficit (percent dehydration x weight),
sodium deficit (water deficit x 40 mEq/L),
potassium deficit (water deficit x 20 mEq/L)
b) Water deficit (percent dehydration x weight),
sodium deficit (water deficit x 50 mEq/L),
potassium deficit (water deficit x 25 mEq/L)
c) Water deficit (percent dehydration x weight),
sodium deficit (water deficit x 60 mEq/L),
potassium deficit (water deficit x 30 mEq/L)
d) Water deficit (percent dehydration x weight),
sodium deficit (water deficit x 70 mEq/L),
potassium deficit (water deficit x 35 mEq/L)
e) Water deficit (percent dehydration x weight),
sodium deficit (water deficit x 80 mEq/L),
potassium deficit (water deficit x 30 mEq/L)

464. The following statement is **not** true about the fluid management in patients with dehydration:
a) First, restore the intravascular volume by infusing normal saline (20 mL/kg) over 20 minutes and repeat until the intravascular volume is restored (i.e., blood pressure becomes normal).
b) Second, calculate the 24 hour water requirements (i.e., maintenance and deficit)
c) Third, calculate the 24 hour electrolytes requirements (i.e., maintenance and deficit of sodium and potassium)
d) Fourth, infuse half of the calculated fluid over the first 8 hours but subtract the boluses from this amount, and then infuse the remaining half over the next 16 hours.
e) Fifth, replacement of ongoing losses is indicated if the child is unstable.

465. The following statement is **not** true about the fluid management in patients with hypernatremic dehydration:
a) First, restore the intravascular volume by infusing normal saline (20 mL/kg) over 20 minutes and repeat until the intravascular volume is restored (i.e., blood pressure becomes normal).
b) Second, total fluid correction time depends upon the sodium levels (i.e., correction time is 48 hours when sodium levels are 145-170 mEq/L and correction time is 72 hours when sodium levels are 171-196 mEq/L).
c) Third, fluid (D5 ¼ normal saline or D5 ½ normal saline, and KcL 20 mEq/L unless contraindicated) should be infused at a constant rate (usually 1.25-1.5 times maintenance).
d) Fifth, replace ongoing losses as indicated
e) The rapid decrease of sodium is managed by increasing the concentration of sodium and decreasing the intravenous fluid rate; the very slow decrease of sodium is managed by decreasing the concentration of sodium and increasing the intravenous fluid rate.

466. The most common mistake in administering parenteral fluid during and after surgery is:
a) Infuse decreased amount of fluid
b) Infuse potassium with the fluid
c) Infuse sodium bicarbonate with the fluid
d) Infuse excessive sodium with the fluid
e) Infuse excessive amount of fluid

467. The recommended intravenous fluid therapy before surgery for a patient with pyloric stenosis is:
a) Saline (0.45-0.9%), dextrose (5-10%), and potassium chloride (30-50 mEq/L)
b) Saline (0.2-0.45%), dextrose (10-12%), and potassium chloride (5-10 mEq/L)
c) Saline (0.9%), dextrose (10%), and potassium chloride (10-20 mEq/L)
d) Saline (3%), dextrose (12%), and potassium chloride (30-50 mEq/L)
e) Saline (1.5%), dextrose (5%), and potassium chloride (20-30 mEq/L)

468. The following statement is **not** true about pyloric stenosis:
a) It is preferable to delay the surgery for at least 24-48 hours.
b) Hypochloremic metabolic alkalosis should not be corrected with ammonium chloride.

c) Fluid therapy should be continued until the infant is fully rehydrated and the metabolic alkalosis is corrected (i.e., serum bicarbonate level is less than 30 mEq/dL).
d) Most infants require nasogastric suctioning.
e) The presence of an acid urine with metabolic alkalosis indicates hypokalemia.

469. The Ramstedt pyloromyotomy was performed on a patient with pyloric stenosis. The oral feedings should begin:
a) Within 4-6 hours after surgery
b) Within 12-24 hours after surgery
c) Within 24-48 hours after surgery
d) Within 48-72 hours after surgery
e) Within 72-96 hours after surgery

470. A 2-week-old infant is persistently vomiting after Ramstedt pyloromyotomy. The surgeon admitted that the pyloromyotomy was incomplete. The next step in management is:
a) Repeat the surgical procedure
b) Conservative therapy with small oral feedings
c) Conservative therapy with atropine
d) Endoscopic balloon dilatation
e) Reassurance

471. The genital examination of a boy reveals a slightly enlarged penis; a pink, enlarged scrotum; scanty, long, slightly pigmented pubic hairs. The sexual maturity rating (SMR) for this boy is:
a) Stage 1
b) Stage 2
c) State 3
d) Stage 4
e) Stage 5

472. The genital examination of a boy reveals a longer penis; larger testes; darker, beginning to curl, scanty pubic hairs. The sexual maturity rating (SMR) for this boy is:
a) Stage 1
b) Stage 2
c) State 3
d) Stage 4
e) Stage 5

473. The genital examination of a boy reveals a larger penis; a larger, dark scrotum; coarse, curly pubic hairs like an adult but less in quantity. The sexual maturity rating (SMR) for this boy is:
a) Stage 1
b) Stage 2
c) State 3
d) Stage 4
e) Stage 5

474. The physical examination of a girl reveals a sparse, lightly pigmented, straight pubic hairs along the medial border of the labia; increased both areolar diameters, elevated breasts and papillae as a small mound. The sexual maturity rating (SMR) for this girl is:
a) Stage 1
b) Stage 2
c) State 3
d) Stage 4
e) Stage 5

475. The physical examination of a girl reveals an increased amount of darker and beginning to curl pubic hairs; both breasts and areolae are enlarged but no contour separation. The SMR staging for this girl is:
a) Stage 1
b) Stage 2
c) State 3

d) Stage 4
e) Stage 5

476. The physical examination of a girl reveals a course, curly, abundant pubic hairs; both areola and papilla form secondary mounds. The SMR staging for this girl is:
a) Stage 1
b) Stage 2
c) State 3
d) Stage 4
e) Stage 5

477. The following statement is **not** true about the basic principles of sleep hygiene for children:
a) A child's bedtime and wake-up time should be about the same from Mondays to Fridays (school days) and about 2-3 hours more wake-up time for weekends (Saturdays, Sundays, and holidays) to achieve catch-up sleep and growth.
b) A child should have a set bedtime and routine for the bedtime.
c) A child should **not** watch TV, play computer games, or rough play (i.e., high-energy activities) just before bedtime.
d) A child should be allowed to have light snacks (e.g., milk and cookies) before bedtime to avoid hunger during sleep.
e) A child should not be allowed to drink caffeinated sodas, chocolate, tea, and coffee at least several hours before bedtime.

478. All of the following statements are true about the basic principles of sleep hygiene for adolescents **except**:
a) An adolescent should quit smoking or to avoid smoking at least one hour before bedtime.
b) An adolescent should not drink alcohol.
c) An adolescent should not take sleeping pills, sleeping aids, or melatonin unless prescribed by a physician.
d) An adolescent should not consume caffeinated drinks (e.g., tea, coffee, sodas, and chocolate) beginning from the dinner time until the morning.
e) An adolescent can study on his/her bed quietly and then, goes to sleep comfortably.

479. The following statement is **not** true about patients with Gilles de la Tourette syndrome:
a) This syndrome is more common in patients with an affected first-degree relative than that of the general population.
b) This syndrome is characterized by motor and vocal tics (e.g., barking, grunting, rarely shouting obscene words).
c) The motor and vocal tics should be present concurrently to make the diagnosis.
d) This syndrome is more common in boys than girls.
e) This syndrome is more common in whites than other races.

480. All of the following conditions are associated with the Gilles de la Tourette syndrome **except**:
a) Group A streptococcal infections
b) Staphylococcus aureus infections
c) Attention deficit/hyperactivity disorders (ADHD)
d) Obsessive-compulsive disorders (OCD)
e) Oppositional-defiant disorders (ODD)

481. A 9-year-old boy appears with history of pharyngitis for the past 3 days. The mother noticed that he suffered from some abnormal body movements and had been making barking and grunting sounds for the past 16 hours. The mother is worried. The parents are separated 1 year ago. The most likely diagnosis is:
a) Chlamydia pharyngitis infection
b) Viral pharyngitis infection
c) Separation anxiety disorder (SAD)
d) Generalized anxiety disorder (GAD)
e) Pediatric autoimmune neuropsychiatric disorders associated with a streptococcal infection (PANDAS)

482. The treatment for patients with PANDAS includes all of the following **except**:
a) Antibiotic (e.g., penicillin, amoxicillin) therapy is given for an acute infection.
b) Prophylactic antibiotic therapy is **not** indicated.
c) Intravenous immunoglobin may be used during an acute infection.
d) Therapeutic plasma exchange can be performed in severe cases
e) Supportive therapies

483. The following treatment is **not** indicated in a patient with Gilles de la Tourette syndrome:
   a) Psychostimulants should be used to control the tics.
   b) Supportive therapies from organizations like Tourette's syndrome association
   c) The neuroleptics (e.g., risperidone, olanzapine) are commonly used.
   d) The dopaminergic antagonist (e.g., haloperidol, pimozide) can reduce the severity of the tics.
   e) Botulinum toxin is effective to control motor tics.

484. The composition of Ringler lactate solution is:
   a) Na 154, cl 154, K 4, Ca 3, lactate 28
   b) Na 130, cl 109, K 4, Ca 3, lactate 28
   c) Na 135, cl 109, K 1, Ca 2, lactate 40
   d) Na 140, cl 120, K 3, Ca 3, lactate 30
   e) Na 145, cl 125, K 2, Ca 1, lactate 20

485. The following is **not** true about the maintenance of fluid therapy in children:
   a) The maximum total fluid per day is usually 2,400 mL (i.e., 100 mL/hour)
   b) The maintenance sodium is 4-5 mEq/kg/day and potassium is 2-3 mEq/kg/day
   c) A child that weighs 15 kg should receive total fluid 1250 mL per day.
   d) A child that weighs 25 kg should receive total fluid 1800 mL per day.
   e) A child that weighs 9 kg should receive total fluid 900 mL per day.

486. The parinaud oculoglandular syndrome occurs most likely due to:
   a) S. aureus
   b) Bartonella quintana
   c) Bartonella henselae
   d) Bartonella bacilliformis
   e) Bartonella elizabethae

487. A 6-year-old boy appears with left axillary lymphadenopathy. The mother noticed the enlarged axillary glands for the last 2 months. He also complains redness and pain in that area. The mother denies cat scratch. However, she bought a kitten 6 months age. The mother has six other children at home. The most likely diagnosis:
   a) S. aureus infection
   b) Pseudomonas infection
   c) S. epidermidis infection
   d) Herpes simplex infection
   e) Bartonella henselae infection

488. The diagnosis of cat-scratch disease (CSD) is strongly suspected by:
   a) Clinical findings with the history of exposure to a cat
   b) IgA for the B. henselae
   c) IgG for the B. henselae
   d) Culture of B. henselae
   e) Skin test antigen by heat-treating purulent aspirate from a CSD nodule

489. The preferred therapy for patients with a cat-scratch disease:
   a) Observation and conservative symptomatic therapy
   b) Azithromycin
   c) Clarithromycin
   d) Ciprofloxacin
   e) Rifampin

490. The following statement is **not** true about the management of a newborn born to a woman with **primary active genital infections at the time of delivery**:
   a) A cesarean section is indicated within 30 hours (preferably 6 hours) of ruptured membranes.
   b) A CSF analysis, culture, and HSV DNA polymerase chain reaction (PCR) are indicated prior to acyclovir therapy.
   c) A newborn who was delivered by a cesarean section, cultures of eyes, nose, mouth, urine, and stool should be performed at 48 hours.
   d) If the vaginal delivery is unavoidable, a culture of eyes, nose, mouth, urine, and stool should be performed, and acyclovir therapy should be started.

e) The infant who was born by a cesarean section should be treated with acyclovir if any signs of a HSV infection or culture is positive.

491. All of the following statements are true about the management of a newborn born to a woman with **recurrent active genital infections at the time of delivery except**:
a) A cesarean section is indicated within 24 hours (preferably within 4 hours) of ruptured membranes.
b) A CSF analysis, culture and HSV DNA PCR are indicated prior to acyclovir therapy.
c) A newborn who was delivered by a cesarean section, cultures of eyes, nose, mouth, urine, and stool should be performed at 48 hours.
d) A newborn who was delivered by NSVD, cultures of eyes, nose, mouth, urine, and stool should be performed at birth.
e) A newborn who was delivered either by NSVD or a cesarean section, acyclovir therapy is indicated if any signs of a HSV infection or culture is positive.

492. A 20-month-old boy is afraid to seat on the toilet. His mother is 19 years old. She is worried. She wants her son to become toilet trained as early as possible. The next step in the management:
a) She should be encouraged for her efforts as a concerned mother.
b) The physician should teach her proper methods of early toilet training.
c) Early toilet training (less than 2 years of age) should be discouraged.
d) The mother should continue to do whatever necessary to make her child toilet trained.
e) The physician should arrange for a conference with the mother, the child, and the social worker.

493. All children should be monitored for obesity at the age of:
a) 6 months
b) 1 year
c) 2 years
d) 3 years
e) 4 years

494. All children should have blood pressure measurements at every well child visit at the age of:
a) 1 year
b) 2 years
c) 3 years
d) 4 years
e) 5 years

495. All of the following are risk factors for developing cardiovascular diseases in children **except**:
a) A child with elevated lipid levels
b) A child with a high blood pressure
c) The family history of a premature cardiovascular disease in a parent (less than 55 years of age) or grandparent
d) The family history of high blood cholesterol levels
e) A 22-month-old child with a body weight that is above 97th percentile for his/her age.

496. Pediatricians should encourage children to participate in the following activity:
a) Hot-dog eating contest
b) Play educational video games
c) Watch educational games on TV
d) Participate on educational TV shows
e) Participate in active physical exercise

497. Pediatrics should tell parents that their children should not exceed watching TV and playing video games:
a) 1-2 hours per day
b) 2-3 hours per day
c) 3-4 hours per day
d) 4-5 hours per day
e) 5-6 hours per day

498. The most preventable cause of mortality and morbidity in USA:
a) Fire arms
b) Alcohol use

c) Fatty foods
d) HIV infections
e) Cigarette smoking

499. The following statement is **not** true about children with temper tantrums:
a) Temper tantrums are not normal for children.
b) A positive remark made at the time of temper tantrum may reduce the feelings of frustration.
c) The length of time-out is approximately 1 minute per year of age.
d) The contributing factors (e.g., hunger, lack of sleep, family violence, parental depression) should be determined and handled accordingly.
e) Parents should be clear and consistent in their requests for compliance.

500. The management of children with nightmares or night terrors is:
a) To relax the child
b) To ignore the child's dream
c) To stop watching scarry movies in TV at night
d) To stop playing violent video games
e) To prescribe a mild sedative before bedtime.

501. A child wakes up frightened and agitated. He does not remember the incident. The most likely diagnosis is:
a) Nightmares
b) Night terrors
c) Diabetic keto acidosis
d) Child abuse
e) Separation anxiety disorder (SAD)

502. The Freud psychoanalytic theory in infancy (0-1 year) includes the following:
a) Oral
b) Anal
c) Oedipal
d) Latency
e) Genital

503. The Freud psychoanalytic theory in toddlerhood (2-3 years) includes the following:
a) Oral
b) Anal
c) Oedipal
d) Latency
e) Genital

504. The Freud psychoanalytic theory in preschool (3-6 years) includes the following:
a) Oral
b) Anal
c) Oedipal
d) Latency
e) Genital

505. The Freud psychoanalytic theory in middle childhood (6-12 years) includes the following:
a) Oral
b) Anal
c) Oedipal
d) Latency
e) Genital

506. The Freud psychoanalytic theory in the adolescence (12-18 years) includes the following:
a) Oral
b) Anal
c) Oedipal

d) Latency
e) Genital

507. The psychosocial theory is introduced by:
a) Newton
b) Einstein
c) Freud
d) Erikson
e) Piaget

508. The cognitive theory is introduced by:
a) Newton
b) Einstein
c) Freud
d) Erikson
e) Piaget

509. The psychosexual theory is introduced by:
a) Newton
b) Einstein
c) Freud
d) Erikson
e) Piaget

510. According to Erikson, the child's sense of basic trust develops in:
a) Infancy
b) Toddlerhood years
c) Preschool years
d) Middle school years
e) Adolescence

511. Piaget's work is important to pediatricians because of all of the following **except**:
a) It provides open-ended questions
b) It provides insights for a child's understanding of illness and hospitalization.
c) It resolves many puzzling behaviors of infancy.
d) It needs a little special equipment in the doctors office.
e) It detects a sense of autonomy in toddlers.

512. The following component represents a double peak (two peaks) in brain growth is:
a) Brain weight
b) Cholesterol
c) Brian cortex
d) Ventricle
e) DNA

513. The following statement is **not** true about Pediatric Risk of Mortality (PRISM):
a) The PRISM is used for decision making in a single patient.
b) The PRISM III represents the physiologic conditions of children.
c) The PRISM III can be used to compare and evaluate the performance and resource used among different PICUs (Pediatric Intensive Care Units).
d) The PRISM is most useful in evaluating case mix adjustments between units and the overall outcomes for a population of patients in a PICU.
e) The PRISM score has a good correlation between the number of malfunctioning organ systems at 12 hours and 24 hours, and the mortality risk in the PICU.

514. The PRISM III (Pediatric Risk of Mortality) evalutes all of the following systems **except**:
a) Cardiovascular
b) Neurologic
c) Hematology

d) Renal
e) Liver

515. The PRISM III includes all of the following parameters of SMA6 **except**:
a) Na
b) K
c) Glucose
d) BUN
e) Creatinine

516. The PRISM III includes all of the following hematologic values **except**:
a) WBC counts
b) Hematocrit
c) Platelet counts
d) PT
e) PTT

517. All of the following values are includes in the PRISM III scoring system **except**:
a) Glassgow Coma Scale
b) ABG
c) Pupillary reflex
d) Systolic blood pressure
e) Respiratory rate

518. Then following disease does **not** have an increased incidence in a child-care facility:
a) Hepatitis A
b) Otitis media
c) Varicella
d) Pneumonia
e) Polio

519. All of the following conditions responsible for development of bacterial resistance to antibiotics in a child-care facility **except**:
a) Increased frequency of antibiotic use
b) Increased duration of antibiotic use
c) Person-to-person transmission of pathogens
d) Increased annual rate of antibiotic use than that of children at home
e) Increased development of new drugs

520. The following is an indication of giving an **oral polio vaccine** in children who will be traveling to an endemic or epidemic areas:
a) A 6 months old child who received three doses of IPV.
b) A 4 months old child who received two doses of IPV.
c) A 3 months old child who is immunocompromised and received 1 dose of IPV.
d) A 2 months old child whose mother is immunocompromised and the child received 1 dose of IPV.
e) A 6 weeks old child who did not receive any vaccination yet and will be traveling in less than 4 weeks.

521. The preferred drug used as a prophylaxis during perioperative period of **appendectomy**:
a) Gentamicin
b) Cefoxitin
c) Ampicillin
d) Ceftazidime
e) Clindamycin

522. The preferred drug used as a prophylaxis during perioperative period of a **genitourinary surgery** is:
a) Cefoxitin
b) Gentamicin
c) Ampicillin
d) Clindamycin
e) Vancomycin

523. The preferred drug used as a prophylaxis during perioperative period of a **colonic surgery** is:
   a) Oral azithromycin
   b) Oral gentamicin
   c) IV gentamicin
   d) Vancomycin
   e) Oral decontamination with neomycin and erythromycin, then cefazolin

524. A child appears with bilateral conjunctivitis. He complains of severe pruritus, photophobia, lacrimation, and foreign-body sensation. A physical examination reveals eye discharge, cobblestoning on the upper tarsal plate, Trantas dots on the limbus, and Dennie lines on the lower lids. The most likely diagnosis is:
   a) Contact allergy
   b) Foreign-body in conjunctiva
   c) Allergic conjunctivitis
   d) Giant papillary conjunctivitis
   e) Vernal keratoconjunctivitis

525. A child was eating fresh fruits and vegetables. Suddenly, he develops a rapid onset of pruritus, tingling, and tightness of the throat. A physical examination reveals angioedema of the lips, tongue, palate, and throat. The most likely diagnosis is:
   a) Allergic eosinophilic esophagitis
   b) Food-induced pharyngitis
   c) Food-protein tonsillitis
   d) Food-induced glossitis
   e) Oral allergy syndrome

526. All of the following disorders of phagocytic functions are autosomal recessive **except**:
   a) Chediak-Higashi syndrome
   b) Specific granule deficiency
   c) Leukocyte adhesion deficiency 1
   d) Leukocyte adhesion deficiency 2
   e) Hyperimmunoglobulin E syndrome

527. The preferred therapy for patients with a severe pain:
   a) NSAIDs
   b) Aspirin
   c) Acetaminophen
   d) SSRI
   e) Morphine

528. The most severe side effect of acetaminophen use in children:
   a) Renal injury
   b) GI bleeding
   c) Liver failure
   d) Cardiovascular injury
   e) Platelet dysfunction

529. A patient-controlled analgesia (PCA) can be used in children as early as:
   a) 1-2 years of age
   b) 3-4 years of age
   c) 5-6 years of age
   d) 7-8 years of age
   e) 9-10 years of age

530. All of the following conditions suggest nonphysiologic jaundice **except**:
   a) Jaundice persists after 10-14 days
   b) Direct-reacting bilirubin is more than 2 mg/dL
   c) Jaundice appears after 2-3 days
   d) The rate of rising serum bilirubin is more than 5 mg/day
   e) The serum bilirubin level is more than 10-14 mg/dL in preterm infants.

531. The infants may have all of the following complications if the mother abused cocaine during pregnancy **except**:
   a) Intrauterine growth retardation
   b) Developmental delay
   c) Learning disabilities
   d) Impaired auditory information processing
   e) Moderate withdrawal symptoms

532. The **short-term** adverse effects in a patient with atopic dermatitis who received phototherapy include all of the following **except**:
   a) Erythema
   b) Skin pain
   c) Pruritus
   d) Skin cancer
   e) Pigmentation

533. The **long-term** adverse effect in a patient with atopic dermatitis who received phototherapy is:
   a) Hyperpigmentation
   b) Hypopigmentation
   c) Chronic pain
   d) Chronic itching
   e) Predisposition to skin cancer

534. A child appears with itching, skin flushing, and hepatopathy. The most likely diagnosis is:
   a) Vitamin A toxicity
   b) Niacin toxicity
   c) Vitamin B_6 deficiency
   d) Vitamin K toxicity
   e) Vitamin B_2 deficiency

535. A child appears with diarrhea, dermatitis, and dementia. The most likely diagnosis is:
   a) Niacin deficiency
   b) Vitamin B_{12} deficiency
   c) Vitamin B_1 deficiency
   d) Vitamin A deficiency
   e) Folic acid deficiency

536. The diagnostic criteria of acute respiratory distress (ARDS) includes all of the following **except**:
   a) The Pao_2/Fio_2 ratio less than 200
   b) Absence of left heart failure
   c) The specific radiographic findings are present.
   d) Acute onset of clinical manifestations
   e) Normal left atrial pressure and pulmonary artery wedge pressure

537. Infants should regain or exceed birthweight by:
   a) 1 week of age
   b) 2 weeks of age
   c) 10 days of age
   d) 17 days of age
   e) 3 weeks of age

538. How much weight should infants gain per day during the first 3 months of their lives?
   a) 15 g/day
   b) 20 g/day
   c) 25 g/day
   d) 30 g/day
   e) 10 g/day

539. Most infants wake up 2 to 3 times at night to feed at:
   a) 1 month of age
   b) 2 months of age

c) 3 months of age
d) 4 months of age
e) 12 months of age

540. Infants have a crying peak at:
a) 1 week of age
b) 2 weeks of age
c) 4 weeks of age
d) 6 weeks of age
e) 12 weeks of age

541. The recommended daily allowance (kcal/kg/day) for infants between **0-3 months** of age is:
a) 85
b) 90
c) 100
d) 110
e) 115

542. The recommended daily allowance (kcal/kg/day) for infants between **3-6 months** of age is:
a) 80
b) 90
c) 100
d) 110
e) 120

543. The recommended daily allowance (kcal/kg/day) for infants between **6 months-3 years of age** is:
a) 85
b) 95
c) 100
d) 110
e) 120

544. The recommended daily allowance (kcal/kg/day) for children between **3-6 years of age** is:
a) 70-80
b) 80-90
c) 90-100
d) 100-110
e) 110-120

545. How much weight should infants between 3-6 months gain per day?
a) 8 g/day
b) 12 g/day
c) 15 g/day
d) 20 g/day
e) 30 g/day

546. How much weight should infants between 6-9 months gain per day?
a) 8 g/day
b) 12 g/day
c) 15 g/day
d) 20 g/day
e) 30 g/day

547. How much weight should infants between 9-12 months gain per day?
a) 6 g/day
b) 8 g/day
c) 12 g/day
d) 15 g/day
e) 20 g/day

548. How much weight should children between 1-3 years gain per day?
   a) 6 g/day
   b) 8 g/day
   c) 12 g/day
   d) 15 g/day
   e) 20 g/day

549. How much weight should children between 3-6 years gain per day?
   a) 6 g/day
   b) 8 g/day
   c) 12 g/day
   d) 15 g/day
   e) 20 g/day

550. All of the following conditions cause developmental disabilities. The most common cause is:
   a) Cerebral palsy
   b) Mental retardation
   c) Learning disabilities
   d) Behavioral disorders
   e) Attention deficit/hyperactivity disorder (ADHD)

551. The mother of a **6-month-old** child wants to know the average number of hours sleep her child should be getting per day:
   a) 11-12
   b) 12-13
   c) 13-14
   d) 14-15
   e) 16-20

552. Most children stops taking naps by:
   a) 3 years of age
   b) 4 years of age
   c) 5 years of age
   d) 6 years of age
   e) 7 years of age

553. BEARS sleep screening algorithm includes all of the following **except**:
   a) Bedtime problems
   b) Excessive daytime sleepiness
   c) Awakenings during the night
   d) Regulatory and duration of sleep
   e) Sleep apnea

554. BEARS sleep sceening provides a comprehensive screen for the major sleep disorders in all of the following age groups **except**:
   a) 0-1 year
   b) 2-5 years
   c) 6-12 years
   d) 13-15 years
   e) 16-18 years

555. The following antipsychotic medication should not be used in patients with seizure activities:
   a) Clozapine
   b) Ziprasidone
   c) Olanazapine
   d) Quetiapine
   e) Risperidone

556. All of the following are side effect of antipsychotic medications **except**:
   a) Weight loss
   b) Sedation

c) Orthostatic hypotension
d) Tardive dyskinesia
e) Neuroleptic malignant syndrome

557. The following antipsychotic medication increases prolactin levels:
a) Risperidone
b) Thiothixine
c) Clozapine
d) Haloperidol
e) Chlorpromazine

558. All of the following are side effects of stimulants **except**:
a) Elevated systolic blood pressure
b) Worsening and development of tics
c) Lower seizure threshold
d) Increased appetite and weight gain
e) Abdominal pain

559. All of the following conditions can cause failure to thrive between **0 to 3 months** of age **except**:
a) Inborn errors of metabolism
b) HIV infection
c) Psychosocial failure to thrive
d) Gastroesophageal reflux
e) Cystic fibrosis

560. All of the following conditions can cause failure to thrive **between 3-6 months** of age **except**:
a) Milk protein allergy
b) HIV infections
c) Renal tubular acidosis
d) Delayed introduction of solid foods
e) Gastroesophageal reflux

561. All of the following conditions can cause failure to thrive (FTT) between **6-12 months** of age **except**:
a) Psychosocial FTT
b) Gastroesophageal reflux
c) Intestinal parasites
d) Renal tubular acidosis
e) Inborn errors of metabolism

562. The most common clinical presentation of mental retardation in patients **between 6-18 months of age** is:
a) Motor delays
b) Feeding difficulties
c) Fine motor delays
d) Language delays
e) Hearing difficulties

563. The most common clinical presentation of mental retardation in patients **between 18 months-3 years of age** is:
a) Language delays
b) Fine motor delays
c) Dysmorphic features
d) Vision impairments
e) Failure to interact with the environment

564. All of the following findings can be present in a patients with mental retardation between **3-5 years of age except**:
a) Language delays
b) Difficulties in coloring
c) Difficulties in cutting
d) Difficulties in playing
e) Academic underachievement

565. The most common clinical presentation of mental retardation in a **newborn** is:
   a) Dysmorphisms
   b) Gross motor delays
   c) Fine motor delays
   d) Hearing impairments
   e) Failure to interact with environment

566. The most common clinical presentation of mental retardation in patients **between 2-4 months of age** is:
   a) Gross motor delays
   b) Fine motor delays
   c) Dysmorphisms
   d) Feeding difficulties
   e) Failure to interact with the environment

567. The most common clinical presentation of mental retardation in patients **over 5 years of age** is:
   a) Gross motor delays
   b) Feeding difficulties
   c) Fine motor delays
   d) Dysmorphisms
   e) Academic underachievement

568. The preferred diagnostic study for children with mental retardation is:
   a) MRI
   b) Chromosomal blood testing
   c) Metabolic
   d) DNA testing
   e) EEG

569. The effect of vitamin E deficiency in preterm infants is:
   a) Hemorrhagic manifestations
   b) Osteomalacia
   c) Poor wound healing
   d) Dermatitis
   e) RBCs hemolysis

570. A child's serum SMA6 reveals Na 150, K 3.7, cl 118, BUN 30, creatinine 1.0, and glucose 108. What is the effective osmolality?
   a) 270
   b) 300
   c) 306
   d) 318
   e) 340

571. All of the following are diagnostic criteria for patients with a syndrome of inappropriate ADH secretion **except**:
   a) Serum osmolality is less than 280
   b) Urine osmolality is more than that of plasma
   c) Serum sodium is more than 135
   d) Urine sodium is more than 25
   e) Absence of renal, adrenal, or thyroid insufficiency

572. All of the following conditions in patients can cause spurious hyperkalemia **except**:
   a) Sickle cell disease
   b) Tissue ischemia during blood drawing
   c) Thrombocytosis
   d) Leukocytosis
   e) Hemolysis

573. The following condition in patients can cause spurious hypokalemia:
   a) Metabolic alkalosis
   b) Insulin

c) Diarrhea
d) Sweating
e) Leukocytosis (high white blood cell counts)

574. The early hypocalcemia in neonates most commonly occurs in:
a) FT, LGA infants
b) FT, AGA infants
c) PT, AGA infants
d) Low birth weight and IUGR infants
e) Postmature, AGA infants

575. The late hypocalcemia in neonates is most commonly due to:
a) Intake of milk with a high content of phosphate
b) Intake of milk with a low content of calcium
c) Intake of milk with a low content of both calcium and phosphate
d) Intake of milk with a low content of phosphate
e) Subcutaneous fat necrosis

576. The most common cause of late neonatal hypocalcemia in a healthy full-term neonate is due to:
a) Intake of high phosphate containing food
b) Intake of low phosphate containing food
c) Intake of low calcium containing food
d) Intake of high calcium containing food
e) Intake of low magnesium containing food

577. All of the following conditions cause hypercalcemia **except**:
a) Subcutaneous fat necrosis in full-term infants
b) Primary hyperparathyroidism
c) Hypervitaminosis A
d) Williams syndrome
e) DiGeorge syndrome

578. A large amount of magnesium is present in which part of the body:
a) Bones
b) Liver
c) Intestine
d) Cartilages
e) Muscles

579. All of the following conditions cause hypomagnesemia **except**:
a) Diarrhea
b) Milk alkali syndrome
c) Gitelman syndrome
d) Bartter syndrome
e) Celiac disease

580. All of the following conditions cause hypermagnesemia **except**:
a) Cystic fibrosis
b) Diabetic ketoacidosis
c) Tumor lysis syndrome
d) Lithium ingestion
e) Excessive use of antacids

581. The mode of inheritance of tumoral calcinosis is:
a) Autosomal recessive
b) Autosomal dominant
c) X-linked recessive
d) X-linked dominant
e) Multifactorial

582. The normal ABG (arterial blood gas) in a full-term infant is:
   a) pH 7.30-7.35, Pco_2 40-50, Po_2 90, HCO_3^- 16-20
   b) pH 7.35-7.45, Pco_2 25-30, Po_2 80, HCO_3^- 20-24
   c) pH 7.35-7.45, Pco_2 35-45, Po_2 100, HCO_3^- 20-28
   d) pH 7.25-7.30, Pco_2 50-60, Po_2 95, HCO_3^- 28-34
   e) pH 7.35-7.40, Pco_2 35-45, Po_2 60, HCO_3^- 16-20

583. The most common cause of lactic acidosis in newborns is:
   a) Sepsis
   b) Viral meningitis
   c) Bacterial meningitis
   d) Renal tubular acidosis
   e) Hypoxia

584. All of the following conditions cause metabolic acidosis with a normal anion gap **except**:
   a) Lactic acidosis
   b) Diarrhea
   c) Renal tubular acidosis
   d) Posthypocapnia
   e) Urinary tract diversions

585. All of the following conditions cause metabolic acidosis with an increased anion gap **except**:
   a) Ammonium chloride intake
   b) Renal failure
   c) Salicylate poisoning
   d) Diabetic ketoacidosis
   e) Inborn errors of metabolism

586. The following statement is **not** true about Gordon syndrome:
   a) Autosomal dominant
   b) Hypertension
   c) Volume expansion
   d) Hyperkalemia
   e) Renal tubular acidosis

587. A normal anion gap is:
   a) 4-6
   b) 6-8
   c) 8-16
   d) 16-20
   e) 20-24

588. The most common cause of metabolic alkalosis in children is:
   a) Emesis
   b) Diarrhea
   c) Cystic fibrosis
   d) Post hypercapnia
   e) Gitelman syndrome

589. A child develops metabolic alkalosis due to persistent vomiting. The appropriate respiratory compensation is hypoventilation that increase the PCO_2. For each 10mEq/L increase in the serum bicarbonate concentration, the PCO_2 increases by:
   a) 5 mm Hg
   b) 6 mm Hg
   c) 7 mm Hg
   d) 8 mm Hg
   e) 10 mm Hg

590. All of the following conditions cause metabolic alkalosis with hypertension **except**:
   a) Gitelman syndrome

b) Renin-secreting tumor
c) Liddle syndrome
d) 11 beta-hydroxylase deficiency
e) Cushing syndrome

591. The normal composition of maintenance water in the body is:
a) Urine 50%, insensible losses 40%, stool 10%
b) Urine 70%, insensible losses 25%, stool 5%
c) Urine 60%, insensible losses 30%, stool 10%
d) Urine 65%, insensible losses 30%, stool 5%
e) Urine 60%, insensible losses 35%, stool 5%

592. The preferred oral electrolyte solution (ORS) to treat infantile diarrhea is:
a) Sodium concentration more than 80 mEq/L
b) Sodium concentration more than 75 mEq/L
c) Sodium concentration more than 50 mEq/L
d) Sodium concentration less than 50 mEq/L
e) Sodium concentration less than 45 mEq/L

593. All of the following statements are true about ORS (oral rehydration solution) **except**:
a) A patient with mild dehydration should receive 50 mL/kg ORS within 4 hours.
b) A patient with moderate dehydration should receive 100 mL/kg ORS within 4 hours.
c) Stools volume should be measured and replaced with ORS solution.
d) Breast feeding or formula feeding should be allowed after rehydration in infants.
e) ORS should be given in small amounts at short intervals (e.g., one teaspoon every 1-2 minutes).

