

# PEDIATRICS

## *Normal Development*

### *Organ Systems*

Immunologic Disorders  
Diseases of the Blood and Blood-forming Organs  
Mental Disorders  
Diseases of the Nervous System and Special Senses  
Cardiovascular Disorders  
Diseases of the Respiratory System  
Nutritional and Digestive Disorders  
Gynecologic Disorders  
Renal, Urinary, and Male Reproductive System  
Disorders of Pregnancy, Childbirth, and the Puerperium  
Disorders of the Skin and Subcutaneous Tissues  
Diseases of the Musculoskeletal System and Connective Tissue  
Endocrine and Metabolic Disorders 5

## *Physician Tasks*

Promoting Health and Health Maintenance  
Understanding Mechanisms of Disease  
Establishing a Diagnosis  
Applying Principles of Management

- (A) Ankyloglossia (tongue-tie)
- (B) Attention-deficit/hyperactivity disorder
- (C) Autistic disorder
- (D) Hearing loss
- (E) Neurodegenerative disorder
- (F) Normal language development
- (G) Mental retardation
- (H) Parental neglect
- (I) Selective mutism
- (J) Serous otitis media

**For each child brought for a well-child examination, select the most likely diagnosis.**

1. A 4-year-old boy squeals and cries but uses no words. His gross and fine motor skills are well developed. He is preoccupied with objects and does not play with other children. The child responds normally to sounds but appears disinterested and detached.

2. A 16-month-old infant babbled at 6 months, began to mimic sounds at 10 months, and began to use a few recognizable words between 12 and 14 months. At 16 months, the child is continuing to use single words but is not using simple two-word phrases.

3. A 2-month-old infant has a 5-cm strawberry hemangioma on the cheek that is increasing in size. No other lesions are noted. Which of the following is the most appropriate next step in management?

- (A) Observation of the lesion
- (B) Solid carbon dioxide application to the lesion
- (C) Intralesional corticosteroid treatment
- (D) Laser therapy to the lesion
- (E) Surgical removal of the lesion

4. A previously healthy 15-year-old girl comes to the physician because of increasing left ear pain during the past 3 days. Vital signs are within normal limits. Examination of the left ear shows edema and erythema of the auditory canal with a greenish discharge. Manipulation of the left pinna elicits pain. The tympanic membrane can only partially be visualized, and examination of what can be seen appears normal with normal mobility. Examination of the right ear shows no abnormalities. Which of the following is the most likely diagnosis?

- (A) Acute otitis media
- (B) Furunculosis
- (C) Mastoiditis
- (D) Otitis externa
- (E) Tympanic membrane perforation

5. A 3175-g (7-lb) newborn is delivered at term to a 21-year-old woman, gravida 1, para 1. Pregnancy, labor, and delivery were uncomplicated. Examination shows ambiguous genitalia. Which of the following is the most appropriate physician response to the parents regarding their newborn's gender?

- (A) "The decision about your child's gender is entirely yours."
- (B) "You have a beautiful new daughter."
- (C) "Your baby is a boy, but his genitals are not yet fully developed."
- (D) "Your baby looks healthy, but we will not know the gender until we run additional tests."

6. One week after a Breathing treatment@ in the emergency department for an initial episode of coughing and wheezing, a 10-year-old girl is brought to the physician for a follow-up examination. She has a 3-year history of nasal allergies; both her parents have allergic rhinitis. She is afebrile. The lungs are clear to auscultation. An x-ray of the chest shows normal findings. Which of the following medications is most appropriate on an as-needed basis?

- (A) Inhaled  $\beta$ -adrenergic agonist
- (B) Inhaled corticosteroids
- (C) Inhaled cromolyn sodium
- (D) Oral  $\beta$ -adrenergic agonist
- (E) Oral theophylline

7. A 4-year-old boy is brought to the physician by his parents because of a 2-month history of difficulty sleeping. His parents report that he typically awakens 1 hour after going to sleep and cries loudly. When his parents come to his room, he appears frightened and is unaware of their attempts to comfort him. In the morning, he has no memory of these episodes. Physical examination shows no abnormalities. Which of the following is the most likely diagnosis?

