

Catalog of elective disciplines

- 1. Department:** «Pediatrics-2»
2. Level of preparation: Residency
3. Specialty: 7R01106 «Children's oncology and hematology»
4. Course: 1
5. The name of the elective discipline «Pathomorphological diagnostics in pediatric oncology»
6. Number of credits: 2

7. Purpose of the discipline: Training of highly qualified, competitive pediatric oncologists and hematologists who are able to meet the needs of society in providing medical care to oncological and hematological sick children, apply and develop advanced innovative technologies in medicine, science and practice.

Pathomorphology of hemoblastoses in children. Lymphomas. Pathomorphological diagnosis of lymphoid tumors. Pathomorphology of tumors of the central nervous system. Acute lymphoblastic leukemia. Solid tumors. Clinical and pathoanatomic approaches to the lifetime diagnosis of tumors. Methodology of research in pathomorphology of malignant tumors.

8. Objectives:

- to form clinical thinking and the ability to independently work with scientific literature on the discipline;
- develop the ability to analyze socio-biological, medico-social and epidemiological conditions and factors of the occurrence of diseases;
- to teach the resident the principles of diagnosis of diseases, reasonably prescribe laboratory, functional and instrumental methods of examination;
- совершенствовать improve the skill of manual examination of the patient, palpation, percussion and auscultation;
- to develop the skill of interpreting the results of a paraclinical examination of the patient;
- обуч to teach the compilation of an algorithm for the differential diagnosis of diseases;
- to develop the skill of an informed choice of etiopathogenetic treatment;
- научить teach the basic principles of prevention;
- разъяс explain the application of legal documents regulating the activities of a pediatric hematologist, a pediatric oncologist;
- improve interpersonal communication skills with colleagues, patients and their parents;
- to stimulate the resident's desire for self-development and self-improvement, the choice of a professional trajectory;
- to develop the skill of working with medical literature, the ability to analyze literary and Internet sources.

9. Justification of the choice of discipline: In the elective discipline "Pathomorphological diagnostics in pediatric oncology", a deeper and more complete mastering of the work of future pediatric oncogematologists is expected.

Knowledge of medical and social measures of medical rehabilitation is a set of measures aimed at restoring socially significant skills that have been disrupted due to the underlying disease and/or ongoing treatment, by reducing the severity of social insufficiency as much as possible and training in performing socially significant functions, taking into account the nature of life limitations, including using technical means of social rehabilitation.

Knowledge of medical and psychological measures of medical rehabilitation is a set of measures aimed at diagnosing and correcting the psychological problems of the rehabilitator, directly related or caused by the manifestations or consequences of the underlying and concomitant diseases.

Knowledge of indications for medical rehabilitation is the need for a complex of medical services aimed at restoring the normal functioning of the patient's body, disrupted as a result of the disease.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application: Evaluation of studies, materials from professional literature on pediatric oncology and hematology. Use international databases in your daily activities. Participate in the work of the research team;</p> <ul style="list-style-type: none"> - readiness for abstract thinking, analysis, synthesis; - assign a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - provide assistance in case of complications. <p>Analysis: discusses and categorizes the knowledge of biomedical, clinical, social and behavioral sciences in specialized practice</p> <ul style="list-style-type: none"> - conducts a comprehensive assessment of laboratory and instrumental studies. <p>Rating:</p> <ul style="list-style-type: none"> - evaluate the results of UAC, OAM, biochemical blood tests, BAC. research, coprology, CBS. - appreciate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, NMRI 	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during an objective structured clinical examination.</p> <p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Affective Domain (Attitude/Behavior)</p> <p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization:</p> <ul style="list-style-type: none"> -independent organizes medical procedures according to the list of the residency profile; -willingness to manage a team, to tolerate social, ethnic, religious and cultural differences. 	<p>Medical documentation:</p> <ul style="list-style-type: none"> - readiness to identify pathological conditions, symptoms, disease syndromes, and nosological forms in newborns in accordance with the International Statistical Classification of Diseases and Health-related Problems; - medical documentation: registration of medical documentation for the specialty profile in accordance with the legislation in healthcare.

