

The semeiology of cardio-vascular system in children:

*Single choice tests:*

1. When begins the ontogenesis of cardio-vascular system?
  - a) in the VIII week of intrauterine development
  - b) in the IV week of intrauterine development
  - c) in the II week of intrauterine development
  - d) in the III week of intrauterine development
  - e) in the first 7 days after conception
2. Which segment of cardiac tube will be developed the magistral vessels?
  - a) cardiac bulb
  - b) venous sinus
  - c) common arterial trunk
  - d) primitive ventricle
  - e) primitive atrium
3. Which segment of primitive cardiac tube will be developed the right ventricle?
  - a) cardiac bulb
  - b) venous sinus
  - c) common arterial trunk
  - d) primitive ventricle
  - e) primitive atrium
4. Which segment of primitive cardiac tube will be developed the great veins?
  - a) cardiac bulb
  - b) venous sinus
  - c) common arterial trunk
  - d) primitive ventricle
  - e) primitive atrium
5. Which segment of primitive cardiac tube will be developed the left ventricle?
  - a) cardiac bulb
  - b) venous sinus
  - c) common arterial trunk
  - d) primitive ventricle
  - e) primitive atrium
6. At which term of intrauterine development appears the heart conductivity system?
  - a) III week
  - b) IV week
  - c) VI week
  - d) VIII week
  - e) VII week
7. At which term of intrauterine development has place the dividing of common arterial trunk in the pulmonary artery and aorta?
  - a) IV-V week after conception
  - b) V-VI week after conception
  - c) VI-VII after conception
  - d) III-IV week after conception
  - e) VIII week after conception
8. Which is the difference between the swoon and syncope?
  - a) absence of pulse
  - b) short time loss of conscioune
  - c) presence of neurological manifestations

- d) maintenance of vital functions (circulation and respiration)
  - e) marked slowing down until stopping of cardiac beats
9. For which pathology in children is characteristic the systolic murmur at the basis of the heart?
- a) myocarditis
  - b) anemia
  - c) acquired valvulopathy
  - d) congenital cardiac pathology
  - e) thyrotoxicosis
10. The systolic murmur at apex in children can suggest:
- a) acquired cardiac pathology
  - b) myocarditis
  - c) acquired valvular stenosis
  - d) chronic intoxication
  - e) left ventricle myocardium hypertrophy
11. Which value of cardiothoracal index (CTI) can suggest the presence of cardiopathy in children until 2 months age?
- a) more than 0,45
  - b) more than 0,50
  - c) more than 0,55
  - d) more than 0,60
  - e) more than 0,70
12. Which value of cardiothoracal index (CTI) can suggest the presence of cardiopathy in children until 2 years age?
- a) more than 0,60
  - b) more than 0,55
  - c) more than 0,40
  - d) more than 0,45
  - e) more than 0,50
13. Which value of cardiothoracal index (CTI) can suggest the presence of cardiopathy in children until 12 years age?
- a) more than 0,55
  - b) more than 0,50
  - c) more than 0,45
  - d) more than 0,60
  - e) more than 0,40
14. Which value of cardiothoracal index (CTI) can suggest the presence of cardiopathy in children after 12 years age?
- a) more than 0,40
  - b) more than 0,50
  - c) more than 0,55
  - d) more than 0,45
  - e) more than 0,60
- 15) In which pathologies in children is forming „cardiac bulge“?
- a) rhythm disorders
  - b) pericarditis
  - c) endocarditis
  - d) myocarditis
  - e) cardiac congenital malformation
- 16) What represents the term „embryocardia“ in children of the first months of life?