- (A) Factitious disorder
- (B) Oppositional defiant disorder
- (C) Seizure disorder
- (D) Separation anxiety disorder
- (E) Sleep terror disorder

8. A male newborn is born to a 32-year-old woman by cesarean delivery at 38 weeks' gestation and weighs 4309 g (9 lb 8 oz). The pregnancy was complicated by gestational diabetes that was difficult to manage. Apgar scores are 6 and 8 at 1 and 5 minutes, respectively. This newborn is at increased risk for developing which of the following within the next 24 hours?

- (A) Hypercalcemia
- (B) Hyperglycemia
- (C) Hyperkalemia
- (D) Hypoglycemia
- (E) Hypokalemia
- (F) Hypothermia

9. A 14-year-old girl is brought to the physician for a wellchild examination. She reports that she occasionally feels sad because "everyone else is confident except me." She notes that she likes a new boy in her class, but she is afraid that "he doesn't know that I exist." She sometimes worries that she will attract his attention, but this is not a constant worry. She adds, "I know he likes this really pretty singer on TV, and I could never measure up to her. I am not sure that anyone can really relate to my situation." She generally gets along well with friends and family. She is in the eighth grade and maintains a B average. She plays on the school soccer team and is an active member of the Girl Scouts. She does not drink alcohol or use illicit drugs. She is not sexually active. She is at the 60th percentile for height and 50th percentile for weight. She is casually dressed. Physical examination shows no abnormalities. On mental status examination, she is cooperative with a mildly anxious mood and a full range of affect. She says she is not depressed. Which of the following is the most likely diagnosis?

- (A) Generalized anxiety disorder
- (B) Histrionic personality disorder
- (C) Major depressive disorder
- (D) Narcissistic personality disorder
- (E) Normal development

10. A previously healthy 6-year-old boy is brought to the physician because of a 1-week history of right knee pain and swelling. He also has had occasional chills and muscle pain for 1 week. He went camping with his father in eastern Pennsylvania approximately 2 months ago. Two weeks after the trip, he had a solid red rash that slowly spread over most of his right thigh and resolved spontaneously 2 weeks later. Examination of the right knee shows swelling, an effusion, and mild tenderness to palpation. Which of the following is most likely to confirm the diagnosis?

- (A) Complete blood count
- (B) Determination of erythrocyte sedimentation rate
- (C) Serum antinuclear antibody assay
- (D) Serum Lyme (*Borrelia burgdorferi*) antibody assay
- (E) Serum rheumatoid factor assay
- (F) X-ray of the right knee

11. An 8-year-old boy is brought to the physician by his mother for a well-child examination. His mother reports that she is exhausted because he is constantly "on the go," is increasingly difficult to manage, and needs constant supervision. Last week, he climbed out on the roof of their house "just to see how high up it was." He has had trouble maintaining friendships because he is "bossy" and easily frustrated if he does not win at games. His mother says that he wakes up cheerful and full of energy each morning and that he says he will "really try to be good." His teacher usually calls by noon to report about his difficult behavior. He is disruptive in class and often "plays the class clown." When asked to sit still and do his work, he becomes frustrated and shouts, "I can't sit still." He is unable to work quietly for more than 15 minutes. The school has threatened to suspend him if his behavior does not improve. His grades are poor. He is at the 70th percentile for height and 45th percentile for weight. Vital signs are within normal limits. Physical examination shows no abnormalities. During the examination, he is cheerful and verbally impulsive. After the examination, his mother becomes tearful and says she does not know what to do. Which of the following is the most appropriate initial response?

- (A) "Clearly he needs medication right away."
- (B) "I think that the school is being unfair to your child."
- (C) "It certainly sounds as though things have been difficult for you."
- (D) "You should look into other schools to give him a fresh start."
- (E) "You should see a therapist to talk about your feelings."

