

HEALTH MINISTRY OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY



Approve

Vice-rector of scientific and pedagogical work
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"01" September 2022y

Faculty International

Department of Propedeutics of Pediatrics

METHODICAL RECOMMENDATIONS FOR PRACTICAL CLASSES

Faculty, course International, 3 course

Name of the discipline Propaedeutics of Pediatrics

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PRACTICAL LESSONS***Practical lesson № 1***

Topic: “Periods of children’s age and their characteristics and features. Teratogenic factors and their influence on a fetus. The critical periods of pregnancy”

Aim: General aims is to study classification of childhood age and main features of every special period of it.

Basic concepts: The topic is especially important in connection with what is taught for the first time the student to distinguish between different periods of childhood, and to be aware of them features that are absolutely necessary in the treatment of children of different ages. Understanding the possible influence of teratogenic factors during pregnancy, especially in "critical periods", necessary to minimize negative consequences and birth of a healthy child.

Equipment: professional algorithms, orienting maps for the formation of practical skills and skills, educational tasks, stethoscope, pulse oximeter.

Plan:**1. Organizational events:**

- greeting,
- checking those present,
- subject message,
- purpose of the lesson:

Educational goal: problems of childhood periodicals; know peculiarities of working with children of different ages; realize the significance the birth of a healthy child for parents and society as a whole.

Specific purpose:

know:

- sequence of childhood periods
- a list of the main teratogenic factors
- sequence of "critical periods" of fetal development

2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:

Tests with standard answers.

1. During the lesson, the teacher asked the question: "In what period of childhood are baby teeth starting to erupt?"

- A - in puberty
 B - in preschool
 *C - in December
 D - in neonatal
 E - in preschool
2. The teacher asks the student: "What is the duration of the embryonic period"?
- A - 3-4 months
 B - 24-48 hours
 C - 7 days
 *D - 2-3 months
 E - 2-3 weeks
3. Embryopathies (pathology of the embryonic period) can lead to a number of things endogenous and exogenous teratogenic factors, which include:
- A - genetic
 B - physical
 C - chemical
 D - action of a number of viral infections
 *E - all listed
4. Peculiarities of the puberty period include the following provisions, except:
- A - puberty
 B - predominance of functional activity gonads
 C - intensive growth
 D - formation of will, morality
 *E - intensive functioning substernal gland
5. At the exam, the student must answer the following question: "What period the life of a child is the most difficult in the formation of psychological balance, consciousness, striving for self-affirmation, formation of will and morality?"
- A - chest
 *B - for high school
 C - preschool
 D - junior high school
 E – preschool
- requirements for theoretical readiness of students to perform practical classes:

Interdisciplinary integration.

Disciplines	Know	To able
The previous ones disciplines 1. histology 2. anatomy 3. physics	Features of children's development, impact on the human body various factors	It is good to be oriented in the stages of development of organism of man, including a prenatal period
The following disciplines	Periods of organism development people and	To provide the individual approach to

1. pediatrics 2. children's surgery 3. obstetrics	their characteristics, the influence of teratogenic factors on the fruit	inspection and treatment of man depending on the period of his age
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3. ***Formation of professional skills and abilities:***
performing tasks:

Task 1

The child is 3.5 years old. Attends kindergarten. Psychomotor and physical development correspond to age. In what period of childhood is this child? List the main characteristics and features of this period.

Task 2

The child is 2 years old. Psychomotor and physical development are appropriate for age. In what period of childhood is this child? List the main characteristics and features of this period.

Task number 3

The child is 7 years old. He is studying at school. Psychomotor and physical development is age appropriate. In what period of childhood is this child? List the main characteristics and features of this period.

Task 4

The child is 10 years old. He studies at school. Psychomotor and physical development correspond to the age. In what period of childhood is this child? List the main characteristics and features of this period.

Task 5

The child is 15 years old. He studies at school. Psychomotor and physical development correspond to the age. In what period of childhood is this child? List the main characteristics and features of this period.

control materials for the final stage of the lesson:

1). In class the teacher asked the question: "In what period of childhood do baby teeth begin to erupt?"

A - in puberty

B - in preschool

C - in the breast

D - in the neonatal

E - in preschool

2). The teacher asks the student: "What is the duration of the embryonic period"?

A - 3-4 months

B - 24-48 hours

C - 7 days

D - 2-3 months

E - 2-3 weeks

3). Embryopathies (pathology of the embryonic period) can lead to a number of endogenous and exogenous teratogenic factors, which include:

- A - genetic
- B - physical
- C - chemical
- D - the action of a number of viral infections
- E - all of the above

4). The features of puberty are the following except:

- A - puberty
- B - predominance of functional activity of the sex glands
- C - intensive growth
- D - formation of will, morality
- E - intensive functioning of the sternum gland

5). In the exam, the student must answer the following question: "What period of the child's life is the most difficult in the formation of psychological balance, consciousness, the desire for self-affirmation, the formation of will and morality?"

- A - infant
- B - senior school
- C - preschool
- D - junior school
- E - preschool

4. **Summary:** The topic first teaches the student to distinguish between different periods of childhood, and to be aware of their features, which is extremely necessary in the treatment of children of different ages. Understanding the possible impact of teratogenic factors during pregnancy, especially in the "critical periods", is necessary to minimize the negative consequences and give birth to a healthy child.

5. **Recommended literature:**

Main:

1. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
2. Newell Simon J Darling Jonatan C. Paediatrics_9th ed. 2015.-320 p.
3. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
4. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
5. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.
6. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha,s Fundamentals of Pediatrics. Ajanta offset & Packagings Ltd., New Delhi.-2013.-782 pp.
8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.

9. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

1. Partha, s Fundamentals of Pediatrics. Ajanta offset & Packagings Ltd., New Delhi.-2013.-782 pp.
2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
5. Essential pediatrics. O.P. Ghai, MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical lesson № 2

Topic: __ Communication skills. Passport data. Subjective examination: complaints, anamnesis of life and diseases in children. Features of the method of examination of a sick and healthy child.

Aims: _ to master the methods of collecting anamnesis of disease and life in children of different age groups; examination of a sick and healthy child.

Basic concepts: Even the most modern equipment can not replace the experience, knowledge and skills, intuition, clinical thinking of the doctor, based on complaints, anamnesis data, properly conducted clinical study of the child and requires highly professional techniques and a special approach. Interviewing and examination of children should not be formal standard measures and actions of the doctor, it is a creative, purely individual process.

Equipment: materials of methodological support for self-preparation of students: orientation cards for the organization of independent work of students with educational literature, graphological structure of the lesson, etc.

Plan:

1. *Organizational events:*

- greeting,
- checking the attendance,

-announcement of the topic,

Specific objective:

to know:

- scheme of pediatric medical history

- features of the method of collecting anamnesis of disease and life in children of different age groups

- methods of assessing the general condition of the child

- features of the method of examination of a sick and healthy child

2. *Control of the reference level of knowledge:*

Tests with standard answers.

1). Examination of healthy children begins with:

A - passport data and anamnesis of life

B - medical history

C - palpation

D - percussion

E - auscultation

2).The doctor of the admission department examines a 5-year-old child with suspected pneumonia. Examination of the sick child begins with:

A - anamnesis of life

B - passport data and medical history

C - palpation

D - percussion

E - auscultation

3).In the admission department of a children's hospital there is a 6-year-old child in a serious condition due to intoxication. To assess the general condition of the child, the following degrees of severity are used, except:

A - mild

B - satisfactory

C - average

D - severe

E - terminal

4).The mandatory requirements for the examination of a child include all, except

A - clean warm hands

B - warm and bright room

C - examination of the child on an empty stomach

D - the child must be completely undressed

E - to establish contact with the child

5). The doctor of the admission department collects an early history of the child's life.

What are the most important points to pay attention to:

A - all of the above

B - mother's diseases during pregnancy

C - the nature of the birth

D - anthropometric data at birth

E - type of feeding in the first year of life

- 6). Examination of sick children begins with:
 A - passport data and anamnesis of life
 B - passport data, complaints and medical history
 C - palpation
 D - percussion
 E – auscultation
- 7). An emergency room doctor sees a 5-year-old child with suspected pneumonia. The examination of the sick child begins with:
 A - life history
 B - passport data and medical history
 C - palpation
 D - percussion
 E - auscultation
- 8). The mandatory conditions under which a child is examined include all, except:
 A - washed warm hands
 B - warm well-lit room
 C - examination of the child on an empty stomach
 D - the child must be completely undressed
 E - establish contact with the child
- 9). During the general examination of the child, we can determine the following parameters, except:
 A - heart rate
 B - general condition, consciousness
 C - type of constitution, nature of nutrition
 D - assess facial expression, eyes
 E - assess the position in bed
- 10). The doctor in the emergency room collects an early history of the child's life. What are the most important points to pay attention to:
 A - all of the following
 B - mother's diseases during pregnancy
 C - the nature of childbirth
 D - anthropometric data at birth
 E - type of feeding in the first year of life

ANSWERS to the tests:

1.A; 2.B; 3.A; 4.C; 5-A, 6-b, 7-b, 8-c, 9-a, 10-a

- requirements for theoretical readiness of students to perform practical classes:

N	Discipline	To known	To able
1	2	3	4
2	- normal anatomy - normal physiology	Anatomico-physiological features of the different systems and organs	Correctly to estimate the state of child and function of organs and systems

3	Next disciplines: - paediatrics	Semiotics of diseases of different organs and systems	To take the history of life and illness. To form syndromal diagnosis
4	Interdisciplinary integration		

questions to check basic knowledge on the topic of the lesson:

1. What is the procedure for taking anamnesis?
2. What rules are followed when examining a child?
3. What are the degrees of severity in assessing the general condition of the child?
4. What are the features of the medical history of a child in the first year of life?

3. Formation of professional skills and abilities: mastering the skills of supervision:

Tasks:

1. What data about the patient are indicated on the cover sheet of the medical history in the upper left corner?

Answer: visits to hot countries in anamnesis, malaria in anamnesis, results of examination for pediculosis, scabies, Botkin's disease in anamnesis

2. What is the main medical document of a pediatrician in the somatic department?

Answer: medical history of the child

3. A 6-year-old child was admitted to the admission department of a children's hospital in a serious condition due to intoxication. What degrees of severity are used to assess the general condition of the child?

Answer: satisfactory, moderate, severe, terminal.

4. When interviewing a child, the epidemiological anamnesis must be clarified. What questions should be asked to the patient and his parents to assess the epidemiological anamnesis?

Answer: past infectious diseases, contact with infectious patients during the last 3 weeks, the presence of infectious diseases in the family, the presence of infectious diseases in the children's group attended by the child.

5. The doctor, examining the child, collects anamnesis of life. What questions are not part of the anamnesis?

Answer: allergic, epidemiological and hereditary anamnesis.

- recommendations - orientation maps for the formation of practical skills and abilities:

- requirements for the results of work, including design;

- control materials for the final stage of the lesson:

- Answer questions and tests on the topic.

- Be able to collect anamnesis from the child.

- Assess the general condition of the child.

4. Summary:

At the present stage, even the most modern equipment can not replace the experience, knowledge and skills, intuition, clinical thinking of the doctor, based on complaints, anamnesis, properly conducted clinical examination of the child and requires highly professional techniques and a special approach. Interviewing and examination of children should not be formal standard measures and actions of the doctor, it is a creative, purely individual process.

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- Digital information resources: Medscape.com
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Practical lesson №3

Topic: The newborn baby. Primary toilet and maturity of the newborn. Signs of prematurity, classification of premature infants. Assessment of general condition and APGAR Scale. Physiological, milestone and pathological conditions of the newborn. Features of newborn care.

Aims: _ to acquaint students with the AFO of newborns, signs of maturity and immaturity of newborns, methods of assessing a newborn child, transient conditions.

Basic concepts: _ The neonatal period is very important in the postnatal development of children, since neonatal mortality accounts for the largest share in the structure of infant mortality. During this period, the newborn adapts to extra-abdominal life and its functional systems begin to function actively. Physiological states that reflect the process of adaptation during the transition of the child from intrauterine to extra-abdominal life (transient, transitory), depending on environmental conditions, can turn into pathological ones. Knowledge of these features allows the doctor to correctly interpret the processes of the neonatal period and provide timely assistance to newborns. The study of the neonatal period is necessary to assess the condition of the newborn child, identify physiological and pathological phenomena that occur during this period, their diagnosis, treatment and prevention. Knowledge of the anatomical and physiological features of the newborn allows to determine the mechanisms of growth and development of the child, the leading pathology and approaches to its treatment and prevention.

Equipment: _ Singing table, lamp, model of a newborn baby, clothes, diapers, rubber pear, scales. ___ Power Point presentation slides (diagrams, tables, photos). Models, centile tables. In on-line mode - MS Teams platform technologies.

Plan:

1. *Organizational events:*

(greetings, checking the attendees, announcing the topic, the purpose of the lesson, motivation of higher education students to study the topic).

2. *Control of the reference level of knowledge:*

Tests to check the entry level of knowledge:

1).Provide the definition of "newborn child". Answer: It is a child from the moment of birth or removal from the mother's body after the full 22nd week of pregnancy until the end of the full 4 weeks of life (28 days).

2).How are newborns classified by gestational age? Answer: full-term, premature, preterm.

3).How are newborns classified by body weight? Answer: normal weight, low birth

weight, very low birth weight, extremely low birth weight.

4).How are newborns classified according to their weight for gestational age? Answer: overweight for gestational age, normal weight for gestational age, low birth weight for gestational age - intrauterine growth retardation.

5).What parameters does the Apgar score take into account? Answer: skin tone, heart rate, reflex irritability, muscle tone, respiration.

6).List the most important steps of standard newborn care in the delivery room. Answer: Immediately after birth, drying the baby's body and head, skin-to-skin contact, cutting the umbilical cord, dressing the baby, Apgar score, early attachment of the baby to the mother's breast, measuring body temperature in the axillary region, prevention of ophthalmia with antibacterial eye drops, delayed anthropometry.

7).List the steps of the heat chain. Answer: Warm delivery room (operating room), immediate drying of the baby, skin-to-skin contact, breastfeeding, postpone weighing and bathing, properly dress and wrap the baby, mother and baby staying together around the clock, transportation in warm conditions, resuscitation in warm conditions, increasing training and knowledge.

8).List the signs of maturity of the newborn. Answer: length of 47 cm, body weight 2500 and more, subcutaneous fat is well developed, skin tone is pinkish-white with remnants of curd-like grease; fluff only on the shoulders and upper back; umbilical ring is located midway between the pubis and the xiphoid process; the length of hair on the head is at least 2 cm, nails are on the fingertips, ear and nasal shells are elastic, in boys the testicles are lowered into the scrotum, in girls the labia minora and clitoris are covered by the labia majora.

9).List the transient states of the newborn. Answer: transient blood circulation, physiological weight loss, physiological jaundice, hormonal crisis, erythema simple, erythema toxicum and skin peeling, transient intestinal catarrh (physiological dyspepsia), albuminuria, uric acid diathesis (renal infarction).

- requirements for theoretical readiness of students to perform practical classes: Master:

1).Communication skills, interviewing patients and / or their relatives (guardians) in the diagnosis of blood diseases in children.

2).The order of standard care in the delivery room for a newborn baby.

3).The algorithm of evaluation on the Apgar scale.

4).Algorithm of evaluation The algorithm for assessing the newborn by gestational age and body weight.

5). Algorithm for assessing transient weight loss

6). Algorithm for the assessment of jaundice in newborns.

- Be able to:

1). Assess newborns by gestational age and birth weight.

2).Evaluate newborns by Apgar scale.

3).Identify transient conditions of newborns.

Questions to test basic knowledge on the topic of the lesson:

-How are newborns classified by gestational age?

-How are newborns classified by body weight?

-How are newborns classified according to the correspondence of body weight to

gestational age⁷

- What parameters does the Apgar score take into account?
- List the most important steps of standard newborn care in the delivery room?
- List the steps of the heat chain?
- List the signs of maturity of the newborn.
- List the external signs of prematurity.
- List the transient conditions of the newborn.
- Classification of jaundice of the newborn according to the Kramer scale.

3. **Formation of professional skills and abilities** (mastering skills, conducting supervision, determining the treatment regimen, conducting laboratory tests, etc.), content of tasks (tasks, clinical situations, etc.); Working in small groups, using simulators, on a standardized patient, to work out:

- Procedure of standard care in the delivery room
- Algorithm of assessment on the Apgar scale
- Algorithm for assessing the newborn by gestational age and body weight
- Identification of transient conditions in newborns
- Algorithm for assessing transient weight loss
- Algorithm for assessing jaundice in newborns

Task 1). Assess the newborn on the Apgar scale

A child born at 39-40 weeks of gestation from a complicated pregnancy, delivered through the natural birth canal with clear amniotic fluid, who cried out loudly, 1 minute after birth:

- 1) Body pink, acrocyanosis
- 2) Heart rate 120 in 6 seconds
- 3) Arshavsky reflex is well evoked - the baby moves and screams
- 4) Flexor posture, actively moves limbs
- 5) Breathing is rhythmic, screams loudly.

Answer.

Score each parameter in points:

- 1) Skin color: Body pink, acrocyanosis - 1 point
- 2) HEART RATE: $12 \times 10 = 120$ in 1 minute - 2 points
- 3) Arshavsky reflex is evoked well - 2 points
- 4) Muscle tone: Flexor posture, actively moves limbs - 2 points
- 5) Breathing is rhythmic, cries out loudly - 2 points

Sum of points: $1+2+2+2+2=9$ points

Conclusion: Apgar score of 9 points in the first minute of life is normal, reassessment in the 5th minute; the baby was probably born without asphyxia

Task 2: Classify the newborn by gestational age and birth weight

Child born at 40-41 weeks of pregnancy

- Body weight 3700 g
- Answer The child is born in 40-41 weeks of pregnancy
- The body weight is 3700 g

Answer:

1. The child is full-term
2. Normal body weight
3. Weight for gestational age is between the 75th and 90th percentile - this is normal weight for gestational age.

Task 2: Classify the newborn according to the weight for gestational age.

The child is born at 38-39 weeks of pregnancy. Body weight is 2400 g

Answer:

The child is full-term. Low birth weight. A birth weight for gestational age below the 10th centile is low birth weight for gestational age, i.e. the child has SIDS.

Task 3.

What is the transitional state of the child?

The child is born healthy at 39-40 weeks of gestation with a body weight of 3800 g. The baby was put to the breast in the delivery room, breastfed as needed. The mother has enough milk. Discharged from the hospital on the 4th day of life with a body weight of 3550 g.

Answer:

Algorithm for estimation of body weight loss

1). Calculate the absolute loss of body weight:

$$3800 \text{ g} - 3550 \text{ g} = 250 \text{ g}$$

2). Calculate the relative loss of body weight:

$$3800 \text{ g} - 100 \%$$

$$250 \text{ g} - X \%$$

$$X = 250 \times 100 : 3800 = 6,6\%$$

3). Consider that this loss of body weight occurs on the 4th day of life

4). Conclusion: Physiological loss of body weight: because it does not exceed 9% and is observed up to 10 days of life

Task 4. A girl aged 6 days is found to have coarsening of the mammary glands. Does the child need treatment? Answer: the child does not need treatment.

Task 5. A child has jaundiced skin on the 3rd day of life. The child was born with a weight of 3,200 kg, body length 52 cm. He is active. There is puerile breathing over the lungs. The heart rate is 36 / min. Heart tones are rhythmic. Heart rate 130 / min. The abdomen is soft. The liver protrudes from under the edge of the rib arch by 2 cm, the spleen is not palpable. Excrement in the form of meconium. What is the most likely diagnosis? Answer: Physiological jaundice

Task 6. When examining a newborn, the doctor noticed that the child's skin looks wrinkled, there is maceration of the skin, a decrease in its turgor, lack of primordial lubrication, long nails, long hair on the head, dense skull bones, a large 1 * 1 cm parietal. Body weight is 4300 g, length 56 cm.

Estimate the degree of maturity. Is it possible to draw conclusions about the gestational age of the infant? Answer: the child is carried.

Task 7. The child was born at 41 weeks of gestation with a body weight of 4800 g, length 58 cm. Meconium amniotic fluid. On the 1st minute after birth, the skin is cyanotic, does not scream, reacts sluggishly to the examination. Muscle tone is

significantly reduced, reflexes of the newborn period are depressed. Heart rate is 80 per 1 minute, respiratory rate is 20 per 1 minute, breathing is arrhythmic. On the 5th minute - respiratory rate 40 per 1 minute, cyanosis of the skin persists, breathing is arrhythmic. There is hypotension of the muscles of the upper extremities, hypertonicity - in the lower ones. Heart rate is 130 per 1 minute. There are reflexes in the newborn period. Assess the condition of the newborn on the Apgar scale at 1 and 5 minutes. Answer: for 1 minute - 3 points, for 5 minutes - 7 points.

- Recommendations (instructions) for performing tasks (professional algorithms, orientation maps for the formation of practical skills, etc;)

Methodology of work performance, stages of performance.

- 1). The order of standard care for a healthy newborn in the delivery room in the first 2 hours of life:
 1. Immediately after birth, dry the baby's body and head with clean, dry, warm diapers
 - 2). Skin-to-skin contact: the baby is placed on the mother's stomach, finish drying the skin with a warm diaper
 - 3). If the baby moves and screams, not earlier than 1 minute after birth, the umbilical cord is clamped and cut between two clamps
 - 4). The child is put on a cap and socks, covered with a clean, dry, warm diaper
 - 5). Conduct an assessment on the Apgar scale: 1) end of the first minute after birth; 2) fifth minute of life
 - 6). Early attachment of the child to the mother's breast: during the first hour of life, when the child begins to move, raises his head, opens his mouth wide
 - 7). Measurement of body temperature in the axillary region - 30 minutes after birth
 - 8). Prevention of ophthalmia with antibacterial eye drops: after establishing contact between mother and child "eye to eye" (no later than the first hour of the child's life)
 - 9). If the mother and child are in satisfactory condition, skin-to-skin contact in the delivery room is provided for 2 hours
 - 10). After completion of skin-to-skin contact, transfer the baby to a warmed table and carry out processing and clamping of the umbilical cord - to apply Rogovin's bracket anthropometry - measure
 - body length
 - head and chest circumference
 - body weight (weigh the child)

Algorithm of assessment on the Apgar scale

Clinical signs	Evaluation in points		
	0	1	2
Heart beat			
Breathing			
Muscle tone, reflex			
Skin colore			

- 1).Rate each of the 5 scale parameters in points: 0, 1 or 2
- 2). Calculate the sum of points
- 3). Make a conclusion

Interpretation of the Apgar score

Normal (no asphyxia):

on the 1st and 5th minute - 7-10 points

Moderate asphyxia:

on the 1st minute - 4-6 points

on the 5th minute - 7 and more points

Severe asphyxia:

on the 1st minute - 1-3 points

on the 5th minute - less than 7 points

Algorithm for assessing the newborn by gestational age and body weight:

- 1).Estimate the gestational age of the baby and determine whether it is full-term or preterm
- 2).Assess the baby's birth weight, if the birth weight is 2500 g or less, determine if the baby is low birth weight, very low birth weight, or extremely low birth weight
- 3).Assess the child's weight for gestational age using the centile chart for body weight, for which find the point at the intersection of the lines of body weight and gestational age, and determine whether the child has a normal weight for gestational age, or overweight, or low birth weight, that is, there is a delay in intrauterine development (IUGR)

Algorithm for estimating body weight loss

- 1).Calculate the absolute loss of body weight.
- 2). Calculate the relative loss of body weight.
- 3). Take into account that this loss of body weight occurs on the 3-4th day of life.
- 4).Physiological loss of body weight does not exceed 9% and is observed up to 10 days of life.

Algorithm for assessing jaundice

Jaundice assessment algorithm	Physiologic jaundice	Not Physiologic jaundice
1. At what day of life did jaundice occur?	On the 3-rd day of life	On the 1 – 2 day of life
2. Given the child's age at the time of the study, should the jaundice have disappeared?	Disappears on the 12-13 day of life	Lasts up to 3 weeks of life
3. Which area on the Cramer scale corresponds to jaundice?	1 – 2 areas or 1 – 3 areas of Cramer's scale	1 – 4 areas 1 – 5 areas of Cramer's scale

4. Child's health condition?	Satisfactory	The child is restless or sluggish
5. Color of the urine?	Urine is colorless or yellow	Urine is dark
6. Color of the stool?	Stool yellow or yellow-green	Stool discolored

- requirements for the results of work, including design;

- control materials for the final stage of the lesson:

- Quick Quiz:

1). Give the definition of the newborn period.

2). What are the features of the newborn period?

3). Give the definition of "newborn baby".

4). Do the concepts of "full-term" and "maturity" coincide in relation to a newborn baby?

5). What are the morphological and functional signs of maturity of the newborn?

6). Name the signs of prematurity.

7). Name the signs of prematurity.

8). Features of subjective and objective examination of newborns.

9). Assess the condition of the newborn on the Apgar scale.

10). What are the important steps of standard newborn care in the delivery room?

11). Name the causes of physiological conditions of newborns.

12). Name the predisposing factors of borderline conditions of newborns.

13). Describe physiological erythema and scaling.

14). List the diagnostic criteria for physiological jaundice.

15). Give the clinical characteristics of physiological weight loss.

16). Give the clinical characteristics of sexual crisis.

17). Give the clinical characteristics of transient fever.

18). Give the clinical characteristics of toxic erythema.

19). Characterize uric acid infarction of the kidney.

- Test tasks:

1). The duration of the neonatal period (newborn period) is:

38 days

28 days X

48 days

18 days

21 days

2). A premature baby is a baby that was born earlier:

Full 36 weeks

Full 37 weeks X

Full 35 weeks

Full 38 weeks

Full 39 weeks

3). A full-term newborn has more body weight (in g)?

500

1000

1500

2000

2500 X

4). At what minutes of life is the condition of the newborn assessed on the Apgar scale?

1st 5th X

1, 2 5th

1, 2 10th

2nd 10th

5). On what day of life does the newborn have coarsening of the mammary glands (physiological mastopathy)?

1-2-й

5-7th X

8-11-й

12-15-й

16-18-й

6). In a newborn baby, the normal body temperature is:

35.5-36.0 °C

36,5-37,5°C X

37,5-38,0 °C

38,2-38,5 °C

38,6-39,0°C

7). What are the signs of physiological jaundice?

Appears on the 1st day

Appears on the 3rd day X

With the Kramer scale corresponds to 1-3 zone X

Disappears in 1 month

8). What reflexes are evoked in a newborn to determine reflex irritability?

Pharyngeal X

Avomatic gait

Arshavsky X

Crawling

4. **Summary:**

The neonatal period (newborn period) is very important in the postnatal development of children. It begins from the moment the child is born (more precisely from the moment the umbilical cord is tied) and lasts on average 3-4 weeks. The newborn period is divided into early - the first 7 days of life and late - from the 8th to the 28th day of life. A full-term baby is a child born at a gestational age of more than 37 weeks, with a birth weight of more than 2500 g, a body length of 45 cm or more. A premature baby is a baby born at 37 weeks of gestation or less with a birth weight of 2500 g or less and a body length of 45 cm or less. Preterm newborn - born after 42 weeks of pregnancy. For the terminal assessment of the newborn's condition at 1 and 5 minutes of life, the Apgar

scale is used, which includes the assessment of 5 clinical signs: heart rate, respiratory activity, muscle tone, reflex arousal and skin color. Each sign is evaluated on a three-point system (0, 1, 2 points). The sum of points 10-8 indicates a good condition of the newborn, 7-6 points - mild asphyxia, 5-4 points - moderate asphyxia ("blue asphyxia"), 3-1 points - severe asphyxia ("white asphyxia"). A score of 0 means clinical death.

The procedure of standard care in the delivery room for a healthy newborn baby is carried out according to the Protocol of medical care for a healthy newborn baby. Order of the Ministry of Health of Ukraine No. 152 dated 04.04.2005

5. Recommended literature

Main:

13. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
14. Newell Simon J Darling Jonatan C. Paediatrics_9th ed. 2015.-320 p.
15. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
16. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
17. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.
18. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha,s Fundamentals of Pediatrics. Ajanta offset & Packagings Ltd., New Delhi.-2013.-782 pp.
8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
9. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

1. Partha,s Fundamentals of Pediatrics. Ajanta offset & Packagings Ltd., New Delhi.-2013.-782 pp.
2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS.

Practical lesson №4

Topic: Unconditional reflexes of newborns. Features of the method of examination of the newborn.

Aims: to acquaint students with anatomical and physiological features of the nervous system and sensory organs in newborns;

the student should know the rules of examination of the nervous system of the newborn, unconditional reflexes of newborns, the timing of their reduction;

to provide students with the opportunity to master the skills of methods of studying the nervous system and sensory organs in newborns;

to provide students with the ability to study the unconditional reflexes of the newborn

Basic concepts: A doctor should be able to correctly assess the neuropsychological state of a newborn child. Of course, a more detailed and in-depth study of the neurological state and research of the nervous system will be carried out at the Department of Nervous Diseases, but students should acquire basic knowledge and skills in assessing the neurological state of the child while studying the course of pediatrics propedeutics. Without this knowledge and skills it is impossible to assess the harmony of the child's development, the state of other organs and systems.

Equipment: changing table, lamp, dummy of a newborn baby, clothes, diapers, hammer for neurological examination._ Power Point presentation slides (diagrams, tables, photos). Models, centile tables. In on-line mode - MS Teams platform technologies.

Plan:

1. ***Organizational events*** (greetings, checking the attendees, announcing the topic, the purpose of the lesson, motivating students to study the topic).

2. ***Control of the reference level of knowledge - frontal survey:***

- 1). Describe the features of the nervous system of a newborn baby.
- 2). Rules of examination of the nervous system of the newborn.
- 3). Unconditional reflexes of newborns, the timing of their reduction.
- 4). Study of unconditioned reflexes: oral segmental automatisms.
- 5). Study of spinal segmental automatisms.
- 6). Study of myeloencephalic, posotonic reflexes.

Requirements for theoretical readiness of students:

№№	Discipline	To know	To be able to
1.	2.	3.	4.
1.	Previous discipline 1. 1.normal anatomy	1.Anatomic structure of	Correctly to estimate a

	2.normal physiology	nervous system and sense organs of the child. 2.Function of different departments of nervous system at children.	condition of the child and function of bodies and systems
2.	Future discipline 1. Faculty pediatrics	Semiotics of defeats of nervous system	To conduct clinical research of nervous system of the newborn, to define pathological symptoms
3.	Intradisciplinary integration 1. Nervously- mental development	Terms of maturing of separate departments of nervous system	To estimate nervously - mental development of the child

test tasks to check basic knowledge on the topic of the lesson:

1).The group of oral segmental automatisms includes the following reflexes, except:

- A - sucking
- B - search (Kusssmaul-Henzler)
- C - Moro
- D - proboscis
- E - palmar-oral reflexes (Babkin)

2). When examining the grasping reflex in a 2-week-old baby, the doctor managed to lift the baby over the support. This reflex is called:

- A - Babkin's
- B - Moreau
- C - Gallant
- D - Robinson's
- E - Perez

3). The group of spinal segmental automatisms includes the following reflexes, except:

- A - Moreau reflex
- B - reflex of support
- C - Bauer reflex
- D - Perez reflex
- E - Babkin reflex

4). The mandatory requirements for the assessment of unconditionally reflex activity of the newborn include all, except:

- A - warm, bright room

B - examination of the child on an empty stomach

C - the child is full and dry

D - a child in the nude

E - the child is calm

5). A feature of the newborn period is the presence of the following unconditioned reflexes, except:

A - Greffe

B - Babkin

C - Robinson

D - Moreau

E - Gallant

Answers to the tests:

1.C; 2.D; 3.E; 4.C; 5.A.

3. ***Formation of professional skills and abilities*** (mastering skills, conducting supervision, determining the treatment regimen, conducting laboratory research, etc:)
content of tasks:

Task 1.

1). Is it possible to assess flexor hypertension and athetosis-like movements of the newborn as a pathological phenomenon?

2). Why does a newborn baby sleep most of the day?