11. Prerequisites: Children's diseases in General medical practice.

12. Postrequisites: profile disciplines

13. References

Main literature:

1. Pathological anatomy : national guidelines / G. N. Berchenko [et al.] ; gl. ed.: M. A. Fingers, L. V. Kaktursky, O. V. Zairatyants ; Russian Society of Pathologists, Assoc. med. - M. : GEOTAR-Media, 2013. - 1259 p. : ill. - (National Guidelines).
2. Oncology [Electronic resource] : national hands / [T. A. Fedorova et al.] ; edited by V. I. Chissov, M. I. Davydov. - Moscow : GEOTAR-Media, 2013. - 572 p.
3. Radiation therapy [Electronic resource] : [study. for higher Prof. education] / [G. E. Trufanov, M. A. Asaturyan, G. M. Zharikov, V. N. Malakhovsky] ; edited by G. E. Trufanov. - Moscow : GEOTAR-Media, 2013. - 208 p.
4. Zaprudnov, A.M. Children's diseases: [study. for higher Prof. education] : in 2 t. t. 1 / A.M. Zaprudnov, K. I. Grigoriev, L. A. Kharitonova– 2nd ed., reprint. and additional – Moscow : GEOTAR-Media, 2013– - 768 p.
5. Zaprudnov, A.M. Children's diseases: [study. for higher Prof. education] : in 2 t. t. 2 / A.M. Zaprudnov, K. I. Grigoriev, L. A. Kharitonova– 2nd ed., reprint. and additional – Moscow : GEOTAR-Media, 2013. - 752 p.
6. History of pediatric oncology / edited by M.Y. Rykov, V.G. Polyakov - St. Petersburg : Mikhail Fursov Printing House, 2015. - 208 p.
7. Pediatric oncology: clinical recommendations for the treatment of patients with solid tumors / edited by M.Y. Rykov, V.G. Polyakov. - M. : GEOTAR-Media, 2017. - 368 p.
8. Clinical manifestations of oncological diseases in children / edited by V.G. Polyakov, M.Yu. Rykov - St. Petersburg : Mikhail Fursov Printing House, 2017. - 52 p.
9. Clinical protocols of the Ministry of Health of the Republic of Kazakhstan.

Additional literature:

1. Outpatient oncology: hands. for doctors / Sh. Kh. Gantsev, V. V. Starinsky, I. R. Rakhmatullina et al– 2nd ed., reprint. and additional – Moscow : GEOTAR-Media, 2012– - 448 p.
2. Abisatov H.A. Clinical oncology: textbook. - Almaty: publishing house "Arys", 2007. - T. I. - 608 s
3. Sirota V.B., Bukenov A.M. Pediatric oncology: textbook. stipend. - Karaganda, 2015. - 128 p.
4. Pediatric oncology: clinical recommendations for the treatment of patients with solid tumors / edited by M.Y. Rykov, V.G. Polyakov. - M. : GEOTAR-Media, 2017. - 368 p.
5. Clinical manifestations of oncological diseases in children / edited by V.G. Polyakov, M.Yu. Rykov - St. Petersburg : Mikhail Fursov Printing House, 2017. - 52 p.
6. Abisatov H.A. Clinical oncology: textbook. - Almaty: Arys Publishing House, 2007. - Vol. II– - 640 p.
7. Monakhov B.V., Kaidarova D.R., Afonin G.A. Modern cancer prevention. - Almaty, 2009– - 196 p.

Electronic resources (for example: video, audio, digests):

1. Higgins, K. Decoding of clinical laboratory analyses [Electronic resource] : monograph / K. Higgins ; translated from English by E. K. Vishnevskaya. - 7th ed. -Moscow : Knowledge Lab, 2016. - 587 p. <http://elib.kaznu.kz/>
2. Welsher, L. Z. Clinical oncology : selected lectures : [studies. manual for medical universities] / L. Z. Welsher, B. I. Polyakov, S. B. Peterson. - M. : GEOTAR-Media, 2019.

Medical sites:

1. med-site.narod.ru
2. www.medicusamicus.com
3. www.medprof.ru
4. www.rusmedserv.com/topsites/
5. www.doktor.ru.
6. medinfo.net
7. www.spasmex.ru
8. www.webmedinfo.ru
9. www.medicum.nnov.ru
10. medcompany.ru
11. meduniver.com
12. badis.narod.ru
13. studentdoctorprofessor.com.ua
14. www.med39.ru
15. www.kovostok.ru
16. www.drugme.ru
17. lepila.tyurem.net
18. top.medlinks.ru
19. doctor-doctor.ru
20. mepmed.ru

- 1. Department:** «Pediatrics-2»
- 2. Level of preparation:** Residency
- 3. Specialty:** 7R01106 «Children's oncology and hematology»
- 4. Course:** 1
- 5. The name of the elective discipline** «Modern aspects of rehabilitation in pediatric hematology oncology»
- 6. Number of credits:** 2
- 7. Purpose of the discipline:** Training of highly qualified, competitive pediatric oncologists and hematologists who are able to meet the needs of society in providing medical care to oncological and hematological sick children, apply and develop advanced innovative technologies in medicine, science and practice.
- 8. Objectives:**
 - to form clinical thinking and the ability to independently work with scientific literature on the discipline;
 - develop the ability to analyze socio-biological, medico-social and epidemiological conditions and factors of the occurrence of diseases;
 - to teach the resident the principles of diagnosis of diseases, reasonably prescribe laboratory, functional and instrumental methods of examination;
 - improve the skill of manual examination of the patient, palpation, percussion and auscultation;
 - to develop the skill of interpreting the results of a paraclinical examination of a patient;
 - to teach the compilation of an algorithm for the differential diagnosis of diseases;
 - to develop the skill of an informed choice of etiopathogenetic treatment;
 - teach the basic principles of prevention;
 - explain the application of legal documents regulating the activities of a pediatric hematologist, a pediatric oncologist;
 - improve interpersonal communication skills with colleagues, patients and their parents;
 - to stimulate the resident's desire for self-development and self-improvement, the choice of a professional trajectory;

- to develop the skill of working with medical literature, the ability to analyze literary and Internet sources.

