ANATOMO-PHYSIOLOGICAL PECULIARITIES, METHODS OF EVALUATION AND SEMEIOLOGY OF THE SKIN, SUBCUTANEOUS TISSUE, BONES AND MUSCLES DISEASES IN CHILDREN

Academic discipline «Pediatric Propedeutics»

Teacher's guide for the 3rd year

English medium students

АНАТОМО-ФІЗІОЛОГІЧНІ ОСОБЛИВОСТІ, МЕТОДИ ОБСТЕЖЕННЯ ТА СЕМІОТИКА ЗАХВОРЮВАНЬ ШКІРИ, ПІДШКІРНОЇ КЛІТКОВИНИ, КІСТКОВОЇ ТА М'ЯЗОВОЇ СИСТЕМ У ДІТЕЙ

Методичні розробки

до аудиторної роботи викладачів

З дисципліни «Пропедевтика педіатрії»

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
Харківський національний медичний університет

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Затверджено
Вченою радою ХНМУ
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Anatomo-physiological peculiarities, methods of evaluation and semeiology of the skin, subcutaneous tissue, bones and muscles diseases in children: methodical recommendations for teachers' classwork / compiled by: V.A., Klymenko T.V. Sirenko, K.O. Yanovska– Kharkiv: KhNMU, 2016. – 16 p.

Compiled by: KlymenkoV.A.
SirenkoT.V.
Yanovska K.O.

Анатомо-фізіологічні особливості, методи обстеження та семіотика захворювань шкіри, підшкірної клітковини, кісткової та м'язової систем у дітей: метод. вказ. до аудиторної роботи викладачів / упор. В.А.Клименко, Т.В. Сіренко, К.О. Яновська. – Харків, ХНМУ, 2016. – 16 с.

Упорядники: Клименко В.А.
Сіренко Т.В.
Яновська К.О.

Amount of educational hours: self-dependent work – 1;
practical training – 4.

Contents

A point to remember is that the various skin lesions are not isolated diseases of the skin alone. In the majority of cases such lesions are only manifestations of general metabolic disturbances (exudative diathesis) or of systemic diseases (various infections). And, conversely, diseases of the skin may affect the entire systems. Consequently, in any skin disease examination must not be restricted to the skin alone, but all the organs and systems must be examined.

The challenge of examining the skin lies in distinguishing normal from abnormal, significant findings from trivial ones, and in integrating pertinent signs and symptoms into an appropriate differential diagnosis. The fact that the largest organ in the body is visible is both an advantage and a disadvantage to those who examine it. It is advantageous because no special instrumentation, other than a magnifying glass, is necessary and because the skin can be biopsied with little morbidity.

Semiotics of bone system affections: the bone age deviation, the teeth age deviation, complains of pain, changes of bones, joints configuration, mobility disorders active, passive movements, morning joints inhibitions. Deformation of skull sizes, shape, skull bones, condition of sutures, fontanelles (microcephaly, macrocephaly, skull bones dysplasis), cephalogematoma, craniotabes, etc. The thorax-deformation, pigeon breast, cobbler's (or funnel) breast, «bead» symptom. Spinal column deformation, kyphosis, scoliosis, lordosis. Cylindrical bones, deformation, length changes. Flat planta, pigeon-toed. Osteoporosis signs inflammation affections of bones and joints. Changes of Ca and P blood and urine levels.

Semiotics of muscular system affections: muscle mass changes, sizes of some muscles, group of muscles (asymmetry).Change of muscle tone (increased, decreased). Change

of muscles strength (increased decreased). Motive activity (normal, decreased, hyperkinesis, etc.). Active and passive movements (amount, generation, self-generation).

Specific goals

- to be able to fulfil examinations of the skin and subcutaneous tissue, taking into consideration peculiarities in the methods of examination in children;
- to be able to fill in a case history for performing an objective examination of the osteomuscular system in children;
- to prescribe a complex of methods for laboratory and instrumental examinations of the osteomuscular system;
- to interpret the received data of examination with taking into consideration morphofunctional peculiarities of a child's organism;
- to make syndromic diagnosis in children with pathology of their skin, bone system and muscular system.

To know:

- the morpho-functional peculiarities of skin and subcutaneus tissue in children;
- the embryogenesis of skin, anomalies of development;
- the methods of examinations, semiotics of skin diseases;
- characteristics of the basic pathology of the skin and subcutaneus tissue;
- the morpho-functional peculiarities of the muscular system in children;
- clinical and paraclinical methods of examinations of the muscular system,
- the main symptoms of the muscular system diseases (hypotrophy, atrophy, hypotony, hypertony, hyperkinesis, paralysis),
- the morpho-functional peculiarities of the osseous system of children;
-clinical and paraclinical methods of examinations of the osseous system,

- the main symptoms of the osseous system diseases

Be able to:

- to fulfil examinations of the skin and subcutaneous tissue, taking into consideration peculiarities in the methods of examination in children;
- to fill in a case history for performing an objective examination of the osteomuscular system in children;
- to prescribe a complex of methods for laboratory and instrumental examinations of the osteomuscular system;
- to interpret the received data of examination with taking into consideration morphofunctional peculiarities of a child's organism;
- to make syndromic diagnosis in children with pathology of their skin, bone system, and muscular system.