594. The most common cause of occult bacteremia that is not associated with a focal soft tissue infection is:
a) S. pneumoniae
b) H. influenzae type b
c) S. aureus
d) S. epidermidis
e) N. meningitidis

595. The 900-gram preterm infant is on a mechanical ventilator. Initially, the infant tolerated half-strength premature special care (24 calories) formula at 10 mL/kg/day every 3 hours. The recommended increment volume of feeding per day should be:
a) 1-4 mL/kg/day
b) 5-8 mL/kg/day
c) 10-15 mL/kg/day
d) 16-20 mL/kg/day
e) 21-25 mL/kg/day

596. The 1600-gram preterm infant initially tolerated a volume of 20-25 mL/kg/day of full-strength preterm special care (24 calories) formula or breast milk every 3 hours. Thereafter, the recommended increment of feedings per day should **not** exceed:
a) 5 mL/kg/day
b) 10 mL/kg/day
c) 15 mL/kg/day
d) 20 mL/kg/day
e) 25 mL/kg/day

597. The large for gestational age (LGA) infants have a higher incidence of all of the following **except**:
a) Subdural hematomas
b) Phrenic nerve paralysis
c) Brachial plexus injuries
d) Cephalhematomas
e) Higher intellectual developments

598. The following statement is **not** true about placental insufficiency syndrome:
a) About 35% infants with placental insufficiency are post-term.
b) This syndrome is due to degenerative changes in the placenta.

c) Meconium stained amniotic fluid may be present.
d) Abnormal fetal heart rate may be noted.
e) This syndrome is frequently confused with postmaturity.

599. A newborn appears with jaundice within the first 24 hours. The most likely cause is:
a) Polycythemia
b) Cephalhematoma
c) Bruises over the face
d) Biliary atresia
e) Hemolysis

600. A newborn appears pale during the first physical examination. The pale appearance is **not** due to the following:
a) Anemia
b) Bleeding
c) Hypoxia
d) Adrenal failure
e) Hyperglycemia

601. The predominant source of erythropoietin (EPO) during fetal life is:
a) Spleen
b) Liver
c) Bone marrow
d) Kidneys
e) Adrenals

602. The predominant source of erythropoietin (EPO) by 40 weeks gestational age is:
a) Kidneys
b) Liver
c) Bone marrow
d) Adrenals
e) Spleen

603. A premature infant with bronchopulmonary dysplasia (BPD) was treated with corticosteroids. The premature infant may develop:
a) Adrenal hypertrophy
b) Hypopituitarism
c) Hypoglycemia
d) Herperpituitarism
e) Transient hypertrophic cardiomyopathy

604. The most common clinical manifestation of myocarditis is:
a) Cardiac failure
b) Bradycardia
c) Heart block
d) Hypertension
e) Bounding peripheral pulses

605. The most common cause of myocarditis is:
a) Diptheria
b) Viral infection
c) Toxoplasmosis
d) Histoplasmosis
e) Bacterial infections

606. The most common primary malignant cardiac tumors in children is:
a) Sarcomas
b) Leukemia
c) Lymphomas
d) Wilms tumor
e) Mesotheliomas

607. Furosemide therapy can cause all of the following complications **except**:
   a) Hyponatremia
   b) Hypokalemia
   c) Acidosis
   d) Hypochloremia
   e) Increased extracellular fluid volume (ECF)

608. The most common cause of death in pediatric patients with heart transplantation is:
   a) Rejection
   b) Malignancy
   c) Pulmonary hypertension
   d) Cytomegalovirus infection
   e) Graft coronary artery disease

609. The most common tumor that occurs in patients after cardiac transplantation is:
   a) Sarcomas
   b) Leukemia
   c) Mesotheliomas
   d) Skin cancers
   e) Lymphoproliferative disease

610. The most common cause of hypertension in newborn is:
   a) Umbilical venous catheterization
   b) Umbilical artery catheterization
   c) Acute glomerulonephritis
   d) Acute tubular necrosis
   e) Excessive administration of intravenous fluids

611. All of the following laboratory findings are compatible in patients with anemia of chronic disease (ACD) **except**:
   a) Absolute reticulocyte counts are elevated
   b) Low serum iron levels
   c) Low serum transferrin levels
   d) Normocytic and normochromic anemia
   e) Normal bone marrow cellularity

612. An infant has been drinking powered milk for the last 12 months. The infant developed anemia. The most likely diagnosis is:
   a) Iron deficiency
   b) Cyanocobalamine deficiency
   c) Lead poisoning
   d) Sideroblastic anemia
   e) Folic acid deficiency

613. A patient is receiving iron therapy for anemia. The responses to iron therapy within the first 12-24 hours after iron ingestion include all of the following **except**:
   a) Erythroid hyperplasia
   b) Increased appetite
   c) Decreased irritability
   d) Subjective improvement
   e) Replacement of intracellular iron enzymes

614. The following sequence of events occur in patients who received iron therapy for iron-deficiency anemia for the first 3 months of therapy:
   a) Replacement of intracellular iron enzymes, increased appetite, erythroid hyperplasia, increased hemoglobin levels, reticulocytosis, and repletion of stores.
   b) Increased hemoglobin levels, reticulocytosis, replacement of intracellular iron enzymes, increased appetite, erythroid hyperplasia, and repletion of stores.
   c) Erythroid hyperplasia, repletion of stores, increased appetite, increased hemoglobin levels, reticulocytosis, and replacement of intracellular iron enzymes.

d) Increased appetite, repletion of stores, erythroid hyperplasia, replacement of intracellular iron enzymes, increased hemoglobin levels, and reticulocytosis
e) Replacement of intracellular iron enzymes, increased appetite, erythroid hyperplasia, reticulocytosis, increased hemoglobin levels and repletion of stores.

615. In a normal child, the percentile of RBCs are removed each day and replaced by the marrow to maintain the normal RBC count is:
a) 0.1%
b) 0.2%
c) 0.5%
d) 1%
e) 2%

616. An infant developed anemia. The laboratory studies reveals that the hemoglobin level is 10.5 g/dL, hematocrit is 31.5%, and reticulocyte count is 9.5%. The blood smear reveals spherocytes. The infant's blood type A+, Coombs negative. The infant is feeding well with a strong suck. The appropriate management is:
a) Iron therapy
b) Folic acid therapy
c) P-RBCs transfusion
d) Vitamin B_{12} therapy
e) Observation

617. A 7-year-old boy appears with anemia. The laboratory studies reveal that the hemoglobin level is 8 g/dL, hematocrit is 24%, and reticulocyte count is 14%. The blood smear reveals many spherocytes. The child's blood type is B+. The physical examination reveals a massive enlargement of spleen. The appropriate management is:
a) Iron therapy
b) Vitamin B6
c) Vitamin B12 therapy
d) Splenectomy
e) Observation

618. The following deficiency can cause poor growth and delayed maturation in patients with sickle cell disease:
a) Vitamin C deficiency
b) Vitamin A deficiency
c) Vitamin D deficiency
d) Calcium deficiency
e) Zinc deficiency

619. A 14-year-old boy with sickle cell disease appears with right upper quadrant abdominal pain for the last 12 hours. The pain subsided with acetaminophen and codeine. The appropriate investigation is:
a) Abdominal x-rays
b) Upper GI series
c) Barium enemas
d) Kidney-ureter bladder x-rays
e) Ultrasonography of the gallbladder and bile duct

620. A 17-year-old boy with sickle cell disease appears with sudden onset of fever, malaise, and lethargy. He had history of splenectomy at 7 years of age. He is up to date for immunization. The physical examination reveals temperature 101°F, tachypnea, and pallor. The chest x-ray appears normal. CBC reveals that the hemoglobin level is 5 g/dL, hematocrit level is 15%, and reticulocyte count is 0.1%. The blood culture is negative. The most likely diagnostic study is:
a) Bone scan
b) Ultrasonography of the abdomen
c) Spinal tap
d) Lung scan
e) Anti-B 19 IgM

621. A 2-year-old child appears with priaprism. The most likely diagnosis is:
a) Sickle cell trait
b) Polycythemia
c) Thalassemia

d) Trauma to the genitalia
e) Sickle cell disease

622. The first indication of sickle nephropathy is:
a) Hematuria
b) Proteinuria
c) Cystitis
d) Pyelonephritis
e) Urinary tract infection (UTI)

623. The most common clinical manifestation in infants with sickle cell disease:
a) Aplastic anemia
b) Salmonella osteomyelitis
c) Pneumonia
d) UTI
e) Dactylitis

624. A 5-year-old boy recently immigrated from an African country. He appears with a sudden onset of weakness in the left side of the body with a difficulty in speech. His mother denies history of trauma. The physical examination reveals left hemiplegia and enlarged spleen. The following investigation is indicated to make the diagnosis:
a) Head CT scan
b) Head MRI
c) Urine toxicology
d) Hemoglobin electrophoresis
e) Continuous monitoring of BP

625. The following investigation is indicated in patients with sickle cell disease who are at risk for a stroke:
a) Routine hemoglobin electrophoresis
b) Head CT scan
c) Head MRI
d) Cerebral angiogram
e) Transcranial doppler

626. A transcranial doppler (TCD) study in a sickle cell disease (Hbss) patient reveals the blood flow velocity in cerebral arteries is 240 cm/second. The next step in the management is:
a) Intravenous hydration
b) Ceftriaxone
c) Restrict oral fluids
d) Acetaminophen with codeine
e) Blood transfusions

627. The outpatient therapy is contraindicated in all of the following febrile sickle cell patients **except**:
a) Previous history of sepsis
b) High fever
c) History of splenectomy
d) A clinically stable child older than 18 months of age and the physician knows the patient and family very well. A follow up clinic appointment is made for the next day. A dose of ceftriaxone is given after all the appropriate investigations.
e) A 6-year-old boy with a mild abdominal pain

628. The curative therapy for patients with alpha-thalassemia with hydrops is:
a) P-RBCs transfusion
b) Whole blood transfusion
c) Exchange transfusion
d) Hydroxyurea
e) Bone marrow transplantation

629. A newborn infant appears with hydrops secondary to alpha-thalassemia. The fetus survived and placed on a mechanical ventilator. The next step in the management is:
a) P-RBCs transfusion

b) Dopamine
c) Fluid restriction
d) Intravenous hydration
e) Exchange transfusion

630. The following condition is **not** an indication to give P-RBCs transfusion in **infants less than 4 months of age**:
a) Hemoglobin 10.5 g/dL and major surgery
b) Hemoglobin 7.5 g/dL and symptomatic infant
c) Hemoglobin 12 g/dL and severe cardiac disease
d) Hemoglobin 9 g/dL and moderate lung disease
e) Hemoglobin 12 g/dL and severe lung disease

631. All of the following are indications of P-RBCs transfusion in **children and adolescents except**:
a) Hemoglobin 7.5 g/dL and marrow failure
b) Hemoglobin 7.5 g/dL and symptomatic chronic anemia
c) Hemoglobin 12.0 g/dL and severe cardiopulmonary disease
d) Hemoglobin 7.0 g/dL in perioperative period
e) Acute blood loss (20% of circulating blood volume)

632. The use of factor VIII concentrate is indicated immediately in all of the following hemorrhages in patients with hemophilia A **except**:
a) Hematuria
b) Hemarthrosis
c) Major surgery
d) Muscle hematoma
e) Tooth extraction

633. The following management is **not** indicated immediately in patients with hemophilia and epistaxis:
a) ENT consult
b) Apply pressure for 15-20 minutes
c) Antifibrionolytic therapy
d) Pack with petrolatum gauge
e) F VIII concentrate

634. An 11-year-old girl appears with menorrhagia. The American College of Obstetrics and Gynecology recommends the following investigation before the initiation of hormonal therapy or oral contraceptives:
a) Ultrasonography of uterus
b) Estrogen levels
c) Progesterone levels
d) Prolactin levels
e) Rule out von Willebrand disease

635. All of the following types of von Willebrand disease have a prolonged bleeding time and PTT **except**:
a) Type 1
b) Type 2A
c) Type 2B
d) Type 2N
e) Type 3

636. The platelet counts are normal in all of the following types of von Willebrand disease **except**:
a) Type 1
b) Type 2A
c) Type 2B
d) Type 2M
e) Type 3

637. The most common type of von Willebrand disease:
a) Type 1
b) Type 2A

c) Type 2B
d) Type 2N
e) Type 3

638. The specific antidote used in patients with rate poisoning is:
a) Vitamin A
b) Vitamin D
c) Vitamin K
d) Heparin
e) Vitamin E

639. The current newborn screening test for 21-hydroxylase deficiency in congenital adrenal hyperplasia has the following problem:
a) High false-positive results
b) Low false-positive results
c) High false-negative results
d) Low false-negative results
e) This problem is worst in full-term than preterm infants

640. The time to perform surgery in patients with ambiguous genitalia is:
a) 0-1 month
b) 1-3 months
c) 4-12 months
d) 12-18 months
e) 18-24 months

641. The preferred diagnostic study in patients with 21-hydroxylase deficiency in congenital adrenal hyperplasia is:
a) 17-hydroxyprogesterone level during the first 24 hours of life
b) 17-hydroxyprogesterone level between 48-72 hours of life.
c) Ultrasonography of the adrenal glands
d) MRI of the adrenal glands
e) 17-hydroxyprogesterone levels before and 30 or 60 minutes after an intravenous bolus of cosyntropin (ACTH 1-24)

642. An infant is diagnosed with congenital adrenal hyperplasia. He has a high BP. The most likely enzyme deficiency is:
a) 21-hydroxylase deficiency
b) 11 beta-hydroxylase deficiency
c) 3 beta-hydroxysteroid dehydrogenase deficiency
d) 17 alpha-OH/17, 20-lyase deficiency
e) 17-hydroxylase deficiency

643. The hypertension noted in patients with 11 beta-hydroxylase deficiency of CAH is most likely due to:
a) Elevated levels of testosterone
b) Elevated levels of ACTH
c) Elevated levels of dehydrotestosterone
d) Decreased levels of progesterone
e) Elevated levels of deoxycorticosterone

644. The most common cause of Cushing syndrome is:
a) Adrenal adenomas
b) Adrenal carcinomas
c) Exogenous administration of glucocorticoid hormones
d) Carney complex
e) Ectopic secretion of corticotropin

645. The most common **endogenous** cause of Cushing syndrome is:
a) Functioning benign adrenocortical tumor
b) Functioning malignant adrenocortical tumor
c) Pigmented nodular adrenocortical disease (Carney complex)
d) McCune Albright syndrome
e) Ectopic production of ACTH

646. The most common cause of endogenous Cushing syndrome in children older than 7 years of age is:
   a) Carney complex
   b) Ectopic production of ACTH
   c) Adrenal benign tumor
   d) Adrenal malignant tumor
   e) Cushing disease

647. Primary pigmented nodular adrenocortical disease (PPNAD) or Carney complex includes all of the following **except**:
   a) Autosomal recessive
   b) Cardiac myxoma
   c) Pigmented melanotic schwannomas
   d) Centrofacial lentigines and blue nevi
   e) Pituitary tumor

648. A patient's abdominal CT examination reveals a 3 cm mass in the left adrenal gland as an incidental finding. The next step in management is:
   a) Surgical removal of the mass
   b) Surgical removal of the gland and mass
   c) Radiotherapy of the mass
   d) Chemotherapy
   e) Clinical follow up and periodic reimaging

649. All of the following conditions cause adrenal calcifications **except**:
   a) Wolman disease
   b) Neuroblastoma
   c) Ganglioneuromas
   d) Congenital adrenal hyperplasia
   e) Waterhouse-Friderischsen syndrome

650. The most common cause of adrenal calcifications is:
   a) Hemorrhage into adrenal gland
   b) Tuberculosis
   c) Adrenal cysts
   d) Pheochromocytomas
   e) Adrenal carcinomas

651. The following statement is **not** true about Noonan syndrome:
   a) This syndrome occurs in males only.
   b) Human growth hormone therapy improves the growth velocity.
   c) Pulmonic valvular stenosis is the most common cardiac defect.
   d) Hepatosplenomegaly can be present.
   e) Factor XI and XII deficiencies can occur.

652. A routine physical examination of an adolescent reveals a testicular volume of 40 mL. The preferred diagnostic study is:
   a) Testicular scan
   b) Ultrasonography of testes
   c) CT scan of testes
   d) MRI of the testes
   e) Direct DNA analysis

653. A boy appears with an unilateral cryptorchidism. The size of descended testis is:
   a) Same as normal of age.
   b) 25% larger than normal for age
   c) 25% smaller than normal for age
   d) 50% larger than normal for age
   e) 75% larger than normal for age

654. A 10-year-old boy appears with gynecomastia. His 8-year-old sister has large breasts (macromastia) and isosexual precocious puberty. Their father has gynecomastia. The mostly likely diagnosis is:

a) Physiologic gynecomastia
b) Familial gynecomastia
c) Prolactinoma
d) Craniopharyngioma
e) Syndrome of aromatase excess

655. A 10-year-old boy appears with bilateral gynecomastia for the last 3 weeks. He is being treated with human growth hormone for his short stature. The next step in management is:
a) Endoscopic surgery
b) Bilateral mastectomy
c) Danazol
d) Testolactone
e) Reassurance

656. A 14-year-old boy appears with bilateral gynecomastia for the last 1 month. His mother has been using a topical hormonal cream. The physical examination reveals increased pigmentation of both nipples and areolae. The next in management is:
a) Surgical consultation
b) Danazol
c) Anastrozole
d) Avoid exposure of exogenous estrogens
e) Reassurance

657. Estrogen induced gynecomastia is due to all of the following conditions **except**:
a) Decreased levels of androgens
b) Decreased levels of estrogens
c) Increased levels of estradiol
d) Decreased levels of free androgens
e) Displaced andogrens from breast androgen receptors

658. A child appears with history of vomiting, diarrhea, and abdominal pain. He also complains of hot and cold sensations of the extremities, itching, and myalgias. His family went to the seafood restaurant for dinner and the symptoms started within 2 hours after dinner. The physical examination reveals rash on the palms and soles, tachycardia, and low BP. The most likely diagnosis is:
a) Scombroid fish poisoning
b) Paralytic shellfish poisoning
c) Amnesic shellfish poisoning
d) Diarrhetic shellfish poisoning
e) Ciguatera fish poisoning

659. The most potent neurotoxin responsible for paralytic shellfish poisoning is:
a) Saxitoxin
b) Maitotoxin
c) Ciguatoxin
d) Domoic acid
e) Scombrotoxin

660. A 16-year-old boy appears with abdominal pain, nausea, paraesthesias around the mouth and stocking-glove areas. He also complains of hot-cold temperature sensations. He ate mussels, scallops, and clams 30 minutes prior to the symptoms. The next step in management is:
a) Supportive care
b) Intravenous calcium
c) Mannitol
d) Gabapentin
e) Cimetidine

661. A group of adolescents appear with dyspnea and rhinorrhea. They were traveling on the train. Many other adults with the same symptoms also got sick and were brought to the ER at the same time. A few patients developed seizure activities and some of them are paralyzed. The preferred therapy includes all of the following **except**:
a) Atropine
b) Pralidoxime

c) Diazepam
d) Sodium nitrite
e) Oxygen

662. A group of children appear with a difficulty in breathing and seizure activities. A few of them required intubation and mechanical ventilation. One child became comatose. They were traveling on the train with their parents. Most parents with the same symptoms also got sick and were brought to the ER at the same time. The symptomatic children are treated with oxygen. ABG reveals severe metabolic acidosis with increased anion gaps. The treatment includes all of the following **except**:
a) Sodium bicarbonate
b) Sodium nitrite
c) Sodium thiosulfate
d) 100% oxygen
e) BAL

663. A patient with chlorine toxicity appears with the following symptoms:
a) Vesicles
b) Seizures
c) Coma
d) Miosis
e) Irritation of eyes, nose, and throat

664. The clinical feature of phosgene toxicity is:
a) Paralysis
b) Apnea
c) Seizures
d) Erythema
e) Pulmonary edema

665. The clinical features of vesicants (e.g., mustard, lewisite) toxicity includes all of the following **except**:
a) Inflammation of eyes
b) Erythema of skin
c) Vesicles of skin
d) Seizures
e) Inflammation of respiratory tract

666. A routine physical examination in a newborn child reveals a palpable abdominal mass. The most likely diagnosis is:
a) Pancreatic pseudocyst
b) Choledochal cyst
c) Hydronephrotic kidney
d) Hepatoma
e) Mesenteric cyst

667. In boys, ectopic ureters most commonly drain into:
a) Vas deferens
b) Seminal vesicle
c) Prostatic utricle
d) Ejaculatory duct
e) Posterior urethra

668. In girls, ectopic ureters most commonly drain into;
a) Vagina
b) Cervix
c) Uterus
d) Gartner duct
e) Urethra

669. In boys, the most common clinical presentation of ectopic ureters is:
a) UTI
b) Urinary incontinence

c) Ureteral prolapse
d) Abdominal mass
e) Pelvis mass

670. In girls, the most common clinical presentation of ectopic ureter is:
a) Pelvic mass
b) Abdominal mass
c) Urethral prolapse
d) Urinary incontinence
e) UTI

671. The most common associated anomaly in prune-belly syndrome is:
a) Malrotation of intestine
b) CNS
c) Cardiac (VSD)
d) Musculoskeletal
e) Pulmonary cysts

672. Prune-belly syndrome includes all of the following findings **except**:
a) Deficient abdominal muscles
b) Undescended testes
c) Polyhydramnios
d) Pulmonary hypoplasia
e) Urinary tract abnormalities

673. A full-term male newborn is admitted in NICU with the diagnosis of posterior urethral valve. The physical examination reveals the distended urinary bladder. A small polyethylene feeding tube (No. 8 French) is inserted through the urethra. Urine drains around the catheter rather than through the catheter. The most likely interpretation of the urinary drainage is:
a) The newborn don't have posterior urethral valve.
b) The newborn has urethral stricture
c) The newborn has phimosis
d) The tip of the catheter is coiled in the posterior urethra.
e) The tip of the catheter perforated the urethra.

The next step in management is:
a) Remove the catheter because of the wrong diagnosis
b) Dilatation of the urethral stricture
c) Circumcision
d) Remove the catheter and reinsert a new (No. 5 French) catheter
e) Remove the catheter and insert a Foley (balloon) catheter

674. The preferred diagnostic study in patients with a posterior urethral valve is:
a) VCUG
b) MRI of the bladder
c) CT scan of the bladder
d) Nuclear scan of the bladder
e) Intravenous pyelography

675. A 1-day-old infant is diagnosed with posterior urethral valve. His BUN and serum creatinine values are 30 and 3.6 respectively. His BUN and serum creatinine values become normal 2 days after the insertion of an urinary catheter through urethra. The next step in management is:
a) Vesicostomy
b) Peritoneal dialysis
c) Hemodialysis
d) Remove the catheter
e) Endoscopic transurethral ablation of the posterior urethral valve leaflets.

676. A 1-day-old infant is diagnosed with posterior urethral valve. His BUN and creatinine values are 35 and 4.0 respectively. His serum creatinine value is increased up to 5.0 despite the insertion of an urinary catheter. The next step in management is:

a) Vesicostomy
b) Pyelostomy
c) Hemodialysis
d) Insert a bigger catheter
e) Continuous ambulatory peritoneal dialysis

677. The numbers of coordinated, reflex voiding per day in infants are the following:
a) 5 to 10
b) 10 to 15
c) 15 to 20
d) 20 to 25
e) 25 to 30

678. The urinary bladder capacity of a 4-year-old child is:
a) 2 ounces
b) 4 ounces
c) 6 ounces
d) 8 ounces
e) 10 ounces

679. A 4½ year-old-boy is incontinent at night. His mother is worried. The next step in management is:
a) Rule out UTI
b) VCUG
c) Bladder ultrasonography
d) Put urinary catheter every night
e) Reassurance

680. The risk of enuresis in a child whose one parent was enuretic is:
a) 25%
b) 44%
c) 50%
d) 66%
e) 77%

681. The risk of enuresis in a child whose both parents were enuretic is:
a) 25%
b) 50%
c) 66%
d) 77%
e) 100%

682. All of the following factors are associated with the pathogenesis of primary nocturnal enuresis **except**:
a) UTI
b) Enlarged tonsils
c) Chromosomes 12
d) Reduced ADH secretion at night
e) Delayed maturation of the cortical mechanisms

683. The history and physical examination of a child with primary nocturnal enuresis include all of the following **except**:
a) Pattern of enuresis
b) Fluid intake at night
c) History of snoring at night
d) Palpation of the abdomen
e) Rectal examination before voiding

684. A 7-year-old boy appears with primary noctural enuresis. The boy is continent during the day. The physical examination is unremarkable. Urinalysis is normal. Urine culture is negative. The next step in management is:
a) VCUG
b) Renal scan

c) Spinal x-ray
d) Monitor for sleep apnea
e) No further investigation

685. A child appears with primary nocturnal enuresis. The physical examination reveals hypertrophied adenoids. The next step in management is:
a) Desmopressin acetate tablets
b) Desmopressin acetate nasal sprays
c) Imipramine
d) Adenoidectomy
e) Oxybutynin chloride

686. The nonpharmacologic therapies in patients with primary nocturnal enuresis include all of the following **except**:
a) Restriction of fluids after 7 PM
b) Motivational approach
c) Conditioning therapy
d) Reassure parents that the condition is self-limited
e) Holding urine for a longer period in day time

687. The preferred pharmacologic therapy for patients with primary nocturnal enuresis is:
a) Desmopressin acetate tablets at bedtime
b) Desmopressin acetate nasal sprays at bedtime
c) Imipramine
d) Oxybutynin chloride
e) Desipramine

688. The most common cause of poisoning by prescription medication in younger siblings is:
a) Acetaminophen
b) Ibuprofen
c) Zithromax
d) Amoxicillin
e) Imipramine

689. The most common intramedullary tumor of the spinal cord in children is:
a) Ependymoma
b) Sarcoma
c) Lymphoma
d) Astrocytoma
e) Neurofibroma

690. The most common clinical feature in patients with Waardenburg syndrome is:
a) Dystopia canthorum
b) Broad nasal root
c) Heterochromic irises
d) Congenital deafness
e) White forelock

691. The following investigation is recommended in a child with Waardenburg syndrome:
a) Renal scan
b) Echocardiogram
c) Head CT scan
d) Retinal examination
e) Hearing test

692. The mode of inheritance in patients with Waardenburg syndrome is:
a) Autosomal recessive
b) Autosomal dominant
c) X-linked recessive

d) X-linked dominant
e) Multifactorial

693. The most common associated anomaly in patients with hypomelanosis of Ito (incontinencia pigmenti acromians) is:
a) Scoliosis
b) Strabismus
c) Seizures
d) Microcephaly
e) Mental retardation

694. The Vogt-Koyanagi syndrome includes all of the following findings **except**:
a) Vitiligo
b) Uveitis
c) Kidney disorder
d) CNS disorder
e) Premature graying of hair

695. A child appears with rosette-like blisters around a central rust over the trunk of the body. The most likely diagnosis is:
a) Dermatitis herpetiformis
b) IgA dermatosis
c) Chickenpox
d) Pemphigus vulgaris
e) Epidermolysis bullosa

696. A child is being treated with oral sulfapyridine for skin lesions. This medication can cause the following problem:
a) Cardiac
b) Renal
c) CNS
d) Thyroid
e) Pulmonary

697. Dermatitis herpetiformis is strongly associated with the following condition:
a) Varicella infection
b) Echovirus infection
c) Insect bites
d) Eczema
e) Gluten-sensitive enteropathy

698. The preferred therapy for patients with dermatitis herpetiformis is:
a) Acyclovir
b) Corticosteroids
c) Erythromycin
d) Sulfapyridine
e) Zinc oxide ointment

699. The most common organism causing athlete's foot in young children is:
a) Trichophyton rubrum
b) Trichophyton mentagrophytes
c) Microsporum canis
d) Microsporum audouinii
e) Epidermophyton floccosum

700. The preferred therapy for newborn infants with talipes equinovarus (club feet) is:
a) Serial plaster casts
b) Complete soft tissue release
c) Taping
d) Malleable splints
e) Tendon transfers and fusion of joints

701. A 3-month-old infant appears with a right foot cast for talipes equinovarus. The foot x-ray reveals that the total correction is not achieved. The next step in management is:
   a) Continue cast for another month
   b) Remove the old cast and put a new one
   c) Start vigorous physiotherapy
   d) Refer to a new orthopedic specialist
   e) Surgical treatment

702. All of the following parameters indicate prerenal acute renal failure (ARF) **except**:
   a) BUN/creatinine ratio is less than 20.
   b) Fractional excretion of sodium is less than 1%.
   c) Urine sodium is less than 20 mEq/L.
   d) Urine specific gravity is more than 1.020.
   e) Urine osmolality is more than 500 mOsm.