9. Justification of the choice of discipline: In the elective discipline "Modern aspects of rehabilitation in pediatric oncohematology", a deeper and more complete mastering of the work of future pediatric oncohematologists is expected.

Pediatric rehabilitation is a form of treatment that results from the coordinated and complementary work of various medical and non-medical specialties used to identify and develop children's abilities, rehabilitate identified diseases and ensure the independence of the child at the highest level.

High-intensity treatment in pediatric hematology-oncology requires the organization of active medical and psychological and social rehabilitation of patients who have undergone treatment. Timely comprehensive rehabilitation can improve the results of therapy.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application: Evaluation of studies, materials from professional literature on pediatric oncology and hematology. Use international databases in your daily activities. Participate in the work of the research team;</p> <ul style="list-style-type: none"> - readiness for abstract thinking, analysis, synthesis; - assign a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - provide assistance in case of complications. <p>Analysis: discusses and categorizes the knowledge of biomedical, clinical, social and behavioral sciences in specialized practice</p> <ul style="list-style-type: none"> - conducts a comprehensive assessment of laboratory and instrumental studies. <p>Rating:</p> <ul style="list-style-type: none"> - evaluate the results of UAC, OAM, biochemical blood tests, BAC. research, coprology, CBS. - appreciate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, NMRI 	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during an objective structured clinical examination.</p> <p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Affective Domain (Attitude/Behavior)</p> <p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization:</p> <ul style="list-style-type: none"> -independent organizes medical procedures according to the list of the residency profile; -willingness to manage a team, to tolerate social, ethnic, religious and cultural differences. 	<p>Medical documentation:</p> <ul style="list-style-type: none"> - readiness to identify pathological conditions, symptoms, disease syndromes, and nosological forms in newborns in accordance with the International Statistical Classification of Diseases and Health-related Problems; - medical documentation: registration of medical documentation for the specialty profile in accordance with the legislation in healthcare.

11. Prerequisites: Children's diseases in General medical practice.

12. Postrequisites: profile disciplines

13. References

Main literature:

1. Pediatric oncology : national guidelines / FSBI "N. N. Blokhin Russian Research Center of the Russian Academy of Medical Sciences", Research Institute of Pediatric Oncology and Hematology / M. D. Aliyev [et al.] ; edited by M. D. Aliyev. Moscow : RSC "Practical Medicine", 2012. pp. 377-399.
2. Savva, N. N. Malignant neoplasms in children of the Republic of Belarus / N. N. Savva, A. A. Zborovskaya, O. V. Aleynikova. Minsk, 2008. 182 p.
3. Romashevskaya, I. P. Second malignant tumors in children and adolescents of the Republic of Belarus / I. P. Romashevskaya, N. N. Savva, A. A. Zborovskaya; edited by O. V. Aleynikova. Minsk, 2015. 120 p.
4. Lantskovsky, F. Pediatric hematology and oncology : translated from English / F. Lantskovsky. Moscow : Lori, 2005. 784 p.
5. Dispensary observation of children and adolescents with oncohematological diseases by a pediatrician of general practice / S. R. Varfolomeeva [et al.] // Oncohematology. 2008. No. 1-2. pp. 63-69.
6. Clinical protocols of the Ministry of Health of the Republic of Kazakhstan.

Additional literature:

