

MINISTRY OF HEALTH OF UKRAINE  
ZAPORIZHZHIA STATE MEDICAL UNIVERSITY

DEPARTMENT OF PROPEDEUTICS OF CHILDREN DISEASES

## **Propaedeutics of Pediatrics**

### **Module 2**

*The collection of test tasks for independent work of foreign students III course of educational-qualification degree "Master", Field of study 22 "Health Care", Specialty 222 "Medicine"*

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## Preface

The collection of the tests is intended for English-speaking students of the 3rd year of the medical faculty, who study the discipline "Propaedeutics of Pediatrics" in the training of specialists in the educational-qualification level "Master".

The contents of the tests correspond to the work program of the discipline, the curriculum by the number of hours. The collection contains 541 tests. Tests are grouped by sections that are studied during the second module "Physical examination and semiotics of children diseases" and have the correct answer. The collection is intended for use during classroom lessons, independent practical training, including modular control. At the end there is a bibliography, which lists the sources used in the collection.

## Передмова

Збірник призначений для студентів 3-го курсу, які навчаються англійською мовою, вивчають дисципліну «Пропедевтика педіатрії» при підготовки фахівців освітньо-кваліфікаційного рівня «Магістр», спеціальності 222 «Медицина».

Збірник створений з метою допоїти студентам оволодіти початковими загальними знаннями з педіатрії. Зміст тестів відповідає робочій програмі дисципліни, навчальному плану за кількістю годин. Збірник містить 541 тестів. Тести згруповані за розділами, які вивчаються протягом другого модулю «Клінічне обстеження дитини та семіотики захворювань у дітей» і мають правильну відповідь. Збірник призначений для використання під час аудиторних занять, самостійної підготовки, в тому числі і до модульного контролю. Наприкінці збірника є бібліографія, в якій перераховані використані джерела.

## Nervous System (50)

1. The physiological muscle hypertonia of the low extremities is kept in infants up to:
  - A. 1 month
  - B. 2 months
  - C. 3 months
  - D. 4 months
  - E. 5 months
  
2. The objective neurological investigation of the child includes all items, except:
  - A. History of present illness
  - B. Analysis of previous psycho-motor development
  - C. Estimation level of consciousness
  - D. Estimation head characteristics (the size, fontanel's condition, function of cranial nerves)
  - E. Characteristics of cerebrospinal fluid (CSF)
  
3. The method of brain visualization in infants using the open anterior fontanel and echo location principle refers to term:
  - A. Neurosonography
  - B. Electroencephalography
  - C. Rheoencephalography
  - D. Diaphanoscopy
  - E. Craniography
  
4. The critical period of development of the central nervous system when serious anatomical anomalies are formed:
  - A. 5-6 weeks of gestation
  - B. 10-18 weeks of gestation
  - C. 20-22 weeks of gestation
  - D. 25-28 weeks of gestation
  - E. 30-32 weeks of gestation
  
5. Feature of the nervous system in newborns compared with adults is:
  - A. Relatively smaller brain
  - B. Almost all the furrows and convolutions of the brain are present at birth, and they are well developed.
  - C. Cerebellum is well developed
  - D. The grey substance of brain is not differentiated enough from white
  - E. Myelination of neurons is well developed
  
6. The method of recording the electrical activity of the brain is called:
  - A. Computer tomography (CT)
  - B. Electroencephalography

- C. Diaphanoscopy
- D. Electromyography
- E. Craniography

7. Neuronal myelination comes to the end in children aged:

- A. 1 mo
- B. 1 year
- C. 2 years
- D. 7 years
- E. 10 years

8. Which symptom is positive with latent hypocalcaemia?

- A. Kernig
- B. Babinski
- C. Trousseau
- D. Brudzinsky
- E. Babkin

9. Which cranial nervous physician investigates, when ask the child clench the teeth and chew or swallow some food?

- A. III
- B. IV
- C. V
- D. VII
- E. IX

10. Examining the child with meningitis flex the patient's leg at both the hip and the knee, and then extend the knee. Pain and increased resistance to extending the knee is a positive:

- A. Brudzinski's neck sign
- B. Brudzinski leg sign
- C. Kernig's sign
- D. Blumberg's sign
- E. Roving's sign

11. The feature of nervous system in infants is:

- A. The high permeability of blood-brain barrier
- B. poor blood supply to the brain
- C. Well-developed cerebellum
- D. All the furrows and convolutions of the brain are present at birth, they are well developed.
- E. The grey substance of brain is well differentiated from white

12. The physiological muscles hypertonia of the upper extremities is kept in infants up to:

- A. 1 month

- B. 2 months
- C. 3 months
- D. 4 months
- E. 5 months

13. For meningitis the one of the following symptoms is characteristic:

- A. Moro
- B. Babinski
- C. Trousseau's sign
- D. upper Brudzinsky
- E. Babinski

14. Have the child stick the "whole tongue out" or "say 'ah'." Observe movement of the uvula and soft palate. Test the gag reflex. In investigation what cranial nervous?

- A. V
- B. VII
- C. IX, X
- D. XI
- E. XII

15. Why infants prone to the rapid development of neurotoxicosis?

- A. The high permeability of blood-brain barrier
- B. good blood supply to the brain
- C. incomplete myelination of nerves
- D. obstructed venous outflow from the brain
- E. All of the above

16. Which pair of cranial nerves is responsible for facial expressions?

- A. 2
- B. 4
- C. 5
- D. 7
- E. 9

17. The prevailing activity of sympathetic part vegetative nervous system in children is kept up to age of:

- A. 10 years
- B. 7 years
- C. 4 years
- D. 1 year
- E. 1 month

18. The end point of the spinal cord in children is displacing with ages:

- A. downwards

- B. it is not displaced
- C. to the right
- D. upwards
- E. to the left

19. A technique for continuous registration of cerebral blood flow, using electrodes on the cranium attached to an electronic device that measures the electrical conductivity of the tissue located between the electrodes.

- A. Neurosonography
- B. Electroencephalography
- C. Rheoencephalography
- D. computer tomography (CT scan)
- E. Craniography

20. In child with meningitis if one hip is flexed, the other hip also flexed. This is a positive:

- A. Brudzinski's neck sign
- B. Brudzinski leg sign
- C. Kernig's sign
- D. Blumberg's sign
- E. Rovsing's sign

21. The cerebrospinal fluid (CSF) in meningismus (benign unspecific syndrome of meningeal irritation) is characterized:

- A. raised hydrostatic pressure
- B. high cytosis
- C. low protein level
- D. presents of red blood cells
- E. low glucose level

22. For bacterial (purulent) meningitis the following feature of cerebrospinal fluid (CSF) is strictly characteristic:

- A. high level of leukocytes
- B. high content of sugar
- C. high content of chlorides
- D. low protein
- E. high level of red blood cells

23. The symptom of latent hypocalcaemia is:

- A. laryngospasmus
- B. Trousseau
- C. Babinsky
- D. Brudzinsky
- E. occipital muscles rigidity



24. For mycobacterial (TB) meningitis the following feature of cerebrospinal fluid (CSF) is characteristic:
- A. high level neutrophils
  - B. high protein and fibrinous film over the fluid
  - C. high sugar
  - D. high chlorides
  - E. high level of red cells
25. The cerebrospinal fluid (CSF) in hydrocephaly is characterized by:
- A. high hydrostatic pressure
  - B. high leukocytes
  - C. high protein
  - D. high red blood cells
  - E. postponed fibrinous film over the fluid
26. The cerebrospinal fluid (CSF) in patient with serous meningitis is characterized:
- A. low protein
  - B. high level of chloride
  - C. high sugar
  - D. high lymphocytes count
  - E. high erythrocytes count
27. High erythrocytes count in CSF is characteristic for:
- A. serous meningitis
  - B. meningismus
  - C. hydrocephaly
  - D. subarachnoid hemorrhage
  - E. encephalitis
28. Often the feet's clonus symptom can be provoked in patients with:
- A. high tendon reflexes
  - B. peripheral paralysis
  - C. meningitis
  - D. Verdnig-Goffmann disease
  - E. deep coma
29. Percussion at the top of the cheek just below the zygomatic bone in front of the ear, using the tip of your index or middle finger, repeated contractions of the facial muscle in response to percussion is positive:
- A. Kernig's sign
  - B. Babinski's sign
  - C. Roving's sign
  - D. Chvostek's sign
  - E. Brudzinski's neck sign

30. Symptoms of non-inflammatory brain shell irritation with increased hydrostatic pressure of cerebrospinal fluid (CSF) refer to:

- A. purulent meningitis
- B. serous meningitis
- C. encephalitis
- D. meningismus
- E. hydrocephaly

31. Painful occipital muscles rigidity in a patient is characteristic of:

- A. microcephaly
- B. encephalitis
- C. meningitis
- D. Verdnig-Goffmann disease
- E. meningomyelocele

32. A 14-year-old boy undergoes a complete neurologic examination, including cranial nerve assessment. When evaluating the trigeminal nerve (CN V), the physician assesses which reflex?

- A. Corneal reflex
- B. Corneal light reflex
- C. Gag reflex
- D. Cough reflex

33. To assess the motor portion of the facial nerve (CN VII), the physician should ask the patient to perform which action?

- A. Swallow
- B. Clench the jaws
- C. Raise and lower the eyebrows
- D. Raise the shoulders against resistance

34. Which cranial nerve controls the pupillary response?

- A. CN II
- B. CN III
- C. CN IV
- D. CN V

35. Which assessment finding usually is associated with cerebellar dysfunction?

- A. Ataxia
- B. Anosmia
- C. Aphasia
- D. Paresthesia

36. Which assessment finding would be abnormal in adult, but normal in a child under age 6?

- A. Shuffling gait
- B. Wide-based gait
- C. Scissors gait
- D. Ataxic gait

37. To perform the Romberg test, the physician should give patient which instructions?

- A. "Use the thumb of one hand to touch each finger on that hand. Now do the same thing on the other hand".
- B. "First, walk on your heels across the room. Now walk on your toes to come back"
- C. "With your feet together and arms at your sides, try to hold your balance with your eyes open. Now do it with them closed".
- D. "Lie flat on your back. Now slide your heel down the shin of the opposite leg, moving slowly from the knee to the ankle".

38. A 10-year-old child is admitted to intensive care unit with a head injury caused by an automobile accident. To assess patient's level of consciousness, the physician should use which stimulus first?

- A. Olfactory
- B. Auditory
- C. Tactile
- D. Painful

39. The physician uses the Glasgow Coma Scale in patient's neurologic assessment. What does this tool assess?

- A. Muscle strength
- B. Cerebellar function
- C. Range of motion
- D. Level of consciousness

40. To assess for increasing ICP, the physician should assess which key cranial nerves?

- A. CN II, III, IV, and VI
- B. CN I, V, VII, and XII
- C. CN V, VIII, XI, and XII
- D. CN IX, X, XI, and XII

41. Why does the physician assess patient's deep tendon reflexes (DTRs) and other reflexes?

- A. To assess muscle strength
- B. To assess spinal cord intactness
- C. To assess the tendons
- D. To assess dermatome sensitivity

42. Choose the corresponding definition for such the neurologic sign as loss of ability to move:

- A. Paresis
- B. Paralysis
- C. Paresthesia
- D. Ataxia
- E. Dysesthesia

43. Choose the corresponding definition for such the neurologic sign as inability to understand or use language:

- A. Anosmia
- B. Aphasia
- C. Ataxia
- D. Disphagia
- E. Paresthesia

44. Choose the corresponding definition for such the neurologic sign as unsteady gait:

- A. Anosmia
- B. Aphasia
- C. Ataxia
- D. Paresis
- E. Paralysis

45. An 11-month-old girl presents to your emergency department with irritability, fever, and stiff neck. When performing the lumbar puncture in this child, you should

- A. Quickly push the needle in all the way until a pop is felt
- A. Push the needle in until resistance is felt and then withdraw the stylet
- B. Use a needle without a stylet
- C. Twirl the needle repeatedly
- D. Advance the needle by small increments and remove the stylet after each advance to see if cerebrospinal fluid (CSF) comes out

46. Examination of the cerebrospinal fluid of an 8-year-old, mildly febrile child with nuchal (occipital) rigidity and intermittent stupor shows the following: white blood cells 100/mkl (all lymphocytes), negative Gram stain, protein 150 mg/dL, and glucose 15 mg/dL. The most likely diagnosis is

- A. Cerebral tumor
- B. Tuberculous meningitis
- C. Encephalitis
- D. Acute bacterial meningitis
- E. Acute viral meningitis

47. A 6-year-old child has a somewhat unsteady but nonspecific gait and is irritable. Physical examination reveals a mild hypertonicity of the left upper

and lower extremities; there is no muscular weakness. These movements' disorders are best characterized as

- A. hemiplegia
- B. diplegia
- C. quadriplegia
- D. paraplegia
- E. double hemiplegia

48. A 6-year-old child is hospitalized for observation because of a short period of unconsciousness after a fall from a playground swing. He has developed unilateral pupillary dilatation, focal seizures, recurrence of depressed consciousness, and hemiplegia. Appropriate management would be

- A. Spinal tap
- B. CT scan
- C. ultrasonography
- D. cranium roentgenogram
- E. electroencephalography

49. An 18-month-old child is brought to the emergency center after the family reports she had a seizure. They note that the child was in her normal good state of health at bedtime, but when they went to investigate noises they heard coming from her room they found her having "a seizure". They picked her up to put her on the floor and noticed that she was very warm. Her tonic-clonic activity resolved, and by the time they have reached the emergency room she appears to be back to her normal state of good health. Which of the following statements is supportive of this child's having had a simple febrile seizure?

- A. There is usually a mild pleocytosis in the cerebrospinal fluid (CSF)
- B. Such seizures usually occur in association with infections outside the central nervous system
- C. Such seizures often last more than 15 min
- D. Affected children usually are between 2 months and 10 years of age
- E. Focal activity is typical

50. A 15-month-old boy is brought to the emergency room because of fever and a rash. Six hours earlier he was fine, except for tugging on his ears; another physician diagnosed otitis media and prescribed amoxicillin. During the interim period, the child has developed an erythematous rash on his face, trunk, and extremities. Some of the lesions, which are of variable size, do not blanch on pressure. The child is now very irritable, and he does not interact well with the examiner. Temperature is 39.5 C. He continues to have injected, immobile tympanic membranes, but you are concerned about his change in mental status. The most appropriate next step in the management of this infant is to:

- A. Begin administration of intravenous ampicillin
- B. complete blood cell count

- C. electroencephalography
- D. Perform CT scan
- E. Perform a lumbar puncture

**Answers to Nervous System:**

1. D	11. A	21. A	31. C	41. B
2. A	12. C	22. A	32. A	42. B
3. A	13. D	23. B	33. C	43. B
4. A	14. C	24. B	34. B	44. C
5. D	15. A	25. A	35. A	45. D
6. B	16. D	26. D	36. B	46. B
7. C	17. C	27. D	37. C	47. D
8. C	18. D	28. A	38. B	48. B
9. C	19. C	29. D	39. D	49. B
10. C	20. B	30. D	40. A	50. E

**Skin, subcutaneous tissue and lymph nodes (25)**

1. All following skin functions are underdeveloped in newborn, EXCEPT:
  - A. absorption
  - B. thermoregulation
  - C. protection
  - D. secretion
  - E. excretion
  
2. What appendage structures of the skin are more developed by birth?
  - A. hair follicles
  - B. sebaceous glands
  - C. apocrine glands
  - D. eccrine sweat glands
  - E. nails
  
3. Flat, circumscribed area of color change, neither elevated nor depressed with no alteration in skin texture:
  - A. patch
  - B. papule
  - C. plaque
  - D. macula
  - E. wheal
  
4. Small solid elevation of the skin, less than 1 cm in diameter
  - A. nodule
  - B. tumor
  - C. vesicle
  - D. bulla
  - E. papule
  
5. Raised, fluid-filled lesions less than 0,5 cm in diameter

- A. pustule
- B. vesicle
- C. bulla
- D. papule
- E. wheal

6.Flat-topped, palpable lesions of variable size and configuration that represent dermal collections of edema fluid in upper dermis:

- A. pustule
- B. vesicle
- C. bulla
- D. papule
- E. wheal

7.Consist of compressed layers of stratum cells that are retained on the skin surface

- A. crusts
- B. scars
- C. scales
- D. fissure
- E. erosion

8.Irregularly shaped excavation caused by loss of substance with gradual disintegration and necrosis of tissue:

- A. crusts
- B. pustule
- C. erosion
- D. scales
- E. ulcer

9.The skin normally uses ultraviolet light to synthesize which vitamin?

- A. A
- B. B<sub>6</sub>
- C. C
- D. D<sub>3</sub>
- E. K

10.A 3-year-old child is admitted to the hospital with nausea, vomiting, and diarrhea that have persisted for 4 days. The suspected cause is gastroenteritis. During the initial assessment, the physician detects tenting (decreased skin turgor). What does this finding indicate?

- A. Dehydration
- B. Polycythemia vera
- C. Peripheral cyanosis
- D. Clubbing
- E. Infection

11. A 2-week-old girl has stork bites (reddened areas at the nape of the neck) – capillary hemangioma. What should you tell her mother about these skin lesions?

- A. They are normal and disappear as the skin thickens.
- B. They are a sign of a common congenital anomaly.
- C. They are result from trauma during delivery.
- D. They result from blocked apocrine glands.

12. A 4-day-old newborn milia (small, white raised lesions over the nose, chin, and forehead). Milia are an example of which type of primary lesion?