703. All of the following parameters indicate intrinsic acute renal failure (ARF) **except**:
   a) BUN/creatinine ratio is less than 20.
   b) Fractional excretion of sodium is more than 2%.
   c) Urine sodium is more than 40 mEq/L.
   d) Urine specific gravity is less than 1.010.
   e) Urine osmolality is between 350-500 mOsm.

704. The side effects of propranolol include all of the following **except**:
   a) Bradycardia
   b) Bronchospasm
   c) Hyperglycemia
   d) Hypotension
   e) Heart block

705. The following therapy is contraindicated in patients with supraventricular tachycardia (SVT):
   a) Verapamil
   b) Ice bag over the face
   c) Phenylephrine
   d) Edrophonium
   e) Synchronized DC cardioversion

706. The preferred therapy in a stable patient with SVT is:
   a) Propranolol
   b) Quinidine
   c) Procainamide
   d) Submersion of the face in iced saline
   e) Adenosine

707. The preferred therapy in patients with SVT and severe cardiac failure is:
   a) Adenosine
   b) Propranolol
   c) Phenylephrine
   d) Synchronized DC cardioversion
   e) Quinidine

708. Jervell-Lange-Nielsen syndrome (JLNS) is usually associated with:
   a) Cataract
   b) Deafness
   c) Hydronephrosis
   d) Hepatitis
   e) Choanal atresia

709. The most common malignant liver tumor in children is:
   a) Neuroblastoma

b) Rhabdomyosarcoma
c) Hepatoblastoma
d) Angiosarcoma
e) Hemangioendothelioma

710. A 2-year-old child appears with anorexia, vomiting, weight loss, and abdominal pain. The physical examination reveals a large mass in the liver and mild abdominal discomfort. The following laboratory finding is almost always present in patients with hepatoblastomas:
a) Elevated liver enzymes and bilirubins
b) Polycythemia
c) Positive hepatitis B
d) Positive hepatitis C
e) Elevated alpha-fetoprotein (AFP)

711. After surgical removal of a portion of the liver, hepatic regeneration is noted within:
a) 3 months of age
b) 6 months of age
c) 9 months of age
d) 12 months of age
e) 15 months of age

712. The trilateral retinoblastoma includes the following finding:
a) Anterior pituitary tumor
b) Posterior pituitary tumor
c) Bone tumor
d) Liver tumor
e) Pineal area tumor

713. An infant is diagnosed and treated for retinoblastoma. The routine ophthalmologic examination should continue to detect a new lesion until:
a) About 4 years of age
b) About 6 years of age
c) About 9 years of age
d) About 12 years of age
e) About 18 years of age

714. A routine physical examination of the newborn reveals absence of right reflex and presence of white pupillary reflex in the left eye. The patient may have the following chromosomal defect:
a) Chromosome 5
b) Chromosome 11
c) Chromosome 13
d) Chromosome 18
e) Chromosome 21

715. The preferred diagnostic study in patients with retinoblastoma is:
a) MRI
b) CT scan
c) Ultrasonography
d) Biopsy
e) Opthalmologic examination under general anesthesia

716. The preferred therapy in patients with retinoblastoma is:
a) Local control of intraocular tumor and chemotherapy
b) Enucleation
c) Chemotherapy
d) Radiotherapy
e) External-beam irradiation

717. A voiding cystourethrogram (VCUG) is indicated in all of the following conditions **except**:
   a) A 10-year-old girl with one episode of afebrile UTI
   b) A 4-year-old girl with one episode of UTI
   c) A 12-year-old boy with one episode of UTI
   d) A 2-year-old girl with one episode of UTI
   e) A 10-day-old girl with afebrile UTI

718. The true statement about the incidence of reflux in VCUG studies performed during treatment of UTI or after 6 weeks is:
   a) The incidence of reflux is 50% higher if VCUG study is performed during treatment of the UTI.
   b) The incidence of reflux is 25% higher if VCUG study is performed during treatment of the UTI.
   c) The incidence of reflux is identical if VCUG study is performed during treatment of the UTI or after 6 weeks.
   d) The incidence of reflux is 25% higher if VCUG study is performed after 6 weeks of treatment.
   e) The incidence of reflux is 50% higher if VCUG study is performed after 6 weeks of treatment.

719. The recommended timing to perform VCUG study in patient with UTI is:
   a) Before the onset of therapy
   b) Two days after the onset of therapy
   c) Before the child is discharged from the hospital
   d) Two months after the therapy
   e) Three months after the therapy

720. The following statement is not true about voiding cystourethrogram (VCUG) studies:
   a) A contrast VCUG study is not recommended for boys for the initial work-up
   b) A radionuclide VCUG study has less radiation effects on gonads than that of contrast VCUG.
   c) A radionuclide VCUG study determines the accurate grading of the reflux.
   d) A radionuclide VCUG study does not give anatomic definition of the urinary bladder.
   e) A radionuclide VCUG study is preferred in girls.

721. The preferred study to determine the renal scar is:
   a) Ultrasonography
   b) Radionuclide VCUG
   c) Contrast VCUG
   d) DMSA scan
   e) Power Doppler Ultrasonography

722. A child is diagnosed with a febrile UTI. Renal ultrasonographic studies are normal. The physician wants to rule-out acute pyelonephritis. The next step in management is:
   a) Perform a power Doppler ultrasonography
   b) Radionuclide VCUG
   c) Contrast VCUG
   d) Plain x-ray of the kidney
   e) DMSA scan

723. The following study is contraindicated in a female child with UTI:
   a) Ultrasonography of the kidney
   b) Radionuclide VCUG
   c) Contrast VCUG
   d) DMSA renal scan
   e) Cystoscopy and measurement of urethral caliber

724. The following statement is not true about DMSA renal scan results:
   a) DMSA renal scan can differentiate acute from chronic pyelonephritis.
   b) DMSA renal scan results are normal in 60% of children with a febrile UTI, irrespective of age.
   c) If the DMSA renal scan is normal during a febrile UTI, no scarring results from that infection.
   d) If the DMSA renal scan reveals acute pyelonephritis, about 50% of patients will develop scars in that area over the next 5 months.
   e) DMSA renal scan results reveal acute pyelonephritis in 80-90% of children with grade III and more reflux and a febrile UTI.

725. The nasopharyngeal carcinoma in children is usually associated with:
   a) Rhinovirus
   b) Respiratory syncitial virus
   c) Adenovirus
   d) Group A Streptococcus
   e) Epstein-Barr virus

726. The most common cause of nonspecific vulvovaginitis in all pediatric age groups:
   a) Foreign body
   b) Poor perineal hygiene
   c) Tight underwear
   d) Constipation
   e) Diarrhea

727. The nonspecific vulvovaginitis is most commonly associated with the following organism:
   a) Salmonella
   b) Shigella
   c) S. aureus
   d) Hemolytic Streptococcus
   e) E. coli

728. The treatment of nonspecific vulvovaginitis includes all of the following **except**:
   a) Appropriate perineal hygiene
   b) Avoid tight-fitting underwears
   c) Avoid sitz baths
   d) Air-drying the vulva
   e) Avoid 'vaginal fixation'

729. The preferred therapy in patients with a recurrent vulvovaginitis is:
   a) Topical estrogen cream
   b) Topical polysporin ointment
   c) Amoxicillin
   d) Erythromycin
   e) Trimethoprim-sulfamethoxazole

730. The most common organism in patients with specific vulvovaginitis is:
   a) Candida
   b) Peptococcus
   c) Protozoa
   d) Virus
   e) Gardenrella vaginalis

731. The most common foreign body in the vagina is:
   a) Peanut
   b) Pencil
   c) Crayon
   d) Toilet paper
   e) Tiny candy

732. Breast development in girls normally begins at:
   a) 7½ years of age
   b) 8½ years of age
   c) 9½ years of age
   d) 10 years of age
   e) 11 years of age

733. The preferred method to detect a breast abnormality in adolescents is:
   a) Lateral x-ray of the breast
   b) CT scan of the breast

c) MRI of the breast
d) Ultrasonography of the breast
e) Self-examination of the breast

734. The preferred position during breast self-examination in girls is:
a) Sit down
b) Lie down supine
c) Lie down prone
d) Lie down laterally
e) Stand up

735. The most common breast mass in adolescent girls is:
a) Breast cyst
b) Fibrocystic disease
c) Mastitis
d) Lipoma
e) Fibroadenoma

736. A 2-year-old girl appears with a few episodes of sudden onset of vomiting, ataxia, and refuses to walk. She has been walking normally for the last 12 months. She talks normally and remains conscious during and after the episodes. During physical examination, the patient experienced another attack. The girl looks pale and frightened. The horizontal nystagus is also noted. The neurological examination is normal. However, an abnormal vestibular function is noted during an ice water caloric testing. The next step in management is:
a) Head CT scan
b) Head MRI
c) Phenobarbital
d) Phenytoin
e) Diphenhydramine

737. A 6-month-old girls appears with sudden onset of irregular breathing, grunting, sweating, and becomes flushed. The episodes lasted for 1-2 minutes. The next step in management is:
a) Chest x-ray
b) EKG
c) Sweat chloride test
d) Serum glucose level
e) Reassurance

738. A 3-year-old boy has a visual acuity of 20/40. The next step in management is:
a) Refer to an opthalmologist
b) Refer to an optometrist
c) Eye examination under general anesthesia
d) Reexamination 1 month
e) Reassurance

739. A 4-year-old girl has a visual acuity of 20/30. the next step in management is:
a) Reexamination after 1 month
b) Reexamination after 3 month
c) Refer to an opthalmologist
d) Refer to an optometrist
e) Reassurance

740. Most children have a visual acuity of 20/20 by:
a) 4-5 years of age
b) 5-6 years of age
c) 6-7 years of age
d) 7-8 years of age
e) 8-9 years of age

741. The major source of lead poisoning in U.S. children is:
   a) Gasoline
   b) Breast milk
   c) Pencil
   d) Paint
   e) Placental transfer

742. A child's venous blood lead level is 40 micrograms/dL. The following management is **not** indicated:
   a) Chelation therapy
   b) Evaluate sources
   c) Provide education
   d) Repeat within 1 month
   e) Refer to department of health

743. A child's venous blood lead level is 69 micrograms/dL. The preferred therapy is:
   a) BAL
   b) EDTA
   c) DMSA
   d) EDTA and DMSA
   e) EDTA and BAL

744. A child's venous blood lead level is 71 microgram/dL. The preferred therapy in this patient without encephalopathy is:
   a) EDTA
   b) BAL
   c) DMSA
   d) EDTA and DMSA
   e) Hemodialysis

745. A child is diagnosed with lead encephalopathy. The blood lead level is 90 micrograms/dL. The preferred therapy is:
   a) EDTA and BAL
   b) EDTA and DMSA
   c) EDTA
   d) BAL
   e) Hemodialysis

746. A child's venous blood lead level is 19 micrograms/dL. The management includes all of the following **except**:
   a) Repeat within 3 months
   b) Evaluate sources
   c) Education about cleaning
   d) Education about hand-mouth
   e) Refer to the department of health

747. A child's venous blood lead level is 14 micrograms/dL. The management includes all of the following **except**:
   a) Repeat within 3 months
   b) Refer to the department of health
   c) Evaluate sources
   d) Education about cleaning
   e) Education about hand-mouth

748. The most common mode of inheritance in patients with hereditary spherocytosis is:
   a) Autosomal recessive
   b) Autosomal dominant
   c) X-linked recessive
   d) X-linked dominant
   e) Multifactorial

749. The most common molecular defect in patients with hereditary spherocytosis is:
   a) Actin
   b) Myosin

c) Globin
d) Heme
e) Spectrin

750. The splenectomy is usually indicated in patients with hereditary spherocytosis. The splenectomy is performed:
a) After 1-2 years of age
b) After 2-3 years of age
c) After 3-4 years of age
d) After 4-5 years of age
e) After 5-6 years of age

751. The following laboratory finding is usually noted after splenectomy in patients with hereditary spherocytosis:
a) Anemia
b) Leukopenia
c) Neutropenia
d) Polycythemia
e) Thrombocytosis

752. The usual treatment for postsplenectomy thrombocytosis in patients with hereditary spherocytosis is:
a) Partial exchange transfusion
b) Remove 100 mL of whole blood
c) Double volume exchange transfusion
d) Single volume exchange transfusion
e) Reassurance

753. A 7-year-old boy is diagnosed with hereditary spherocytosis. The laparascopic splenectomy will be performed next week. All of the following treatments are indicated before splenectomy **except**:
a) Folic acid 1 mg/day
b) Penicillin V 250 mg twice daily
c) Pneumococcal vaccine
d) Meningococcal vaccine
e) Haemophilus influenzae type b vaccine

754. A 9-year-old boy appears with an unremitting and gradually increasing pain in the proximal femur. **The pain is worst at night and is relieved by aspirin**. The most likely diagnosis is:
a) Osteoblastoma
b) Ewing sarcoma
c) Chondroblastoma
d) Fibromas
e) Osteoid osteoma

755. Li-Fraumeni syndrome is associated with the following tumor:
a) Ewing sarcoma
b) Osteoid osteoma
c) Osteochondroma
d) Chondroblastoma
e) Osteosarcoma

756. A child is diagnosed with osteosarcoma of the lower part of the femur. His older brother had leukemia. His mother is recently diagnosed with breast cancer. The most likely mutation is noted at:
a) TP53 gene
b) TP50 gene
c) TP51 gene
d) TP52 gene
e) TP54 gene

757. A child is diagnosed with a hereditary retinoblastoma. This child has an increased risk of developing the following tumor:
a) Pituitary tumor
b) Nasopharyngeal carcinoma

c) Wilms tumor
d) Rhabdomyosarcoma
e) Osteosarcoma

758. A child received irradiation therapy for an Ewing sarcoma. The irradiation therapy can cause the following tumor:
a) Retinoblastoma
b) Osteosarcoma
c) Osteoclastoma
d) Osteoid osteoma
e) Osteoblastoma

759. Rothmund-Thomson syndrome includes all of the following **except**:
a) Short stature
b) Small hands and feet
c) Skin telangiectasia
d) Hypoplastic thumb
e) High risk of osteochondroma

760. A child appears with pain and swelling of the upper part of the right leg. He had a history of injury in that area. He also has mild fever and history of weight loss. The x-ray of the right tibia reveals **onion-skinning**. The most likely diagnosis is:
a) Osteosarcoma
b) Osteoid osteoma
c) Osteochondroma
d) Enchondroma
e) Ewing sarcoma

761. A 14-year-old boy appears with pain and swelling of the lower left thigh. He had a history of injury in that area. The physical examination reveals a swollen, tender, warm left lower thigh and left knee. The x-ray reveals a **sunburst** appearance of the lower left femur. The most likely diagnosis is:
a) Osteosarcoma
b) Ewing sarcoma
c) Osteoblastoma
d) Osteoid osteoma
e) Osteochondroma

762. A newborn appears with irritability, lethargy, anorexia, failure to thrive, and constipation. The total serum calcium level is 16 mg/dL and serum phosphorus level is 2.8 mg/dL. The x-ray study reveals a resorption of subperiosteal margin of phalanges of hands. The preferred therapy is:
a) Partial removal of the thyroid gland
b) Total parthyroidectomy
c) Irradiation therapy to pituitary gland
d) Partial removal of the anterior pituitary
e) Bilateral adrenalectomy

763. The most common cause of hypercalcemia secondary to malignancy is:
a) Elevated levels of PTH (parathormone)
b) Decreased levels of PTH
c) Decreased calcuria
d) Elevated levels of calcitonin
e) Elevated levels of parathyroid hormone-related peptide (PTHrP)

764. In what gestational age, a normal newborn usually blinks when a bright light is directed to eyes:
a) 24 weeks
b) 26 weeks
c) 28 weeks
d) 30 weeks
e) 32 weeks

765. In what gestational age, a normal newborn maintains eye closure until the light source is removed:
   a) 28 weeks
   b) 30 weeks
   c) 32 weeks
   d) 34 weeks
   e) 36 weeks

766. In what gestational age, a normal newborn turns the head and the eyes to a soft light:
   a) 34 weeks
   b) 35 weeks
   c) 36 weeks
   d) 37 weeks
   e) 38 weeks

767. In what gestational age, a normal newborn develops visual fixation and the ability to follow a bright target:
   a) 32 weeks
   b) 34 weeks
   c) 36 weeks
   d) 38 weeks
   e) 40 weeks

768. In what gestational age, a normal newborn's pupil reacts to light:
   a) 24-25 weeks
   b) 26-27 weeks
   c) 28 weeks
   d) 29-32 weeks
   e) 33-36 weeks

769. The visual acuity of a term infant is approximately:
   a) 20/400
   b) 20/200
   c) 20/150
   d) 20/100
   e) 20/50

770. The mode of inheritance in patients with a Duchenne muscular dystrophy is:
   a) Autosomal recessive
   b) Autosomal dominant
   c) X-linked recessive
   d) X-linked dominant
   e) Multifactorial

771. The most consistent laboratory finding in patients with a Duchenne muscular dystrophy is:
   a) Elevated aldolase levels in serum
   b) Elevated aspartate levels in serum
   c) Elevated aminotransferase levels in serum
   d) Elevated myoglobin levels in serum
   e) Elevated creatine phosphokinase (CK) levels in serum

772. The preferred diagnostic study in patients with a Duchenne muscular dystrophy is:
   a) Muscle biopsy
   b) Serum CK levels
   c) Serum aldolase levels
   d) Serum myoglobin levels
   e) Serum aspartate levels

773. The American Academy of Pediatrics recommends the goal of universal detection of hearing loss in infants before:
   a) 1 month of age
   b) 2 months of age

c) 3 months of age
d) 4 months of age
e) 6 months of age

774. The appropriate intervention in infants with a hearing loss should be no later than:
a) 1 month of age
b) 3 months of age
c) 6 months of age
d) 9 months of age
e) 12 months of age

775. The language development in infants with hearing loss should be the same level of language as their age-matched peers if the hearing loss is identified and treated before:
a) 1 month of age
b) 3 months of age
c) 4 months of age
d) 6 months of age
e) 9 months of age

776. An 18-month-old boy came for a routine follow-up examination. He does not use single word. His height, weight, and head measurements are appropriate for his age. He is very active. He runs and he plays. The next step in management is:
a) Force him to speak
b) Refer to a speech therapist
c) Refer for audiologic assessment
d) Vision testing
e) Don't give food until he speaks

777. A child came for an audiometric evaluation. Her bone conduction results are much better than that of air conduction. The most likely diagnosis is:
a) Normal hearing
b) Conductive hearing loss
c) Sensorineural hearing loss
d) Autism
e) Gentamicin toxicity

778. A child appears with normal growth and development. The audiometric evaluation of this child should reveal:
a) Air conduction is much better than bone conduction.
b) Bone conduction is much better than air conduction.
c) Air conduction is absent but bone conduction is present.
d) Bone conduction is absent but air conduction is present.
e) Air and bone conductions are same but air conduction is slightly better than bone conduction.

779. A child is diagnosed with congenital CMV infection. The audiometric evaluation of this child should reveal:
a) Air conduction is normal and bone conduction is normal.
b) Air conduction is normal and bone conduction is abnormal.
c) Air conduction is abnormal and bone conduction is normal.
d) Air conduction is absent but bone conduction is present.
e) Air conduction is abnormal and bone conduction is abnormal.

780. A routine physical examination of the newborn reveals a few rashes over the trunk and the face. The lesions are firm, yellow-white, small papule or pustules with a surrounding redness. The Wright-stained smears of the lesion reveals:
a) Neutrophils
b) Eosinophils
c) Basophils
d) Gram-positive bacteria
e) Candida albicans

781. A routine physical examination of the newborn reveals multiple pustules all over the body. Some pustules are ruptured with a fine scale. The pustules usually contain:

a) Eosinophils
b) Basophils
c) S. aureus
d) Herpes simplex virus
e) Polymorphonuclear leukocytes

782. A child suddenly refuses to use his right hand. He cries during movement of the right hand. He was playing with other siblings. His mother lifted him forcibly from the floor. He hold his hand in a pronated position. The next step in management is:
a) X-ray of the elbow joint
b) X-ray of the wrist joint
c) X-ray of the clavicle
d) Rotating the hand and forearm to a extended position
e) Rotating the hand and forearm to a supinated position

783. The most common cardiac defect in patients with Ellis-Van Creveld syndrome is:
a) PDA
b) ASD
c) Tetralogy of Fallot
d) Truncus arteriosus
e) Transposition of great vessels

784. The mode of inheritance in patients with Ellis-Van Creveld syndrome is:
a) Autosomal recessive
b) Autosomal dominant
c) X-linked recessive
d) X-linked dominant
e) Multifactorial

785. A 6-year-old boy appears with gross brown-colored urine. He has been suffering from an upper respiratory infection for the last 48 hours. He denies history of trauma. The physical examination reveals mild discomfort in the loin. The following laboratory finding is appropriate for this patient:
a) Elevated ESR
b) Elevated serum C3 levels
c) Normal serum C3 levels
d) Decreased serum IgA levels
e) Elevated WBC counts

The most likely diagnosis is:
a) Acute poststreptococcal glomerulonephritis
b) IgA nephropathy
c) Membranous glomerulopathy
d) Systemic lupus erythematosus
e) Membranoproliferative glomerulonephritis

The prognosis of this condition is:
a) Most patients develop into a chronic renal failure.
b) Most patients develop a UTI.
c) Most patients need a prophylactic antibiotic.
d) Most patients need an antihypertensive medication.
e) Most children will not develop a progressive renal disease.

786. The recommended follow-up for children with a IgA nephropathy:
a) No follow-up is indicated at all.
b) Follow-up is indicated in a symptomatic patient.
c) Follow-up is indicated up to 5 years of age.
d) Follow-up is indicated up to 10 years of age.
e) A careful long-term follow-up is indicated

787. The audiologic evaluation in patients with Alport syndrome usually reveals:
   a) Congenital bilateral sensorineural hearing loss
   b) Congenital bilateral conductive hearing loss
   c) Congenital unilateral conductive hearing loss
   d) Acquired bilateral conductive hearing loss
   e) Acquired bilateral sensorineural hearing loss

788. The following clinical presentation is noted in all patients with Alport syndrome:
   a) Symptomatic gross hematuria
   b) Asymptomatic gross hematuria
   c) Symptomatic gross proteinuria
   d) Asymptomatic gross proteinuria
   e) Asymptomatic microscopic hematuria

789. A newborn is admitted to the NICU with respiratory distress. The newborn was born by NSVD with Apgar scores 8 and 9 at 1 and 5 minutes respectively. The physical examination reveals a grade 2/6 systolic vibratory murmur at the left sternal border. The newborn received 100% oxygen. A peripheral arterial blood gas reveals pH 7.34, PCO_2 45, and Po_2 170. The preductal oxygen saturation is 96% and the postductal oxygen saturation is 97%. The all for extremities BPs are the following: LA 60/30, LL 65/34, RA 62/32, and RL 66/35. The chest x-ray reveals hyperinflation, fluids in the fissure, and very small pleural effusions. The right atrial and right ventricular oxygen saturations are 75%. The left atrial and left ventricular oxygen saturations are 95%. The left ventricular pressure is 100/8 and the aortic pressure is 100/60. The right ventricular pressure is 25/3 and the pulmonary artery pressure is 25/10. The oxygen consumption is 160 L/minute. The oxygen capacity is 200 mL/L. The systemic and pulmonary blood flows are 5 L/minute/meter square. The most likely diagnosis is:
   a) Transposition of great vessels
   b) Total anomalous pulmonary venous return
   c) Tetralogy of Fallot
   d) Critical Pulmonic stenosis
   e) Normal cardiac anatomy

790. The most common site the anomalous pulmonary veins drain into:
   a) Right atrium
   b) Infracardiac
   c) Coronary sinus
   d) Right superior vena cava
   e) Left superior vena cava

791. The most common obstruction type of anomalous pulmonary venous return is:
   a) Infracardiac
   b) Right atrium
   c) Right superior vena cava
   d) Left superior vena cava
   e) Coronary sinus

792. A newborn appears with severe tachypnea and cyanosis at birth. The newborn was intubated and placed on a mechanical ventilator. The newborn remains ill. The physical examination reveals absence of heart murmur but presence of mild intercostals retractions. The chest x-ray reveals a small heart and a perihilar pulmonary edema. The EKG reveals a right ventricular hypertrophy and the tall and spiked P waves. The oxygen saturation in all four chambers are almost the same. The next step in management is:
   a) Blalock-Taussig shunt
   b) Switch operation
   c) Fontan operation
   d) Repair of the truncus arteriosus
   e) Surgical correction of total anomalous pulmonary venous return

793. A newborn appears with mild tachypnea and cyanosis at birth. The newborn received 100% oxygen by oxyhood. The physical examination reveals a grade 2/6 systolic murmur along the left sternal border and a gallop rhythm. The chest x-ray reveals a normal heart size and an increased pulmonary vascularities. The EKG reveals a right ventricular hypertrophy and the tall and spiked P waves. The next step in management is:
   a) Prostaglandin E_1 infusions

b) Indomethacin
c) Fontan operation
d) Switch operation
e) Blalock-Taussig shunt

794. The restrictive lung disease includes all of the following conditions **except**:
a) Asthma
b) Pneumonia
c) Scoliosis
d) Pulmonary edema
e) Respiratory distress syndrome

795. The obstructive lung disease includes all of the following conditions **except**:
a) Pulmonary fibrosis
b) Emphysema
c) Bronchiolitis
d) Meconium aspiration
e) Bronchopulmonary dysplasia

796. All of the following conditions cause fixed extrathoracic obstruction **except**:
a) Laryngomalacia
b) Tracheal stenosis
c) Epiglottitis
d) Enlarged tonsils
e) Polyp of the vocal cord

797. A 6-year-old child has all of the following sinuses **except**:
a) Anterior ethmoidal sinuses
b) Sphenoidal sinuses
c) Frontal sinuses
d) Posterior ethmoidal sinuses
e) Maxillary sinuses

798. The following statement is **not** true about sinuses:
a) Ethmoidal sinuses are not pneumatized at birth.
b) Maxillary sinuses are pneumatized at 4 years of age.
c) Sphenoidal sinuses are pneumatized at 5 years of age.
d) Frontal sinuses begin development at 7-8 years of age.
e) Maxillary sinuses are present at birth.

799. The preferred initial therapy for patients with uncomplicated bacterial sinusitis is:
a) Azithromycin
b) Clarithromycin
c) Cefuroxime axetil
d) Cefpodoxime
e) Amoxicillin

800. The preferred initial therapy for patients with frontal sinusitis is:
a) Azithromycin
b) Clarithromycin
c) Ceftazidime
d) Vancomycin
e) Intravenous ceftriaxone

801. A 10-year-old boy appears with an altered mental status, vomiting, headache, and fever. He has been receiving oral amoxicillin for the last 5 days for sinus infections. The physical examination reveals nuchal rigidity and tenderness over the sinuses. Cultures are obtained. CT-scan of the head and sinuses are performed. The next step in management is:
a) Ceftriaxone and cefotaxime
b) Cefotaxime and erythromycin

c) Azithromycin and cefuroxime
d) Ceftazidime and oxacillin
e) Cefotaxime and vancomycin

802. In children with pneumococcal pneumonia, blood cultures are positive in:
a) 1-10% of cases
b) 10-30% of cases
c) 30-50% of cases
d) 50-75% of cases
e) 75-100% of cases

803. The preferred therapy for hospitalized patients with a suspected bacterial pneumonia is:
a) Intravenous ceftriaxone
b) Intravenous cefuroxime
c) Oral azithromycin
d) Intravenous vancomycin
e) Intravenous ticarcillin

804. The preferred therapy for mildly ill patients with a suspected bacterial pneumonia is:
a) Oral penicillin
b) Oral amoxicillin
c) Oral erythromycin
d) Oral tetracycline
e) Oral azithromycin

805. The most common presentation in neonates with autosomal recessive polycystic kidney disease (ARPKD) is:
a) Gross hematuria
b) Hypertension
c) Potter facies
d) Bilateral renal masses
e) Spontaneous pneumothorax

806. The following disease is usually associated in patients with ARPKD (autosomal recessive polycystic kidney disease):
a) Spleen disease
b) CNS disease
c) Cardiac disease
d) Adrenal disease
e) Liver disease

807. Initial evaluation of a patient during or shortly after the seizure activities includes all of the following **except**:
a) Cardiac function
b) Ventilation
c) Airway
d) Temperature
e) EEG

808. A patient appears with the first seizure activities. All of the following serious causes of seizures should be ruled out for an acute evaluation **except**:
a) Ingestion of drugs
b) Head trauma
c) Cholestatic jaundice
d) Systemic sepsis
e) Meningitis

809. A child appears with focal seizure activities. Focal findings are noted on EEG and MRI involving temporal lobes. The most likely diagnosis is:
a) Localized head trauma
b) GBS meningitis
c) Perinatal asphyxia

d) Ingestion of drugs
e) HSV encephalitis

810. The following medication causes red-orange urine and sweat, and stains contact lenses:
a) Tetracycline
b) Erythromycin
c) INH
d) Rifampin
e) Chloramphenicol

811. The most common opthalmologic finding present at birth in a patient with Peters anomaly is:
a) Cataract
b) Glaucoma
c) Microcornia
d) Iridocorneal adhesion
e) Central corneal opacity

812. The most common type of strabismus in children is:
a) Third cranial nerve palsy
b) Fourth cranial nerve palsy
c) Sixth cranial nerve palsy
d) Esodeviation nonparalytic type
e) Exodeviation nonparalytic type

813. The most serious complications in children with strabismus is:
a) Development delay
b) Decreased intellectual activities
c) Brain tumor
d) Hydrocephalus
e) Amblyopia

814. The potential complication of a surgically placed cochlear implant is:
a) Profound deafness
b) Ear ache
c) Middle ear infection
d) Mastoiditis
e) Pneumococcal meningitis

815. The most common organism in patients with bullous impetigo is:
a) S. aureus type 3A
b) S. aureus type 3B
c) S. aureus type 55
d) S. aureus type 71
e) Strepococcus pneumoniae

816. The most common organism in patients with nonbullous impetigo is:
a) Streptococcus pneumoniae
b) Herpes simplex virus
c) S. aureus
d) Pseudomonas aeruginosa
e) Candida albicans

817. The most common site of injury in patients who are competitive swimmers is:
a) Head
b) Eye
c) Wrist
d) Leg
e) Shoulder

818. A 20-month-old boy appears with hydrocele in the right side. The next step in management:
   a) Elevate the scrotum
   b) Put the leg elevated while sleeping
   c) Restrict oral fluids intake
   d) Warm sitz bath
   e) Surgical repair

819. A routine physical examination of the newborn reveals a bilateral scrotal swelling. The swelling is nontender, soft, and has a positive transillumination test. The following statement is **not** true about this condition:
   a) In most cases, swelling resolves within 6 months of age.
   b) The swelling is a nonmalignant condition.
   c) The large and tense swelling needs surgical repair.
   d) In most cases, swelling is not reducible.
   e) Surgical repair is similar to a herniorrhaphy.