ANSWERS to the tasks:

1). No, it is physiological for a newborn baby.

2). Since the nervous system of the newborn is characterized by immaturity and increased exhaustion, it is dominated by protective inhibition.

Task 2.

A child was born at 38 weeks of gestation with a weight of 3 400 g, body length 54 cm, head circumference 35 cm, chest circumference 33 cm. When examining the newborn, the doctor diagnosed pale pink skin with acrocyanosis, a loud cry, the presence of all unconditional reflexes, irregular breathing, respiratory rate - 30 per 1 minute, heart rate less than 100 per 1 minute, hypotension of all muscles. What number of points on the Apgar scale corresponds to the general condition of the child. List the unconditional reflexes of a full-term newborn baby. Assess the physical development of the child.

Task 3.

A child was born at 41 weeks of gestation with a weight of 4 100 g, body length 56 cm, head circumference 36 cm, chest circumference 34 cm. Apgar score at 1 and 5 minutes - 8-9 points. He is currently 2 months old. What is the physical development of the child at this age. List the unconditional reflexes of a child of this age.

Task 4.

The child was born at 33 weeks of gestation with a body weight of 1900 g, length 44 cm. The child's physique is disproportionate, the lower limbs and neck are short, the cerebral skull prevails over the facial, soft, pliable skull bones, sutures and small fontanelle are open, insufficient concavity and softness of the auricle, underdevelopment of its cartilage, lanugo on the skin of the back, shoulders, forehead, cheeks and thighs, a thick layer of primordial lubrication, thin skin, pronounced erythema. Estimate the gestational age and degree of maturity of the newborn. List the

unconditional reflexes of a child of this age.

- Recommendations (Algorithm) for performing tasks:

- requirements for the results of work;

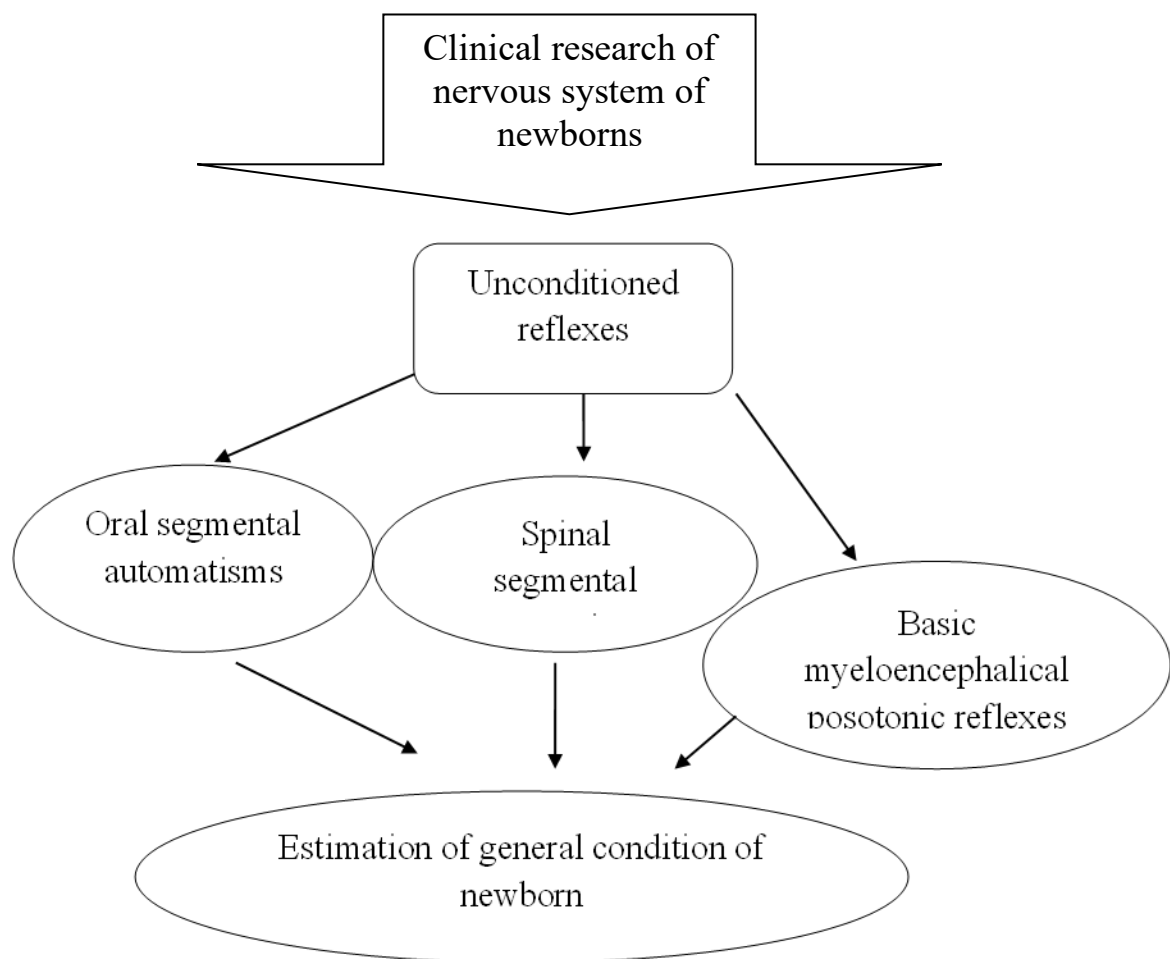
- control materials for the final stage of the lesson - questions:

Normal parameters in full-term newborns in the first days of life:

- 1). Skin color
- 2). Head circumference
- 3). Body temperature
- 4). Respiratory rate
- 5). Frequency of heart contractions
- 6). What muscles tone is increased normally in full-term newborns?
- 7). List of persistent lifelong automatisms
- 8). List of reflexes of oral automatism
- 9). List of reflexes of spinal automatism
- 10). By what age on average do transient rudimentary reflexes disappear in children

4. Summary:

The rules of research of nervous system of newborns



5. Recommended literature

Main:

1. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
2. Newell Simon J Darling Jonatan C. Paediatrics_9th ed. 2015.-320 p.
3. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
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5. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.
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4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
5. Essential pediatrics. O.P. Ghai, MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: [Medscape.com](https://www.medscape.com)

Practical lesson №5-6

Topic: "Assessment of physical development of children of different ages. Dynamics of body weight growth, changes in head and chest circumference, proportions, etc. Technique of anthropometric measurements and evaluation of their results. Signal and centile tables. Semiotics of disorders of physical development of children. Physical education of children of different ages. Daily routine.

Aims: the student should study the patterns of physical development of children of

different ages, have an idea of the central tables; semiotics of disorders of height and weight of children, harmony of physical development, have an idea of biological acceleration to provide students with the opportunity to master the skills of anthropometry; ability to assess the harmony of physical development of the child.

Basic concepts: The diagnostic process in somatic diseases in children is impossible without studying the physical development of the child. Quite often there are violations of physical development of children, because the child's body is very sensitive to changes in the environment. As a result, the intensity of physical development can vary significantly. The prevalence of changes in physical development is relevant at the present time, when the impact of environmental factors on the child's body has increased. Therefore, the examination and evaluation of physical development, as well as the semiotics of physical development disorders of children should be known to every doctor.

Equipment: model of an infant; scales, growth meter; graphs of standard deviations; centile tables; program Anthro, Anthro-plus.

Plan:

1. Organizational events (greetings, checking of attendees, announcement of the topic, objectives of the session, motivation of higher education students to study the topic).

- to know: technique of the anthropometric measurements for the children of the first year of life; technique of the anthropometric measurements for the children of senior age; dynamics of growth for children different age; dynamics of mass of body for children different age; dynamics of change of perimeter of chest, thorax and other for children different age; harmoniousness of physical development of children.

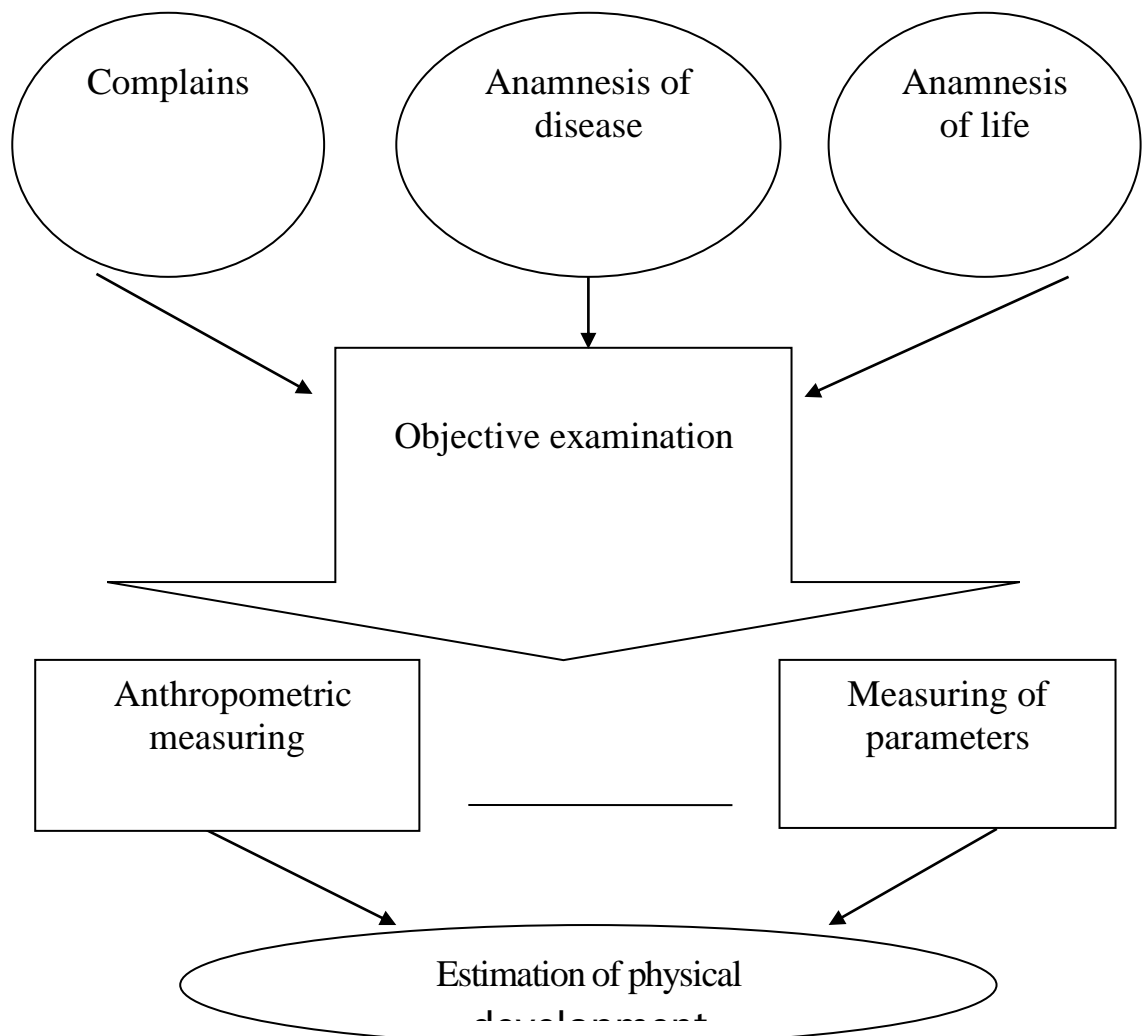
Interdisciplinary integration

№№	Discipline	To know	To be able to
1.	2.	3.	4.
1.	Previous discipline - normal anatomy - normal physiology	Anatomical-physiological features of physical development of child Changes of physical development of children. Centile tables	Correctly estimate physical development of child To collect anamnesis of life and disease. To conduct anthropometry. To estimate physical development of child

2.	Faculty pediatrics	Anatomical-physiological features of physical development of child	To collect anamnesis of life and disease. To conduct anthropometry. To estimate physical development of child
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An examination is begun with complaints. Anamnesis of disease, anamnesis of life, is conducted for to the case record. The objective examination of child includes anthropometry, measuring of perimeters, and estimation of harmoniousness of physical development of child. The estimation of harmoniousness of physical development is needed for determination of volume and order of conducting of medical measures, additional laboratory instrumental methods of investigation on this stage of disease, revision of the programs of physical education and mode of day, co-adaptation to diet.

Materials of methodical software of the lesson.



2. ***Control of the reference level of knowledge*** - written testing:

1. Physiological weight loss of the newborn:

- A - 5-8%
- B - 13-14%
- C - 10-12%
- D - 12-15%
- E - 11-12%

2. The body weight of a child in 1 year:

- A - 10kg
- B - 9kg
- C - 8kg
- D - 13 kg
- E - 12 kg

3. In the first 3 months of a child's life, its growth increases monthly by:

- A - 2.5cm
- B - 3cm
- C - 2cm
- D - 1.5cm
- E - 1cm

4. The formula for calculating the body weight of a child from 1 to 10 years:

- A - $(10+n)$
- B - $(10-2n)$ C - $(10.5+n)$
- D - $(10.5+4n)$
- E - $(10+2n)$

5. At what age the perimeter of the head is equal to the perimeter of the chest:

- A - 5 days
- B - 2 months
- C - 4 months
- D - 5 months
- E - 6 months

Answers to the tests:

1. A; 2. A; 3. C; 4. E; 5. C

questions to test basic knowledge on the topic of the lesson:

- 1). What are the patterns of physical development of children.
- 2). Technique of anthropometric measurements in children of different ages.
- 3). The dynamics of growth in children of different ages.
- 4). Dynamics of body weight in children of different ages.
- 5). Dynamics of changes in the perimeter of the head, chest, etc. in children of different ages.
- 6). Central tables.
- 7). What are the causes of growth retardation in children.
- 8). Gigantism and its clinical symptoms.
- 9). Clinical features of obesity

10). Manifestations of acceleration in childhood.

3. Formation of professional skills and abilities:

- Content of tasks:

Tasks:

Task 1.

A child 6 months old, born with a body weight of 3200 g, length 50 cm, currently weighs 8 200 g, body length 67 cm. Estimate the parameters of physical development.

Task 2.

In a boy of 1 year conducted anthropometric studies. The following data were obtained: weight - 15 kg, height - 75 cm, head circumference - 46 cm, chest circumference - 48 cm. How can you assess the physical development of this child? List the unconditional reflexes characteristic of a child aged 1 year. List the skills that the child has at this age.

Task 3. 10 months old boy. Born full-term with a weight of 3 100 g, height 50 cm. At the age of 10 months, the child holds his head, does not yet sit and does not stand, does not "hum", does not Uly-Baetov. He does not respond emotionally to communication with adults. Weight - 7 200 g, height - 62 cm. Assess the physical and psycho-motor development of the child.

Task 4. The boy is 8 months old, his weight - 8 900 g, height - 73 cm; was born full-term with a weight of 3 500 g, body length 52 cm. The mother recognizes him (rejoices). Holds his head, sits, stands, walks by the hand, knows his name, drinks from a cup. Assess the physical and psycho-motor development of the child.

Task 5. The boy is 4 months old, weight - 5 100 g, height - 61 cm, head circumference - 40 cm, chest circumference - 39 cm. The child smiles in response to a smile, holds his head in a vertical position, "humming". She lies on her stomach, leaning on her forearms and holding her head high. Born full-term with a weight of 3,000 g, length 52 cm, head circumference - 34 cm, chest circumference - 32 cm. Assess the physical and psycho-motor development of the child.

Task 6. The child is 4 weeks old. He does not hold his head in an upright position, his gaze is fixed for a few seconds, smiles, cries loudly. Born full-term with a weight of 3700 g, length 55 cm. Calculate what should be the child's body weight and height. Evaluate the psycho-motor development of this child. List the unconditional reflexes for this age.

Task 7. The girl is 12 months old, weight - 10 500 g, height - 77 cm; head circumference - 47 cm, chest circumference - 45 cm. She was born full-term. She sits independently, holds her head, stands, walks by the hand, recognizes relatives. Laughs, fulfills simple requirements. Does not speak. Assess the physical and psycho-motor development of the child.

Task 8. The child is 6 months old, weight - 5,000 g, height - 66 cm; born full-term with a weight of 3,500 kg, length - 52 cm. He/she can hold his/her head independently, does not sit, does not roll over, "hums". Assess the physical and psycho-motor development of the child.

Task 9. The child is 5 months old, weight - 4 000 g, height - 60 cm; born full-term with a weight of 3,400 kg, length - 50 cm. He is able to hold his head in an upright position independently, does not sit, does not roll over, "hums". Assess the physical and psycho-motor development of the child.

Task 10. The child is 4 months old, weight - 9 200 g, height - 67 cm; born full-term with a weight of 3,800 kg, length - 51 cm. He is able to hold his head independently, does not sit, rolls over, "hums". Assess the physical and psycho-motor development of the child.

Task 11. 10 months old boy. Born prematurely with a weight of 3 100 g, height 50 cm. Weight - 10 200 g, height - 62 cm. Assess the physical development of the child.

Task 12. The boy is 8 months old, his weight - 6 000 g, height - 73 cm; was born full-term with a weight of 3 500 g, body length 52 cm. Estimate the physical development of the child.

Task 13. The girl is 9 months old, weighs 5 800 g, height - 67 cm; was born full-term with a weight of 3 300 g, length 51 cm. Assess the physical development of the child.

-recommendations (instructions) for performing tasks:

-requirements for the results of work, including design;

-control materials for the final stage of the lesson:

Test tasks:

1). Examination of healthy children begins with:

A - passport data and anamnesis of life

B - medical history

C - palpation

D - percussion

E - auscultation

2). Stunting is a condition when the height is less than the limit:

A - 2nd centile

B - 3rd centile

C - 4th centile

D - 5th centile

E - 1st centile

3). Factors of growth retardation are all except:

A - endocrinopathy

B - chronic diseases

- C - absorption disorders
- D - psychosocial
- E - biological

- 4). Manifestations of acceleration are:
- A -increase in body length
 - B - increase in body weight
 - C - increase in length and body weight
 - D - increase in body perimeters
 - E -all of the above

- 5). Theories of acceleration:
- A - all of the above
 - B - genetic
 - C - physicochemical
 - D - individual factors of living conditions
 - E - complex factors of living conditions

Answers to the tests:

1.A; 2.C; 3.E; 4.C; 5.A

4.Summary:

- The process of physical development of a child depends crucially on the nutrition and quality of care provided by parents for the child
- Physical development indicators reflect the health status of an individual child
- In the 1st year of life - monthly, in 2-3 years - quarterly, in 4-6 years - every six months the weight and length of the child's body should be measured
- The obtained anthropometric indicators should be plotted on standard deviation graphs
- body weight for age, body length for age, body weight for length, BMI for age
- To assess physical development, each indicator and growth dynamics should be interpreted
- Violation of physical development of children, both exceeding the norm of antropometric indicators and their decrease, is an important clinical sign, on the basis of which clinical, laboratory and / or instrumental research is started to establish the cause or disease
- Physical inactivity is the fourth most important risk factor for global mortality (6% of deaths worldwide) and an important cause of obesity. A sedentary lifestyle is formed in childhood, so children need to be accustomed to physical activity.
- Adequate nutrition, physical activity and adequate sleep are the main conditions for the growth and development of children

5.Recommended literature:

Main:

7. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.-CBS Publishers & Distributors, 2018.-669 p.
8. Newell Simon J Darling Jonatan C. Paediatrics_9thed._2015.-320 p.
9. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions.– Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
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5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical lesson №7-8

Topic: Assessment of psychomotor development of children of different age groups. Development of motor skills, statics, sensory reactions, speech, emotional and social behavior in young children. Semiotics of disorders of psychomotor development of children.

Aims: to reveal the main criteria for assessing the psychomotor development of children - motor skills, statics, sensory reactions, speech, mental development; to understand the concept of neuropsychological development of children. Identify the

features of neuropsychological development of children in different periods of childhood. To learn to assess the psychomotor development of a child in the first year of life. Identify "red flags" in the psycho-motor development of the child.

Basic concepts: Study of the features of neuropsychological development of the child, characteristic of each age period is necessary for adequate assessment of its overall development, diagnosis and differential diagnosis of diseases with the purpose of their timely prevention and adequate treatment.

Equipment: tables of psychomotor development assessment, photos of children of different age groups, visual aids

Plan:

1. *Organizational events* (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).

2. *Control of the reference level of knowledge* (written work, written testing, frontal questioning, etc.) (if necessary):

- What is "psychomotor development" of a child?
- List the factors that influence the process of psychomotor development of the child
- What is motor skills?
- What is statics?
- What are sensory reactions?
- How is language development assessed?
- What is the emotional and social development of the child?
- What parameters are used to assess the psychomotor development of a child in the 2nd year of life?
- What parameters are used to assess the psychomotor development of a child in the 3rd year of life?
- What is "developmental care"?

Requirements for theoretical readiness of students to perform practical classes:

NºNº	Discipline	To know	To be able to
1.	2.	3.	4.
1.	Previous discipline 1. Normal anatomy Normal physiology	Anatomical-physiological features of different systems and organs of child	Correctly estimate the state of child and function of organs and systems
2.	Future discipline 1. Paediatrics	Semiotics of diseases of different organs and systems	To collect anamnesis of life and disease. To form a syndromic diagnosis

3.	Intradisciplinary integration	Semiotics of diseases of different organs and systems	To collect anamnesis of life and disease. To form a syndromic diagnosis
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Questions and test tasks to check basic knowledge on the topic of the lesson:

- 1).What are the periods of psychomotor development in children of the first year of life?
- 2).Features of psychomotor development of newborns.
- 3).What are the groups of reflexes that determine the psychomotor status of the first year of life?
- 4).Stages of formation of speech function.

Test tasks:

1. At what age does the child begin to hold his head?

- A - 1,5-2 months
- B - 4 months
- C - 5 months
- D - 6 months
- E - 7 months

2. At what age does the child begin to stand with support?

- A - 2-3 months
- B - 6-8 months
- C - 10-12 months
- D - 4-5 months
- E - 12-14 months

3. At what age does a child start walking?

- A - 14 months
- B - 8 months
- C - 10 months
- D - 16 months
- E - 12 months

4. How many words should a child know by the end of the first year of life?

- A - 2-4 words
- B - 5-7 words
- C - 8-10 words
- D - 13-15 words
- E - 16-20 words

5. When does a child begin to speak syllables such as ba-ba-ba, ma-ma-ma, etc.

A - 4 months

B - 8 months

C - 10 months

D - 6 months

E - 12 months

The correct answers are: 1-A, 2-B, 3-C, 4-C, 5-D.

3. Formation of professional skills and abilities:

Content of tasks:

Task 1. The boy is 7 months old, weight - 9 000 g, height - 70 cm; born full-term with a weight of 3 900 g, length - 55 cm. He is able to hold his head independently, sits, rolls over, "babbles", laughs, recognizes his friends, makes "Ladushki". Assess the physical and psychomotor development of the child.

Task 2: The child is 6 months old, weight - 8.2 kg, height - 66 cm; was born full-term with a weight of 3500 g, length - 52 cm. He is able to hold his head independently, sits, rolls over, "babbles". Assess the physical and psychomotor development of the child.

Task 3. 9 months old girl, weight - 5 800 g, height - 67 cm; born full-term with a weight of 3 300 g, length - 51 cm. She is able to hold her head independently, sits, rolls over, stands, pronounces syllables and a few words. Assess the physical and psychomotor development of the child.

Task 4. The child is 8 months old. Born full-term with a weight of 3 200 g, height 51 cm. Check anthropometric measurements: weight - 8 100 g; length - 72 cm. Assess the physical development of this child. List the unconditioned reflexes typical for this age. List the skills that a child has at 8 months.

Task 5. The mother of a 6-month-old boy complains of vomiting, hyperthermia - 39°C, sharp anxiety in the child. Upon examination, the child is diagnosed with meningitis. On admission, the child's weight is 8 kg, height - 68 cm, head circumference - 43 cm, chest circumference - 45 cm. List the meningeal symptoms. Assess the physical development of the child.

Task 6. The boy is 3 years old. Attends kindergarten. Psychophysical development corresponds to the age. The weight of the child - 15 kg, height - 90 cm. Assess the physical development of the child. Describe the skills and abilities typical for a healthy child of 3 years.

Task 7. The child was born full-term with a body weight of 3 150 g, length - 51 cm. At the moment he is 10 months old. Weight - 9 350 g, height - 74 cm. He recognizes his mother's voice, lies on his stomach for a long time, turns over on his stomach and on his back, "walks", holds his head. Assess the physical and psychomotor development of the child.

Task 8. The girl is 2 years old. Weight - 10 kg, height - 78 cm, head circumference - 47 cm. Assess the physical development of the child. Describe the skills and abilities typical for a healthy child of 2 years.

Task 9. The girl is 1.5 years old. Weight - 16 kg, height - 80 cm, head circumference - 46 cm. Assess the physical development of the child. Describe the skills and abilities characteristic of a healthy child of 1.5 years.

Task 10. The boy is 4 years old. Weight - 11 kg, height - 88 cm, head circumference - 47 cm. Assess the physical development of the child. Describe the skills and abilities typical for a healthy child of 4 years.

recommendations (instructions) for the tasks:

- requirements for the results of work, including the design;
- control materials for the final stage of the class - tests:

1). What is "psychomotor development" of a child?

Dynamic process of growth (increase in length and weight, development of organs and body systems) and biological maturation of the child. A dynamic process of acquiring certain skills that reflects the formation of different parts of the child's nervous system at an early age:

2). List the factors that influence the process of psychomotor development of the child

- Heredity (genetic and chromosomal diseases)
- The course of the perinatal period
- Health status - presence or absence of diseases
- Quality of care and nutrition
- Quality of medical care
- Climatic conditions of life
- State of the environment

3). What is motor skills?

- Fixing and holding certain parts of the body in the required position
- Ability to roll over, bend over, walk, crawl, run, jump, etc.
- Ability to manipulate small objects and movements requiring eye-hand coordination
- Formation of certain reactions to light, sound, pain, touch
- Ability to pronounce individual sounds, words
- Formation of positive and negative emotions
- Ability to understand speech
- Formation of interaction with other people

4). What is statics?

- Fixing and holding certain parts of the body in the required position

- Ability to roll over, bend over, walk, crawl, run, jump, etc.
- Ability to manipulate small objects and movements requiring eye-hand coordination
- Formation of certain reactions to light, sound, pain, touch
- Ability to pronounce individual sounds, words
- Formation of positive and negative emotions
- Ability to understand speech
- Formation of interaction with other people

5). What are sensory reactions?

- Fixing and holding certain parts of the body in the required position
- Ability to roll over, bend over, walk, crawl, run, jump, etc.
- Ability to manipulate small objects and movements requiring eye-hand coordination
- Formation of certain reactions to light, sound, pain, touch
- Ability to pronounce individual sounds, words
- Formation of positive and negative emotions
- Ability to understand speech
- Formation of interaction with other people

4. Summary:

I. Assessment of psychomotor development of a child of the 1st year of life is carried out according to the following criteria:

1. Motor - purposeful manipulative activity of the child
2. Statics - fixing and holding certain parts of the body in the required position
3. Sensory reactions - formation of appropriate reactions to light, sound, pain, touch
4. Language - expressive speech and understanding of speech
5. Emotional and social development - positive and negative emotions, formation of interaction with other people

II. Every mother should be counseled on care for the development of the child

III. In case of suspicion of a developmental disorder / disorder, an in-depth examination of the child with the involvement of narrow specialists is necessary

IV. The most common causes of developmental disorders in children are: cerebral palsy, Down syndrome, autism spectrum disorders, inherited metabolic disorders

5. Recommended literature

Main:

13. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
14. Newell Simon J Darling Jonatan C. Paediatrics 9th ed. 2015.-320 p.
15. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
16. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
17. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Temopil: TSMU, 2005. –468 p.

18. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
9. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

1. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.

5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical lesson №9

Topic: Natural feeding of infants. Lactation, components of mother's milk, its benefits. Contraindications to natural feeding. Complications of feeding. The need for children in food ingredients (proteins, fats, carbohydrates). Methods of calculating the volume and mode of feeding.

Aims: to acquaint students with the basic concepts of natural feeding of infants, the rules of relations between the mother of the child and the doctor during the collection of the child's nutritional history, the technique of attaching children to the mother's breast. The student must know the method of collecting anamnesis of infant feeding, the method of calculating the volume and mode of feeding during natural feeding, the need for proteins, fats, carbohydrates and calories in breastfed children, the technique of attaching children to the mother's breast. To provide students with the opportunity to master the skills of collecting an anamnesis of infant feeding, calculating the volume and mode of feeding during natural feeding, the technique of attaching a child to the mother's breast. To provide students with the ability to investigate the clinical effectiveness of natural feeding of a child in the first year of life.

Basic concepts: For the health of the child, the organization of rational feeding of newborns and children of 1 year of life is of fundamental importance. The most optimal type of nutrition is natural feeding. Mother's milk remains an irreplaceable food product for children in the first months of life. All its main components are most easily absorbed by the still imperfect digestive apparatus of an infant due to the content of special enzymes in breast milk (trypsinogen, lipase, lactase, etc.).

Equipment: mammary gland model, photos of breastfeeding women (to assess the effectiveness of breastfeeding).

Plan:

1. **Organizational events** (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).

2. **Control of the reference level of knowledge** - frontal survey, etc:

- 1). Exclusive breastfeeding is feeding the baby ...
- 2). What are the benefits of breastfeeding for the baby?
- 3). What are the benefits of breastfeeding for the mother?
- 4). What are the types of mother's milk?
- 5). Until what age is exclusive breastfeeding advisable?
- 6). What is the recommendation for the frequency of breastfeeding in the first months of life?
- 7). What hormones provide the mechanism of lactation and breastfeeding?
- 8). What are the signs of the correct posture of mother and child during breastfeeding in the first months?
- 9). What are the signs of proper attachment of the child to the breast?
- 10). Which of the listed signs are reliable criteria for breast milk sufficiency in the first months of life?

requirements for theoretical readiness of students:

NoNo	Discipline	To know	Be able to
1	2	3	4

1.	Previous disciplines: 1.normal anatomy 2.normal physiology 3. histology	Structure of pectoral gland. Anatomic features of cyotrophy. Structure and development of organs of the digestion system in new-borns. Physiology bases of feed of children of infancy. Features of physiology of organs of the system of digestion of child of the second half-year.	Correctly to estimate the state of child and function of organs and systems.
2.	Next disciplines 1. paediatrics 2. social hygiene 3.obstetrics	The children of the second half-year have a requirement in squirrel, fats, carbohydrates and calories. Modern rules and criteria of introduction of feeding up.	To own methodology of calculation of meal to the children of the second half-year. To fold a menu for the child of the second half-
3.	Interdisciplinary integration	Influence of feed of child is on the first year of life on the level of physical, psychomotor development, also on the function of some systems, for example, endocrine system.	

Questions to check basic knowledge on the topic of the lesson.

A. Questions for self-control:

- 1). List the benefits of breastfeeding, what is the immunological role of breast milk, what is the importance of breastfeeding for women's health?
- 2). What are the possible difficulties in breastfeeding from the mother, from the child?
- 3). What is the need for proteins, fats, carbohydrates and calories in the first 6 months of life?
- 4). What methods are used to calculate the amount of food for a child in the first 6 months of life?
- 5). What methods are used to calculate the volume of food for a child in the first 7 days of life?

B. Self-monitoring tests with answer standards:

1). At the pediatrician's office, the mother asks at what time of year it is undesirable to wean the child?

A - in winter

B - in summer

C - in autumn

D - in spring

E - does not matter

2). Breastfeeding is important. The benefits of breast milk include all of the following except:

A - higher casein content

B - β -lactose content

C - higher content of albumin

D - higher content of lipase

E - immunological protection factors

3). The composition of breast milk varies depending on the periods of lactation.

When does a woman begin to produce mature milk?