- A. Macule
- B. Papule
- C. patch
- D. vesicule
- E. pustule

13. The physician informs parents that their newborn has physiologic jaundice. How long does this disorder usually last?

- A. 24 hours
- B. 2 to 3 days
- C. 1 week
- D. 3 weeks

14. Irregularly shaped hemorrhagic area; bruise:

- A. Ecchymosis
- B. Purpura
- C. Petechia
- D. Pruritus
- E. excoriation

15. Partial or complete hair loss:

- A. Anhidrosis
- B. Alopecia
- C. Intertrigo
- D. Hirsutism

16. Abnormal decreased perspiration:

- A. Anhidrosis
- B. Alopecia
- C. Intertrigo
- D. Hirsutism

17. Decreased blood oxygenation associated with:

- A. Pallor
- B. Jaundice



- C. Erythema
  - D. Cyanosis
  - E. Hyperpigmentation
18. What change in skin color is associated with liver disease:
- A. Pallor
  - B. Jaundice
  - C. Erythema
  - D. Cyanosis
  - E. Hyperpigmentation
19. What change in skin color is associated with anemia:
- A. Pallor
  - B. Jaundice
  - C. Erythema
  - D. Cyanosis
  - E. Hyperpigmentation
20. Tender, enlarged warm lymph nodes are generally indicative of:
- A. infection or inflammation *proximal* to their location
  - B. infection or inflammation *distal* to their location
  - C. are frequently normal in children
21. Acute infections in or around the mouth or throat usually accompany:
- A. occipital adenopathy
  - B. postauricular adenopathy
  - C. axillary adenopathy
  - D. cervical adenopathy
22. What position facilitates palpation of the *submental*, *submaxillary*, *tonsillar*, and *cervical nodes*?
- A. the child in the supine position
  - B. with the arms relaxed at the side but slightly abducted
  - C. the child in the sitting position
  - D. the child's head is tilted upward slightly
23. What characteristics of lymph nodes are frequently normal in children, except:
- A. Small (up to 1 cm)
  - B. nontender
  - C. movable
  - D. soft
  - E. tender
24. When assessed of lymph nodes all the following characteristics are noted, except:

- A. Size
- B. mobility
- C. temperature
- D. tenderness
- E. moisture

**Answers to Skin, subcutaneous tissue and lymph nodes:**

1. A	11. A	21. D
2. B	12. B	22. D
3. D	13. C	23. E
4. E	14. A	24. E
5. B	15. B	
6. E	16. A	
7. C	17. D	
8. E	18. B	
9. D	19. A	
10. A	20. B	

**Musculoskeletal System (33)**

1. When is the anterior fontanel closed normally?
  - A. by the birth
  - B. by the first month
  - C. by the second month
  - D. between 6 and 8 months of age
  - E. between 12 and 18 months of age
  
2. When are the first primary teeth erupted?
  - A. 3-4 mo
  - B. 6-7 mo
  - C. 10-12 mo
  - D. 14-18 mo
  - E. 2 yr
  
3. How many teeth has 2-year-old child normally?
  - A. 32
  - B. 28
  - C. 24
  - D. 20
  - E. 12
  
4. The presence of more than five digits on either hand or foot
  - A. Polydactyly
  - B. Syndactyly
  - C. Arachnodactyly

- D. Brachydactyly
- E. camptodactyly

5. Blood in a joint is:

- A. Ankilosis
- B. Kyphosis
- C. Arthritis
- D. Hemarthrosis
- E. lordosis

6. To tap the facial nerve in front of the ear with a finger; if the facial muscles contract toward the ear, the test is positive. What is this sign?

- A. Brudzinski's
- B. Trousseau's
- C. Chvostek's
- D. Babinski's
- E. Kernig's

7. What is a sign of increased intracranial pressure?

- A. bulging fontanel
- B. tense fontanel
- C. widened fontanel
- D. all above
- E. none the above

8. What color changes may be teeth stained from oral ingestion of supplemental iron?

- A. brown
- B. yellow
- C. greenish black
- D. black
- E. blue

9. What deformities of the chest is a sign of rickets?

- A. Harrison's groove
- B. Pigeon breast
- C. Kyphosis
- D. All the above
- E. Barrel chest

10. The uneven height of the 2 patellias when the person is lying on his back with knees totally flexed and feet on the table:

- A. Allis's sign
- B. Ortolani's sign
- C. Harrison's groove
- D. Kernig's
- E. Brudzinski's

11. An exaggerated anteroposterior curvature of the spine, generally lumbar, with the convexity pointing anteriorly
- A. Lordosis
  - B. Scoliosis
  - C. Kyphosis
  - D. Ankilosis
  - E. Pestus excavatum
12. When is cervical concavity of spine formed?
- A. by the birth
  - B. with head control
  - C. with sitting
  - D. when infant can walk
  - E. when infant can crawl
13. When is the posterior fontanel closed normally?
- A. by the birth
  - B. by the first month
  - C. by the second month
  - D. between 6 and 8 months of age
  - E. between 12 and 18 months of age
14. The first permanent (secondary) teeth erupt at about:
- A. 3 yr
  - B. 4yr
  - C. 6 yr
  - D. 8 yr
  - E. 9 yr
15. What is a sign of dehydration?
- A. flat fontanel
  - B. tense fontanel
  - C. pulsation fontanel
  - D. depressed fontanel
  - E. all above
16. Webbing together of fingers or toes:
- A. polydactyly
  - B. Syndactyly
  - C. Arachodactyly
  - D. Brachydactyly
  - E. camptodactyly
17. Carpal spasm (ventral contraction of the thumb and digits) as respond to inflate blood pressure cuff on the patient's arm above his systolic pressure within 3 minutes is positive sign. What is sign?
- A. Brudzinski's
  - B. Trousseau's
  - C. Chvostek's

- D. Babinski's
  - E. Kernig's
18. A 2-days-old infant presents overlying the left parietal bone soft and fluctuant mass who does not extend across a suture. What is it?
- A. cranitabes
  - B. cephalohematoma
  - C. craniosynostosis
  - D. hydrocephalus
  - E. none the above
19. What is a sign of ankylosis?
- A. swelling
  - B. tenderness
  - C. redness
  - D. limitation range of motion
  - E. all above
20. A deformity of the ribs that results from the pull of the diaphragm on ribs weakened by rickets or other softening of the bone
- A. Barrel chest
  - B. Harrison's groove
  - C. pectus excavatum (funnel breast)
  - D. Pigeon breast
  - E. Kyphosis
21. Lateral curvature of the spine:
- A. Lordosis
  - B. Scoliosis
  - C. Kyphosis
  - D. Ankilosis
  - E. Pestus excavatum
22. Range of motion of the patient's joints; (performed by another person - the patient does not actively move the joints)
- A. passive range of motion
  - B. adduction
  - C. active range of motion
  - D. Abduction
  - E. extension
23. A wasting of tissues, organs, or the entire body; e.g., the wasting of muscles due to disuse of a fractured limb:
- A. Spasm
  - B. Atrophy
  - C. Hypertrophy
  - D. Distony

## E. Hypotony

24. What is number of ossification centers in the wrist in healthy 2-year-old infant?
- A. 1
  - B. 2
  - C. 3
  - D. 4
  - E. 5
25. The number of muscle fibers is increased till age:
- A. Teenage
  - B. 10 -12 years
  - C. 5 -6 years
  - D. 2 - 3 years
  - E. The 4th – 5th month of fetal life and remains constant throughout life
26. The first primary teeth to erupt are:
- A. Upper central incisors
  - B. Lower central incisors
  - C. Upper lateral incisors
  - D. Lower lateral incisors
  - E. First lower molars
27. Range of motion of a patient's joints when the patient actively moves the extremities, instead of having the extremities moved by another person
- A. passive range of motion
  - B. adduction
  - C. active range of motion
  - D. Abduction
  - E. Extension
28. A 7-year-old child is seen in the clinic for evaluation of motor delay. The examination reveals limited voluntary movements as well as slow, writhing, continuous movements of the arms and legs whenever the patient initiates a motor movement. At rest, these movements are not seen. These movements are best characterized as:
- A. spasticity
  - B. athetosis
  - C. dystonia
  - D. ataxia
  - E. hypotonia
29. What is a sign suggest arthritis?
- A. swelling
  - B. tenderness
  - C. decreased range of motion
  - D. heat

E. all of the above

30. A test for dislocation of the hip in the newborn in which the examiner flexes the infant's legs at the hips and bends the knees; in this position he proceeds to abduct the legs while keeping his fingers over the hip socket - a clicking sound or the palpable sensation of the femur slipping in and out of the socket indicated a possible dislocation:

- A. Allis's sign
- B. Ortolani's sign
- C. Harrison's groove
- D. Kernig's
- E. Brudzinski's

31. A curvature of the spine; humpback; hunchback; an abnormal curvature of the spine, with convexity backward due to caries and destruction of the bodies of the affected vertebrae

- A. Lordosis
- B. Scoliosis
- C. Kyphosis
- D. Ankilosis
- E. Pestus excavatum

32. Stiffening or fixation of a joint:

- A. Hemarthrosis
- B. Ankilosis
- C. Kyphosis
- D. Arthritis
- E. Lordosis

33. An involuntary convulsive muscular contraction; cramp:

- A. Distonya
- B. Hypertony
- C. Spasm
- D. Extension
- E. Abduction

### Answers to Musculoskeletal System:

1. E	11. A	21. B	31. C
2. B	12. B	22. A	32. B
3. D	13. C	23. B	33. C
4. A	14. C	24. C	
5. D	15. D	25. E	
6. C	16. B	26. B	

7. D	17. B	27. C	
8. C	18. B	28. B	
9. D	19. D	29. E	
10. A	20. B	30. B	

### **Respiratory System (106)**

1. What is feature of nasopharyngeal structure in newborn:
  - A. Blood supply is bad
  - B. Low nasal passage is absent
  - C. Nasal passages are wide
  - D. Cavernous tissue is well developed
  - E. Paranasal sinuses are well formed.
  
2. The larynx is narrow in children till:
  - A. 1-2 years
  - B. 3-4 years
  - C. 6-7 years
  - D. 8-10 years
  - E. 12-14 years
  
3. What part of lung is worse developed in infant?
  - A. Upper lobe of left lung
  - B. Upper lobe of right lung
  - C. Middle lobe of right lung
  - D. Lower lobe of left lung
  - E. Lower lobe of right lung
  
4. The respiratory rate in a 1-year-old child is:
  - A. 16-18
  - B. 20
  - C. 25
  - D. 30-35
  - E. 40-50
  
5. Cough in pharyngitis and nasopharyngitis is characterized as:
  - A. Barking, brassy
  - B. Dry, hacking, unproductive
  - C. Paroxysmal
  - D. Moist with purulent sputum
  - E. Moist with clear, gelatinous sputum
  
6. The larynx in infancy is characterized all following EXCEPT:



- A. In infancy the glottis is located more cephalic than in later childhood
  - B. The laryngeal reflexes are less active
  - C. The epiglottis is longer and projects further posteriorly
  - D. The narrowest portion of the larynx is at the level of the cricoid cartilage
  - E. In the infant and young child the ciliated columnar epithelium below the vocal cords is loosely bound with areolar tissue and is therefore more susceptible to edema formation
7. The physician assesses of neonate. When assessing newborn's respirations, which finding is considered normal?
- A. Irregular, shallow, respirations at a rate of 40 to 60 breaths/minute
  - B. Regular, deep, respirations at a rate of 30 to 60 breaths/minute
  - C. Regular, shallow, respirations at a rate of 15 to 20 breaths/minute
  - D. Irregular, deep, respirations at a rate of 15 to 20 breaths/minute
  - E. Regular, shallow, respirations at a rate of 20 to 30 breaths/minute
8. Which health history question would be most helpful in detecting pleuritis?
- A. Do you have cough?
  - B. Do you cough up sputum?
  - C. How many pillows do you sleep on?
  - D. Does pain occur when you breathe deeply?
  - E. Do you have allergies that flare up?
9. During palpation, the physician should use which part of the hand to assess tactile fremitus?
- A. Dorsal surface
  - B. Fingertips
  - C. Fingerpads
  - D. Palm
10. Brassy, bitonal cough is characterized to:
- A. Pneumonia
  - B. Laryngitis
  - C. Bronchial asthma
  - D. Pleurisy
  - E. Enlarged bifurcation lymph nodes
11. When is pulmonary surfactant synthesis started?
- A. 22-24<sup>th</sup> wk of gestation
  - B. 25-26<sup>th</sup> wk
  - C. 27-28<sup>th</sup> wk
  - D. 30-32<sup>nd</sup> wk
  - E. 33-35<sup>th</sup> wk
12. What congenital malformation is formed during pseudoglandular period?
- A. pulmonary hypoplasia
  - B. diaphragmatic hernia and tracheoesophageal fistula

- C. pulmonary agenesis
- D. pulmonary surfactant deficiency
- E. all above

13. Absence of vocal fremitus may occur as a result of:

- A. Aspiration of a foreign body, obstruction of a major bronchus
- B. Pneumonia
- C. bronchitis
- D. laryngitis
- E. all above

14. What is normal respiratory rate for 5-year-old child?

- A. 15-16 per min
- B. 18-20
- C. up to 25
- D. 30-35
- E. 40-60

15. All following statements about the pulmonary tissue in infants and young children are true, EXCEPT:

- A. The infants and young children have less alveolar surface area for gas exchange
- B. After birth the alveoli grow in size not in the number
- C. the increased branching of terminal bronchioles are continued after birth
- D. the alveoli grow in size by age 8-12 years
- E. The lung grows most rapidly in alveolar number during the first 2 years

16. The barrel chest is a sign of:

- A. asthma and emphysema
- B. pneumonia
- C. bronchitis
- D. pleurisy
- E. laryngitis

17. What is this pattern of respiration? Gradually increasing rate and depth with periods of apnea:

seesaw (paradoxic) respiration

- A. Biot's breathing
- B. Kussmaul breathing
- C. Cheyne-Stokes respiration
- D. Bradypnea

18. A patient with bronchial asthma is likely to display which type of tactile

fremitus?

- A. Normal
- B. Increased
- C. Decreased
- D. Absent
- E. Unilateral increased

19. Inspiratory dyspnea is a sign of:

- A. Pneumonia
- B. Bronchitis
- C. Bronchial asthma
- D. Foreign body in upper respiratory airways
- E. Rhinitis

20. While inspecting 6-year-old child with pulmonary disease, the physician alert for signs of cyanosis. How is central cyanosis different from peripheral cyanosis?

- A. Central cyanosis affects the ears; peripheral cyanosis does not.
- B. Central cyanosis affects the nail beds; peripheral cyanosis does not.
- C. Central cyanosis affects the mucous membranes; peripheral cyanosis does not.
- D. Central cyanosis affects the tip of the nose; peripheral cyanosis does not.

21. The physician inspects patient's fingers for clubbing. This sign may occur in:

- A. Laryngitis
- B. Acute pneumonia
- C. Bronchitis
- D. Pharyngitis
- E. Chronic pneumonia

22. While palpating patient's thorax, the physician assesses respiratory excursion. What does this technique assess?

- A. Breath sounds
- B. Lung vibration
- C. Chest movement
- D. Voice sounds

23. Barking cough is characterized of:

- A. Bronchial asthma
- B. Bronchitis
- C. Croup
- D. Pleurisy
- E. Foreign body in bronchi

24. Rapid deep breathing is:

- A. Biot's breathing

- B. Kussmaul breathing
- C. Cheyne-Stokes respiration
- D. Obstructive breathing
- E. Grocco-Frougoni respiration

25. Absence of vocal fremitus usually indicates all the following, EXCEPT:

- A. obstruction of a major bronchus
- B. pneumothorax
- C. pleural effusion
- D. hydrothorax
- E. pneumonia

26. Which pattern of breathing is characterized by unpredictable irregularity; breaths may be shallow or deep, and stop for short periods?

- A. Biot's breathing
- B. Kussmaul breathing
- C. Cheyne-Stokes respiration
- D. Obstructive breathing
- E. Grocco-Frougoni respiration

27. The paroxysmal cough accompanied by an inspiratory “whoop” that increases at nighttime is pathognomonic of:

- A. Croup
- B. Bronchial asthma
- C. Pneumonia
- D. Foreign body in bronchi
- E. Pertussis

28. Expiratory dyspnea is a sign of:

- A. Pneumonia
- B. Croup
- C. Bronchial asthma
- D. Foreign body in upper respiratory airways
- E. Rhinitis

29. Increase of vocal fremitus usually indicates:

- A. obstruction of a major bronchus
- B. pneumothorax
- C. pleural effusion
- D. hydrothorax
- E. lobar pneumonia

30. Elevation in temperature for every degree Celsius causes the respiratory rate increases by:

- A. 2 breaths/minute
  - B. 4 breaths/minute
  - C. 6 breaths/minute
  - D. 8 breaths/minute
  - E. 10 breaths/minute
31. What percussion sound is heard over normal lung?
- A. flatness
  - B. resonance
  - C. tympany
  - D. hyperresonance
  - E. dullness
32. Striking or tapping the chest surface with the finger is:
- A. Bimanual percussion
  - B. Direct percussion
  - C. Indirect percussion
  - D. Pleximetric percussion
  - E. Mediate percussion
33. There is an area in normal chest where the percussion sound is tympanic. Where is this area?
- A. Below the 5<sup>th</sup> rib's interspace in the right midclavicular line
  - B. Between scapulars
  - C. Below the 5<sup>th</sup> rib's interspace in the left midclavicular line
  - D. Above the 2<sup>nd</sup> rib's interspace in the left midclavicular line
  - E. Over all the lungs
34. Dullness over the lung is accompanied:
- A. Obstructive bronchitis
  - B. Bronchial asthma
  - C. Pneumothorax
  - D. emphysema
  - E. Pneumonia
35. Breathing when inspiration is longer and higher in pitch than that heard in vesicular breathing is called:
- A. bronchial breathing
  - B. diminished breath sounds
  - C. tympany
  - D. bronchovesicular breathing
  - E. voice sounds
36. The physician auscultates an 8-year-old well child. Which sound normally is heard over the peripheral lung fields?
- A. Tracheal
  - B. Vesicular

- C. Bronchovesicular
- D. Bronchial

37. Auscultating the patient's breath sounds, the physician detects crackles. Which statement accurately characterizes crackles?