- a) cardiac block
  - b) equal intervals between I and II, II and I cardiac sound
  - c) bradycardia
  - d) extrasystoles
  - e) tachycardia
- 17) Indicate the auscultative localization of functional systolic murmur in little age healthy children:
- a) on apex
  - b) on Botkin-Erb point
  - c) on pulmonary artery
  - d) on aorta
  - e) on tricuspid valve
- 18) Which is the sonority of cardiac sounds on the basis of the heart, characteristic for little age children:
- a) the sonority of I sound is more than of II sound
  - b) the sonority of II sound is more than of I sound
  - c) the sonority of I and II sound is identical
  - d) is heard only first sound
  - e) the sounds are attenuated
- 19) Which is the classic point of mitral valve auscultation in children?
- a) on the right sternal line, in the III intercostal space
  - b) in the II right intercostal space
  - c) in the II left intercostal space
  - d) on apex
  - e) on the Botkin - Erb point
- 20) Which is the classic point of tricuspid valve auscultation in children?
- a) at the inferior border of sternum
  - b) in the II right intercostal space
  - c) on apex
  - d) in the II left intercostal space
  - e) on the Botkin – Erb point
- 21) Where normally is palpated the apex beat in sucklings?
- a) in the II intercostal space
  - b) in the III intercostal space
  - c) in the IV intercostal space
  - d) in the V intercostal space
  - e) in the VI intercostal space
- 22) Where normally is palpated the apex beat in children until 10 years age?
- a) in the IV intercostal space
  - b) in the III intercostal space
  - c) in the V intercostal space
  - d) in the II intercostal space
  - e) in the VI intercostal space
- 23) What is at the basis of pathologic modifications in the cardiovascular diseases?
- a) decreasing of myocardium contractibility
  - b) increasing of arterial pressure
  - c) rhythm disorders
  - d) increasing of vascular permeability
  - e) hemodynamic disorders
- 24) Which is the main condition for arterial channel Botallo closing after child birth?

- a) increasing of venous pressure
- b) increasing of vascular resistance
- c) increasing of pressure in the small circle of circulation
- d) decreasing of pressure in the pulmonary artery
- e) arterial hypotension

25) Which is the normal level of systolic arterial pressure in the new-born period?

- a) 50 mm Hg
- b) 30 mm Hg
- c) 100 mm Hg
- d) 90 mm Hg
- e) 70 mm Hg

26) Which is the pulse rate in 4 years age healthy children?

- a) 120 per minute
- b) 140 per minute
- c) 70 per minute
- d) 80 per minute
- e) 100 per minute

*Multiple complement*

1. Which congenital malformations are cyanotic?

- a) dextrocardia
- b) pulmonary artery stenosis
- c) transposition of great vessels
- d) common persistent arterial duct
- e) tricuspid valve atresy

2. In which pathologies in children can be heard organic murmurs?

- a) in anemia
- b) in thyrotoxicosis
- c) in congenital heart malformations
- d) in acquired heart diseases
- e) in the case of chronic infection

3. In which extracardiac pathologies in children will be the pulse pathologic changes?

- a) in hypothyrosis
- b) in anemia
- c) in febrile states
- d) in bronchites
- e) in rickets

4. In which case has place the accentuation of both cardiac sounds in children?

- a) emotions
- b) in myocardites
- c) at physical effort
- d) at hyperthyroidism
- e) in mitral stenosis

5. Which are characteristic for organic murmurs?

- a) low intensity
- b) high intensity
- c) associated with thrill
- d) propagation out of heart limits
- e) disappear after effort

6. Which age peculiarities influence the ECG character in children?

- a) body mass
  - b) position of heart in the chest
  - c) the report between the mass of left and right ventricle
  - d) thickness of ventricles walls
  - e) arterial pressure value
7. Which are the morpho-functional peculiarities of the new-born heart?
- a) the muscular fibres of myocardium are thin
  - b) the conductivity system is undeveloped
  - c) the conjunctive tissue is undifferentiated
  - d) the sanguine coronary vessels have small calibre
  - e) the walls of left ventricle are relatively more thick that the right
8. Which are the characteristic peculiarities of heart image on the Xray in the suckling baby?
- a) the position of the heart in the chest is similar to adults
  - b) the heart position is transversal
  - c) the supraposition of thymus shadow is characteristic
  - d) the heart shadow in comparison with the thorax is more than in adult
  - e) the heart shadow in comparison with the thorax is less than in adult
9. Which are the specific peculiarities of functional heart murmurs in children?
- a) they are not associated with thrill
  - b) they are not propagated out from the heart borders
  - c) they are hear only at the heart basis
  - d) they are intensifying after physical effort
  - e) they disappear after physical effort or changing of body position
10. In which cardiovascular congenital pathology in children is establishing the right-left shunt?
- a) in tetralogy of Fallot
  - b) in the case of great vessels transposition
  - c) in the case of tricuspid valve atresia
  - d) in the case of interatrial septal defect
  - e) in the case of interventricular septal defect
11. Which is correct for foetus hemodynamics?
- a) small circle doesn't functioning
  - b) the foetal pathways of blood communication function
  - c) the blood pressure in pulmonary artery is more than in aorta
  - d) the pulmonary artery transports the blood in lungs
  - e) the septal interventricular defect is present
12. Which morpho-functional peculiarities of cardiovascular system in children lighten the blood circulation and respectively the loading of the heart?
- a) relatively increased mass of the heart
  - b) relatively big dimensions of intracardiac communications
  - c) relatively big dimensions of vascular lumen
  - d) decreased arterial pressure
  - e) especial position, specific to the age, of heart in the thorax
13. In which cases has place in children the diminishing of both heart sounds intensity?
- a) in arterial hypertension
  - b) in myocardites
  - c) in pericardites
  - d) in pulmonary emphysema
  - e) in hypotrophy
14. Which are the characteristics for organic murmurs in children?