A - at the end of pregnancy

B - during the first 2-3 days after childbirth

C - from the 4th-5th day after childbirth

D - from 2-3 weeks after childbirth

E - from 4-5 weeks after childbirth

4). A child of 1.5 months of age needs to make a diet. Indicate the daily amount of milk required for a breastfed baby at this age:

A - 1/4 of the body weight, which should be

B - 1/5 of the body weight, which should be

C - 1/6 of the body weight that should be

D - 1/7 of the body weight that should be

E - 1/8 of the body weight that should be

5). A child was born with a body weight of 3 100 g. Which method is appropriate to use a neonatologist, calculating the volume of milk on the 5th day of the child's life?

A - Zaitseva formula

B - Finkelstein formula

C - volumetric method

D - Tourou's method E - Maslov's formula

Answers: 1.B; 2.A; 3.D; 4.C; 5.C;

3. Formation of professional skills and abilities:

Content of tasks:

- requirements for the results of work, including the design - to record in the notebook the answers to the questions.

- control materials for the final stage of the lesson - tests:

1). Exclusive breastfeeding is feeding a baby ...

Exclusively breast milk (without adding water, juices and other food), both directly from the breast and expressed breast milk. Breast milk with the addition of water, juice or other food no more than 30 ml per day

Both breast milk and formula milk, while the volume of breast milk can be from 80% to 20%

Breast milk with the introduction of thick complementary foods more than 30 ml per day

2). What are the benefits of breastfeeding for the baby?

Balance and availability of all necessary nutrients

Protection against diseases

Sensory, cognitive and intellectual development

Prevention of obesity

Prevention of exhaustion

3). What are the benefits of breastfeeding for the mother?

Reducing the risk of uterine bleeding (uterine contractions) after childbirth

Reducing the risk of developing postpartum depression

Natural contraception

Economic benefits

Reduced risk of allergic diseases and bronchial asthma

Reducing the long-term risk of developing type II diabetes, ovarian cancer and breast cancer

4). What are the types of mother's milk?

Colostrum

Transitional milk

Early (anterior) mature milk

Middle milk

Late (posterior) mature milk

5). Until what age is exclusive breastfeeding advisable?

Up to 3 months

Up to 4-6 months

Up to 12 months

Up to 2 years

4. Summary

Breastfeeding is the best nutritional option for infants, providing all the necessary components for the healthy development of the child. It is natural food, always fresh, clean, warm and available 24 hours a day. Almost every woman can successfully breastfeed her baby. Only confidence in this is necessary (lactation is a psychogenic-

dependent process) and the correctness of attaching the child to the breast. In the first days and months of life, it is necessary to evaluate the sufficiency of breast milk, the correctness of attaching the child to the breast and to form the mother's confidence in the success of breastfeeding. If there are objective signs that the child does not have enough milk, the mother should be advised to feed the child more often, breastfeed at night, express milk after feeding, and spend more time in close contact with the child. Normal physical development of the child, assessed at each preventive examination of the child, is the main sign of the effectiveness of breastfeeding

5. Recommended literature

Main:

19. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
20. Newell Simon J Darling Jonatan C. Paediatrics_9thed._2015.-320 p.
21. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
22. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
23. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.
24. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
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9. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

1. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Practical lesson №10

Topic: Feeding and correction of nutrition. Technique and rules of feeding. Drawing up a "nutrition sheet" for children of the first year of life. Rules of breastfeeding premature babies.

Aims: to get acquainted with the rules of complementary feeding in children of the first year of life. To get acquainted with the rules of the relationship between the mother of the child and the doctor during the history taking and the relationship between the mother and the child during feeding.

Basic concepts: For the health of the child, the organization of rational feeding of newborns and children of 1 year of life is of fundamental importance. There are many contradictions in the introduction of additional foods to the infant. Complementary foods are thick foods added with a spoon. Errors in the feeding of children of the first year of life are negatively reflected in all subsequent periods of human life, steadily fixed at the level of tissue, cellular and subcellular structures, they are almost impossible to correct in other age periods.

Equipment: a model of an infant, a plate, a spoon; tables, diagrams

Plan:

1. **Organizational events** (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. **Control of the reference level of knowledge** (written work, written testing, frontal questioning, etc.) (if necessary):

requirements for theoretical readiness of students:

№№	Discipline	To know	Be able to
1	2	3	4
1.	Previous disciplines: 1.normal anatomy 2.normal physiology 3. histology	Structure of pectoral gland. Anatomic features of cyotrophy. Structure and development of organs of the digestion system in new-borns. Physiology bases of feed of children of infancy. Features of physiology of organs of the system of digestion of child of the second half-year.	Correctly to estimate the state of child and function of organs and systems.

2.	Next disciplines 1. paediatrics 2. social hygiene 3. obstetrics	The children of the second half-year have a requirement in squirrel, fats, carbohydrates and calories. Modern rules and criteria of introduction of feeding up.	To own methodology of calculation of meal to the children of the second half-year. To fold a menu for the child of the second half-
3.	Interdisciplinary integration	Influence of feed of child is on the first year of life on the level of physical, psychomotor development, also on the function of some systems, for example, endocrine system.	

requirements for the results of work - in writing;

- control materials for the final stage of the lesson - test tasks:

1). The doctor recommends the mother of a 9-month-old child to introduce the third feeding. Which of the following products can be used as the third feeding?

- A - fermented milk products
- B - grated apple
- C - semolina porridge
- D - vegetable puree
- E - buckwheat porridge

2). The mother of an 8-month-old child asks: "Which of the following products can be introduced into the diet of her child?"

- A - broth
- B - tomatoes
- C - cheese
- D - fish
- E - kefir

3). A 6-month-old child is in the chest ward because of pneumonia. After recovery, the doctor recommends the mother to introduce the first feeding. Which of the following products should be used for the first feeding?

- A - juice
- B - grated apple
- C - semolina
- D - vegetable puree
- E - kefir, cottage cheese

4). A grandmother of a 7-month-old child applied to the clinic. According to her, the boy is fed only with breast milk. At what age is juice given to children who are naturally fed?

- A - from 1.5 months
- B - from 2 months
- C - from 3 months
- D - from 6 months
- E - from 7 months

5). A 6.5 months old child is in the chest ward due to pneumonia. After recovery, the doctor recommends the mother to introduce the first complementary food. What feeding should be gradually replaced by the first complementary food?

- A - at 6.00
- B - at 10.00
- C - at 14.00
- D - at 18.00
- E - at 22.00

Answers:1.A; 2.C; 3.D; 4.D; 5.C.

4. *Summary:*

- Complementary feeding provides a transition during the second half of the year from exclusively milk nutrition to a more dense and varied diet of the child
- Most children begin to introduce the first complementary foods at the age of about 6 months. The introduction of complementary foods at the age of 4 to 6 months is carried out: 1) children who are ready to receive it and "ask for it" (clearly demonstrate signs of readiness); 2) breastfed children with low rates of weight gain (also subject to sufficient neuro-muscular maturation of the child); 3) children at risk of iron deficiency. Complementary foods should not be introduced before 4 months!
- The choice of the first complementary foods is determined by the child's urgent need for additional iron and energy. That is, it is more rational to first introduce (gradually in 5-7 days) a sufficiently thick dairy-free porridge (1 cereal), enriched with iron (if possible, industrially produced), and then (gradually in 3-5 days) mashed meat, adding breast milk / formula milk to these dishes for better absorption
- Vegetable puree, as a rule, is the next dish of complementary foods, when introducing which it should be borne in mind that the caloric content is higher in potatoes, and green vegetables - broccoli, spinach, zucchini, etc. are richer in vitamins and microelements (in addition, these vegetables contribute to the absorption of microelements from meat). It is advisable to introduce new vegetables in turn, and then give a combined puree of 2-3-4 vegetables. Puréed legumes and pulses are quite high in calories and rich in micronutrients
- Add butter/oil to complementary foods (provided the target portion size is reached) to increase the energy value of the food

5. *Recommended literature*

Main:

25. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
26. Newell Simon J Darling Jonatan C. Paediatrics_9th ed._2015.-320 p.
27. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
28. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
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30. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
9. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

1. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: [Medscape.com](https://www.medscape.com)

Practical lesson №11

Topic: Artificial feeding of infants. Classification and characteristics of milk formulas for artificial feeding of infants. The need of the child in proteins, fats, carbohydrates and calories in mixed feeding. Feeding and correction of nutrition. Technique of artificial feeding. Drawing up a "nutrition sheet". Mixed feeding. Technique and rules for the introduction of supplementary feeding. Technique and rules of feeding. The need of the

child in proteins, fats, carbohydrates and calories in mixed feeding. Milk mixtures that are used for complementary feeding. Schemes of mixed feeding of children of the first year of life. Complementary feeding and nutrition correction. Daily requirement of the child in proteins, fats, carbohydrates and calories in mixed feeding.

Aims: to acquaint students with the basic concepts of artificial feeding of infants, the rules of relations between the mother of the child and the doctor during the collection of the child's nutritional history, the classification of milk formulas, artificial feeding techniques. The student must know the method of collecting anamnesis of infant feeding, classification of milk formulas, methods of calculating the volume and mode of artificial feeding, the need for proteins, fats, carbohydrates and calories in children on artificial feeding, the technique of artificial feeding. To provide students with the opportunity to master the skills of collecting an anamnesis of infant feeding, calculating the volume and mode of feeding during artificial feeding, artificial feeding technique. To provide students with the ability to investigate the clinical effectiveness of artificial feeding in the first year of life. Formation of students' ability to communicate with the mother of a sick child.

Basic concepts: For many years, the main subject of the study of infant nutrition has been the study of the norms of consumption of individual nutrients, adequacy of feeding, the timing and nature of the introduction of complementary foods, the quality of breast milk substitutes, which is a leading factor in ensuring the growth and development of the child. This is due to the fact that the quality of nutrition, especially in the early stages of development, largely determines the state of health in later years of life. Despite the fact that breast milk is the best food for a child, it is not always possible to feed a child with breast milk. Unfortunately, we must admit that the percentage of children who are on artificial feeding is quite high.

Equipment: a dummy of a baby, formulas, bottles, nipples and other devices for artificial breast milk substitute.

Plan:

1. **Organizational events** (greeting, checking the attendees, announcing the topic, the purpose of the lesson, motivating higher education students to study the topic).

2. **Control of the reference level of knowledge:**

-requirements for theoretical readiness of students:

questions to test basic knowledge on the topic of the lesson:

1).Definition of "artificial feeding"

2).Reasons for switching from breastfeeding to artificial feeding

3).Risks of artificial feeding in comparison with breastfeeding

4).How to switch to artificial feeding?

5).Modern requirements for artificial breast milk substitutes

6).How are artificial milk formulas classified

7).What to feed a healthy baby

- 8).How many times and how much to feed the baby
- 9).How to prepare breast milk substitute
- 10).Safety rules for the preparation and storage of breast milk substitutes and
- 11).Feeding the baby with formula
- 12).How to evaluate the effectiveness of artificial feeding
- 13).Definition of "mixed feeding" and features of feeding

3. Formation of professional skills and abilities:

- content of tasks (tasks, clinical situations, etc.);
- recommendations (instructions) for performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.);
- requirements for the results of work, including design;
- control materials for the final stage of the lesson: tasks, assignments, tests, etc. (if necessary).

4. Summary:

- The best type of nutrition for a child is mother's milk, in cases where breastfeeding is not possible, the child should receive high-quality and nutritious food for his age - an adapted milk formula that is close to breast milk in composition
- A breast milk substitute for a child should be chosen according to his age, taking into account the peculiarities of his health condition
- During artificial feeding, as well as during breastfeeding, the signs of hunger and satiety of the child should be taken into account
- Each mother should be consulted before starting artificial feeding according to a certain algorithm:
 - Find out the reason for switching to artificial feeding. Is it possible to keep breastfeeding?
 - How to switch to artificial feeding (planned or simultaneously)?
 - What to feed the baby (which formula to choose)?
 - How many times and how much to feed the child?
- Safety rules for preparing and storing breast milk substitutes and feeding the baby with formula
- At each preventive examination of the child, the effectiveness of artificial feeding should be evaluated:
 - Sufficiency (assessment of physical development)
 - Rationality (formula feeding corresponds to the age and state of health, the child has no signs of intolerance to the mixture, he is satisfied)
 - Safety (the mother prepares the formula according to the instructions, follows the rules of hygiene, uses safe water, stores the formula correctly, feeds the baby from a bottle correctly)

5. Recommended literature

Main:

1. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
2. Newell Simon J Darling Jonatan C. Paediatrics_9th ed. 2015.-320 p.
3. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
4. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
5. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.
6. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
9. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

1. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical Lesson № 12-13

Topic: Solving complex situational tasks with the following list of issues: assessment of physical and psycho-motor development. Nutrition assessment, drawing up a food list and advising parents on breastfeeding.

Aim: to get acquainted with the daily need of children in food ingredients (proteins, fats,

carbohydrates) in different types of feeding. The student must know the method of calculating the volume and mode of feeding, the introduction of complementary foods in different types of feeding. To provide students with the opportunity to master the skills of calculating the volume and mode of feeding in different types of feeding. To provide students with the ability to evaluate the daily menu for different types of feeding.

Basic concepts: Errors in the feed of children of infancy find a review in all next periods of life of man, proof fastened at the level of tissue, cellular and subcellular structures, them it is practically impossible to correct in other age-old periods. Correct organization of rearing of children of first-year of life - it one of the most essential factors in the system of all complex of prophylactic measures, sent to strengthening of health of children, decline of their morbidity and death rate.

Equipment: a dummy of a baby, formulas, bottles, nipples and other devices for artificial breast milk substitute.

Plan:

1. **Organizational events** (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. **Control of the reference level of knowledge** (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);

№№	Discipline	To know	To be able to
1.	2.	3.	4.
1.	Previous discipline 1. Normal anatomy Normal physiology	Anatomical-physiological features of the digestive system. Features of biochemistry and physiology of the digestive system of child	Correctly estimate the state of child and function of organs and systems
2.	Future discipline 1. Paediatrics	The organization and principles of balance diet for healthy children of first year of life on different kinds	To Draw up of list of feeding on different types of feeding (natural, formula, mixed)

		of feeding.	
3.	Intradisciplinary integration	The organization and principles of balance diet	

- Questions (tests, clinical situations) to check basic skills on the subject of the lesson:

- 1). What tables / graphs with reference data are used to assess the physical development of children?
- 2). What are the criteria for assessing the psychomotor development of children of 1 year of life?
- 3). List the main WHO recommendations for breastfeeding.
- 4). List the signs of proper application of the child to the breast.
- 5). Name the reliable criteria for breast milk sufficiency.
- 6). Name the basic principles of complementary feeding.
- 7). Specify the signs of the child's readiness for the introduction of complementary foods.
- 8). Explain the principle of "responsive feeding".
- 9). Name the risks of artificial feeding compared to breastfeeding.
- 10). Name the main mistakes in artificial feeding.

3. ***Formation of professional skills and abilities*** (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):

- Content of tasks (tasks, clinical situations, etc.)

Task №1.

To the polyclinic the mother of child, which three weeks were, appealed after advice. Mass at birth 3 100 gs, now weight of child - 3 200. Mother produces complaints about sudden disappearance of milk.

- 1). Are there what your tactics in this situation?
- 2). What advices will you give to the mother?

Task №2.

Mass of body of child at birth - 3 150. He is on the artificial rearing from 2 months. Presently 4,5 month.

- 1). What mass must a child have?
- 2). Table of contents of theme.

Task №3.

To lay down a menu on 1 day to the child of 4 months, which is on the mixed rearing with mass of body at birth in 3 200. Pectoral milk folds 20 % from necessary day's volume of meal.

Task №4.

Age 8 months, there is mass of body on the natural rearing, at born 3 300 gs. To lay down the ration of feed of child. To lay down a menu on one day.

A chart of day's ration is at the different types of rearing on examples and tasks.

- Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)

A chart of day's ration is at the different types of rearing on examples and tasks.

- Requirements for work results, including registration

Answers:

Task №1.

1. To find out reason of disappearance of milk, on possibility to remove her. To define the signs of *недогодівлі* of child, conduct not less than 4 one time per days check-weighings for establishment of volume of milk, which is not enough, and determination of measure of hypogalactia. To do measures on strengthening of lactation. At unefficiency of measures which are conducted, to offer the child the high-adapted mixture.

Task №2.

$$1.3150 + 600 + 800 + 800 + 750 + 350 = 6450 \text{ (g)}$$

2. Day volume = 1/7 from the mass = $6450 : 7 = 920$ (мл); volume for once – $920 : 6 = 154$ (ml) = 150 ml.

1. 6.00 - mixture «NAN 1» 150 ml
2. 9.30 - mixture «NAN 1» 150 ml
3. 13.00 - mixture «NAN 1» 150 ml
4. 16.30 - mixture «NAN 1» 150 ml
5. 20.00 - mixture «NAN 1» 150 ml
6. 23.00 - mixture «NAN 1» 150 ml

Task №3

1) *Mass that must be:*

$$D_M = 3\,200 + 600 + 800 + 800 + 750 = 6\,150 \text{ g}$$

2) *Volume of food:*

volume method:

$$6\,150 : 7 = 878,57 = \mathbf{880 \text{ ml}}$$

20% - π е 176 ml breast milk = 180 ml (60 ml on 1 feeding).

3) Number of day's feeding $880 : 5 = 176 \text{ ml.} = 170 \text{ ml}$

№	Hour	Name of food	Volume
1	6.00	breast milk mixture «NAN 1»	60 ml 110 ml
2.	10.00	mixture «NAN 1»	170 ml
3.	14.00	breast milk mixture «NAN 1»	60 ml 110 ml
4.	18.00	mixture «NAN 1»	170 ml
5.	22.00	breast milk mixture «NAN 1»	60 ml 110 ml

Task №4

1) Mass that must be:

$$M = 3\,300 + 600 + 800 + 800 + 750 + 700 + 650 + 600 + 550 = 8\,750 \text{ (g)}$$

2) Volume of food:

a) a high-calorie method is not used, so as it is entered feeding up

б) *volume method* — $8\,750 : 8 = 1\,093,75 \text{ ml} = \mathbf{1 \text{ l}}$, so as a child of first-year of life must get on time of not more of 1 L.

3) Number of feedings - 5, number of feedings up - 2.

4) Volume of one feeding $1\,000 \text{ ml} : 5 = 200 \text{ ml}$

№	Hour	Name of food	Volume
1	2	3	4

1.	6.00	Breast milk	200 ml
		the plum cut	40 ml
2.	9.00	Porridge of buckwheat	
		10 %	200 g
	10.00	Butter	4 g
		apple cut	40 ml
3.	13.00	Breast milk	180 g
	14.00	Cheese	20 g

- Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary):

Test:

1).What is the daily requirement for fat in mixed feeding of 6.5 months old children (g/kg)?

- A - 4,5
- B - 5,5
- C - 6,0
- D - 6,5
- E - 7,5

2). What kind of formula would you recommend to a 4-month-old baby as a complementary food in case of insufficient milk supply of the mother?

- A - less adapted
- B - highly adapted
- C - partially adapted
- D - fermented milk
- E - does not matter

3).What is the body weight of a 5-month-old child who is on mixed feeding, you need to calculate the daily amount of food?

- A - actual
- B - average statistical
- C - which should be
- D - do not take into account the mass
- E - no correct answer

4).What is the number of feedings per day for a 9-month-old child who is on mixed feeding?

- A - 3 times

- B - 4 times
- C - 5 times
- D - 6 times
- E - 8 times

5).What is the permissible maximum daily volume of food for a 10-month-old child who is on mixed feeding?

- A - 800 ml
- B - 600 ml
- C - 1500 ml
- D - 1000 ml
- E - 1200 ml

Answers:

1 B; 2 C; 3 C; 4 C; 5 D.

4. *Summary:*

- The physical and psychomotor development of a child at an early age depends crucially on the nutrition and quality of care provided for the child in the family
- Indicators of physical and psychomotor development reflect the state of health of an individual child
- It is especially important to monitor the growth and development of the child at an early age, timely correct inadequate or irrational nutrition, and provide recommendations on optimal nutrition practices

5. *Recommended literature*

Main:

1. Gupta Piyush. Clinical Methods in Ptdiatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
2. Newell Simon J Darling Jonatan C. Paediatrics_9thed._2015.-320 p.
3. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
4. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
5. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. –468 p.
6. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
- 9.Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.

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11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

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3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.

4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.

5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical Lesson № 14-15

Topic: Methods of clinical neurological examination of children. Study of sensitivity, tendon reflexes and cranial nerves. Study of meningeal reflexes and coordination of movements (Romberg's pose, finger-nose test, heel-knee test). Features of cerebrospinal fluid in children and semiotics of its changes (purulent and serous meningitis, hydrocephalus, etc).

Aim: to acquaint students with the sequence of neurological examination of children of different ages;

- the student should know the sequence of neurological examination, features of the methodology of clinical neurological examination of children of different ages;

-to provide students with the opportunity to master the skills of collecting complaints characteristic of diseases of the nervous system, medical and life history of the mother of the child under study, methods of neurological examination of children of different ages, assessment of the nervous system of children of different ages;

-the student must know the characteristics of meningeal, encephalitic and convulsive syndromes, the main symptoms characteristic of meningitis, hydrocephalus, encephalitis, cerebral palsy, provide clinical assessment of pathological data, distinguish between different diseases of the nervous system for the presence of certain symptoms.

Basic concepts: The nervous system ensures the adaptation of the body to environmental conditions, it regulates the vital functions of internal organs and ensures

their coordinated activity. Diseases of the nervous system occupy a significant place in the overall morbidity of children. In addition, many of the somatic and infectious diseases in children are reflected in the state of the nervous system. A general pediatrician and a pediatrician of any specialization should be able to fully conduct a neurological examination of a child to assess his neuropsychological state, taking into account age-related anatomical and physiological features. This is necessary for early detection of certain symptoms of nervous system damage that occur in many somatic and infectious diseases, especially in young children. The ability to identify the main symptoms of nervous system disorders in children and group them into syndromes is relevant for further correct diagnosis.

Equipment: infant dummy, standardized patient, neurological hammer

Plan:

1. **Organizational events** (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. **Control of the reference level of knowledge** (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);

№ п.	Discipline	To know	To be able
1	2	3	4
1.	Previous discipline: 1. anatomy 2. physiology 3. Histology and embriology	1. The anatomy of child's nervous system. 2. The function of different parts of the nervous system and its integration of individual structures. 3. The stages of nervous system embriogenesis and histological structure of different parts.	To assess correctly the condition of the child's nervous system.
2.	Next discipline: Pediatrics	Semiotics of lesions of nervous system.	To study anamnesis of life and disease, to identify pathological symptoms. To form the syndromic diagnosis

3.	The intrasubject fusion. The neuropsychological development.	Terms of development of individual parts of the nervous system.	To assess the neuropsychological development of the child.
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- Questions (tests, clinical situations) to check basic skills on the subject of the lesson:

- 1). At what week of gestation does the NS laying occur, and what are the main stages of CNS development during the intrauterine period?
- 2). When does the process of myelination of nerve processes begin and at what age does it end?
- 3). What features of cerebral circulation at an early age do you know, and what consequences can it have?
- 4). How are 12 pairs of cerebral palsies evaluated?
- 5). What types of sensitivity do you know how they are investigated?
- 6). List the coordination tests and methods of their investigation
- 7). What surface and tendon reflexes are examined?
- 8). List the meningeal signs typical for young children
- 9). List the meningeal signs characteristic of older children
- 10). What are the features of the composition of cerebrospinal fluid in newborns?

3. **Formation of professional skills and abilities** (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):

- Content of tasks (tasks, clinical situations, etc.)

Task 1

A boy of 5 years.

Complaints: tear to the left, lowering of the corner of the mouth to the left.

History of the disease: The parents listed the symptoms this morning after waking the baby. The day before the baby was very cold. Last night, he complained of severe pain in his left ear.

History of life: not burdened.

Objectively: T 36.8, BH 18 per min, HR 100 per 1 min The baby is active. On examination, asymmetry of the face is noted: the outer corner of the eye is lowered to the left (ptosis), lacrimation, when the forehead is strained to the left smoothed skin folds, when the cheek is inflated - the left cheek breaks when the boy smiles - the left corner of the mouth is lowered. The skin is clear, pale pink, the mucous membranes are clean, pink. On the part of internal organs pathological changes were not revealed.

1. What pathological neurological symptoms are observed in a boy?
2. Which nerve is affected?
3. What kind of examinations or consultations of narrow specialists should be assigned in this case?

Task 2

At the reception at the family doctor mother with a **girl of 7 years**.

Complaints: Low school performance, girl unable to draw and master spelling. The child complains that it is difficult for her to play with the children because she cannot catch up with them, often falling.

Medical history: Listed complaints the mother notes starting attending school. But still the mother observed that the girl is difficult to play with small toys, can not make a mosaic.

History of life: The baby was born at 35 weeks with a mass of 2300g. Breastfeeding. The baby had a neonatal jaundice of prematurity. Early psychomotor development corresponded to the corrected age.

Objectively: The child is active, adequately responds to the examination, communicates actively. T 36.6, BH 16 per min, HR 96 per min On the part of internal organs without pathological manifestations.

Watching the baby, the doctor noticed that the baby was shaking while walking. When the girl was offered a leaf and pencil to draw, she could not draw a single drawing, the movements of her limbs were jerky, uncertain.

1. What pathological neurological symptoms are observed in girls?
2. Which structures can be affected?

What additional survey methods do you need to carry out?

- Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
- Requirements for work results, including registration
- Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary):

1). In the neurological examination of children, sensitivity is necessarily examined.

What are the types of sensitivity?

- A - temperature sensitivity
- B - pain
- C - vibration
- D - muscular-articular
- E - all of the above is true

2). Coordination of movements is determined by tests, except:

- A - Romberg's pose
- B - Babinski reflex
- C - finger-nose test

D - diadochokinesis test

E - heel-knee test

3). Deep reflexes include all of the following except:

A. Knee

B. Achilles

C. Conjunctival

D. From the biceps muscle

E. From the triceps muscle

4). In the study of optic nerve function (II pair of optic nerve), all of the following are examined, except:

A - visual acuity

B - pupil reaction to light

C - fields of vision

D - color sensation

E – fundus

5). The anatomical and physiological features of the newborn brain include all but:

A. Lack of myelination of nerve fibers

B. Gelatinous consistency

C. Abundant blood supply

D. Thin meninges

E. Low permeability of the blood-brain barrier

Answers to the tests:

1. E; 2.B; 3.C; 4. B; 5.E.

1. The disease, which is based on the expansion of the ventricular system of the brain and subarachnoid spaces due to excessive amounts of cerebral fluid, is called:

- A - hydrocephalus

- B - microcephaly

- C - macrocephaly

- D - anencephaly

- E - encephalitis

2. Rigidity of the muscles of the back of the head, positive symptoms of Kernig, Brudzinsky, indicate:

- A - hydrocephalus

- B - pneumonia

- C - meningitis

- D - enterocolitis

- E - encephalitis

3. During the examination of a 3.5-month-old child, the doctor of the admission department suspected meningitis. Which of the following symptoms is typical for meningitis in children of this age?

- A - Moro

- B - Lesage
 - C - Kernig's
 - D - Perez
 - E - Babinsky
4. What causes can cause cerebral palsy?

- A - birth trauma
- B - traumatic brain injury
- C - prolonged infectious diseases
- D - intrauterine fetal asphyxia
- E - all of the above is true

5. What is the main clinical sign of cerebral palsy?

- A - underdevelopment of speech
- B - movement disorders
- C - visual impairment
- D - convulsive syndrome
- E - mental disorders

Answers to the tests:

1.A; 2.C; 3.C; 4.E; 5.C.

4. Summary:

Sequence of the neurological examination.

I. Questioning:

1. Passport dates.
2. Complaints, typical for illness of the nervous system.
3. Anamnesis morbid (case history).
4. Anamnesis vitae (life history).
5. Assessment of psycho-physiological development of the child.

II. General inspection:

1. Inspection of head.
2. Expression of face.
3. Patient's position on his bad posture of staying.

III. Examination of the cranial nerves.

IV. Palpation and percussion.

V. Examination of the moving area:

1. Volume of movements.
2. Strength of movements.
3. Muscle tonus.
4. Coordination of movement (posture of Romberg, knee-heel probe, finger-nose probe).

VI. Examination of reflexes:

1. Physiological reflexes of a newborn child.
2. Scenen reflexes (top, middle, botton, abdominal, crenaster).
3. Reflexes from mucous membranes (cornial, palatal, pharyngeal).
4. Tendor reflexes (from bocops, triceps, knee, achillic).

5. Pathological reflexes (Hwostek's and Lust's).
- VII.** Examination of Sensitivity:
1. Painful sensitivity.
 2. Tactile sensitivity.
 3. Temperature sensitivity.
 4. Deep (proprioceptical and interceptical (sensitivity)).
- VIII.** Examination of meningeal signs:
1. Occipital muscular stiffness.
 2. Symptom of Kernig.
 3. Top symptom of Brudzinsky.
 4. Bottom symptom of Brudzinsky.
 5. Symptom of Lesage.
 6. Condition of cranial fontanel.
- IX.** Particularities of cerebrospinal fluid.

5. *Recommended literature*

Main:

1. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
2. Newell Simon J Darling Jonatan C. Paediatrics 9th ed. 2015.-320 p.
3. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
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Digital information resources: Medscape.com

Practical Lesson № 16

Topic: Semiotics of the main diseases of the nervous system in children (cerebral palsy, neuroses, meningitis, hydrocephalus, encephalitis, microcephaly).

Aim: to acquaint students with the basic semiotics of lesions of the central and peripheral nervous system;

- the student should know the characteristics of meningeal, encephalitic and convulsive syndromes, the main symptoms characteristic of meningitis, hydrocephalus, encephalitis, cerebral palsy;

- to provide students with the opportunity to master the skills of collecting complaints characteristic of diseases of the nervous system, medical and life history, methods of neurological examination of children of different ages, observation of sick children with lesions of the nervous system;

-to provide students with the ability to assess the state of the nervous system of children of different ages, to compile a summary of pathological data and provide them with a clinical assessment, to distinguish between different diseases of the nervous system for the presence of certain symptoms

Basic concepts: The nervous system ensures the adaptation of the body to environmental conditions, it regulates the vital functions of internal organs and ensures their coordinated activity. Diseases of the nervous system occupy a significant place in the overall morbidity of children. In addition, many of the somatic and infectious diseases in children are reflected in the state of the nervous system. The ability to identify the main symptoms of nervous system disorders in children and group them into syndromes is important for further correct diagnosis.

Equipment: infant dummy, standardized patient, neurological hammer

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).

2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:

- 1). How are impairments of consciousness classified?
- 2). What types of seizures do you know?
- 3). What clinical manifestations of meningitis do you know?
- 4). How are meningitis classified by the nature of the exudate?
- 5). How to diagnose microcephaly?
- 6). How to diagnose macrocephaly?
- 7). List the signs of damage to the central parts of the CNS, give examples
- 8). List the signs of peripheral nerve damage, give examples
- 9). What instrumental research methods are most often used to diagnose lesions of the NS?
- 10). What research method is used for differential diagnosis of infectious and inflammatory diseases of the brain?

- Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);

№	Discipline	To know	To be able
1	2	3	4
1.	Previous discipline: 1. anatomy 2. physiology 3. Histology and embriology	1. The anatomy of child's nervous system. 2. The function of different parts of the nervous system and its integration of individual structures. 3. The stages of nervous system embriogenesis and histological structure of different parts.	To assess correctly the condition of the child's nervous system.
2.	Next discipline: Pediatrics	Semiotics of lesions of nervous system.	To study anamnesis of life and disease, to identify pathological symptoms. To form the syndromic diagnosis
3.	The intrasubject fusion. The neuropsychologic al development.	Terms of development of individual parts of the nervous system.	To assess the neuropsychological development of the child.

Questions (tests, clinical situations) to check basic skills on the subject of the lesson:

- tasks to test basic knowledge on the topic of the lesson:

Task 1). The child is 8 months old. There is an increase in body temperature up to 38.8 ° C, convulsions, repeated vomiting, hyperesthesia of the skin, a positive symptom of Kernig, Brudzinsky, Lesage, stiffness of the muscles of the back of the head, swelling of the parietal.

What syndromes does the child have? What disease is it typical for?