- A. Crackles are unaffected by coughing.
- B. Crackles usually occur during inspiration.
- C. Crackles are heard only in central airways.
- D. Crackles occur during expiration

38. A 4-year-old child is admitted to the hospital with pneumonia of the right lower lobe. Within the physical examination the pediatrician may reveal all the following findings over affected lung, EXCEPT:

- A. Dullness
- B. Diminish breath sound
- C. Fine crackles (crepitation)
- D. Decreased vocal fremitus
- E. Increased bronchophony

39. In infancy the percussion over the healthy lung normally elicits:

- A. Tympany
- B. Dullness
- C. Hyperresonance
- D. Resonance
- E. flatness

40. In children older than 10 years excursion of the lungs (diaphragmatic excursion) normally should be about:

- A. 2 -4 cm
- B. 1 -1.5 cm
- C. 6 -8 cm
- D. 10 cm
- E. It's not determined

41. Direct percussion is useful for:

- A. Percussing well defined chest areas
- B. Percussing a bone
- C. Greater accuracy when examining infants or small children
- D. Percussing the borders of an organ
- E. All the above

42. Tympanic resonance is determined over the lung in:

- A. Pneumonia
- B. Atelectasis
- C. Pleurisy (pleural effusion)

- D. Hemothorax
- E. Pneumothorax

43. How to determine the continuous adventitious lung sounds which are high pitched, hissing or squeaking in character, produced in the smaller bronchi and bronchioles?

- A. crepitation
- B. coarse rales
- C. wheezes
- D. fine rales
- E. rhonchi

44. What is the type of breathing when the inspiratory phase is short and the expiratory phase is longer, louder, and of higher pitch?

- A. bronchovesicular breath sound
- B. bronchial breath sound
- C. vesicular breathing
- D. diminished breath sound
- E. tracheal breathing

45. Auscultation of patient's chest reveals a pleural friction rub. How can the physician differentiate this phenomenon from other abnormal breath sounds?

- A. Rubs occur during inspiration only and clear with coughing.
- B. Rubs occur during expiration only and produce a light popping, nonmusical sound.
- C. Rubs occur during inspiration and expiration and produce a squeaking or grating sound.
- D. Rubs occur during inspiration only and may be heard anywhere over the chest

46. A 7-year-old child presents with pneumonia. What auscultation finding over his lungs is likely to produce?

- A. Rhonchi
- B. Wheezes
- C. Crepitation
- D. Coarse crackles
- E. Vesicular breathing

47. A 5-year-old patient is admitted to the hospital with pneumonia of the right lower lobe. Percussion sound over his chest most likely will be defined as:

- A. Tympany
- B. Resonance
- C. Dullness
- D. Hyperresonance

48. Which physical assessment technique should the physician use to assess for

diaphragmatic excursion?

- A. Inspection
- B. Percussion
- C. Palpation
- D. Auscultation

49. The method is performed by placing the index or middle finger against the body area and using the tip of the middle finger of other hand to strike over the base of distal phalanx of the first hand. How is it called?

- A. Direct percussion
- B. Immediate percussion
- C. Bimanual percussion
- D. Indirect percussion
- E. Superficial percussion

50. In a 2-year-old well child the upper border of the lungs is located:

- A. 1 cm above the clavicles
- B. 2 cm above the clavicles
- C. 3 cm above the clavicles
- D. 4 cm above the clavicles
- E. It's not determined

51. Where is bronchial breathing heard normally?

- A. over most of both lungs
- B. between the scapulae
- C. over the trachea in the neck
- D. over the manubrium
- E. in the 1<sup>st</sup> rib's interspaces anteriorly

52. These discontinuous sounds are most prominent at the end of inspiration and are not cleared by coughing. They are soft, high pitched and very brief, they occur in the smallest passageways, the alveoli and bronchioles. Name those.

- A. rhonchi
- B. coarse rales
- C. medium rales
- D. wheezes
- E. fine rales (crepitation)

53. When auscultating newborn's breath sounds, the physician should consider which ones normal?

- A. Vesicular
- B. Bronchovesicular
- C. Bronchial
- D. Puerile
- E. Tracheal

54. The auscultatory findings are bubbling sounds produced by air passing through



large fluid- filled airways. Match with the corresponding term:

- A. Crackles
- B. Wheezes
- C. Rhonchi
- D. bronchophony
- E. Rub

55.The auscultatory findings are relatively low-pitched musical sounds produced by air passing through narrowed airways. Match with the corresponding term:

- A. Crackles
- B. Wheezes
- C. Rhonchi
- D. bronchophony
- E. Rub

56.Short, moist, explosive sounds produced by air passing through liquid in the small airways, heard primarily on inspiration:

- A. Rales
- B. Wheezes
- C. Rhonchi
- D. bronchophony
- E. Rub

57.Pulmonary indication for imaging study is to evaluate a child with suspect of a foreign body. Chose the appropriate procedure:

- A. Chest computer tomography
- B. Barium swallow
- C. Fluoroscopy
- D. Bronchoscopy
- E. chest x-ray

58. Pulmonary indication for imaging study is to differentiate a mediastinal mass lesion from a collapsed lung. Chose the appropriate procedure:

- A. Chest computer tomography
- B. Barium swallow
- C. Fluoroscopy
- D. Bronchoscopy
- E. chest x-ray

59. Pulmonary indication for imaging study is to evaluate a child with chronic cough and wheezing. Chose the appropriate procedure:

- A. Chest computer tomography
- B. Barium swallow
- C. Fluoroscopy
- D. Bronchoscopy

- E. Bronchography
60. Pulmonary indication for imaging study is to evaluate an infant with apnea. Chose the appropriate procedure:
- A. Chest computer tomography
  - B. Barium swallow
  - C. Fluoroscop
  - D. Bronchoscopy
  - E. Bronchography
61. A previously healthy 2-year-old black child has developed a chronic cough over the previous 6 weeks. He has been seen in different emergency rooms on two occasions during this period and placed on antibiotics for pneumonia. Upon auscultation, you hear normal breath sounds on the left. On the right side, you hear decreased air movement during inspiration but none upon expiration. The routine chest radiograph shows no infiltrate, but the heart is shifted slightly to the left. The appropriate next step in making the diagnosis in this patient is to:
- A. Measure the patient's sweat chloride
  - B. Bronchoscope
  - C. Chest computer tomography
  - D. sputum culture
  - E. pulmonary function tests
62. All of the following tests would be indicated in the evaluation of a 2-year-old child with x-ray documentation of recurrent pneumonia EXCEPT:
- A. immunoglobulin analysis
  - B. complete blood count
  - C. sweat test
  - D. sputum culture
  - E. pulmonary function tests
63. Maximum amount of air that can be expelled from the lungs after maximum inspiration
- A. Vital capacity
  - B. Forced expiratory volume
  - C. Tidal volume
  - D. functional residual capacity
64. Volume of air remaining in the lungs after passive expiration
- A. Vital capacity
  - B. Forced expiratory volume
  - C. Tidal volume
  - D. functional residual capacity
65. Amount of air inhaled and exhaled during any respiratory cycle
- A. Vital capacity

- B. Forced expiratory volume
- C. Tidal volume
- D. functional residual capacity

66. Amount of air that can be forced from the lungs after maximum inspiration in 1 second is forced expiratory volume in 1 second (FEV<sub>1</sub>). Normally it is:

- A. 90 - 80% of vital capacity
- B. 60 - 70% of vital capacity
- C. 50 - 60% of vital capacity
- D. 40 - 50% of vital capacity
- E. < 40% of vital capacity

67. Contrast medium is instilled directly into bronchial tree through opaque catheter inserted via orotracheal tube. It's carried out under general anesthesia. Most valuable to demonstrate and inspect bronchiectasis, detects distal bronchial obstruction, detects malformations:

- A. Bronchography
- B. Fluoroscopy
- C. Radiography
- D. Tomography
- E. Ultrasonography

68. A picture obtained by passing x-rays through body and recording them on sensitized film, produces images of internal structures of chest, including air-filled lungs, airways, vascular markings, heart, and great vessels:

- A. Bronchography
- B. Fluoroscopy
- C. Radiography
- D. Tomography
- E. Ultrasonography

69. Electronically intensified image to allow its projection on a viewing screen, used primarily to study diaphragmatic excursion and respiratory motion of the lungs. Examination of barium-filled esophagus to outline mediastinal abnormalities:

- A. Fluoroscopy
- B. Radiography
- C. Tomography
- D. Ultrasonography
- E. Bronchography

70. Sequence of x-rays, each representing a cross section or "cut" through the lung tissue at a different depth. Useful in identifying the presence of a cavity within a lesion, hilar adenopathy, mediastinal masses, or abnormalities:

- A. Fluoroscopy

- B. Radiography
- C. Tomography
- D. Ultrasonography
- E. Bronchography

71. Direct observation of tracheobronchial tree, localizes abnormalities in major airways. Provides access to remove aspirated foreign bodies from major airways, remove obstructive mucous plugs, and perform bronchial lavage:

- A. Bronchoscopy
- B. Bronchography
- C. Fluoroscopy
- D. chest x-ray
- E. Tracheal aspiration

72. Normal range of the hydrogen ion concentration (**pH**) is:

- A. 7.35-7.45
- B. 7.30-7.35
- C. 7.45-7.50
- D. 7.25-7.30
- E. 7.50-7.55

73. Normal range of the arterial partial pressure of the carbon dioxide (**PCO<sub>2</sub>**) is:

- A. 25 – 30 mm Hg
- B. 30-35 mm Hg
- C. 35 - 45 mm Hg
- D. 45-50 mm Hg
- E. 50 – 60 mm Hg

74. Normal range of the arterial partial pressure of the oxygen (**PO<sub>2</sub>**) is:

- A. 83 - 108 mm Hg
- B. 55-85
- C. 55-40
- D. < 40

75. Signs that indicate the need for blood gas examination include a change in all following EXCEPT:

- A. Color of skin and mucous membranes
- B. Depth of respirations
- C. Rate of respirations
- D. Behavior
- E. Convulsion

76. A simple modern method used to diagnose the degree of obstruction of respiratory ways with the help of the device as a tube which is open from both sides, the patient exhales into one of them. Call this method:

- A. Pneumotachometry
- B. Spirometry
- C. Spirography
- D. Peakflowmetry

77. Sputum examination shows large numbers of eosinophils and colorless crystalloid fragments representing degeneration of eosinophils—Charcot-Leyden crystals. It is sign of:

- A. Asthma
- B. Bronchitis
- C. Pleurisy
- D. Pneumonia
- E. Tuberculosis

78. Bronchial asthma is associated with all the following EXCEPT:

- A. Hyperresonance percussion sound
- B. Inspiratory dyspnea
- C. Barrel chest
- D. Wheezing
- E. Orthopnea

79. Pleural effusion is associated with all the following EXCEPT:

- A. Asymmetry of chest motion
- B. Unilateral dullness
- C. Unilateral absence birthing
- D. The heart is shifted to unaffected side on the roentgenogram
- E. The plural rub on auscultation

80. Clubbing is associated with:

- A. Pleurisy
- B. Acute pneumonia
- C. Recurrent bronchitis
- D. Multiple bronchiectasis
- E. Simple bronchitis

81. Clinical manifestation of the pneumothorax is:

- A. Intoxication
- B. Sputum with blood-tinged mucous
- C. Bronchovesicular breathing
- D. Tympany on percussion
- E. The heart is shifted toward involved side

82. Bronchovesicular breathing on auscultation is characterized for:

- A. Acute simple bronchitis
- B. Croup syndrome

- C. Pneumothorax
- D. Stridor
- E. Lung abscess

83. A 2-years-old child presents with fever, hoarseness, brassy cough, respiratory distress with substernal and suprasternal retractions, cyanosis, restlessness, diminished breath sounds bilaterally, rhonchi. The most likely diagnosis is

- A. bronchitis
- B. bronchiolitis
- C. pneumonia
- D. bronhial asthma
- E. acute laryngotracheobronchitis

84. A previously healthy 2-year-old child has developed a chronic cough over the previous 6 weeks. He has been seen in different emergency rooms on two occasions during this period and placed on antibiotics for pneumonia. Upon auscultation, you hear normal breath sounds on the left. On the right side, you hear decreased air movement during inspiration but none upon expiration. The routine chest radiograph shows no infiltrate, but the heart is shifted slightly to the left. The most likely diagnosis is

- A. cystic fibrosis
- B. foreign body in the right bronchus
- C. bronchial asthma
- D. Pneumonia
- E. Pertussis

85. Hyperresonance on percussion of the chest is occurred in:

- A. Pleural effusion
- B. Lobar pneumonia
- C. Simple chronic bronchitis
- D. Emphysema
- E. Large pneumothorax

86. Diminished breath sound on lungs auscultation is heard in all the following, EXCEPT:

- A. The severe narrow pharynx and larynx
- B. Obstruction of the bronchus by accumulated secretions and mucosal edema
- C. Narrowing the terminal bronchioles
- D. Decrease elasticity pulmonary tissue
- E. Obesity

87. In the pneumonia examination reveals all the following, EXCEPT:

- A. Crepitation
- B. Intoxication

- C. Dyspnea
- D. Unilateral impairment of respiratory movement
- E. Retraction on one side of the chest

88. Clinical manifestation of the pleural effusion is:

- A. Increased tactile fremitus on the affected side
- B. The mediastinum shifts to the affected side
- C. Flatness on percussion
- D. Pleural rub on auscultation
- E. Painful cough

89. Sputum examination reveals Charcot-Leyden crystals. What disease is it characterized?

- A. Asthma
- B. Bronchitis
- C. Pleurisy
- D. Pneumonia
- E. Tuberculosis

90. A 6-week-old infant presents with a history of noisy breathing. The noise was first noted shortly after birth, is inspiratory in nature, is worse now that the infant has a viral respiratory illness, and remits almost completely when the child is asleep. The most likely etiology of this child's noisy breathing is

- A. asthma
- B. acute laryngotracheobronchitis
- C. croup
- D. laryngomalacia (stridor)
- E. pneumonia

91. The parents are awakened in the night by your 2-year-old son, who has developed noisy breathing on inspiration, marked retractions of the chest wall, flaring of the nostrils, and a barking cough. He has had a mild upper respiratory infection (URI) for 2 days. The most likely diagnosis is

- A. Asthma
- B. Epiglottitis
- C. Bronchiolitis
- D. Viral croup
- E. Foreign body in the right mainstem bronchus

92. Dullness on percussion is revealed in all the following, EXCEPT:

- A. Pleural effusion
- B. Atelectasis
- C. Pulmonary edema
- D. Pulmonary hemorrhage
- E. Emphysema

93. Bronchiobstructive syndrome is characterized all the following, EXCEPT:
- A. Prolonged expiration
  - B. Dyspnea
  - C. Noisy breathing
  - D. Aphonia
  - E. Cough
94. Clinical manifestation of the pleurisy without effusion is:
- A. Chest pain in the involved side which decreased with opposite lateral bending
  - B. The mediastinum shifts to the unaffected side
  - C. Dry, painful cough
  - D. Decreased tactile fremitus on the affected side
  - E. Increased bronchophony
95. Tachypnea, tachycardia, altered depth and pattern of respiration, chest retraction, nasal flaring, grunting, cyanosis, restlessness, irritability – these are clinical signs of:
- A. Pneumonia
  - B. Asthma
  - C. Croup
  - D. Respiratory failure
  - E. Pleurisy
96. Clinical features of acute laryngotracheitis (viral croup) are all the following except:
- A. Expiratory dyspnea
  - B. Barking cough
  - C. Fever
  - D. Hoarseness
  - E. Symptoms often are worse at night
97. A previously well 1-year-old infant has had a runny nose and has been sneezing and coughing for 2 days. Two other members of the family had similar symptoms. Four hours ago, his cough became much worse. On physical examination, he is in moderate respiratory distress with nasal flaring, hyperexpansion of the chest, and easily audible wheezing without rales. The most likely diagnosis is
- A. Bronchiolitis
  - B. Viral croup
  - C. Asthma
  - D. Epiglottitis
  - E. Diphtheria



98. A 3-year-old girl presents with a history of recurrent pneumonia. On physical examination, wheezing and crackles are heard, and digital clubbing is evident. The most likely diagnosis is

- A. bronchopulmonary dysplasia
- B. cystic fibrosis
- C. laryngomalacia (stridor)
- D. asthma
- E. croup

99. What type of sound may mean pneumonia or pulmonary edema is present?

- A. Stridor
- B. Crackles coarse
- C. Wheeze
- D. Normal vesicular
- E. Crackles fine

100. What sound can be described as low pitched wheezes, occurring in both inspiratory and expiratory phases?

- A. Rhonchi
- B. Grunting
- C. Stridor
- D. Fine crackles

101. Which of the following sinuses are present at birth?

- A. maxillary
- B. ethmoid
- C. sphenoid
- D. *a* and *b*
- E. *a* and *c*

102. Infections involving the adenoids and complications from such infections are most common in

- A. infants
- B. young children
- C. young adults
- D. middle-aged people

103. A five-month-old girl has been tired and irritable for a few days with a runny nose. She now has a cough and is wheezy. On examination, her temperature is 37.8°C and she has nasal flaring, intercostal recession and cyanosis. The most likely diagnosis is:

- A. Asthma
- B. Acute bronchiolitis
- C. Croup
- D. Pneumonia

E. Whooping cough (pertussis)

104. A two-year-old girl has been unwell for two months with difficulty breathing. She has a barking cough with no sputum. The cough is worse at night and after feeding. Sometimes the bouts of coughing end with vomiting. There is no wheeze. The most likely diagnosis is:

- A. Asthma
- B. Acute bronchiolitis
- C. Croup
- D. Pneumonia
- E. Whooping cough (pertussis)

105. A three-year-old boy has had a chronic cough for three months. He has had several chest infections and has required several courses of antibiotics. On examination he has a monophasic wheeze, heard in the right lower lung field. He is systemically well. The most likely diagnosis is:

- A. Asthma
- B. Pneumonia
- C. Epiglottitis
- D. Diphtheria
- E. Inhaled foreign body

106. A 15-year-old boy and his mother were referred to a pulmonology clinic. She is concerned that her son is having some breathing difficulty for the past few months. It is worse with exercise. The family is especially concerned because the boy's older brother has cystic fibrosis. Past medical history is noncontributory. Today, his blood pressure is 119/80 mm Hg, heart rate is 90/min, respiratory rate is 17/min, and temperature is 37°C (98.6°F). On physical exam, he appears well-developed and well-nourished. His heart has a regular rate and rhythm and his lungs are clear to auscultation bilaterally. During the exam, he is brought into a special room to test his breathing. A clamp is placed on his nose and he is asked to take in as much air as he can and then forcefully expire all the air into a spirometer. The volume of expired air represents which of the following?

