

MINISTRY OF HEALTH OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY

Faculty: international

(faculty name)

Department of Pediatrics

(name of department)

APPROVED

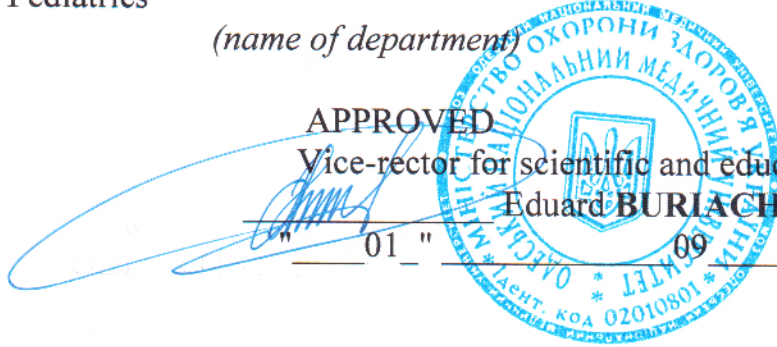
Vice-rector for scientific and educational work

Eduard BURIACHKIVSKYI

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2024



METHODICAL RECOMMENDATION
FOR PRACTICAL LESSON
FROM THE EDUCATIONAL COMPONENT

Faculty international, course 5 _____

Educational component - "PEDIATRICS"

(name of the educational component)

Approved:

Meeting of the Department of Pediatrics _____

Odesa national medical university

Protocol № 1 of " 29 " 08 2024

Head of the department _____

(signature)

(Mykola ARYAYEV)

(name, surname)

Перезатверджено:

Засідання кафедри педіатрії

Одеський національний медичний університет

Протокол № 1 від 26 08 2025 р.

Завідувач кафедри  Микола АРЯЄВ

Developers:

(indicate surnames, scientific degrees, scientific titles and positions of developers; all those who teach the specified academic discipline must be among the developers)

Associate professors PhD: Larysa KAPLINA, Victor BIRYUKOV, Lyudmila SENKOVSKAYA, Maxim FEDIN., Roman PAPINKO, assistants: Doctor of Philosophy associate professor Daria Kolomiets, assistant PhD, Vera KOROPETS, assistant Liubov BRATKOVA.

Note. In the case of publication of methodological developments as an independent printed work, the academic council of the faculty provides a recommendation for publication in the presence of two reviews, one of which is external — from a reviewer of another institution of higher education.

PRACTICAL LESSONS

Content module 3 «Diseases of the endocrine system in children»

Practical lesson № 16.

Topic 8: Diabetes mellitus in children. Diseases of gonads and adrenal glands in children. Obesity in children.

Diabetes mellitus in children: definition, etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Acute and chronic complications of diabetes in children. Hyperglycemic ketoacidotic and hypoglycemic coma in children: causes, pathogenesis, clinic, diagnosis, differential diagnosis, emergency care, prevention. Diseases of gonads and adrenal glands in children.

Practical lesson № 17

Topic 8: Diabetes mellitus in children. Diseases of gonads and adrenal glands in children. Obesity in children.

Diseases of gonads (delay and acceleration of sexual development, undetermined gender) and adrenal glands in children (adreno-genital syndrome, chronic adrenal insufficiency). Etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Obesity in children. Definition, etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

Practical lesson № 18

Topic 9: Diseases of the thyroid gland and hypothalamic-pituitary system in children.

Diseases of the thyroid gland. Classification of diseases of the thyroid gland in children. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis of diffuse toxic goiter, hypothyroidism, autoimmune thyroiditis, endemic goiter in children.

Practical lesson № 19

Topic 9: Diseases of the thyroid gland and hypothalamic-pituitary system in children.

Treatment, prevention and prognosis of diffuse toxic goiter, hypothyroidism, autoimmune thyroiditis, endemic goiter in children. Emergency care for thyrotoxic crisis in children.

Practical lesson № 20

Topic 9: Diseases of the thyroid gland and hypothalamic-pituitary system in children.

Diseases of hypothalamic-pituitary system in children. Etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

Purpose: Acquisition by the applicant of higher education of knowledge and formation of elements of professional competences in the field of pediatrics from the section of endocrinology.

Topic 8. Diabetes mellitus in children. Diseases of gonads and adrenal glands in children. Obesity in children.