Task 2): The ambulance team delivered V., 8 months old, to the pediatric clinic with parental complaints of fever up to 39.6°C, repeated vomiting, refusal to eat, monotonous cry. She fell ill acutely, during the day. Upon examination, the child's condition is serious. The skin is pale, clean. Monotonous cry. Large parietal area of 1x1 cm, tense, positive symptoms of Kernig, Lessage, stiffness of the occipital muscles are determined.

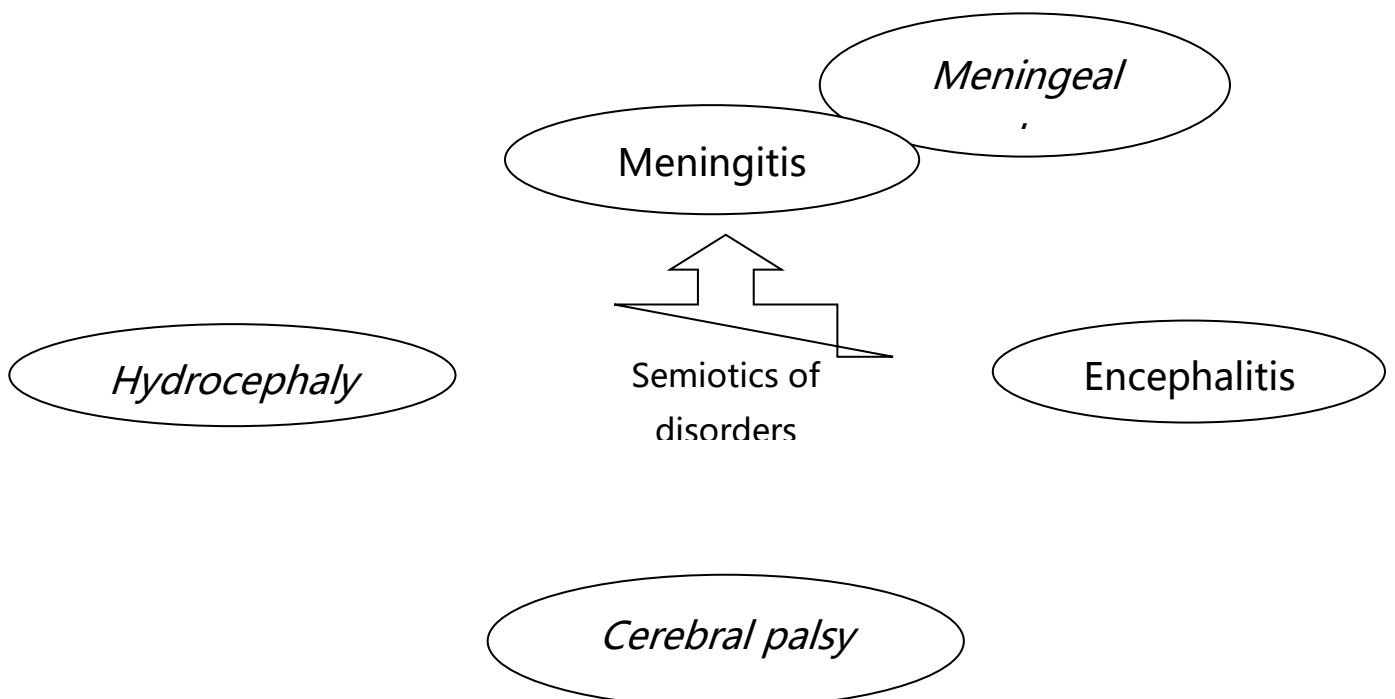
1.How is the system affected in the child?

2.What is the clinical syndrome and its signs?

3. What additional examination methods are necessary to clarify the diagnosis?

Task 3). The mother of a 6-month-old boy complains of vomiting, hyperthermia - 39°C, sharp anxiety in the child. Upon examination, the child is diagnosed with meningitis. On admission, the child's weight is 8 kg, height - 68 cm, head circumference - 43 cm, chest circumference - 45 cm. List the meningeal symptoms.

-Materials of methodological support for self-preparation of students:
graphological structure of the lesson:



3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):

requirements for the results of work - in writing;

- control materials for the final stage of the lesson: tasks, assignments, tests, etc. (if necessary).

1). The disease, which is based on the expansion of the ventricular system of the brain and subarachnoid spaces due to excess cerebral fluid, is called:

A - hydrocephalus

B - microcephaly

C - macrocephaly

D - anencephaly

E - encephalitis

2). Rigidity of the muscles of the back of the head, positive symptoms of Kernig, Brudzinsky, indicate:

A - hydrocephalus

B - pneumonia

C - meningitis

D - enterocolitis

E - encephalitis

3). During the examination of a 3.5-month-old child, the doctor of the admission department suspected meningitis. Which of the following symptoms is characteristic of meningitis in children of this age?

A - Moro

B - Lesage

C - Kernig

D - Perez

E - Babinsky

4). What causes can cause cerebral palsy?

A - birth trauma

B - traumatic brain injury

C - prolonged infectious diseases

D - intrauterine fetal asphyxia

E - all of the above is true

5). What is the main clinical sign of cerebral palsy?

A - underdevelopment of speech

B - movement disorders

C - visual impairment

D - convulsive syndrome

E - mental disorders

Answers to the tests: 1.A; 2.C; 3.C; 4.E; 5.C.

4. Summary:

When detecting changes in the nervous system, it is necessary:

1. Determine the localization (topic) of the lesion
2. Identify the main clinical syndromes: general cerebral, meningeal, focal manifestations, cerebrospinal hypertension, motor disorders, etc.
3. To carry out differential diagnosis of the pathological process, based on the data of subjective and objective examination, the results of general clinical laboratory methods (complete blood count, biochemical blood tests), instrumental methods of neuroimaging and (if indicated) examination of cerebrospinal fluid:

Infections

Metabolic / toxic disorders

Traumatic / post-traumatic disorders

Tumor disorders

Degenerative changes of the NS

Somatic diseases accompanied by neurological symptoms
Sequence of the neurological examination.

5. Recommended literature

Main:

7. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
8. Newell Simon J Darling Jonatan C. Paediatrics_9th ed._2015.-320 p.
9. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
10. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
11. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.
12. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Parthasarathy Fundamentals of Pediatrics. Ajanta offset & Packagings Ltd., New Delhi.-2013.-782 pp.
8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
9. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
11. Methodical recommendations for practical class on discipline «Propaedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

1. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical Lesson № 17

Topic: Methods of examination of skin and subcutaneous tissue in children. Semiotics of skin and subcutaneous tissue lesions.

Aim: to acquaint students with the methodology of skin and subcutaneous tissue examination;

- the student should know the semiotics of the main lesions of the skin and subcutaneous tissue;
- to provide an opportunity to master the skills of skin and subcutaneous tissue examination;
- to provide students with the ability to assess the condition of the skin and subcutaneous tissue in normal and pathology.

Basic concepts: Numerous functions of the skin, close functional connection with various organs and systems make it a kind of screen that reflects many pathological processes in the body. Correct assessment of the condition of the skin and visible mucous membranes, the degree of development of subcutaneous tissue is of great diagnostic importance. The ability to differentiate various dermatological symptoms is a prerequisite for a strong basic knowledge of the doctor.

Equipment: photo documents with skin diseases

Plan:

1.Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).

2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:

- questions to test basic knowledge on the topic of the lesson:
- List the features of the skin of newborns and young children
- List the features of skin function in children
- What feature of the skin in children predisposes to the formation of skin allergic reactions?
- What causes skin changes in adolescence?
- List the features of the skin of newborns and young children
- List the features of skin function in children
- What feature of the skin in children predisposes to the formation of skin allergic reactions?
- What causes skin changes in adolescence?
- List the primary elements of the rash
- List the secondary elements of the rash
- What is "hemorrhagic rash"?
- What is "epidermolysis"?
- List the signs of "Quincke's edema"?
- What is "soft tissue turgor" and what do changes in soft tissue turgor indicate?
- List the signs of severe and moderate dehydration
- Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);

Discipline	To know	To be able to
1. Previous discipline -normal anatomy -normal physiology	Anatomic and physiological features of skin and subcutaneous tissue .	Properly evaluate the skin and subcutaneous tissue.
2. Future discipline -Faculty pediatrics -Dermatovenerologia	Semiotics of skin lesions and subcutaneous tissue.	To form a syndromal diagnosis.
3. Intradisciplinary integration -care for child	The algorithm of care for children with diseases of the skin and subcutaneous tissue.	To carry out diagnostic and therapeutic measures for children with diseases of the skin and subcutaneous tissue.

Questions (tests, clinical situations) to check basic skills on the subject of the lesson:

- control materials for the final stage of classes - tasks, tests:

A - hair

B - nails

C - teeth

D - sweat glands

E - sebaceous glands

2. To study the state of blood vessels will be used the following symptoms:

A - tourniquet symptom, pinching

B - Kera's symptom

C - Murphy's symptom

D - the symptom of cat purring

E - Filatov's symptom

3. By palpation determine all of the listed skin qualities, except:

A - humidity

B - temperature

C - elasticity and thickness

D - color

E - prevalence and degree of edema

4. Which of the following elements of the rash are not primary?

A - spot

B - pustule

C - node

D - bubble

E - ulcer

5. When assessing subcutaneous fat, the thickness of the subcutaneous fat layer is determined everywhere except:

A. On the trunk - under the clavicle and under the scapula

B. On the neck - above the sternocleidomastoid muscle

C. On the face - in the cheek area

D. On the abdomen - at the level of the navel outside of it

E. On the limbs - on the inner thighs and posterior outer surface of the shoulder

Answers to the tests:

1.C; 2.A; 3.D; 4.E; 5.C

Problems with answers.

Task 1. A mother with a 5-month-old child turned to the pediatrician with complaints of excessive sweating of the skin of the back of the head, palms and feet, baldness of the back of the head and tearfulness. How is skin moisture examined, why determination of skin moisture on the back of the head has a special diagnostic value in infants.

Task 2. A mother with a child of 2 weeks of age turned to the pediatrician with complaints of redness of the skin, local fever and compaction around the navel. At what pathological processes appears local increase in skin temperature and

hyperemia? What disease can be assumed in this child?

Task 3. A mother with a child of 6 months of age turned to the pediatrician with complaints of pallor of the skin, loss of appetite, lethargy. What are the rules of skin examination in children? What characteristics of the skin are evaluated during the examination? For what pathological processes is characterized by pallor of the skin?

Task 4. A mother with a 3-year-old child turned to the pediatrician with complaints of fever up to 38 C, runny nose and dry cough. swollen eyelids, conjunctivitis, the appearance of a rash on the skin in the form of small red dotted small papules on the scalp, near the ears on the face, neck, chest. How can you distinguish the inflammatory element of the skin rash from non-inflammatory, what is telangiectasia.

List the characteristics of the rash, name the primary and secondary elements of the skin rash, give a description of each element. What disease can be thought of in this child?

Task 5. A mother with a child of 5 months of age turned to the pediatrician with complaints of pallor and dryness and flabbiness of the skin, loss of appetite, lethargy, frequent loose stools. What indicators of skin and subcutaneous fat layer condition are disturbed in this child? How is the study of skin elasticity and moisture, soft tissue turgor and subcutaneous fat layer thickness performed? What indicators should a healthy child have?

3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):

requirements for the results of work - in writing;

- control materials for the final stage of the lesson: tasks, assignments, tests, etc. (if necessary).

Problems with answers.

Task 1. A mother with a 5-month-old child turned to the pediatrician with complaints of excessive sweating of the skin of the back of the head, palms and feet, baldness of the back of the head and tearfulness. How is skin moisture examined, why determination of skin moisture on the back of the head has a special diagnostic value in infants.

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4. Summary:

- The skin of newborns and young children is different from the skin of adults. It is thin, richly vascularized, vulnerable, often infected, it is characterized by high permeability to drugs and toxic substances
- Children's skin plays an important role in metabolism, in particular, vitamin D. The excretory function of the skin in young children is imperfect and up to 7 years of age also imperfect heat transfer, so children are prone to overheating and rapid cooling
- Due to the high biological activity of mast cells in the dermis, children are prone to the formation of skin allergic reactions
- Hormonal changes in adolescence cause significant skin changes in the form of acne, which often become infected
- Examination of skin and subcutaneous tissue, as well as all other organ systems, includes analysis of complaints, medical and life history, as well as examination and palpation
- The most common complaints and objective signs of pathology / diseases are
- SKIN: discoloration, impaired cleanliness and integrity with the appearance of primary and secondary morphological elements, including inflammatory ones. Their identification is very important for the diagnosis of skin diseases or for the diagnosis of other diseases, including the most common childhood infections
- SUBDERMAL BASE: edema, underweight (BEN) or overweight (various types of obesity)
- SKIN APPENDAGES: alopecia - absence of hair on the head (local or total); hypertrichosis - excessive hair growth, independent of androgen hormones; hirsutism -

excessive growth of androgen-dependent hair in girls

- Skin examination can detect conditions that threaten the life of the child, namely
- Quincke's edema: swelling of the skin (with or without urticarial elements), especially of the face, which develops rapidly; especially dangerous if accompanied by difficulty breathing / hoarseness of the voice
- Hemorrhagic rashes: spots or papules (petechiae, ecchymoses) formed as a result of hemorrhage into the skin are a sign of vascular permeability or blood clotting pathology. The most dangerous are stellate hemorrhagic rashes with elements of necrosis (more often in the buttocks), which is a sign of meningococemia
- Epidermolysis - formation of bullae and exfoliation of the epidermis: Ritter's exfoliative dermatitis, Stevens-Johnson, Lyell's syndromes (check Nikolsky's symptom - positive or negative)
- Severe dehydration: each fold on the abdomen is straightened for more than 2 seconds, sunken eyes, impaired consciousness
- Severe circulatory disorders: impaired capillary filling - "white spot" symptom ≥ 3 seconds

5. Recommended literature

Main:

13. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
14. Newell Simon J Darling Jonatan C. Paediatrics 9th ed. 2015.-320 p.
15. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
16. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
17. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. –468 p.
18. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
- 9.Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
- 11.Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

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Delhi.-2013.-782 pp.

2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.

3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.

4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.

5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical Lesson № 18

Topic: Methods of research of bone and muscular systems in children. Semiotics of lesions of bone and muscle systems in children

Aim: to acquaint students with the methods of research of muscular and bone systems;
- semiotics of lesions and diseases of the musculoskeletal system in children;
- the student should know, master the AFO of the muscular system, the AFO of the bone system.
-methods of research of muscular and bone systems;
-semiotics of lesions and diseases of the musculoskeletal system.
-to provide students with the opportunity to master communication skills, interviewing patients and / or their relatives (guardians) in the study and diagnosis of diseases of the musculoskeletal system in children;
-skills of objective examination of the muscular system;
-to identify signs of muscle hypotonia;
-skills of objective examination of the bone system;
-skill of checking the condition of the great trochanter on a standardized patient;
-identify signs of hip dysplasia

Basic concepts: Mastering the skills of examination of the musculoskeletal system is important for the future doctor. The rapid growth of a child requires regular assessment of the musculoskeletal system and careful supervision: disorders of foot formation should be detected and corrected at an early age, postural disorders - in school and adolescence. The formation of coordination of movements and fine motor skills is largely determined through the formation of the musculoskeletal system, and on the other hand is an incentive to improve the cortical parts of the motor analyzer of the brain and the development of brain functions in general. The activation of the motor sphere controls the development of the central nervous system, the functions of many somatic organs. It is necessary to timely detect anomalies / malformations of bones and

muscles. Therefore, the knowledge gained in this class, the skills that students will master will be the basis for further improvement of knowledge in pediatrics and will contribute to the formation of clinical thinking.

Equipment: model of an infant, diagrams, tables

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).

2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:

questions (tests, tasks, clinical situations) to test basic knowledge on the topic of the lesson:

- 1). The main AFO of the muscular system and their clinical significance.
- 2). The main AFOs of the bone system and their clinical significance.
- 3). What complaints indicate a lesion of the muscular system?
- 4). What complaints indicate a lesion of the bone system?
- 5). What characteristics of the muscular system are evaluated during the examination?
- 6). What characteristics of the muscular system are assessed by palpation?
- 7). What are the instrumental methods of examination of the muscular system?
- 8). What changes in the examination and palpation are important in the defeat of the muscular system?
- 9). What are the main syndromes distinguished in the pathology of the muscular system?
- 10). What characteristics of the bone system are evaluated during the examination?
- 11). What characteristics of the bone system are assessed by palpation?
- 12). What characteristics of the bone system are assessed by percussion?
- 13). What are the instrumental methods for the study of the skeletal system?
- 14). What are the main syndromes that are distinguished in the defeat of the skeletal system?
- 15). Semiotics of diseases of the skeletal system.

- Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);

Discipline	To know	To be able to
1. Previous discipline -normal anatomy -normal physiology	Anatomic and physiological features of bone and muscular systems	Properly evaluate the bone and muscular systems

2.Future discipline -Faculty pediatrics	Semiotics of bone and muscular systems	To form a syndromal diagnosis.
3.Intradisciplinary integration -care for child	The algorithm of care for children with diseases of bone and muscular systems	To carry out diagnostic and therapeutic measures for children with diseases of the bone and muscular systems

Working in small groups, using simulators, on a standardized patient:

- Collect complaints and history using effective communication skills.
- Conduct an objective examination of the muscular system;
- Be able to identify signs of muscle hypotonia;
- conduct an objective examination of the bone system;
- to be able to check the condition of the greater trochanter on a standardized patient;
- be able to identify signs of hip dysplasia.

Questions (tests, clinical situations) to check basic skills on the subject of the lesson:

- control materials for the final stage of classes - tasks, tests:

A - hair

B - nails

C - teeth

D - sweat glands

E - sebaceous glands

2.To study the state of blood vessels will be used the following symptoms:

A - tourniquet symptom, pinching

B - Kera's symptom

C - Murphy's symptom

D - the symptom of cat purring

E - Filatov's symptom

3. By palpation determine all of the listed skin qualities, except:

A - humidity

B - temperature

C - elasticity and thickness

D - color

E - prevalence and degree of edema

4. Which of the following elements of the rash are not primary?

A - spot

B - pustule

C - node

D - bubble

E - ulcer

5. When assessing subcutaneous fat, the thickness of the subcutaneous fat layer is

determined everywhere except:

- A. On the trunk - under the clavicle and under the scapula
- B. On the neck - above the sternocleidomastoid muscle
- C. On the face - in the cheek area
- D. On the abdomen - at the level of the navel outside of it
- E. On the limbs - on the inner thighs and posterior outer surface of the shoulder

Answers to the tests:

1.C; 2.A; 3.D; 4.E; 5.C

Problems with answers.

Task 1. A mother with a 5-month-old child turned to the pediatrician with complaints of excessive sweating of the skin of the back of the head, palms and feet, baldness of the back of the head and tearfulness. How is skin moisture examined, why determination of skin moisture on the back of the head has a special diagnostic value in infants.

Task 2. A mother with a child of 2 weeks of age turned to the pediatrician with complaints of redness of the skin, local fever and compaction around the navel. At what pathological processes appears local increase in skin temperature and hyperemia? What disease can be assumed in this child?

Task 3. A mother with a child of 6 months of age turned to the pediatrician with complaints of pallor of the skin, loss of appetite, lethargy. What are the rules of skin examination in children? What characteristics of the skin are evaluated during the examination? For what pathological processes is characterized by pallor of the skin?

Task 4. A mother with a 3-year-old child turned to the pediatrician with complaints of fever up to 38 C, runny nose and dry cough. swollen eyelids, conjunctivitis, the appearance of a rash on the skin in the form of small red dotted small papules on the scalp, near the ears on the face, neck, chest. How can you distinguish the inflammatory element of the skin rash from non-inflammatory, what is telangiectasia.

List the characteristics of the rash, name the primary and secondary elements of the skin rash, give a description of each element. What disease can be thought of in this child?

Task 5. A mother with a child of 5 months of age turned to the pediatrician with complaints of pallor and dryness and flabbiness of the skin, loss of appetite, lethargy, frequent loose stools. What indicators of skin and subcutaneous fat layer condition are disturbed in this child? How is the study of skin elasticity and moisture, soft tissue turgor and subcutaneous fat layer thickness performed? What indicators should a healthy child have?

3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):

requirements for the results of work - in writing;

- control materials for the final stage of the lesson: tasks, assignments, tests, etc. (if necessary).

Working in small groups, using simulators, on a standardized patient:

- Collect complaints and history using effective communication skills.

- Conduct an objective examination of the muscular system;

- Be able to identify signs of muscle hypotonia;

- conduct an objective examination of the bone system;

- to be able to check the condition of the greater trochanter on a standardized patient;

- be able to identify signs of hip dysplasia.

Methodology of work, stages of execution.

1). Assessment of muscle strength

A. In children of the first 2-4 months of life:

- Evaluated during the study of physiological reflexes of the newborn period

B. In children of early age:

- Try to take away a toy

C. In children of preschool and school age to assess:

- By squeezing the doctor's fingers in the palms of the hands

- By active resistance of different movements (flexion and extension) in different joints

2). checking the condition of the greater trochanter on a standardized patient:

1. Presence (large, small, lateral)

2. Dimensions (in centimeters)

3. Level in relation to the skull bones

4. Condition of the edges of the parietal

5. Presence of pulsation

3). Methods of evaluation of hip joints for dysplasia.

Assessment of the hip joints is carried out on a hard surface, the child lies on his back. The child should be warm and comfortable. It is very important to consider the mood of the child during these tests, because if the child is cranky or hungry, it can affect the result. If the child is restless, it is necessary to postpone the test.

During the examination of the hip joints, the following symptoms should be evaluated:

Ortolani symptom (the "sliding" or "clicking" symptom). The essence of the symptom is that when the legs are abducted, the dislocation is corrected, which is accompanied by a click.

1. It is necessary to put the middle fingers on the outer surface of the thigh in the place of projection of the femoral head. Thumbs are on the inner surface of

the thigh.

2. It is necessary to bend the child's legs at the knee and hip joints at an angle of 90° degrees.

3. Then turn the legs inward (bring to the midline) - this is the first point of the technique.

4. The next moment - after that, avoiding forced movements of the hip to turn outward.

The Ortolani symptom is considered positive if a characteristic "click" is felt. The essence of the symptom is that with the gradual spreading of the legs, the dislocation is corrected - the head of the femur slides into the acetabulum. The symptom is determined in the first 3 months of the child's life.

Barlow's symptom. The essence of the symptom is that when the legs are brought, the femoral head dislocates from the acetabulum, which is accompanied by a click.

1. It is necessary to bend the child's legs at the knee and hip joints at an angle of 90° degrees.

2. Then the hips are brought to the midline.

3. Barlow's symptom is considered positive if a characteristic "click" is felt and the femoral head dislocates when pressed along the femoral axis.

Checking the extension of the legs in the hip joints. The child lies on the back, the legs should be bent at the knee and hip joints at an angle of 90° degrees. In case of hip dysplasia, limited leg extension may be observed. With normally formed hip joints, the extension will be almost complete up to 75-80°.

Shortening of the lower limb. Shortening of the lower limb is determined by comparing the straightened legs.

Asymmetry of folds on the thighs or their unequal number. The symptom is unreliable, but in the presence of the above symptoms, the child needs to consult a pediatric orthopedic traumatologist.

Interpretation of hip joint examination results:

1) If the examination of the hip joints reveals positive symptoms of Ortolani and / or Barlow, the child should be referred for consultation to a pediatric orthopedic traumatologist.

2) If the examination of the hip joints reveals: limited extension of the legs in the hip joints, shortening of the lower limb, asymmetry of the folds on the hips or their unequal number, the child should be referred to a pediatric orthopedic traumatologist for consultation.

3) Asymmetry of folds on the thighs or their unequal number, in the absence of other symptoms listed above, does not require consultation with an orthopedist.

- requirements for the results of work - in writing;

-control materials for the final stage of the class: tasks, assignments, tests, etc. (if necessary).

Test tasks:

1). Examination of healthy children begins with:

Passport data and life history X

Anamnesis of the disease

Palpation

Percussion

Auscultation

2). The pathological forms of the skull include all, with the exception of :

Tower-shaped

Saddle-shaped

Saddle-shaped

Scaphocephaly

Brachycephaly X

3). Depending on the prevalence of muscle damage in relation to the limbs, distinguish:

Monoplegia

Hemiplegia

Paraplegia

Tetraplegia

All answers are correct X

4).. A traction test is a test of muscle tone:

All of the following

Upper limbs X

Lower limbs

Upper limbs and lower limbs

There is no correct answer

5).What additional research methods are used to diagnose diseases of the muscular system?

Electromyography X

Radiography of muscles

Chronaximetry X

6).What biochemical tests are used to diagnose diseases of the muscular system?

Creatine phosphokinase (CPK) X

Total bilirubin and its fractions

Muscle fractions of lactate dehydrogenase x

Examination of serum myoglobin or urine myoglobin X

7).At what age do baby teeth begin to erupt?

1-2 months

8-9 months X

5-7 months X

12 months

8).At what age is the arch of the child's foot finally formed?

At 3 years old

At 6 years old

At 12 years X

At 18 years of age

9).What symptoms are evaluated for hip dysplasia?

Asymmetry of folds on the hips or their unequal number X

Checking the spread of the legs in the hip joints X

Barlow and Ortolani symptoms X

Traction test for the lower extremities

4.Summary:

- Anomalies / defects in the development of bones and muscles should be detected in a timely manner, in most cases - in the period of newborn

- Rapid growth of the child requires regular assessment of the musculoskeletal system and careful supervision: disorders of foot formation should be detected and corrected at an early age, postural disorders - in school and adolescence

- High growth rates in young children require the intake and absorption of sufficient energy, protein, vitamins (especially vitamin D) and minerals, but these processes occur against the background of a rather limited diet and functional imperfection of many organs and systems, which can lead to the development of rickets and spasmophilia

- Children often have complaints of myalgia, arthralgia, osalgia, the causes of which are quite diverse. A wide range of connective tissue diseases, rheumatic diseases, infections are characterized, among other things, by joint syndrome

5.Recommended literature

Main:

19.Gupta Piyush. Clinical Methods in Ptdiatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.

20. Newell Simon J Darling Jonatan C. Paediatrics_9th ed._2015.-320 p.

21. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.

22. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.

23. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Temopil: TSMU, 2005. –468 p.

24. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.

7. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.

8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.

9.Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. -

Lippincott Williams & Wilkins. - 2011. - 822 pp.

10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.

11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

1. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.

2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.

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4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.

5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical lesson № 19

Topic: A technique of clinical examination of respiratory system at children of different age (complains, inspection, palpation, percussion, auscultation)

Aim: to learn general rules of examination of respiratory system in children, familiarize with the relationship between parents and child's physician during the examination of respiratory organs in children of different ages.

Basic concepts: respiratory system exam in children - palpation, percussion, auscultation

Equipment: stethoscope, pulse oximeter.

Plan.

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the

lesson.

3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
 - Requirements for work results, including registration
 - Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

During examination of the skin of children can be marked change in its color (cyanosis, pallor). Sonorous voice and a loud cry characteristic of a healthy baby. Weak cry most often in preterm and full-term children born in asphyxia. Constantly hoarse voice (aphonia) is observed in chronic diseases of the larynx with vocal hock. The voice becomes beming and nasal tone when adenoid growths, adenoiditis, abscesses, cleft of soft. Low rough voice - a sign of miksedema. During examination of children face the first two months of life, they can say blowing nose wings and stress in children under age three times in the corners of the mouth can be recorded foam selection (with pneumonia). Shape of the chest changes with age. Thorax form may also change with lung diseases. Besides possible limitations of chest excursion, or one of the halves of the chest when breathing may lag. On palpation semiotic change voice trembling as it can be determined by increasing and decreasing. Voice tremor increases with compression of lung tissue inflammation on areas of lung abscess, lung atelectasis. Jitter attenuation is determined during the absorption of sound vibrations pathological content of the pleural cavity (pleurisy, hemathorax, pneumothorax), closing bronchi alien body, emphysema. On palpation can reveal tenderness of the chest - when defeat muscles, nerves, bones, pleura. In normal chest percussion when we get clear lung sounds. Tympanic or shade boxes sound is determined by increasing the amount of air in the field of percussion. In the normal lung sound tympanic shade gets in the so-called space Traub, bounded from above the lower limits of heart and left lung, right - the edge of the liver, the left - spleen removal - verge arc. Percussion can bring children in the presence of increased bronchial lymph nodes (symptom Korani, Arkavina symptom).

1. On that we should pay attention during the review to assess the child's respiratory system?

2. Which rules of palpation of the chest?

3. Which changes at percussion can be observed in the pathology of lungs?
4. What are the features of percussion technique in children of different ages?

B. Tests for self-control with standards answers.

1. "In which term of gestation surfactant matures?":

- A. 20 weeks
- B. to 32 weeks
- C. 35 week
- D. before 18 weeks
- E. to 26 week

2. What type of breathing is normal for 12-year old girl?

- A. Kussmaul
- B. Chest
- C. Greedy stomach
- D. Stomach
- E. Biota

3. Percussion of young children should keep all these rules, except:

- A. use loud mediated percussion
- B. eliminate resistance hands
- C. explore during and after crying
- D. strictly symmetrical body position
- E. symmetrically only on edges or only between coast

4. When conducting an objective examination of the child in order to study the resistance of the chest physician should use:

- A. Auscultation
- B. percussion

C. palpation

D. spirometry

E. Laboratory method

Answers to the tests:

1.C; 2.B; 3.C; 4.A

8. Material of classroom for self-directed learning:

8.1. The auxiliary practical tasks to be completed during the practical (laboratory) classes:

1. Answer the questions and tests on.
2. Be able to review the child.
3. Be able to palpation of the child.
4. Be able to percussion of the child.

9. Instructive materials for acquiring professional skills, skills.

Methods of work, stages of implementation.

Right to review child. Be able to palpation of the child. Know the method of percussion.

4. Summary

5. Recommended literature

Main:

Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.

19. Newell Simon J Darling Jonatan C. Paediatrics 9th ed. 2015.-320 p.

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4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
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Practical lesson № 20-21

Topic: Semiotics of disorders of respiratory systems (cough, dyspnea etc.)

Aim: learn to recognize basic symptoms of respiratory diseases, semiotics of disorders of respiratory systems.

Basic concepts: cough and dyspnea in children of different ages. Cold, pain, tachypnea, semiotic changes of respiratory disorders.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.

3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
 - Requirements for work results, including registration
 - Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

While questioning the mother or the child find out whether the **cold** and its nature (serous or mucous, serous discharge, mucous or mucous-purulent, with admixtures of blood).

- Often the complaint is a complaint of **cough**. The most characteristic cough of pertussis - it runs paroxysms (paroxysmal) with the reprise (extended, high breath) and is accompanied by redness and vomiting. Paroxysm of coughing often occurs at night. Painful dry cough can occur with pharyngitis or nasopharyngitis Coughing at defeat larynx (laryngitis) is usually dry, rough and one that barks. He is so characteristic that enables the suspect away defeat larynx (laryngitis or croup).
- Cough with tracheitis - coarse, as in the tube. When bronchitis cough may be dry (initially disease), and moist - with the office of sputum. In bronchial asthma usually separates viscous wetness. When pneumonia in the early days of cough illness often dry in the days becomes wet. When pleural involvement becomes painful cough - which may be of pneumonia, pleurisy. For pulmonary cystic fibrosis characteristic of wet cough trudnoviddilyayemoyu, viscous sputum. Bronhoadeniti When tuberculosis, venereal disease, limfosarkomatozi, leukemia, tumors of the mediastinum revealed bitonalnyy spastic cough. Soundless (aphonia) cough is the real defeat of the vocal cords in laryngeal diphtheria, necrotizing -ulcerative form of laryngitis, muscle paralysis, congenital forms miatoniyi. Pokashlyuvannya observed at early stages of pulmonary tuberculosis, miliary tuberculosis, pneumonia in young children.
- Often the complaint is a complaint about the **selection of sputum**. Flux sputum, often purulent discharge occurs when an abscess or cyst lung bronchi. Many of sputum in chronic pneumonia is, if there is bronchiectasis.
- **Pain** in the chest occurs when inflammation of the trachea and major bronchi. Pain that stab, are at defeat pleura. Superficial pain detected by inflammation of nerves and intercostal muscles, rib fractures. Abdominal pain may be abdominal syndrome in bronchopulmonary diseases in children.
- Often the complaint is a complaint of **shortness of breath**, which is the main feature of hypoxemia and respiratory failure. There are 3 types of breathlessness: inspiratory, expiratory, mixed.
- When inspiratory difficulty breathing occurs in the phase of inhalation. This dyspnea observed in the presence of adenoids, tonsils a significant increase,

retrotonsillas abscess, edema of the vocal cords and larynx, with tumors of the larynx and trachea, ingested foreign body in bronchus. Breath at this aspect of breathlessness accompanied by the usual whistling sound.