- A. Expiratory reserve volume
- B. Functional residual capacity
- C. Tidal volume
- D. Total lung capacity
- E. Vital capacity

**Answers to Respiratory System:**

1B	11A	11E	21B	41E	51D	61B	71A	81D	91D	101D
2C	12B	12C	22B	42E	52E	62E	72A	82A	92E	102B
3A	13A	13C	23C	43C	53D	63A	73C	83E	93D	103B
4D	14C	14B	24E	44B	54C	64D	74A	84B	94C	104E

5B	15B	15E	25D	45C	55B	65C	75E	85D	95D	105E
6B	16A	16A	26B	46C	56A	66A	76D	86C	96A	106E
7A	17C	17E	27B	47C	57D	67A	77A	87E	97A	
8D	18C	18C	28D	48B	58A	68C	78B	88C	98B	
9C	19D	19E	29D	49D	59E	69A	79E	89A	99E	
10E	20C	20B	30A	50E	60B	70C	80D	90D	100A	

### Cardiovascular System (93)

1. A 10-year-old child normally has the pulse rate (bpm):
  - A. 150-160 per min
  - B. 120-130 per min
  - C. 90-110 per min
  - D. 80-90 per min
  - E. 50-60 per min
2. The final obliteration of fetal umbilical vessels occurs at the age:
  - A. 2-3 weeks
  - B. 4-6 weeks
  - C. 6-8 weeks
  - D. 4-th month of a life
  - E. 1 year
3. Where is the apex beat localized in a healthy 7-year-old child?
  - A. at the left sternal line
  - B. at the left parasternal line
  - C. at the fifth intercostal space on the right midclavicular line
  - D. at the forth intercostal space on the left midclavicular line
  - E. at the fifth intercostal space on the left midclavicular line
4. Where is apex beat localized in an 8-month-old child?
  - A. at V intercostal space 0,5 cm outward from the left midclavicular line
  - B. at V intercostal space 1cm outward from the left midclavicular line
  - C. at IV intercostal space 2 cm outward from the left midclavicular line
  - D. at IV intercostal space on the left midclavicular line
  - E. at IV intercostal space 1cm outward from the left midclavicular line
5. What is the normal pulse rate in the newborn?
  - A. 150-160 per min
  - B. 120-140
  - C. 90-100
  - D. 70-80
  - E. 60-7

6. Force of the apex beat depends on:
- A. Amplitude of the intercostal space vibration
  - B. Intensity of the right ventricular contraction
  - C. Intensity of the left ventricular contraction
  - D. Intensity of the right atrium contraction
  - E. Intensity of the left atrium contraction
7. The pulse rate in a 5-year-old healthy child is:
- A. 140-150 per minute
  - B. 120-130 per minute
  - C. 110-120 per minute
  - D. 95-100 per minute
  - E. 70-80 per minute
8. Name the thrill which coincides with the apex beat:
- A. Systolic
  - B. Diastolic
  - C. Arterial
  - D. Mitral
  - E. Aortic
9. Define the apex beat if its area is about 3 x 3 cm
- A. Limited
  - B. Enlargement
  - C. Strengthened
  - D. Decreased
  - E. Little
10. What is the pulse rate in a 1-yr-old healthy child?
- A. 140-150 bpm
  - B. 110-120 bpm
  - C. 90-100 bpm
  - D. 80-90 bpm
  - E. 70-80 bpm
11. When does the heart become divided into a typical four-chambered structure?
- A. by the 22<sup>nd</sup> day of gestation
  - B. during the 3-4 week of gestation
  - C. during the 4-7<sup>th</sup> week
  - D. by the 8-10<sup>th</sup> week
  - E. by the 12-14<sup>th</sup> week
12. When is ductus arteriosus closed after the birth (functionally)?
- A. by the 12 hr
  - B. by the 4<sup>th</sup> day

- C. 1 wk
- D. 3-4 mo
- E. 5-6 mo

13. Point out the wrong statement concerning histological peculiarities of children's myocardium:

- A. Muscle fiber is thin, widespread
- B. Striated muscle is well-disposed
- C. Multinucleated myocardial cells are characteristic
- D. Connective and elastic tissues are not developed
- E. none of the above

14. The upper border of the newborn's heart is localized (by percussion):

- A. III intercostal spaces
- B. III rib
- C. II intercostal spaces
- D. II rib
- E. I intercostal spaces.

15. Displacement of the apex beat downward and outward is observed in one of the following situation:

- A. Enlargement of the left atrium
- B. Enlargement of the right atrium and ventricles of heart
- C. Right ventricle hypertrophy
- D. Enlargement of the right atrium
- E. Left ventricle hypertrophy

16. What is typical of the capillaries of young children?

- A. They are well-developed, relatively broad, short and wavy
- B. Low ability of penetration of capillary walls
- C. High velocity of capillary blood flow
- D. The wall is dense, muscular fibers are well-developed
- E. none of the above

17. On percussion the left heart border in a 1-year-old child is localized:

- A. 1-2 cm outwards from the left midclavicular line
- B. at the left midclavicular line
- C. 1-2 cm to medially from the left midclavicular line
- D. at the left parasternal line
- E. 1 cm outward from the left sternal line

18. What are the peculiarities of the cardiovascular system in infancy?

- A. the size of the heart is larger in relation to total body size
- B. the walls of right and left ventricles are equal in thickness
- C. low blood pressure

- D. heart rate is more high
  - E. all of the above
19. When does the ductus arteriosus obliterate?
- A. by the 1-2<sup>nd</sup> wk
  - B. by the 3-4<sup>th</sup> wk
  - C. 1-3 mo
  - D. 5-6 mo
  - E. by 1yr
20. Displacement of the apex beat downward is observed in one of the following situation:
- A. Enlargement of the left atrium
  - B. Enlargement of the right atrium and ventricle of the heart
  - C. Left ventricle hypertrophy
  - D. Right ventricle hypertrophy
  - E. Enlargement of the right atrium
21. Systolic blood pressure in 1-mo-old infant is (in mm Hg) is:
- A. 40
  - B. 50
  - C. 75
  - D. 90
  - E. 100
22. The upper border of relative heart dullness in 9-year-old child is localized:
- A. IV rib
  - B. III rib
  - C. II rib
  - D. II intercostal space
  - E. III intercostal space
23. The right border of relative heart dullness in 5-year-old child is localized:
- A. on the left sternal line
  - B. on the right sternal line
  - C. inwards from the right parasternal line
  - D. on the right parasternal line
  - E. outwards from the right parasternal line
24. What heart sound is the result of vibrations produced during ventricular filling?
- A. S<sub>1</sub>
  - B. S<sub>2</sub>
  - C. S<sub>3</sub>
  - D. S<sub>4</sub>
  - E. splitting S<sub>1</sub>

25. Which of the following action does the first heart sound ( $S_1$ ) produce?
- A. Opening of the mitral and tricuspid valves
  - B. Opening of the aortic and pulmonic valves
  - C. Opening of the tricuspid valves
  - D. Closing of the mitral and tricuspid valves
  - E. Closing of the aortic and pulmonic valves
26. Systolic blood pressure in a 10-year-old child is:
- A. 60 mm Hg
  - B. 70 mm Hg
  - C. 80 mm Hg
  - D. 100 mm Hg
  - E. 130 mm Hg
27. The left border of relative heart dullness in a 4-year-old child is localized:
- A. In the 5<sup>th</sup> intercostal space on 1-2 cm inside from the left midclavicular
  - B. In the middle between the left midclavicular and parasternal lines
  - C. on the left parasternal line
  - D. on the left midclavicular line
  - E. 1cm outwards from the left midclavicular line
28. Where is the upper border of cardiac dullness localized in a 5-year-old child?
- A. II rib
  - B. III rib
  - C. IV rib
  - D. II intercostal spaces
  - E. III intercostal spaces
29. What heart sound is the result of the closure of the pulmonic and aortic valves?
- A.  $S_1$
  - B.  $S_2$
  - C.  $S_3$
  - D.  $S_4$
  - E. splitting  $S_1$
30. Which of the following actions produces the second heart sound ( $S_2$ )?
- A. opening of the mitral and tricuspid valves
  - B. the closure of the pulmonic and aortic valves
  - C. closing of the mitral and tricuspid valves
  - D. Opening of the aortic and pulmonic valves
  - E. Closing of the tricuspid valves
31. The transition from fetal circulation to postnatal circulation involves the following, except:

- A. The closure of the foramen ovale
  - B. The closure of the ductus arteriosus
  - C. Decreased pulmonary vascular resistance
  - D. The opening of the ductus venosus
  - E. The closure umbilical vein and arteries
32. The fetal heart begins to beat at approximately:
- A. 3 weeks gestation
  - B. 4 weeks gestation
  - C. 6 weeks gestation
  - D. 8 weeks gestation
  - E. 10 weeks gestation
33. All the following statement about infant's heart is correct, except:
- A. In infancy the size of the heart in relation to total body size is less
  - B. it occupies a larger space in thoracic cavity
  - C. It lies at a transverse angle
  - D. The ventricle walls are more or less equal in thickness at birth
  - E. With the increased demand of the postnatal peripheral circulation, the left side becomes thicker than the right
34. Intensity or force of pulse decreases with inspiration:
- A. sinus arrhythmia
  - B. pulsus paradoxus
  - C. pulsus alternans
  - D. pulsus alternans
  - E. pulsus bigeminus
35. What is the correct term of pattern the pulse: strong beat followed by weak beat?
- A. sinus arrhythmia
  - B. pulsus paradoxus
  - C. pulsus alternans
  - D. pulsus alternans
  - E. bradycardia
36. Heart rate increases with inspiration and decreases with expiration:
- A. sinus arrhythmia
  - B. pulsus paradoxus
  - C. pulsus alternans
  - D. tachycardia
  - E. bradycardia
37. Where S1 is heard best in a 5-year-old child?
- A. Pulmonic area



- B. mitral area
  - C. Erb's point
  - D. aortic area
38. Which normal heart sound is heard in auscultation of the pulmonic area?
- A. Split first heart sound
  - B. Third heart sound
  - C. Split second heart sound
  - D. Fourth heart sound
39. Which of the following statements can help the physician differentiate split  $S_2$  from  $S_3$ ?
- A. Split  $S_2$  is low-pitched;  $S_3$  is high-pitched.
  - B.  $S_3$  occurs late in systole; split  $S_2$ , late in diastole.
  - C.  $S_3$  varies with respiration; split  $S_2$  varies with position
  - D. Split  $S_2$  is heard best at the pulmonic area;  $S_3$  at the apex
40. What statement is false? Innocent murmurs generally are:
- A. systolic, they occur with or after  $S_1$
  - B. of short duration
  - C. grade III or less in intensity
  - D. No variable in relationship to position, respiration and activity
  - E. Have no transmission to other areas of the heart
41. Where  $S_2$  is heard best in a 2-year-old child?
- A. Mitral area
  - B. Tricuspid area
  - C. Aortic area
  - D. Erb's point
  - E. Pulmonic area
42. To help differentiate the third heart sound from other heart sounds, the physician listened closely to identify its timing. At what point in the cardiac cycle does  $S_3$  occur?
- A. Early systole
  - B. Late systole
  - C. Late diastole
  - D. Early diastole
43. What sign can be a normal sound in young child?
- A. Split  $S_1$
  - B.  $S_3$
  - C.  $S_4$
  - D. Diastolic murmur

44. Because a 10-year-child has tachycardia, the physician should rely on which of the following facts to identify the timing of the cardiac cycle?

- A. S<sub>1</sub> is loudest at the base.
- B. S<sub>1</sub> occurs sometime during inspiration
- C. S<sub>1</sub> occurs with the carotid pulse upstroke.
- D. S<sub>1</sub> is simultaneous with visible apical pulsation

45. The method of registration of the heart electric activity is:

- A. X-ray
- B. Phonocardiography
- C. Electrocardiography
- D. Echocardiography
- E. Dopplerography

46. In case of ECG which the precordial electrode is positioned in the 4<sup>th</sup> intercostal space at the right parasternal line:

- A. V1
- B. V2
- C. V3
- D. V4
- E. V5

47. In case of ECG which the precordial electrode is positioned in the 5<sup>th</sup> left intercostal space at the midclavicular line:

- A. V1
- B. V2
- C. V4
- D. V5
- E. V6

48. European standard use the red color to identify patient cable leads at the:

- A. Right arm
- B. Left arm
- C. Left leg
- D. Right leg

49. A technique of ultrasound vascular circulation examination, which provides information on the state of vessels and blood flow in real time.

- A. X-ray
- B. Phonocardiography
- C. Electrocardiography
- D. Echocardiography
- E. Dopplerography

50. Peculiarities of children's ECG are:

- A. sinus arrhythmia is common
- B. heart rate is high
- C. T wave in V1 is negative up to 6 years
- D. a larger positive R than negative S in V1 in infants
- E. all of the above

51. ECG-atrial complex consists of:

- A. PQRS
- B. QRST
- C. ST
- D. P
- E. QRS

52. Widened, bifid or sometimes biphasic P wave on ECG indicates

- A. hyperkalemia
- B. hypokalemia
- C. mitral stenosis
- D. pulmonary stenosis
- E. left ventricular enlargement

53. The sensation of palpable vibrations most commonly is produced by the turbulent flow of blood into the abnormal heart is:

- A. point of maximum impulse
- B. pericardial friction rubs
- C. murmur
- D. thrill
- E. none of the above

54. The heart must be considered as enlarged if the cardiothoracic ratio on the chest X-ray is:

- A. >90%
- B. >75%
- C. >60%
- D. >50%
- E. >40%

55. In normal persons the systolic blood pressure in the legs obtained by the cuff method is:

- A. 10–20 mm Hg higher than that in the arms
- B. 10–20 mm Hg lower than that in the arms
- C. Equal to in the arms
- D. 5-10 mm Hg higher than that in the arms
- E. 20-30 mm Hg lower than that in the arms

56. The method of the graphic registration of heart sounds is:

- A. X-ray
- B. Phonocardiography
- C. Electrocardiography
- D. Echocardiography
- E. Dopplerography

57. In case of ECG which the precordial electrode is positioned in the 4<sup>th</sup> left intercostal space at the left parasternal line:

- A. V1
- B. V2
- C. V3
- D. V4
- E. V5

58. A test that uses high frequency sound waves (ultrasound) to make pictures of the heart:

- A. X-ray
- B. Phonocardiography
- C. Electrocardiography
- D. Echocardiography
- E. Dopplerography

59. Peculiarities of children's ECG are:

- A. sinus arrhythmia is common
- B. during the 1<sup>st</sup> days of life, right axis deviation ( $R_{III} \geq R_{II}$  and  $R_I$ )
- C. voltage QRS is high
- D. deep Q in II and AVF (up to 5-6 years)
- E. all of the above

60. What is ECG-ventricular complex?

- A. PQRS
- B. QRST
- C. ST
- D. PQ
- E. QRS

61. The notching of the ribs on the chest X-ray is commonly associated with:

- A. pulmonary hypertension
- B. anomalous pulmonary venous return above the diaphragm
- C. coarctation of aorta
- D. systemic blood hypertension
- E. aortic valve's insufficiency

62. The prolonged Q-T interval on ECG may be seen in patients with:

- A. hypokalemia

- B. hypocalcemia
- C. sinus bradycardia
- D. all of the above
- E. none of the above

63. Peaked narrow P waves in standard lead II and in lead V1 (P-pulmonale) are seen in:

- A. right atrial enlargement
- B. left atrial enlargement
- C. right ventricular enlargement
- D. left ventricular enlargement
- E. all of the above

64. The finding of substernal thrust on palpation of the precordium is most likely to be associated with

- A. left ventricular hypertrophy
- B. right ventricular hypertrophy
- C. an ejection click
- D. systemic hypertension
- E. pericardial effusion

65. What hematologic finding is the most common in infants with cyanotic congenital heart diseases?

- A. increased sedimentation rate
- B. anemia
- C. increasing hematocrit
- D. leukocytosis
- E. platelet's cells deficiency

66. Pulsus paradoxus is associated with

- A. pericarditis
- B. endocarditis
- C. acute rheumatic fever
- D. myocarditis
- E. tetralogy of Fallot

67. A 4-month-old infant is noted to have a grade 4 holosystolic murmur that is harsh over the left sternal border. Results of both the chest radiograph and ECG are normal, and the child is otherwise asymptomatic. The most likely cause of this murmur is:

- A. large VSD with 3:1 shunt
- B. an ASD secundum defect
- C. a small VSD
- D. pulmonic stenosis
- E. pink tetralogy of Fallot

68. Acute heart failure in children is characterized by:
- A. heart pain
  - B. jugular vein bulging, tachypnea, tachycardia, tender liver
  - C. anasarca
  - D. legs edema
  - E. failure to thrive
69. The children with VSD do not tolerate following conditions, making them worse, EXCEPT:
- A. overfeeding
  - B. over fluids intake
  - C. common cold
  - D. physical efforts
  - E. vaccination
70. What statement about PDA (patent ductus arteriosus) is not true?
- A. In the premature infant the patent ductus never closed spontaneously
  - B. PDA is one of the most common congenital cardiovascular anomalies associated with maternal rubella infection during early pregnancy.
  - C. It is a common problem in the premature infant.
  - D. PDA persisting beyond the 1st few weeks of life in a term infant will rarely close spontaneously
  - E. In the premature infant the patent ductus usually has a normal structural anatomy; in these infants patency is the result of hypoxia and immaturity; spontaneous closure would occur in most instances.
71. Which of the following is the most common congenital heart disease in infants and children (excluding the neonatal period)?
- A. ASD
  - B. VSD
  - C. PDA
  - D. Coarctation of the aorta
  - E. Tetralogy of Fallot
72. Which of the following is the most important procedure in the clinical confirming of bacterial endocarditis?
- A. Complete blood count
  - B. Urinalysis (microscopy of sediments)
  - C. Erythrocyte sedimentation rate
  - D. Blood culture
  - E. Electrocardiogram
73. The signs and symptoms of congestive heart failure in children are all following, EXCEPT:

- A. liver enlargement
- B. effort intolerance
- C. dyspnea, orthopnea
- D. cardiomegaly
- E. skin erythema

74. Because of the high viscosity of polycythemic blood (hematocrit [Hct] >65%), patients having cyanotic congenital heart disease are at risk to develop vascular thromboses, especially of cerebral veins. Dehydration increases the risk of thrombosis, and thus in cyanotic patients during hot weather or during intercurrent illness must be maintained adequate:

- A. fluid intake
- B. calories intake
- C. sleeping regime
- D. physical activity
- E. oxygenation

75. In children chronic congestive heart failure is characterized all the following EXCEPT:

- A. heart pain
- B. dyspnea, orthopnea, tachycardia, cyanosis
- C. failure to thrive, jugular veins bulging, intolerance to physical efforts
- D. liver enlargement
- E. legs edema

76. Child assumes a squatting position for the relief of dyspnea due to physical effort. What is the congenital cardiac defect it best characterizes?