820. The most common presentation in patients with paroxysmal nocturnal hemoglobinuria is:
   a) Marrow failure
   b) Renal failure
   c) Spleen failure
   d) Liver failure
   e) Cardiac failure

821. The preferred diagnostic study in patients with paroxysmal nocturnal hemoglobinuria is:
   a) Flow cytometry
   b) Serum hemolysis test
   c) Sucrose lysis test
   d) Detection of hemoglobin in urine
   e) Detection of hemosiderin in urine

822. The most common cause of death during the first year after renal transplantation is:
   a) Renal failure
   b) Cardiac failure
   c) Infection
   d) Pulmonary failure
   e) Adrenal failure

823. The most common organism causing infection in patients after renal transplantation is:
   a) Pneumocystis carinii
   b) Herpes simplex virus
   c) Varicella-zoster virus
   d) Hepatitis C virus
   e) CMV

824. The following syndrome is **not** associated with leukemia:
   a) William syndrome
   b) Fanconi syndrome
   c) Bloom syndrome
   d) Schwachman syndrome
   e) Down syndrome

825. In a case of suspected digoxin toxicity, serum digoxin level should be obtained:
   a) Immediate after a dose
   b) 30 minutes after a does
   c) 1 hour after a dose
   d) 2 hours after a dose
   e) Immediately before a dose but at minimum 4 hours after the last dose

826. The following condition increases digitalis toxicity:
   a) Hyperkalemia

b) Hypernatremia
c) Hyponatremia
d) Hypocalcemia
e) Hypokalemia

827. The digoxin therapy should be discontinued in the following condition:
a) Prolongation of P-R intervals
b) Changes in ST segments
c) Changes in T-waves
d) Blood level is 3 ng/mL in infants
e) Disturbances in new rhythms

828. The following drug does **not** cause thrombocytopenia:
a) Phenytoin
b) Valproic acid
c) Intravenous immunoglobulin
d) Sulfonamides
e) Trimethoprim-sulfamethoxazole

829. The most common organism in patients with hemolytic uremic syndrome (HUS) is:
a) S. pneumoniae
b) Shigella
c) Campylobacter
d) Bartonella
e) E. coli

830. The preferred diagnostic method in patients with renal vein thrombosis is:
a) Intravenous pyelography
b) Ultrasonography
c) Renal scan
d) VCUG
e) Doppler flow studies

831. All of the following clinical manifestations can occur in patients with iron deficiency **except**:
a) Decreased attention span
b) Decreased learning
c) Always underweight
d) Decreased memory
e) Decreased neurologic function

832. An exclusively breast-fed infant should receive iron supplementation from:
a) Birth
b) 1 month of age
c) 2 months of age
d) 4 months of age
e) 6 months of age

833. The amount of iron should be absorbed each day from birth until 15 years of age is:
a) 0.4 mg
b) 0.8 mg
c) 1.2 mg
d) 2.0 mg
e) 5 mg

834. The amount of iron should be present in diet each day is:
a) 4-6 mg
b) 6-8 mg
c) 8-10 mg

d) 10-12 mg
e) 12-14 mg

835. A newborn appears with severe cyanosis and respiratory distress at birth. The physical examination reveals a holosystolic murmur, gallop rhythm, and multiple clicks over the left sternal border. The chest x-ray reveals a massive cardiomegaly. The EKG reveals a right bundle branch block and WPW syndrome. The child is placed on a mechanical ventilator and infusion of PGE1 started. The next step in management is:
a) Aortopulmonary shunt
b) Blalock-Taussig shunt
c) Switch operation
d) Surgical closure of VSD
e) Surgical closure of ASD

836. The preferred test for pulmonary function is:
a) Pulmonary scan
b) Pulmonary angiogram
c) Lung CT scan
d) Lung MRI
e) Arterial blood gas

837. The most common cause of acquired laryngotracheal stenosis is:
a) Infection
b) Reflux of gastric acid
c) Reflux of gastric pepsin
d) Bleeding
e) Endotracheal intubation

838. The most serious side effect of warfarin is:
a) Bleeding
b) Gastric irritation
c) Thrombocytopenia
d) Decreased WBC counts
e) Bone marrow suppression

839. The warfarin-induced bleeding is treated with:
a) Vitamin K
b) P-RBCs transfusion
c) Platelet transfusions
d) Exchange transfusion
e) Reassurance

840. Hemorrhagic cystitis is a complication of the following drug:
a) Cyclophosphamide
b) Methotrexate
c) Bleomycin
d) Cisplatin
e) L-Asparaginase

841. Peripheral neuropathy is a complication of the following drug:
a) Doxorubicin
b) Dactinomycin
c) 6-Mercaptapurine
d) Procarbazine
e) Vincristine

842. The most common cause in newborns with LGA (large for gestational age) is:
a) Maternal obesity
b) Beckwith-Wiedemann syndrome
c) Maternal diabetes

d) Wilms tumor
e) Simpson-Golabi-Behmel overgrowth syndrome

843. The most common chromosomal anomaly in DiGeorge/velocardiofacial syndrome is:
a) Deletion of chromosome 5
b) Deletion of chromosome 21
c) Deletion of chromosome 16
d) Trisomy of chromosome 22
e) Deletion of chromosome 22

844. The most common associated anomaly in patients with DiGeorge/velocardiofacial syndrome is:
a) Aplasia of thymus
b) Renal anomalies
c) Cleft palate
d) Truncus arteriosus
e) Velopharyngeal insufficiency

845. A child suddenly developed a difficulty to move the right eye laterally. He has been suffering from the right otitis media and the tympanic membrane perforation for the last 6 months. He denies history of a vomiting. He has no headaches. The most likely diagnosis is:
a) Mobius syndrome
b) Brown syndrome
c) Duane syndrome
d) Double elevator palsy
e) Gradenigo syndrome

846. A routine physical examination of the child reveals a silvery-gray waxed paper appearance of the tympanic membrane. The most likely diagnosis is:
a) Otitis media
b) Wax on the tympanic membrane
c) Otitis externa
d) Otitis interna
e) Normal ear drum

847. A 2-year-old child was crying constantly during waiting in the clinic. A routine physical examination reveals a red tympanic membrane. He has no fever, vomiting, or irritability. The most likely diagnosis is:
a) Otitis media
b) Trauma in the ear drum
c) Trauma in the ear canal
d) Otitis interna
e) Normal tympanic syndrome

848. The usual mode of inheritance in patients with familial hypophosphatemia is:
a) Autosomal recessive
b) Autosomal dominant
c) X-linked recessive
d) X-linked dominant
e) Multifactorial

849. The usual side effect of oral phosphate therapy in patients with familial hypophosphatemia is:
a) Vomiting
b) Diarrhea
c) Constipation
d) Obstipation
e) Gastrointestinal bleeding

850. The ideal age to repair a hypospadius in a healthy infant is:
a) 0-3 months
b) 4-5 months

c) 6-12 months
d) 13-18 months
e) 19-24 months

851. A 2½-year-old boy came for a routine physical examination. His prepuce cannot be retracted. He is asymptomatic. The next step in management is:
a) Circumcision
b) Topical estrogen cream
c) Forceful retraction
d) Topical Neosporin cream
e) Reexamination after 6 months

852. A 3-year-old-boy is diagnosed with phimosis. He has no symptoms. The next step in management is:
a) Topical estrogen cream
b) Topical corticosteroid cream
c) Circumcision immediately
d) Topical androgen cream
e) Circumcision after 1 year

853. An 11-year-old boy appears with phimosis. He is asymptomatic. The next step in management is:
a) Circumcision
b) Topical bacitracin cream
c) Forceful retraction
d) Topical estrogen cream
e) Reassurance

854. A boy appears with ballooning of the foreskin during voiding. The most likely diagnosis is:
a) Ambiguous genitalia
b) Phimosis
c) Paraphimosis
d) Penile torsion
e) Meatal stenosis

855. The Silver-Russel syndrome may include all of the following findings **except**:
a) LGA
b) Triangular face
c) Frontal bossing
d) Shortened 5th finger
e) Hemihypertrophy

856. In a 3-month-old child, the normal CSF protein values are between:
a) 1-9 mg/dL
b) 10-40 mg/dL
c) 41-70 mg/dL
d) 71-100 mg/dL
e) 101-130 mg/dL

857. In neonates, the normal CSF protein values are as high as:
a) 40 mg/dL
b) 80 mg/dL
c) 120 mg/dL
d) 200 mg/dL
e) 250 mg/dL

858. All of the following drugs can cause neural tube defects in fetuses **except**:
a) Valproic acid
b) Phenytoin
c) Phenobarbital
d) Trimethoprim
e) Insulin

859. The risk of recurrence after one child is affected with meningomyelocele is:
   a) 1-2%
   b) 3-4%
   c) 5-9%
   d) 10-15%
   e) 25%

860. The risk of recurrence after two children are affected with meningomyelocele is:
   a) 5%
   b) 10%
   c) 25%
   d) 50%
   e) 66%

861. The peripheral blood smear in a patient with abetalipoproteinemia reveals:
   a) Megakaryocytes
   b) Spherocytes
   c) Heinz bodies
   d) Lmphoblasts
   e) Acanthocytes

862. The ataxia telangiectasia is caused by mutations in the ATM gene located at:
   a) Chromosome 5
   b) Chromosome 7
   c) Chromosome 11
   d) Chromosome 13
   e) Chromosome 22

863. The preferred therapy for patients with S. pneumoniae meningitis is:
   a) Penicillin and cefotaxime
   b) Ampicillin and ceftriaxone
   c) Penicillin and vancomycin
   d) Vancomycin
   e) Vancomycin and cefotaxime

864. The preferred therapy for patients with S. pneumoniae meningitis and are allergic to beta-lactam antibiotics is:
   a) Azithromycin and ticarcillin
   b) Trimethoprim-sulfamethoxazole and cefotaxime
   c) Vancomycin and ceftriaxone
   d) Cefotaxime and vancomycin
   e) Chloramphenicol

865. The preferred therapy for immunocompromised patients with a suspected gram-negative bacterial meningitis is:
   a) Ceftazidime and gentamicin
   b) Vancomycin and gentamicin
   c) Cefotaxime and vancomycin
   d) Azithromycin and cefotaxime
   e) Ciprofloxacin and cefotaxime

866. Intravenous dexamethasone is useful in patients with meningitis caused by the following organism:
   a) Herpes simplex virus
   b) S. pneumoniae
   c) H. influenzae type b
   d) N. meningitidis
   e) L. monocytogenes

867. The following statement is **not** true about child labor:
   a) The child labor is almost absent in USA.
   b) The child labor is widespread all over the world, especially Asian countries.

c) The child labor can cause a physical trauma and injury.
d) The child labor can increase their exposure to toxic chemicals.
e) The children usually work in gas station, agricultural sites, lawn, demolition and construction sites.

868. The preferred method to detect environmental exposures in children is:
a) History
b) Physical examination
c) Urinalysis
d) Urine toxicology
e) Chest x-ray

869. The environmental exposure is suspected in a child. The next step in management is:
a) Admit the child in hospital
b) Isolate the child in a pediatric unit
c) Administrators should be notified immediately
d) Call 911 emergency service
e) Refer to a pediatric environmental specialty unit

870. The most common organism in patients with Lemierre disease is:
a) Group A Streptococcus
b) S. aureus
c) Haemophilus influenzae
d) Klebsiella
e) Fusobacterium necrophorum

871. A 16-year-old healthy adolescent appears with sudden onset fever, respiratory distress, and cough. He has been suffering from acute tonsillopharyngitis for the last 3 days. The chest x-ray reveals multiple bilateral cavitary nodules and mild pleural effusions. The preferred therapy is:
a) Penicillin
b) Ciprofloxacin
c) Vancomycin
d) Gentamicin
e) Ceftazidime

872. The following medication should be avoided in patients with influenza:
a) Acetaminophen
b) Ibuprofen
c) Aspirin
d) Antihistamine
e) Naproxen sodium

873. A 6-year-old girl appeared with a febrile illness and upper respiratory tract infections. She was treated conservatively and improved. Six days later, she started severe vomiting. She was brought to the ER. Delirium, combative behavior, and stupor are noted within two hours. The physical examination reveals mild hepatomegaly. The laboratory test results reveal elevated liver enzymes, lactic dehydrogenase, creatinine kinase, and ammonia. The most likely diagnosis is:
a) Viral hepatitis
b) Disseminated intravascular coagulation
c) Viral meningitis
d) Autoimmune hepatitis
e) Reye syndrome

874. The side effect of ceftriaxone is:
a) Cholestasis
b) Anaphylactic reaction
c) Hepatic vein thrombosis
d) Biliary sludge
e) Acute nephritis

875. The following medication can cause cholestatic hepatitis:
   a) Androgens
   b) Acetaminophen
   c) Valproic acid
   d) Erythromycin estolate
   e) Phenytoin

876. All of the following are clinical manifestations in patients with fulminant liver failure **except**:
   a) Progressive jaundice
   b) Vomiting
   c) Fever
   d) Fetor hepaticus
   e) A rapid increase in liver size

877. The following condition can give a false-negative sweat chloride test result:
   a) Adrenal insufficiency
   b) Hypoproteinemic edema
   c) Ectodermal dysplasia
   d) Hereditary nephrogenic diabetes insipidus
   e) Hypothyroidism

878. The most common presenting symptom in patients with cystic fibrosis (CF) is:
   a) Respiratory symptoms
   b) Failure to thrive
   c) Abnormal stools
   d) Meconium ileus
   e) Family history of CF

879. The following statement is **not** true about the newborn screening of cystic fibrosis:
   a) The diagnosis in newborns can prevent early nutritional deficiencies.
   b) The diagnosis in newborns can improve long-term growth.
   c) The diagnosis in newborns can improve pulmonary conditions.
   d) The diagnosis in newborns is made by determination of immunoreactive trypsinogen in blood spots.
   e) The newborn screening test is 95% sensitive.

880. The most common cause of renal cortical necrosis in newborns is:
   a) Gentamicin
   b) Vancomycin
   c) Ampicillin
   d) Forcep delivery
   e) Hypoxia

881. The most common clinical manifestation in patients with a persistent Mullerian duct syndrome is:
   a) Cryptorchidism is noted
   b) Fallopian tube is present
   c) Uterus is present
   d) Epididymis is present
   e) Vas deferens is present

882. All of the following conditions can cause xanthochromic CSF **except**:
   a) Subarachnoid hemorrhage
   b) Carotenemia
   c) Hyperbilirubinemia
   d) A markedly elevated CSF protein
   e) A markedly elevated CSF WBC counts

883. A child experienced sudden respiratory arrest and death after a motor vehicle accident. The most likely site of injury is:
   a) C 1 - C 2
   b) C 3 - C 4

c) C 5 - C 6
d) L 1 - L 2
e) L 3 - L 4

884. A child experienced a flaccid quadriparesis, loss of urinary bladder control, and sensory level corresponding to the upper sternum secondary to a motor vehicle accident. The most likely site of injury is:
a) C 1 - C 2
b) C 3 - C 4
c) C 5 - C 6
d) C 7 - T 1
e) T 1 - T 2

885. All of the following disease can cause Bell palsy **except**:
a) Lyme disease
b) Herpes simplex virus infection
c) Epstein-Barr virus infection
d) Mumps virus infection
e) S. pneumoniae infection

886. A 7-year-old child is diagnosed with Guillain-Barre syndrome. The CSF findings for this child should be:
a) Protein is 120 mg/dL, glucose is 60, and monocytes are 2.
b) Protein is 10 mg/dL, glucose is 40, and monocyte is 0.
c) Protein is 20 mg/dL, glucose is 50, and monocytes are 3.
d) Protein is 80 mg/dL, glucose is 20, and polymorphs are 30.
e) Protein is 60 mg/dL, glucose is 35, and lymphocytes are 25.

887. A child is diagnosed with Bell palsy. Bell palsy may be associated with:
a) Hypothermia
b) Hyperthermia
c) Hypotension
d) Hypertension
e) Hypocalcemia

888. A 10-year-old girl is diagnosed with pheochromocytoma. She appears with a gross hematuria. The most likely site of tumor is:
a) Adrenal medulla
b) Renal artery
c) Thoracic cavity
d) Aortic bifurcation
e) Urinary bladder

889. The sexual precocity in patients with an organic brain lesion (e.g., hypothalamic hamartoma) is:
a) Always heterosexual
b) Always bisexual
c) Sometimes heterosexual
d) Sometimes isosexual
e) Always isosexual

890. A child developed precocious puberty following irradiation therapy of the brain. The child may have the following associated finding:
a) Elevated thyroid hormones
b) Elevated growth hormones
c) Elevated parathyroid hormones
d) Decreased adrenal cortical hormones
e) Decreased growth hormones

891. A child appears with nausea, vomiting, decreased appetite, lethargy, and fever. The child had a surgical repair of VSD 7 days age. He denies chest pain. The findings in echocardiogram may reveal:
a) Recurrence of VSD
b) Mitral valve stenosis

c) Aortic valve stenosis
d) Pulmonary valve regurgitation
e) Pericardial fluid

892. The preferred therapy for patients with a postpericardiotomy syndrome is:
a) Salicylates
b) Propranolol
c) Cefuroxime
d) Furosemide
e) Temporary pace maker

893. A 15-yar-old healthy boy appears with a stabbing pain in the chest. The pain radiates to the neck. He denies history of trauma. The physical examination reveals subcutaneous emphysema. The most likely diagnosis is:
a) Pneumothorax
b) Fracture ribs
c) Critical aortic stenosis
d) Myocardial infarction
e) Pneumomediastinum

894. A child is suspected to have recurrent aspirations. The initial study should be:
a) Milk scan
b) Barium-swallow
c) Upper GI series
d) Ultrasonography
e) Plain chest x-ray

895. A 3-month-old child with SIDS (sudden infant death syndrome) was brought to the ER. The physical examination most likely reveals:
a) External bruises
b) Enlarged liver
c) Enlarged spleen
d) Proptosis
e) Petechial hemorrhage

896. The following is a contraindication to surgical closure of VSD:
a) Severe pulmonary vascular disease with VSD
b) Supracrystal VSD
c) Qp : Qs ratio greater than 2:1 in a patient older than 24 months of age
d) Large VSD with failure to thrive
e) Large VSD with a developing pulmonary hypertension

897. The side effect of cyclosporine used in patients with a transplantation is:
a) Hypotension
b) Hypertension
c) Cardiac arrythmias
d) Hair loss
e) Elevated cholesterol levels

898. The most common cause of heart transplants in children **older than 1 year of age** is:
a) Tetralogy of Fallot
b) Hypoplastic right heart
c) Transposition of great vessels
d) Hypoplastic left heart syndrome
e) Cardiomyopathies

899. The most common cause of heart transplants in children **younger than 1 year of age** is:
a) Sinus arrythmia
b) Sinus bradycardia
c) Anomalous coronary artery

d) Total anomalous pulmonary venous return
e) Hypoplastic left heart syndrome

900. The most common cause of acquired hypothyroidism is:
a) Subtotal thyroidectomy
b) Cystinosis
c) Irradiation therapy
d) Lymphocytic thyroiditis
e) Propylthiouracil overdose

901. The most common cause of metabolic acidosis in children is:
a) Renal tubular acidosis type I
b) Renal tubular acidosis type II
c) Persistent vomiting
d) Diarrhea
e) Gram-negative sepsis

902. In girls, the growth spurt peaks at:
a) 10½ years of age
b) 11 years of age
c) 11½ years of age
d) 12 years of age
e) 13 years of age

903. In boys, the growth spurt peaks at:
a) 12½ years of age
b) 13 years of age
c) 13½ years of age
d) 14 years of age
e) 15 years of age

904. In girls, the growth stops at:
a) 14 years of age
b) 15 years of age
c) 16 years of age
d) 17 years of age
e) 18 years of age

905. In boys, the growth stops at:
a) 16 years of age
b) 17 years of age
c) 18 years of age
d) 19 years of age
e) 20 years of age

906. The relationship between the onset of menstruation and the growth spurt is:
a) Menarche occur approximately 1 year before the growth spurt begins.
b) Menarche occur approximately 2 years before the growth spurt begins.
c) Menarche occur approximately the same time of beginning of the growth spurt.
d) Menarche occur approximately 1 year after the growth spurt begins.
e) Menarche occur approximately 2 years after the growth spurt begins.

907. The mode of inheritance in patients with Rett disorder is:
a) Autosomal recessive
b) Autosomal dominant
c) X-linked recessive
d) X-linked dominant
e) Multifactorial

908. A newborn developed seizure activities secondary to hypoglycemia. The infusion of intravenous glucose bolus should be the following:
   a) 2 mL/kg of 5% glucose
   b) 2 mL/kg of 10% glucose
   c) 4 mL/kg of 5% glucose
   d) 4 mL/kg of 10% glucose
   e) 10 mL/kg of 10% glucose

909. An infant of a diabetic mother developed hypoglycemia. The child is mildly jittery. The infusion of intravenous glucose bolus should be the following:
   a) 2 mL/kg of 5% glucose
   b) 2 mL/kg of 10% glucose
   c) 4 mL/kg of 5% glucose
   d) 4 mL/kg of 10% glucose
   e) 4 mL/kg of 12.5% glucose

910. The nadir in blood glucose concentration in an infant of diabetic mother is usually occur between:
   a) 0-1 hour of age
   b) 1-3 hours of age
   c) 3-6 hours of age
   d) 6-12 hours of age
   e) 12-24 hours of age

911. The mode of inheritance in patients with Brachmann-deLange syndrome is:
   a) Autosomal recessive
   b) Autosomal dominant
   c) X-linked recessive
   d) X-linked dominant
   e) Multifactorial

912. The teratogenic effects of isotretinoin (Accutane) includes all of the following **except**:
   a) Large deformed ears
   b) CNS defects
   c) Cardiovascular defects
   d) Thymus defects
   e) Decreased intelligence

913. The preferred therapy for patients with a Ureaplasma Urealyticum infection is:
   a) Penicillin
   b) Cefotaxime
   c) Gentamicin
   d) Ampicillin
   e) Erythromycin

914. In late-onset sepsis in VLBW (very low birth weight i.e., less than 1500 grams birth weight) infants, the following organism causes the highest mortality:
   a) S. aureus
   b) S. epidermidis
   c) Pseudomonas
   d) Serratia
   e) Candida albicans

915. The preferred therapy for patients with a B. fragilis meningitis is:
   a) Pleconaril
   b) Ceftazidime
   c) Gentamicin
   d) Metronidazole
   e) Ampicillin

916. The preferred therapy for patients with a severe enteroviral infection (e.g., meningitis, hepatitis, carditis) is:
   a) Gentamicin
   b) Cefotaxime
   c) Clindamycin
   d) Erythromycin
   e) Pleconaril

917. All of the following laboratory findings are increased due to smoking **except**:
   a) Serum creatinine
   b) WBC counts
   c) Hemoglobin
   d) Mean corpuscular volume
   e) Platelet aggregations

918. The preferred method of smoking cessation in adolescents is:
   a) Smokeless tobacco
   b) Nicotine gum
   c) Nicotine patch
   d) Nicotine spray
   e) Bupropion

919. The side effect of regular use of smokeless tobacco (SLT) is:
   a) Hypotension
   b) Polyuria
   c) Hypoglycemia
   d) Loss of sphincter control
   e) Physical dependence

920. The side effect of chronic use chewing tobacco is:
   a) Herpes simplex virus
   b) Lock jaw
   c) Hairy tongue
   d) Ulcers on the palate
   e) Malignancy

921. The methacoline challenge testing is performed to diagnose a suspected case of:
   a) Food allergy
   b) Bronchial asthma
   c) Cystic fibrosis
   d) Tuberculosis
   e) Cardiac arrythmias

922. The most common abnormality noted on examination of blood in patients with a history of allergy is:
   a) High neutrophil counts
   b) High lymphocyte counts
   c) Low monocyte counts
   d) Low neutrophil counts
   e) High eosinophil counts

923. The preferred test for documenting the presence of allergen-specific IgE in the serum is:
   a) Methacholine test
   b) Skin test
   c) Serum IgE levels
   d) Provocation test
   e) Radioallergosorbent test (RAST)

924. A child experienced life-threatening allergic reaction to an insect bite. The RAST is negative. The next step in management to confirm the diagnosis is:
   a) Skin test

b) Methacholine test
c) Repeat RAST
d) Serum IgE levels
e) Provocation test

925. The following CSF findings are appropriate for patients with a tuberculous meningitis:
a) Leukocyte counts are 2000, mostly polymorphs, glucose is 8 mg/dL, and protein is 350 mg/dL.
b) Leukocyte counts are 200, mostly lymphocytes, glucose is 50 mg/dL, and protein is 60 mg/dL.
c) Leukocyte counts are 350, mostly monocytes, glucose is 40 mg/dL, and protein is 70 mg/dL.
d) Leukocyte counts are 4,500, mostly lymphocytes, glucose is 30 mg/dL, and protein is 100 mg/dL.
e) Leukocyte counts are 400, mostly lymphocytes, glucose is 35 mg/dL, and protein is 3,900 mg/dL.

926. If a mother is PPD positive and has a negative chest x-ray, the newborn infant should be:
a) Separated from the mother
b) Given INH prophylaxis
c) Evaluated with a chest radiography
d) Evaluated with a PPD testing
e) With the mother

927. A mother has an active pulmonary tuberculosis. All of the following statements are true about management of the newborn **except**:
a) The newborn should receive INH therapy.
b) The newborn should be isolated from the mother regardless of her symptoms during INH therapy.
c) The newborn should be isolated from the mother if she has drug-resistant tuberculosis, she is noncompliance, and she is ill enough to require hospitalization.
d) The newborn should receive INH therapy until the mother's sputum cultures are negative for at least 3 months.
e) The newborn should receive a Mantoux tuberculin skin test after 3 months of age. If positive, INH should be continued for a total duration of 9-12 months.

928. The preferred therapy for a pregnant woman with an active pulmonary tuberculosis is a combination of:
a) INH, pyrazinamide, and rifampin
b) INH, ethionamide, and ethambutol
c) Rifampin, ethambutol, and ethionamide
d) INH, rifampin, and ethambutol
e) Streptomycin, INH, and rifampin

929. A 12-year-old boy appears with a persistent cough, headache, fever, malaise, and hoarseness for the last 6 days. Coryza is absent. He produces a frothy, white sputum. Initially the cough was nonproductive. The physical examination reveals a fine crackles on the right chest. The chest x-ray reveals right lower lobe interstitial infiltrates. The preferred therapy for this patient is:
a) Symptomatic therapy
b) Ampicillin
c) Cefotaxime
d) Ceftriaxone
e) Azithromycin

930. Neurologic complications of patients with Mycoplasma pneumonia includes all of the following **except**:
a) Guillain-Barre syndrome
b) Bell palsy
c) Transverse myelitis
d) Hyperacusis
e) Aseptic meningitis

931. The major outer membrane protein (MOMP) is present in the following organism:
a) Chlamydia pneumoniae
b) Chlamydia trachomatis
c) Mycoplasma pneumoniae
d) Mycoplasma hominis
e) Ureaplasma urealyticum

932. The clinical manifestation in patients with SLE (systemic lupus erythematosus) and antiribosomal P antibodies is:
   a) Hypothyroidism
   b) Hemolytic anemia
   c) Coagulopathy
   d) Lupus cerebritis
   e) Antiphospholipid antibody syndrome

933. The following condition is **not** associated with ANA (antinuclear antibodies):
   a) Sjogren syndrome
   b) Scleroderma
   c) Chronic active hepatitis
   d) Infectious mononucleosis
   e) Hyperextensibility

934. A 17-year-old male appears with scrotal swelling for the last 7 days. He is sexually active. He experienced an urethral discharge that resolved spontaneously. The physical examination reveals a scrotal tenderness. The most likely diagnosis is:
   a) Testicular torsion
   b) Epididymitis
   c) Hydrocele
   d) Inguinal hernia
   e) Seminoma

935. A 16-year-old male appears with a **yellow-green purulent urethral discharge** for the last 24 hours. The most likely diagnosis is:
   a) Chlamydia urethritis
   b) Herpes simplex virus urethritis
   c) Gonococcus urethritis
   d) Primary syphilis
   e) Pseudomonas cystitis

936. A 15-year-old male appears with a **white mucopurulent urethral discharge** for the last 3 days. The most likely diagnosis is:
   a) Gonococcus urethritis
   b) Viral prostatitis
   c) Bacterial prostatitis
   d) Chlamydia urethritis
   e) E. coli cystitis

937. An infant is admitted with the diagnosis of nonorganic failure to thrive. The infant should receive approximately:
   a) 100 kcal/kg/day (actual weight)
   b) 120 kcal/kg/day (ideal weight)
   c) 150 kcal/kg/day (actual weight)
   d) 150 kcal/kg/day (ideal weight)
   e) 175 kcal/kg/day (actual weight)

938. The most children started to walk independently about:
   a) 9 months of age
   b) 10 months of age
   c) 11 months of age
   d) 12 months of age
   e) 14 months of age

939. The most children use four to six words spontaneously, correctly, including proper nouns about:
   a) 12 months of age
   b) 15 months of age
   c) 18 months of age
   d) 24 months of age
   e) 30 months of age

940. The children use 10 to 15 vocabulary words about:
   a) 12 months of age
   b) 15 months of age
   c) 18 months of age
   d) 24 months of age
   e) 30 months of age

941. The children use 100 or more vocabulary words about:
   a) 2 years of age
   b) 2½ years of age
   c) 3 years of age
   d) 4 years of age
   e) 5 years of age

942. The following statement is correct regarding language developments in children between 2 to 5 years of age:
   a) A 2-year-old uses 2 words in a sentence.
   b) A 3-year-old uses 2 words in a sentence.
   c) A 4-year-old uses 5 words in a sentence.
   d) A 5-year-old uses 4 words in a sentence.
   e) A 5-year-old uses 6 words in a sentence.