- a) big intensity
- b) propagating out from the heart borders
- c) auscultation in the Botkin-Erb point
- d) association with thrill
- e) they don't modify after physical effort or changing of body position

15. Which symptoms are characteristic for cardio-vascular diseases in little age children?

- a) oedemas
- b) dyspnoea
- c) malnutrition
- d) cyanosis
- e) cough

16. Which is characteristic for foetal circulation?

- a) existence of communications between right and left part and between magistral vessels
- b) the more munute-volume in the great circle
- c) decreased pressure in the pulmonary artery
- d) preferential ensurance with rich in oxygen blood of vital organs
- e) practically equivalent pressure in aorta and pulmonary artery

17. Which are the changes of postnatal circulation, appearing at birth?

- a) decreasing of pulmonary vascular resistance and increasing of pulmonary vascular debit
- b) increasing of peripheral vascular resistance and decreasing of sanguine debit at periphery
- c) closing of foetal pathways of communication
- d) maturation of pulmonary vascularisation
- e) increasing of pressure in the pulmonary artery

18. In which categories of new-borns can be established the syndrome of foetal circulation persistence?

- a) premature new-borns
- b) new-borns with intrauterine infection
- c) new-borns having mothers with diabetes mellitus
- d) immature new-borns
- e) new-borns through caesarian operation

19. Which pathologies refer to anomalies of cardio-vascular system development without pathological connection between small and great circles?

- a) pathologic sitting of pulmonary veins
- b) dextrocardia
- c) coarctation of the aorta
- d) congenital stenosis of the aorta
- e) stenosis of pulmonary artery

20. For which anomalies of cardio-vascular system is characteristic the presence of left-right shunt?

- a) pathologic sitting of pulmonary veins
- b) open arterial duct Botallo
- c) dextrocardia
- d) interatrial septal defect
- e) interventricular septal defect

21. For which anomalies of cardio-vascular system is characteristic the presence of right-left shunt?

- a) interatrial septal defect
- b) common persistent arterial duct
- c) transposition of magistral vessels
- d) tricuspid valve atresia
- e) tetralogy of Fallot

22. Which are the functional peculiarities characteristic for cardiovascular system in little age children?

- a) presence of respiratory arrhythmia
- b) systolic volume is relatively small
- c) the minute-volume, reported to 1 kg of body mass, is less
- d) the frequency of cardiac contractions is more
- e) the arterial pressure is relatively small

23. Which hereditary antecedents are important in the anamnesis of child suspected for congenital cardiopathy?

- a) presence of congenital cardiopathy at another members of family
- b) existence of consanguinity
- c) inexplicable sudden deaths of another members of family
- d) presence of cardiomegalies
- e) presence of chronic pulmonary pathology

24. Which antecedents will be obligatory found at prenatal anamnesis in children suspected for cardiopathy?

- a) toxic aggression ( intoxication or alcohol consumption in mother )
- b) contact with viral infections (rubeola, influenza) in the first three months of pregnancy
- c) exposition to radiations
- d) hormonal treatments during pregnancy
- e) antibacterial treatments during pregnancy