- Expiratory dyspnea characterized by difficulties, often with the moan of exhalation. Occurs when bronchiolitis, obstructive bronchitis and bronchial asthma, muscle spasm due to small bronchi and bronchioles or narrowing their resilient secret that had accumulated.
- Shortness of breath mixed type is characterized by difficulty in inhaling and exhaling and often occurs in various respiratory and blood circulation in children.
- Becoming more frequent breathing (**tachypnea**) in newborns may be a sign anomaly of respiratory, lung atelectasis, pneumonia, hyaline. Tachypnea - is the main clinical symptom of respiratory diseases, pneumonia, pulmonary tuberculosis, lesions of the pleura, lung edema. Tachypnea can occur in children with hock cardiovascular system, anemia, vegetative disorders.
- Reducing the number of breath may be in severe asthma attack, The DL of the third degree, diseases and injuries of the central nervous system.
- There may be **pathological types of breath:**
- Kussmaul breathing - deeper breathing without pauses with active participation of auxiliary respiratory muscles in patients with serious metabolic disorders (severe complicated form of pneumonia, coma).
- Cheyne Stokes breathing - breathing resumed after a pause, first as a respiratory surface movements, with further deepening and becoming more frequent, sorted and then comes the next break.
- Breathing biota characterized by rhythmic breathing movements of more or less long pauses periodically change.

Questions for control

- 1. How is semiotic changes characteristic of respiratory diseases in children of different ages?
- . What should we pay attention for during the evaluation of cough in children?
- How pathological types of respiration can be observed in the pathology of breath?
- 4. Which types of dyspnea in children usually occur?

Tests for control

5. For which disease is characterized by expiratory dyspnoea?

A. Bronchial asthma

Tasks for control.

Task 1

Patient, 12 years old, the professor detected the weakened vocal resonance.

Students answer the question:” In what diseases (Atelectasis, Hydrothorax, Pneumonia, Bronchoadenitic, Rhinitis) can be detected weakened vocal resonanse?”

Task 2

Patient, 12 years old. The professor detected pneumonia. The pathognomonic signs of pneumonia by percussion and auscultation are....?

Task 3

Patient, 10 years old. The professor detected inspiratory dyspnea. All listed below related to inspiratory dyspnea (Breathing labor during inhalation, Auxilliary muscles contribution to the breathing act in clinically evident, Exhalation in slow, sometimes with hissing, Noisy breathing in grave condition, nasal inflation and tension) are to be observed in early-age children, except for....?

4. Summary

5. Recommended literature

Main:

6. Gupta Piyush. Clinical Methods in Ptdiatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
7. Newell Simon J Darling Jonatan C. Paediatrics_9th ed. 2015.-320 p.
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Digital information resources: Medscape.com

Practical Lesson № 22

Topic: A technique of examination, palpation, percussion, auscultation of cardiovascular system at children. Semiotics of heart disorders.

Aim: to learn anatomic and physiological features of cardio-vascular system in children, peculiarities of fetus blood circulation, the technique of examination, palpation, percussion, auscultation of cardio-vascular system in children. Semiotics of main disorders.

Basic concepts: heart exam in children, palpation, percussion, auscultation of cardiovascular system

Equipment: stethoscope, pulse oximeter.

Plan:

6. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
7. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
8. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)

- Requirements for work results, including registration
- Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

When inquiring the child with a suspicion of the cardiovascular system involvement it is worth while paying attention to the **typical complaints** such as follows:

- occurrence of fatigue when carrying out physical activity, short breath, tachycardia and disagreeable feeling or pain in the heart region;
- headache, edemas, change of the skin color (cyanosis, paleness), infancy physical retardation etc.);
 - transient short-winded and cyanotic paroxysms (attacks) (have hypoxemic character and to be described as breathing acceleration, cyanosis enhancement, child's excitement. The above paroxysms are still typical for tetralogy (pentalogy) of Fallot).

When inquiring the child (or his/her relatives) with cardiovascular diseases it is obligatory to obtain more specific information about a period of having the above mentioned complaints and also diseases preceding to them, presence of cardiovascular system diseases in the child's relatives. Impartial examination of the child with the cardiovascular system involvement beginning with **the examination**

I. Overall examination

- general well-being of the sick child;
- position of the child in the bed (forced, semisitting, refraining from the left-side position, sitting (orthopnea), sharply bent position (knee-elbow position having exudative pericarditis, squatting on his/her hams, pressing knees to the belly (Tetralogy of Fallot);
 - reaction to the environment;
 - physical development (retardation, disproportion of development of the upper and lower body parts, excessively developed shoulder girdle while pelvis and lower extremities are underdeveloped);
 - color of the skin and visible mucous tunic (lips, conjunctiva etc.)
(total cyanosis, acrocyanosis (peripheric – fingers and toes, nose tip, auricles)

paleness with lilac and crimson “flush” on the cheeks (facies mitralis) if having mitral valve stenosis).

II. Face examination

- face expression (confusion, suffering when having sharp pain in the heart region and sometimes fear in the eyes wide open)

III. Neck examination

- Pulsation and blasting of carotid arteries (“carotid dance”) are observed medially from m. sternocleidomastoideus in case of aortic valves insufficiency and wide open arterial canal.
- Head-bobbing synchronously with carotid arteries pulsation (Myusse Symptom) sometimes is observed and conditioned by sharp fluctuation of blood arterial pressure at the moment of systole and diastole of patients with aortic valve insufficiency or wide-opened arterial canal.
- Healthy children lying horizontally may also have minor carotid arteries pulsation but when the child changes his/her position to the vertical one it disappears. Moreover, easily excited children and those children having anaemia and thyrotoxicosis may also have carotid arteries pulsation.
- Jugular vein distention can appear if there is stagnation caused by circulatory disturbance in the superior vena cava and difficulties with the right atrium ejection. It can occur in case of thrombosis, obliteration or stenosis of the superior vena cava and also if the right atrium is underdeveloped or overfilled with blood.
- Jugular vein pulsation (venous pulse) attends jugular vein distention and can be observed laterally from m. sternocleidomastordeus. It is normal for the neck jugular vein pulsation to be low-grade and shall not concur with carotid arteries pulsation notably at the moment of systolic dilatation of carotid arteries jugular veins deflate (negative venous pulse). Tricuspid valve insufficiency can cause substantial jugular vein pulsation which concurs with pulsation of carotid arteries. This phenomenon is called as the positive venous pulse and connected with retrograde blood circulation from the right ventricle of heart to the atrium if there is tricuspid valve insufficiency at the moment of

systole what detain filling of the right atrium and cause jugular vein distention and pulsation simultaneously with arterial pulsation.

IV. Chest examination

- Presence of deformation in the heart region as a “heart hump” in the children with heart diseases. If the “heart hump” is nearer to the breastbone it can be an evidence of the right heart part hypertrophy and if it is on the left of the breastbone it causes the left heart part hypertrophy.
- Minor explosion in the heart region with intercostal space smoothing (in case of exudative pericarditis patients).
- “Cardiac impulse” is diffuse pulsation of the large (or even the whole) heart projection region. It is conditioned by hypertrophy of the right ventricle of heart and as a result the largest surface of heart adjoins to the chest causing diffusion cardiac impulse.

Apical impulse is the rhythmical local pulsation in the heart apex projection region which is caused by impulse of the heart apex of the chest at the moment of systole (in case of healthy children with temperate subcutis development). Children with psychic excitement have considerably intensified apical impulse on doing physical exercises for the weight to be lost and also when having aortic ventricle hypertrophy. Children with obesity and myocarditis or exudative pericarditis do not have at all or have diminished apical impulse.

V. Abdomen examination

- Healthy children with insufficiently pronounced skin structure may have subcutaneous vessels. Healthy children do not have dilated and plethoric blood vessels. Having pathology with the hindered flow to the right parts of the heart, e.g. as the result of triad and tetralogy of Fallot, Eisenmenger syndrome (interventricular septum defect with pulmonary hypertension and hypertrophy of the right ventricle of heart), exudative pericarditis, blood vessels are extremely dilated and plethoric. Venous pattern. Overfilled and varicose lateral veins of the abdomen are observed when there is circulatory disturbance of the inferior vena cava (thrombosis, tumor, ascites) and formation of anastomosis around the navel (Medusa’s head) is caused by circulatory disturbance in the v. portae.

- If healthy children have pulsation in the upper abdominal it can be conditioned by short chest or low diaphragm position. When having pathology pulsation in the upper abdominal is observed in case of hypertrophy or dilatation of the right ventricle of heart (defect of the mitral valve, insufficiency of the arterial and tricuspid valve) and the most evident if a deep breath is taken. Vice versa, during an inspiration the epigastric pulsation of an aortal (abdominal aorta) parentage (aneurism, tumor etc.) is weakened.

VI. Examination of the upper and lower extremities

- cyanotic skin, especially on palms and soles; skin marble pattern;
- form of the finite finger and toe phalanxes (as the sticks, and nails as the watch glass if there is hypoxia, cyanosis (tetralogy of Fallot)
- capillary pulse (Quincke's pulse) can be revealed during examination of the upper extremities. Therefore it is necessary to press on the fingertip in a way for a pale spot to appear in the middle part. If there is capillary pulse, the spot will be periodically of red and pale colour depending on the systole and diastole. Patients with aortic valve insufficiency have capillary pulse. It is better to call this pulse as the arterial because not capillaries that pulse but precapillary arteriole.
- Edemas (more often on the lower extremities).

Cardiovascular system palpation

Having made the examination, it is necessary to conduct palpation by which it will be determined and characterized as follows:

- cardiac and apical impulse;
 - arterial pulse properties;
 - “cat’s rumbling” phenomenon.
1. First of all it is necessary to determine and characterize cardiac impulse. For this purpose you shall put the right hand palm on the heart region in a way the palm base to be on the left side of the breastbone and fingers shall be stretched along the intercostal space towards the axillary region. Intensive cardiac impulse is observed if it is right atrial enlargement and hypertrophy.

2. “Cat’s rumbling” symptom (can be also diagnosed at the moment of palpation of the heart region) can be systolic (concur with the apical impulses) and diastolic (diagnosed at the interval within heartbeat).

If systolic “cat’s rumbling” is detected over the second (II) intercostal space on the right of the chest it is connected with aortic opening stenosis and if on the left of the chest over the second intercostal space it is associated with the open arterial canal.

Diastolic trembling on the heart apex is conditioned by mitral valve stenosis.

3. Apical impulse. Its properties.

- 1) Apical impulse localization

For the detailed detection it is necessary to put the hand palm on the region of the heart (similar way is used when detecting cardiac impulse) and then move the finite finger phalanxes of the right hand along the intercosta space to the middle identifying localization of the maximum impulse.

When there are difficulties in detection of the apical impulse, its palpation shall be made easier if the child’s body is slightly bent forward or he/she has taken deep breath. If there are newborn and children being 2 years old (0-2 years) the apical impulse is palpated in the 4th intercostal space in 2 cm on the outside from the left middle clavicular line; at the age of 3-7 years – in the 5th intercosta space in 1 cm on the outside from the left middle clavicular line; at the age of 7-12 years – in the 5th intercosta space in 0,5 cm up to the middle from the left middle clavicular line or on this line and children being elder than 12 – in 0,5 cm to the right from the middle clavicular notably in the same way as adults.

- 2) Apical impulse area

Healthy children – localized, about 2 sq. cm, diameter of 1-2 cm

Sick children – wide (if its area is more than 2 sq. cm), when having cardiac hypertrophy

- narrow (if its area is less than 2 sq. cm) when having emphysema, if the heart adjoins the chest in the area being less than the norm is.

- 3) Height (or value) of the apical impulse shall be detected according to the amplitude of the intercosta spaces.

High(in case of aortic ventricle hypertrophy and ventricular contraction increase etc.)

Low (in case of exudative carditis, left-side exudative pleurisy, obesity)

4) Strength of the apical impulse shall be measured by a pressure of the heart apex on the doctor's fingers. Apical impulse can be moderate, strong and weak.

Negative apical impulse

This impulse shall occur when at its place, at the moment of systole, there is not outpouching but retraction of the chest (Mackenzie symptom). It can appear in case of adhesive pericarditis (pericarditis inosculates with the anterior wall of the chest).

Arterial pulse properties

It is better to investigate pulse when the child sleeps or in a state of rest because the children's pulse is significantly notable for stability and can be sharply increased in view of excitement and physical activity. Pulse and its properties can be determined on the surface arteries, e.g. on a. radialis, a. carotis, a. temporalis, a. femoralis, a. dorsalis pedis. Radial artery pulse is more frequent in clinical practice.

1. In Botkin - Erba's point auscultate to the valve...

A.Aorta*

B. The three-cuspidate

C. Pulmonary trunk

D.It is not a right answer

2. In what place the carotid is auscultated?

A.On internal edge of the clavisternomastoid muscle *

B. To a bulbar fossa

D To the right of the breast bones

E. To the left of supraclavicular fossa

3. Features auscultatory pictures at healthy children are:

A. Lability of the sound picture

B. Sonority of tones.

Tachycardia till 10-12 years

B.All answers are true

5. Which properties have functional hums of the heart?

A. Systolic

B. A small intensity

C. It doesn't extend to heart borders

D. Lability

6. On change of intensity of hums distinguish following kinds:

A. Low and sonorous *

B. rasping, and rolling

C. Soft and blowing

D. Killing

7. Feature of auscultation of heart of children первого year of life:

A. Auscultation in position on right to a side

B. Auscultation of a site of a fontanel *

C. Auscultation of area of heart

D. Auscultation jne of the side

E. Auscultation of the back

8. A place of auscultation of valves of a pulmonary artery at children:

A. II Costal intervals business from a breast bone, on parasternal line

B. II Costal intervals to the left of a breast bone, on a parasternal line*

C. V Costal intervals at the left on a papillary line

D. The point attachments of IV rib of the breast bone at the left

E. Basis of the xiphoid process

9. Where formation hums in children with 2 till 6 years are auscultated?

A. Upper of the aorta

B. On the apex

C. Upper the pulmonary artery *

D. On the heart basis

E. On the Botkin - Erba's point

10. A place of auscultation of valves in aortas at children:

A. II Costal intervals business from a breast bone, on parasternal line*

B. II Costal intervals to the left of a breast bone, on a parasternal line

C. V Costal intervals at the left on a papillary line

D. The point attachments of IV rib of the breast bone at the left

E. Basis of the xiphoid process

B. Task for self-control with answers:

Tasks for control:

Task 1

For a child the changes of relative and absolute limits of heart are 10 years educed on the left. For that, to define, what departments of heart influence on the change of relative and absolute limits of heart, should know, what structures form the contours of heart. The left contour of heart is formed (choose the most complete and correct answer):

- A – by arch of aorta, left ventricle
- B – by arch of aorta, pulmonary barrel, left ventricle
- C – by arch of aorta, pulmonary barrel, ear of the left auricle and partly left ventricle
- D – by arch of aorta, pulmonary barrel
- E – by arch of aorta, ear of the left auricle, partly right ventricle, left ventricle

Task 2

On a reception for a doctor child, 11 years old. Frequency of heart-throbs 58 per 1 minute. Apex shove in 5 intercostals on a 1, 5 cm outside from the left middle-clavicular line. On research of pulse it is educed respiratory arrhythmia. Give the estimation of received data. Specify what respiratory arrhythmia. Where must be for the healthy child of this age the left limit of relative cardiac dullness?

Task 3

For a child the changes of relative and absolute limits of heart are 10 years educed on the left. For that, to define, what departments of heart influence on the change of relative and absolute limits of heart, should know, what structures form the contours of heart. The left contour of heart is formed (choose the most complete and correct answer):

- A – by arch of aorta, left ventricle
- B – by arch of aorta, pulmonary barrel, left ventricle
- C – by arch of aorta, pulmonary barrel, ear of the left auricle and partly left ventricle
- D – by arch of aorta, pulmonary barrel
- E – by arch of aorta, ear of the left auricle, partly right ventricle, left ventricle

Task 4

On a reception for a doctor child, 11 years old. Frequency of heart-throbs 58 per 1 minute. Apex shove in 5 intercostals on a 1, 5 cm outside from the left middle-clavicular line. On research of pulse it is educed respiratory arrhythmia. Give the estimation of received data. Specify what respiratory arrhythmia. Where must be for the healthy child of this age the left limit of relative cardiac dullness?

10. Recommended literature

Main:

7. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
8. Newell Simon J Darling Jonatan C. Paediatrics_9th ed._ 2015.-320 p.
9. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
10. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
11. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.
12. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
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10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

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5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Topic: Semiotics of congenital and acquired diseases of heart and vessels at children. Main signs of defeats of cardio-vascular system (cyanosis, bradycardia, tachycardia etc.). Echocardiogram.

Aim: to teach students to identify and properly evaluate the clinical symptoms and results of additional research methods of the heart in children with a view to early diagnosis of CHD and acquired diseases of the heart and vessels in children.

Basic concepts: congenital and acquired diseases of heart and vessels.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
 - Requirements for work results, including registration
 - Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

Questions for control:

1. Semiotics of congenital diseases of heart and vessels in children.
2. Main signs of defeats of cardio-vascular system (cyanosis, bradycardia, tachycardia etc).
3. Classification of CHD in children, depending on the direction of discharge of blood, obstruction of blood circulation and the state of the pulmonary circulation, heart.
4. Basic syndromes by CHD in children.

5. Semiotics of acquired diseases of heart and vessels in children.

Tests for control with answers:

1. Examination revealed : systolic murmur on the back, sharp weakening of the pulse in the legs, decreased blood pressure on the legs. Call heart disease:

- A. Coarctation of the aorta.
- B. Pulmonic stenosis.
- C. Ventricular septal defect.
- D. Atrial septal defect.
- E. Patent ductus arteriosus.

2. Enlargement of the liver, swollen legs, swelling of the scrotum in boys, swelling of the back, "stale" edema, oliguria. Name Syndrome:

- A. Congestive heart failure, left ventricular.
- B. Congestive heart failure, right ventricular.
- C. Respiratory distress syndrome.
- D. Syndrome of renal failure.
- E. The syndrome of portal failure.

3. Name Syndrome: dyspnea, moist rales in the lungs, and tachycardia, a compulsive coughing, acrocyanosis.

- A. Right ventricular heart failure.
- B. Respiratory failure.
- C. Left ventricular heart failure.
- D. Renal failure.

4. Name Syndrome: Ripple epigastric region, amplified cardiac impulse. ECG: right heart hypertrophy.

- A. Overload left heart syndrome.
- B. Syndrome of right heart overload.
- C. Syndrome of total overload of the heart.
- D. Syndrome of increased pulmonary blood flow.
- E. The syndrome of reduced pulmonary blood flow

5. Call syndrome: frequent bronchitis, pneumonia: pale skin middle "hump of the heart", the accent II rut over the pulmonary artery.

- A. Syndrome of total overload of the heart.
- B. Syndrome is to reduce pulmonary blood flow.
- C. Syndrome increase the blood flow through the lungs.
- D. Syndrome of right heart overload.
- E. Syndrome gateway.

6. Call heart disease with arteriovenous discharge of blood:

- A. Ventricular septal defect.
- B. Tetralogy of Fallot.

- C. Aortic stenosis.
 - D. Coarctation of the aorta.
 - E. Pulmonic stenosis.
7. Call heart disease with venoznoarterialnym discharge of blood:
- A. Aortic stenosis.
 - B. Tetralogy of Fallot.
 - C. Coarctation of the aorta.
 - D. Patent ductus arteriosus.
 - E. Ventricular septal defect.
8. Name the congenital heart disease with blood flow obstruction:
- A. Hypoplastic left heart syndrome.
 - B. Patent ductus arteriosus.
 - C. Coarctation of the aorta.
 - D. Tetralogy of Fallot.
 - E. Transposition of the great arteries.
9. Tachycardia, tone deafness of the heart, pushing back the frontiers of relative cardiac dullness characteristic of ...
- A. Bundle branch blockade.
 - B. Endocarditis.
 - C. Myocarditis.
 - D. Paroxysmal tachycardia.
 - E. Atrial fibrillation.
10. Soft, musical tone noise on auscultation of the heart tones typical of ...
- A. Tetralogy of Fallot.
 - B. Stenosis of the pulmonary artery.
 - C. Vegetative-vascular dystonia.
 - D. Ductus arteriosus.
 - E. Patent foramen ovale.

Answers: 1 – A; 2 – B; 3 – C; 4 – B; 5 – C; 6 – A; 7 – B; 8 – C; 9 – C; 10 – C.

Tasks for control:

Task 1

Mother of 5 years daughter advice a doctor with complaints to pain above the chest, heartbeat. Pulse rate on the radial artery – 120 per minute. Normal pulse rate in 5 years baby. Write rules of pulse rate measurement, peculiarities in newborn. Semiotics of thready pulse.

Task 2

The leg of 12 years girl freezes. Doctor palpated pulse on the femoral artery. Write rules of palpation pulse on the femoral artery. Semiotics of pulse tense.

Task 3

Mother with 5 years daughter advice to a doctor with complaints on the weakness of baby, edema of her legs to the evening, sub febrile fever, dyspnea in physical exercises. This complaints appear after influenza. What system is damage? What the kind of percussion the doctor can use? Write borders and transversum of the heart of 5 years baby.

Task 4

Mother with 5 years daughter advice to a doctor with complaints on the wekness of baby, edema of her legs to the evening, sub febrile fever, dyspnea in physical exercises. This complaints appear after influenza. Write characteristic signs of the 2nd heart tone & semiotics of the 2nd heart tone.

Task 5

On the anterior superficial of the chest of 5 years girl the pulsation is visible. The doctor advice mother that it is visible apex beat. Write localization of the apex beat of 5 years baby, characteristics of apex beat. Semiotics of increased apex beat.

Task 6

Mother with 5 years daughter advice to a doctor after 2 weeks influenza with complaints for fever, weakness, dyspnea. During examination the doctor diagnoses paradoxal apex beat. For what diseases is the paradoxal apex beat characteristic?

Task 7

The doctor examined baby (1 year old), suffered from myocarditis. Write the characteristic of apex beat, borders & tones of the heart in this girl. Write symptoms of myocarditis.

Task 8

Students examined 10 years girl in the cardio rheumatological department & found out “cat murmur” symptom on the apex beat during diastole. For what disease does this symptom characteristic? Write the signs of organic murmur.

Task 9

10 years girl is in the cardio rheumatological department, acute myocarditis of middle condition was found. What changes of pulse rate are characteristic for this pathology? For what disease the weakness of both heart tones is characteristic

4. Summary

5. Recommended literature

Main:

25. Gupta Piyush. Clinical Methods in Ptdiatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.
26. Newell Simon J Darling Jonatan C. Paediatrics_9thed._2015.-320 p.
27. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
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Digital information resources: Medscape.com

Practical lesson № 25

Topic: Semiotics of acquired diseases of heart and vessels at children (myocarditis, endocarditis, pericarditis, arrhythmia). Electrocardiogram.

Aim: to teach students to identify and properly evaluate the clinical symptoms and results of additional research methods (ECG) of the heart in children with a view to early diagnosis of heart diseases; measuring blood pressure in children.

Basic concepts: congenital and acquired diseases of heart and vessels.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
 - Requirements for work results, including registration
 - Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

Tests

1. QRS electrocardiogram reflects:

- A. The timing of excitation from the sinus node to atrioventricular node
- B. Initiation of atrial
- C. Ventricular Complex *
- D. Ventricular repolarization
- E. Initiation of atrioventricular node

2. Barb P on the electrocardiogram displays:

- A. ventricular complexes
- B. Initiation of atrial *
- C. The excitation beam Hiss
- D. Ventricular repolarization
- E. Initiation of atrioventricular node

3. PQ interval on the electrocardiogram displays?

- A. ventricular repolarization
- B. Depolarization of ventricles
- C. Initiation of atrial and atrioventricular connections *
- D. Excitation of the atrioventricular node
- E. This interval on the ECG did not observe

4. ST interval – up from isoelectroline at ...

- A. Myocarditis

- * B. Pericarditis
 - C. Endocarditis
 - D. Coarctation of the aorta
 - E. Open botallovom duct
5. The absence of P wave, the change in shape of the QRS complex and increasing its voltage characteristic:
- A. ventricular arrhythmia *
 - B. Atrial premature beats
 - C. Hypertrophy of the right atrium
 - D. Hypertrophy of the left atrium
 - E. Atrial fibrillation
6. Sinus tachycardia on ECG before ...
- A. Increase the interval T P
 - B. Decrease the interval T P *
 - C. Reduction of the interval P-Q
 - D. Prolongation of P-Q
7. Feature of the PCG in dityey:
- A. Registration ekstrasistoli
 - B. High Frequency Registration III tone and functional noise *
 - C. No phase transformation
 - D. The absence of phase exile
 - E. Lack of Phase Voltage
8. Name the method of recording the movements of the artery walls of the pressure pulse wave
- A. ECG
 - B. rheocardiography
 - S. sphygmography *
 - D. PCG
 - E. Tahiostsillografiya
9. Features of the ECG in neonates I abduction as follows:
- A. A wide range of PQ
 - B. Low and high tooth R S *
 - C. Low prong of S and a high P
 - D. There is no T wave
 - E. There is no Q wave
10. Hypokalemia on the ECG before
- A. ST segment depression
 - B. The presence of U wave
 - C. Flattening and an increase in the QRS complex
 - D. Violation of the conduction
 - E. That's right *

Tasks for control with answers.

Task 1.

Mother with 5 years daughter advice to a doctor with complaints on the weakness of baby, edema of her legs to the evening, sub febrile fever, dyspnea in physical exercises. This complaints appear after influenza.

What system is damaged? What the kind of percussion the doctor can use? Write borders and transversum of the heart of 5 years baby. Features of the Electrocardiogram in childhood.

Task 2.

On the anterior superficial of the chest of 5 years girl the pulsation is visible. The doctor advice mother that it is visible apex beat.

Write localization of the apex beat of 5 years baby, characteristics of apex beat. Semiotics of increased apex beat. Features of the Electrocardiogram in childhood.

Task 3.

Mother with 5 years daughter advice to a doctor after 2 weeks influenza with complaints for fever, weakness, dyspnea. During examination the doctor diagnoses paradoxal apex beat. Features of the Electrocardiogram in childhood.

For what diseases is the paradoxal apex beat characteristic?

Task 4.

The doctor examined baby (1 year old), suffered from myocarditis.

Write the characteristic of apex beat, borders & tones of the heart in this girl. Write symptoms of myocarditis. Features of the Electrocardiogram in childhood.

Task 5.

10 years girl is in the cardio rheumatological department, acute myocarditis of middle condition was found.

What changes of pulse rate are characteristic for this pathology? For what disease the weakness of both heart tones is characteristic? Features of the Electrocardiogram in childhood.

4. Summary

5. Recommended literature

Main:

Gupta Piyush. Clinical Methods in Ptdiatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669 p.

6. Newell Simon J Darling Jonatan C. Paediatrics_9thed._2015.-320 p.

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Digital information resources: Medscape.com

Practical Lesson № 26

Topic: Features of blood system at children of different age group. Methods of clinical and laboratory examination with the defeat of blood system. Laboratory methods of research of functional status of organs and systems. Methods of immunodeficit detection.

Aim: to acquaint students with the role of the blood system in the vital functions of child.

Interpretation the data of examination. Distinguish clinical features of immunodeficiencies, anemia and reveal main syndromes. Methods of immunodeficiency diagnostic in children

Basic concepts: knowledge of features of the blood system in different age children. Methods of clinic-laboratorial examination children with blood system diseases, laboratorial methods of function condition examination of baby's organism organs & system, rules of taking material for analyses, methods of immunodeficiency diagnostic in children needed in future professional activity of future doctor and it directed on forming of positive motivation, to the cognitive personal interest in relation to the study of this theme.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
 - Requirements for work results, including registration
 - Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

Collect complaints: change in skin colour (paleness, jaundice), Bleeding / hemorrhagic rash (does not disappear when pushed), Prolonged plaque on the mucous membranes, Changes in lymph nodes, Bone pain, Prolonged fever, Night sweats, Changes in the nature of emptying (black, with blood), Changes in urine color

Collect anamnesis of disease. Anemia At an early age: prematurity, Inappropriate nutrition (lack of meat in the age of 6 months). At any age: blood loss (hemorrhagic illness of newborns, operations, DIC, syndrome, chronic

gastrointestinal bleeding, metrorrhagia, etc.), syndrome of impaired intestinal absorption, chronic renal failure

Onco-hematological diseases: excessive pallor of the skin, fever, hemorrhagic rash on the skin, significant increase in lymph nodes, weight loss, night sweats

Hemorrhagic manifestations: family history hemophilia, thrombocytopenia sometimes / thrombocytopathy

Immunodeficiencies: primary and secondary: mother's HIV infection, the death of other children in the family from severe infections, delay in physical and psychomotor development, severe, chronic or recurrent bacterial or fungal infections.

Complaints arose a few hours after a minor injury to the joint: - objectively: swelling and swelling in the joint area, the joint is hot to the touch, pain and limited mobility.

Complete blood test measures the number of all components in the blood, including: red blood cells, white blood cells, hemoglobin, hematocrit, platelets.

Syndromes in leukemia: infectious-Intoxication, hemorrhagic, lymphoproliferative, anemic. The routine infections (e.g. tonsillopharyngitis) may have prolonged course with NO effect of antibiotics. Diagnosis is based on finding immature blast cells on either the peripheral blood smear, bone marrow or both.

Lymphoma - tumor deriving from lymphoid tissue – lymph nodes, two types – Hodgkin's, non-Hodgkin's Hodgkin's (lymphogranulematosis).

Idiopathic thrombocytopenic purpura: peak age: 2-6, caused by antibodies IgG or IgM that bind to platelet membranes → splenic destruction of antibody-coated platelets, typically presents after viral infection.

Clinical Presentation: occurs in an otherwise well child, sudden onset of petechiae (ecchimoses), epistaxis (nasal bleeding), hematuria or GI hemorrhage.

Skin rash is polymorphic, polychromic, asymmetric. Usually no lymphadenopathy, usually no hepatosplenomegaly, rarely ITP may a presenting symptom of autoimmune disease (e.g. SLE)

Materials of methodical software of the lesson

Task for control

Sick 3 days. Complaints about fever up to 38-39 ° C, runny nose, accelerated breathing

Complete blood count № _____ «___» _____ 20__ .(date)	
XXXXXXXXXXXXXXXXXXXX	
Age <u>1 year</u>	
	Result
Hgb	102 g/l
RBC	3,51*10¹²/l
MCV	77

Reticulocites		10‰
PLT		315 *10⁹/l
WBC		19,5*10⁹/l
ESR		20 mm/hr
	Myelocytes	-
	Metamyelocytes	-
	Band	10%
	Segm	51%
EOS		3%
BASO		-
LYMPH		28%
MONO		8%
		-

Answer: Mild anemia microcytic, normal reticulocyte count, leukocytosis, relative neutrophilia, leukocyte formula “shift to the left”, accelerated ESR, probably a bacterial infection.

4. Summary

5. Recommended literature

Main:

1. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.- 669 p.
2. Newell Simon J Darling Jonatan C. Paediatrics 9th ed. 2015.-320 p.
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Digital information resources: Medscape.com

Practical Lesson № 27-28

Topic: Clinical and hematological semiotics of main syndromes and diseases of blood system in children (anemic, lymphoproliferative, hemolytic, hemorrhagic syndromes etc.)” Concept about immunodeficiencies. Classification and semiotics of immunodeficient statuses (HIV infection).