Materials needed for methodological support:
The technological card of the lesson

№	Step of the lesson	Study time (min)	Tutorials		Place of the lesson
			Learning tools	Equipment	
1.	Determination of the initial level of knowledge	20	Testing	Tests	Classroom
2.	Determination of the main positions of the topic	25	Quiz, discussion	Graphical structure of the topic, case history of childrens with breastfeeding and after introduction of solid	Classroom

				foods.	
3.	Break	10			
4.	Solution for the training tasks of the topic	45	Independent work of a student under the guidance of a teacher - training of practical skills	Premises and equipment of the hospital	Departments of the hospital
5.	Break	30			
6.	Solution for the training tasks of the topic	45	Independent work of a student under the guidance of a teacher - training of practical skills. Completion of the diary of practical training.	Premises and equipment of the hospital	Departments of the hospital

7.	Break	10			
8.	Determination of the output level of skills readiness.	20	Checking of the practical skills of a student while work in the departments.	Premises and equipment of the hospital	Departments of the hospital
9.	Determination of the output level of knowledge and skills readiness.	15	Solving and discussion of situational assignments Checking entries in the diary of practical training	Situational tasks	Classroom
10.	Summation of the lesson. Assignment to the next lesson.	10	Quiz, discussion		Classroom

The estimated basis of the action in performance of the learning objectives of the topic:

1. Study the medical history of the child.

2. Self-study in the Hospital departments – to fulfil examinations of the skin and subcutaneous tissue, taking into consideration peculiarities in the methods of examination in children;

- to fill in a case history for performing an objective examination of the osteomuscular system in children;
- to prescribe a complex of methods for laboratory and instrumental examinations of the osteomuscular system;
- to interpret the received data of examination with taking into consideration morphofunctional peculiarities of a child's organism;
- to make syndromic diagnosis in children with pathology of their skin, bone system, and muscular system.

Tasks for the final knowledge assessment.
Situational tasks:

Task 1. On day 3 after the birth white or yellowish specks of 1.0x1.0 mm, reminding grains of millet are appeared on a nose of the child. How are these elements termed?
Standard of answer: Milia.

Task 2. A child is suffering from atopic dermatitis. Some elements of the rash are marked on the skin by observation. Name the primary element of the rash.
Standard of answer: E. Papula

Task 3. A child suffers from chicken pox. Which of the above mentioned elements are considered secondary? Choose the more detailed answer.
Standard of answer: An erosion, a crusta, an excoriation

Task 4. A child was admitted to the intensive care department due to clinical sings of poisoning of mercury. It is known from anamnesis morbi that the child used "Unquentum Hydrargyri album" as antiseptic substance on the skin during 10 days. What morpho-functional peculiarities of the child's skin promote to this pathological condition?
Standard of answer: The thinning of stratum conium and an abundant vascularisation of the skin.

Task 5. The doctor examined the 5 years old child and revealed yellowing tinge of the skin by observation. The yellowing is particularly pronounced on the palms, soles and face, but the mucous membranes were rose without icterus and conjunctiva was white. The general condition of the child was satisfactory and he didn't have any complains. What is the probable reason of this changing of the skin's color?
Standard of answer: The deposition of pigment carotene in the skin and adipose tissue caused by excessive consumption of carrots, tomatoes and tangerines. It's called carotene pigmentation.

Task 6. A child is examined on the first day of the life. He was born from II pregnancy with icteric coloring of the skin. His birth weight is 3400g. The group of blood of the mother is 0(I), Rh-(Rhesus factor is negative). The child's group of blood is 0(I), Rh-positive. The first pregnancy of mother has ended with a birth of the boy with weight 3200g. He is three years old now, he is healthy. What is the probable reason of yellowish colour of the skin?
Standard of answer: Incompatibility of blood of the mother and the child on the Rh-factor

Task 7. A child is examined on the twelfth day of the life. He was born from I pregnancy without any complications during pregnancy and delivery. It is known from anamnesis vitae that on the third day after birth the skin of newborn became yellowish. The jaundice

disappeared in 10 day. What is the probable reason of yellowish color of the skin in this child?
Standard of answer: Physiological jaundice.