Diabetes mellitus in children: definition, etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Acute and chronic complications of diabetes in children. Hyperglycemic ketoacidotic and hypoglycemic coma in children: causes, pathogenesis, clinic, diagnosis, differential diagnosis, emergency care, prevention. Diseases of gonads (delay and acceleration of sexual development, undetermined gender) and adrenal glands in children (adreno-genital syndrome, chronic adrenal insufficiency). Etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Obesity in children. Definition, etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Obesity in children. Definition, etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

Basic concepts:

Topic 8. Determination of etiology, pathogenesis of diabetes mellitus in children. Determination of the classification of diabetes mellitus. Definition of the clinic of diabetes mellitus in children. Diagnosing diabetes mellitus. Determination of the principles of diabetes treatment. Definition of diabetes prevention and prognosis. Determination of acute and chronic complications of diabetes in children. Diagnosing hyperglycemic, ketoacidotic, and hypoglycemic coma in children: causes, pathogenesis, clinic, diagnosis, differential diagnosis, emergency care, prevention.

Definition of diseases of gonads in children. Establishing the diagnosis of delay and acceleration of sexual development, indeterminate sex in children: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Definition of adrenal diseases in children. Establishing a diagnosis of adrenogenital syndrome, chronic adrenal insufficiency: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Definition of obesity in children: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

Equipment: a child's mannequin, a patient according to the topic of the lesson.

Study time of each practical lesson : 2 hours

Plan:

1. Organizational measures (greetings, checking those present, announcing the topic, the purpose of the lesson, motivating applicant of higher education to study the topic).

2. Control of the reference level of knowledge:

Topic 8. Etiopathogenesis of diabetes mellitus. Classification of diabetes. Clinic, diagnosis, differential diagnosis of diabetes. Treatment of diabetes: insulin therapy. Hyperglycemic ketoacidotic and hypoglycemic coma: etiopathogenesis, classification, clinic, diagnosis, differential diagnosis, emergency care. Prevention and prognosis of diabetes. Diseases of gonads (delay and acceleration of sexual development, undetermined gender) and adrenal glands in children (adreno-genital syndrome, chronic adrenal insufficiency).

Topic 9. Classification of diseases of the thyroid gland in children. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention of diffuse toxic goiter. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention of hypothyroidism. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention of autoimmune thyroiditis. Emergency care in thyrotoxic crisis children Etiopathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention of various clinical forms of growth pathology (exogenous-constitutional, pituitary, somatogenic). Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment of diabetes insipidus in children.

Topic 9. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment of Itsenko-Cushing's disease. Etiopathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention of various clinical forms of obesity. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention of various clinical forms of adrenogenital syndrome. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention of various clinical forms of chronic adrenal insufficiency. Diseases of gonads (delay and acceleration of sexual development, unknown sex): etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prognosis. Definition of obesity in children: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

Topic 9. Definition of diseases of the thyroid gland in children. Diagnosis of diffuse toxic goiter in children: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Establishing a diagnosis of hypothyroidism in children: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Establishing the diagnosis of autoimmune thyroiditis in children: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Establishing the diagnosis of endemic goiter in children: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Providing emergency care for thyrotoxic crisis in children. Definition of diseases of the hypothalamic-pituitary system in children: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

Formation of professional skills, skills (mastery of communication skills, clinical examination, determination of a treatment scheme, laboratory research,

etc.) mastery of skills:

1. Survey, examination and clinical examination of a child with diabetes mellitus.
2. Estimates of the child's physical development according to nomograms of sigmoidal deviations according to age.
3. Assessments of the child's psychomotor development according to age.
4. Evaluations of the child's sexual development according to age according to Tener.
5. Palpation of the skin, subcutaneous tissue, soft tissues, abdomen, blood vessels.
6. Percussion of lungs, heart, abdomen.
7. Auscultation of lungs, heart, abdomen.
8. Measurement of blood pressure on the upper and lower extremities with assessment based on centile nomograms according to height.
9. Determination of the characteristics and frequency of the pulse.
10. Assessments of the state of consciousness.
11. Assessments of laboratory research data (general blood analysis, lipidogram, blood glucose level, stress tests, glycated hemoglobin level).
12. Solving clinical situational problems, practicing patient examination skills, demonstrating and practicing the skills of performing manipulations according to list 5, instruction and practicing skills on stimulation dummies, training exercises on the diagnosis of the most common hemorrhagic diseases in children.

Summing up: testing, differential test (at the end of the module).