- A. ASD
- B. small VSD
- C. A large PDA (patent ductus arteriosus)
- D. coarctation of the aorta
- E. Tetralogy of Fallot

77. A disparity in pulsations and blood pressures of the arms and legs. What is the congenital cardiac defect it best characterizes?

- A. ASD
- B. small VSD
- C. A large PDA (patent ductus arteriosus)
- D. coarctation of the aorta
- E. Tetralogy of Fallot

78. The wide pulse pressure; the continuous murmur has been described like machinery. What is the congenital cardiac defect it best characterizes?

- A. ASD
- B. small VSD

- C. A large PDA (patent ductus arteriosus)
- D. coarctation of the aorta
- E. Tetralogy of Fallot

79. Patients are asymptomatic; a loud, harsh, or blowing left parasternal systolic murmur, heard best over the lower left sternal border and frequently accompanied by a thrill. What is the congenital cardiac defect it best characterizes?

- A. ASD
- B. small VSD
- C. A large PDA (patent ductus arteriosus)
- D. coarctation of the aorta
- E. Tetralogy of Fallot

80. There is a loud 1st heart sound and sometimes a pulmonic ejection click. In most patients the 2nd heart sound at the upper left sternal edge is widely split and fixed in its splitting in all phases of respiration. What is the congenital cardiac defect it best characterizes?

- A. ASD
- B. small VSD
- C. A large PDA (patent ductus arteriosus)
- D. coarctation of the aorta
- E. Tetralogy of Fallot

81. What etiologic factors are associated with many of congenital heart defects?

- A. chromosomal abnormalities (trisomy 18, trisomy 21, Turner syndrome, Marfan syndrome)
- B. adverse maternal conditions (maternal diabetes mellitus, phenylketonuria, systemic lupus erythematosus, congenital rubella syndrome)
- C. drugs (lithium, ethanol, thalidomide, anticonvulsant agents)
- D. environmental and teratogenic influences
- E. all of the above

82. Tetralogy of Fallot classically consists of the combination of all the following, EXCEPT:

- A. obstruction to right ventricular outflow (pulmonary stenosis)
- B. ventricular septal defect (VSD)
- C. dextroposition of the aorta with septal override
- D. right ventricular hypertrophy
- E. atrial septal defect (ASD)

83. In normal persons the systolic blood pressure in the legs obtained by the cuff method is:

- A. 10–20 mm Hg higher than that in the arms
- B. 10–20 mm Hg lower than that in the arms
- C. Equal to in the arms



- D. 5-10 mm Hg higher than that in the arms
- E. 20-30 mm Hg lower than that in the arms

84. The chest roentgenogram shows the pulmonary vascular markings are diminished in case of:

- A. ASD
- B. VSD
- C. PDA
- D. Tetralogy of Fallot
- E. Coarctation of the aorta

85. Signs include cyanosis, squatting posture, hyperpnea, and dyspnea on exertion. Paroxysmal hypoxemic spells consist of irritability, hyperpnea, increasing cyanosis, and syncope. What congenital heart disease it's characterized?

- A. ASD
- B. VSD
- C. PDA
- D. Tetralogy of Fallot
- E. Coarctation of the aorta

86. An occasional child will complain about weakness and/or pain in the legs after exercise, but in most instances older children are frequently brought to the cardiologist's attention when found to be hypertensive on a routine physical examination. What congenital heart disease it's characterized?

- A. ASD
- B. VSD
- C. PDA
- D. Tetralogy of Fallot
- E. Coarctation of the aorta

87. An 18-month-old is noted to assume a squatting position frequently during play time at the daycare center. The mother also notices occasional episodes of perioral cyanosis during some of these squatting periods. The day of admission, the child becomes restless, hyperpneic, and deeply cyanotic. Within 10 minutes, the child becomes unresponsive. The most likely lesion is

- A. cardiomyopathy
- B. anomalous coronary artery
- C. tetralogy of Fallot
- D. cystic fibrosis
- E. aspiration pneumonia

88. A previously well 3 1/2-month-old presents with poor feeding, sweating during feeding, and poor growth. Vital signs reveal respirations of 70, pulse of 175, and blood pressure of 90/65 mm Hg in the upper and lower extremities. The cardiac examination reveals a palpable parasternal lift and a systolic thrill. A grade 4

holosystolic murmur and a middiastolic rumble are noted. The chest radiograph reveals cardiomegaly. The most likely diagnosis is

- A. cardiomyopathy
- B. myocarditis
- C. VSD
- D. coarctation of the aorta
- E. transposition of the great arteries

89. A 12-year-old female is noted to have a blood pressure of 170/110 mm Hg during a routine grade physical examination for school sports participation. She is asymptomatic but has been noted to have a grade 1-2/6 short systolic murmur at the left sternal border. The lower extremity blood pressure of the patient was 90/70 mm Hg. What is the most likely diagnosis?

- A. Atrial septal defect
- B. coarctation of the aorta
- C. Tricuspid regurgitation
- D. Mitral valve prolapse
- E. Ventricular septal defect

90. During a regular checkup on an 8-year-old child, you note a loud first heart sound with a fixed and widely split second heart sound at the upper left sternal border that does not change with respirations. The patient is otherwise active and healthy. The most likely heart lesion to explain these findings is

- A. Atrial septal defect
- B. Ventricular septal defect
- C. Isolated tricuspid regurgitation
- D. Tetralogy of Fallot
- E. Mitral valve prolapse

91. During a physical examination for participation in a sport, a 16-year-old girl is noted to have a late apical systolic murmur, which is preceded by a click. The rest of the cardiac examination is normal. She states that her mother also has some type of heart "murmur" but knows nothing else about it. The most likely diagnosis is

- A. Atrial septal defect
- B. Aortic stenosis
- C. Tricuspid regurgitation
- D. Mitral valve prolapse
- E. Ventricular septal defect

92. An infant previously diagnosed with a large muscular ventricular septal defect comes to the office with complaints from the mother of fatigue and poor feeding over the past month. You note the child has not gained weight since the previous visit two months ago. The child is apathetic, tachypneic, and has wheezes and crackles on lung auscultation. The most likely diagnosis is

- A. Acute pneumonia

- B. Malnutrition
- C. Acute bronchitis
- D. Congestive heart failure
- E. Asthma

93. A 1-month-old baby is brought to the emergency department because he had a coughing spell while feeding and turned blue. The mother says that the blue color went away when she picked the baby up and brought his knees to his chest. The physician orders a chest X-ray which shows a boot-shaped heart and he tells the mother that the baby has a condition that is caused by an anterosuperior displacement of the infundibular septum. What are the 4 features of the baby's cardiac condition?

- A. Pulmonary stenosis, left ventricular hypertrophy, ventricular septal defect, overriding aorta
- B. Pulmonary regurgitation, left ventricular hypertrophy, ventricular septal defect, overriding aorta
- C. Pulmonary regurgitation, right ventricular hypertrophy, atrial septal defect, overriding aorta
- D. Pulmonary stenosis, right ventricular hypertrophy, atrial septal defect, overriding pulmonary artery
- E. Pulmonary stenosis, right ventricular hypertrophy, ventricular septal defect, overriding aorta

**Answers to Cardiovascular System:**

1D	11C	21C	31D	41E	51D	61A	71B	81E	91D
2C	12C	22B	32B	42D	52C	62D	72D	82E	92D
3E	13B	23C	33A	43B	53D	63A	73E	83A	93E
4C	14D	24C	34B	44C	54D	64B	74A	84D	
5B	15E	25D	35D	45C	55A	65C	75A	85D	
6C	16A	26D	36A	46A	56B	66A	76E	86E	
7D	17A	27E	37B	47C	57B	67C	77D	87C	
8A	18E	28D	38C	48A	58D	68B	78C	88C	
9B	19C	29B	39D	49D	59E	69E	79B	89B	
10B	20D	30B	40D	50E	60B	70A	80A	90A	

**Gastrointestinal System (86)**

1. By what week of gestation palatal fusion is completed?
  - A. 4 wk.
  - B. 8 wk
  - C. 12 wk
  - D. 16 wk
  - E. 20 wk
  
2. What enzyme does saliva contain?

- A. pepsin
  - B. amylase
  - C. lactase
  - D. lipase
  - E. peptidase
3. If the bile absent about half of the ingested fat is appeared in the feces. It is called:
- A. creatorrhea
  - B. amyloerrhea
  - C. lipidorrhea
  - D. steatorrhea
4. All of the following gastrointestinal symptoms may be normal in an infant EXCEPT:
- A. regurgitation
  - B. frequent stools
  - C. green-brown transition stools
  - D. jaundice in neonates
  - E. melena
5. What is the result of physiological jaundice in newborn?
- A. increase bilirubin production following breakdown of fetal red blood cells
  - B. transient limitation in the conjugation of bilirubin by the liver
  - C. intestinal obstruction
  - D. hereditary glucoronyl transferase deficiency
  - E. A & B.
6. Bile is important for digestion because it:
- A. increases the absorption of amino acids
  - B. decreases the absorption of fatty acids
  - C. increases the absorption of monosaccharide
  - D. forms fats emulsion and increases ones absorption
  - E. splitting fats into fatty acids and glycerol
7. Most of the remaining water and electrolytes is absorbed from the:
- A. stomach
  - B. small intestine
  - C. Proximal colon
  - D. distal colon
8. Normally the lower edge of the liver is palpable in infants:
- A. is not palpable
  - B. 1-2 cm below the right costal margin
  - C. 3 cm below the right costal margin

- D. 4 cm below the right costal margin
  - E. in level the right costal margin
- .
9. Where can be the normal liver edge felt in 8-year-old child?
- A. 3.5 cm below the right costal margin in the right midclavicular line
  - B. 3 cm below the right costal margin in the right midclavicular line
  - C. 2 cm below the right costal margin in the right midclavicular line
  - D. Liver is not palpable
  - E. 2 cm below the right costal margin in the right axillary anterior line
10. Examination of the liver should note the all following characteristics EXCEPT:
- A. consistency
  - B. contour
  - C. tenderness
  - D. fluctuation
  - E. presence of any masses
11. At which the serum concentration of bilirubin does jaundice become clinically apparent?
- A. 0.2 -1.0 mg/dL (3.4 -17.1  $\mu\text{mol/L}$ )
  - B. 2 -3 mg/dL (34 – 50  $\mu\text{mol/L}$ )
  - C. 4 -5 mg/dL
  - D. 5 -7 mg/dL
  - E. 8 -9 mg/dL
12. Hepatic synthetic function is reflected in:
- A. serum globulin concentration
  - B. the relative amounts of the globulin fractions
  - C. prothrombin time
  - D. all the above
  - E. only A
13. The severity of the liver disease may be reflected in all the following clinical signs, EXCEPT:
- A. hemorrhage
  - B. occurrence of encephalopathy
  - C. worsening jaundice
  - D. apparent shrinkage of liver mass
  - E. xanthoma
14. Chose the wrong statement about newborn stomach.
- A. capacity of the stomach is 10-20 ml
  - B. the stomach lies horizontally
  - C. cardiac sphincter is flexed

- D. emptying time of the stomach is 2.5-3 hours
  - E. the acidity of gastric juice is low
15. Pancreatic juice contains all following digestive enzymes EXCEPT
- A. pepsin
  - B. trypsin
  - C. lipase
  - D. amylase
16. Which part of GI system does digestion of carbohydrates begin?
- A. in the mouth
  - B. in the stomach
  - C. in the intestine
  - D. in the colon
17. What vitamins does the bacterial flora of large intestine form?
- A. Vitamin K and E
  - B. Vitamin D and A
  - C. Vitamin B and K
  - D. Vitamin A and B
  - E. Vitamin C and B
18. What is the principal absorbing site in the GI system?
- A. stomach
  - B. small intestine
  - C. Proximal colon
  - D. distal colon
19. During percussion along the right midclavicular line the upper edge of liver normally fine at which area?
- A. The 3<sup>rd</sup> to 5<sup>th</sup> intercostal space
  - B. The 5<sup>th</sup> to 7<sup>th</sup> intercostal space
  - C. The 7<sup>th</sup> to 9<sup>th</sup> intercostal space
  - D. 9<sup>th</sup> to 10<sup>th</sup> intercostal space
20. An increase in unconjugated bilirubin may indicate:
- A. increased production of bilirubin
  - B. hemolysis
  - C. reduced hepatic removal
  - D. altered metabolism of bilirubin
  - E. all the above
21. Significant accumulations of conjugated bilirubin may be due to all the following EXCEPT:
- A. sepsis

- B. metabolic disease
  - C. inflammation of the liver
  - D. hemolysis
  - E. obstruction of biliary tract
22. Ascites may be associated with:
- A. urinary tract abnormalities
  - B. metabolic diseases
  - C. congenital or acquired heart disease
  - D. end-stage liver disease
  - E. all the above
23. What clinical manifestation DOES NOT associated with liver dysfunction?
- A. jaundice
  - B. bleeding
  - C. systemic hypertension
  - D. ascites
  - E. hepatomegaly
24. So-called liver function tests include all following EXCEPT:
- A. serum aminotransferase activity
  - B. serum bilirubin level
  - C. alkaline phosphates activity
  - D. albumin level and prothrombin time
  - E. serum electrolytes level
25. What is a highly sensitive indicator of hepatocellular damage?
- A. the rises in aspartate aminotransferase (AST) activities
  - B. the rises in alanine aminotransferase (ALT) activities
  - C. hypoalbuminemia
  - D. the rises level of bile acids
  - E. the rises in alkaline phosphates activities
26. All the following statements about the oral cavity in young infant are true, except:
- A. The mouth is relatively small
  - B. The tongue is relatively big in size
  - C. The mucous membrane is good vascularized and dry
  - D. The newborn produces only small amounts of saliva
  - E. Saliva production is increased from birth
27. The feature of gastric secretion in infants is:
- A. Enzyme components is similar to the adult
  - B. Gastric juice has low proteolysis activity

- C. Volume of Gastric juice secretion the low
  - D. The acidity of gastric juice is low
  - E. all of the above
28. What feature of GIT in young infant predisposed to intussusception?
- A. Short intestines
  - B. Thin mucous membrane of gut
  - C. Relatively big size of liver
  - D. Peristalsis is more rapid in infancy than at other periods of life, and it is not uncommon for peristaltic waves to reverse
  - E. Pyloric sphincter is well developed
29. Anorexia is:
- A. Absence of appetite
  - B. Eating an excess amount of food
  - C. Substernal pain or burning sensation
  - D. Absence of enzymes secretion in stomach
  - E. Sensation of unease and discomfort in the upper stomach a tendency or craving to eat substances other than normal food (such as clay, plaster, or ashes)
30. Heartburn is:
- A. Exit of gas from a stomach into oral cavity
  - B. A burning sensation behind the sternum or in epigastrium
  - C. Sense of abdominal fullness
  - D. Increasing of appetite
  - E. Excessive production of gas in the gastrointestinal tract
31. Define the method of gastric acidity examination in children:
- A. Ultrasonography
  - B. Intra-gastric pH-metric method
  - C. Fibrogastroscopy
  - D. X-ray examination
  - E. Above
32. The X-ray examinations known as a contrast medium stomach gastric series are useful for estimation of all the following, except:
- A. Elasticity of stomach
  - B. Shape of stomach
  - C. Stomach' size
  - D. Gastric acidity
  - E. Stomach's tone peristaltic, gastric acidity and evacuation possibilities
33. What diagnostic method do we commonly used to determine the size of liver in difficult situations?