943. The children speak 'My toy', 'I eating' about:
   a) 2 years of age
   b) 2½ years of age
   c) 3 years of age
   d) 3½ years of age
   e) 4 years of age

944. The children use past tense about:
   a) 2 years of age
   b) 3 years of age
   c) 4 years of age
   d) 5 years of age
   e) 6 years of age

945. The children use future tense about:
   a) 3 years of age
   b) 4 years of age
   c) 5 years of age
   d) 6 years of age
   e) 7 years of age

946. In children, all 20 primary teeth have erupted by:
   a) 2 years of age
   b) 3 years of age
   c) 4 years of age
   d) 5 years of age
   e) 6 years of age

947. The most common cause of encopresis in children is:
   a) Rectal incontinence
   b) Mental retardation
   c) Chronic diarrhea
   d) Chronic use of laxatives
   e) Chronic constipation

948. The most common cause of daytime enuresis in preschool children is:
   a) UTI
   b) Diabetes mellitus

c) Stress incontinence
d) Giggle incontinence
e) Waiting until the last minute to void urine

949. A mother of a few months old child wants to know about the required water intake for her child. The child is receiving breast milk adequately since birth. The child gains weight approximately. The most likely required water intake should be:
a) None
b) ½ ounce per day
c) 1 ounce per day
d) 1½ ounces per day
e) 2 ounces per day

950. The intake of cow milk is allowed after:
a) 12 months of age
b) 15 months of age
c) 18 months of age
d) 24 months of age
e) 30 months of age

951. The normal absolute requirement for water in infants is:
a) 50-74 mL/kg/day
b) 75-100 mL/kg/day
c) 101-125 mL/kg/day
d) 126-150 mL/kg/day
e) 151-175 mL/kg/day

952. A 12-hour-old newborn appears with lethargy, poor suck, and severe hypotonia. Sepsis work up was performed including spinal tap. Subsequently, the newborn required a mechanical ventilation for several apneic episodes. The physical examination reveals hiccups, myoclonic seizures, and profound hypotonia. The laboratory test findings do **not** include the following:
a) Serum pH is acidotic.
b) Elevated glycine concentration is blood
c) Decreased serine levels in plasma
d) Elevated glycine concentration in urine
e) A ratio of glycine concentration in CSF to that in plasma is more than 0.08

953. The most common form of nonketotic hyperglycinemia (NKH) is:
a) Neonatal
b) Infantile
c) Transient
d) Late-onset
e) Unknown

954. Surfactant has the highest concentration of the following component:
a) Neutral lipids
b) Phosphatidylinositol
c) Phosphatidylglycerol
d) Phosphatidlcholine
e) Phosphatidylethanolamine

955. The most immediate effect in patients using anabolic steroids is:
a) Hirsutism
b) Oily hair
c) Stria
d) Keloids
e) Acneform lesions

956. The effects of anabolic steroids in males includes all of the following **except**:
a) Gynecomastia
b) Breast pain

c) Azoospermia
d) Enlarged testes
e) Growth retardation in early adolescents

957. The effects of anabolic steroids in females includes all of the following **except**:
a) Breast hypertrophy
b) Enlarged clitoris
c) Menstrual irregularities
d) Hirsutism
e) Growth retardation in early adolescents

958. The very high dose of anabolic steroids can cause all of the following **except**:
a) Euphoria
b) Mania
c) Mood fluctuations
d) Alterations in libido
e) Uncontrollable rage

959. The effects of maternal use of cocaine on fetuses may include all of the following **except**:
a) Hypotension
b) Congenital malformations
c) Low birthweight
d) Premature delivery
e) Developmental disorders

960. Most of the patients with atopic dermatitis develop:
a) Otitis media
b) Chronic pharyngitis
c) Chronic tonsillitis
d) Chronic sinusitis
e) Allergic rhinitis

961. A child appears with anal pruritis, painful defecation, perianal erythema, and blood-streaked stools. The physical examination reveals flat, pink to beefy-red perianal redness with well-demarcated margins extending up to 2 cm from the anus. The most likely diagnosis is:
a) Perianal streptococcal disease
b) Fungal infection
c) Allergic reaction
d) Anal fissure
e) Herpes simplex virus infection

962. The following statement is **not** true about group A streptococcus infections:
a) A few of the 'pharyngeal' serotypes are associated with acute rheumatic fever.
b) None of the 'skin' strains are associated with acute rheumatic fever.
c) The rheumatogenic potential is solely depends upon serotypes.
d) The rheumatogenic potential is also a characteristic of specific strains.
e) More 'skin' strains are nephritogenic than that of 'phayngeal' strains.

963. A 3-year-old girl appears with a cervicofacial fistula. The draining material contains sulfur granules. She is HIV-positive. The preferred therapy is:
a) Erythromycin
b) Cefotaxime
c) Penicillin
d) Ceftriaxone
e) Azithromycin

964. The most common toxicity produced by streptomycin is:
a) Renal toxicity
b) Hepatic toxicity

c) Pancreatic toxicity
d) Vestibular damage
e) CNS toxicity

965. The most common toxicity produced by ethionamide is:
a) Hepatitis
b) Neuritis
c) Pancreatitis
d) Cystitis
e) Nephritis

966. The vision test is indicated in a patient who is using the following drug:
a) INH
b) Pyrazinamide
c) Ethionamide
d) Ethambutol
e) Streptomycin

967. An opthalmologic examination in a preterm infant reveals cotton ball exudates in retina. The preferred therapy is:
a) Acyclovir
b) Gentamicin
c) Ceftazidime
d) Amphotericin B
e) Penicillin

968. The lipid-complex formulations of amphotericin B are indicated in neonates with a compromised:
a) Hepatic function
b) Renal function
c) Splenic function
d) CNS function
e) Cardiac function

969. The following condition is **not** a risk factor for neonatal candidiasis:
a) Broad spectrum antibodies
b) Parental alimentation
c) Postmaturity
d) Abdominal surgery
e) Prolonged intravenous catheterization

970. A HIV-infected child develops persistent oral thrush. The preferred therapy is:
a) Amphotericin B
b) Ampicillin
c) Antiseptic solution
d) Forceful removal of oral thrush
e) Fluconazole

971. A newborn infant appears with a cluster of vesicular lesions on the scalp at the time of delivery. He was born by NSVD with Apgar scores of 9 and 9 at 1 and 5 minutes respectively. The rest of the physical examination is unremarkable. The mother has no active genital lesions. The next step in management is:
a) Admit the infant in a well baby nursery.
b) Rupture the vesicle and send for a bacterial culture.
c) Rupture the vesicle, send a culture, and begin antibiotics therapy.
d) Begin acyclovir therapy after appropriate laboratory testing
e) Admit the infant in NICU and observe the infant. If the infant becomes symptomatic, beign amphotericin B therapy.

972. A small for gestational age newborn is diagnosed with a congenital CMV infection. The mother agreed to an experimental ganciclovir therapy. The most common complication of ganciclovir therapy is:
a) Thrombocytopenia
b) Ototoxicity

c) Nephrotoxicity
d) Eosinophilia
e) Neutropenia

973. The most serious ethical problem in health care in the USA may be:
a) Physicians make too many mistakes.
b) Pharmaceutical companies provide gifts to administrators to acquire hospital contracts.
c) Hospitals spend too much money for computer services rather than patient care.
d) The general public are not aware of their health problems.
e) All people do not have an equal access to health care.

974. A physician should oppose a pregnant woman's refusal of the recommended procedure in the following condition:
a) The risk to the pregnant women is substantial.
b) The procedure may or may not be effective.
c) The benefit to the fetus is negligible.
d) The risk to the mother is negligible.
e) The harm to the fetus is not certain.

975. A 15-year-old boy appears with a sexually transmitted disease. His parents are not aware of the problem. The appropriate therapy is:
a) The physician should call his parents before the appropriate therapy.
b) The physician should notify his sexual partner and ask her to come for therapy.
c) The physician should ask the social worker to notify his parents.
d) The physician should refuse treatment for his/her own moral believes.
e) The physician should treat the patient.

976. When a pediatrician is making a medical decision about the child, he or she should look into 'best interest' of the:
a) Physician
b) Mother
c) Patient
d) Father
e) Hospital

977. A child appears with a lack of weight gain, pruritis, irritability, limitation of motion, and swelling of the long bones. The physical examination reveals hepatomegaly and an increased intracranial pressure. The x-ray picture of the long bones reveal hyperostosis at the middle of the shafts. The next step in management is:
a) Give vitamin B12
b) Give vitamin A
c) Give vitamin D
d) Stop vitamin A
e) Stop vitamin B2

978. The early clinical symptoms of pellagra include all of the following **except**:
a) Weakness
b) Numbness
c) Dizziness
d) Burning sensations
e) Dermatitis

979. The usual clinical manifestations of a newborn with hypocalcemia are all of the following **except**:
a) Carpopedal spasm
b) Muscular twitching
c) Jitteriness
d) Tremor
e) Seizures

980. A 7-year-old boy appears wit a perioral paraesthesias, laryngospasms, carpopedal spasms, and seizure activities. The characteristic ECG finding is prolonged corrected QT intervals. The next step in management is:
a) Vitamin D2

b) L-thyroxine
c) Vitamin D3
d) Intramuscular magnesium
e) Intravenous calcium

981. The management of patients with a frostbite includes all of the following **except**:
a) Affected areas should be kept under water that has a temperature of 44°C.
b) Prazocin may be useful.
c) Keep the area open, dry, and sterile.
d) Analgesics are useful.
e) Maintenance of good nutrition is useful.

982. A child is going for a surgery. Her weight is 30 kg. The intraoperative fluid requirement for this child is:
a) 56 mL/hour
b) 65 mL/hour
c) 70 mL/hour
d) 76 mL/hour
e) 85 mL/hour

983. A child is going for an open heart surgery. The approximate third space loss for this child during surgery is:
a) 2-4 mL/kg/hour
b) 5-7 mL/kg/hour
c) 8-10 mL/kg/hour
d) 11-13 mL/kg/hour
e) 14-16 mL/kg/hour

984. A child is going for a hernia repair surgery. The approximate third space loss for this child during surgery is:
a) 1-2 mL/kg/hour
b) 3-5 mL/kg/hour
c) 6-7 mL/kg/hour
d) 8-9 mL/kg/hour
e) 10-11 mL/kg/hour

985. The insensible water loss for larger premature infants (2,000-2,500 grams) is approximately:
a) 0.1-0.3 mL/kg/hour
b) 0.4-0.5 mL/kg/hour
c) 0.6-0.7 mL/kg/hour
d) 0.8-1.0 mL/kg/hour
e) 1-2 mL/kg/hour

986. The insensible water loss for very premature infants (less than 1,000 grams) is approximately:
a) 0.5-1 mL/kg/hour
b) 1-2 mL/kg/hour
c) 2-3 mL/kg/hour
d) 4-5 mL/kg/hour
e) 6-7 mL/kg/hour

987. A 6-hour-old newborn is admitted for vomiting. The vomitus contains blood. The Apt test reveals a pink color. The most likely diagnosis is:
a) Swallowed maternal blood
b) Gastric ulcer
c) Necrotizing enterocolitis
d) Duodenal atresia
e) Hirschsprung disease

988. Vitamin K-dependent factors normally decrease in infants between:
a) 1-2 days of age
b) 2-7 days of age
c) 7-10 days of age

d) 11-14 days of age
e) 15-20 days of age

989. A pregnant mother received an unknown medication. The newborn developed a severe bleeding. The preferred initial therapy is:
a) Vitamin C
b) Heparin
c) Platelet transfusion
d) Vitamin K
e) IVIG

990. A 10-year-old girl appears with recurrent urticaria, arthritis, and limb pain. This condition is associated with all of the following **except**:
a) Elevated ESR
b) Recurrent fever
c) Hypogammaglobulinemia
d) Renal amyloidosis
e) Progressive nerve deafness

991. The inhalant insect allergy occurs most likely due to:
a) Protein induced IgM-mediated
b) Carbohydrate induced IgE-mediated
c) Lipid induced IgE-mediated
d) Lipid induced IgA-mediated
e) Protein induced IgE-mediated

992. The localized skin responses (e.g., pain, swelling, itching) secondary to biting insects are most likely due to:
a) Protein induced IgM-mediated
b) Lipid induced IgG-mediated
c) Carbohydrate induced IgA-mediated
d) Protein induced IgG-mediated
e) Vasoactive materials derived from saliva

993. All of the following are clinical manifestations of inhalant insect allergies **except**:
a) Asthma
b) Conjunctivitis
c) Urticaria
d) Seasonal rhinitis
e) Perennial rhinitis

994. The preferred therapy for patients with an inhalant allergy is:
a) Cold compress
b) Analgesic
c) Immunotherapy
d) Antihistamine
e) Avoidance of the insects

995. The therapies for patients with an insect bite may include all of the following **except**:
a) Cold compress
b) Oral analgesic
c) Oral antihistamine
d) Topical antiitching medication
e) Oral antibiotics

996. The cockroaches have all of the following allergic proteins **except**:
a) Proteases
b) Lipocalin
c) Troponin
d) Tropomyosin
e) Ptyalin

997. The red man syndrome occurs due to infusion of the following medication:
   a) Penicillin
   b) Vancomycin
   c) Rifampin
   d) Clindamycin
   e) Trimethoprim-sulfamethoxazole

998. A 12-year-old boy is receiving an anticonvulsant medication. Suddenly, he develops fever, maculopapular rash, generalized lymphadenopathy, and involvement of many visceral organs. The diagnosis of anticonvulsant hypersensitivity syndrome is made. This syndrome is most likely due to:
   a) Deficiency of glycogen synthetase
   b) Deficiency of glucose-6-phosphate dehydrogenase
   c) Deficiency of epoxide hydrolase
   d) Deficiency of epoxide synthetase
   e) Deficiency of glucuronyl transferase

999. A child develops hemorrhagic necrosis of the small intestine secondary to Clostridium perfringens infection. The following toxin is responsible for this clinical manifestation:
   a) Alpha toxin
   b) Beta toxin
   c) Iota toxin
   d) Hemolysin
   e) Epsilon toxin

1000. The following toxin released by Clostridium perfringens causes hemolysis, platelet lysis, thrombocytopenia, increased capillary permeability, and hepatotoxicity:
   a) Epsilon toxin
   b) Enterotoxin
   c) Alpha toxin
   d) Iota toxin
   e) Beta toxin

1001. A child who has diabetes mellitus appears with an abdominal distension, vomiting, diarrhea, and bloody stools. He ate undercooked pork chitterlings. The most likely organism causing this manifestation is:
   a) Shigella
   b) Salmonella
   c) E. coli
   d) Rotavirus
   e) Clostridium perfringens

1002. A full term LGA newborn is admitted in NICU with a moderate respiratory distress and cyanosis. The infant was born by a forcep-assisted vaginal delivery. The Apgar scores are 8 and 8 at 1 and 5 minutes respectively. The physical examination reveals irregular breathing and mildly diminished breast sound on the right chest. The chest x-ray reveals an elevation of the right diaphragm. The preferred diagnostic test for this condition is:
   a) Lateral chest x-ray
   b) MRI
   c) CT scan
   d) ABG
   e) Ultrasonography

1003. A full term newborn is admitted in NICU with a severe perinatal asphyxia. The infant was placed on mechanical ventilator. At 2 hours of age, the infant develops seizure activities. The preferred therapy for a seizure in newborns is:
   a) Phenytoin
   b) Paraldehyde
   c) Carbamazepin
   d) Intravenous glucose
   e) Phenobarbital

1004. All of the following conditions indicate severe asphyxia of newborns **except**:
   a) Seizure
   b) pH less than 7.0
   c) Hypotonia
   d) Decreased level of consciousness
   e) A 5-minute Apgar score is 4

1005. The preferred diagnostic study for cerebral infarctions in newborn is:
   a) Ultrasonography
   b) Cerebral angiogram
   c) Spinal tap
   d) Contrast head CT scan
   e) Ventricular tap

1006. Liddle syndrome includes all of the following features except:
   a) Hypotension
   b) Hypokalemia
   c) Hypernatremia
   d) Metabolic alkalosis
   e) Low serum level of aldosterone

1007. Most infants reduce the volume and the frequency of breast feeding between:
   a) 3-6 months of age
   b) 6-12 months of age
   c) 12-15 months of age
   d) 15-18 months of age
   e) 18-24 months of age

1008. All of the following parameters indicate the **maximum** recommended nutrients in infants formulas **except**:
   a) Iron 1.65 mg/100 kcal
   b) Fat 6.4 grams/100 kcal
   c) Protein 3.4 grams/100 kcal
   d) Carbohydrate 9 grams/100 kcal
   e) Calcium 140 mg/100 kcal

1009. All of the following parameters indicate the **minimum** recommended nutrients in infant formulas **except**:
   a) Iron 0.2 mg/100 kcal
   b) Fat 1.0 grams/100 kcal
   c) Protein 1.7 grams/100 kcal
   d) Carbohydrate 9 grams/100 kcal
   e) Calcium 50 mg/100 kcal

1010. The maximum recommended calories in infant formulas should be:
   a) 63 kcal/dL
   b) 71 kcal/dL
   c) 80 kcal/dL
   d) 85 kcal/dL
   e) 90 kcal/dL

ANSWERS

No.		**Correct Answer**
1.	(e)	Trachoma. It is an eye infection due to chlamydia.
2.	(c)	Flexion and extension laternal neck x–ray can detect atlantoaxial instability due to odontoid hypoplasia and joint laxity.
3.	(b)	3–4 feedings per day
4.	(a)	Chromosome 7q 11.23
5.	(b)	Macrophage activation syndrome is a rare complication of systemic JRA.
6.	(d)	Before birth with the planning and confirmation of pregnancy.
7.	(e)	Ecthyma gangrenosum
8.	(a)	Benzodiazepines (e.g., lorazepam or diazepam) have a short half–life. Therefore, it must be followed with another long–acting agent (e.g., phenobarbital or phenytoin).
9.	(c)	2 years for all children. BMI is used to measure obesity.
10.	(c)	Emergency court order is indicated.
11.	(b)	Autosomal dominant. HDR syndrome includes hyperparathyroidism, nerve deafness, and renal dysplasia.
12.	(a)	Loss of deep tendon reflexes is followed by decreased lower extremity vibratory and propioceptive senses and cerebellar signs (e.g., ataxia, spastic gait, dysmetria).
13.	(e)	Only five–times washed (in 200–ml volumes) normal donor RBCs or blood from other IgA–deficient person.
14.	(e)	HSV causes Kaposi varicelliform eruption or eczema herpeticum.
15.	(e)	Urine specimens should be delivered to the laboratory immediately because gram–negative enteric pathogens (e.g., E. coli) have doubling times of 20–30 minutes.
16.	(e)	The last dose of hepatitis B vaccine should not be given before age 6 months.
17.	(a)	Isolation of M. tuberculosis from sputum or gastric aspirate is the best method to diagnose pulmonary TB.
18.	(a)	**Please remember** negative cultures never exclude the diagnosis of TB. If the child has history of exposure to an adult with infectious TB, has positive PPD and chest x–ray results, the diagnosis of TB should be made.
19.	(e)	C1q deficiency
20.	(a)	High–dose of intravenous methylprednisolone within 8 hours of spinal cord injury improves the motor outcome.
21.	(c)	Respiratory alkalosis decreases intracellular pH, stimulates glycolysis, and increases utilization of phosphorus which results in hypophosphatemia.
22.	(e)	Large amounts of porphyrins in urine cause pink to brown staining in diapers.
23.	(a)	0.5 mg/kg/day.
24.	(e)	Neonatal RBCs have decreased deformability and filterability.
25.	(e)	Weight–for–height
26.	(a)	Weight–for–height. All other parameters are below the normal curve. Decreased head growth can cause delayed cognitive development.
27.	(d)	Aortic ultrasonography
28.	(c)	Chlamydia trachomatis and N. gonorrhoeae are the most common organisms causing cervicitis.
29.	(b)	Selective absence of IgA, IgG, IgM and IgE levels are usually decreased.
30.	(a)	Vocal cord myopathy
31.	(a)	Local immunosuppression.
32.	(e)	IHPS can occur in infants less than 6 weeks of age treated with orally administered erythromycin.
33.	(a)	Enterovirus 70 and coxsackievirus A 24 are responsible for epidemics of acute hemorrhagic conjuctivitis.
34.	(d)	Anti–Ro IgG antibodies
35.	(e)	Aspirin
36.	(c)	Hyperinsulinemia
37.	(b)	Turner syndrome

38. (e) A careful screening for Y chromosome material is indicated in a patient with Turner syndrome who has only one X chromosome.
39. (e) The PICU staff should encourage all families to express their concerns and try to understand their positions and try to accomodate as much as possible.
40. (a) Chromosomal disorder (22%), genetic syndrome (21%), and unknown (21%).
41. (e) Unknown (more than 50% of cases)
42. (a) Excessive fetal movements
43. (d) Gastroenteritis
44. (b) Hypernatremia. Baking soda contains sodium bicarbonate resulting in hypernatremia and metabolic alkalosis.
45. (a) Iatrogenic due to either decreased fluid administration or excessive sodium administration (e.g., use of sodium bicarbonate for metabolic acidosis, wrong sodium calculation in severe preterm newborns)
46. (a) Movement of water from serum into brain cells is due to rapid decrease of serum sodium resulting in cerebral edema and seizure activities.
47. (a) Idiogenic osmoles inside the brain cells draw water from serum into brain cells. Brain cells produce idiogenic osmoles when hypernatremia develops in order to increase the brain cell intracellular osmolality, to prevent the loss of brain cell water, and try to equalize the osmolality within brain cells and serum.
48. (a) Less than 12 mEq/L/day, at a rate of 0.5 mEq/L/hour.
49. (e) These are normal stools for a breast–fed newborn. Reassurance is the answer.
50. (e) Reassurance only. Lack of interest in food is a temporary phenomenon and it is noted in second year of life. Force feeding causes more problems.
51. (e) Hungry bone syndrome occurs after parathyroidectomy for hyperparathyroidism. This syndrome causes hypocalcemia, hypophosphatemia, and hypomagnesemia. Serum calcium, phosphorus, and magnesium move from the serum into bone due to lack of osteoclastic activities while osteoblastic activities are normal.
52. (a) Hospital administrator
53. (e) Family
54. (d) Liver enzymes
55. (b) X–linked
56. (e) Mutation analysis. VLCFA (very long chain fatty acids) level is normal.
57. (a) Elevated levels of VLCFA in plasma, RBCs, and cultured skin fibroblast are diagnostic studies.
58. (a) Elevated VLCFA levels in cultured amniocytes or chorionic villus cells and by mutation analysis
59. (c) Food allergic reaction
60. (a) L. monocytogenes is resistant to cephalosporins including third–generation.
61. (a) Ampicillin
62. (e) Ampicillin and aminoglycoside
63. (e) Diarrhea
64. (b) Increased excretion of acid by the kidney.
65. (a) Hyperactivity that leads to misdiagnosis of attention deficit disorder. Other manifestations of ALD include seizures, visual isturbances, difficulty in using telephone, impaired spatial orientation, mild hyperpigmentation, impaired cortisol response to ACTH stimulation, ataxia, and strabismus.
66. (c) Fetal infection causes fetal tachycardia.
67. (e) Maternal use of beta–sympathomimetic agent or atropine causes fetal tachycardia.
68. (d) Crown–rump length
69. (b) Biparietal diameter
70. (e) Abdominal circumference and femoral length
71. (a) Intravascular catheter
72. (a) Handwashing
73. (a) Use of gloves reduces need for handwashing
74. (e) Ionized calcium
75. (d) Hypercalcemia

76. (a) Supravalvular aortic stenosis is present in about one third of patients.
77. (a) Supravalvular aortic stenosis is the most common cardiovascular anomaly in Williams syndrome.
78. (e) Unknown
79. (b) Williams syndrome patient has "cocktail party" personality.
80. (e) Williams syndrome
81. (b) GAD (glutamic acid decarboxylase). The patient has pyridoxine dependency with seizure.
82. (a) GABA deficiency in brain occurs due to GAD (glutamic acid decarboxylase) enzyme deficiency.
83. (e) Vitamin B_6 (10–100 mg/kg)
84. (d) 500 mrad
85. (d) 10,000 mrad
86. (d) 20,000–50,000 mrad
87. (c) Formula–fed infant receives more than enough vitamin K.
88. (c) Clinical staging 3. Decorticate posture means flexion of upper extremities and extension of lower extremities. The patient is comatose but occasionally responds to commands.
89. (a) Clinical staging 1. The patient is only lethargic.
90. (e) Clinical staging 5. The patient is comatose and has no response to pain.
91. (b) Clinical staging 2. The patient is combative.
92. (d) Clinical staging 4. Decerebrate posture means extension of both upper and lower extremities. The patient is comatose but responds to pain.
93. (e) Distal ileum
94. (d) Prematurity. Breast milk protects from NEC. All other choices causes NEC.
95. (a) No pathogen. All other organisms can be identified in NEC.
96. (e) Intestinal ischemia, oral formula feedings (metabolic substrate), and pathogenic organisms.
97. (d) Cardiovascular and musculoskeletal birth defects may occur in fetus.
98. (a) Peak flow morning–to–afternoon variation 20% or more and the items (d, e) are the main criteria consistent in asthma patients.
99. (e) Latex and intravenous medications(e.g., antibiotics, immunoglobulin, radiocontrast materials). Food allergy is the most common cause of anaphylaxis outside the hospital.
100. (d) 4 hours. Over 90% of biphasic reactions (i.e., anaphylactic symptoms recur after apparent improvement) occur within 4 hours.
101. (a) Streptococcus pyogenes.
102. (e) Desensitization followed by penicillin
103. (a) The concentration 0.018 microgram/mL (0.03 U/mL) of penicillin is needed to kill all spirochetes in serum and CSF.
104. (d) CSF glucose level is normal.
105. (a) Parvovirus B19
106. (e) PPGSS ydrome
107. (e) Encephalitis and glomerulonephritis are the serious complications of tissue nematoda Loa Loa infection.
108. (c) The blood smears should be collected between 10 AM and 2 PM.
109. (a) Propofol should **not** be considered as a "sedation" agent. **Propofol is a general anesthetic agent.** It decreases airway reflexes, respiration, and hemodynamic function.
110. (e) Intracranial hemorrhage does not occur.
111. (e) Short and broad hands are present in a patient with Down syndrome. Gastrointestinal abnormalities may be present.
112. (e) SCID
113. (a) ECPs should be prescribed prior to the need and should be available to women.
114. (e) A continuing contraception is indicated; the physician also explore the situation resulting in an unprotected sexual intercourse.
115. (c) Presence of anti–PR3 ANCAs is a diagnostic finding. The others specific diagnostic tests are pulmonary, renal, or sinus biopsy that reveals necrotizing granulomatous angitis.
116. (a) Previous pregnancy with a positive GBS is not an indication for IAP.

117. (a) Infant can be discharged after 24 hours if other discharge criteria have been met and a person should be able to observe the baby at home properly. If any of these conditions is not met, infant should stay in the hospital for at least 48 hours and until criteria for discharge are achieved. If laboratory results and clinical course are benign, infant should be discharged as early as 48 hours. Sepsis work up is not indicated.
118. (b) 10 days
119. (b) 2–3 weeks
120. (d) 4 weeks
121. (d) III
122. (d) III
123. (c) 20–30 hours
124. (a) TV
125. (c) After 24 months
126. (d) 10%; food insecurity without hunger is 7%; food insecurity with hunger is 3%.
127. (e) Waterless hand hygiene products
128. (a) Waterless hand hygiene products do not remove dirt or debris.
129. (e) ICU
130. (e) Azithromycin
131. (c) Corticosteroids
132. (c) Rash. In the beginning, rash is maculopapular that initially blanches on pressure and progress to petechiae or purpura. The palpable purpura that evolve from red to purple to rusty brown and subsequently fade.
133. (a) Air/barium enema should be performed for intussuception. Air/barium enema is both diagnostic and therapentic procedures for intussuception.
134. (a) H. parainfluenzae
135. (c) The local cooling and elevation of the scrotum are useful in scrotal edema.
136. (a) Ceftazidime and gentamicin
137 (b) Ceftazidime
138. (d) Intravenous ceftazidime and gentamicin plus intraventricular or intrathecal gentamicin (1–2 mg total once daily) may be effective in pseudomonas meningitis. However, this therapy is not recommended for a routine use.
139. (b) To maintain pool water at a pH 7.2–7.8 and free chlorine concentration at 70.5 mg/L
140. (e) Streptococcus pneumoniae (Pneumococcus)
141. (a) Serotypes 4 and 18 C are sensitive to penicillin; serotypes 6B, 9V, 14, 19F, and 23 F are resistant to penicillin.
142. (e) Vancomycin is the drug of choice until the susceptibilities to other antibiotics are known.
143. (d) Vaccine decreases the complications of otitis media (e. g., tympanostomy tube placement).
144. (c) Penicillin prophylaxis is recommended for at least 2 years after splenectomy or up to 5 years of age in children who received all recommended pneumococcal vaccines and did not suffer from an invasive pneumococcal disease. Oral antibiotic prophylaxis should be taken very seriously.
145. (e) A persistent urachus (urachal cyst) is associated with bladder outlet obstruction and is due to failure of the closer of allantoic duct.
146. (a) Redness of the face, hands, and feet gives the false impression about the infant's sickness. Neonatal cold injury also causes poor feeding, hypoglycemia, metabolic acidosis, rhinitis, and hypotension.
147. (c) Hyperreflexia is absent.
148. (e) Only supportive care and respiratory support are indicated. Intravenous calcium and diuretics reduce magnesium levels. Exchange transfusion is rarely necessary for rapid removal of magnesium ion from the blood.
149. (e) Thrombocytosis is absent. Other complications include hemodynamic instability, airway obstruction, thrombocytopenia, vaso–occlusive disease, and graft versus host disease (GVHD)
150. (e) CNS injury is not a contraindication of organ donations. Other contraindications are diabetes mellitus and severe hypertension. Some centers accept patients with bacterial sepsis or meningitis who received 1–2 days of antibiotics and the repeat cultures are negative.
151. (a) Renal biopsy is not indicated because the child is an stable condition and he has no signs of rejection. The recorded blood pressure is at levels 20–30% higher than normal can occur especially when a small child received an adult kidney.