Aim: to acquaint students with the role of the blood system in the vital functions of child.

Features of the blood system in different age children.

Laboratorial methods of function condition examination of baby’s organism organs & system.

Take anamnesis and reveals data, which indicate changes at the immune system and blood system. Carry out an objective examination of immune system and blood system with taking into account age features of child. -Interpretation the data of examination.- Distinguish clinical features of immunodeficiencies, anemia and reveal main syndromes. Methods of immunodeficiency diagnostic in children

Basic concepts: knowledge of features of the blood system in different age children. Methods of clinic-laboratorial examination children with blood system diseases, laboratorial methods of function condition examination of baby’s organism organs & system, rules of taking material for analyses, methods of immunodeficiency diagnostic in children needed in future professional activity of future doctor and it directed on forming of positive motivation, to the cognitive personal interest in relation to the study of this theme.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
 - Requirements for work results, including registration
 - Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

Collect complaints: change in skin colour (paleness, jaundice), Bleeding / hemorrhagic rash (does not disappear when pushed), Prolonged plaque on the mucous membranes, Changes in lymph nodes, Bone pain, Prolonged fever, Night sweats, Changes in the nature of emptying (black, with blood), Changes in urine color

Collect anamnesis of disease. Anemia At an early age: prematurity, Inappropriate nutrition (lack of meat in the age of 6 months). At any age: blood loss (hemorrhagic illness of newborns, operations, DIC, syndrome, chronic gastrointestinal bleeding, metrorrhagia, etc.), syndrome of impaired intestinal absorption, chronic renal failure

Onco-hematological diseases: excessive pallor of the skin, fever, hemorrhagic rash on the skin, significant increase in lymph nodes, weight loss, night sweats

Hemorrhagic manifestations: family history hemophilia, thrombocytopenia sometimes / thrombocytopathy

Immunodeficiencies: primary and secondary: mother's HIV infection, the death of other children in the family from severe infections, delay in physical and psychomotor development, severe, chronic or recurrent bacterial or fungal infections.

Complaints arose a few hours after a minor injury to the joint: - objectively: swelling and swelling in the joint area, the joint is hot to the touch, pain and limited mobility.

Complete blood test measures the number of all components in the blood, including: red blood cells, white blood cells, hemoglobin, hematocrit, platelets.

Syndromes in leukemia: infectious-Intoxication, hemorrhagic, lympho-proliferative, anemic. The routine infections (e.g. tonsillopharyngitis) may have prolonged course with NO effect of antibiotics. Diagnosis is based on finding immature blast cells on either the peripheral blood smear, bone marrow or both.

Lymphoma - tumor deriving from lymphoid tissue – lymph nodes, two types – Hodgkin’s, non-Hodgkin’s Hodgkin’s (lymphogranulematosis).

Idiopathic thrombocytopenic purpura: peak age: 2-6, caused by antibodies IgG or IgM that bind to platelet membranes → splenic destruction of antibody-coated platelets, typically presents after viral infection.

Clinical Presentation: occurs in an otherwise well child, sudden onset of petechiae (ecchimoses), epistaxis (nasal bleeding), hematuria or GI hemorrhage. Skin rash is polymorphic, polychromic, asymmetric. Usually no lymphadenopathy, usually no hepatosplenomegaly, rarely ITP may a presenting symptom of autoimmune disease (e.g. SLE)

Materials of methodical software of the lesson

The tasks for control

Sick 3 days. Complaints about fever up to 38-39 ° C, runny nose, accelerated breathing

Complete blood count № _____		
«__» _____ 20__ .(date)		
XXXXXXXXXXXXXXXXXX		
Age <u>1</u> year		
	Result	
Hgb	102 g/l	
RBC	3,51*10¹²/l	
MCV	77	
Reticulocytes	10‰	
PLT	315 *10⁹/l	
WBC	19,5*10⁹/l	
ESR	20 mm/hr	
	Myelocytes	-
	Metamyelocytes	-
	Band	10%
	Segm	51%
EOS	3%	
BASO	-	
LYMPH	28%	
MONO	8%	

Answer: Mild anemia microcytic, normal reticulocyte count, leukocytosis, relative neutrophilia, leukocyte formula “shift to the left”, accelerated ESR, probably a bacterial infection.

4. Summary
5. Recommended literature

Main:

1. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.- 669 p.
2. Newell Simon J Darling Jonatan C. Paediatrics_9th ed._2015.-320 p.
3. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
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- 11.Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

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4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical Lesson № 29

Topic: A technique of clinical examination of digestive system (examination, palpation, percussion, auscultation)

Aim: to know semiotics of defeats digestive organs and main diseases (gastritis, ulcer disease, cholecystitis, dyskinesia of bilious ways etc.) at children. Abdominal, hepatobiliary, intestinal, pain syndrome, syndrome of jaundice, cholestasis etc.

Basic concepts: In recent years in connection with the development of specialized medical care, as well as the successes of studying the digestive system, the large value of purchased children's Gastroenterology. Results of research have brought increasing chronic diseases of the gastrointestinal tract noninfectious nature. This points to their significant increase in the structure of diseases in children. At the present stage, even the most modern equipment can not replace the experience, knowledge and skill, intuition, and clinical thinking doctor, which is based on complaints dan nih history, right to conduct a clinical study of child and needs a highly professional techniques and special approach.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
 - Requirements for work results, including registration
 - Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

In a study of children with pathology of the digestive system doctor must first thoroughly learn the complaints, which are mainly associated with diarrheal illness and pain.

The collection of patient history pay attention to the following: when and how onset, disease course, which was prescribed treatment and its effectiveness. Thoroughly analyzes the dynamics of subjective symptoms of the disease, compared with the data of objective inspection, which took place earlier (study the history of child development, extracts from case histories, health resort statement). For the opportunity to establish the reasons that caused the disease and its exacerbation and relapse. Discover the factors that caused the infection of the stomach and intestine, the effect of allergens (food, etc.), poisoning, the use of low-quality products, quality and quantity of chronic starvation. Pay attention to a history of giardiasis, helminthic infestations, fatigue and physical and mental trauma. If eating disorders are chronic in the first weeks or months after birth, it is necessary to think about congenital anomalies of digestive system, hereditary enzymopathies. Necessary to establish the child's individual reactions to certain foods, the influence of external habitat. Symptoms of the majority of developmental abnormalities of the liver and gallbladder are asymptomatic, some develop biliary dyskinesia, inflammatory changes, cholecystitis, symptoms of hepatitis, hepatomegaly, jaundice, cytolysis syndrome, possible volvulus of the gallbladder (signs of "acute abdomen"), splenic, hepatosplenopathy regard to both the liver and spleen.

Questions for self-control

Semiotics of defects digestive organs and main diseases (gastritis, ulcer disease, cholecystitis, dyskinesia of biliary ways and others) in children.

Abdominal, hepatobiliary, intestinal, pain syndrome, syndrome of jaundice,olestasis and other.

1. As indicated by complaints of pain that comes in the morning on an empty stomach and 1,5-2 hours after eating food at night?
2. How important are data indicating the nature of pain and their location?
3. At which disease epigastric pain stopped by use of food?
4. What importance to gastroenterology diagnosis, staging has a family history?
5. What factors depends on the possibility of ill ulcer duodenum?
6. Values of past diseases on diseases of the digestive system?
7. Importance of hereditary predisposition to diseases of the digestive system.
8. What causes children constipation and diarrhea?
9. Which pathology can be detected when viewed face, mouth, tongue?
10. At what disease appear a little thin and very dark discharge?
11. At that point the pain in the epigastric region, which occur after the use of acute and fried foods, overeating, use of carbonated water?

12. As indicated in the right upper quadrant pain, which radiates to right scapula and the lumbar region, nausea, vomiting is the reusable food, you ate?

Tests for self-control

1. Bulimia occurs in children during the below diseases, except for:
 - A Diabetes
 - B Acute appendicitis
 - C Brain tumor
 - D Insulinoma (tumor of pancreas)
 - E Dementia

2. Fountain vomiting in children of first months of life is the main sign of:
 - A Pyloric spasm
 - B Gastroenteritis
 - C Intestinal invagination
 - D Pyloric stenosis
 - E Dyskinesia of biliary tract

3. Vomiting is the sign of the different diseases including:
 - A Meningitis
 - B Pyloric stenosis
 - C Meconum ileus
 - D Pyloric spasm
 - E Everything is correct

4. Intestinal dyspepsia is characterized by all given below, except for:
 - A Fountain vomiting
 - B Diarrhea
 - C Constipation
 - D Meteorism
 - E Borborygmus

5. Acid smell of belching occurs in case of:
 - A Pyloric stenosis
 - B Dyskinesia of biliferous tracts
 - C Hyper acidosis (ulcer of gaster or duodenum)
 - D Esophagus spasm
 - E Diaphragmatic hernia

6. Gastric dyspepsia is characterized by all given below, except for:
 - A Belching
 - B Nausea
 - C Meteorism
 - D Vomiting

E Heartburn

7. The following symptoms are characterized by the pathology of gall bladder, except for:

- A** Kehr's symptom
- B** Murphy's symptom
- C** Orthner's symptom
- D** Kerning's symptom
- E** Mussy symptom

8. Heartburn is the sign of:

- A** Weakness of cardial sphincter
- B** Low gastric acidity
- C** Acute pancreatitis
- D** Esophagus spasm
- E** Pyloric stenosis

9. What gastrointestinal disturbance do hour-glass deformity sign indicate?

- A** Gastritis
- B** Gastric ulcer
- C** Pylorostenosis
- D** Gastroduodenitis
- E** Pylorospasm

10. What diseases are accompanied by constipation?

- A** Hirschsprung's disease (congenital megacolon)
- B** Spastic colitis
- C** Hypothyroidism
- D** Pylorostenosis
- E** Everything is correct

Tasks for control with answers.

Tasks 1

Girl 5 years, with the first year of life suffer from constipation, emptying the last year of 4-5 days, preferably after cleansing enema, self-defecation-rare, difficult, incomplete. Within 6 months of encopresis. In 3 years underwent an intestinal infection of unknown etiology. Mother suffers from constipation.

1. About how pathology can think of?
2. What additional data history required?
3. Do I have an additional laboratory studies?
4. In some cases the surgeon need advice?

5. Do I have a child to a colonoscopy?

Reply-child megadolihokolon. Chronic colitis in the acute stage. Enkoprez

Tasks 2

Patient., 16 y., syndrome “acute abdomen”. For the syndrome “acute abdomen” all enumerated bellow (Abdominal pain, frequently accompanied by shock, Vomiting, constipation and flatulence, Stomach knee position of patient with suffering expression on face, Expressed the symptoms of intoxication and dehydration, Shchotkin-Blumberg’s symptom is negative) are characteristic except?

Tasks 3

Patient., 14 y., abdominal pain. Which organ’s disease (Pancreas, Liver and billiary tracts, Small intestine, Large intestine, Stomach) causes the irradiation into the right arm and the scapula?

Tasks 4

Patient., 15 y., the generalized abdominal pain. About which (Gallstone disease, Gastritis, Peritonitis, Duodenitis, Pancreatitis) does it testify the generalized abdominal pain?

4. Summary
5. Recommended literature

Main:

1. Gupta Piyush. Clinical Methods in Ptdiatrics. 4th edition.- CBS Publishers & Distributors, 2018.- 669p.
2. Newell Simon J Darling Jonatan C. Paediatrics_9th ed._2015.-320 p.
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Digital information resources: Medscape.com

Practical Lesson № 30

Topic: Semiotics of defects of digestive organs and main diseases in infants (pylorospasm, pylorostenosis, malabsorption).

Aim: to know semiotics of defects of digestive organs and main diseases (gastritis, ulcer disease, cholecystitis, dyskinesia of biliary ways etc.) at children. Abdominal, hepatobiliary, intestinal, pain syndrome, syndrome of jaundice, cholestasis etc.

Basic concepts: In recent years in connection with the development of specialized medical care, as well as the successes of studying the digestive system, the large value of pediatric Gastroenterology. Results of research have brought increasing chronic diseases of the gastrointestinal tract noninfectious nature. This points to their significant increase in the structure of diseases in children. At the present stage, even the most modern equipment can not replace the experience, knowledge and skill, intuition, and clinical thinking of a doctor, which is based on complaints and history, right to conduct a clinical study of a child and needs a highly professional techniques and special approach.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students,

announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).

2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:

- Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
- Questions (tests, clinical situations) to check basic skills on the subject of the lesson.

3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):

- Content of tasks (tasks, clinical situations, etc.)
- Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
- Requirements for work results, including registration
- Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

In a study of children with pathology of the digestive system doctor must first thoroughly learn the complaints, which are mainly associated with diarrheal illness and pain.

The collection of patient history pay attention to the following: when and how onset, disease course, which was prescribed treatment and its effectiveness. Thoroughly analyzes the dynamics of subjective symptoms of the disease, compared with the data of objective inspection, which took place earlier (study the history of child development, extracts from case histories, health resort statement). For the opportunity to establish the reasons that caused the disease and its exacerbation and relapse. Discover the factors that caused the infection of the stomach and intestine, the effect of allergens (food, etc.), poisoning, the use of low-quality products, quality and quantity of chronic starvation. Pay attention to a history of giardiasis, helminthic infestations, fatigue and physical and mental trauma. If eating disorders are chronic in the first weeks or months after birth, it is necessary to think about congenital anomalies of digestive system, hereditary enzymopathii. Necessary to establish the child's individual reactions to certain foods, the influence of external habitat. Symptoms of the majority of developmental abnormalities of the liver and gallbladder are asymptomatic, some develop biliary dyskinesia, inflammatory changes, cholecystitis, symptoms of hepatitis, hepatomegaly, jaundice, cytolysis syndrome, possible volvulus of the gallbladder (signs of "acute abdomen"), splenic, gepatosplenalny regard to both the liver and spleen.

Questions for control

Semiotics of defeats digestive organs and main diseases (gastritis, ulcer disease,

cholecystitis, dyskinesia of biliary ways and others) in children.

Abdominal, hepatobiliary, intestinal, pain syndrome, syndrome of jaundice, cholestasis and other.

13. As indicated by complaints of pain that comes in the morning on an empty stomach and 1,5-2 hours after eating food at night?
14. How important are data indicating the nature of pain and their location?
15. At which disease epigastric pain stopped by use of food?
16. What importance to gastroenterology diagnosis, staging has a family history?
17. What factors depends on the possibility of ill ulcer duodenum?
18. Values of past diseases on diseases of the digestive system?
19. Importance of hereditary predisposition to diseases of the digestive system.
20. What causes children constipation and diarrhea?
21. Which pathology can be detected when viewed face, mouth, tongue?
22. At what disease appear a little thin and very dark discharge?
23. At that point the pain in the epigastric region, which occur after the use of acute and fried foods, overeating, use of carbonated water?
24. As indicated in the right upper quadrant pain, which radiates to right scapula and the lumbar region, nausea, vomiting is the reusable food, you ate?

Tests for control

1. Bulimia occurs in children during the below diseases, except for:
 - A Diabetes
 - B Acute appendicitis
 - C Brain tumor
 - D Insulinoma (tumor of pancreas)
 - E Dementia

2. Fountain vomiting in children of first months of life is the main sign of:
 - A Pyloric spasm
 - B Gastroenteritis
 - C Intestinal invagination
 - D Pyloric stenosis
 - E Dyskinesia of biliferous tracts

3. Vomiting is the sign of the different diseases including:
 - A Meningitis
 - B Pyloric stenosis
 - C Meconum ileus
 - D Pyloric spasm
 - E Everything is correct

4. Intestinal dyspepsia is characterized by all given below, except for:

- A Fountain vomiting
- B Diarrhea
- C Constipation
- D Meteorism
- E Borborygmus

5. Acid smell of belching occurs in case of:

- A Pyloric stenosis
- B Dyskinesia of biliferous tracts
- C Hyper acidosis (ulcer of gaster or duodenum)
- D Esophagus spasm
- E Diaphragmatic hernia

6. Gastric dyspepsia is characterized by all given below, except for:

- A Belching
- B Nausea
- C Meteorism
- D Vomiting
- E Heartburn

7. The following symptoms are characterized by the pathology of gall bladder, except for:

- A Kehr's symptom
- B Murphy's symptom
- C Orthner's symptom
- D Kerning's symptom
- E Mussy symptom

8. Heartburn is the sign of:

- A Weakness of cardial sphincter
- B Low gastric acidity
- C Acute pancreatitis
- D Esophagus spasm
- E Pyloric stenosis

9. What gastrointestinal disturbance do hour-glass deformity sign indicate?

- A Gastritis
- B Gastric ulcer
- C Pylorostenosis
- D Gastroduodenitis
- E Pylorospasm

10. What diseases are accompanied by constipation?

- A Hirschsprung's disease (congenital megacolon)
- B Spastic colitis

- C Hypothyroidism
- D Pylorostenosis
- E Everything is correct

Tasks for control with answers.

Tasks 1

Girl 5 years, with the first year of life suffer from constipation, emptying the last year of 4-5 days, preferably after cleansing enema, self-defecation-rare, difficult, incomplete. Within 6 months of encopresis. In 3 years underwent an intestinal infection of unknown etiology. Mother suffers from constipation.

6. About how pathology can think of?
7. What additional data history required?
8. Do I have an additional laboratory studies?
9. In some cases the surgeon need advice?
10. Do I have a child to a colonoscopy?

(Reply-child megadolihokolon. Chronic colitis in the acute stage. Enkoprez

Tasks 2

Patient., 16 y., syndrome “acute abdomen”. For the syndrome “acute abdomen” all enumerated bellow (Abdominal pain, frequently accompanied by shock, Vomiting, constipation and flatulence, Stomach knee position of patient with suffering expression on face, Expressed the symptoms of intoxication and dehydration, Shchotkin-Blumberg’s symptom is negative) are characteristic except?

Tasks 3

Patient., 14 y., abdominal pain. Which organ’s disease (Pancreas, Liver and billiary tracts, Small intestine, Large intestine, Stomach) causes the irradiation into the right arm and the scapula?

Tasks 4

Patient., 15 y., the generalized abdominal pain. About which (Gallstone disease, Gastritis, Peritonitis, Duodenitis, Pancreatitis) does it testify the generalized abdominal pain?

4. Summary
5. Recommended literature

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Addendum:

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Digital information resources: Medscape.com

Practical Lesson № 31

Topic: Semiotics of defects digestive organs and main diseases (gastritis, ulcer disease, cholecystitis, dyskinesia of biliary ways etc.) at elder children. Abdominal, hepatobiliary, intestinal, pain syndrome, syndrome of jaundice, cholestasis etc.

Aim: to know semiotics of defects digestive organs and main diseases (gastritis, ulcer disease, cholecystitis, dyskinesia of biliary ways etc.) at children. Abdominal, hepatobiliary, intestinal, pain syndrome, syndrome of jaundice, cholestasis etc.

Basic concepts: semiotics of defects digestive organs and main diseases (gastritis, ulcer disease, cholecystitis, dyskinesia of biliary ways etc.) at children. Abdominal, hepatobiliary, intestinal, pain syndrome, syndrome of jaundice, cholestasis etc.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
 - Requirements for work results, including registration
 - Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

In a study of children with pathology of the digestive system doctor must first thoroughly learn the complaints, which are mainly associated with diarrheal illness and pain.

The collection of patient history pay attention to the following: when and how onset, disease course, which was prescribed treatment and its effectiveness. Thoroughly analyzes the dynamics of subjective symptoms of the disease, compared with the data of objective inspection, which took place earlier (study the history of child development, extracts from case histories, health resort statement). For the opportunity to establish the reasons that caused the disease and its exacerbation and relapse. Discover the factors

that caused the infection of the stomach and intestine, the effect of allergens (food, etc.), poisoning, the use of low-quality products, quality and quantity of chronic starvation. Pay attention to a history of giardiasis, helminthic infestations, fatigue and physical and mental trauma. If eating disorders are chronic in the first weeks or months after birth, it is necessary to think about congenital anomalies of digestive system, hereditary enzymopathies. Necessary to establish the child's individual reactions to certain foods, the influence of external habitat. Symptoms of the majority of developmental abnormalities of the liver and gallbladder are asymptomatic, some develop biliary dyskinesia, inflammatory changes, cholecystitis, symptoms of hepatitis, hepatomegaly, jaundice, cytolysis syndrome, possible volvulus of the gallbladder (signs of "acute abdomen"), splenic, hepatosplenopathy regard to both the liver and spleen.

Questions for control

Semiotics of diseases of digestive organs and main diseases (gastritis, ulcer disease, cholecystitis, dyskinesia of biliary ways and others) in children. - Abdominal, hepatobiliary, intestinal, pain syndrome, syndrome of jaundice, cholestasis and other.

1. As indicated by complaints of pain that comes in the morning on an empty stomach and 1,5-2 hours after eating food at night?
2. How important are data indicating the nature of pain and their location?
3. At which disease epigastric pain stopped by use of food?
4. What importance to gastroenterology diagnosis, staging has a family history?
5. What factors depends on the possibility of ill ulcer duodenum?
6. Values of past diseases on diseases of the digestive system?
7. Importance of hereditary predisposition to diseases of the digestive system.
8. What causes children constipation and diarrhea?
9. Which pathology can be detected when viewed face, mouth, tongue?
10. At what disease appear a little thin and very dark discharge?
11. At that point the pain in the epigastric region, which occur after the use of acute and fried foods, overeating, use of carbonated water?
12. As indicated in the right upper quadrant pain, which radiates to right scapula and the lumbar region, nausea, vomiting is the reusable food, you ate?

Tests for control

1. Bulimia occurs in children during the below diseases, except for:
 - A Diabetes
 - B Acute appendicitis
 - C Brain tumor
 - D Insulinoma (tumor of pancreas)
 - E Dementia

2. Fountain vomiting in children of first months of life is the main sign of:

- A** Pyloric spasm
- B** Gastroenteritis
- C** Intestinal invagination
- D** Pyloric stenosis
- E** Dyskinesia of biliferous tracts

3. Vomiting is the sign of the different diseases including:

- A** Meningitis
- B** Pyloric stenosis
- C** Meconum ileus
- D** Pyloric spasm
- E** Everything is correct

4. Intestinal dyspepsia is characterized by all given below, except for:

- A** Fountain vomiting
- B** Diarrhea
- C** Constipation
- D** Meteorism
- E** Borborygmus

5. Acid smell of belching occurs in case of:

- A** Pyloric stenosis
- B** Dyskinesia of biliferous tracts
- C** Hyper acidosis (ulcer of gaster or duodenum)
- D** Esophagus spasm
- E** Diaphragmatic hernia

6. Gastric dyspepsia is characterized by all given below, except for:

- A** Belching
- B** Nausea
- C** Meteorism
- D** Vomiting
- E** Heartburn

7. The following symptoms are characterized by the pathology of gall bladder, except for:

- A** Kehr's symptom
- B** Murphy's symptom
- C** Orthner's symptom
- D** Kerning's symptom
- E** Mussy symptom

8. Heartburn is the sign of:

- A** Weakness of cardial sphincter

- B** Low gastric acidity
- C** Acute pancreatitis
- D** Esophagus spasm
- E** Pyloric stenosis

9. What gastrointestinal disturbance do hour-glass deformity sign indicate?

- A** Gastritis
- B** Gastric ulcer
- C** Pylorostenosis
- D** Gastroduodenitis
- E** Pylorospasm

10. What diseases are accompanied by constipation?

- A** Hirschsprung's disease (congenital megacolon)
- B** Spastic colitis
- C** Hypothyroidism
- D** Pylorostenosis
- E** Everything is correct

Tasks for control with answers.

Tasks 1

Girl 5 years, with the first year of life suffer from constipation, emptying the last year of 4-5 days, preferably after cleansing enema, self-defecation-rare, difficult, incomplete. Within 6 months of encopresis. In 3 years underwent an intestinal infection of unknown etiology. Mother suffers from constipation.

11. About how pathology can think of?
12. What additional data history required?
13. Do I have an additional laboratory studies?
14. In some cases the surgeon need advice?
15. Do I have a child to a colonoscopy?

(Reply-child megadolihokolon. Chronic colitis in the acute stage. Enkoprez)

Tasks 2

Patient., 16 y., syndrome "acute abdomen". For the syndrome "acute abdomen" all enumerated bellow (Abdominal pain, frequently accompanied by shock, Vomiting, constipation and flatulence, Stomach knee position of patient with suffering expression on face, Expressed the symptoms of intoxication and dehydration, Shchotkin-Blumberg's symptom is negative) are characteristic except?

Tasks 3

Patient., 14 y., abdominal pain. Which organ's disease (Pancreas, Liver and billliary

tracts, Small intestine, Large intestine, Stomach) causes the irradiation into the right arm and the scapula?

Tasks 4

Patient., 15 y., the generalized abdominal pain. About which (Gallstone disease, Gastritis, Peritonitis, Duodenitis, Pancreatitis) does it testify the generalized abdominal pain?

4. Summary

5. Recommended literature

Main:

1. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669p.
2. Newell Simon J Darling Jonatan C. Paediatrics_9thed._2015.-320p.
3. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
4. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
5. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.
6. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.- 2013.-782 pp.
8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
9. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

1. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.
2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
4. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. -

Wolters Kluwer Health.- 2015 -728pp.

5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical Lesson №32-33

Topic: A technique of examination of urinary system at children.

Aim: Study: basic APP structures and embryogenesis of US organs in children: buds, ureters, urinary bladder and urethra, sexual features of structure of urethra in different periods of childhood, technique of inspection of the urinary system in children.

Basic concepts: knowledge of basic APP of structure and embryogenesis of organs of the urinary system in children: kidneys, ureters, urinary bladder and urethra and sexual the feature of structure of urethra in different periods of childhood needed in future professional activity of future doctor and directed on forming of positive motivation, to the cognitive personal interest in relation to the study of this theme.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities,

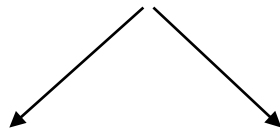
etc.)

- Requirements for work results, including registration
- Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

A role of US in the vital functions of child.

- Basic APP and embryogenesis of urinary system organs in children: kidneys, ureters, urinary bladder and urethra and sexual the feature of structure of urethra.
- Sexual features of structure of urethra in different periods of childhood.
- examine of nephrological patient.
- Independent mastering of practical skills of inspection of the urinary system of child students under a teacher control.

Graphology structure of study diagnostic of US disease



Basic APP and embryogenesis of urinary system organs in children: kidneys, ureters, urinary bladder analyses results of urinary system and urethra and sexual the feature of structure of urethra.
-Sexual features of structure of urethra in different periods of childhood

Can visual, examine, palpate, percuss & estimate analyses results

Materials of methodical software of the lesson.

The tasks for control

1. Peculiarity of structure lymphatic vessels of children's kidneys is: A-tie with lymphatic vessels of intestine; B-narrow clear space~ C-in differentiation of building; D-big clear space; E-bad development of the vessels wall.
2. Canaliculus proximalis is disposed in the:
A-cerebral kidney layer~ B-cortical kidney layer~ C-ureter~ D-pelvicis; E-caps.
3. The thin segment of nephron is disposed in the:
A-cortical layer of kidney~ B-on the border of cortical and medullar layers~ C-medullar layer of kidney~ D-pelvicis~ E-ureter.
4. Canaliculus distalis is disposed in the:

A-both cortical and cerebral layers; B-cortical layer of kidney; C-not cortical and not cerebral layers;D-medullar layer of kidney~ E-ureter.

5. What process does take place in kidney glomerulus?

A-dilution~ B-concentration~ C- filtration; D-secretion~ E-nothing from this.

6. In what part of nephron does the reabsorbition of water, kalium, natrium, chlorides, bicarbonats, glucose, phosphates and aminoacids take place? A-canalculus proximalis~ B-canalculus distalis~ C-loop of Henle; D-glomerulus; E-never.

7. In what part of nephron does the secretion of H⁺ and K⁺ and excretion of alien substances take place?

A -canalcul us proximalis; B-canalculus distalis; C -loop of Henle; D-glomerulus; E-nowhere.

8. Test of Macklur-Oldrich is signed:

A-state ot' kidney' s canalculus; B-state of kidney' s glomerulus; C-hydrofills of tissues~ D-function of kidney' s filtration.

9. Anuria is evidence ofthe:

A-pyelonephritis~ B-renal failure~ C-cystis; D:...uretritis.

10. What is determined in every test by Zimnitsky by analisis of urine? A-lecocytes of urine; 8-analisis for the revelation of flora; C-density of urine;

D- erythrocytes of urine; E- cylinders of urine.

11. How does the presence of the protein in urine over 0,002-0,006 g/l call? A-proteinuria; B-pyuria; C-bacteriuria; D-oliguria; E-pollaciuria.

12.For three -glasses test urine is collected :

A-in the morning , in the day-time, in the evening; B-in the beginning, in the middle and in the end of diuresis; C- in the morning three days one after the other; D-before the breakfast, during the breakfast and after the breakfast; E-right answer is absent.

13. The normal maintenante of erythrocytes by Kacovsky-Addise method:

A-2.000.000 per day; B-3.000.000 per day; C-1.000.000 per day; o-o-E-5.000.000 per day .

14.The normal reaction of urine is: A-sour; B-a faint-sour; C-an alkaline; O - a faint -alkaline; E-a neutral.

A. questions for control

1.-basic APP structures and embryogenesis of US organs in children: buds, ureters, urinary bladder and urethra, list of basic teratogens

2.-sexual features of structure of urethra in different periods of childhood

3. -technique of inspection of the urinary system in children.

B. Tests for control with the standards of answers.

1. Inferior kidney apex of newborn is situated on the level of :

A. 4-5 lumbar vertebrae~ B. 3-4 lumbar vertebrae~ C. 5 lumbar vertebrae ~ D. 12 thoracic vertebrae; E. crests of iliac bone .

2. Superior kidney apex of a newborn is situated on the level of:

A. 12 thoracic vertebrae~

B. 11 thoracic vertebrae and 1 lumbar vertebrae~ C. 11-12 thoracic vertebrae~

D. 1-2 lumbar vertebrae~

E. 2-3 lumbar vertebrae .

3. Lobularity of kidney is disappeared at:
A. to 1 year~ B. 1,5 years of age~ C. 10 2-4 years~ D. 10 6 years~ E. 10 5 years.
4. Histological peculiarities of kidneys of children are:
A. weak developmen1 of glomerulus~ B. weak development of convoluted tubules~ C. insufficien1 development of medullar layer. D. good development of distal tubules~ E. good development of renal cortex~
5. Volume of urinary bladder of a infant is:
A. 70 ml; B. 100m C C. 50 ml D/.80 ml; E.700ml.
6. Point the length of urethra of newborn boy:
A. 5-6 cm; B.6-7cm; C. 7-8 cm; 0.2-3 cm; E. 3-4 ct.
7. The length of urethra at pubertal girls is:
A. 6-7 cm; B. 3-5 cm; C. 7-8 cm; 0.8-9 cm; E. 5-6 ct.
8. How much part of liquid (including food) output take place from organism with urine for 24 hours:
A.600/0; B.40%; C.75%; 0.50%; E.300/0.
9. Relative osmotic density of urine of the 1 year child is:
A. 1005-1008; 8.1002-1004; C. 1008-1018; O. 1009-1019; E. 1010-1020.
10. Leucocyturia of a healthy child doesn't increase (in 1 тl of urine) in the Nechiporenko test:
A-5000; B-4000; C-2000;D-3000; E-I000.
11. Erythrocyturia of a healthy child doesn't increase in Nechiporenko test more than:
A-I000~ 8-5000~ C-4000~ o-3000~ E-2000.
12. How tany portion of urine are collected for the Zimnitsky test? A-I0~ B-8'C-2' D-6',E-3.
13. Active leucocytes are revealed in the urine test. Show more probable diseases for this case:
A-hydronephrosis~ B-glomerulonephritis~ C-pyelonephritis~ D-urine stone disease~ E-dublication of hidney.
14. What is the nikturia ? It is a :
A-frequently urination~ B-prevalence of the night diuresis over the day one~ C-increasing of urine secretion; D-prevalence of the day diuresis over the night one.
15. What can we think about if there is muddy appearance in the general urine test?
A-salts, bleeding~ 8-inflammation, bleeding; C-inflammation, salts~ D-normal urine is muddy.
16. Palpation of the kidneys is made by the methods of:
A-bimanual slippery palpation; B-bimanual palpation; C-superficial palpation;
D- slippery palpation;
- 19 Te symptom of Pasteratsky is used for analysis of presence of:
A- the fluid in the abdominal cavity~ B- the stretching of renal capsule; C-the level of the standing of bladder one the pubis~ D-edema of anterior abdominal partes~ E-edema of sacral part.
18. The quantitative definition of formed elements in urine is conducted by method:
A- of Zimnitsky; B- of Kassirsky~ C-of Nechiporenko~ D-bacteriologic~ E-biochemical.
19. Zimnitsky' s test characterizes:

A-the volume function of kidneys~ B-the concentration function of kidneys~ C-the function of every kidney~

D-the quantity of daily proteinuria~ E-the quality of bacteriuria.