- A. Fibrogastroscopy
  - B. Ultrasonography of liver and gall-bladder
  - C. Duodenal probing
  - D. Fractional (5-phase) duodenal probing
  - E. Liver' functional tests
34. What is data of serum direct bilirubin in healthy teens (mMol/l)?
- A. 2.05-5.1
  - B. 8.5-20.5
  - C. 6.5-15.4
  - D. 21.5-26.5
  - E. 27.2-30.2
35. Increasing the serum indirect bilirubin is characterized for:
- A. Parenchymal hepatic jaundice
  - B. Hemolytic jaundice
  - C. Obstructive jaundice
  - D. All of the above
36. Vomiting is the typical sign of:
- A. Gastroenteritis
  - B. Gastroesophageal reflux
  - C. Pyloric stenosis
  - D. Meningitis
  - E. All of the above
37. Constipation is common sign of:
- A. Hirschsprung's disease
  - B. Atresia ani
  - C. Hypothyroidism
  - D. Anorexia nervosa
  - E. All of the above
38. Painful ulcer of oral mucosa is a symptom of:
- A. Stomatitis
  - B. Anorexia nervosa
  - C. Hemolytic jaundice
  - D. Gastroesophageal reflux
  - E. Pyloric stenosis
39. What is the rumination?
- A. Exit of gas from a stomach in an oral cavity
  - B. Increase of appetite
  - C. Excessive production of gas in the gastrointestinal tract
  - D. excessive regurgitation and rechewing of food, which is then ejected from

- the mouth or reswallowed
- E. Substernal pain or burning sensation
40. Which enzyme doesn't the food's protein decompose?
- A. Tripsin
  - B. Amylase
  - C. Elastase
  - D. Carbopeptidase
  - E. Chemotrypsin
41. How is the macroscopic, chemical and microscopic inspecting of feces called?
- A. common coprological assay
  - B. 5-phases duodenal probing
  - C. The gut bacteriological test
  - D. Barium enema
  - E. Fibrogastroscopy
42. The visual exaggerated peristaltic waves over the upper abdomen is typical sign of ...:
- A. Pyloric spasm
  - B. Pyloric stenosis
  - C. Atresia of esophagus
  - D. Duodenal ulcer
  - E. Anorexia nervosa
43. Cause of gastrointestinal bleeding in childhood may be all the following, EXCEPT:
- A. Bacterial enteritis
  - B. Colonic polyps
  - C. Intussusception
  - D. Pancreatitis
  - E. Peptic ulcer
44. What is the normal level of serum ALT in healthy person, mkM/hL:
- A. 2,5-3,0
  - B. 0,1-0,75
  - C. 10,0-12,0
  - D. 1,5-2,0
  - E. 3,5-4,0
45. Large contents of undigested muscular fibers in feces called:
- A. Steatorrhea, fatty stool
  - B. Diarrhea
  - C. Parenchymal jaundice
  - D. Creatorrhea

- E. Amylorrhoea
46. Gastric juice contains all the following, except:
- A. Pepsin
  - B. Hydrochloric acid
  - C. Renin
  - D. Lipase
  - E. Amylase
47. Define the feature of stomach in infant:
- A. The stomach has the S-form
  - B. The stomach is lying horizontally
  - C. The volume of stomach is 1 L
  - D. The muscular coat of stomach is sufficient
  - E. The innervation is good
48. Define features of liver in infants:
- A. It has a small size
  - B. Its structure is well developed
  - C. Its functions are immature
  - D. All of the above
  - E. Nothing from the above
49. The polyphagia is:
- A. Absence of synthesis of enzymes
  - B. Increase of appetite
  - C. Absence of appetite
  - D. Increase of synthesis of enzymes
  - E. All the above
50. The child has epigastric tenderness or discomfort, weakness, pallor skin. He feels giddy (dizzy). These symptoms characterize:
- A. Nausea
  - B. Heartburn
  - C. Anorexia
  - D. Polyphagia
  - E. Vomiting (emesis)
51. Define the endoscopic method of esophagus, stomach and duodenum examination:
- A. Intra-gastric pH- measurement assay
  - B. X-ray gastric series
  - C. Fibrogastroscopy
  - D. Cystoscopy
  - E. Otoscopy

52. What substance is used for gastrointestinal radiography?
- A. Suspension of barium sulfate in water
  - B. Suspension of radioisotope's mediums
  - C. Fat emulsion
  - D. Boil water only
  - E. All of the above
53. What top-priority method is used to confirming the inflammation in gall-bladder in children?
- A. Radiography method
  - B. Computer tomography
  - C. Ultrasonography
  - D. Fibrogastroscopy
  - E. Duodenal probing
54. What is the normative data of common serum bilirubin in a healthy person (mMol/l):
- A. 0.1-1.0
  - B. 1.1-2.0
  - C. 8.5-20.5
  - D. 21.5-25.5
  - E. 25.5-30.5
55. Non digestive tract causes of vomiting in children may be:
- A. Increased intracranial pressure
  - B. Psychomotor retardation
  - C. Hypothyroidism
  - D. School phobia
  - E. Anorexia nervosa
56. If patient have abdominal pain, you should ask:
- A. How would you describe it?
  - B. What reduces the pain?
  - C. When does it occur in relation to eating?
  - D. Is the pain confined to one area, or does it affect other parts of the abdomen?
  - E. All of the above
57. Common causes of diarrhea in a child may be all the following, except:
- A. Gastroenteritis
  - B. Antibiotic associated
  - C. Food poisoning
  - D. Lactose intolerance
  - E. Hirschsprung disease

58. What is sign? A point on border of inner 2/3 with the external 1/3 of the line that represents the bisection of the left upper abdominal quadrant, where tenderness on pressure exists in disease of the pancreas. At this point the tail of pancreas is projected on the abdominal wall.

- A. Kach's symptom
- B. Kehr's symptom
- C. Mayo-Robson's
- D. Murphy's symptom
- E. Orther's symptom

59. Name the symptom: "increasing quantity of undigested fat in stool":

- A. Kach's symptom
- B. Creatorrhea
- C. Amilorrhea
- D. Hyperlipidemia
- E. Steatorrhea

60. Trichobezoar is:

- A. common disorder of intestinal motility
- B. A foreign body in stomach consisting from the swallowing hair
- C. A clot of blood
- D. the uncontrolled defecation
- E. A spastic [irritable] bowel

61. When the amylolytic enzyme activity of pancreas in children come up with in adults?

- A. 5-6 months
- B. 1 year
- C. 2-3 years
- D. 4-5 years
- E. 6-8 years

62. What diagnostic method determines of *Helicobacter pylori* infection?

- A. gastric biopsies for rapid urease detection, histology and culture
- B. Serology with determination of immunoglobulin G (IgG) *H. pylori* antibodies
- C. fecal antigen determination
- D. urea breath test
- E. all of the above

63. Typical liver function blood tests include all the following, except:

- A. Creatinine
- B. Bilirubin direct and indirect
- C. Total protein
- D. ALT & AST

E. Serum GGT (Gamma-glutamyltransferase)

64. What is diagnostic method used to define hepatocellular damage:

- A. common serum bilirubin
- B. gold-bladder's size measurement
- C. ALT level in blood serum
- D. glucose level in blood serum
- E. all of the above

65. Name the symptom "high starch in stool":

- A. Steatorrhea
- B. Gastroesophageal reflux
- C. Parenchymatous jaundice
- D. Creatorrhea
- E. Amilorrhea

66. A 10-month-old boy recently has a 5-h history of crying, with intermittent drawing up of his knees to his chest. On the way to the emergency room he passes a loose, bloody stool. He has had no vomiting and has refused his bottle since the crying began. Physical examination is noteworthy for an irritable infant whose abdomen is very difficult to examine because of constant crying. His temperature is 38.8 C (101.8 F). The rectal ampulla is empty, but there is some gross blood on the examining finger. What is the likely diagnosis?

- A. Intussusception
- B. Peptic ulcer
- C. Pinworm infestation
- D. Gastroenteritis
- E. Lactose intolerance

67. A 6-week-old boy (born at 36 weeks gestation) has seen a multiple doctors over the past 2 weeks because of vomiting. He has been started on omeprazole and thickened feeds to treat a presumptive diagnosis of reflux. His parents are concerned as he remains unwell. They have brought him to your emergency department for further review. His vomiting is worse and occurs after every feed. His mother describes the vomiting as resembling "curdled milk", "projectile". His nappies are much less wet than usual, he is listless and he has had 500 g of weight loss over the last week. What is the likely diagnosis?

- A. Small intestinal obstruction
- B. Pyloric stenosis
- C. Intussusception
- D. Gastroenteritis
- E. Physiological regurgitation

68. A 10-year-old boy has been having bellyaches for about 2 years. They occur at night as well as during the day. Occasionally, he vomits after the onset of pain.

Occult blood has been found in his stool. His father also gets frequent stomachaches. The most likely diagnosis is:

- A. Peptic ulcer
- B. Appendicitis
- C. Meckel diverticulum
- D. Intussusception
- E. Pinworm infestation

69. A 4-week-old boy presents with a 10-day history of vomiting that has increased in frequency and forcefulness. The vomitus is not bile stained. The child feeds avidly and looks well, but he has been losing weight. An ultrasound of the abdomen is shown. The most likely diagnosis is:

- A. Pyloric stenosis
- B. Small intestinal obstruction
- C. Gastroenteritis
- D. Intussusception
- E. Brain tumor

70. A 3-year-old child presents to your office for an evaluation of constipation. The mother notes that since birth and despite frequent use of stool softeners, the child has only about one stool per week. He does not have fecal soiling or diarrhea. He was born at term and without pregnancy complications. The child stayed an extra day in the hospital at birth because he did not stool for 48 h, but has not been in the hospital since. What disease do you suggest? Initial evaluation of this child should include:

- A. Gastroenteritis
- B. Small intestinal obstruction
- C. Hirschsprung disease
- D. Hypothyroidism
- E. Volvulus

71. A 15-year-old otherwise healthy boy presents with a complaint of intermittent abdominal distention, crampy abdominal pain, and excessive flatulence. He first started noticing these symptoms when he moved into his father's house, and his stepmother insisted on milk at dinner every night. He has normal growth, has not lost weight, and has no travel history. The most appropriate diagnostic study to diagnose his condition would be:

- A. Barium swallow and upper GI contrast XR
- B. Hydrogen excretion in breath after oral administration of lactose
- C. Esophageal manometry
- D. Stool pH
- E. Serum lactose levels

72. A 2-year-old presents to the emergency center with several days of rectal bleeding. The mother first noticed reddish-colored stools 2 days prior to arrival and

has since changed several diapers with just blood. The child is afebrile, alert, and playful, and is eating well without emesis. He is slightly tachycardic, and his abdominal examination is normal. What disease do you think about?

- A. Peptic ulcer
- B. Appendicitis
- C. Meckel diverticulum
- D. Intussusception
- E. Pinworm infestation

73. An awake, alert infant with a 2-day history of diarrhea presents with a depressed fontanelle, tachycardia, sunken eyes, and the loss of skin elasticity. The appropriate percentage of dehydration is:

- A. Less than 1%
- B. 1 to 5% (mild)
- C. 5 to 9% (moderate)
- D. 10 to 15% (severe)
- E. More than 20%

74. A 9-month-old is brought to the emergency center by ambulance. The child had been having emesis and diarrhea with decreased urine output for several days, and the parents noted that she was hard to wake up this morning. Her weight is 9 kg, down from 11 kg the week prior at her 9-month checkup. You note her heart rate and blood pressure to be normal. She is lethargic, and her skin is noted to be “doughy.” The child’s sodium is 170 mmol/L. These signs are characteristic of:

- A. isotonic dehydration
- B. hypotonic dehydration
- C. hypertonic dehydration
- D. malabsorption
- E. intussusception

75. Describe the stool in colitis:

- A. Very frequent stool
- B. Small amount of stool pass
- C. Stool with tenezmus
- D. Abdominal pain in hypogastric
- E. All the above

76. Define the term corresponding to gall-bladder inflammation:

- A. Gluten enteropathy
- B. Gastritis
- C. Heartburn
- D. Cholecystitis
- E. Trichobezoar

77. The exaggerated peristaltic waves on upper abdomen wall is typical of ...:



- A. Cholecystitis
- B. Pyloric stenosis
- C. Gluten enteropathy
- D. Hepatic failure
- E. Pylorospasm

78. Define Gastritis symptoms:

- A. Abdominal pain in epigastria area
- B. Sense of heaviness and fullness in the stomach especially after eating
- C. Vomiting and nausea
- D. Decreased appetite
- E. All of the Above

79. Acute body weight lost, dry skin and mucosa, restlessness, thirst, diarrhea and vomiting in children are signs of:

- A. Hypotrophy
- B. Pylorospasm
- C. Exicosis
- D. Chronic Gastritis
- E. Rumination

80. Define the length of gastric tube for gastric lavage before its insertion:

- A.  $\frac{1}{4}$  of body length
- B. the distance between bridge of nose and umbilicus
- C. length of sternum
- D. 40 cm
- E.  $\frac{1}{6}$  of body length

81. Describe the stool in enteritis:

- A. frequent water-like stools
- B. large volume of stool
- C. tenezmus is absent
- D. abdominal pain over umbilicus area
- E. all of the above

82. What is the cause of chronic gastritis?

- A. poor quality of food
- B. psychological stress
- C. bad dietary habits
- D. drugs
- E. all of the above

83. What is sign of pylorospasm:

- A. projective vomiting
- B. hypotrophy

- C. often regurgitation with milk after feeding
- D. exaggerated peristaltic waves on upper abdomen wall
- E. All the above

84. Clinical manifestations of gluten-sensitive enteropathy (celiac disease) include all of the following, except:

- A. the most common period of presentation is between 6 mo and 2 yr of age
- B. diarrhea, large, bulky stools
- C. weight loss or lack of weight gain
- D. Anorexia is not common, infants are interested in food
- E. Pallor and abdominal distention

85. The manifestations of peptic ulcer disease include all of the following, except:

- A. vomiting
- B. epigastric abdominal pain
- C. acute or chronic gastrointestinal blood loss (hematemesis, hematochezia, or melena) leading to iron deficiency anemia
- D. predominantly female gender
- E. A strong family history of ulcer disease.

86. The patient complains of abdominal acute pain. What is an intervention not recommended in this case?

- A. To calm a patient
- B. To put the cold compress on abdomen
- C. To suspect serious diseases
- D. To admit patient for treatment in hospital
- E. To put the hot compress on abdomen (like hot-water bottle, paraffin, etc).

### Answers to Gastrointestinal System:

1C	11B	21D	31B	41A	51C	61D	71B	81E
2B	12D	22E	32D	42B	52A	62E	72C	82E
3D	13E	23C	33B	43D	53C	63A	73C	83C
4E	14C	24E	34A	44B	54C	64C	74C	84D
5E	15A	25B	35B	45D	55A	65E	75E	85D
6D	16A	26E	36E	46E	56E	66A	76D	86E
7C	17C	27E	37E	47B	57E	67B	77B	
8B	18B	28D	38A	48C	58C	68A	78E	
9D	19B	29A	39D	49B	59E	69A	79C	
10D	20E	30B	40B	50A	60B	70C	80B	

### The urinary system (52)

1. When does pronephros disappear?

- A. at the end of 4-th week of gestation
- B. at the 1-st week of gestation

- C. at the 2-d week of gestation
  - D. at the 12-th week of gestation
  - E. at the 24-th week of gestation
2. Name the abnormality: the kidney is absent but ureter is present.
- A. renal agenesis
  - B. renal aplasia
  - C. renal dystopia
  - D. pronephros
  - E. renal hypoplasia
3. An abnormal position of kidney is:
- A. polycystic kidney
  - B. renal aplasia
  - C. renal agenesis
  - D. dystopic kidney
  - E. mesonephros
4. Define renal functions, EXCEPT:
- A. excretory function
  - B. secretory
  - C. osmoregulation
  - D. homeostatic
  - E. synthesis of proteins
5. Where are localized normal kidneys on X-ray film:
- A. from 1-st to 4-th lumbar vertebrae
  - B. lower 4-th lumbar vertebrae
  - C. from 12-th thoraces to 2 lumbar vertebrae
  - D. in the iliac fosse
  - E. in pelvis
6. The basic functional unit of the kidney is:
- A. Henle's loop
  - B. nephron
  - C. proximal canals
  - D. Bowman's capsule
  - E. cortex
7. Normal urine output in infant (ml/24hr):
- A. 450-500
  - B. 250-350
  - C. 200-250
  - D. 150-160

E. 100-140

8. When does mesonephros appear?

- A. 2-3 weeks of gestation
- B. 5-6 weeks of gestation
- C. 10 weeks of gestation
- D. 5 mo of gestation
- E. 7 mo of gestation

9. Name the abnormality: the ureter is absent and the kidney is absent.

- A. renal agenesis
- B. renal aplasia
- C. renal dystopia
- D. pronephros
- E. renal hypoplasia

10. Name the abnormality: the kidney has less size and it doesn't grow depend on child's age:

- A. congenital polycystic kidney
- B. renal hypoplasia
- C. renal agenesis
- D. renal dystopia
- E. renal aplasia

11. Renal ectopia (nephroptosis) is:

- A. underdeveloped parenchyma
- B. kidneys in pelvis or the iliac fosse
- C. disorganized parenchyma
- D. kidneys are large and filled with asses of cysts
- E. all of the above

12. Name regurgitation of urine (from urinary bladder in ureter):

- A. vesicoureteral reflux
- B. cystic ectopia
- C. hydronephrosis
- D. nephroptosis
- E. renal aplasia

13. Define features of kidney functions in infant, EXCEPT:

- A. glomerular filtration is low
- B. reabsorption glucose is increased
- C. inadequate reabsorption of sodium from tubules
- D. unable to excrete a water load
- E. hydrogen ion excretion is reduced

14. Normal urine output in school children (ml/24hr):
- A. 250-350
  - B. 400-500
  - C. 600-700
  - D. 1000-1200
  - E. 1300-1500
15. Average volume of urinary excretion (ml) in infant at 6 months old is:
- A. 5
  - B. 30
  - C. 100
  - D. 500
  - E. 1000
16. Name symptom "Pathological increase urinary excretion":
- A. nocturia
  - B. anuria
  - C. polyuria
  - D. proteinuria
  - E. hematuria
17. Blood in urine is:
- A. nocturia
  - B. anuria
  - C. hematemesis
  - D. proteinuria
  - E. hematuria
18. Normal protein content in urinalysis is:
- A. 0,033 ‰
  - B. 1 g/dL
  - C. 0,33‰
  - D. 50 mg/dL
  - E. 0,3%
19. Predominance hypogastric pain, frequency and urgency of micturition are clinical manifestations of:
- A. glomerulonephritis
  - B. interstitial nephritis
  - C. cystitis
  - D. pyelonephritis
  - E. nephrotic syndrome
20. Normal urine output in newborn (ml/24hr):

- A. 20-30
- B. 50-60
- C. 100
- D. 250
- E. 500

21. A decreased urine output is:

- A. nocturia
- B. oliguria
- C. polyuria
- D. proteinuria
- E. hematuria

22. Define cause of increase specific gravity of urine, EXCEPT:

- A. polydipsia
- B. hyperhidrosis
- C. vomiting
- D. pathological glycosuria
- E. severe proteinuria

23. Increased quantity of WBC in urine

- A. pyuria
- B. nocturia
- C. polyuria
- D. proteinuria
- E. hematuria

24. Urinary tract infection is characterized by the presence of bacteria in the urine in the quantity:

- A.  $10^2$  organisms/ml in centrifuged specimen
- B.  $10^3$  organisms/ml in centrifuged specimen
- C.  $10^4$  organisms/ml in centrifuged specimen
- D.  $10^5$  organisms/ml in centrifuged specimen
- E.  $10^8$  organisms/ml in centrifuged specimen

25. Oliguria is frequently a manifestation of all following, EXCEPT:

- A. acute renal failure
- B. hypovolemia
- C. hypotension
- D. Diabetes insipidus
- E. cystitis

26. Polyuria (excessive urine output) is the most common symptom all of the

following EXCEPT:

- A. diabetes insipidus
- B. diabetes mellitus
- C. psychogenic polydipsia
- D. nephritic syndrome
- E. intake diuretic agents