Task 8. A physician observed an infant. He paid attention to the cyanotic color of the skin. The cyanosis is particularly pronounced on extremities and around mouth. It increased when the child was eating or crying. What system's affection may be the reason of these pathological symptoms?
Standard of answer: The cardiovascular and respiratory systems.

Task 9. A doctor examined a premature baby in the newborn department. He determined the sclerema on the child's back (the indurations or diffuse hardening of the skin). What morpho-functional peculiarities of the child's adipose tissue promote (are favors for) the occurrence of sclerema?
Standard of answer: The prevalence of solid fatty acid (palmitic acid) in the subcutaneous adipose tissue.

Task 10. A doctor examines a child. He checks the response reaction of the skin to mechanical irritation caused by tracing blunt instrument over it. The doctor fixes the type of reaction (red, white or mixed); the time interval between the irritation of the skin and appearance of the response and the time interval when line disappears. Name this method of investigation.
Standard of answer: A dermography

Points that student can get for the work
The maximum number of points which may be consequently obtained by students is 200 points; this includes 120 points for current educational activity and 80 points for the final lesson.
Current educational activity of students is controlled during practical classes according to specific goals in the course of each practical class as well as during self-training in the hospital department. It is

recommended to apply the following means of diagnostics of the students' level of readiness: control of practical skills, solving cases and test control of theoretical knowledge.

The current assessment of students on respective topics is conducted in the traditional 4-point grade scale ("excellent", "good", "satisfactory" and "unsatisfactory") with further conversion into a multiscore scale.

The grade "Excellent" is given when the student knows the program in toto, illustrating the answers with various examples; gives clear and comprehensive answers without any hints; delivers the material without any inaccuracies or errors; performs practical tasks of a different degree of complexity.

The grade "Good" is given when the student knows the whole program and understands it well, gives correct, consistent and structured but not completely comprehensive answers to questions, although he is able to answer additional questions without mistakes; solves all cases and performs practical tasks experiencing difficulties only in the most complex situations.

The grade "Satisfactory" is given to the student based on his satisfactory level of knowledge and understanding of the entire subject. The student is able to solve modified tasks with the help of hints; solves cases and applies practical skills experiencing difficulties in simple cases; is unable to deliver a consistent answer, but answers direct questions correctly.

The mark "Unsatisfactory" is given when the student's knowledge and skills do not meet the requirements of the grade "satisfactory".

Given the number of practical classes the grades are converted into the multiscore scale as follows:

The mark "Excellent" – 72-80 scores
The mark "Good" – 60-71 scores
The mark "Satisfactory" – 50-59 scores
The mark "Unsatisfactory" – 0 scores

List of learning literature:

Basic literature:

1. Propaedeutics of Pediatrics: Manual for foreign students / V. A. Fjoklin, V. A. Klymenko, O. M. Plakhotna, T. V. Sirenko, A. I. Kojemiaka, O. V. Sharikadze. – Kharkiv: 2010. – 356 p.
2. Kapitan T. Propaedeutics of children diseses and nursing of the child / T. Kapitan. – The state cartographical factory, 2006. – 734p.
3. Мазурин А.В., Воронцов И.М. Пропедевтика детских болезней. – СПб.: Фолиант, 2000. – 928с.
4. Наказ МОЗ України №149 від 20.03.2008 «Про затвердження Клінічного протоколу медичного догляду за здоровою дитиною віком до 3 років».
5. Ріст і розвиток людини: навчальний посібник / Під ред. проф. Ю.М.Нечитайла. – Чернівці: БДМА, 2003. – ІІ вид., пер. – 56 с., іл.
6. Чеботарьова В.Д., Майданник В.Г. Пропедевтична педіатрія. – К., 1999. – 578с.

Additional:

1. Nelson textbook of pediatrics.—19th ed./ [edited by] Robert M. Kliegman… [at. ol], p. SM
2. Ghai O.P. Essential pediatrics (fourth edition). – New Delhi, India: Interpint, 1996.–476 p.
3. Gupte S. The short textbook of pediatrics, 8th edition. – New Deli, India.: Iaypee Brthe others. Medical publishers (P) hTD, 1998. – 617 p.
4. Bickley L.S., Hockelman R.A. Physical examination and History Taking. – Philadelphia, New York, Baltimor.: Lippincott, 1999. – 789 p.

Для нотатків

Для нотаток

Навчальне видання

Анатомо-фізіологічні особливості, методи обстеження та семіотика захворювань шкіри, підшкірної клітковини, кісткової та м'язової систем у дітей

Упорядники: Клименко Вікторія Анатоліївна
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Відповідальний за випуск: Клименко В.А.

Комп'ютерна верстка

Ум. друк. арк.___. Тираж____ прим. Зам. №____.