152. (a) P. aeruginosa. However, the most common organism causing nonpersistent tube otorrhea is S. pneumoniae.
153. (d) Removal of the tube is indicated when the conventional outpatient management fails or patient should be admitted in hospital for intravenous antibiotic prior to removal of the tube.
154. (d) Coarsely granular pattern with irregular aeration indicates aspiration of amniotic fluid in utero due to fetal distress. **Occasionally, pleural fluid is present in TTNB**.
155. (a) Chronic intrauterine hypoxia and hyperviscosity responsible for long–term adverse outcome such as speech deficits, school problems, decreased IQ, abnormal fine motor movements, and other neurologic abnormalities in patients with polycythemia. It is **not** clear whether partial exchange transfusion improves the long–term outcome.
156. (a) Increased gonadotropin secretion is due to increased intracranial pressure (ICP) in patients with shunted hydrocephalus or meningomyelocele.
157. (b) V–P shunt infection rate is less than 5%.
158. (a) Weighing the infant before and after every nursing to determine the adequacy of milk is not indicated.
159. (a) The first drug of choice is intravenous calcium. Calcium prevents cardiac arrythmias immediately. However, calcium should be given slowly over 30 minutes in a patient who is receiving digitalis because calcium may cause arrythmias.
160. (a) Sodium 55 mEq/L, potassium 25 mEq/L, bicarbonate 15 mEq/L
161. (b) D5 ¼ Normal saline +15 mEq/L bicarbonate + 25 mEq/L KcL
162. (b) Sodium 60 mEq/L, potassium 10mEq/L, chloride 90 mEq/L
163. (b) D5 ½ NS + 10 mEq/L KcL
164. (d) Prolonged expiratory time does not increase the MAP. **Prolonged inspiratory time** without changing the rate causes reversal of inspiratory–expiratory ratio (I:E) resulting in an increased of MAP.
165. (a) A pregnant mother with hyperphenylalaninemia should be on phenylalanine–restricted diet **before and during** pregnancy. Her phenylalanine levels should be maintained below 6 mg/dL (360 micro M). The normal phenylalanine plasma level is less than 2 mg/dL and in classic PKU, the level is above 20 mg/dL
166. (c) The infant develops phenylalanine deficiency due to over treatment. The patient should receive phenylalanine and tyrosine. Tyrosine is also an essential amino acid in this disorder.
167. (a) Autosomal recessive
168. (e) The deficiency of phenylalanine hydroxylase or its cofactore tetrahydrobiopterin causes accumulation of phenylalanine in CNS and body fluids.
169. (a) The CNS (central nervous system) is affected due to an elevation of phenylalanine levels in brain tissue. Phenylalanine also interferes with the transport of tyrosine and tryptophan into the brain.
170. (a) Avoidance of high PIP and mean ventilatory pressure can prevent the development of PIE.
171. (a) Selective intubation and ventilation of the uninvolved lung and bronchus.
172. (e) Alveolar
173. (e) Increased PIP does not stop pulmonary hemorrhage. High frequency ventilation (HFV) is useful to stop pulmonary hemorrhage in some cases.
174. (a) RhoGAM is administered at 28–30 weeks of gestational age and at birth (40 weeks).
175. (e) Chronic diarrhea is a clinical manifestation in T–cell deficiency.
176. (a) The clinical manifestations appear after 5–6 months of age due to protective effects of maternal antibodies.
177. (e) Serum immunoglobulin deficiency can cause recurrent ear infections (e.g., 3 or more episodes within 6 months, or 4 or more episodes within 12 months).
178. (c) The patients with IgA deficiency can develop antibody against the minute amounts of IgA present in IVIG and can produce anaphylactic reaction.
179. (b) S. epidermidis
180. (b) S. epidermidis. This organism also causes bacteremia, endocarditis, and urinary tract infections with a urinary catheter inside.
181. (a) The most common organism in recurrent otitis media is Streptococcus pneumoniae.
182. (a) S. epidermidis infections in full term infants are most likely contaminant.
183. (a) Penicillin–binding protein (PB2A) is relatively insensitive to antibiotics containing a beta–lactam ring (e.g., methicillin)
184. (c) The patient who stayed next to the MRSA patient does not need prophylactic antibiotics.

185. (e) Tyrosinemia also produce rancid butter smell in the urine. Hypermethionemia also produce boiled cabbage smell in the urine.
186. (e) Multiple carboxylase deficiency.
187. (a) Glutaric acidemic (type II) and isovaleric acidemia produce sweaty feet and acrid odor.
188. (a) Material toxemia protects from white matter disorders. Maternal and placental infections, and other cytokine promoting factors can also cause WMD.
189. (e) Hypercarbia can cause WMD in preterm infants.
190. (c) 6–8 mg/kg/day.
191. (a) Sepsis causes direct hyperbilirubinemia
192. (e) Spherocytosis causes indirect hyperbilirubinemia.
193. (a) UTI or sepsis causes direct hyperbilirubinemia after the 3rd day and within the 1st week of life.
194. (e) G6PD deficiency causes indirect hyperbilirubinemia and negative Coombs positive.
195. (a) Giant cell hepatitis causes direct hyperbilirubinemia and no polycythemia.
196. (b) Nonculture gonococcal tests are **not** reliable in children because false–positive results can occur.
197. (a) Amoxicillin is used in children younger than 8 years of age.
198. (a) Doxycycline is used in children 8 years of age or older than that.
199. (e) Doxycycline can cause dermatitis in sun–exposed areas.
200. (e) Cefuroxime is the preferred therapy for children who cannot take amoxicillin and doxycycline.
201. (c) 6 months of age. This current recommendation is based on **nutritional concept** rather than maturation of the swallowing process.
202. (c) 4 months of age
203. (a) 1 month of age
204. (b) 12 weeks of gestation
205. (a) Supine position reduces the suffocation in infants.
206. (e) Cystic fibrosis
207. (e) Cystic fibrosis
208. (a) Asthma, aspirin sensitivity, and nasal polyposis are the Samter triad.
209. (e) Pulmonary hypertension may develop due to chronic hypoxia.
210. (a) Physical examination and Cobb technique
211. (a) S. aureus and group A Streptococcus are the most common organisms.
212. (d) DNA analysis
213. (e) Reassurance. Breast asymmetry may persist beyond the age of 18 years and is common between Tanner stage 2 and 4.
214. (a) Macrostomia
215. (e) Crigler–Najjar syndrome (type I).
216. (a) Autosomal recessive
217. (b) Autosomal dominant
218. (b) Crigler–Najjar syndrome (type II)
219. (c) Phenobarbital; calcium phosphate, cholestyramine, or agar can be used to reduce enterohepatic circulation because those bind with photobilirubin products.
220. (e) Above 35 mg/dL
221. (b) Tricuspid regurgitation
222. (e) Noonan syndrome
223 (a) Noonan syndrome
224. (a) Aortic stenosis is absent. The cardiac defect in Noonan syndrome is pulmonic valvular stenosis, hypertrophic cardiomyopathy, or atrial septal defect.
225. (b) Type II diabetes; acanthosis nigricans is a sign of insulin resistance and relative hyperinsulinemia.
226. (e) The middle cortical area is one of the most vulnerable areas.
227. (a) Walker–Warburg syndrome and muscle–eye–brain disease of Santavuori.

228. (a) Physiotherapy is useless in treating patients with facioscapulohumeral muscular dystrophy (Landouzy–Dejerine disease.)
229. (b) Congenital central hypoventilation syndrome (Ondine curse).
230. (e) Pharmacologic respiratory stimulation (e.g., aminophylline or theophylline) therapy is **not** effective.
231. (a) CNS (central nervous system) defects
232. (e) Oropharyngeal incoordination is noted in 48% of cases with recurrent pneumonia.
233. (e) A modified barium swallow with video fluroscopy is the gold standard for evaluation of the swallowing mechanism.
234. (a) Diarrhea
235. (b) Constipation
236. (a) Rebound hypertension
237. (a) Antihypertensive medication
238. (e) Balloon angioplasty. Intravascular stents are commonly used.
239. (e) Endocardial fibroelastosis
240. (e) Heart transplantation. Initial therapy includes prevention of respiratory infections and treatment of congestive heart failure.
241. (e) Normal platelet counts and functions. However, platelet transfusions are indicated in all pediatric age groups with platelet dysfunction, bleeding, or invasive procedures regardless of platelet count.
242. (e) Normal platelet counts and functions
243. (a) FFP should not be used to prevent IVH in premature infants. FFP should not be used in partial exchange transfusion for polycythemia. FFP should not be used as a suspending agent before small–volume RBCs transfusion because it does not offer any additional benefit over sterile solutions.
244. (a) FFP is not recommended for factor VII deficiency, hemophilia A or B. Factor XIII and fibrinogen deficiencies are treated with cryoprecipitate. FFP transfusions are indicated in severe clotting factor deficiency and bleeding or invasive procedures.
245. (a) Surgical hypoparathyroidism can cause tetany and cataracts.
246. (e) Abnormal development of the base of the skull causes increased forces on the dura resulting in disruption of normal cranial suture development.
247. (e) Aqueductal stenosis causes hydrocephalus and wide separation of sutures.
248. (a) Mutations of fibroblast growth factor receptors are associated with Pfeiffer, Apert, and Crouzon syndromes.
249. (c) Clonidine toxicity; clonidine is used in ADHD and tic syndromes.
250. (a) Gastric decontamination is not very useful.
251. (a) Hypotension can be avoided by slowing the intravenous infusion rate of deferoxamine.
252. (a) Atropine is an antidote for organophosphate and carbamate poisoning.
253. (c) Methylene blue is an antidote for methemoglobinemia.
254. (e) Pralidoxime is an antidote for organophosphate poisoning.
255. (e) N–Acetylcysteine is an antidote for acetaminophen toxicity.
256. (a) Physostigmine is an antidote for anticholinergic agents.
257. (a) Dimercaptosuccinic acid is an antidote for lead and probably mercury, arsenic, and other metallic poisoning. EDTA and calcium are antidotes for lead, manganese, nickel, zinc, and probably chromium poisoning.
258. (a) Pyridoxine (vitamin B_6) is an antidote for INH and Gyromitra mushroom poisoning.
259. (b) Flumazenil is the antidote for benzodiazepines toxicity.
260. (b) Digoxin–specific Fab antibodies (Digiband) are the specific antibodies for all digitalis glycosides.
261. (e) Naloxone (Narcan) is an antidote for narcotics (e.g., morphine) poisoning.
262. (d) Children should not run away from an unaccompanied dog. Children should allow a dog to see and sniff them before touching that dog.
263. (e) Streptobacillus moniliformis is the most common organism in rat–bite fever.
264. (a) Spirillum minus is responsible for sodoku. Sodoku is caused by rat bites. Sodoku is characterized by fever, rash, lymphadenopathy, and ulcerative lesions at the wound site occuring days to weeks after the primary rat–bite wound has healed.
265. (a) Mixed anaerobes (50% of cases), S. aureus (20–30%), P. multocida (20–30%), Staphylococcus intermedius (25%), and C. canimorsus are common organisms in dog bite wound.
266. (a) Pasteurella multocida is the most common organism in cat bite wound infection.

267. (a) Anaerobic bacteria (50%) and Eikenella (25%) are responsible for clenched first injury infections.
268. (e) Streptobacillus moniliformis is not responsible for human bite wound infections. Beta– lactamase producing aerobes are also responsible for producing human bite wound infections.
269. (a) Lower serum T_4, higher serum T_3, and moderately higher serum TSH; higher serum T_3 levels are due to preferential secretion of T_3 by the thyroid. Answer (b) represents primary hypothyroidism. Answer (c) is a normal finding. Answer (d) represents primary hyperthyroidism or Graves disease. Answer (e) represents patients with elevated thyroxine-binding globulin (TBG) levels or familial dysalbuminemic hyperthyroxinemia.
270. (e) Graves disease or primary hyperthyroidism
271. (a) Propylithiouracil (PTU) is the preferred medicine during pregnancy and lactation. Unlike methimazole, PTU is highly protein–bound. Therefore, PTU does not cross the placenta well and does not easily enter into breast milk.
272. (a) Methimazole is 10 times more potent than propylthiouracil, has longer half–life (6–8 hours versus 0.5 hour), and is given once daily. PTU is given three times daily.
273. (c) Thyrotropin receptor–stimulating antibody (TRSAb) causes congenital hyperthyroidism.
274. (a) Respiratory depression
275. (e) Hyperthyroidism. The infant is usually lethargic in sepsis, group–B streptococcus (GBS) bacteremia and meningitis. GBS colonization in a mother rarely causes infection in newborns.
276. (e) Propranolol and PTU are used in congenital hyperthyroidism.
277. (e) Thyroidectomy is **not** indicated. Digitalis can be used in patients with cardiac failure.
278. (b) Barbiturates (e.g., phenobarbital) bind to beta–subunit of GABA (gamma–amino butyric acid).
279. (a) Benzodiazepines (e.g., diazepam, lorazepam, clonazepam, nitrazepam, clobazam) bind to alpha-subunit of GABA.
280. (a) Vigabatrin binds to GABA–transaminase.
281. (a) Tiagabine blocks uptake of GABA.
282. (a) Carbamazepine acts similar to phenytoin.
283. (e) Phenytoin acts similar to carbamazepine.
284. (b) Ethosuximide blocks calcium channels associated with thalamocortical pathway.
285. (a) Valproic acid
286. (a) Topiramate
287. (a) Lamotrigine
288. (a) Gabapentin binds with neuronal membrane (glutamate synapses) and increases GABA turnover. Answer (b) is the action of Tiagabine. Answer (c) is the action of Vigbatrin. Answer (d) is the action of benzodiazepines. Answer (e) is the action of barbiturates.
289. (c) **Infantile spasms** occur between the ages of 4 to 8 months. This child has mixed type of cryptogenic infantile spasms. Three types are flexor spasms (i.e., flexion of the neck, arms, and legs onto the trunk), extensor spasms (i.e., extension of the trunk and extremities, least common type), and mixed type (most common type). Infantile spasms are two groups : cryptogenic and symptomatic. The cryptogenic type (10–20% of cases) has a normal delivery, development, neurologic examination, head CT or MRI findings, and good prognosis. The symptomatic type (80–90% of cases) is directly related to severe prenatal, perinatal, and postnatal factors such as hypoxic–ischemic encephalopathy, periventricular leukomalacia, congenital infectors, inborn errors of metabolism, prematurity, and tuberous sclerosis. The symptomatic type has an 80–90% risk of mental retardation. Hypsarrythmia is a chaotic pattern of high–voltage, bilaterally asynchronous, slow–wave activities. Hypsarrythmia is a characteristic EEG finding in infantile spasms.
290. (b) Prednisone is equally effective as ACTH.
291. (a) ACTH also causes hyperglycemia and electrolyte abnormalities.
292. (a) Carbamazepine may cause hyponatremia.
293. (b) Carbamazepine–10, 11– epoxide is an active metabolite of carbamazepine. This metabolite can cause toxicity despite normal carbamazepine levels, especially when valproic acid is added with carbamazepine.
294. (e) Valproic acid **decreases serum carnitine levels** by inhibiting plasmalemmal carnitine uptake. Therefore, L–carnitine supplementation is indicated to prevent hepatotoxicities.
295. (d) Carnitine deficiency causes lethargy, weakness, and hypotonia.
296. (a) Valproic acid should **not** be used with ketogenic diet because of increased hepatotoxicity.
297. (e) Toe walking (equinus gait) is a normal finding up to 3 years of age.

298. (e) Unilateral developmental dysplasia of the hip (DDH); cerebral hemiplegia can cause unilateral toe walking. Answers (a), (b), (c), (d) and congenital tendo–Achilles contractures can cause bilateral toe walking.
299. (d) Hip; developmental dysplasia of the hip (DDH) should be ruled out in patients with congenital muscular torticollis and/or metatarsus adductus.
300. (a) The Barlow test is the best in newborns with DDH. The Ortolani test is the best in patients with DDH at 1–2 months of age. Answers (c) and (d) are also noted in DDH. Answers (e) is the normal hip position.

    The Barlow test: **to dislocate an unstable hip** by stabilizing the pelvis in one hand, and then flexing and adducting the opposite hip, and applying a posterior force.

    The Ortolani test: **to reduce a dislocated hip** by flexing and abducting the thigh and the femoral head is pushed anteriorly into the acetabulum.
301. (e) Hip clicks are not pathologic. Therefore, a dislocated hip joint is not the correct answer.
302. (e) Dynamic ultrasonography
303. (e) X–ray of the pelvis; line measurements help to determine the position of the femoral head and the acetabulum (i.e., acetabular index, quadrant position, the center edge angle of Wiberg, and Shenton's line). MRI, CT–scan, and arthrography are used only in difficult cases.
304. (e) Flexion and abduction position of the hip can be maintained by **Pavlik harness, Frejka splint**, or **any abduction orthoses**.
305. (a) Pavlik harness
306. (a) Closed surgical reduction; if there is significant instability, an open surgical reduction is indicated.
307. (a) Open surgical reduction
308. (e) Avascular necrosis of the CFE. Answer (a), (b), (c), and (d) are also complications of DDH.
309. (e) Analyze the amount of drug in the breast milk.
310. (e) The pharmacology service is useful in obtaining the drug distribution in breast milk and drug absorption in gastrointestinal tract of infants.
311. (a) Vaginal septum
312. (a) Petrolatum or zinc oxide ointment should be applied locally for 1–2 months to prevent the recurrence of labial adhesion.
313. (a) Patients with liver disease are usually PiZZ and have serum alpha–1–antitrypsin deficiency (less than 2 mg/mL). A fewer than 20% of PiZZ neonates develop neonatal cholestatic jaundice.
314. (e) Liver biopsy confirmed the diagnosis of alpha–1 antitrypsin deficiency.
315. (c) Liver transplantation is curative therapy.
316. (e) Excision with CO_2 laser
317. (b) Intrauterine transmission
318. (c) HPV types 6 and 11 are most commonly associated with laryngeal disease.
319. (e) Carbon dioxide and oxygen are not irritants; particulate matters are also irritants.
320. (c) 2–6%; the same incidence if one parent was affected.
321. (c) 20–30%; the same incidence if two first–degree relatives were affected.
322. (e) Radial pulse may be diminished on the side of Blalock–Taussig shunt.
323. (e) **Intravenous methoxamine or phenylephrine** improves right ventricular flow, decreases right–to–left shunt, and improves the cyanosis and symptoms. **Intravenous propranolol** (beta–adrenergie blocker) is also used.
324. (e) Open heart surgery and total corrections are indicated. The modified Blalock–Taussig shunt (i.e, a Gore–Tex conduit anastomosed side to side from the subclavian artery to the homolateral branch of pulmonary artery) can be performed to improve pulmonary circulation.
325. (b) Between 4 and 12 months of age
326. (e) Sodium bicarbonate therapy is not indicated. Hydration is useful to prevent hemoconcentration. Iron therapy prevents the paroxysmal dyspneic attacks in infancy and early childhood. Propranolol decreases the hypercyanotic spells. Oxygen is given when indicated.
327. (e) 40–60 days.
328. (a) Transcobalamine II (TC–II) deficiency causes megaloblastic anemia because TC–II is the principal transport protein for vitamin B_{12}. Other causes of impaired absorption of vitamin B_{12} are regional enteritis, necrotizing enterocolitis, and diverticula of small intestine.

329. (e) Parenteral therapy with vitamin B_{12} monthly corrects the vitamin B_{12} deficiency. Imersland–Grasbeck syndrome is due to absence or defect of the receptor intrinsic factor (1F) B_{12} in the terminal ileum resulting in impaired vitamin B_{12} absorption with or without proteinuria.

330. (d) Hypersplenism occurs in **sickle cell disease.** Other complications of **sickle cell trait** are hyposthenuria (i.e., the secretion of urine with low specific gravity due to inability of the kidney to concentrate the urine normally), bacteriuria, and renal medullary carcinoma.

331. (d) G6PD (glucose–6–phosphate dehydrogenase) deficiency with hemolytic jaundice. Heinz bodies (precipitated hemoglobin) are present in G6PD deficiency. Heinz bodies are **not** visible on the Wright–stained blood film.

332. (c) G6PD deficiency and hemolysis. The higher doses of aspirin (60–100 mg/kg/day) can cause hemolysis in G6PD deficient patients. G6PD A– variety patients do not develop hemolysis in usual doses of aspirin and Trimethoprim-sulfamethoxazole.

333. (b) G6PD A–; G6PD B+ is the normal enzyme found in the most population; G6PD A+ is common in the African–American populations; G6PD B– is common in Mediterranean populations.

334. (e) Affected children have a moderate hypertension (30 mm higher than the unaffected family members of the same age) in patients with glucocorticoid–suppressible hyperaldosteronism (familial hyperaldosteronism type I). This is an autosomal dominant disease. A strong family history of early–onset hypertension or early strokes may indicate this disease.

335. (e) The glucocorticoid (e.g., prednisone or dexamethasone) is the preferred therapy in patients with glucocorticoid–suppressible hyperaldosteronism. Some children have symptomatic hypertension and others have asymptomatic hypertension. An additional antihypertensive therapy (e.g., calcium channel blocker) may be required in some cases.

336. (a) Sensorineural deafness occurs due to labyrinthitis following cochlear infection secondary to bacterial meningitis. Hearing loss also occurs due to direct inflammation of the auditory nerves.

337. (a) Pneunmococcal meningitis (30% of cases), meningococcal meningitis (10% of cases), and H. influenzae type b (5–20% of cases) cause sensorineural hearing loss.

338. (b) Phenytoin is preferred to phenobarbital because phenobarbital produces more CNS depression and altered level of consciousness.

339. (d) Focal neurologic signs are **not** present in patients with pseudotumor cerebri but present in patients with brain tumors. Infants with pseudotumor cerebri also appear with bulging fontanel and a "cracked–pot sound" or Macewen sign (resonance sounds produce after percussion) because of separation of cranial sutures.

340. (b) Paralysis of abducens nerve causes diplopia in patients with pseudotumor cerebri.

341. (b) Pseudotumor cerebri.

342. (b) Pseudotumor cerebri is a self–limited condition. CT or MRI scan should be performed before a lumbar tap. Rarely, a lumboperitoneal shunt or subtemporal decompression is indicated when other therapies fail. Some centers perform optic nerve sheath fenestration to avoid optic atrophy and blindness.

343. (e) Hyperparathyroidism does **not** cause pseudotumor cerebri. Hypoparathyroidism can cause pseudotumour cerebri.

344. (e) Obstruction of the **superior** vena cava can cause pseudotumor cerebri. Answer (a), (b), (c), and (d) can cause pseudotumor cerebri.

345. (a) S. aureus

346. (e) P. acnes is the most common organism. Othet organisms are answers (b) and (c).

347. (b) One month

348. (a) There is a **poor** correlation between acne severity and psychological impact, particularly in adolescents.

349. (e) Vitamin D does **not** cause acne. Drug–induced acne is also caused by steroids (e.g., systemic, potent topical), androgens, trimethadione, and lithium carbonate.

350. (e) High concentration of oxygen is used for carbon monoxide poisoning. In severe cases, hyperbaric oxygen therapy is used.

351. (e) Carboxyhemoglobin levels in the blood.

352. (a) Botulism is treated with CDC trivalent antitoxin or DOD heptavalent antitoxin. Prophylaxis for botulism is **not** available like viral hemorrhagic fevers (e.g., Ebola, Marburg, and Lassa).

353. (a) Ciprofloxacin or doxycycline can be used in children with anthrax for treatment and prophylaxis.

354. (a) Intravenous gentamicin, doxycycline, ciprofloxacin, or chloramphenicol can be used in patients diagnosed with plague. All of the above medications can be used as a prophylaxis in patients with plague **except gentamicin**.

355. (a) Penicillin is **not** effective in patients with tularemia. Answers (c) or (d) can be used as a prophylaxis in patients with tularemia.

356. (a) Seabather's eruption is the diagnosis. This is due to allergic hypersensitivity reaction to venom from larvae of thimble jellyfish (Linuche Unguiculata).

357. (e) Symptomatic therapy; topical corticosteroids therapy are also useful.
358. (d) Vitamin K deficiency is more common than DIC (disseminated intravascular coagulation) in patients with HUS.
359. (d) Peritoneal dialysis does not cause HUS. Peritoneal dialysis saves lives in patients with HUS.
360. (e) Hydralazine does not cause HUS like all other antihypertensive medications. Antihypertensive medications are used in patients with HUS.
361. (d) **Hydralazine cause drug–induced lupus and tachycardia**. Hydralazine is an arterial vasodilator like diazoxide, nitroprusside, and minoxidil.
362. (a) **Propranolol and labetalol cause bronchospasms**. Propranolol also causes bradycardia and vivid dreams.
363. (a) Intravenous labetalol or nitroprusside or sublingual nifedipine is the preferred therapy in patients with hypertensive emergencies.
364. (e) Adolescents should be counseled to avoid alcohol and tobacco because of their adverse effects on blood pressure.
365. (c) The blood pressure should be reduced about one third of the total planned reduction during the first 6 hours and remaining two thirds over the following 2–3 days. A rapid reduction in blood pressure may reduce the organ perfusions.
366. (c) Captopril causes **proteinuria**, neutropenia, chronic cough, rash, and dysgeusia (dysfunction of the taste sensation).
367. (d) Percutaneous balloon angioplasty of renal arteries may cure up to 50% of cases of fibromuscular dysplasia causing renal artery stenosis. This procedure is not effective in renal artery stenosis secondary to atherosclerotic plagues. If angioplasty fails, intravascular stent or surgery is indicated.
368. (b) Germinal center B–cells
369. (a) A chest x–ray should be performed to detect the mediastinal mass before the lymph nodes biopsy. This boy is diagnosed with Hodgkin disease.
370. (e) MRI is better than CT–scan to diagnose brain tumors.
371. (a) **Infratentorial** (43.2%) location is more than supratentorial (40.9%) location.
372. (a) **Supratentorial tumors** (e.g., choroid plexus complex tumors and teratomas) are more common in children less than 1 year of age.
373. (a) Infratentorial tumor (e.g., juvenile pilocytic astrocytomas and medulloblastomas) are more common in children from 1–10 years of age.
374. (a) Supratentorial tumors (e.g., diffuse astrocytomas) are more common in children after 10 years of age.
375. (a) **Astrocytomas** (40% of cases) are the most common brain tumor in pediatric age groups. Low-grade **astrocytomas** (23% of cases) are more common than high–grade astrocytomas (11% of cases). **Please remember, juvenile pilocytic astrocytoma (JPA) is the most common astrocytoma in children**.
376. (b) Methicillin causes acquired nephrogenic diabetes insipidus. Ethanol also causes central diabetic insipidus.
377. (e) Ethanol; acquired nephrogenic diabetes insipidus is also caused by clozapine and demeclocycline.
378. (a) Germinomas and pinealomas are the most common primary brain tumors associated with diabetes insipidus. A very large size of craniopharyngiomas and optic gliomas can cause central diabetes insipidus. Histiocytosis and lymphocytic hypophysitis are infiltrative disorders causing central diabetes insipidus.
379. (c) Other complications of growth hormone therapy are gynecomastia, increased total body water during the first 2 weeks of therapy, and normalize a low fasting and postprandial insulin levels. Creutzfeldt-Jakob disease (spngiform encephalopathy) does **not** occur with recombinant GH therapy but can occur 10–15 years after the treatment with cadaver pituitary extracts.
380. (e) Neonates and young infants with central diabetes insipidus are best treated with **large volume of fluid therapy** (3 L/m^2/day). The use of vasopressin analogs is contraindicated in patients with obligate high fluid intake because a severe hyponatremia can develop.
381. (e) **Intranasal or tablet from of long–acting vasopressin analog dDAVP (desmopressin)** is the preferred therapy for **older children** with central diabetes insipidus.
382. (e) **Intravenous vasopressin is the preferred therapy** for patients with central diabetes insipidus following a neurosurgical intervention. Most patients also require to limit the fluid intake to 1 L/m^2/day during antidiuresis. Intravenous fluid therapy should be switched to oral fluid therapy as soon as possible.
383. (c) Sturge–Weber syndrome appears with a **choroidal hemangioma** that may appear as a dark area on the fundus. A cherry red spot on the retina can be found in sulfatide lipidosis, in certain mucolipidoses, and in some forms of neuropathic Niemann–Pick disease.
384. (e) Tuberous sclerosis (Bournville disease) appears with a refractile, yellowish multinodular cystic lesion from the retina or disc. A retinal detachment can be found in patients with trauma, retinopathy of prematurity, myopia, after congenital cataract surgery, diabetes mellitus, and ocular inflammation.

385. (a) Middle ear fluid is the most common cause of conductive hearing loss (CHL) in children.
386. (a) Genetic causes are responsible for up to 50% of sensorineural hearing loss (SNHL) in children. CHL is more common than SNHL in children. The peripheral hearing loss is more common than the central hearing loss. The peripheral hearing loss extends from pinna up to cochlea. The central hearing (retrocochlear) extends from the proximal 8th cranial nerve up to cerebral cortex. The other cause of SNHL are anatomic, autoimmune, and traumatic.
387. (e) The congenital CMV is the most common infectious cause of congenital SNHL in children.
388. (a) Autosomal recessive genetic causes of SNHL (up to 80% of all childhood cause) include both syndromic and nonsyndromic children.
389. (a) Waardenburg syndrome (type I and II) and brachiootorenal syndromes are the most common causes of autosomal dominant syndromic type of SNHL.
390. (c) Primidone causes aggressive behavior and personality changes similar to phenobarbital. **Valproic acid** also causes Stevens–Johnson syndrome. Answer (a), (b), (d), (e), and valproic acid can cause erythema multiforme and toxic epidermal necrolysis.
391. (e) Gentamicin causes ototoxicity and nephrotoxicity. Tetracyclines and quinolones can cause Stevens–Johnson syndrome. Answer (a), (b), (c), (d), tetracyelines, and quinolones can cause erythema multiforme and toxic epidermal necrolysis.
392. (e) S. aureus infections do not cause Stevens–Johnson syndrome. Other infectious agents cause Stevens Johnson syndrome such as Epstein–Barr virus, hepatitis B, histoplsma, enteroviruses, yersenia, coccidioides, and Francisella tularensis. Answer (a), (b), (c), (d), and all above mentioned infectious agents can cause erythema multiforme and toxic epidermal necrolysis.
393. (a) There is no infection in the Legg–Calve–Perthes disease. The classic presentation of this disease is "painless limp".
394. (a) Observation is indicated in all children **younger than 6 years of age** (possible younger than 5 years in girls).
395. (b) **The endocrine system** should be evaluated in patients with slipped capital femoral epiphysis that was **diagnosed at 10 years of age or younger**. Hypothyroidism, pituitary disorders, and pseudohypoparathyroidism should be ruled out.
396. (a) The diagnosis is SCFE (slipped capital femoral epiphysis). The earliest sign in x–ray of the affected hip reveals widening of the physis without slippage (i.e., preslip condition). An obese adolescent with SCFE may appear with pain in the anterior thigh.
397. (a) Epiphysiodesis (closure) of the CFE by pinning with one or two cannulated screws that can be inserted percutaneously under fluoroscopy. The patient is diagnosed with slipped capital femoral epiphysis (SCFE). Answer (a), (b), (c), (d), and (e) are treatments for patients with Legg–Calve–Perthes disease (LCPD). **SCFE patients have "painful limp". LCPD patients have "painless limp"**.
398. (b) Chondrolysis is less common in white and males; chondrolysis is a degeneration of articular cartilage of the hip. Osteonecrosis is the avascular necrosis of the hip due to injury of the vessels supplying the hip.
399. (b) Osteogenesis imperfecta (OI) is an autosomal dominant disorder.
400. (c) 5–7%
401. (c) 50%
402. (d) **Eight** health care visits are recommended for a child from birth up to 1 year of age (i.e. neonatal, first week, 1 month, 2 months, 4 months, 6 months, 9 months and 12 months).
403. (c) **Five** health care visits are recommended for a child after 1 year of age and up to 4 years of age (i.e., 15 months, 18 months, 2 years, 3 years, and 4 years).
404. (c) **Four** health care visits are recommended for a child from 5 years of age and up to 10 years of age (i.e., 5 years, 6 years, 8 years, and 10 years).
405. (c) **Eleven** health care visits are recommended for an adolescent from 11 years of age and up to 21 years of age (i.e., annual visits)
406. (a) A forceful feeding is never recommended for children with failure to thrive. High–calorie supplementation (e.g. Duocal, Polycose, Pediasure, Ensure) may be needed.
407. (e) Weight gain in response to an adequate caloric intake confirms the diagnosis of psychosocial FTT. Psychosocial FTT is more common than organic FTT in USA.
408. (e) Social worker should be involved and emergency food should be provided. Hospitalization is also indicated for diagnostic and laboratory evaluations.
409. (e) The goals of hospitalization for patients with FTT are to educate parents and obtain sustained catch–up growth.
410. (a) About **one third** of children with psychosocial FTT are developmentally delayed and have social and emotional problems.
411. (b) This patient's pediatric trauma score is 6. If the total score is less than 8, refer to a pediatric trauma center. **Pediatric score (+2) for each of the following**: size (more than 20 kg), **airway** (normal) **systolic BP** (above 90), CNS (awake),

open wound (none), and **skeletal injury** (none). **Pediatric trauma score, (+1) for each of the following**: **size** (10–20 kg), **airway** (maintainable), **systolic BP** (50–90 mm Hg), **CNS** (obtunded/loss of consciousness), **open wound** (minor) and **skeletal** (closed fracture). **Pediatric trauma scores (–1) for each of the following: size** (less than 10 kg), **airway** (not maintainable), **systolic BP** (less than 50), **CNS** (coma/decerebrate), **open wound** (major/penetrating), **skeletal** (open/multiple fractures). **If the BP cuff is not available:** palpable pulse at wrist (+2), no palpable pulse at groin (+1), no palpable pulse at all (–1).