27. Heavy proteinuria is associated with:

- A. kidney infection
- B. acute renal insufficiency
- C. nephrotic syndrome
- D. urinary tract infection
- E. cystitis

28. The most common prerenal cause of acute renal failure is:

- A. glomerulonephritis
- B. shock
- C. nephrotoxicity (e.g., from heavy metals)
- D. renal venous obstruction
- E. obstruction urine flow by stones

29. The most common cause of acute renal failure is:

- A. hypotension
- B. renal artery occlusion
- C. dehydration
- D. glomerulonephritis
- E. hypovolemia

30. Which technique should the physician use to palpate patient's kidneys?

- A. Lightly palpate the upper abdominal quadrants
- B. Deeply palpate above the symphysis pubis
- C. Bimanually palpate between the lower costal margin and the iliac crest to either side of the umbilicus
- D. Lightly palpate at the costovertebral angle

31. When are the kidneys most likely to be palpable?

- A. During normal respiration
- B. During deep inhalation
- C. During deep exhalation
- D. During shallow respiration

32. What percussion sound occurs over a distended bladder?

- A. Resonance
- B. Tympany
- C. Dullness

- D. Hyperresonance
33. The physician palpates the bladder of infant. Which finding is normal?
- A. The bladder is not palpable
  - B. The bladder is palpable below the symphysis pubis
  - C. The bladder is palpable at the umbilicus
  - D. The bladder is palpable above the umbilicus
34. The physician is assessing the patient, who has end-stage renal disease with decreased erythropoietin production. Which skin color change is likely to cause this state?
- A. Cyanosis
  - B. Erythema
  - C. Bronze coloring
  - D. Pallor
35. Dysuria, frequency, urgency are the most common signs of:
- A. Cystitis
  - B. Glomerulonephritis
  - C. Pyelonephritis
  - D. Renal failure
  - E. Diabetes insipidus
36. A 5-year-old has 1 day of cola-colored urine with red blood cell casts and blood pressure above the 95th percentile for age. Two weeks ago, he had a culture-positive streptococcal. The most likely diagnosis is:
- A. acute glomerulonephritis
  - B. acute pielonephritis
  - C. acute renal failure
  - D. nephrotic syndrome
  - E. chronic renal insufficiency
37. A 2-year-old girl presents fever and vomiting. Urinalysis is find leukocyte 60, bacteria. The most likely diagnosis is:
- A. glomerulonephritis
  - B. pyelonephritis
  - C. acute renal failure
  - D. nefrotic syndrome
  - E. gastroenteritis
38. An infant of a mother with insulin dependent diabetes has a hematocrit of 68%. On the 3 day of life, he suddenly manifests gross hematuria and a flank mass on the left. The most likely diagnosis is:
- A. meconium plug
  - B. pyelonephritis



- C. renal venous thrombosis
- D. hydronephrosis
- E. adrenal hemorrhage

39. A healthy, 14-year-old black girl experiences the sudden onset of gross hematuria, which persists for 2 days. All of the following are reasonable immediate steps in the evaluation of this patient EXCEPT:

- A. hemoglobin electrophoresis to exclude hemoglobin S
- B. cystoscopy to establish the site of bleeding
- C. blood urea nitrogen and serum creatinine measurement
- D. urine culture
- E. renal ultrasonography to assess renal anatomy

40. In infants with urinary tract infection, the most common manifestation is:

- A. fever
- B. dysuria
- C. frequency
- D. costovertebral angle tenderness
- E. incontinence

41. The most common abdominal mass in a neonate is

- A. renal dysplasia (hydronephrosis)
- B. Wilms' tumor (nephroblastoma)
- C. neuroblastoma
- D. Meckel diverticulum
- E. Ovarian teratoma

42. A 4-year-old male developed an upper respiratory tract infection that was followed in 2 weeks by general edema. His blood pressure is normal. Urinalysis reveals 2 to 5 red blood cells per high-power field and 4+ protein. His blood urea nitrogen (BUN) is 19 mg/dL, creatinine 0.6 mg/dL, cholesterol 402 mg/dL, serum albumin 0.9 g/dL, antistreptolysin O titer 1:16. The most likely diagnosis would be

- A. poststreptococcal glomerulonephritis
- B. pyelonephritis
- C. nephrotic syndrome
- D. acute renal failure

43. A 5 mo-old boy with undescended testes is referred to an urologist. Name this condition:

- A. Epididymitis
- B. Cryptorchidism
- C. Hypospadias
- D. Epispadias
- E. Monorchism

44. A 6-year-old boy has brown urine and healing impetigo lesions. He presents with hypertension, dyspnea, periorbital edema and hepatomegaly. The most likely cause of his problem is:

- A. poststreptococcal glomerulonephritis
- B. pyelonephritis
- C. nephrotic syndrome
- D. acute renal failure
- E. urinary tract infection

45. A 6-week-old infant is being evaluated for a fever of unknown etiology. As part of the laboratory evaluation, a urine specimen was obtained that grew *Escherichia coli* with a colony count of 200000/ml. These findings would be definite evidence of:

- A. glomerulonephritis
- B. urinary tract infection
- C. acute renal failure
- D. these are normal findings
- E. nephrotic syndrome

46. A 1-year-old child presents with failure to thrive, frequent large voids of dilute urine, excessive thirst, and three episodes of dehydration not associated with vomiting or diarrhea. Over the years, other family members reportedly have had similar histories. The likely diagnosis is:

- A. Water intoxication
- B. Diabetes mellitus
- C. Diabetes insipidus
- D. Child abuse
- E. Nephrotic syndrome

47. A four-year-old child has an upper respiratory tract infection followed two weeks later by hematuria associated with oliguria and Periorbital edema. Choose the most likely cause from the below list of options.

- A. Acute glomerulonephritis
- B. Benign recurrent hematuria
- C. Pyelonephritis
- D. Nephrotic syndrome
- E. Urinary tract infection

48. A three-year-old girl has itching, frequency and pain on urination. Choose the most likely cause from the below list of options.

- A. Acute glomerulonephritis
- B. Chronic Pyelonephritis
- C. Nephrotic syndrome
- D. Urinary tract infection

49. A 4-year-old with early-morning periorbital swelling presents with a serum protein of 15 g/L. Choose the most likely cause from the below list of options.

- A. Acute glomerulonephritis
- B. Chronic Pyelonephritis
- C. Nephrotic syndrome
- D. Urinary tract infection
- E. Acute pyelonephritis

50. A 14-year-old with dark urine and a blood pressure of 140/90 mmHg. Choose the most likely cause from the below list of options.

- A. Acute glomerulonephritis
- B. Chronic Pyelonephritis
- C. Nephrotic syndrome
- D. Urinary tract infection
- E. Acute pyelonephritis

51. Elevated levels of cholesterol and triglycerides found in a 6-year-old boy who has had unexpected weight gain and scrotal edema. Choose the most likely cause from the below list of options.

- A. Acute glomerulonephritis
- B. Chronic Pyelonephritis
- C. Nephrotic syndrome
- D. Urinary tract infection
- E. Acute pyelonephritis

52. Which of the following is the primary manifestation of acute renal failure?

- A. Hematuria
- B. Proteinuria
- C. Oliguria
- D. Bacteriuria
- E. Polyuria

**Answers to Urinary System:**

1A	11B	21B	31C	41B	51C
2B	12A	22A	32C	42C	52C
3D	13B	23A	33C	43B	
4E	14D	24D	34D	44A	
5A	15B	25D	35A	45B	
6B	16C	26D	36A	46C	
7A	17E	27C	37B	47A	
8B	18A	28B	38C	48D	
9A	19C	29D	39B	49C	

10B	20D	30C	40A	50A	
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### **The Blood system (35)**

1. The rounded, biconcave disk-shaped nonnuclear cell that contains hemoglobin and transports oxygen and carbon dioxide throughout the body this is:
  - A. leucocyte
  - B. basophil
  - C. erythrocyte
  - D. lymphocyte
  - E. eosinophil
2. The granulocyte with two lobes that responds phagocytically to allergens and parasites is:
  - A. macrophage
  - B. leucocyte
  - C. basophil
  - D. eosinophil
  - E. erythrocyte
3. At which age in childhood the hematocrit has the lowest normal level?
  - A. 1 hour
  - B. 1 week
  - C. 1 month
  - D. 3 months
  - E. 3 years
4. In differentiating hemophilia from vitamin K deficiency, the most useful laboratory test is:
  - A. a partial thromboplastin time ( PTT)
  - B. prothrombin time
  - C. platelet count
  - D. fibrinogen concentration
  - E. bleeding time
5. Percussion over the spleen normally elicits which sound?
  - A. Tympany
  - B. Resonance
  - C. Dullness
  - D. Hyperresonance
6. Where should the physician palpate to assess the posterior cervical lymph nodes?
  - A. Along the anterior surface of the trapezius muscle
  - B. Along the anterior surface of the sternocleidomastoid muscle

- C. Along the posterior surface of the scalene muscle
  - D. Along the posterior surface of the trapezius muscle
  - E. under the chin
7. Hemolysis may be characterized by:
- A. shortened RBC life span
  - B. accelerated RBC destruction
  - C. increased reticulocyte count if the marrow is not suppressed
  - D. hemoglobinemia ± hemoglobinuria
  - E. all of the above
8. Tiny, flat, round, red or purple spot on skin caused by minute submucosal or intradermal hemorrhage is:
- A. Ecchymosis
  - B. Petechia
  - C. Purpura
  - D. Macula
  - E. Roseola
9. Lymphocytosis is associated with:
- A. myocardial infarction (MI)
  - B. infection
  - C. tissue necrosis from burns
  - D. leukemia
  - E. Pertussis
10. Which leukocytes respond to an allergic reaction by releasing histamine?
- A. eosinophils
  - B. basophils
  - C. neutrophils
  - D. lymphocytes
  - E. monocytes
11. The microcytic anemia is associated with:
- A. hemolytic disorders
  - B. folic acid deficiency
  - C. due to toxins
  - D. nutritional (chronic inflammation)
  - E. iron deficiency
12. Which test would confirm a clotting disorder?
- A. bone marrow aspiration
  - B. platelet count
  - C. erythrocyte fragility
  - D. leukocyte count

E. all the above

13. A 8-year-old male is brought to the emergency department with an allergic reaction to a bee sting. Which leukocytes respond to an allergic reaction?

- A. monocytes
- B. neutrophils
- C. eosinophils
- D. lymphocytes
- E. basophils

14. The physician assesses patient's superficial lymph nodes. Which technique should the physician use to palpate these lymph nodes?

- A. gently palpate the pads of index and middle fingers
- B. deeply palpate using the entire hand
- C. deeply palpate using bimanual technique
- D. lightly palpate using bimanual technique

15. Above-normal level of erythrocyte sedimentation rate (ESR) is associated with all the following EXCEPT:

- A. acute or chronic inflammation
- B. tuberculosis
- C. cancer
- D. anemia
- E. hyperviscosity

16. Which physical finding is abnormal in an adult, but may be normal in a 3-year-old child?

- A. Tender inguinal nodes
- B. Pale conjunctivae
- C. Palpable spleen tip
- D. Palpable tender liver

17. Flat, purple-blue, hemorrhagic bruise on the skin or mucous membranes caused by blood escaping into tissue from a blood vessel is:

- A. Ecchymosis
- B. Petechia
- C. Purpura
- D. Macula
- E. Roseola

18. Possible causes of leucopenia are all the following EXCEPT:

- A. bone marrow depression related to viral infections
- B. bacterial infections
- C. toxic reactions
- D. typhoid fever

E. radiation

19. Any of several hemorrhagic states characterized by purplish red patches on skin caused by blood escaping into tissues, skin, or mucous membranes:

- A. Ecchymosis
- B. Petechia
- C. Roseola
- D. Purpura
- E. Macula

20. The bleeding time is a test for:

- A. fibrinolysis
- B. antithrombin III activity
- C. platelet function
- D. factor VIII coagulant activity
- E. Lupus-type anticoagulant

21. Normal platelet count is:

- A. 20,000 to 40,000/mm<sup>3</sup>
- B. 10,000 to 70,000/mm<sup>3</sup>
- C. 50,000 to 100,000/mm<sup>3</sup>
- D. 110,000 to 150,000/mm<sup>3</sup>
- E. 130,000 to 370,000/mm<sup>3</sup>

22. Normal findings to hematocrit (HCT) in neonate are:

- A. 55- 68%
- B. 45- 50%
- C. 40 – 44%
- D. 35 – 39%
- E. 29 – 34 %

23. Normal hemoglobin (Hb) value to neonate is:

- A. 70 to 110 g/l
- B. 110 to 130 g/l
- C. 140 to 150 g/l
- D. 170 to 220 g/l
- E. 220 to 240 g/l

24. Below-normal level of erythrocyte sedimentation rate (ESR) is associated with all the following EXCEPT:

- A. polycythemia
- B. sickle cell anemia
- C. hyperviscosity
- D. anemia
- E. low plasma protein levels

25. The most common cause of microcytic anaemia of all following EXCEPT:
- A. defects of heme synthesis
  - B. iron deficiency
  - C. nutritional
  - D. chronic inflammation
  - E. vitamin B<sub>12</sub> deficiency
26. During a routine-screening CBC, a 3-year-old is noted to have eosinophilia. Which of the following most commonly causes increased eosinophilia in the peripheral blood smear?
- A. Bacterial infections
  - B. Chronic rhinitis
  - C. Fungal infections
  - D. Helminthic infestation
  - E. Tuberculosis
27. Lymph node condition characterized by hypertrophy or proliferation of lymphoid tissue is called:
- A. Lymphadenitis
  - B. Lymphadenopathy
  - C. Lymphoma
  - D. Lymphocytosis
  - E. Lymphopenia
28. A 5-year-old white female has multiple bruises on her lower extremities and oral-mucosal bleeding of 3 days' duration. Two weeks before these signs, she had a mild respiratory tract infection. Physical examination reveals multiple ecchymoses and petechiae; no lymphadenopathy or hepatosplenomegaly is noted. The most likely diagnosis is:
- A. leukemia
  - B. hemophilia
  - C. aplastic anemia
  - D. idiopathic thrombocytopenia
  - E. Henoch-Schonlein purpura
29. A 3-year-old child presents with a petechial rash but is otherwise well and without physical findings. Platelet count is 20,000/ $\mu$ L; hemoglobin and WBC count are normal. The most likely diagnosis is:
- A. Immune thrombocytopenic purpura (ITP)
  - B. Henoch-Schönlein purpura
  - C. Disseminated intravascular coagulopathy (DIC)
  - D. Acute lymphoblastic leukemia
  - E. Systemic lupus erythematosus (SLE)
30. A 2950-g black baby boy is born at home at term. On arrival at the hospital, he



appears pale, but the physical examination is otherwise normal. Laboratory studies reveal the following: mother's blood type A, Rh-positive; baby's blood type O, Rh-positive; hematocrit 38%; reticulocyte count 5%. Which of the following is the most likely cause of the anemia?

- A. Fetomaternal transfusion
- B. ABO incompatibility
- C. Physiologic anemia of the newborn
- D. Sickle cell anemia
- E. Iron-deficiency anemia

31. A 5-year-old has a 3-4-cm left anterior cervical lymph node. What additional finding would lead you to consider a biopsy?

- A. Temperature greater than 40 °C
- B. Erythema of the overlying skin
- C. A firm, rubbery consistency
- D. Tenderness on palpation
- E. Carious teeth

32. A preterm black male infant was found to be jaundiced 12 h after birth. At 36 h of age, his serum bilirubin was 306  $\mu\text{mol/L}$  (18 mg/dL), hemoglobin concentration was 125 g/L, and reticulocyte count 9%. Many nucleated red cells and some spherocytes were seen in the peripheral blood smear. The differential diagnosis should include which of the following?

- A. Hereditary spherocytosis
- B. Sickle cell anemia
- C. Rh incompatibility
- D. Polycythemia

33. On a routine well-child examination, a 1-year-old boy is noted to be pale. He is in the seventy-fifth percentile for weight and the twenty-fifth percentile for length. Results of physical examination are otherwise normal. His hematocrit is 24%. Of the following questions, which is most likely to be helpful in making a diagnosis?

- A. What is the child's usual daily diet?
- B. Did the child receive phototherapy for neonatal jaundice?
- C. Has anyone in the family received a blood transfusion?
- D. Is the child on any medications?
- E. What is the pattern and appearance of his bowel movements?

34. A 10-year-old boy is admitted to the hospital because of bleeding. Pertinent laboratory findings include a platelet count of 50,000/ $\mu\text{L}$ , prothrombin time (PT) of 15 s (control 11.5 s), activated partial thromboplastin time (aPTT) of 51 s (control 36 s), thrombin time (TT) of 13.7 s (control 10.5 s), and factor VIII level of 14% (normal 38 to 178%). The most likely cause of his bleeding is:

- A. Immune thrombocytopenic purpura (ITP)

- B. Vitamin K deficiency
- C. Disseminated intravascular coagulation (DIC)
- D. Hemophilia A
- E. Hemophilia B

35. An otherwise healthy 17-year-old complains of swollen glands in his neck and groin for the last 6 months and an increasing cough over the previous 2 weeks. He also reports some fevers, especially at night, and possibly some weight loss. On examination, you notice that he has nontender cervical, supraclavicular, axillary, and inguinal nodes, no hepatosplenomegaly, and otherwise looks to be fairly healthy. Which of the following is more likely diagnosis?