List of recommended literature (basic, additional, electronic information resources):

Basic:

1. Nelson textbook of pediatrics, 2 volume set. Edition: 21st, 2019. PDF format.
<http://pediacalls.com/e-books/nelson-textbook-of-pediatrics-21st-edition/>
2. Nelson Pediatric Antimicrobial therapy. 2022
URL: <https://apps.apple.com/ru/app/nelson-pediatric-abx-2022/id1611269134>
3. Nelson textbook of pediatrics with access code 2 vol set 22ed (hb 2025) (25 April 2024); Elsevier
<https://www.amazon.in/NELSON-TEXTBOOK-PEDIATRICS-ACCESS-CODE/dp/0323883052>
4. Pediatrics. Differential diagnosis. Emergency conditions. M.L.Aryaev, N.V.Kotova, O.O. Zelinsky [and others]; edited by M.L. Aryaeva, N.V. Kotova. Odesa: ONMedU. - 2017. - 280 p.

Additional:

1. Aryayev M, Senkivska L and Lowe JB (2021) Psycho-Emotional and Behavioral Problems in Children With Growth Hormone Deficiency. Front. Pediatr. 9:707648. doi: 10.3389/fped.2021.707648, SCOPUS, Quartile Q1

2. Aryaev M. L., Senkivska L. I. Quality of life of children with growth hormone deficiency: the importance of clinical, psychoemotional and socio-demographic factors/ Aryaev M. L., Senkivska L. I. // Problems of endocrine pathology. – 2021. – No. 3 (T75). – pp. 7–13. <https://doi.org/10.21856/j-PEP.2021.3.01>, SCOPUS, Quartile Q4
3. Senkivska L, Aryayev M. Compliance and barriers to growth hormone therapy in children. *Pediatrica Polska - Polish Journal of Paediatrics*. 2021;96(3). - P.181-184. DOI: <https://doi.org/10.5114/polp.2021.109303> SCOPUS, Quartile Q4
4. Aryaev M. L., Senkivska L. I. Domestic and school violence against stunted children with growth hormone deficiency/ Aryaev M. L., Senkivska L. I. // Medical perspectives. – 2021. – No. 3 (T26). - pp. 125–131. DOI: <https://doi.org/10.26641/2307-0404.2021.3.242113> SCOPUS, Quartile Q 4
5. UK standards for Pediatric Endocrinology , January 2019.
6. Senkivska L. I., Aryaev M. L. Clinical and auxological characteristics of growth hormone deficiency in children of the southern region of Ukraine / M. L. Aryaev, L. I. Senkivska. // Bulletin of Vinnytsia National Medical University. – 2021. – No. 1 (T 25). – pp. 40–44. DOI: 10.31393/reports-vnmedical-2021-25(1)-07
7. Senkivska L. I. The program for identifying growth hormone deficiency in children of the Odesa region / L. I. Senkivska // Contemporary pediatrics. – 2018. – No. 7. – P. 34–38.
8. Aryaev M. L. Clinical and epidemiological characteristics of stunting in children of the Odesa region / M. L. Aryaev, L. I. Senkivska // Modern pediatrics. - 2017. - No. 6. - P. 36-40.
9. Order of the Ministry of Health of Ukraine No. 1269 dated June 5, 2019 "Emergency medical care: pre-hospital stage. New clinical protocol"

Electronic information resources:

1. <http://moz.gov.ua>– Міністерство охорони здоров'я України
2. www.ama-assn.org – Американська медична асоціація / American Medical Association
3. www.oapn.od.ua- ГО "Одеська Асоціація лікарів-педіатрів та неонатологів"
4. www.who.int – Всесвітня організація охорони здоров'я
5. www.dec.gov.ua/mtd/home/ - Державний експертний центр МОЗ України
6. <http://bma.org.uk>– Британська медична асоціація
7. www.gmc-uk.org- General Medical Council (GMC)
8. www.bundesaerztekammer.de – Німецька медична асоціація
9. https://www.who.int/workforcealliance/members_partners/member_list/ipa/en/ - Міжнародна асоціація педіатрів / International Pediatric Association (IPA).
10. https://ginasthma.org/wp-content/uploads/2024/05/GINA-2024-Strategy-Report-24_05_22_WMS.pdf GINA Global Initiative For Asthma. 2024
11. <https://kdigo.org/wp-content/uploads/2017/02/KDIGO-2021-Glomerular-Diseases->

[Guideline_English_LN-2024-Update.pdf](#) KDIGO 2021 Clinical Practice Guideline for the Management of Glomerular Diseases

12. <https://aamsmedacademy.com/> American Academy of Medical Sciences (AAMS)
13. <https://nam.edu/> The **National Academy of Medicine (NAM)**
14. <https://cutt.ly/utqgtt7I> Підручник Нельсона з педіатрії - електронна книга Elsevier на VitalSource, 21-ше видання
15. <https://www.amazon.com/Averys-Neonatology-Pathophysiology-Management-Pathophysiology/dp/1451192681>