412. (c) The total pediatric trauma score for this patient is plus 2. She got +2 for size, +1 for airway, +2 for systolic BP, –1 for CNS, –1 for open wound, and –1 for skeletal.

413. (a) The total Glasgow Coma Scale (GCS) for this infant is 7. **A patient with GCS score of 8 or less may require aggressive therapies such as mechanical ventilations and a monitoring of ICP**.

Glasgow Coma Scales (GCS) scores (ranges from 3 to 15):

Eye Opening (maximum points 4): spontaneous (4), to voice (3), to pain (2), none (1).

Motor response (maximum points 6): obeys (6), localizes pain (5), withdraws (4), flexion (3), extension (2), and none (1).

Verbal response (maximum points 5):

For infants and younger children:

appropriate words, smiles, fixes, and follows (5); consolable crying (4), persistently irritable (3), restless and agitated (2), and none (1).

For older children:

oriented (5), confused (4), inappropriate (3), incomprehensible (2), and none (1)

414. (a) His Revised Trauma Score (RTS) is 7. **A score of 11 or less indicates an important trauma**. The GCS score of 8 or less may indicate mechanical ventilation.

Revised trauma scores (ranges 1–12):

4 = GCS (13–15), systolic BP (90 or more), respiratory rate (10–20 per minute)

3 = GCS (9–12), systolic BP (76–89), RR (more than 29/min)

2 = GCS (6–8), systolic BP (50–75), RR (6–9/min)

1 = GCS (4–5), systolic BP (1–49), RR (1–5/min)

0 = GCS (3), systolic BP (0), RR (0/min)

415. (b) The patient with Williams syndrome has a deletion in the chromosome 7q.

416. (e) The patient with velocardiofacial syndrome has a deletion in the chromosome 22q.

417. (c) The patient with Angelman syndrome has a deletion in the chromosome 15q.

418. (c) The patient with Pradder–Willi syndrome has a deletion in the chromosome 15q.

419. (b) Zellweger syndrome. It has similarities with Down syndrome such as hypotonia, 'mongoloid' appearance, and brushfield spots.

420. (d) **The integrated test** combines **first–and–second trimester** screening and can detect **94% of Down syndrome** cases with a 5% false–positive rate or 85% with a 1% false–positive rate.

Triple test (2nd trimester): measurements of serum alpha–fetoprotein, unconjugated estriol, and human chorionic gonadotropin (HCG)

Quadruple Test (2nd trimester): triple test and the measurement of serum inhibin A

Combined test (1st trimester): measurements of serum pregnancy–associated plasma

protein A, free beta–subunit of HCG, and nuchal translucency.

Integrated test (1st and 2nd trimester): measurements of serum pregnancy– associated plasma protein A and nuchal translucency in the first trimester and quadruple test in the second trimester.

421. (a) The patient with trisomy 18 has a **low** MSAFP level.

422. (c) The patient with a twin pregnancy has a high MSAFP level.

423. (a) Patient with BPD should be treated with **fluid restriction, nutritional supplementation** (e.g., 24–30 calories/30 ml formula, protein 3–3.5 g/kg/day), **bronchodialators** (e.g., aminophylline, theophylline, inhalation therapy with albuterol), **diuretics** (e.g., furosemide, hydrochlorthiazide), **oxygen** (i.e., pulse oximeter 95% or above); in severe cases, **inhaled nitric oxide** improves oxygenation.

424. (d) The most common cause of postnatal infections in hospitalized newborns is the contaminated hands of health care personnel.
425. (a) The most cases of postnatal meningitis occur due to a hematogenous spread.
426. (e) Citrobacter diversus is an important cause of brain abscess. Other organisms may cause brain abscesses.
427. (c) Intrapartum antibiotics are **not** used to reduce late–onset GBS infections. Preterm male and female infants have an equal incidents of sepsis.
428. (c) 12 years of age
429. (c) 14 years of age
430. (a) A spinal curve greater than 10 degrees should be monitored by an orthopedist until her growth is complete.
431. (e) Coagulase–negative staphylococci is the most common organism. The organisms in answers (a), (b), (c), and (d) also cause peritonitis. **S. aureus is more common in localized exit or tunnel tract infections**.
432. (a) Introduction of microorganisms at the time of surgery. Hematogenous infections occur 2 years or more after surgery.
433. (b) Systemic antibiotics may salvage the implant in early postoperative infections (i.e., within 2–4 weeks after surgery)
434. (a) A late chronic infection occurs more than 1 month after surgery. The infection is caused by a low virulence organism that contaminated the implant during surgery. This infection responds poorly with antibiotics. Therefore, a removal of the implant is indicated.
435. (a) A. fumigatus
436. (c) IgE
437. (a) The diagnostic criteria for allergic bronchopulmonary aspergillosis also include **proximal** bronchiectasis, reversible paroxysmal bronchiolar obstruction, positive cutaneous reaction to A. fumigatus antigens, and detection of specific serum IgE to A. fumigatus by radioallergosorbent test.
438. (e) Prednisone and bronchodilator are used. Oral antifungal (e.g., itraconazole) is useful in adults but not has been studied in children.
439. (a) Enteropathogenic E. coli and cholera infections
440. (a) Malaria
441. (c) 6–8%; the risk for having malformed offspring in the general population is 3–4%.
442. (e) They have varying degrees of mental retardation.
443. (e) Pallister–Killian syndrome is due to the mosaicism for isochromosome 12p.
444. (e) 50%
445. (c) 66%
446. (e) Chromosome 14 is also associated with atopic diseases.
447. (e) Chromosome 21 is **not** also associated with atopic dermatitis.
448. (a) Exfoliatin
449. (a) Enterotoxin
450. (d) TSST–1 (toxic shock syndrome toxin–1)
451. (a) Coagulase, clumping factor, and protein A can cause boil, abscess, and sinusitis.
452. (e) Teichoic acid is present in the cell wall.
453. (a) Staphylococcus epidermidis produces a slime layer or polysaccharide capsule that prevents opsonophagocytosis.
454. (b) S. epidermidis does not have protein A.
455. (d) Human herpesvirus 8 causes Kaposi sarcomas.
456. (b) Human herpesviruses (HHV) 6 and 7 cause roseola infections. However, HHV–6 is the most common cause of roseola infantum (exanthem subitum or sixth disease).

    HHV–5 is the Epstein –Barr virus.
457. (d) MMR and varicella vaccines are **contraindicated** in children with AIDS or immune category C (i.e., severe disease).
458. (a) Congenital malaria should be considered regardless of the use of chemoprophylaxis.
459. (a) Giemsa–stained smears of peripheral blood reveal malaria parasites. **Giema stain results are better than** that of Wright stain and Leishman stain in order to detect malaria parasites. Intravenous quinidine should be given to patients who are vomiting and cannot retain oral medications.
460. (e) Oral vitamin D therapy (not phosphorus) is the preferred therapy in nutritional vitamin D deficiency.

461. (c) 1, 25–vitamin D and phosphorus.
462. (e) Renal insufficiency is the most common cause of hyperphosphatemia in children.
463. (e) Water deficit (percent dehydration x weight),
sodium deficit (water deficit x 80 mEq/L),
potassium deficit (water deficit x 30 mEq/L)
464. (e) Replacement of ongoing losses are always indicated in patients with dehydration to achieve an adequate hydration.
465. (b) The fluid correction time is **24 hours** when the sodium levels are 145–157 mEq/L; the correction time is **48 hours** when the sodium levels are 158–170 mEq/L; the correction time is **72 hours** when the sodium levels are 171–183 mEq/L; the correction time is **84 hours** when the sodium levels are 184–196 mEq/L
466. (e) Infusion of excessive amount of fluid during and after surgery is the most common mistake.
467. (a) Saline (0.45–0.9%), dextrose (5–10%), and kcl (30–50 mEq/L). Kcl supplementation should begin early in pyloric stenosis.
468. (d) Most infants do **not** require nasogastric suctioning because vomiting stops when the stomach is empty.
469. (b) Oral feedings should begin within 12–24 hours after surgery.
470 (d) Endoscopic balloon dilatation is the preferred therapy.
471. (b) SMR stage 2
472. (c) SMR stage 3
473. (d) SMR stage 4
474. (b) SMR stage 2
475. (c) SMR stage 3
476. (d) SMR stage 4
477. (a) A child's bedtime and wake–up time should be about the same (not more than one hour difference) on weekdays, weekends, and holidays.
A child should be allowed to play outside and perform a regular exercise.
A child's bedroom should be quiet and dark (or low–level light is O.K.)
A child's bedroom should have a comfortable temperature.
A child's bedroom should **not** be used for time–out or punishment.
A child's bedroom should **not** have a TV set.
478. (e) An adolescent should not study, read, watch TV on his/her bed.
An adolescent should have a quiet time (i.e., relaxing, calming down, listening to a calm music; not watching scary movies) for about 30–60 minutes before bedtime.
An adolescent should exercise regularly and goes outside under the sunlight everyday.
An adolescent should not have 'catch–up' sleep on weekends and should avoid a long nap (not more than 30 minutes). An adolescent should wake up and go to bed about the same time (not more than one hour difference) on weekdays, weekends, and holidays.
479. (c) Both motor and vocal tics do not have to be present concurrently for the diagnosis.
480. (b) S. aureus infections are not associated with this syndrome.
481 (e) PANDAS; a through history and a positive antistreptolysin O (ASO) titer are indicated to confirm the diagnosis of PANDAS.
482. (b) Prophylactic antibiotic therapy is indicated to prevent the relapse.
483. (a) Psychostimulants may make tics worse in children with Tourette syndrome and ADHD disorder. Clonidine is not used because it causes sedation and hypotension. Haldol and pimozide have side effects. Risperidone or olanzapine is a preferred therapeutic agent for patients with this syndrome. Pharmacological therapy is used when tics interferes with classroom activities and social development.
484. (b) Ringer lactate contains Na 130, Cl 109, K 4, Ca 3, and lactate 28
485. (b) The maintenance Na is 2–3 mEq/kg/day and K is 1–2 mEq/kg/day
1–10 kg: 100 mL/kg fluid per day (4 mL/kg/hour)
11–20 kg: 1,000 mL + 50 mL/kg for each kg above 10 kg
More than 20 kg: 1,500 mL + 20 mL/kg for each kg above 10 kg

486. (c) Bartonella henselae cause **cat–scratch disease that is the most common typical presentation of B. henselae.** The most common atypical presentation is parinaud oculoglandular syndrome. This syndrome includes unilateral **conjunctivitis** followed by preauricular lymphadenopathy. The conjunctivitis is due to the direct eye inoculation due to rubbing with the hands after contacts with a cat.
487. (e) Cat–scratch disease is due to B. henselae infection.
488. (a) Clinical findings with the history of exposure to a cat.
489. (a) Observation and conservative symptomatic therapy are adequate for patients with a CSD. The antibiotics therapy is usually not beneficial. However, if a physician has decided to use antibiotic then answer (b), (c), (d), (e), gentamicin, or trimethoprim–sulfamethoxazole is the best agent.
490. (a) A cesarean section in indicated within 24 hours (preferably 4 hours) of ruptured membranes.
491. (d) A newborn who was delivered either by NSVD or cesarean section, cultures of eyes, nose, mouth, urine, and stool should be performed at 48 hours.
492. (c) Early toilet training (less than 2 years of age) should be discouraged. The average age for toilet training in USA between 35–39 months that is increasing from a previous age between 27–28 months. The cause for this increase is not clear. The fear of sitting on the toilet should be healed with calm and support.
493. (c) 2 years of age
494. (c) 3 years of age
495. (e) The obesity for a child should be monitored at 2 years of age.
496. (e) The participation in an active physical exercise can reduce cardiovascular disease in children.
497. (a) The children should not watch TV more than 1–2 hours per day.
498. (e) Cigarette smoking
499. (a) Temper tantrums are a normal part of child development.
500. (a) A soothing approach to relax the child is the preferred way to manage the child with nightmares or night terrors.
501. (b) Night terrors are characterized by amnesia that is absent in nightmares.
502. (a) Oral (e.g., sucking)
503. (b) Anal (e.g., holding on and letting go)
504. (c) Oedipal (e.g., possessiveness toward parents).
505. (a) Latency (i.e., sexual drive is redirected to the achievement of social and external goals).
506. (e) Genital drives
507. (d) The psychosocial therapy is introduced by Erikson.
508. (e) The cognitive therapy is introduced by Piaget.
509. (c) The psychosexual theory is introduced by Freud.
510. (a) Basic trust develops in infancy.
511. (e) A sense of autonomy is established in infancy by Erikson's psychosocial theories
512. (e) DNA.
513. (a) The PRISM should not be used for decision making in a single patient.
514. (e) The PRISM III does not evaluate liver functions. The PRISM III also includes respiratory conditions (e.g., ABG) and hematologic values.
515. (a) Serum Na is **not** included in the PRISM III chemistry scoring values.
516. (b) The PRISM III scoring system does not include RBC counts, hemoglobin, hematocrit, and WBC differential counts.
517. (e) Respiratory rate is note included. However ABG is included.
518. (e) Polio and H. influenzae type b (due to vaccination) do **not** have an increased incidence in a child-care facility. A few cases of hepatitis B have been reported. However, hepatitis C and HIV cases have **not** been reported.
519. (e) Increased development of the new drugs help us in fighting against bacterial resistance.
520. (e) OPV is indicated in children traveling in less than 4 weeks and cannot receive two doses of IPV before departure.
521. (b) **Cefoxitin**, or **clindamycin plus gentamicin** are also used as prophylaxis after colorectal surgery.
522. (a) **Cefazolin** is also used after compound fractures; **cefazolin or clindamycin** is used in head and neck surgery entering the oral cavity or pharynx; **cefazolin or vancomycin** is used after cardiac surgery, vascular surgery, neurosurgery, and orthopedic surgery.

523. (e) Cefazolin, oral decontamination with neomycin and erythromycin.
524. (e) Vernal keratoconjunctivitis appears with cobblestoning, Trantas dots (yellow–white points on the limbus), Horner points (yellow–white points on the conjunctiva), and Dennie lines (symmetric skin folds parallel to the lower lid margin).
Vernal conjunctivitis is **not** IgE mediated but occurs in children with allergy, asthma, or atopic dermatitis.
525. (e) Oral allergy syndrome is an IgE–mediated hypersensitivity reaction due to local mast cell activation by fresh fruits and vegetable proteins that cross react with birch pollen and ragweed pollen.
526. (e) Hyperimmunoglobulin E syndrome is autosomal dominant.
527. (e) Morphine
528. (c) Liver Failure
529. (c) 5–6 years of age
530. (c) A nonphysiologic jaundice appears in the first 24–36 hours of life. The serum bilirubin levels more than 12 mg/dL in full-term infants are nonphysiologic.
531. (e) Cocaine does not usually produce withdrawal symptoms.
532. (d) Skin cancer
533. (e) Predisposition to skin cancer
534. (b) Niacin toxicity
535. (a) Niacin deficiency
536. (c) Radiographic findings are **not** specific. Bilateral pulmonary infiltrates are noted in chest x–rays.
537. (b) 2 weeks of age.
538. (d) 30 g/day
539. (b) 2 months of age
540. (b) At 6 weeks of age, infants cry about 3 hours per day.
541. (e) 115 kcal/kg/day
542. (d) 110 kcal/kg/day
543. (c) 100 kcal/kg/day
544. (c) 90–100 kcal/kg/day
545. (d) 20 g/day
546. (c) 15 g/day
547. (c) 12 g/day
548. (b) 8 g/day
549. (a) 6 g/day
550. (e) ADHD (15%); behavioral disorders (6–13%), learning disabilities (7.5%), mental retradation (2.5%), cerebral palsy (0.2–0.3%); hearing impairment (0.08–0.2%), and visual impairment (0.03–0.06%).
551. (c) 13–14 hours per day (i.e., 11 hours per night; 3 hours in 2 naps per day)
552. (c) 5 years of age
553. (e) Snoring represents 'S' letter of the BEARS
554. (a) 0–1 year; BEARS sleep screening is used from 2 to 18 years of age.
555. (a) Clozapine should not be used in patients with history of seizure activities. Clozapine also causes agranulocytosis and weight gain.
556. (a) Weight gain; antipsychotic medications can cause anticholinergic effects (e.g., dry mouth, constipation, blurred vision), seizures (especially clozapine), hypersensitivity reactions (e.g., liver, skin), parkinsonism, blood dyscrasias, and agranulocytosis.
557. (a) Risperidone
558. (d) Decreased appetite and possible weight loss; insomnia, tearfulness, and subnormal growth (height and weight) can occur in patients using stimulants that are used in ADHD and narcolepsy.
559. (b) HIV infection causes failure to thrive (FTT) between 3 to 6 months of age. Perinatal infections can cause FTT between 0–3 months of age.
560. (d) A delayed introduction of solid foods can cause FTT between 7–12 months. Other causes of FTT between 3–6 months are psychosocial, inborn errors of metabolism, and cystic fibrosis.

561. (e) Inborn errors of metabolism can cause FTT in patients between 0–6 months of age.
562. (a) Motor delays (e.g., difficulty in sitting, crawling, and walking)
563. (a) Language delays
564. (e) Academic underachievement occurs after 5 years of age (school years).
565. (a) Dysmorphisms; major organ dysfunctions (e.g., respiratory, GI tract, neurological) are also noted.
566. (e) Failure to interact with the environment; hearing and vision impairments should be ruled out.
567. (e) Academic underachievement; behavioral difficulties (e.g., ADHD, anxiety, conduct, and mood) are also noted after 5 years of age.
568. (a) MRI or CT–scan
569. (e) RBCs hemolysis
570. (c) **Effective osmolality**: 2 x Na + glucose ÷ 18
= 2 x 150 + 108/18
= 300 + 6 = 306

Osmolality: 2 x Na + glucose ÷ 18 + BUN ÷ 2.8
= 2 x 150 + 108 ÷ 18 + 30 ÷ 2.8
= 300 + 6 + 10.7
= 316.7

Urea is considered an "ineffective osmole" and hyperosmolality from urea does not cause a fluid shift except during hemolysis. The effective osmolality provides useful information regarding the distribution of fluid between ICF and ECF. **The normal plasma osmolality is between 285–295 mOsm/kg**.

571. (c) Serum sodium is less than 135.
572. (a) Sickle cell disease causes true hyperkalemia.
573. (e) Leukocytosis can cause both spurious hyperkalemia and hypokalemia. Answers (a), (b), (c), and (d) cause true hyperkalemia.
574. (d) Low birth weight infants and IUGR infants.
575. (a) Whole cow's milk has a high content of phosphate. The onset of symptoms occur within first 5–10 days of life but may be as late as 6 weeks of life.
576. (a) A healthy full term neonate develops hypocalcemia due the intake of high phosphate containing food in a relatively large volume and decreased renal phosphate excretion that is due to the physiologically low GFR and high tubular reabsorption of phosphate.
577. (e) DiGeorge syndrome causes hypocalcemia.
578. (a) Bones contain 50–60% of the total body magnesium.
579. (b) Milk alkali syndrome causes hypermagnesemia.
580. (a) Cystic fibrosis causes hypomagnesemia. Magnesium is present in large amounts in certain laxatives, enemas, cathartics, and antacids.
581. (a) Autosomal recessive; tumoral calcinosis is common in black adolescents and causes hyperphosphatemia and heterotopic calcifications.
582. (c) pH 7.35–7.45, PCO_2 35–35, PO_2 100, and HCO_3 20–28
583. (e) Hypoxia is the most common cause of metabolic acidosis in NICU.
584. (a) Lactic acidosis causes metabolic acidosis with an increased anion gap.
585. (a) Ammonium chloride intake causes metabolic acidosis with a normal anion gap.
586. (a) Gordon syndrome is autosomal recessive. This syndrome is pseudohypoaldosteronism type II.
587. (c) A normal anion gap is 8–16.
Anion gap = Na–Cl–HCO_3
588. (a) Emesis or nasogastric suction and use of diuretic are most common causes of metabolic alkalosis in children.
589. (c) PCO_2 increases by 7 mm Hg.
590. (a) Gitelman syndrome and Bartter syndrome have a normal BP with metabolic alkalosis. Both syndrome are autosomal recessive disorders.
591. (e) Urine 60%, insensible losses (e.g., skin, lungs) 35%, and stool 5%.

592. (d) The preferred ORS solution with sodium concentrations of 50 mEq/L or less is recommended to avoid hypernatremia. This solution is preferred for mild to moderate dehydrations. The ORS solutions with a low osmolality (i.e., less than 50 mEq/L sodium and low glucose) reduces the total stool volume.
593. (e) ORS therapy in a patient usually fails if administered in small amounts at short intervals. Vomiting may occur during the first 2 hours of administration of ORS. Vomiting usually reduces over time. The volume of ORS can be increased slowly with the increased intervals between feedings. An additional 10 ml/kg ORS should be given for each stool.
594. (a) Streptococcus pneumoniae
595. (c) Infants under 1000 grams should receive an increment of 10–15 mL/kg/day either half–or full–strength preterm formulas or breast milk. The daily volume intake should **not** exceed 20 mL/kg/day. A continuous feeding is also recommended.
596. (d) The feeding increment should **not** exceed 20mL/kg/day for infants over 1500 grams.
597. (e) Intellectual and developmental retardation are more common in full term and preterm LGA infants than that of babies with AGA (appropriate for gestational age).
598. (a) About 20% infants ate post-term. Most of them are term and preterm infants.
599. (e) Hemolysis (e.g.; ABO–and Rh–incompatibility)
600. (e) Hypoglycemia can cause pale appearance; other causes are asphyxia, sepsis, and shock.
601. (b) Liver
602. (a) Kidneys
603. (e) Hypertrophic cardiomyopathy resolves rapidly with cessation of corticosteroid therapy.
604. (a) Cardiac failure. Arrhythmia and sudden death may be the first clinical sings.
605. (b) Viral infection; answer (a), (b), (c), (d), and (e) also cause myocarditis.
606. (a) Sarcomas
607. (c) Chronic furosemide therapy causes 'contraction alkalosis' due to contraction of ECF volume.
608. (d) Viral infections (32% of cases), especially CMV infections (25% of cases) are the most common causes of death. Answer (a), (b), (c), and (e) also cause death.
609. (e) PTLD (post –transplant–lymphoproliferative disease) is associated with Epstein–Barr virus. The children can also develop skin cancers.
610. (b) Umbilical artery catheterization and renal artery thrombosis are the most common causes.
611. (a) In patients with ACD (anemia of chronic disease), the absolute reticulocyte counts are normal or low, leukocyte counts are increased, and serum ferritin levels are low or normal. A serum transferrin receptor (TfR) level is evaluated in iron–deficiency anemia but is decreased in marrow RBC hypoproliferation.
612. (e) Powdered milk or goat's milk causes megaloblastic anemia.
613. (a) Erythroid hyperplasia and initial bone marrow response are noted after 36–48 hours of iron therapy.
614. (e) **12–24 hours**: replacement of intracellular iron enzymes, subjective improvement, decreased irritability, and increased appetite.

    36–48 hours: initial bone marrow response and erythroid hyperplasia.

    48–72 hours: reticulocytosis (peaked at 5–7 days)

    4–30 days: increased hemoglobin levels

    1–3 months: repletion of stores
615. (d) 1%
616. (e) Observation. In hereditary spherocytosis, if the hemoglobin level is more than 10 g/dL and reticulocyte count is less than 10%, no therapy is indicated.
617. (d) Splenectomy. In hereditary spherocytosis, if the hemoglobin level is less than 10 g/dL and reticulocyte count is more than 10% or massive enlargement of spleen, splenectomy is indicated preferably after 6 years of age.
618. (e) Zinc deficiency
619. (e) A symptomatic gallstone formation is common in adolescent and older children.
620. (e) Parvovirus anti–B 19 IgM is the best diagnostic study. This patient develops severe aplastic anemia secondary to a parvovirus B 19 infection.
621. (e) Priaprism can occur in patients with a sickle cell disease secondary to pooling of blood in the corpora cavernosa.
622. (b) Proteinuria
623. (e) Acute sickle dactylitis

624. (d) Hemoglobin electrophoresis confirms the diagnosis of sickle cell disease.
625. (e) Transcranial doppler (TCD)
626. (e) Blood transfusions are indicated to maintain Hb S below 30% in patients with Hb SS disease when there is an increased blood flow velocity in the cerebral arteries (i.e., more than 200 cm/second)
627. (d) A clinically stable febrile sickle cell child older than 18 months of age can be treated as an out patient if the physician and parents agree that the child is really well. A CBC, blood culture urine culture and chest x–ray should be obtained, and intravenous ceftriaxone should be administered as soon as possible.
628. (e) Bone marrow transplantation can cure alpha–thalassemia patients with hydrops. The deletion of all four alpha–globin genes causes severe anemia and hydrops in the fetus.
629. (e) Exchange transfusion should be performed immediately.
630. (a) All of the following are indications of P–RBC transfusion in infants less than 4 months of age:
    Hemoglobin less than 10 g/dL and major surgery;
    hemoglobin less than 8 g/dL and symptomatic infants;
    hemoglobin less than 13 g/dL and severe cardiac disease;
    hemoglobin less than 10 g/dL and moderate lung disease;
    hemoglobin less than 13 g/dL and severe lung disease;
631. (e) All of the following are indications of P–RBCs transfusion in children and adolescents:
    Acute blood loss (more than 25% of total blood volume);
    hemoglobin less than 8 g/dL and marrow failure;
    hemoglobin less than 8 g/dL and symptomatic chronic anemia;
    hemoglobin less than 13 g/dL and severe cardiopulmonary disease;
    hemoglobin less than 8 g/dL in perioperative period.
632. (a) Hematuria is managed by bed rest and 1.5 times maintenance fluid; if hematuria persists after 1–2 days, 20 units/kg F VIII should be given; if hematuria still persists, prednisone is used in HIV–negative patients. F VIII concentrate infusion is also indicated in large subcutaneous hematomas, life–threatening hemorrhages (e.g., CNS, lungs, GI tracts, abdomen), and iliopsoas bleeding.
633. (e) F VIII concentrate is used if other managements fail.
634. (e) VWD (von Willebrand disease) should be ruled out.
635. (a) The patient with type 1 VWD has a prolonged PTT and bleeding time.
636. (c) The patient with type 2B VWD has low platelet counts.
637. (a) Type 1 is the most common type of VWD.
638. (c) Vitamin K. Rat poisoning (superwarfarin) causes vitamin K deficiency.
639. (a) High false–positive (i.e., high sensitivity and low specificity). This problem is worst in preterm infants. Genotyping for CYP 21 improves specificity.
640. (c) Between 4–12 months of age
641. (e) 17–hydroxyprogesterone levels before and 30 or 60 minutes after an IV bolus of cosyntropin (0.125–0.25 mg) (ACTH 1–24) confirm the diagnosis of 21–hydroxylase deficiency (CAH)
642. (b) 11–beta–hydroxylase deficiency causes hypertension in about 66% of cases.
643. (e) Elevated levels of deoxycorticosterone causes high BP.
644. (c) Exogenous administration of glucocorticoid hormones (e.g., high doses are used to treat lymphoproliferative disorders)
645. (b) Functioning adrenocortical tumor, mostly malignant carcinomas, and occasionally bening adenomas.
646. (e) Cushing disease is due to an excessive secretion of ACTH by a pituitary adenoma resulting in bilateral adrenal hyperplasias. Pituitary adenomas may be too small (microadenomas).
647. (a) Autosomal dominant; other features of Carney complex are cutaneous myxomas, thyroid tumor, and testicular tumor.
648. (e) Clinical follow up and periodic reimaging are indicated. The surgical removal is indicated if the adrenal mass is 4 cm or more in diameter. The diagnosis is adrenal incidentaloma.
649. (d) Congenital adrenal hyperplasia does not cause adrenal calcifications. Other causes of adrenal calcifications are hemorrhage into adrenal glands at or immediately after birth, pheochromocytomas, cortical carcinomas, and cysts of adrenal glands.
650. (a) Hemorrhage into adrenal glands at or immediately after birth

651. (a) Noonan syndrome occurs in both males and females. Acute lymphoblastic leukemia and myelomoncytic leukemia can occur in Noonan syndrome.
652. (e) Direct DNA analysis looking for CGG repeat sequences make the definitive diagnosis of Fragile X–syndrome.
653. (b) About 25% larger than normal for age.
654. (e) Syndrome of aromatase excess is an autosomal dominant condition. Excess aromatase activity was noted in skin fibroblasts and transformed lymphocytes.
655. (e) Human growth hormone therapy causes benign, self–limited, and transient gynecomastia.
656. (d) Avoid exposure of exogenous estrogens; the boy's mother has been using a topical estrogen cream. The exposure to a small amount of estrogen by inhalation, ingestion, or percutaneous absorption can cause gynecomastia.
657. (b) Increased levels of estrogens cause gynecomastia.
658. (e) The patients with ciguatera fish poisoning appear with a biphasic illness. **The first phase** symptoms include vomiting, diarrhea, and abdominal pain. **The second phase** symptoms include rash, itching, myalgias, and extremity or circumoral dysesthesias (i.e., reversal of hot and cold sensations).
659. (a) Saxitoxin
660. (a) Supportive care; mechanical ventilation therapy is indicated in patients with a respiratory failure from diaphragmatic paralysis. Intravenous calcium, mannitol, and gabapentin may be used in ciguatera fish poisoning. Cimetidine or ranitdine may be used in severe cases of scombroid fish poisoning. Other types of seafood poisoning require supportive care and intravenous fluids.
661. (d) Sodium nitrite and sodium bicarbonate are used in patients with cyanide poisoning. Nerve agents (e.g., tabun, sarin, soman, VX) can produce these symptoms and signs.
662. (e) BAL is used in patients with lewisite poisoning. Cyanide toxicity can produce these symptoms and signs.
663 (e) Chloride toxicity also cause bronchospasms and is treated with supportive care.
664. (e) Pulmonary edema occurs hours later; bronchospasms occur early. Only symptomatic care is indicated.
665. (d) Seizure activity occurs in cyanide and nerve agents (e.g., VX, sarin, soman, tabun) poisoning. Lewisite poisoning is treated with BAL. Mustard poisoning is treated with symptomatic care.
666. (c) Hydronephrotic kidney or multicystic dysplastic kidney
667. (e) Posterior urethra (above the external sphincter) (47% of cases)
668. (e) Urethra (at the bladder neck) (35% of cases) and urethrovaginal septum (35% of cases).
669. (a) UTI or epididymitis
670. (d) Urinary incontinence with the exception of the ectopic ureter entering the bladder neck.
671. (d) Musculokeletal (e.g., limb abnormalities, scoliosis) (more than 50% of cases).
672. (c) Oligohydramnios and pulmonary hypoplasia are frequently noted in the perinatal period. The triad syndrome or Eagle Barrett syndrome or prune–belly syndrome includes answers (a), (b), and (e).
673. (d) The tip of the catheter is coiled in the posterior urethra.
    (d) Remove the catheter and reinsert a new catheter (No. 5 or 8 French)
674. (a) VCUG (voiding cystourethrogram) or perineal ultrasonography
675. (e) Endoscopic transurethral ablation of the posterior urethral valve
676. (a) Vesicostomy is performed because the patient may have secondary ureteral obstruction, irreversible kidney damage or renal dysplasia.
677. (c) 15 to 20 times per day
678. (c) The average bladder capacity in ounces is equal to the **age (in years) plus 2**. This formula is useful up to 14 years of age. The answer is 6 ounces.
679. (e) Noctural enuresis is diagnosed at 5 years of age.
680. (b) 44% of cases
681. (d) 77% of cases
682. (b) The pathogenesis of primary enuresis also includes sleep apnea (i.e., snoring) is due to enlarged adenoids; enuretic children are deep sleepers (i.e., difficult to arouse); chromosome 12 and 13; UTI or obstructive uropathy is an uncommon cause of enuresis; psychologic factors are important in secondary enuresis.
683. (e) A rectal examination after voiding is useful to diagnose a chronically distended bladder. The neurologic and spinal abnormalities should be ruled out. The bacteriuria and glycosuria should be rules out.