- A. Tuberculosis
- B. Lymphadenitis
- C. Hodgkin disease
- D. Leukemia
- E. Cat-scratch disease

**Answers to Blood System:**

1C	11E	21E	31C
2D	12B	22A	32A
3D	13C	23D	33A
4B	14A	24D	34C
5C	15E	25E	35C
6A	16C	26D	
7E	17A	27B	
8B	18B	28D	
9E	19D	29A	
10B	20C	20A	

**The Endocrine System (61)**

1. What parts of the pituitary gland do you know?
  - A. Anterior and posterior
  - B. Lateral
  - C. large
  - D. small
  
2. What hormone the thyroid gland **does not** secrete?
  - A. thyroxine
  - B. thyrotropin
  - C. triiodothyronine
  - D. thyrocalcitonin

3. What hormone is not pancreatic?
- A. insulin
  - B. somatostatin
  - C. glucocorticoids
  - D. glucagon
4. What hormones does the adrenal cortex produce?
- A. cortisol
  - B. aldosterone
  - C. androgens
  - D. all the above
  - E. all the above and estrogens
5. Which hormone is secreted by the hypothalamus and stored in the posterior lobe of the pituitary gland; reduce urine production by increasing the water reabsorption in the renal tubules?
- A. Somatotropic
  - B. thyrotropic
  - C. antidiuretic
  - D. adrenocorticotropic
  - E. follicle-stimulating
6. Adrenal medulla produces:
- A. Adrenalin
  - B. Noradrenalin
  - C. Dopamine
  - D. All of the above
  - E. All of the above and aldosterone
7. What gland does not influence for sexual development?
- A. pituitary gland
  - B. adrenal cortex
  - C. parathyroid
  - D. epiphysis
  - E. ovaries
8. Promote normal fat, protein, and carbohydrate metabolism; accelerate gluconeogenesis, and protein and fat catabolism; mobilize body defenses during period of stress; suppress inflammatory reaction. Which hormone effect is described?
- A. thyroid
  - B. glucocorticoids
  - C. mineralocorticoids
  - D. adrenalin
  - E. insulin

9. Effect of parathyroid hormone is all the following, EXCEPT:
- A. Vitamin D activation
  - B. Promotes excretion of phosphate in kidney tubules
  - C. Promotes calcium absorption from intestines
  - D. Promotes excretion of calcium in kidney tubules
  - E. Promotes calcium reabsorption from bone
10. Female delayed puberty is considered when the absence of secondary sex characteristics at age:
- A. 12 years
  - B. 13 years
  - C. 14 years
  - D. 15 years
  - E. 16 years
11. Pituitary hormones are all the following EXCEPT:
- A. Adrenocorticotrophic hormone (ACTH)
  - B. Somatotrophic hormone (STH)
  - C. Aldosterone
  - D. Thyroidstimulating hormone (TSH)
  - E. prolactin
12. When functional activity of the thyroid gland is became similar to adults?
- A. In fetus period
  - B. Neonatal period
  - C. In infancy
  - D. By 5-6 years
  - E. By 14-15 years
13. Parathyroid glands are more active:
- A. till 1-2 years
  - B. till 4-7 years
  - C. by 10-12 years
  - D. by 14-15 years
  - E. after 18 years
14. Adrenal glands produce:
- A. Glucocorticoids
  - B. Mineralocorticoids
  - C. Sex hormones
  - D. Adrenalin
  - E. All of the above
15. What hormones are not under the control of the pituitary gland?

- A. Cortisol and corticosterone
- B. insulin and parathyroid hormone
- C. Thyroxine and triiodothyronine
- D. estrogens and progesterone
- E. androgens

16. Epiphysis cerebri (pineal body) produces:

- A. oxytocin
- B. vasopressin
- C. melatonin
- D. prolactin
- E. melanocytestimulating hormone (MSH)

17. Effects of thyroid hormones ( $T_3$ ,  $T_4$ ) are all the following, EXCEPT:

- A. increase metabolic rate
- B. promote mobilization of fats, increase oxidation processes
- C. especially important for growth of bones, and brain
- D. regulate calcium and phosphorus metabolism
- E. promote gluconeogenesis

18. What is effect of aldosterone?

- A. Increases sexual maturation
- B. Decreases excretion of potassium
- C. Increases reabsorption of sodium in kidney and intestine
- D. Decreases reabsorption of water in nephrons
- E. Increases blood glucose concentration

19. How many sex maturity stages are there by Tanner classification?

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

20. Male delayed puberty is considered if absence of any evidence of puberty by age:

- A. 12 years
- B. 13 years
- C. 14 years
- D. 15 years
- E. 16 years

21. In healthy term newborn glucose level in serum:

- A. similar to adult (70-110 mg% or 3,9 – 5,6 mMol/L)
- B. tends to increasing (70 -160 mg% or 3,9 – 8,6 mMol/L)

- C. tends to decreasing (50 – 110 mg% or 2,75 – 5,6 mMol/L)
- D. as tends to increasing as to decreasing
- E. very low level is characterized (30 mg% or 2,0 mMol/L and less)

22. All the following skin disorders are associated with endocrine diseases, EXCEPT:

- A. Reddish purple abdominal striae
- B. Acne
- C. Hirsutism
- D. Lanugo
- E. Hyperpigmentation or vitiligo

23. Does the function of the ovaries influence on differentiation of the genitalia in utero fetus with normal female chromosome count?

- A. yes
- B. No
- C. not always
- D. depend on term of gestation

24. What is indirect test of lower functional activity the thyroid gland?

- A. delayed bone age
- B. Increased serum cholesterol level
- C. Decreased basal metabolism
- D. Prolong hyperbilirubinemia in neonate
- E. All of the above

25. Constitutional growth delay is characterized by all of the following EXCEPT

- A. normal length at birth
- B. growth below the third percentile after 1 year of age
- C. delayed bone age
- D. insulin resistance
- E. positive family history

26. In primary hypothyroidism in serum blood reveals:

- A. decreased TSH
- B. Increased TSH
- C. Increased  $T_3$
- D. increased  $T_4$
- E. decreased TSH,  $T_3$ ,  $T_4$

27. Sexual development is considered to be precocious if there are any secondary sex characteristics

- A. in girls before 6 years of age and in boy before 8 years of age
- B. in girls before 7 years of age and in boy before 9 years of age
- C. in girls before 8 years of age and in boy before 10 years of age

- D. in girls before 9 years of age and in boy before 11 years of age
- E. in girls before 10 years of age and in boy before 12 years of age

28. Why does hypoglycemia easily occur in children?

- A. High degree glucose utilization as a result of high metabolic requirements
- B. glycogen store is not large
- C. developed child's brain needs in glucose permanently
- D. few predictors of gluconeogenesis as a result of less muscle mass and subcutaneous tissue
- E. all of the above

29. Does the function of the testes influence on differentiation of the genitalia in utero fetus with normal male chromosome count?

- A. Yes
- B. no
- C. not always
- D. in early term of gestation

30. A 1-day-old full-term neonate manifests ambiguous genitalia. The infant has complete labial fusion and a phallus that resembles a small penis with hypospadias. No gonads are palpable. The vital signs including the blood pressure are normal, and the serum electrolytes reveal no abnormalities. The laboratory evaluation of this patient should include

- A. karyotype
- B. pelvic ultrasonography
- C. serum 17-hydroxyprogesterone
- D. daily electrolyte determinations
- E. all of the above

31. What glucose level should be considered as hypoglycemia?

- A. lower than 30 mg% (1,66 mmol/L)
- B. lower than 50 mg% (2,77 mmol/L)
- C. lower than 60 mg% (3,33 mmol/L)
- D. lower than 80 mg% (4,44 mmol/L)
- E. lower than 100mg% (5,55 mmol/L)

32. Ocular manifestations of Graves disease include all of the following EXCEPT

- A. lid lag
- B. exophthalmos
- C. impaired convergence
- D. infrequent blinking
- E. detached retina

33. The growth hormone level in the child with constitutional delay in growth is most likely

- A. elevated
- B. depressed
- C. normal
- D. variable

34. To differentiate primary or secondary hypothyroidism should be evaluated:

- A. T3
- B. T4
- C. ACTH
- D. TSH
- E. Thyrocalcitonin

35. A 2-mo-old infant has feeding problems, lethargy, and constipation. Physical findings are coarse facial features with large open fontanelles, large protruding tongue; hoarse cry; umbilical hernia; cool, dry, mottled skin; hypotonia; and delayed development. The most likely diagnosis is:

- A. congenital hypothyroidism
- B. hyperthyroidism
- C. congenital hypopituitarism
- D. hypoparathyroidism
- E. rickets

36. A 13-year-old female presents with poor sleeping, emotional lability, heat intolerance, increased appetite, and weight loss, deterioration of behavior and school performance. On physical examination the child appears fidgety; the skin is velvety smooth, warm, flushed, and moist; tachycardia is noted. The most likely diagnosis is:

- A. Adrenal insufficiency
- B. hyperthyroidism
- C. juvenile hypothyroidism
- D. diabetes mellitus
- E. hypopituitarism

37. In all the following newborn hypoglycemia is common, EXCEPT:

- A. premature
- B. with intrauterine growth retardation
- C. of diabetic mothers
- D. with asphyxia, galactosemia
- E. of thyrotoxic mothers

38. All of the following may be manifestations of an insulin reaction (hypoglycemia) in an insulin-dependent diabetic patient EXCEPT

- A. Loss of appetite
- B. Sweating
- C. Lethargy



- D. Bizarre (strange) behavior
- E. Slurred speech

39. Cushing syndrome in children is associated with all of the following EXCEPT

- A. truncal obesity
- B. rounded “moon” face
- C. purple striae and acne
- D. hypertension
- E. height is above the 95<sup>th</sup> percentile

40. What sign is characterized to newborn with congenital adrenal hyperplasia:

- A. constipation
- B. meconium delayed
- C. diarrhea
- D. melena
- E. polyuria

41. Congenital hypoparathyroidism is associated with:

- A. hyponatremia
- B. hypoglycemia
- C. hyperbilirubinemia
- D. hypokalemia
- E. hypocalcaemia

42. What is usually the first sign of male pubertal development?

- A. The pubic hair grows
- B. Testicular enlargement
- C. The axillary hair grows
- D. Voice change
- E. spermarche

43. A 1-year-old child presents with failure to thrive, frequent large voids of dilute urine, excessive thirst, and three episodes of dehydration not associated with vomiting or diarrhea. Over the years, other family members reportedly have had similar histories. The likely diagnosis is

- A. Water intoxication
- B. Diabetes mellitus
- C. Diabetes insipidus
- D. Child abuse
- E. Nephrotic syndrome

44. All of the following are commonly associated with congenital hypothyroidism EXCEPT

- A. constipation
- B. absence of symptoms at birth

- C. frequent prolongation of physiologic jaundice
- D. temperature instability
- E. a palpable goiter

45. What skin disorders are characterized to congenital adrenal hyperplasia?

- A. Hyperpigmentation of skin folds
- B. Areas of depigmentation
- C. Cool, dry, mottled skin
- D. Skin warm, flushed, and moist
- E. Purple striae, and acne

46. What are signs of hypoglycemia?

- A. Erythema, muscle hypotonia, narrowing pupil
- B. Fever, diarrhea
- C. Fear, sweating, hunger
- D. hypotension, oliguria
- E. Bradicardia, vomiting, hyperhidrosis

47. In infants of diabetic mothers is a high risk for:

- A. Rickets
- B. Hyperglycemia
- C. hypoglycemia
- D. hypotrophy
- E. Anemia

48. The thyroid gland usually is enlarged

- A. deficiency of iodide in feeding
- B. autoimmune disorder of the thyroid gland
- C. neoplastic disorders of the thyroid gland
- D. inflammation of the thyroid gland
- E. all of the above

49. What does thelarche mean?

- A. Pubic hair development
- B. Breast development
- C. Axillary hair development
- D. Growth spurt
- E. Documented as «Te»

50. A 12-year-old girl is referred to her pediatrician by her teacher for poor attention span, deteriorating school performance, and frequent trips to the bathroom. By the pediatrician's records, the girl has lost 5 lb since her previous visit 6 months earlier. On physical examination, the girl's resting pulse is 110 beats/minute, her blood pressure is 130/50, and her thyroid gland is about twice the normal size. The most likely diagnosis is

- A. thyroiditis
- B. carcinoma of the thyroid
- C. Insulin-dependent diabetes mellitus
- D. Juvenile hypothyroidism
- E. Thyrotoxicosis

51. A 12-year-old female has muscle cramps and tingling of her hands and feet unrelated to exertion. When she grabs a door handle to open the door, she is unable to release her grasp because her hand is in spasm. The most important laboratory test is

- A. serum glucose determination
- B. serum calcium determination
- C. electromyography (EMG)
- D. nerve conduction velocity testing
- E. arterial blood gas determination

52. An infant is brought to the emergency room with vomiting, lethargy, dehydration, and failure to thrive. The child is hypotensive and has areas of depigmentation. Serum electrolyte values are sodium 124 mEq/L, chloride 88 mEq/L, and potassium 6.8 mEq/L. Serum glucose level is 35 mg/dL. The most likely diagnosis is

- A. Addison disease
- B. Waterhouse-Friderichsen syndrome (acute adrenal insufficiency)
- C. congenital adrenal hyperplasia (17-hydroxylase deficiency)
- D. Cushing syndrome
- E. diabetes mellitus

53. Physical findings in diabetes mellitus type I in children include all of the following EXCEPT

- A. polyuria
- B. weight loss
- C. polydipsia
- D. the odor of ketones on the breath
- E. obesity

54. All of following are goals of newborn screening for congenital hypothyroidism EXCEPT

- A. To ensure normal linear growth
- B. To ensure normal intellectual function
- C. To facilitate genetic counseling
- D. To prevent sudden infant death syndrome

55. A mother and her 14 1/2-year-old daughter come to you because the girl has not begun to menstruate. Findings on her medical history and complete physical

examination are normal. Breast development and pubic hair have been present for 18 months and are normal. Which would be most appropriate?

- A. Reassurance that she likely will begin menstruating within the year
- B. Laboratory evaluation for systemic disease
- C. Urinary estriol determination
- D. Buccal smear
- E. Referral for psychologic counseling

56. A 6-year-old is shorter than all his classmates. Diagnostic testing supports a diagnosis of isolated growth hormone (GH) deficiency. All of following are expected clinical findings in this patient EXCEPT

- A. normal body proportion
- B. a growth velocity of 3 cm/yr
- C. mild truncal obesity
- D. hypertension
- E. delayed skeletal maturation

57. A 2-month-old has a temperature of 39.9°C, severe dehydration, but no history of vomiting or diarrhea. He also has constipation and is constantly crying for his bottle. His serum sodium level is 167 mEq/dL and urine specific gravity is 1.001. The most likely diagnosis is

- A. acute glomerulonephritis
- B. diabetes insipidus
- C. diabetes mellitus
- D. hydronephrosis
- E. adrenal insufficiency

58. Physical findings in Graves' disease include all of the following EXCEPT

- A. motor hyperactivity
- B. cold intolerance
- C. tremor
- D. weight loss
- E. tachycardia

59. A 9-year-old child has slow growth, truncal obesity, rounded "moon" face, buffalo hump, purple striae and acne; hypertension and muscle weakness. These are the classic manifestations of:

- A. Cushing syndrome
- B. Diabetes mellitus
- C. Obesity
- D. Simmonds disease
- E. Addison disease

60. Long-term complications of type I diabetes include all of the following EXCEPT

- A. hypoglycemia
- B. retinopathy (microvascular disease of the eye)
- C. neuropathy
- D. nephropathy
- E. hypocalcemia

61. Congenital adrenal hyperplasia is associated with all the following EXCEPT:
- A. Male infants have no genital abnormalities
  - B. Female infants are born with ambiguous genitalia
  - C. Vomiting, dehydration
  - D. Hoarse cry, coarse face
  - E. Infants are hyponatremic, hyperkalemic, acidotic, and often hypoglycemic

**Answers to Endocrine System:**

1A	11C	21C	31C	41E	51B	61D
2B	12A	22D	32E	42B	52A	
3C	13B	23B	33C	43C	53E	
4E	14E	24E	34D	44E	54D	
5C	15B	25D	35A	45A	55A	
6D	16C	26B	36B	46C	56D	
7C	17D	27B	37E	47C	57B	
8B	18C	28E	38A	48E	58B	
9D	19E	29A	39E	49B	59A	
10B	20C	30E	40C	50E	60E	

## RECOMMENDED LITERATURE

### *Basic*

1. Kapitan T. V. Propaedeutics of children's diseases and nursing of the child: textbook for the students of higher medical educational institutions of IV level of accreditation approved by the Ministry of Education, Science, Youth and Sports of Ukraine (№1/11-470 from this date 16.01.2012) / T. Kapitan. - Vinnitsa: The State cartographical factory, 2012. - 808 p.
2. Pediatric physical examination: textbook for students of higher educational institutions / O.V.Kapilov, D.V. Dmytriiev, K.Yu.Dmytriieva, S.Yu.Makarov – Vinnytsia : Nova Knyha, 2018. - 504 p.
3. Pediatric Clinical Methods / Singh Meharban. - Newe Delhi: Sagar Publications, 2006. - 333 p.

### *Additional*

1. Pediatric student's case history and peculiarities of Pediatric Physical Examination: handbook for the third-year students of the Medical faculty (English medium of instruction) / N. V. Kyzyma [et al.]. – Zaporizhzhia : [ZSMU], 2013. – 164 p.
2. Hockenberry M. J. Wong's Nursing Care of Infants and Children / M. J. Hockenberry, D. Wilson. – 10th ed. – Mosby, 2014. - 1760 p.
3. Glossary of medical terms in Propaedeutic Pediatrics: for the 3rd year students of medical faculty / comp. O. S. Krut. – Zaporizhzhia : ZSMU, 2017. – 49 p.
4. Health assessment in nursing /ed. Patricia Gonce Morton. - 2nd ed. - USA, 1993. - 681 p.
5. Whaley Lucille F. and Wong, Donna L. Nursing care of infants and children. - 3rd ed. - USA, 1987. – 1886 p.
6. Paul H. Dworkin. Pediatrics. - 3rd ed. - New Delhi, India, 1996. – 678 p.

7. Robert J. Yetman, M.D., Mark D. Hormann, M.D. Pediatrics PreTest Self-Assessment and Review. -Tenth Edition. The McGraw-Hill Companies, Manufactured in the United States of America. 370 p.

**Informational resources:**

1. Medical Terminology : A web app for medical terms and word parts. –  
URL : <https://www.easyauscultation.com/medical-terminology>
2. <https://www.facebook.com/lecturio.medical.education.videos/>
3. [https://www.lecturio.com/en/elearning/wp/40-day-study-schedule-usmle-step-1?pc=fb&utm\\_source=facebook&utm\\_medium=post&utm\\_campaign=40-daystudyschedule](https://www.lecturio.com/en/elearning/wp/40-day-study-schedule-usmle-step-1?pc=fb&utm_source=facebook&utm_medium=post&utm_campaign=40-daystudyschedule)