1. Rudneva, A. E. Observation of patients with hemoblastosis after the end of antitumor therapy / A. E. Rudneva, E. E. Ilyina // Oncohematology. 2014. No. 4. pp. 46-53.
2. Rehabilitation/habilitation of infants and young children in a specialized medical center for patients with blood diseases and malignant neoplasms / E. V. Zhukovskaya [et al.] // Russian Journal of Pediatric Hematology and Oncology. 2017. Vol. 4, No. 3. pp. 80-84.
3. Strategy of medical, psychological and social rehabilitation of children with hematological and oncological diseases / N. N. Volodin [et al.] // Oncohematology. 2015. No. 1. pp. 7-15.
4. Clinical protocol "Medical rehabilitation of children with oncological and oncohematological diseases" : approved by the resolution of the Ministry of Health. Rep. Belarus No. 52 dated 01.06.2017. Access mode : <http://www.pravo.by> . Access date : 20.05.2019.
5. Abisatov H.A. Clinical oncology: textbook. – Almaty: publishing house "Arys", 2007. – T. I. – 608 p
6. Sirota V.B., Bukenov A.M. Pediatric oncology: textbook. stipend. –Karaganda, 2015. – 128p.
7. Pediatric oncology: clinical recommendations for the treatment of patients with solid tumors / edited by M.Y. Rykov, V.G. Polyakov. — M. : GEOTAR-Media, 2017. — 368 p.
8. Clinical manifestations of oncological diseases in children / edited by V.G.Polyakov, M.Yu. Rykov — St. Petersburg : Mikhail Fursov Printing House, 2017. — 52 p.
9. Abisatov H.A. Clinical oncology: textbook. – Almaty: Arys Publishing House, 2007. – Vol. II. – 640 p.

Electronic resources (for example: video, audio, digests):

1. Higgins, K. Decoding of clinical laboratory analyses [Electronic resource] : monograph / K. Higgins ; translated from English by E. K. Vishnevskaya. - 7th ed. -Moscow : Knowledge Lab, 2016. - 587 p. <http://elib.kaznu.kz/>
2. Welsher, L. Z. Clinical oncology : selected lectures : [studies. manual for medical universities] / L. Z. Welsher, B. I. Polyakov, S. B. Peterson. - M. : GEOTAR-Media, 2019.

Medical sites:

1. med-site.narod.ru
2. www.medicusamicus.com
3. www.medprof.ru
4. www.rusmedserv.com/topsites/
5. www.doktor.ru.
6. medinfo.net
7. www.spasmex.ru
8. www.webmedinfo.ru
9. www.medicum.nnov.ru
10. medcompany.ru
11. meduniver.com
12. badis.narod.ru
13. studentdoctorprofessor.com.ua
14. www.med39.ru
15. www.kovostok.ru
16. www.drugme.ru
17. lepila.tyurem.net
18. top.medlinks.ru
19. doctor-doctor.ru
20. mepmed.ru

- 1. Department:** «Pediatrics-2»
- 2. Level of preparation:** Residency
- 3. Specialty:** 7R01130 «Pediatrics»
- 4. Course:** 2
- 5. The name of the elective discipline** «Modern aspects of a diyetaprofilaktika and dietotherapy in pediatrics»
- 6. Number of credits:** 2
- 7. Purpose of the discipline:** to train specialists in nutrition, trained in the methods of diet therapy for various diseases and able to conduct a differentiated diet therapy.
- 8. Objectives:**
 - development by residents of theoretical knowledge on the basics of rational and therapeutic nutrition in children;
 - study of special target diets for patients with cardiological, pulmonological, gastroenterological, nephrological, endocrinological pathologies, food allergies and some surgical diseases;
 - pathogenetic substantiation of diet therapy in case of malabsorption syndrome and food allergy;
 - study of the principles of enteral and parenteral nutrition of patients;
 - study of the principles of therapeutic nutrition in alimentary-dependent conditions in young children;
 - to teach to make professional decisions based on the principles of evidence-based medicine;
 - to instill appropriate communication skills when communicating with patients, interacting with colleagues;
 - to instill the skills of moral, ethical and legal culture necessary for servicing patients in the conditions of functional diagnostics;
 - develop a commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and confidentiality;
 - Strengthen teamwork and leadership skills.
- 9. Justification of the choice of discipline:** Acquisition of knowledge on the conduct of diet therapy for various diseases and the implementation of dynamic monitoring of the patient.

Mastering skills for the preparation of special therapeutic diets for the nutrition of patients with non-communicable diseases.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application: Evaluation of studies, materials from professional literature on "Modern aspects of dietary prevention and diet therapy in pediatrics". Use international databases in your daily activities. Participate in the work of the research team;</p> <ul style="list-style-type: none"> - readiness for abstract thinking, analysis, synthesis; - assign a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - provide assistance in case of complications. <p>Analysis: discusses and categorizes the knowledge of biomedical, clinical, social and behavioral sciences in specialized practice</p> <ul style="list-style-type: none"> - conducts a comprehensive assessment of laboratory and instrumental studies. <p>Rating:</p> <ul style="list-style-type: none"> - evaluate the results of UAC, OAM, biochemical blood tests, BAC. research, coprology, CBS. - appreciate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, NMRI 	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during an objective structured clinical examination.</p> <p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Affective Domain (Attitude/Behavior)</p> <p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization:</p> <ul style="list-style-type: none"> -independent organizes medical procedures according to the list of the residency profile; -willingness to manage a team, to tolerate social, ethnic, religious and cultural differences. 	<p>Medical documentation:</p> <ul style="list-style-type: none"> - readiness to identify pathological conditions, symptoms, disease syndromes, and nosological forms in newborns in accordance with the International Statistical Classification of Diseases and Health-related Problems; - medical documentation: registration of medical documentation for the specialty profile in accordance with the legislation in healthcare; - Knows the basics of rational and therapeutic nutrition in pediatrics. - Knows the principles of enteral and parenteral nutrition of sick children. - Knows how to make a diet for alimentary-dependent conditions in young children.