684. (e) No further investigations are indicated. A renal ultrasonography may be needed in older children or in children who did not respond to therapy.
685. (d) Adenoidectomy can cure primary enuresis in children with enlarged adenoids.
686. (d) Holding urine for a longer period in day time is not helpful. Conditioning therapy involves auditory or vibratory alarm system is useful in older children. Some children respond to self–hypnosis.
687. (a) The preferred therapy is desmopressin acetate tablets at bedtime. Desmopressin nasal sprays can cause hyponatremia and are not effective in children with runny nose.
688. (e) Imipramine
689. (d) Low grade astrocytoma followed by an ependymoma. These tumors arise within the spinal cord, usually in the cervical region.
690. (a) Lateral displacement of the medial cathi with dystopia canthorum (99% of cases); answers (b), (c), (d), and (e) are also clinical feature of Waardenburg syndrome.
691. (e) Hearing test
692. (b) Autosomal dominant
693. (e) Mental retardation (70% of cases); other associated anomalies are answers (a), (b), (c), (d), muscular hypotonia, nystagmus, and cardiac defects.
694. (c) Kidney disorder
695. (b) IgA dermatosis (chronic bullous dermatosis of childhood)
696. (b) Alkalization and good urinary output can prevent crystal formations within the renal parenchyma. Sulfapyridine is used in linear IgA dermatosis.
697. (e) Gluten–sensitive enteropathy (75–90% of cases)
698. (d) Sulfapyridine or dapsone (oral)
699. (b) T. mentagrophytes
700. (a) Serial plaster casts are usually changed every 1–2 weeks. A complete correction should be achieved by 3 months of age.
701. (e) The preferred surgical treatment is a complete soft tissue release. The surgery is performed between 6–12 months of age.
702. (a) In prerenal ARF, BUN/creatinine ratio is more than 20.
703. (e) Urine osmolality is less than 350 mOsm.
704. (c) Hypoglycemia; other side effects are congestive heart failure and loss of concentration or memory.
705. (a) Verapamil causes hypotension, bradycardia, and cardiac arrest in infants younger than 1 year of age.
706. (e) Adenosine
707. (d) Synchronized DC cardioversion
708. (b) JLNS is associated with congenital deafness. JLNS is an autosomal recessive disorder. It is an uncommon form of long Q–T syndrome.
709. (c) Hepatoblastoma; majority of hepatic tumors (50–60% of cases) in children are malignant.
710. (e) Elevated alpha–fetoprotein, anemia, thrombocytosis, negative hepatitis B and C, usually normal liver enzymes and bilirubins are noted in patients with hepatoblastomas.
711. (a) 3 months of age
712. (e) Occasionally, a pineal area tumor is noted in patients with retinoblastoma.
713. (b) About 6 years of age
714. (c) Chromosome 13q; the newborn has retinoblastoma. The retinoblastoma gene (RBI) is located on chromosome 13q.
715. (e) Opthalmologic examination under general anesthesia
716. (a) Local control of intraocular tumor and effective chemotherapy. However, the treatment is determined by the size and location of the tumor.
717. (a) A 10–year–old girl with one episode of **afebrile** UTI, may not need VCUG study. The indications of VCUG are the following: any male with UTI, any child with a febrile UTI, all children younger than 5 years of age with UTI, school–aged girls who had two or more UTIs.
718. (c) The incidence of reflux (IOR) is identical.
719. (c) Before the child is discharged from the hospital.
720. (a) In boys, a contrast VCUG is recommended to determine the radiographic definition of the urethra.

721. (d) The DMSA renal scan is the preferred study to determine renal scars.
722. (e) DMSA renal scan is the preferred study; renal CT–scan is a good study to determine acute pyelonephritis. Renal ultrasonography can determine the acute pyelonephritis (30–60% of cases) by demonstrating an enlarged kidney.
723. (e) Urethral calibers are **normal** in girls with UTIs.
724. (b) DMSA renal scan results reveal parenchymal damage in 50% of children with a febrile UTI, irrespective of age. The photopenic areas in renal scans indicate acute pyelonephritis and renal scarring.
725. (e) Epstein–Barr virus; patients with a nasopharyngeal carcinoma appears with cervical lymphadenopathy, epistaxis, trismus, and may be cranial nerve involvements.
726. (b) Poor perineal hygiene
727. (e) E. coli
728. (c) Sitz baths with a mild soap are useful in nonspecific vulvovaginitis.
729. (c) Amoxicillin or cephalosporin is the preferred therapy.
730. (e) Gardnerella vaginalis
731. (d) Wadden toilet paper; a foreign body in the vagina causes foul–smelling discharge and vaginal bleeding.
732. (b) 8½ years of age
733. (e) Self–examination of the breast can detect the breast anomaly.
734. (b) Lie down supine and put a pillow under the right shoulder during the right breast examination and put a pillow under the left shoulder during the left breast examination. Breast examination can be performed during bathing and by looking through the mirror.
735. (e) Fibroadenomas (54% of cases)
736. (e) Diphenhydramine usually controls the clusters of attacks in patients with a benign paroxysmal vertigo.
737. (e) Reassurance; masturbation or self–stimulation behavior may occur in girls between 2 months and 3 years of age. The cause is unknown in most cases. However, a sexual abuse or abnormalities of the perineum should be ruled out. This activity will subside by 3 years of age and no therapy is indicated.
738. (e) Reassurance; a visual acuity of 20/40 is normal for 3–year–old children.
739. (e) Reassurance; a visual acuity of 20/30 is normal for 4–year–old children.
740. (b) By 5–6 years of age, most children have a 20/20 vision.
741. (d) Lead–based paint
742. (a) A child with a venous blood lead level **45 micrograms/dL** or more should receive chelation therapy. AAP recommends to repeat the venous blood lead level by 1 week when the lead levels are between 20–44 micrograms/dL.
743. (c) DMSA is a preferred therapy in patients with a blood lead levels are **between 44 and 70 micrograms/dL**.
744. (d) EDTA and DMSA, or EDTA and BAL are used in patients with venous blood lead levels **70 micrograms/dL and above without encephalopathy**.
745. (a) EDTA and BAL are used in patients with **lead encephalopathy** when the blood lead levels are **70 micrograms/dL and above**.
746. (a) Repeat within 2 months in patients with venous blood lead levels are between 15–19 micrograms/dL. AAP recommends to repeat the blood test by 1 month.
747. (b) Department of health referral is **not** required when the venous blood lead level is **less than 15 micrograms/dL** (i.e., 10–14 micrograms/dL). AAP recommends to repeat the blood test by 1 month.
748. (b) Autosomal dominant
749. (e) **Spectrin or ankyrin** is a major component of cytoskeleton of RBCs.
750. (e) After 5–6 years of age
751. (e) Thrombocytosis
752. (e) No treatment is needed; thrombocytosis resolves spontaneously.
753. (b) Oral prophylactic penicillin V should be given **after** splenectomy. A child under 5 years of age should receive oral prophylactic penicillin 125 mg twice daily. The dose of penicillin is 250 mg twice daily from 5 years to adulthood.
754. (e) Osteoid osteoma
755. (e) Osteosarcoma
756. (a) TP53 gene mutation is noted in a familial cancer syndrome (e.g., Li–Fraumeni syndrome).

757. (e) Osteosarcoma
758. (b) Osteosarcoma is produced by irradiation therapy for Ewing sarcoma, brain tumor, and other malignancies.
759. (e) High risk of osteosarcoma
760. (e) Ewing sarcoma has a characteristic onion–skinning (i.e., a lytic bone lesion with periosteal reaction) appearance in x–ray studies.
761. (a) Osteosarcoma has a characteristic sunburst appearance in x–ray studies.
762. (b) Total parathyroidectomy is indicated in most newborns with a severe hypercalcemia secondary to hyperparathyroidism.
763. (e) Elevated PTHrP levels cause hypercalcemia in malignancy. Serum PTH levels are rarely elevated.
764. (c) 28 weeks of gestational age
765. (c) 32 weeks of gestational age
766. (d) 37 weeks of gestational age
767. (d) 38 weeks of gestational age
768. (d) 29–32 weeks of gestational age
769. (c) 20/150
770. (c) X–linked recessive
771. (e) The usual serum level of CK is between 15,000–35,000 IU/L (normal is less than 160 IU/L). The serum CK levels may be lower in terminal stages of the disease because less muscle mass is available to degenerate.
772. (a) Muscle biopsy reveals deficient or defective dystrophin, or DNA analysis of the peripheral blood is diagnostic.
773. (c) Before 3 months of age
774. (c) No later than 6 months of age
775. (d) 6 months of age
776. (c) Audiologic assessment
777. (b) **In conductive hearing loss**, the bone conduction results are better than that of air conduction. This is called air–bone gap. The child has problems in outer and/or middle ear (e.g., cerumen, otitis media, perforated tympanic membrane).
778. (e) **In normal ear**, the air conduction and bone conduction results are about the same but air conduction is slightly better than bone conduction. Air–bone gap is absent.
779. (e) In sensorineural hearing loss (e.g., CMV, toxoplasmosis, herpes), air conduction and bone conduction are abnormal.
780. (b) Eosinophils are found in erythema toxicum neonatorum.
781. (e) Polymorphonuclear leukocytes are found in benign pustular melanosis.
782. (e) Nursemaid's elbow is treated by rotating the hand and forearm to a supinated position with pressure over the radial head.
783. (b) ASD (atrial septal defect)
784. (a) Autosomal recessive
785. (c) Normal serum C3 levels
    (b) IgA nephropathy
    (c) Most children will not develop a chronic renal disease until adulthood.
786. (e) A careful long–term follow–up is indicated because 20–30% of children with IgA nephropathy develop a progressive renal dysfunction 15–20 years after the onset of the disease.
787. (e) Acquired bilateral sensorineural hearing losses
788. (a) Asymptomatic microscopic hematuria
789. (e) Normal cardiac anatomy because all the parameters are normal. Please remember, the all normal values. This newborn has the x–ray findings of TTNB (transient tachypnea of the newborn).
790. (e) Left superior vena cava (40% of case)
791. (a) Infracardiac (95–100% of cases)
792. (e) Surgical correction of TAPVR (obstructive type)
793. (a) Prostaglandin E_1 infusions are indicated in patients with TAPVR (nonobstructive type) before the surgical correction.
794. (a) Asthma is an obstructive lung disease.
795. (a) Pulmonary fibrosis is a restrictive lung disease. Restrictive lung disease also includes pneumothorax, pulmonary collapse, diaphragmatic hernia, persistent pulmonary hypertension due to collapse, pulmonary interstial emphysema, and pulmonary tuberculosis.

796. (a) Laryngomalacia causes variable extrathoracic obstruction.
797. (c) Frontal sinuses appear at 7–8 years of age and are not completely developed until adolescence.
798. (a) Only ethmoidal sinuses are pneumatized at birth.
799. (e) Amoxicillin; answers (a), (b), (c), or (d) is used in patients who are allergic to penicillin.
800. (e) Intravenous ceftriaxone is started initially in patients with frontal sinusitis because it can progress to a serious intracranial complication. However, the treatment is completed with an oral antibiotic therapy.
801. (e) Cefotaxime (or ceftriaxone) and vancomycin should be started immediately.
802. (b) 10–30% of cases
803. (b) Intravenous cefuroxime (75–150 mg/kg/day)
804. (b) Oral amoxicillin
805. (d) Bilateral renal masses
806. (e) Liver diseases (45% of cases) are present in patient with ARPKD.
807. (e) EEG is not indicated; initial evaluation also includes blood pressure and serum glucose monitoring.
808. (c) Cholestatic jaundice does not cause seizure activities.
809. (e) Herpes simplex virus encephalitis usually involves temporal lobes.
810. (d) Rifampin
811. (e) Central corneal opacity (leukoma); answers (a), (b), (c), and (d) are associated abnormalities in a patient with Peter anomaly.
812. (d) Esodeviations (i.e., inward deviation or convergent) are the most common type (over 50% of cases).
813. (e) Amblyopia (i.e., secondary visual loss) occurs in 30–50% of cases with strabismus.
814. (e) Pneumococcal meningitis; age appropriate vaccination is recommended for children.
815. (d) S. aureus, phage group 2, and type 71
816. (c) S. aureus
817. (e) Shoulder
818. (e) Surgical repair is indicated when hydroceles persisted beyond 12–18 months of age and this persisted hydrocele is usually communicating.
819. (a) Most hydroceles resolve by 12 months of age. Most hydroceles are noncommunicating.
820. (a) Marrow failure (60% of cases); other patients appear with intermittent or chronic anemia, thrombocytopenia, leukopenia, and chronic hemolysis.
821. (a) Flow cytometry is more sensitive than classic RBC lysis tests.
822. (c) Infection
823. (e) CMV (cytomegalovirus) infections are the most common.
824. (a) Williams syndrome
825. (e) Immediately before a dose but at minimum 4 hours after the last dose
826. (e) Hypokalemia and hypercalcemia increase digitalis toxicities.
827. (e) A new rhythm disturbance is noted. The normal blood levels of digoxin are 2–4 ng/dL in infants and 1–2 ng/dL in older children.
828. (c) IVIG increases the platelet counts in ITP (idiopathic thrombocytopenic purpura).
829. (e) Shiga–toxin producing E. coli 0157:H7 (80% of cases) causes acute enteritis and diarrhea in HUS.
830. (e) Doppler flow studies of the IVC (inferior vena cava) and renal vein confirms the diagnosis of renal vein thrombosis. Ultrasonography reveals enlarged kidney. Renal scan reveals little or no renal functions. Contrast studies cause more vascular damages.
831. (c) Children with iron deficiency anemia may be obese or may be underweight.
832. (d) From 4 months of age
833. (b) 0.8 mg/day
834. (c) 8–10 mg/day; the absorption of dietary iron is about 10%.
835. (a) Ebstein anomaly of the tricuspid valve is treated with either aortopulmonary shunt alone or by surgical patch closure of tricuspid valve, atrial septectomy, and aortopulmonary shunt (Starnes procedure).
836. (e) Arterial blood gas

837. (e) Endotracheal intubation causes acquired laryngotracheal stenosis in 90% of cases.
838. (a) Bleeding
839. (a) Vitamin K; warfarin should be stopped.
840. (a) Cyclophosphamide and ifosfamide cause hemorrhagic cystitis and alopecia.
841. (e) Vincristine causes peripheral neuropathy, jaw pain, alopecia, and constipation.
842. (c) Maternal diabetes
843. (e) Deletion of chromosome 22q
844. (b) Renal anomalies (35% of cases), velopharyngeal insufficiency (32% of cases), truncus arteriosus (25% of cases), cleft palate (9% of cases) and aplasia of thymus (1% of cases)
845. (a) In Gradenigo syndrome, otitis media causes mastoiditis, petrositis, edema of the dura, and pressure on the 6th cranial nerve.
846. (e) Normal tympanic membrane
847. (e) Normal tympanic membrane. A red tympanic membrane may be noted after crying, sneezing, or nose–blowing without otitis media.
848. (d) The usual mode of inheritance in patient with familial hypophosphatemia (x–linked hypophosphatemia, vitamin D–resistant rickets) is x–linked dominant.
849. (b) Diarrhea
850. (c) 6–12 months
851. (e) In 90% of uncircumcised boys, the prepuce is normally retractable by 3 years of age.
852. (b) The application of corticosteroid cream to the foreskin three times per day for 1 month can releases the phimotic ring about 66% of cases.
853. (a) A circumcision is recommended for boys who have a phimosis beyond 10 years of age.
854. (b) Phimosis
855. (a) Affected children have low–birth–weight and sparse subcutaneous tissue.
856. (b) 10–40 mg/dL is normal for children 3 months of age and above.
857. (c) 120 mg/dL. The CSF protein falls to the normal childhood ranges (10-40 mg/dL) by 3 months of age.
858. (e) Insulin does not cross the placenta and does not cause neural tube defects. Primidone also causes neural tube defects.
859. (b) 3–4%
860. (b) 10%
861. (e) Acanthocytes
862. (c) Chromosome 11q
863. (e) Vancomycin and cefotaxime, or vancomycin and ceftriaxone are used because 25–50% of S. pneumoniae are resistant to penicillin and up to 25% of S. pneumoniae are resistant to cefotaxime and ceftriaxone.
864. (e) Chloramphenicol
865. (a) Ceftazidime and an aminoglycoside
866. (c) H. influenzae type b
867. (a) Four to five million children and adolescents in USA work for pay.
868. (a) History
869. (e) Refer to a pediatric environmental specialty unit
870. (e) Fusobacterium necrophorum (anaerobic oropharyngeal bacteria)
871. (a) Lemierre disease is treated with intravenous penicillin or cefoxitin; surgical drainage is indicated in patients with extrapulmonary metastatic abscess.
872. (c) Aspirin should be avoided as an antipyretic in patients with influenzae or chicken pox because aspirin can cause Reye syndrome.
873. (e) Reye syndrome
874. (d) Biliary sludge
875. (d) Erythromycin estolate and chlorpromazine can cause cholestatic hepatitis.
876. (e) A rapid decrease in liver size without clinical improvement is a dangerous sign.

877. (b) Hypoproteinemic edema; answers (a), (c), (d), and (e) can cause an elevated concentration of sweat chloride like cystic fibrosis.
878. (a) Acute or persistent respiratory symptoms are noted in 50.5% of cases.
879. (c) Early diagnosis of CF does not improve pulmonary outcome. The newborn screening test should be confirmed by sweat–chloride or DNA testing.
880. (e) Hypoxia or ischemia is caused by perinatal asphyxia.
881. (a) Cryptorchidism (80% of cases); Mullerian duct structures (e.g., uterus, Fallopian tubes) should be removed surgically without damaging the male genital organs.
882. (e) An elevated WBC count does not cause xanthochromic CSF.
883. (a) A transverse injury at the C1–C2 levels cause respiratory arrest and death without ventilatory support.
884. (c) This child has a characteristic presentation of injuries (i.e., fracture, dislocations) at the C5–C6 levels that is the most common cause of acute spinal cord injuries.
885. (e) S. pneumoniae infection does not cause Bell palsy.
886. (a) CSF protein is elevated to more than twice the upper limit of normal, glucose level is normal, and absence of pleocytosis (i.e., less than 10 WBC counts).
887. (d) Hypertension may be noted in Bell palsy.
888. (e) Pheochromocytoma in the urinary bladder wall causes gross hematuria.
889. (e) Always isosexual
890. (e) The child may have an associated growth hormone and/or thyroid hormone deficiency.
891. (e) In postpericardiotomy syndrome, patients may develop pericardial effusion and cardiac tamponade.
892. (a) Salicylates or indomethacin and bed rest are indicated. Sometimes, steroid therapy or pericardiocentesis is required.
893. (e) Pneumomediastinum
894. (e) Plain chest x–ray
895. (e) Petechial hemorrhage are noted in more than 90% of cases.
896. (a) Severe pulmonary vascular disease
897. (b) Hypertension
898. (e) Cardiomyopathies
899. (e) Congenital heart lesions (75% of cases)
900. (d) Lymphocytic thyroiditis
901. (d) Diarrhea
902. (c) 11½ years of age
903. (c) 13½ years of age
904. (c) 16 years of age
905. (c) 18 years of age
906. (d) Menarche occurs approximately 1 year after the growth spurt begins.
907. (d) X–linked dominant
908. (d) 4 mL/kg of 10% glucose
909. (b) 2 mL/kg of 10% glucose
910. (b) 1–3 hours of age
911. (b) Autosomal dominant
912. (a) Microtia or anotia, and other craniofacial anomalies.
913. (e) Erythromycin
914. (c) Pseudomonas (74% of cases)
915. (d) Metronidazole
916. (e) Pleconaril
917. (a) Smoking decreases serum creatinine, albumin, globulin (in females), and uric acid (in males).
918. (c) Nicotine patch
919. (e) Physical dependence on nicotine can occur in adolescents using SLT. Therefore, SLT should not be used.

920. (e) Malignancy can occur in lesions. The lesions are located in the mandibular mucobuccal fold.
921. (b) Bronchial asthma
922. (e) High eosinophil counts (i.e., more than 450 eosinophils per microliter of blood)
923. (e) RAST
924. (a) Skin test is more sensitive than RAST.
925. (e) Leukocyte counts are between 10–500 cells/mm^3, mostly lymphocytes (initially polymorphs may be presents), glucose is usually less than 40 mg/dL but rarely less than 20 mg/dL, and protein levels are between 400–5,000 mg/dL.
926. (e) The newborn should be with the mother.
927. (b) The INH treatment of the newborn is very effective. Therefore, a separation of the mother and infant is no longer mandatory if the mother is asymptomatic.
928. (d) INH, rifampin, and ethambutol are preferred therapies; aminoglycosides and ethambutol are teratogenic; the use of pyrazinamide may not be safe during pregnancy.
929. (e) Azithromycin, erythromycin, or clarithromycin is used in Mycoplasma pneumonia. Coryza is usually present in viral infections. Pneumonia in a school–aged children, especially if cough is a persistent finding, is always indicate Mycoplasma pneumonia.
930. (d) Deafness, cerebellar ataxia, brainstem syndrome and acute demyelinating encephalitis are also neurologic complications of Mycoplasma pneumonia.
931. (b) C. trachomatis and C. psittaci have a MOMP but that is absent in Chlamydia pneumoniae.
932. (d) Lupus cerebritis
933. (a) Sjogren syndrome is not associated with ANA. Other conditions that are associated with ANA are SLE, drug–induced lupus, vasculitis syndrome, juvenile dermatomyositis, and juvenile arthritis.
934. (b) Epididymitis
935. (c) Gonococcus urethritis has a characteristic yellow–green purulent discharge.
936. (d) Chlamydia urethritis has a characteristic white mucopurulent urethral discharge.
937. (d) 150 kcal/kg/day (ideal weight)
938. (d) 12 months of age
939. (b) 15 months of age
940. (c) 18 months of age
941. (a) 2 years of age
942. (a) A 2–year–old uses 2 words in a sentence. Between 2 to 5 years of age, the number of words in a typical sentence equals the child's age (i.e., a 4–year–old uses 4 words in a sentence).
943. (b) 2½ years of age
944. (c) 4 years of age
945. (c) 5 years of age
946. (b) 3 years of age
947. (e) Chronic constipation
948. (e) Micturition deferral
949. (a) None; an adequately breast–fed or formula–fed infant does not need an additional water for the first several weeks to months of life because breast milk and formulas contain at least 90% water.
950. (a) The cow milk is **not** recommended before 12 months of age.
951. (b) 75–100 mL/kg/day
952. (a) The serum pH is normal in patients with a neonatal nonketotic hyperglycinemia (NKH). The answer (e) is diagnostic of NKH. The glycine concentration in CSF (15–30 times normal) is higher than that in plasma (up to 8 times normal).
953. (a) Neonatal NKH is the most common form of NKH.
954. (d) Phosphatidylcholine (65% of the total)
955. (e) Acneform lesions
956. (d) Testicular atrophy
957. (a) Breast atrophy
958. (a) Depression

959. (a) Hypertension
960. (e) About 80% of patients with atopic dermatitis develop allergic rhinitis and/or asthma.
961. (a) Perianal streptococcal disease or perianal dermatitis
962. (c) The rheumatogenic potential is **not** solely dependent on the serotypes. 'Skin' strains (e.g., M types 49, 55, 57, and 60) and 'pharyngeal' strain (e.g., M type 12) are nephritogenic.
963. (c) Actinomycosis contains sulfur granules. Penicillin is the preferred agent for an oral therapy.
964. (d) Vestibular or auditory portion of the 8th cranial nerve.
965. (a) Hepatitis
966. (d) Ethambutol can cause optic neuritis and red–green color blindness.
967. (d) Amphotericin B is used for candida infections.
968. (b) Renal function
969. (c) Prematurity and prolonged ventilatory support are also risk factors for neonatal candidiasis.
970. (e) The systemic therapy with fluconazole or itraconazole is usually needed; topical therapy may be useful.
971. (d) Acyclovir therapy is indicated for neonatal herpes infections.
972. (e) Neutropenia; ganciclovir can prevent hearing loss and improves or maintains a normal hearing at 6 months of age and may prevent hearing loss at 1 year of age or older.
973. (e) All people do not have an equal access to health care.
974. (d) A physician can oppose if the risk to the pregnant woman is negligible, the procedure is effective, and the harm to the fetus is permanent and substantial.
975. (e) The physician should treat the patient, should not notify the parents, but should notify the appropriate health authorities.
976. (c) Physician should act on a child's 'best interest'.
977. (d) Stop vitamin A; this child has a clinical manifestation of chronic vitamin A toxicity.
978. (e) Anorexia and lassitude are also the early clinical manifestations of niacin deficiency. Dermatitis, diarrhea, and dementia occur after a long period of deficiency.
979. (a) Carpopedal spasm is usually not present in a newborn with hypocalcemia.
980. (e) Intravenous calcium is given in a patient with hypocalcemia tetany.
981. (a) Temperature of the warm water should be about 42°C. Prazocin or phenoxybenzamine is useful because of their vasodilating effects. Anticoagulants (e.g., heparin, dextran) and surgical sympathectomy may or may not be useful. Oxygen is useful in high altitudes.
982. (c) 70 mL/hour. The formula is the first 1 to 10 kg = 4 mL/kg/hour, next 10 to 20 kg = 2 mL/kg/hour, after 20 kg = 1 mL/kg/hour. Therefore, a 30 kg child should receive (4x10) + (2x10) + (1x10) = 40+20+10 = 70 mL/hour.
983. (c) 8–10 mL/kg/hour; for a major surgery (e.g., thoracic or abdominal), there is a large amount of evaporative fluid loss.
984. (b) 3–5 mL/kg/hour; for a minor surgery (e.g., pyloromyotomy), there a small amount of evaporative fluid loss.
985. (c) 0.6–0.7 mL/kg/hour
986. (c) 2–3 mL/kg/hour
987. (b) Gastric ulcer is common in newborns. This is due to a stress.
988. (b) 2–7 days of age; factors II, VII, IX, and X return to normal by 7–10 of age.
989. (d) Vitamin K is used initially and FFP is used when bleeding is not controlled with vitamin K. The mother was receiving either phenobarbital or phenytoin.
990. (c) Hypergammaglobulinemia is an associated finding in Muckle-Wells syndrome.
991. (e) A variety of proteins derived from insects become airbone and induce IgE–mediated respiratory responses.
992. (e) Vasoactive materials (e.g., histamine, acetylcholine, kinins)
993. (c) Urticaria occurs in localized skin reaction.
994. (e) Avoidance of the insect
995. (e) The use of an oral antibiotic is not indicated unless there is a secondary infection. The venom has some antibacterial actions.
996. (e) Ptyalin is absent in cockroaches.
997. (b) Vancomycin infusion can cause **red man syndrome** due to release of a nonspecific histamine. This syndrome can be prevented by administration of H_1–blocker before the infusion and slowing the infusion of vancomycin.

998. (c) Epoxide hydrolase is needed for the metabolism of arene oxide intermediates produced during the metabolism of anticonvulsant medications in liver.

999. (b) Beta toxin causes hemorrhagic necrosis of the small intestine.

1000. (c) Alpha toxin causes hemolysis, platelet lysis, increased capillary permeability, and hepatotoxicity. Epsilon toxin damages vascular endothelial cells resulting in increased vascular permeability, edema, and organ dysfunction. Iota toxin causes dermal edema.

1001. (e) C. perfringens (type C strains produce beta toxin) causes enteritis necroticans or pigbel.

1002. (e) Ultrasonography or fluoroscopic examination reveals elevation of the paralyzed diaphragm and seesaw movements of both sides of diaphragm during respiration.

1003. (e) Phenobarbital

1004. (e) A 5–minute Apgar scores are 0–3 in severely asphyxiated newborns.

1005. (d) A contrast CT scan or rapid diffusion MRI is preferred diagnostic study for cerebral infarctions.

1006. (a) Hypertension. Liddle syndrome is autosomal dominant. This syndrome has features of hyperaldosteronism but low serum level of aldosterone. This syndrome is due to activating mutation of the sodium channel in distal nephrons.

1007. (b) 6–12 months of age

1008. (d) Carbohydrate 13 grams/100 kcal

1009. (b) Fat 4.4 grams/100 kcal

1010. (b) 71 kcal/dL (maximum) and 63 kcal/dL (minimum)