12. A previously healthy 10-year-old boy is brought to the emergency department by his parents immediately after the sudden onset of difficulty breathing that began when he was stung on the arm by a bee. On arrival, he is in severe respiratory distress. His temperature is 38°C (100.4°F), pulse is 115/min, respirations are 60/min, and blood pressure is

80/40 mm Hg. Examination shows supraclavicular and intercostal retractions. There is diffuse urticaria over the trunk and upper and lower extremities. Expiratory wheezes are heard bilaterally. Which of the following is the most appropriate initial pharmacotherapy?

- (A) Oral diphenhydramine
- (B) Inhaled fluticasone
- (C) Subcutaneous epinephrine
- (D) Intravenous methylprednisolone
- (E) Intravenous ranitidine

13. A 16-year-old girl is brought to the physician because of severe acne over her face and upper back for 6 months. She has had no itching or scaling of the acne. Treatment with topical and oral antibiotics has not resolved her symptoms. Examination shows numerous papules and pustules with widespread erythema over the face and upper back. There is no hyperpigmentation. The patient requests information about beginning isotretinoin, because she says it improved her boyfriend's acne. Which of the following is the most appropriate initial step prior to treatment with isotretinoin?

- (A) Complete blood count with differential
- (B) Determination of prothrombin and partial thromboplastin times
- (C) 24-Hour urine collection for measurement of creatinine clearance
- (D) Measurement of serum thyroid-stimulating hormone concentration
- (E) Measurement of urine  $\beta$ -hCG concentration
- (F) PPD skin test

14. A 3-year-old girl is brought to the emergency department 2 days after the onset of fever, profuse watery diarrhea, and progressive lethargy. On arrival, she appears ill and is poorly responsive. Her temperature is 39.4°C (103°F), pulse is 180/min, respirations are 40/min, and blood pressure is 80/45 mm Hg. Examination shows poor skin turgor and cool extremities. Mucous membranes are dry. Capillary refill time is delayed. Which of the following is the most appropriate next step to decrease the risk of acute renal failure in this patient?

- (A) Monitoring urine output
- (B) Ceftriaxone therapy
- (C) Diuretic therapy
- (D) Fluid resuscitation
- (E) Vasopressor therapy

15. A 3-year-old girl with Down syndrome is brought to the physician because of a 1-week history of frequent nosebleeds, decreased appetite, and lethargy. She takes no medications. Her temperature is 38°C (100.4°F), pulse is 100/min, respirations are 20/min, and blood pressure is 80/45 mm Hg. Examination shows no abnormalities except for pallor. Laboratory studies show: Hemoglobin 6.5 g/dL Hematocrit 19% Leukocyte count 100,000/mm<sup>3</sup> Segmented neutrophils 15% Atypical lymphocytes 85% Platelet count 45,000/mm<sup>3</sup>. Which of the following is the most likely mechanism of these laboratory findings?

- (A) Bone marrow hypoplasia
- (B) Infiltration of bone marrow by leukemic blasts
- (C) Iron deficiency
- (D) Lymphocyte inhibitors of erythropoiesis
- (E) Reticuloendothelial phagocytosis of platelets
- (F) Serum immunoglobulin A deficiency

16. A 16-year-old girl is brought to the physician for a school physical examination. She has no history of serious illness and takes no medications. Menarche has not yet occurred. She is 155 cm (5 ft 1 in) tall and weighs 66 kg (145 lb); BMI is 27 kg/m<sup>2</sup>. Her blood pressure is 140/80 mm Hg in the left arm and 105/70 mm Hg in the left leg. Vital signs are otherwise within normal limits. A grade 2/6 systolic murmur is heard best over the upper back to the left of the midline. The extremities are well perfused with strong peripheral pulses. Breast development is Tanner stage 2, and pubic hair development is Tanner stage 1. This patient most likely has an abnormality of which of the following vessels?