11. Prerequisites: Children's diseases in the hospital.

12. Postrequisites: profile disciplines

13. References

Main literature:

1. Kildiyarova, R.R. Visual pediatric gastroenterology and hepatology (+ CD-ROM) / R.R. Kildiyarova, Yu.F. Lobanov. - M.: GEOTAR-Media, 2021. - 124 p.

2. Kildiyarova, R. R. Fundamentals of the formation of children's health. Textbook / R.R. Kildiyarova, V.I. Makarova, Yu.F. Lobanov. - M.: GEOTAR-Media, 2021. - 328 p.
3. Kildiyarova, R. R. Nutrition of a healthy and sick child / R.R. Kildiyarov. - M.: MEDpress-inform, 2022. - 128 p.
4. Kildiyarova, Rita Rafgatovna Nutrition of a healthy and sick child. Textbook / Kildiyarova Rita Rafgatovna. - M.: MEDpress-inform, 2020. - 927 p.
5. Clinical nutrition (educational manual). / Ed. T.Sh.Sharmanova. -Almaty, 1999.
6. Guide to dietetics. / Ed. Baranovsky A.Yu. - St. Petersburg, 2008. 800s
7. Sharmanov T.Sh. About the role, deficiency and prevention of the most important micronutrients. Publishing house: Raritet. 2009 -368 p.
8. Terekhin S.P.. Emdik tamaqtanu. Oku-adistemelik kыral. Karagandy, 2006. - 276 p.
9. Gurvich M.M. Diet in diseases of the digestive system. - M., 2006. - 288 p.

Additional literature:

1. Nutrition and health in Europe: a new basis for action. WHO Regional Publications, 2007. European Series, No. 96. Edited by: Aileen Robertson, Cristina Tirado, Tim Lobstein, Translated from English. A. Reshetova. 525 p.
2. http://www.who.int/dietphysicalactivity/publications/trs916/en/gsfao_obesity.pdf.
3. Obesity in the Pacific: too big to ignore. WHO Regional Office, Manila and the Government of Australia. Secretariat of the Pacific Community, 2005. P. 18.
4. The management of nutrition in Major Emergencies // WHO/UNHCR/IFRCRCS/WFP. – Geneva, WHO. – 2008.
5. Must A., Dallal G.E., Dietz W.H. Reference data for obesity: 85th and 95th percentile of body mass index (wt/ht²) // Am. J.Clin. Nutr. - 2009. - V. 53. - P. 839-846.
6. Dr Xavier Irz, Dr Bhavani Shankar and Dr C.S. Srinivasan. Dietary Recommendations in the Report of a Joint WHO/FAO Expert Consultation on Diet, Nutrition and the Prevention of Chronic Diseases. Geneva, 28 January - 1 February 2003, (WHO Technical Report Series 916, 2003): \$59
6. Nikulin B.A. Assessment and correction of immune status: a guide. - M. 2008. -376 p.
7. Askarova G.K. Allergodermatoses: eczema and atopic dermatitis (etiology, pathogenesis, clinic and treatment) - Karaganda, 2002. - 202 p.
8. Kishkun A.A. Clinical laboratory diagnostics: textbook. - M., 2008. 720s
10. Gankovskaya L.V. Clinical immunology and allergology: workshop for 5-6 course. - M., 2009.
11. Baranovsky A.Yu. Dietology 5th edition, revised and supplemented: - Peter, 2018. - 1024 p.
12. State policy of the Russian Federation in the field of healthy nutrition: Report. - M.: Federal Service for Supervision of Consumer Rights Protection and Human Welfare, 2015. - 89 p.
13. Scientific foundations of healthy nutrition / ed. V.A. Tutelyan: - M.: Publishing house "Panorama", 2010. - 816 p.
14. Medical nutrition: modern approaches to the standardization of diet therapy / ed. V.A. Tutelyan [i dr.]. - Moscow: Dynasty, 2010. - 301 p.

Electronic resources (for example: video, audio, digests):

1. Sorvacheva T.N., Martinchik A.N., Pyrieva E.A. Comprehensive assessment of actual nutrition and nutritional status of children and adolescents: textbook - M.: GBOU DPO RMAPO, 2014. - 73 p.
- <http://irbis.rmapo.ru/UploadsFilesForIrbis/8b4ba38a506a0008d1d0b92c42ed9df5.pdf>
2. WHO AnthroPlus for personal computers Manual: Software for assessing growth of the world's children and adolescents. Geneva: WHO, 2009 (<http://www.who.int/growthref/tools/en/>).