20. The result of urine analysis to bacteriuria will more reliable, if the urine to make:

A-analogous to Amburge's test; B-analogous to Cacovsky-Addis's test~ C- by cateter; B- like general urine analysis~ E- analogous to Zimnitsky' s test .

21. Clearance of endogenous creatinine is inversely proportional to:

A-Height~ B -the level of creatininum in the blood~ C-the level of creatininum in the urine; D- the relative urine density~E-the momentary diuresis.

22. The water reabsorption by tubule renalis is researched by method: A-biochemical; B- calculation by formula; C-calorimetric~ D-of X -ray examination.

23. Amburge's test is quantity of leucocytes and erythrocytes:

A-in 1 ml of urine; 8-in 1000 ml; C- during 1 min; 0- during 1 day; E- during 6 hours.

24. Daily diuresis by Zimnitsky's analysis of urine is:

A-from 6.00 to 12.00; 8- from 9.00 to 18.00; C-from 6.00 to 18.00; D-from 6.00 to 24.00; E-from 9.00 to 21.00.

25. The indication to the kidney' s angiography is:

A -steadfast leucocyturia; 8- steadfast hypostenuria; C- steadfast arterial hypertension; D- recidivated diuresis; F - steadfast hyperstenuria.

26. The pain over the pubis with irradiation to the perineum is revealed by the :

A-acute cystitis; 8-acute pyelonephritis; C-chronical pancreatitis; D-glomerulonephritis.

27. The urine which has color of "meat slops", is the sign of the:

A-acute renal insufficiency; B-acute glomerulonephritis; C-pyelonephritis; 0- cystitis E-chronic renal failure.

28. Oliguria is appeared by the:

A-cystitis~8- chronical pyelonephritis; C-terminal stage of chronical renal failure; 0-chronical glomerulonephritis~ E- dismetabolic nephropatia.

29. Oliguria is decrease of daily quantity of urine to:

A-200-400ml; 8-100-250ml; C-300-350ml; D-50-70ml' E-400-500ml.

30 . Anuria is the decrease of daily quantity of urine to:

A-100-150ml; 8-50-100ml; C-30-50ml' D-50-70ml' E-70-100ml.

31. The organized sediments of urine consist of:

A-the formed blood elements, cylinders~ 8-the crystals of salts and cylinders; C- epithelial cells and urates D- the leucocytes and medicinal substances~ E-the blood formed elements and urates.

32. Proteinuria and hematuria is characteristic for such diseases as:

A-thrombocytopenic purpura~ B- glomerulonephritis and urinary stone disease; C- glomerulonephritis; D- pyelonephritis~E-cystitis.

33. Leucocyturia is typical for the following diseases:

A-cystitis and pyelonephritis~ B -glomerulonephritis ~ C- urinostone disease~D- cystitis~ E-syndrom of Alport.

34. Bacteriuria having more 100000 microbe bodies in 1 ml of urine is a sign of:

A - urinostone disease~ B- pyelonephritis~ c- pregnancy~ D- glomerulonephritis~ E- toxicosis with pneumonia.

35. Increase of area of the cap-pelvic system by roentgenography is observed by:

A -hydrotoraxis ~ B-pyonephrosis~ c- hydronephrosis~ D-pyelonephrosis ~
E- glomerulonephritis.

36. Nechiporenko test is definition of amount of formed urine elements in:

A-100ml of urine~ B-1 per minute~ C-1000ml of urine~ 0- 24 hours~ E- 6 hours.

37. The length of boys urethra during the sexual development is:

A-5-6cm', B-10-12cm', D-12-15cm', E-21-25cm.

38. What amount of urine is secreted by the baby of 5 years old in 24 hours ?

A-1200ml~ B-1300ml~ C-3900ml~ D-800ml~E-700ml.

39. The diameter of the children's ureter as compared with adult one is:

A-smaller~ B-bigger~ C-the same.

40. Anatomical peculiarities of kidney's tubules of a newborn are:

A-longer and more narrow~ B-longer and wider~ C-shorter and more narrow~ D-
shorter and wider~ E-without difference.

B. Tasks for control with answers

Task 1

Mother with 5 months son advice to the doctor with complains : fever 38 degrees, dyspepsia 7 times per day, frequent and painful urination. In the blood analyze amount of Leukocytes – 9.0 G/l, band neutrophils –10%, segmental – 47%, lymphocytes -32%. In urine analyze - amount of Leukocytes –17 in the field of vision, protein –0,33%o.

What system is damaged? Estimate the laboratory signs. What disease does baby suffer? What the additional methods of examinations are necessary prescribe to diagnostic? Write its changes. Which peculiarity of kidney lymphatic vessels lead to intestinal disorders?

Task 2

Mother with 5 months son suffered from chronic pyelonephritis with hypertonia and congenital anomaly of kidneys advice to the doctor for ultrasound examination . The lobular kidneys was found.

At what age the lobular structure of kidneys disappear? What the additional methods of examinations are necessary prescribe to diagnostic? Write its changes. Indications to the kidney angiography.

Task 3

Baby of 7 years suffer from glomerulonephritis. Clinical symptoms are edema and hypertonia. For treatment we have to calculate the amount of liquid taken by baby per day and night.

What is the amount of liquid excreted with urine? Write indication & contraindication to excretory urography?

Task 4

Proteinuria was found in urine analysis of 2 months girl. Lower pole of kidneys were palpable at lower than level of iliac crest.

In this age, what should be the normal level of lower poles of kidneys? Semiotics of proteinuria.

Task 5

12 years baby has complains : pain in abdomen from both sides which increases on

physical overload. On percussion, the symptom of Pasternatsky is found positive.

What testify about the positive symptom of Pasternatsky? Plan of baby examination.

4. Summary

5. Recommended literature

Main:

1. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669p.
2. Newell Simon J Darling Jonatan C. Paediatrics_9th ed._2015.-320 p.
3. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
4. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.
5. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. –468 p.
6. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.- 2013.-782 pp.
8. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.
9. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.
10. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.
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Addendum:

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5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical Lesson № 34

Topic: Semiotics of most wide-spread diseases of urinary system at children. Syndromes of acute and chronic renal insufficiency. Semiotics of microscopic changes of urinary deposits (proteinuria, erythrocyturia, leucocyturia, cilindruria etc.).

Aim: to acquaint with the role of US in the vital functions of child. To learn the basic kidney syndromes (urinary, hypertension, edematous, abdominal, disuric) and clinic – laboratory semiotics of the most frequent diseases of the urinary system (infection of urinary ways, pyelonephritis, glomerulonephritis).

Basic concepts: the basic kidney syndromes (urinary, hypertension, edematous, abdominal, disuric) and clinic – laboratoric semiotics of the most frequent diseases of the urinary system (infection of urinary ways, pyelonephritis, glomerulonephritis), technique of inspection of the urinary system of children and semiotics of the most widespread diseases of the urinary system of children and semiotics of microscopic changes of urinary sediment

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
 - Requirements for work results, including registration
 - Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

Questions for control

- -semiotics of microscopic changes of urinary sediment
- the basic kidney syndromes (urinary, hypertension, edematous, abdominal, disuric)
- clinic – laboratoric semiotics of the most frequent diseases of the urinary system (infection of urinary ways, pyelonephritis, glomerulonephritis)

Tests for control with the standards of answers.

- 8. How much part of liquid (including food) output take place from organism with urine for 24 hours:
 - A.600/0; B.40%; C.75%; D.50%; E.300/0.
- 9. Relative osmotic density of urine of the 1 year child is:
 - A. 1005-1008; B.1002-1004; C. 1008-1018; D. 1009-1019; E. 1010-1020.
- 10. Leucocyturia of a healthy child doesn't increase (in 1 ml of urine) in the Nechiporenko test:
 - A-5000; B-4000; C-2000;D-3000; E-1000.
- 11. Erythrocyturia of a healthy child doesn't increase in Nechiporenko test more than:
 - A-1000~ B-5000~ C-4000~ D-3000~ E-2000.
- 12. How many portion of urine are collected for the Zimnitsky test? A-10~ B-8'C-2' D-6',E-3.
- 13. Active leucocytes are revealed in the urine test. Show more probable diseases for this case:
 - A-hydronephrosis~ B-glomerulonephritis~ C-pyelonephritis~ D-urine stone disease~ E-duplication of kidney.
- 14. What is the nycturia ? It is a :
 - A-frequently urination~ B-prevalence of the night diuresis over the day one~ C-increasing of urine secretion; D-prevalence of the day diuresis over the night one.
- 15. What can we think about if there is muddy appearance in the general urine test?
 - A-salts, bleeding~ B-inflammation, bleeding; C-inflammation, salts~ D-normal urine is muddy.
- 16. Palpation of the kidneys is made by the methods of:
 - A-bimanual slippery palpation; B-bimanual palpation; C-superficial palpation;
 - D- slippery palpation;
- 17. The symptom of Pasternatsky is used for analysis of presence of:
 - A- the fluid in the abdominal cavity~ B- the stretching of renal capsule; C-the level of the standing of bladder one the pubis~ D-edema of anterior abdominal part~ E-edema of sacral part.
- 18. The quantitative definition of formed elements in urine is conducted by method:
 - A- of Zimnitsky; B- of Kassirsky~ C-of Nechiporenko~ D-bacteriologic~ E-biochemical.
- 19. Zimnitsky' s test characterizes:
 - A-the volume function of kidneys~ B-the concentration function of kidneys~ C-

the function of every kidney~

- D-the quantity of daily proteinuria~ E-the quality of bacteriuria.
- 20. The result of urine analysis to bacteriuria will be more reliable, if the urine is made:
 - A-analogous to Amburge's test; B-analogous to Caccovsky-Addis's test~ C- by catheter; B- like general urine analysis~ E- analogous to Zimnitsky's test .
- 21. Clearance of endogenous creatinine is inversely proportional to:
 - A-Height~ B -the level of creatinine in the blood~ C-the level of creatinine in the urine; D- the relative urine density~E-the momentary diuresis.
- 22. The water reabsorption by tubule renalis is researched by method: A- biochemical; B- calculation by formula; C-calorimetric~ D-of X-ray examination.
- 23. Amburge's test is quantity of leucocytes and erythrocytes:
 - A-in 1 ml of urine; B-in 1000 ml; C- during 1 min; D- during 1 day; E- during 6 hours.
- 24. Daily diuresis by Zimnitsky's analysis of urine is:
 - A-from 6.00 to 12.00; B- from 9.00 to 18.00; C-from 6.00 to 18.00; D-from 6.00 to 24.00; E-from 9.00 to 21.00.
- 25. The indication to the kidney's angiography is:
 - A -steadfast leucocyturia; B- steadfast hyposthenuria; C- steadfast arterial hypertension; D-recidivated diuresis; E - steadfast hypersthenuria.
- 26.The pain over the pubis with irradiation to the perineum is revealed by the :
 - A-acute cystitis; B-acute pyelonephritis; C-chronical pancreatitis; D-glomerulonephritis.
- 27. The urine which has color of "meat slops", is the sign of the:
 - A-acute renal insufficiency; B-acute glomerulonephritis; C-pyelonephritis; D-cystitis E- chronic renal failure.
- 28. Oliguria is appeared by the:
 - A-cystitis~B- chronic pyelonephritis; C-terminal stage of chronic renal failure; D- chronic glomerulonephritis~ E- dismetabolic nephropatia.
- 29. Oliguria is decrease of daily quantity of urine to:
 - A-200-400ml; B-100-250ml; C-300-350ml; D-50-70ml' E-400-500ml.
- 30 . Anuria is the decrease of daily quantity of urine to:
 - A-100-150ml; B-50-100ml; C-30-50ml' D-50-70ml' E-70-100ml.
- 31. The organized sediments of urine consist of:
 - A-the formed blood elements, cylinders~ B-the crystals of salts and cylinders;C-epithelial cells and urates D- the leucocytes and medicinal substances~ E-the blood formed elements and urates.
- 32. Proteinuria and hematuria is characteristic for such diseases as:
 - A-thrombocytopenic purpura~ B- glomerulonephritis and urinary stone disease; C-glomerulonephritis; D- pyelonephritis~E-cystitis.
- 33. Leucocyturia is typical for the following diseases:
 - A-cystitis and pyelonephritis~ B -glomerulonephritis ~ C- urinestone disease~D-cystitis~ E-syndrom of Alport.
- 34. Bacteriuria having more 100000 microbe bodies in 1 ml of urine is a sign of:
 - A - urinestone disease~ B- pyelonephritis~ C- pregnancy~ D- glomerulonephritis~

- E- toxicosis with pneumonia.
- 35. Increase of area of the cap-pelvic system by roentgenography is observed by:
 - A -hydrotoraxis ~ B-pyonephrosis~ c- hydronephrosis~ D-pyelonephrosis ~
 - E- glomerulonephritis.
- 36. Nechiporenko test is definition of amount of formed urine elements in:
 - A-100ml of urine~ B-1 per minute~ C-1000ml of urine~ 0- 24 hours~ E- 6 hours.
- 37. The length of boys urethra during the sexual development is:
 - A-5-6cm' , B-10-12cm' , D-12-15cm' , E-21-25cm.
- 38. What amount of urine is secreted by the baby of 5 years old in 24 hours ?
 - A-1200ml~ B-1300ml~ C-3900ml~ D-800ml~E-700ml.
- 39. The diameter of the children's ureter as compared with adult one is:
 - A-smaller~ B-bigger~ C-the same.
- 40. Anatomical peculiarities of kidney's tubules of a newborn are:
 - A-longer and more narrow~ B-longer and wider~ C-shorter and more narrow~ D-shorter and wider~ E-without difference.
- 42. Canaliculus proximalis is disposed in the:
 - A-cerebral kidney layer~ B-cortical kidney layer~ C-ureter~ D-pelvicis; E-caps.
- 44. Canaliculus distalis is disposed in the:
 - A-both cortical and cerebral layers; B-cortical layer of kidney; C-not cortical and not cerebral layers;D-medullar layer of kidney~ E-ureter.
- 48. Test of Macklur-Oldrich is signed:
 - A-state of kidney's canaliculus; B-state of kidney's glomerulus; C-hydrofills of tissues~ D-function of kidney's filtration.
- 49. Anuria is evidence of the:
 - A-pyelonephritis~ B-renal failure~ C-cystitis; D:...urethritis.
- 50. What is determined in every test by Zimnitsky by analysis of urine? A-leucocytes of urine; B-analysis for the revelation of flora; C-density of urine;
 - D- erythrocytes of urine; E- cylinders of urine.
- 51. How does the presence of the protein in urine over 0,002-0,006 g/l call? A-proteinuria; B-pyuria; C-bacteriuria; D-oliguria; E-pollaciuria.
- 52. For three -glasses test urine is collected :
 - A-in the morning , in the day-time, in the evening; B-in the beginning, in the middle and in the end of diuresis; C- in the morning three days one after the other; D-before the breakfast, during the breakfast and after the breakfast; E-right answer is absent.
- 53. The normal maintenance of erythrocytes by Cacovsky-Addise method:
 - A-2.000.000 per day; B-3.000.000 per day; C-1.000.000 per day; D-5.000.000 per day .
- 54. The normal reaction of urine is: A-sour; B-a faint-sour; C-an alkaline; D - a faint -alkaline; E-a neutral.
- **Tasks for control with answers**
- Task 1
 - Mother with 5 months son advice to the doctor with complains : fever 38 degrees, dyspepsia 7 times per day, frequent and painful urination. In the blood

analyze amount of Leukocytes – 9.0 G/l, band neutrophils –10%, segmental – 47%, lymphocytes –32%. In urine analyze - amount of Leukocytes –17 in the field of vision, protein –0,33%o.

- What system is damaged? Estimate the laboratory signs. What disease does baby suffer? What the additional methods of examinations are necessary prescribe to diagnostic? Write its changes. Which peculiarity of kidney lymphatic vessels lead to intestinal disorders?
- Task 2
- Mother with 5 months son suffered from chronic pyelonephritis with hypertonia and congenital anomaly of kidneys advice to the doctor for ultrasound examination . The lobular kidneys was found.
- At what age the lobular structure of kidneys disappear? What the additional methods of examinations are necessary prescribe to diagnostic? Write its changes. Indications to the kidney angiography.
- Task 3
- Baby of 7 years suffer from glomerulonephritis. Clinical symptoms are edema and hypertonia. For treatment we have to calculate the amount of liquid taken by baby per day and night.
- What is the amount of liquid excreted with urine? Write indication & contraindication to excretory urography?
- Task 4
- Proteinuria was found in urine analysis of 2 months girl. Lower pole of kidneys were palpable at lower than level of iliac crest.
- In this age, what should be the normal level of lower poles of kidneys? Semiotics of proteinuria.
- Task 5
- 12 years baby has complains : pain in abdomen from both sides which increases on physical overload. On percussion, the symptom of Pasternatsky is found positive.
- What testify about the positive symptom of Pasternatsky? Plan of baby examination.

4. Summary

5. Recommended literature

Main:

7. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.- 669p.
8. Newell Simon J Darling Jonatan C. Paediatrics_9thed._2015.-320 p.
9. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
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11. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.
12. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
7. Partha, s Fundamentals of Pediatrics. Ajanta offset & Packagings Ltd., New Delhi.- 2013.-782 pp.
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11. Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

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5. Essential pediatrics. O.P. Ghai, MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com

Practical Lesson № 35-36

Topic: A technique of examination and semiotics of syndromes, diseases of thyroid and parathyroid glands, pancreas, epiphysis, hypophysis and adrenal glands in children.

Aim: To know structure of diseases of thyroid and parathyroid glands. methods of clinical examination of thyroid and parathyroid glands for children structure of diseases of pancreas; methods of clinical examination of pancreas for children structure of diseases of epiphysis, hypophysis and adrenal glands. methods of clinical inspection of epiphysis, hypophysis and adrenal glands for children.

Basic concepts: An examination is begun with complaints, necessarily their division for to the systems. Anamnesis of disease, anamnesis of life, is conducted for to the scheme.

The objective inspection of child includes an examination, palpation, results of paraclinical investigation). The estimation of the state sick is needed for determination of volume and order of conducting of medical measures, expedience of hospitalization, additional laboratory instrumental methods of investigation on this stage of disease.

Equipment: stethoscope, pulse oximeter.

Plan:

6. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
7. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
8. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)
 - Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
 - Requirements for work results, including registration
 - Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

Questions

1. Hormones of pancreas and their function.
2. Clinical and paraclinical changes at diabetes mellitus.
3. Hyperrglycemia and hypoglycemia.
4. Clinical and paraclinical changes at the disorders of epiphysis, hypophysis and adrenal glands.
5. Semiotics of disorders of epiphysis, hypophysis and adrenal glands

B. Tests for self-control with standards answers.

1. Basic hormones of thyroid gland are all, except:

- A. thyroxin
 - B. triiodothyronine
 - C. thyreocalcitonine
 - Д. thyreotropic hormone
 - E. serotonin
2. B-cells of thyroid secreting:
- A. serotonin
 - B. calcitonine
 - C. thyroxin
 - Д. triiodothyronine
 - E. all of answers
3. Clinical criteria of diabetes mellitus is all, except for:
- A. polyphagia
 - B. polydipsia
 - C. polyuria
 - Д. hypospasia
 - E. neurodermite
4. To clinical-paraclinical display of hyperglycemia is taken all, except for:
- A. glucosuria
 - B. acetonuria
 - C. low blood pressure
 - Д. polyuria
 - E. high blood pressure
5. Nanism - the state when size of growth is smaller then:
- A - 2 centile
 - B - 3 centile
 - C - 4 centile
 - Д - 5 centile
 - E - 1 centile
6. For Adisson's disease characteristic signs, except for:
- A - adynamia
 - B - pigmentation
 - C – hypotension
 - Д - decline of weight
 - E - gynecomasty

Answers to the tests:

1.D; 2.A, 3.D 4.E 5.A 6.E

4. Summary

5. Recommended literature

Main:

13. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.- 669 p.
14. Newell Simon J Darling Jonatan C. Paediatrics_9th ed._2015.-320 p.
15. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.
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17. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.
18. Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.
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Digital information resources: Medscape.com

Practical Lesson № 37-38

Topic: A technique of examination and semiotics of syndromes, diseases of pancreas at

children

Aim: to master the general rules of examination of endocrine system in children

Basic concepts: to know - structure of diseases of thyroid and parathyroid glands, methods of clinical examination of thyroid and parathyroid glands for children, structure of diseases of pancreas; methods of clinical examination of pancreas for children, structure of diseases of epiphysis, hypophysis and adrenal glands, methods of clinical inspection of epiphysis, hypophysis and adrenal glands for children.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
- 2.

Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:

- Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
- Questions (tests, clinical situations) to check basic skills on the subject of the lesson.

3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):

- Content of tasks (tasks, clinical situations, etc.)
- Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
- Requirements for work results, including registration
- Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

Materials for control quality:

A. Questions

1. Hormones of pancreas and their function.
2. Clinical and paraclinical changes at diabetes mellitus.
3. Hyperrglycemia and hypoglycemia.

4. Clinical and paraclinical changes at the disorders of epiphysis, hypophysis and adrenal glands.
5. Semiotics of disorders of epiphysis, hypophysis and adrenal glands

B. Tests for self-control with standards answers.

1. Basic hormones of thyroid gland are all, except:
 - A. thyroxin
 - B. triiodothyronine
 - C. thyreocalcitonine
 - Д. thyreotropic hormone
 - E. serotonin
2. B-cells of thyroid secreting:
 - A. serotonin
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 - A. polyphagia
 - B. polydipsia
 - C. polyuria
 - Д. hypospasia
 - E. neurodermite
4. To clinical-paraclinical display of hyperglycemia is taken all, except for:
 - A. glucosuria
 - B. acetonuria
 - C. low blood pressure
 - Д. polyuria
 - E. high blood pressure
5. Nanism - the state when size of growth is smaller then:
 - A - 2 centile
 - B - 3 centile
 - C - 4 centile
 - Д - 5 centile
 - E - 1 centile
6. For Adisson's disease characteristic signs, except for:
 - A - adynamia
 - B - pigmentation
 - C – hypotension
 - Д - decline of weight
 - E - gynecomasty

Answers to the tests:

1.D; 2.A, 3.D 4.E 5.A 6.E

4. Summary
5. Recommended literature

Main:

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Digital information resources: Medscape.com

Practical Lesson № 39-40

Topic: Check up of practical skills. Exam.

Aim: Common aims: master the practical skills of examining organs and systems in children according to the algorithms of OSCE 1 on pediatric propaedeutics.

Educational aims: are related to the formation of a professionally significant substructure of personality;- topical aspects of deontological, environmental, legal, psychological, patriotic, professional responsibility, etc Current tasks: algorithms OSCE -1 on propedeutics of Pediatrics;

methods of examination of the child by an inspection, palpation, percussion, auscultation; interpretation of the results of laboratory and instrumental methods of examination. On the basis of theoretical knowledge. Students should be able to demonstrate the methods of examining a child according to the algorithms of OSCE-1 on pediatric propaedeutics.

Basic concepts: Objective Structured Clinical Examination (OSCE) is a modern type of assessment of students' knowledge and practical skills. It is designed to test students' mastering of clinical proficiency and competencies that cannot be assessed by other traditional forms of examinations. OSCE is an integral part of the State Attestation of applicants for a higher education degree - Master in specialties of the branch of knowledge - 22 "Healthcare", specialty 222 "Medicine". Training for an objective structured clinical examination (hereinafter referred to as OSCE-1) - working out practical skills and mastering of the OSCE algorithms - is aimed at mastering clinical skills by students after completing the study of pediatric propaedeutics and acquiring professional competencies at ONMedU.

Equipment: stethoscope, pulse oximeter.

Plan:

1. Organizational events (greetings, verification of present students, announcement of the current topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, test, frontal survey, etc.), if necessary:
 - Requirements for theoretical readiness of students to perform practical lessons (knowledge requirements, list of didactic units);
 - Questions (tests, clinical situations) to check basic skills on the subject of the lesson.
3. Formation of professional skills and abilities (mastery skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
 - Content of tasks (tasks, clinical situations, etc.)

- Recommendations (instructions) for the performing tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.)
- Requirements for work results, including registration
- Control materials for the final stage of the lesson: problems, assignments, tests, etc. (if necessary).

№	The main tasks	Instructions	Answers
1	study: of practical skills 1) Taking the history (anamnesis) in children 2) Evaluation of the general condition (status) of a child 3) Examination of neonate 4) Evaluation of growth using percentile tables and z-scores 5) Examination of a psychomotor development of a child 6) To draw up a menu to healthy child of the 1-st year of life (infant) 7) To make a control feeding of the child of the 1-st year of life 8) To draw up a menu to healthy child of the 1-3 years of life (toddler) 9) Taking the history of the disease at sick child and his parents 10) Examination of nervous system 11) Examination of I-XII pairs of cranial nerves 12) Check-up of tedious reflexes, sensitivity 13) Evaluating of vegetative nervous system 14) Evaluating of coordination 15) Check-up the meningeal irritation signs in children 16) Check-up of pathological reflexes 17) Instrumental and laboratory methods of nervous system examining 18) Interpretation of cerebrospinal fluid test 19) Examination of the skin and mucous of a child 20) Examination of subcutaneous fat of a child 21) Palpation of subcutaneous fat of a child 22) Evaluating of low body weight and obesity 23) Examination of bones and muscular system of a child 24) Examination of oral cavity and teeth. Teeth	To study the recommended literature section Appendix 1	See Recommended literature Pages Appendix 1

formula.

- 25) Palpation of muscles and bones
- 26) Evaluation of fontanel
- 27) Evaluation of constitution of a child
- 28) Test on increased muscle irritability
- 29) Evaluating of muscle tonus
- 30) Evaluating of hip joint dysplasia
- 31) Examination of respiratory system
- 32) Calculating the respiratory rate
- 33) The palpation of the chest in a child with respiratory diseases
- 34) Comparative percussion of lungs in children
- 35) Topographical percussion of lungs in children
- 36) The percussion features of bronchoadenitis
- 37) Lung auscultation
- 38) Interpretation of auscultative phenomena
- 39) Interpretation of spirometry
- 40) Examination of cardio-vascular system
- 41) Checking out the pulse and arterial pressure in children and their rating according to age
- 42) Palpation of apex and cardiac beat
- 43) Palpation of vessels
- 44) The determination of relative and absolute borders cardiac dullness in children and their rating according to age
- 45) Taking blood pressure in children
- 46) Auscultation of the heart
- 47) Check-up for sings of heart failure
- 48) Interpretation of ECG
- 49) Examination of blood system
- 50) Bones percussion in children with diseases of blood
- 51) Evaluation of the blood test in healthy children of different age
- 52) Examination of digestive system
- 53) Superficial and deep palpation of abdomen
- 54) Palpation of liver in children
- 55) Palpation of spleen
- 56) Percussion and auscultation of abdomen
- 57) Palpation-percussion signs of appendicitis
- 58) Palpation-percussion signs of cholecystitis
- 59) Palpation-percussion signs of gastroduadenitis
- 60) Palpation-percussion signs of pancreatitis

- 61) Evaluating of stool according to Bristol score
- 62) Examination of urinary system
- 63) Palpation of kidneys and the urinary bladder in children. Pasternatsky's symptom
- 64) Percussion of urinary bladder
- 65) Interpretation of urinary tests
- 66) Inspection and palpation of thyroid gland, determining sings of hypo- and hyper- function
- 67) Determining sings of parathyroid gland hypo- and hyper- function
- 68) Determining sings diabetes mellitus
- 69) Determining sings of adrenal gland hypo- and hyper- function
- 70) Evaluation of the sexual development of a child

Inspection and palpation of lymphatic nodes.