- (A) Aorta
- (B) Coronary artery
- (C) Pulmonary artery
- (D) Renal artery
- (E) Renal vein

17. An 11-year-old girl with cystic fibrosis is admitted to the hospital 18 hours after the onset of shortness of breath. During the past 11 years, she has had more than 20 episodes of respiratory exacerbations of her cystic fibrosis that have required hospitalization. Current medications include an inhaled bronchodilator, inhaled corticosteroid, oral pancreatic enzyme, and oral multivitamin. Her temperature is 38°C (100.4°F), pulse is 96/min, respirations are 28/min, and blood pressure is 92/68 mm Hg. Diffuse wheezes and crackles are heard bilaterally. A sputum culture grows *Burkholderia cepacia*. Which of the following is the most likely cause of this patient's recurrent respiratory tract infections?

- (A) Immune suppression
- (B) Impaired clearing of airway secretions
- (C) Increased exposure to infectious organisms
- (D) Interstitial fibrosis
- (E) Restrictive changes of the small airways

18. A 3-week-old infant is brought to the physician by his mother because of a 1-week history of increasingly frequent vomiting. She says that at first he vomited occasionally, but now he vomits after every feeding. The vomitus is nonbilious and consists of breast milk. He has had fewer wet diapers during the past 2 days. He was born at term following an uncomplicated pregnancy and initially fed well. He appears lethargic and dehydrated. A 1 x 2-cm, firm, mobile, olive-shaped mass is palpated immediately to the left of the epigastrium. Which of the following is the most likely diagnosis?

- (A) Congenital megacolon (Hirschsprung disease)
- (B) Duodenal atresia
- (C) Intussusception
- (D) Midgut volvulus
- (E) Pyloric stenosis

19. A 15-year-old girl is brought to the physician by her mother because of a 1-year history of monthly cramps that begin 2 days before menses and last 3 days. The cramps have increased in severity during the past 6 months. She is unable to practice with her volleyball team because of the pain and typically misses 2 days of school monthly. Menarche was at the age of 12 years. Menses occur at regular 30-day intervals and last 4 days with normal flow. She has no history of serious illness and takes no medications. She has never been sexually active. Physical examination shows no abnormalities. Which of the following is the most likely cause of this patient's pain?

- (A) Bladder wall permeability
- (B) Degenerating myoma
- (C) Endometrial prostaglandin production
- (D) *Escherichia coli* infection
- (E) Intestinal hypermobility

20. A 5-year-old girl is brought to the physician by her parents for evaluation of recurrent injuries. Her parents say that she started walking at the age of 14 months and since then has always seemed clumsier and had more injuries than other children. She has had increasingly frequent pain with exertion since starting a soccer program 3 months ago. She usually has pain or swelling of her knees or ankles after practice. She has been taken to the emergency department three times during the past 3 weeks because of concern about possible fractures; x-rays showed no abnormalities. Today, the patient walks with a limp. Examination shows numerous paper-like scars over the torso and upper and lower extremities. A midsystolic click is heard at the apex. The left ankle is swollen and tender; range of motion is limited by pain. The hips and the joints of the upper and lower extremities are hypermobile, including 25 degrees of genu recurvatum, thumbs that may be extended to touch the forearms, and flexibility at the waist, with palms easily touching the floor with straight knees. Which of the following is the most likely explanation for this patient's physical findings?

- (A) Cerebellar degeneration
- (B) Collagen abnormality
- (C) Complement deficiency
- (D) Defect in the migration of segmented neutrophils
- (E) Immune complex deposition
- (F) Vitamin D deficiency

## Answer Form for Pediatrics Subject Test Sample Questions

### (Questions 1-20)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

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15. \_\_\_\_\_

16. \_\_\_\_\_

17. \_\_\_\_\_

18. \_\_\_\_\_

19. \_\_\_\_\_

20. \_\_\_\_\_

## **Answer Key for Pediatrics Subject Test Sample Questions**

### **(Questions 1-20)**

1. C
2. F
3. A
4. D
5. D
6. A
7. E
8. D
9. E
10. D
11. C
12. C
13. E
14. D
15. B
16. A
17. B
18. E
19. C
20. B