Medical sites:

1. med-site.narod.ru
2. www.medicusamicus.com
3. www.medprof.ru
4. www.rusmedserv.com/topsites/
5. www.doktor.ru.
6. medinfo.net
7. www.spasmex.ru
8. www.webmedinfo.ru
9. www.medicum.nnov.ru
10. medcompany.ru
11. meduniver.com
12. badis.narod.ru
13. studentdoctorprofessor.com.ua
14. www.med39.ru
15. www.kovostok.ru
16. www.drugme.ru
17. lepila.tyurem.net
18. top.medlinks.ru
19. doctor-doctor.ru
20. mepmed.ru

- 1. Department:** «Pediatrics-2»
- 2. Level of preparation:** Residency
- 3. Specialty:** 7R01130 «Pediatrics»
- 4. Course:** 2
- 5. The name of the elective discipline** «Functional diagnostics in Pediatrics»
- 6. Number of credits:** 2
- 7. Purpose of the discipline:** Formation and consolidation of deep knowledge, skills and abilities of residents in industrial, scientific and pedagogical practice for conducting research work of residents in the specialty «Pediatrics».
- 8. Objectives:**
 - Consolidation of practical skills and theoretical foundations of functional diagnostics in cases often encountered in pediatric cardiology, pulmonology, neurology;
 - adoption of specialized decisions based on the principles of evidence-based medicine;
 - mastering communication skills in relationships with patients and colleagues;
 - formation of a moral and ethical culture, which is supported during the observation and examination of patients;
 - development of practical values, principles of altruism, mercy, responsibility, honesty and confidentiality;
 - formation of leadership qualities and ability to work in a group;
 - ability to independently work with scientific literature on the topic and form clinical thinking;
 - formation of the ability to analyze socio-biological, medico-social and epidemiological conditions and factors of diseases;
 - appointment of laboratory, functional and instrumental methods of examination;
 - develop the ability to work with medical literature, the ability to analyze literary and Internet sources;
 - ability to independently work with scientific literature on the topic and form clinical thinking;
 - development of the ability to analyze socio-biological, medical-social and epidemiological conditions and factors of diseases;
 - teaching the intern the principles of diagnosing diseases, prescribing methods of laboratory, functional and instrumental examination;

- Improving the skills of manual examination of the patient, palpation, percussion and auscultation;
- development of the ability to interpret the results of paraclinical examination of the patient;
- to teach how to draw up an algorithm for the differential diagnosis of diseases;
- development of the ability to choose the right etiopathogenetic treatment;
- teach the basic principles of prevention;
- explain the application of legal acts regulating the activities of a pediatrician;
- Improving communication skills with colleagues, patients and their parents;
- to stimulate the desire of the resident for self-development and self-improvement, for the choice of a professional trajectory;

9. Justification of the choice of discipline: In the elective discipline «Functional diagnostics in Pediatrics», a deeper and more complete mastering of the work of future pediatric oncohematologists is expected.

The work program of the topic included the main sections of topical problems of functional diagnostics in pediatrics: indications, contraindications for functional diagnostics in children of different ages, functional diagnostics and interpretation of research results, functional diagnostics in congenital heart defects. Daily blood pressure monitoring. The method of spirographic research in children. Diagnosis of hyperactivity of the lungs in children and adolescents. Theoretical foundations of clinical physiology of the cardiovascular system. The structure of the conduction system of the heart. ECG parameters for rhythm disturbances in children. Normal ECG parameters. The mechanism of development of rhythm disturbances. Ultrasound of the heart. Physical and technical bases of echocardiogram, echocardiogram method. Echocardiography in various pathologies of the heart. Ultrasound diagnosis of diseases of the thyroid gland, diseases of the abdominal cavity. Electroencephalography. echoencephalography. Electromyography.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application: Evaluation of studies, materials from professional literature on functional diagnostics in pediatrics. Participate in the work of the research team;</p> <ul style="list-style-type: none"> - readiness for abstract thinking, analysis, synthesis; - assign a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - provide assistance in case of complications. <p>Analysis: discusses and categorizes the knowledge of biomedical, clinical, social and behavioral sciences in specialized practice</p>	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during an objective structured clinical examination.</p> <p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Affective Domain (Attitude/Behavior)</p> <p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization:</p> <ul style="list-style-type: none"> -independent organizes medical procedures according to the list of the residency profile; -willingness to manage a team, to tolerate social, ethnic, 	<p>Medical documentation:</p> <ul style="list-style-type: none"> - readiness to identify pathological conditions, symptoms, disease syndromes, and nosological forms in newborns in accordance with the International Statistical Classification of Diseases and Health-related Problems; - medical documentation: registration of medical documentation for the specialty profile in accordance with the legislation in healthcare.