- 2 Be able to: Practical skills of OSKE in pediatric propaedeutics
 1. History taking of the child and his or her parents
 2. Assessment of physical development of an infant using z-score charts for body length, body weight and body mass index to age
 3. Assessment of physical development of an older child using graphs of the centile distribution of anthropometric indicators
 4. Breastfeeding Assessment: Maternal and infant body position during breastfeeding, infant attachment to mother's breast
 5. Methods of examination and assessment of the state of the nervous system in the newborn baby: behavior, muscle tone, transient reflexes of the newborn
 6. Methods for examination and assessment of meningeal symptoms in a first-year child and a child older than 1 year
 7. Completing and assessing the diet of a healthy baby in the first year of life
 8. Interpretation of blood pressure measurement results in a child
 9. Interpretation of complete blood count results in a child.
 10. Interpretation of urinalysis results in a child
Interpretation of 24-hour urine specific gravity test

results in a child

Appendix 1
Practical skills of OSCE
(Propaedeutics pediatrics)

1. History taking of the child and his or her parents
2. Assessment of physical development of an infant using z-score charts for body length, body weight and body mass index to age
3. Assessment of physical development of an older child using graphs of the centile distribution of anthropometric indicators
4. Breastfeeding Assessment: Maternal and infant body position during breastfeeding, infant attachment to mother's breast
5. Methods of examination and assessment of the state of the nervous system in the newborn baby: behavior, muscle tone, transient reflexes of the newborn
6. Methods for examination and assessment of meningeal symptoms in a first-year child and a child older than 1 year
7. Completing and assessing the diet of a healthy baby in the first year of life
8. Interpretation of blood pressure measurement results in a child
9. Interpretation of complete blood count results in a child
10. Interpretation of urinalysis results in a child
11. Interpretation of 24-hour urine specific gravity test results in a child

Algorithm

for assessing growth of the child during first year of life considering a child's age and measurements (length, weight and body mass index) together using standard deviation (z-score) charts and the "Interpreting growth indicators" table according to the "Clinical protocol of medical care for a healthy child under 3 years of age", approved by the order of the Ministry of Health of Ukraine dated 20.03.2008. No. 149

№	Actions	Options of assessment of growth indicators
1	Greet the mother and explain what you are going to do	
2	- Plot the dot on the point of intersection of length line (horizontal line) and age line (vertical line) on the appropriate z-score chart. - Connect adjacent points with a straight line on the chart (build a curve to identify trends in a child's	

	growth)			
3	Identify and say on which z-score line (or "track" between the lines) the dot representing length-for-age is located.	0 - +2δ	Above +2δ	Above +3δ
		0 - -2δ	Below -2δ	Below -3δ
4	Describe child's length-for-age in terms of z-scores.	Very tall		
		Normal		
		Stunted		
		Severely stunted		
5	- Plot the dot on the point of intersection of weight line (horizontal line) and age line (vertical line) on the appropriate z-score chart. - Connect adjacent points with a straight line on the chart (build a curve to identify trends in a child's growth)			
6	Identify and say on which z-score line (or "track" between the lines) the dot representing weight-for-age is located.	0 - +2δ	Above +2δ	Above +3δ
		0 - -2δ	Below -2δ	Below -3δ
7	Describe child's weight-for-age in terms of z-scores.	Assess weight-for-length/height or BMI-for-age for final conclusion		
		Normal		
		Underweight		
		Severely underweight		
8	Use the calculator to determine child's body mass index (BMI) and announce the result	BMI is calculated as follows: BMI (kg / m²) = Body Weight (kg): Height (m): Height (m)		
9	- Plot the dot on the point of intersection of BMI line (horizontal line) and age line (vertical line) on the appropriate z-score chart. -Connect adjacent points with a straight line on the chart (build a curve to identify trends in a child's growth)			

10	Identify and say on which z-score line (or "track" between the lines) the dot representing BMI-for-age is located.	0 - +1δ	Above +1δ	Above +2δ	Above +3δ
		0 - -1δ	Below -1δ	Below-2δ	Below -3δ
11	Describe child's BMI-for-age in terms of z-scores.	The risk of overweight		Overweight	Obese
		Normal			
		Wasted		Severely	
12	Identify trends in a child's growth for each indicator on recorded z-score charts and tell the result.	Normal (parallel to the median and z-score lines)	Sharp incline in growth line	Sharp decline in growth line	The child's growth line remains flat (stagnant)
13	Thank the mother				

Interepretation of standard deviations of physical development

Z-score	Growth indicators			
	Length/height-for-age	Weight-for-age	Weight-for-length/height	BMI-for-age
Above 3	Very tall	Assess weight-for-length/height or BMI-for-age for final conclusion	Obese	Obese
Above 2	Normal		Overweight	Overweight
Above 1	Normal		Possible risk of overweight	Possible risk of overweight
0 (median)	Normal	Normal	Normal	Normal
Below -1	Normal	Normal	Normal	Normal
Below -2	Stunted	Underweight	Wasted	Wasted
Below -3	Severely stunted	Severely underweight	Severely wasted	Severely wasted

Correct breastfeeding assessment algorithm: positioning of mother and baby and attachment of baby to the breast

№	Actions	Possible variants of answers	
		Signs that breastfeeding is going well	Signs of possible breastfeeding difficulty
1.	<ul style="list-style-type: none"> - Greet the mother - Ask if she doesn't mind you watching her breastfeeding the baby - Explain why it is necessary 	<ul style="list-style-type: none"> - Good afternoon! - Don't you mind me watching you feeding your baby? - I'll observe how you do it to find out if you need my help 	
Assessment of mother's and baby's body position			
2.	<ul style="list-style-type: none"> - Ask: Are you sitting / lying comfortable? - Assess mother's body 	<ul style="list-style-type: none"> - Yes, I'm comfortable - Mother relaxed and comfortable [sitting or 	<ul style="list-style-type: none"> - No, I'm not comfortable In a sitting position:

	<p>position on photo</p> <ul style="list-style-type: none"> - Say if this body position is correct or NOT 	<p>lying]</p> <ul style="list-style-type: none"> - This body position is correct 	<ul style="list-style-type: none"> - Mother's shoulders are tense OR - She leans over baby <p>In a lying position:</p> <ul style="list-style-type: none"> - Mother strains her neck OR - She supports her head with the hand (it is not comfortable) - This body position is NOT correct
3.	<ul style="list-style-type: none"> - Assess if baby's body is close towards mother's body - Say if this body position is correct or NOT 	<ul style="list-style-type: none"> - Baby's body CLOSE to mother's - This body position is correct 	<ul style="list-style-type: none"> - Baby's body AWAY from mother's - This body position is NOT correct
4.	<ul style="list-style-type: none"> - Assess if baby's head facing mother's breast - Say if this body position is correct or NOT 	<ul style="list-style-type: none"> - Baby's head facing mother's breast - This body position is correct 	<ul style="list-style-type: none"> - Baby's head NOT facing mother's breast - This body position is NOT correct
5.	<ul style="list-style-type: none"> - Assess if baby's head and entire body are aligned and facing mom's breast - Say if this body position is correct or NOT 	<ul style="list-style-type: none"> - Baby's head and entire body are aligned and facing mom's breast - This body position is correct 	<ul style="list-style-type: none"> - Baby's head and entire body are NOT aligned and facing mom's breast: baby's neck is twisted - This body position is NOT correct
6.	<ul style="list-style-type: none"> - Assess if mother supporting baby's head, torso and buttocks with her hand (Refers only to newborns and first months of life children) - Say if this body position is correct or NOT 	<ul style="list-style-type: none"> - Mother is supporting baby's head, torso and buttocks with her hand - This body position is correct 	<ul style="list-style-type: none"> - Mother is NOT supporting baby's head, torso and buttocks with her hand - This body position is NOT correct

7.	<ul style="list-style-type: none"> - Thank the mother - Make a conclusion about the need in changes in mother's / baby's body position during breastfeeding - Ask if she has any questions 	<p>For example:</p> <ul style="list-style-type: none"> - Thank you! - Everything is fine, the breastfeeding is comfortable for both – the mother and the baby OR - Not everything is correct in the mother's / baby's body position AND - Seems the suckling would be more comfortable for the baby if the mother turns his body towards her and supports with her hand not only the baby's head, but also his body and buttocks - Do you have any questions? 	
Assessment of baby's attachment to the breast			
8.	<ul style="list-style-type: none"> - Explain that now you will observe how the mother attaches her baby to the breast - Explain why it is necessary 	<ul style="list-style-type: none"> - Now I'm going to observe how you are attaching the baby to the breast - Please, show me how you do it, and I'll see if you need my help 	
9.	<ul style="list-style-type: none"> - Assess if baby's mouth wide open - Say if such attachment is correct or NOT 	<ul style="list-style-type: none"> - Baby's mouth is wide open - Attachment to the breast is correct 	<ul style="list-style-type: none"> - Baby's mouth is NOT wide open, lips are extended forward - Attachment to the breast is NOT correct
10.	<ul style="list-style-type: none"> - Assess if baby's lower lip turned outwards - Say if such attachment is correct or NOT 	<ul style="list-style-type: none"> - Baby's lower lip is turned outwards - Attachment to the breast is correct 	<ul style="list-style-type: none"> - Baby's lower lip is NOT turned outwards - Attachment to the breast is NOT correct
11.	<ul style="list-style-type: none"> - Assess if baby's cheeks are round 	<ul style="list-style-type: none"> - Baby's cheeks are round - Attachment to the breast is correct 	<ul style="list-style-type: none"> - Cheeks are tense and drawn in - Attachment to the breast is NOT correct
12.	<ul style="list-style-type: none"> - Assess where the areola of the nipple is more visible (top part of the areola or underneath part) 	<ul style="list-style-type: none"> - Top part of the areola is more visible - Attachment to the breast is correct 	<ul style="list-style-type: none"> - Underneath part of the areola is more visible - Attachment to the breast is NOT correct

13.	<ul style="list-style-type: none"> - Assess if baby's chin is touching mother's breast 	<ul style="list-style-type: none"> - Baby's chin is touching breast - Attachment to the breast is correct 	<ul style="list-style-type: none"> - Baby's chin is NOT touching breast - Attachment to the breast is NOT correct
14.	<ul style="list-style-type: none"> - Thank the mother - Make a conclusion about the correctness of attachment to the breast - Say what mother needs to change - Ask if she has any questions 	<p>For example:</p> <ul style="list-style-type: none"> - Thank you! - I see that the baby is attached to the breast correctly OR - Not everything is correct in the baby's attachment to the breast - Seems the suckling would be more comfortable (easier) for the baby if the mother once again tries to attach the baby to the breast so that he opens his mouth wider and captures more underneath part of the areola - Do you have any questions? 	

The algorithm of neurological examination of a newborn
according to the "Clinical protocol of medical care for a healthy child under 3 years of age" (order of the Ministry of Health of Ukraine dated March 20, 2008 No.149) and "Protocol of medical care for a healthy newborn child" (order of the Ministry of Health of Ukraine dated April 04, 2005 No.152)

	Actions	Normal reaction, that should be commented
1.	1) Wear gloves (without gloves, you will not be allowed to pass the exam!) 2) Greet the mother 3) Explain, what you are going to do	<ul style="list-style-type: none"> - Good afternoon - Now I will evaluate the nervous system state and primitive reflexes in your baby
Evaluation of the child's activity and behavior		
2.	Ask the mother: How long does the baby usually sleep /stay awake?	<ul style="list-style-type: none"> - The baby sleeps between feedings and wakes up when hungry
3.	Ask the mother: Is the baby calm, excited or sluggish?	<ul style="list-style-type: none"> - The baby is calm after feeding
4.	Ask the mother: Is it easy to calm the baby when it cries?	<ul style="list-style-type: none"> - If the baby starts to cry it is easy to calm him/her
Checking the muscle tone of the baby lying on his back		
5.	1) Remove the nappy 2) Check baby's muscle tone by	<ul style="list-style-type: none"> - Lower limbs are flexed, that is, increased flexor muscles tone

	looking at its limbs	<ul style="list-style-type: none"> - The baby moves its limbs actively - The muscle tone is sufficient
Checking primitive reflexes in a child in the supine position		
Rooting Reflex		
6.	Check the rooting reflex: 1) touch a finger to the baby's right corner of mouth 2) touch a finger to the baby's left corner of mouth	<ul style="list-style-type: none"> - Both corners of the mouth go down when you touch - The baby turns the head toward the stimulus. Rooting reflex is lively and symmetrical
Snout (Lip) Reflex		
7.	Check the snout reflex: 1) gentle tap baby's lips near the midline	<ul style="list-style-type: none"> - You can observe pouting or pursing of baby's lips - Snout reflex is elicited
Hand-mouth (Babkin) Reflex		
8.	Check the hand-mouth (Babkin) reflex: 1) by your fingers (thumbs) symmetrically press to both baby's palms (to the ball of the thumb)	Baby: <ul style="list-style-type: none"> - opens its mouth; - flexes its head; - bends arms (shoulders and forearms). - The hand-mouth (Babkin) reflex is elicited
Palmar Grasp Reflex		
9.	Check the grasp reflex: 1) put your index fingers into baby's palms	<ul style="list-style-type: none"> - Baby's fingers will reflexively grasp doctor's index fingers - Palmar grasp reflex is lively and symmetrical
Moro Reflex		
10.	Check the Moro reflex: 1) Hit your palm on the table surface, where the baby is lying	You can observe: <ul style="list-style-type: none"> - symmetrical abduction of baby's arms at the shoulder and extension of arms at the elbow, with opening up of hand and curved fingers - followed by adduction of the arms and flexion of the forearm (i.e. an "embrace"). - Moro reflex is lively and symmetrical
Checking primitive reflexes in a child holded under the shoulders in an upright position with his back to the doctor		
11.	1) Turn the baby to the side 2) Lift the baby with both your	<i>I'm starting to check primitive support and stepping reflexes*</i>

	<p>hands under his shoulders with his back to yours so that four fingers of both your hands cover baby's chest in front and the thumbs support baby's head from the back / sides</p> <p>3) Lift the baby in an upright position</p>	
Support Reflex		
12.	<p>Check the support reflex:</p> <p>1) touch a table surface with baby's feet</p>	<p>Baby:</p> <ul style="list-style-type: none"> - first pulls both legs away from the surface; - then tucks legs under; - then straightens the legs pressing by them on the table surface. - Support reflex is lively and symmetrical
Stepping (automatic walking) Reflex		
13.	<p>Check the stepping reflex:</p> <p>1) touch a flat surface with baby's one foot</p> <p>2) tilt its torso forward</p>	<ul style="list-style-type: none"> - Baby takes steps on the table surface - Stepping reflex is elicited
Checking primitive reflexes in a child lying on the abdomen		
14.	Place the baby on abdomen	<i>I'm starting to check the protective and crawling reflexes*</i>
Protective reflex		
15.	<p>Check the protective reflex:</p> <p>1) evaluate the position of the head of the baby lying on abdomen</p>	<p>Baby:</p> <ul style="list-style-type: none"> - turns its head to the side; - tries to lift it. - Protective reflex is elicited
Crawling Reflex		
16.	<p>Check the crawling reflex:</p> <p>1) lightly press with your palm on the baby's soles</p> <p>2) check what the baby is doing</p>	<ul style="list-style-type: none"> - The child is actively moving (crawling) forward with the inclusion of hands and feet - Crawling reflex is elicited
17.	Make a conclusion	<ul style="list-style-type: none"> - Everything is good, baby is active - All reflexes are initiated well
18.	Finish the examination	<ul style="list-style-type: none"> - Thank you! - Do you have any questions?
	1) Put on the nappy (diaper)	

	2) Thank the mother 3) Ask if she has any questions	
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*Note: * not necessarily to say*

Algorithm

Of assessment of blood pressure (BP) of a child using tables of centile distribution of blood pressure indicators depending on gender, age and centile assessment of growth

approved on meeting of propaedeutics of pediatrics department
Odessa national medical university

№	Actions	Possible options for assessing anthropometric indicators:			
Assessment of height using centile charts					
1.	Choose a centile chart to measure your baby's height based on gender and age				
2.	On the chart, indicate the point of intersection between the indicators of the child's age (vertical line) and his height (horizontal line).				
3.	Define the line (curve) or "track" between the lines (curves) where the intersection point of height and age is. Comment the result	5 centile	10 centile	25 centile	50 centile
		75 centile	90 centile	95 centile	
Assessment of blood pressure by centile table taking into account age gender and centile growth assessment *					
4.	Select a chart to evaluate your baby's blood pressure based on gender, age and centile height				
Assessment of systolic BP					
5.	Find between which centiles the baby's systolic blood pressure is based on its centile in height				
6.	Comment the result of the assessment of systolic blood pressure (SBP) depending on centile by height	<90 centile		≥90 < 95-го centile	
		BP ≥ 95-го < (95-го centile + 12 mmHg) OR 130 /80 – 139 /89 mmHg		BP ≥ (95-го centile + 12 mmHg) OR ≥ 140 / 90 mmHg	
7.	Evaluate the result and comment	Normal BP		Elevated BP	

	the assessment of the SBP	Stage I HTN	Stage II HTN
Assessment of diastolic BP (DBP)			
8.	Find between which centiles the baby's diastolic blood pressure is based on its centile in height		
9.	Comment the result of the assessment of diastolic blood pressure (SBP) depending on centile by height	<90 centile	$\geq 90 < 95$ -го centile
		BP ≥ 95 -го < (95-го centile + 12 mmHg) OR 130 /80 – 139 /89 mmHg	BP \geq (95-го centile + 12 mmHg) OR $\geq 140 / 90$ mmHg
10.	Evaluate the result and comment the assessment of the DBP	Normal BP	Elevated BP
		Stage I HTN	Stage II HTN
11.	Make the conclusion and comment it	<i>For example:</i> - - Blood pressure is normal OR - Systolic and diastolic blood pressure are elevated	

* ANNEX. https://www.cdc.gov/growthcharts/clinical_charts.htm
https://www.nhlbi.nih.gov/files/docs/guidelines/child_tbl.pdf

TABLE Updated Definitions of BP Categories and Stages

	For Children Aged 1–13 years	Children aged >13 years
Normal BP	BP < 90 th centile	BP < 120/80 mmHg.
Elevated BP	BP $\geq 90^{\text{th}}$ < 95 th centile	BP 120/80 – 129 /80 mmHg
Stage I HTN	BP $\geq 95^{\text{th}}$ <95 th centile + 12 mmHg OR 130 /80 – 139 /89 mmHg	BP 130 /80 – 139 /89 mmHg
Stage II HTN	BP $\geq 95^{\text{th}}$ centile + 12 mmHg OR $\geq 140 / 90$ mmHg	BP $\geq 140 / 90$ mmHg

Complete blood count assessment algorithm in children,
approved on meeting of propaedeutics of pediatrics department
Odessa national medical university

	Actions	Possible evaluation options
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Using appropriate terms, say the result of the complete blood count and white blood differential assessment				
1.	1) Greet the mother 2) Explain what you are going to do	<ul style="list-style-type: none"> - Good afternoon - Now I'm going to assess your child's complete blood count test 		
2.	Determine child's age and sex and assess the complete blood count according to child's age and sex*	<ul style="list-style-type: none"> - Child's age ___ months / years - Boy / girl 		
Assessment of red blood cells (RBC)				
3.	Evaluate RBC count	Anemia (erythropenia)	Normal	Erythrocytosis
4.	1) Evaluate haemoglobin concentration 2) If present, assess the severity of anemia	Anemia: - Mild (I) - Moderate (II) - Severe (III)	Normal	Elevated
5.	Evaluate colour index	Hypochromia	Normochromia	Hyperchromia
6.	Define bone marrow regenerative activity according to reticulocyte count	Hypoplastic anemia	Normal activity	Anemia with high reticulocyte count
Interpretation of erythrocyte sedimentation rate (ESR)				
7	Evaluate ESR	-	Normal	Elevated
Assessment of platelet concentration				
8.	Evaluate platelet concentration	Thrombocytopenia	Normal	Thrombocytosis
Assessment of white blood cells (WBC)				
9.	Evaluate WBC count	Leukopenia	Normal	Leukocytosis
Assessment of WBC differential				
10	Assess the presence and relative content of young leukocyte forms	-	Normal	<ul style="list-style-type: none"> - Left shift - The presence of blast cells
11	Assess the relative content of leukocytes in the WBC differential	Relative: - neutropenia - lymphopenia	Age-appropriate (normal)	Relative: - neutrophilia - lymphocytosis - eosinophilia - monocytosis

12	Describe detected hematologic syndromes	<i>For example: There are changes in the blood test: - Anemia, probably with iron deficiency OR - Thrombocytopenia OR - Infectious-inflammatory syndrome</i>
13	Thank the mother	

***Annex (Addition).**

Normal lab values in children

1. Normal complete blood count values in children of different age

Analyte	Age						
	1 day	4-5 days	6 months	1 year	4-5 years	6-12 years	>12 years
Hb g/L	180-240	150-200	110-140	110-140	115-140	115-140	B-130-160 G-120-140
RBC x 10¹²/L	4,5-7,5	4,0-6,5	3,9-5,3	3,9-5,3	3,9-5,3	3,9-5,3	B - 4,0-5,0 G -3,9-4,7
MCHC %	0,85-1,15	0,85-1,15	0,85-1,15	0,85-1,15	0,85-1,15	0,85-1,15	0,85-1,15
RTC %	5-50	5-50	5-20	5-20	5-20	5-20	5-20
PLT x 10⁹/L	180-490	180-490	180-400	180-400	160-390	160-350	160-320
ESR mm/h	2-4	2-4	4-10	4-12	4-12	4-12	8-12
WBC x 10⁹/L	9-30	9-14	6-13	5-12	5-12	4-10	4-9,5
Band neutrophils %	1-10	1-5	1-5	1-5	1-5	1-5	1-4
Segmented neutrophils %	45-80	35-55(45)	20-40	20-40	35-55(45)	40-60	40-60
EOS %	1-5	1-5	1-5	1-5	1-5	1-5	1-5
BAS %	0-1	0-1	0-1	0-1	0-1	0-1	0-1
LYM %	15-35	35-55(45)	40-75	40-75	35-55(45)	30-45	30-45

MON %	2-10	2-10	2-10	2-10	2-10	2-10	2-10
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2. Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity (g/L) (WHO, 2011)

Age	Non-anemia	Anemia		
		Mild	Moderate	Severe
6 – 59 months	110 or higher	100 – 109	70 – 99	lower than 70
5 – 11 years	115 or higher	110 – 114	80 – 109	lower than 80
12 – 14 years	120 or higher	110 – 119	80 – 109	lower than 80
Girls 15 years and older	120 or higher	110 – 119	80 – 109	lower than 80
Boys 15 years and older	130 or higher	110 – 129	80 – 109	lower than 80

Algorithm

of assessment of 24-hour urine specific gravity test in children
 approved on meeting of propaedeutics of pediatrics department
 Odessa national medical university

	Actions	Possible variants of assessment
	Comment the results of each indication in 24-hour specific gravity urine test using the appropriate terms	
1.	Greet the mother	Good afternoon
2.	Explain what you are going to do	Now I'm going to interpret the specific gravity urine test to evaluate your baby's kidney function
3.	Determine child's age and assess the indicators according to normal ranges depending on age*	- - Age of child ___ months / years - - Boy / Girl
4.	Calculate daytime diuresis (DD-1-4 samples) and record the result on the analysis form	
5.	Calculate nocturnal diuresis (ND - 5-8 samples) and record the result on the analysis form	
6.	Evaluate the ratio of daytime and nocturnal diuresis to determine if nocturia is present	- Normal (DD > ND) - Nocturia (DD ≤ ND)
7.	Calculate 24-hour diuresis (DD + ND) and	

	record the result on the analysis form	
8.	Calculate the percentage of urine excreted from the fluid intake (FI) using proportion: FI - 100% 24-hour diuresis - X% $X = 24\text{-hour diuresis} \times 100: FI$ Record the result on the analysis form	
9.	Assess whether the 24-hour diuresis is normal or not	<ul style="list-style-type: none"> - Norm - Polyuria
10.	If 24-hours diuresis is 500 ml or less, calculate diuresis per 1 kg of body weight per day (24-hour diuresis: body weight)	<ul style="list-style-type: none"> - Norm - Oliguria
11.	Record (underline) the lowest and highest urinary specific gravity	
12.	Assess fluctuations in the specific gravity of individual samples of urine	<ul style="list-style-type: none"> - Norm - Hypostenuria - Isostenuria - Hyperstenuria
13.	Indicate if changes in the kidney function are present	Detected: <ul style="list-style-type: none"> - Normal kidney function - Disturbed excretory function - Disturbed concentration function - Disturbed hormone synthesizing function
14.	Thank the mother and ask if she has any questions	<ul style="list-style-type: none"> - Thank you - Do you have any questions?

*** ANNEX. Normal ranges of laboratory indicators in children**

1. Indicators of 24-hour urine specific gravity test for children

1. Daily diuresis

- **Norm:**
 - Approximately 0.8 - 2.0 liters
 - 65-80% of the fluid intake per day
 - Significant fluctuations in the amount of urine during the day in individual samples 0 - 300 ml
- **Polyuria** - increase in 24-hour diuresis of more than 2.0 liters or more than 80% of the daily fluid intake
- **Oliguria** - 24-hour diuresis less than 500 ml or ≤ 12 ml / kg / 24-hours
- **Daytime diuresis (DD)** outweighs nighttime - approximately 2: 1 or 2/3 - 3/4 of 24-hour diuresis
- **Nocturia** - nocturnal diuresis equal to daytime diuresis (DD: ND = 1: 1) in children older than 2 years (up to 2 years is the norm) or nocturnal diuresis prevails on daytime diuresis (DD < ND) at any age - may be a sign of a violation concentration of kidney function

2. Specific gravity:

- **Normal concentrational function of kidney:**
 - fluctuations in specific gravity during the day within 1 008 - 1 025
- AND
- at least in one sample the specific gravity should be not less than 1 018, in children under 5 years - not lower than 1 012
- **Isostenuria** - inability of the kidneys to produce concentrated and diluted urine - specific gravity of urine approximately the same as primary urine (about 1,010), fluctuations in all portions per day 1 009-1013
- **Hypostenuria** - urine specific gravity is constantly low with small fluctuations of 1 008 and below - is also a sign of impaired renal concentration, most often in diabetes mellitus
- **Hyperstenuria** – increased specific gravity of urine in all samples higher than 1 030 - the result of increased level of dense substances in the urine due to dehydration, or due to increased reabsorption of water in the renal tubules in vascular insufficiency, or due to increased glucose level in the urine

Algorithm
of urinalysis result assessment in children
 approved on meeting of propaedeutics of pediatrics department
 Odessa national medical university

	Actions	Possible variants of assessment
	Comment the result of each urinalysis test indicators using the appropriate terms	
1.	Greet the mother	
2.	Determine child's age and gender and assess child's indicators of urinalysis according to his/her age and gender *	
	Gross and chemical examination	
3.	Urine colour	<ul style="list-style-type: none"> - Light yellow - Dark brown - "Coca-cola"
4.	Assess the transparency of urine	<ul style="list-style-type: none"> - Transparent - Cloudy
5.	Assess the pH	<ul style="list-style-type: none"> - Neutral - Acidic - Alkaline
6.	Assess protein level	<ul style="list-style-type: none"> - Norm - Proteinuria
7.	Assess glucose level	<ul style="list-style-type: none"> - Norm - Glucosuria
8.	Assess the level of ketones	<ul style="list-style-type: none"> - Norm - Ketonuria
9.	Assess the nitrite level	<ul style="list-style-type: none"> - Norm - Nitrituria
	Microscopic examination	
10.	Assess the number of red blood cells	<ul style="list-style-type: none"> - Norm - Hematuria
11.	Assess the number of leucocytes	<ul style="list-style-type: none"> - Norm - Leucocyturia
12.	Assess the presence of the epithelium and its type	<ul style="list-style-type: none"> - Squamous epithelial cells few- norm - Transitional-pathological - Renal tubular-pathological
13.	Assess the presence of casts and its type	<ul style="list-style-type: none"> - Norm - Cylindruria: hyaline, granular, epithelial, erythrocytic, leukocyte, waxy

14	Assess the presence of crystals and their appearance	<ul style="list-style-type: none"> - Norm - Crystaluria, Uraturia, Oxalaturia
15.	Assess the presence of bacterias	<ul style="list-style-type: none"> - Norm - Bacteriuria
16.	Make a conclusion about changes in the urinalysis and determine which clinical nephrological syndrome it represents	<p>Example:</p> <ul style="list-style-type: none"> - <i>Urinary syndrome: leukocyturia, erythrocyturia, bacteriuria OR</i> - <i>Nephritic syndrome OR</i> - <i>Nephrotic syndrome</i>
17.	Tell what kind of disease these changes are characteristic of	<p>Example:</p> <ul style="list-style-type: none"> - <i>Urinary tract infection OR</i> - <i>Glomerulonephritis</i>
18.	Thank the mother and ask if she has any questions	

*** ANNEX. Norms of laboratory indicators in children**

1.Indicators of urinalysis in children

pH	5,0-7,5
Protein	< 0,033 g/l
Glucose	Norm-absent
Ketones	Norm-absent
Bilirubin	Norm-absent
Nitrites	Norm-absent
Hemoglobin	Norm-absent
Erythrocytes	< 2 /hpf
Leucocytes	
- Boys	< 5 /hpf
- Girls	< 10 /hpf
Squamous epithelial cells	
- Girls	< 5 /hpf
- Boys	< 3 /hpf
Transitional epithelial cells	< 1 /hpf
Renal tubular epithelial cells	Norm-absent
Casts	Norm-absent
Bacteria	Norm-absent
Crystals	Norm-absent

Mucus	Norm-small amount
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**Algorithm
for the clinical examination and evaluation of meningeal symptoms in
children**

№	Actions	Possible variants of evaluating the meningeal symptoms you need to announce	
1	Greet the mother and explain what you are going to do	Good afternoon, now I'm going to examine the signs of meningeal irritation in your child	
		Meningeal symptoms	
		positive	negative (normal)
Palpate a large fontanel			
2	Palpate a large fontanel in infant <u>commenting all your actions and results:</u> 1) palpate the large fontanel on the upper part of the head in the area bounded by two parietal and frontal bones	Positive symptom: bulging, tensed and pulsing large fontanel	Normal-negative symptom: a large fontanel at the level of skull bones, no tension and pulsation
3	To investigate the following symptoms, place the patient in supine position with legs <u>commenting all your actions</u>		
Check for nuchal rigidity			
4	Check for nuchal rigidity <u>commenting all your actions and results:</u> 1) At one time: - slightly pressing, fix the chest of the child lying supine with your right (dominant) hand; - place the left hand under the child's head 2) try to flex head forward - towards the chest	Positive symptom: - pain - difficulty, and sometimes even impossibility, due to neck muscle tension (neck muscles rigidity)	Normal-negative symptom: flexion is free and painless
Check The Brudziński neck sign			
5	Check The Brudziński neck sign <u>commenting all your actions and results:</u> 1) At one time: - slightly pressing, fix the chest of	Positive symptom: forced ("protective") flexion of both hips and knees	Normal - negative symptom: no leg flexion

	<p>the child lying supine with your right (dominant) hand;</p> <ul style="list-style-type: none"> - place the left hand under the child's head <p>2) try to flex head forward - towards the chest</p> <p>3) look at child's legs</p>		
Check the Brudziński symphyseal sign			
6	<p>Check the Brudziński symphyseal sign in child lying supine <u>commenting all your actions and results</u>:</p> <ul style="list-style-type: none"> 1) press on pubic symphysis with the border of your hand 2) look at child's legs 	<p>Positive symptom: flexion of both hips and knees</p>	<p>Normal - negative symptom: no leg flexion</p>
Check the Brudzinsky leg sign			
7	<p>Check the Brudzinsky leg sign in child lying supine <u>commenting all your actions and results</u>:</p> <ul style="list-style-type: none"> 1) passively flex one his leg in the hip and knee 2) look at child's opposite leg 	<p>Positive symptom: flexion of the opposite leg</p>	<p>Normal - negative symptom: no flexion of the opposite leg</p>
Check the Kernig's sign			
8	<p>Check the Kernig's sign in child lying supine <u>commenting all your actions and results</u>:</p> <ul style="list-style-type: none"> 1) place one hand on one knee of the child; support the shin of the same limb in the area of the Achilles tendon with the other hand; 2) passively bend the limb in the hip and knee at right angles (90 °); 3) straighten the limb in the knee 	<p>Positive symptom: - extension is painful and - it is not possible to completely bend the leg (the angle between the thigh and the shin when extending the leg is not more than 135 °)</p>	<p>Normal-negative symptom: - such movement is easy and painless - tibia extends to a straight line with the hip (180 °)</p>
Check the Lesage's sign			
9	<p>Check the Lesage's sign <u>commenting all your actions and results</u>:</p> <ul style="list-style-type: none"> 1) hold the infant under the armpits 2) lift the infant holding his head from the back with your index fingers 3) look at the infant's legs 	<p>Positive symptom: - tightening of the legs to the abdomen (flexion in the hips and knees) - continued fixation in such a curved position</p>	<p>Normal-negative symptom: - legs move freely (bend and extend)</p>
10	<p>Complete the examination: announce a conclusion and thank the mother</p>		<p>The child has no signs of</p>

			meningeal irritation. Thank you.
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Notes: * -palpation of the large fontanel and verification of the sign of Lesage is performed in children under the age of 1 year; the Brudzinski and Kernig's signs are examined after 4 months of life, since in healthy children up to 3-4 months of age they are a physiological feature, which is associated with physiological hypertonicity of the muscles that flexes the upper and lower extremities.

4. Summary

5. Recommended literature

Main:

1. Gupta Piyush. Clinical Methods in Pediatrics. 4th edition.- CBS Publishers & Distributors, 2018.-669p.

Newell Simon J Darling Jonatan C. Paediatrics_9thed._2015.-320p.

2. Kapitan T. Propaedeutics of children's diseases and nursing of child: Textbook for students of higher medical educational institutions. – Vinnitsa: The State Cartographical Factory, 2010. – 868 pp.

3. Duderstadt, Karen. Pediatric Physical Examination : an illustrated handbook / Karen G. Duderstadt. – 2nd ed. – 2014. – 366 p.

4. Nykytyuk S. O. et al. Manual of Propaedeutic Pediatrics. – Ternopil: TSMU, 2005. – 468 p.

Nelson. Essentials of Pediatrics. Sixth edition. Canada: 2011. - 831p.

5. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.- 2013.-782 pp.

6. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.

7.Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.

8. Pediatric Nursing Procedures. Vicky R. Bowden, Cindy S. Greenberg. - Wolters Kluwer Health.- 2015 -728pp.

9.Methodical recommendations for practical class on discipline «Propedeutics of pediatrics» ODESSA NATIONAL MEDICAL UNIVERSITY. DEPARTMENT OF PROPEDEUTICS OF PEDIATRICS.

Addendum:

1. Partha,s Fundamentals of Pediatrics. Ajanta offset &Packagings Ltd., New Delhi.-2013.-782 pp.

2. Pediatric Physical examination/ Karen G. Duderstadt.- 2nd ed.- 2014.- 366 pp.

3. Vicky R. Bowden, Cindy S. Greenberg. Pediatric nursing procedures. - Lippincott Williams & Wilkins. - 2011. - 822 pp.

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5. Essential pediatrics. O.P. Ghai,MD. – 5th edition. – MENTA PUBLISHERS. New Delhi. (India). – 2000. – 582 p.

Digital information resources: Medscape.com