25. Which postnatal anamnestic antecedents are important for children suspected for cardiopathy?

- a) fatigue
- b) presence of difficulties of alimentation
- c) presence of frequent pulmonary infections
- d) presence of adverse reactions to vaccinations
- e) convulsive syndrome

26. Which are the functional symptoms of cardiovascular system affection in children?

- a) cyanosis
- b) palpitations
- c) precordial pains
- d) cough
- e) dyspnoea

27. Which is characteristic for syncope in children?

- a) short time loss of conscioune, without keeping of vital functions
- b) slowing down, until stopping, of pulse
- c) slowing down, until stopping, of respiration
- d) maintained arterial pressure
- e) absence of pulse

28. Which are the peculiarities of cardio-vascular system inspection method in children?

- a) its performance is recommended when the child is calm or during sleeping
- b) only the precordial region and cardiovascular system will be examined
- c) the anthropometric parameters will be obligatory appreciated
- d) the cutaneous lesions, suggestive for cardiopathy, will be searched
- e) the general inspection of the organism and local, at the level of cardiovascular system, will be performed

29. Which information gives the palpation and examination of cardiovascular system in children?

- a) about the cardiac volume
- b) about the apex beat

- c) about the thrill and gallop rhythm
- d) about the quality of peripheral circulation
- c) about precordial pain

**30.** Which are the auscultative characteristics of cardiac sounds in children?

- a) they frequency is more
- b) they are more intense
- c) they have tendency to equalization (in sucklings)
- d) they have less intensity than in adults
- e) the respiratory arrhythmia can be present

**31.** Which are the characteristics of functional murmurs in children?

- a) the intensity by Lewine scale is 4-6
- b) the intensity by Lewine scale is 1-2
- c) they are not followed by thrill
- d) they disappear after changing of body position
- e) they are not propagated out from heart borders

**32.** Which important information for diagnosis can offer the radiologic investigation in the cardiovascular system examination in children?

- a) pathology of the thorax
- b) characteristic of the pulmonary circulation
- c) estimation of the pulmonary excursion
- d) appearance of the cardiac shadow
- e) assessing of the cardio-thoracic index (CTI)

**33.** Which information can give the ECG in the cardiovascular system examination in children?

- a) state of myocardium
- b) cardiac rhythm
- c) atrial and ventricular function
- d) myocardial contractility
- e) possible dyselectrolytemias

**34.** Specify characteristic clinical symptoms for cardiac pathology in little age child:

- a) oedemas
- b) dyspnoea
- c) acrocyanosis
- d) cyanosis
- e) jaundice of the skin

**35.** Determine most important functional hemodynamic parameters:

- a) blood pressure
- b) pulse
- c) heart rate
- d) pulmonary artery pressure
- e) parietal pressure

**36.** Mark what swoon represents:

- a) short time loss of conscioune
- b) maintenance of circulation
- c) maintenance of respiration
- d) without keeping blood circulation
- e) without keeping respiration

**37.** Specify structural elements of the pericardium in children:

- a) a distinct structure surrounding the heart
- b) contains connective tissue



- c) contains elastic tissue
- d) consists of two outer skins with a small amount of liquid between them
- e) containing muscle tissue

**38.** Determine nervous regulation peculiarities of the cardiac activity in children:

- a) predominance of sympathetic nervous system
- b) the predominance of the parasympathetic nervous system
- c) reduced influence of the vagus nerve
- d) increased influence of the vagus nerve
- e) has possibilities to adjust heart conductivity

**39.** Mark essential characteristics of the cardiovascular system in infant?

- a) high diaphragm
- b) short thorax
- c) horizontally positioned of the heart, upper topic localization
- d) the apex shock is located in the fourth left intercostals space, outside of the medioclaviculare line
- e) lower localization of the diaphragm

**40.** Specify characteristic elements of the myocardium histological structure in newborns:

- a) very thin myofibres
- b) undeveloped connective tissue
- c) increased vascularization of the myocardium
- d) reduced vascularization of the myocardium
- e) reduced amount of adrenergic  $\beta_1\beta_2$  receptors

Semeiology of cardiovascular system in children:

*Single choice tests*

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

26. E

*Multiple choice tests*

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