<p>- conducts a comprehensive assessment of laboratory and instrumental studies.</p> <p>Rating:</p> <p>- evaluate the results of UAC, OAM, biochemical blood tests, BAC. research, coprology, CBS.</p> <p>- appreciate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, NMRI</p>	<p>religious and cultural differences.</p>	
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11. Prerequisites: Children's diseases in the hospital.

12. Postrequisites: profile disciplines

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6. Mindubaeva, F. A. Fundamentals of functional diagnostics: study guide / F. A. Mindubaeva, E. Yu. Salikhova; Ministry of Health of the Republic of Kazakhstan; KargMU. - Almaty: Evero, 2014. - 164 p.

Additional literature:

1. Cardiology: national guide / ed. E. V. Shlyakhto. - 2nd ed. - Moscow: GEOTAR - Media, 2015. - 800 p.
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7. ABC of ECG and Pain in the heart / Yu.I. Zudbinov. - Ed. 13th. - Rostov-on-Don: Phoenix, 2011. - 235 p. - (Medicine) Access from the EBS "Doctor's Consultant. EMB".
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14. Schiller Yu. Practical echocardiography. M.-2006

Electronic resources (for example: video, audio, digests):

1. Scopus / Elsevier Inc., Reed Elsevier. - Philadelphia: Elsevier B.V., PA. - URL: <http://www.scoDus.com/> (National project)
2. Doctor's consultant. Electronic medical library: EBS. - Moscow: LLC GK "GEOTAR". - URL: <http://www.rosmedlib.ru>
3. Web of Science / Clarivate Analytics. - URL: <http://apps.webofknowledge.com> (Naitoekt).
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6. medinfo.net
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- 1. Department:** «Pediatrics-2»
2. Level of preparation: Residency
3. Specialty: 7R01130 «Pediatrics»
4. Course: 2
5. The name of the elective discipline «Functional diagnostics in Pediatrics»
6. Number of credits: 2
7. Purpose of the discipline: Formation and consolidation of deep knowledge, skills and abilities of residents in industrial, scientific and pedagogical practice for conducting research work of residents in the specialty «Pediatrics».

8. Objectives:

- Consolidation of practical skills and theoretical foundations of functional diagnostics in cases often encountered in pediatric cardiology, pulmonology, neurology;
- adoption of specialized decisions based on the principles of evidence-based medicine;
- mastering communication skills in relationships with patients and colleagues;
- formation of a moral and ethical culture, which is supported during the observation and examination of patients;
- development of practical values, principles of altruism, mercy, responsibility, honesty and confidentiality;
- formation of leadership qualities and ability to work in a group;
- ability to independently work with scientific literature on the topic and form clinical thinking;
- formation of the ability to analyze socio-biological, medico-social and epidemiological conditions and factors of diseases;
- appointment of laboratory, functional and instrumental methods of examination;
- develop the ability to work with medical literature, the ability to analyze literary and Internet sources;
- ability to independently work with scientific literature on the topic and form clinical thinking;
- development of the ability to analyze socio-biological, medical-social and epidemiological conditions and factors of diseases;
- teaching the intern the principles of diagnosing diseases, prescribing methods of laboratory, functional and instrumental examination;
- Improving the skills of manual examination of the patient, palpation, percussion and auscultation;
- development of the ability to interpret the results of paraclinical examination of the patient;
- to teach how to draw up an algorithm for the differential diagnosis of diseases;
- development of the ability to choose the right etiopathogenetic treatment;
- teach the basic principles of prevention;
- explain the application of legal acts regulating the activities of a pediatrician;
- Improving communication skills with colleagues, patients and their parents;
- to stimulate the desire of the resident for self-development and self-improvement, for the choice of a professional trajectory;

9. Justification of the choice of discipline: In the elective discipline «Functional diagnostics in Pediatrics», a deeper and more complete mastering of the work of future pediatric oncohematologists is expected.

The work program of the topic included the main sections of topical problems of functional diagnostics in pediatrics: indications, contraindications for functional diagnostics in children of different ages, functional diagnostics and interpretation of research results, functional diagnostics

in congenital heart defects. Daily blood pressure monitoring. The method of spiographic research in children. Diagnosis of hyperactivity of the lungs in children and adolescents. Theoretical foundations of clinical physiology of the cardiovascular system. The structure of the conduction system of the heart. ECG parameters for rhythm disturbances in children. Normal ECG parameters. The mechanism of development of rhythm disturbances. Ultrasound of the heart. Physical and technical bases of echocardiogram, echocardiogram method. Echocardiography in various pathologies of the heart. Ultrasound diagnosis of diseases of the thyroid gland, diseases of the abdominal cavity. Electroencephalography. echoencephalography. Electromyography.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application: Evaluation of studies, materials from professional literature on functional diagnostics in pediatrics. Participate in the work of the research team;</p> <ul style="list-style-type: none"> - readiness for abstract thinking, analysis, synthesis; - assign a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - provide assistance in case of complications. <p>Analysis: discusses and categorizes the knowledge of biomedical, clinical, social and behavioral sciences in specialized practice</p> <ul style="list-style-type: none"> - conducts a comprehensive assessment of laboratory and instrumental studies. <p>Rating:</p> <ul style="list-style-type: none"> - evaluate the results of UAC, OAM, biochemical blood tests, BAC. research, coprology, CBS. - appreciate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, NMRI 	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during an objective structured clinical examination.</p> <p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Affective Domain (Attitude/Behavior)</p> <p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization:</p> <ul style="list-style-type: none"> -independent organizes medical procedures according to the list of the residency profile; -willingness to manage a team, to tolerate social, ethnic, religious and cultural differences. 	<p>Medical documentation:</p> <ul style="list-style-type: none"> - readiness to identify pathological conditions, symptoms, disease syndromes, and nosological forms in newborns in accordance with the International Statistical Classification of Diseases and Health-related Problems; - medical documentation: registration of medical documentation for the specialty profile in accordance with the legislation in healthcare.

11. Prerequisites: Children's diseases in the hospital.

12. Postrequisites: profile disciplines

13. References

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1. Functional diagnostics in cardiology [Electronic resource]: in two volumes / under

- ed. L.A. Bokeria [i dr.]. - M.: Publishing house of the NCSST them. Bakuleva RAMS, 2005. - G. 1. - 296 p. - Access from EBS "Physician's Consultant. EMB".
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2. Simple ECG Analysis: Interpretation. Differential diagnosis / Hans Holger Ebert. - Per. from English. - M: Logosphere, 2010. - 280s.
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4. Akselrod A.S., Chomakhidze P.Sh., Syrkin A.L. Stress ECG Tests: 10 Steps to practice / ed. A.L. Syrkin - Moscow: Publishing House MEDprssinform, 2008. - 200p.
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7. ABC of ECG and Pain in the heart / Yu.I. Zudbinov. - Ed. 13th. - Rostov-on-Don: Phoenix, 2011. - 235 p. - (Medicine) Access from the EBS "Doctor's Consultant. EMB".
8. Physiological bases of electroencephalography: (Educational and methodical manual) / G.Sh. Gafiyatullina; RostGMU. - Rostov n / a: Publishing house of RostGMU, 2007. - 70s.
9. Clinical epileptology (with elements of neurophysiology): a guide for physicians / L.R. Zenkov. - Ed. 2nd, rev. and additional - Moscow: MIA, 2010. - 408 p.
10. Yu.M. Belozarov. Children's cardiology / - M.: "MED press-inform", 2004. - 590 p.
11. O.L. Bokeria. Electrical stimulation of the heart in children / - M.: Medpraktika-M, 2005. - 137 p.
12. Kushakovsky M.S., Zhuravleva N.B. Arrhythmias and heart blocks: an atlas of electrocardiograms. - L. Medicine, 2007.
13. Oskolkova M.K., Kupriyanova O.O. Electrocardiography in children - M.: Medicine, 2006.
14. Schiller Yu. Practical echocardiography. M.-2006

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1. Scopus / Elsevier Inc., Reed Elsevier. - Philadelphia: Elsevier B.V., PA. - URL: <http://www.scoDus.com/> (National project)
2. Doctor's consultant. Electronic medical library: EBS. - Moscow: LLC GK "GEOTAR". - URL: <http://www.rosmedlib.ru>
3. Web of Science / Clarivate Analytics. - URL: <http://apps.webofknowledge.com> (Naitoekt).
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18. top.medlinks.ru
19. doctor-doctor.ru
20. mepmed.ru

- 1. Department:** «Pediatrics-2»
2. Level of preparation: Residency
3. Specialty: 7R01130 «Pediatrics»
4. Course: 2
5. The name of the elective discipline «Clinical immunology and Allergology in hospital»
6. Number of credits: 2
7. Purpose of the discipline: Training of highly qualified, competitive pediatricians who are able to meet the needs of society in providing medical care to sick children, apply and develop advanced innovative technologies in medicine, science and practice.

8. Objectives:

- to form clinical thinking and the ability to independently work with scientific literature on the discipline;
- develop the ability to analyze socio-biological, medico-social and epidemiological conditions and factors of the occurrence of diseases;
- to teach the resident the principles of diagnosis of diseases, reasonably prescribe laboratory, functional and instrumental methods of examination;
- совершенствовать improve the skill of manual examination of the patient, palpation, percussion and auscultation;
- to develop the skill of interpreting the results of a paraclinical examination of the patient;
- обуч to teach the compilation of an algorithm for the differential diagnosis of diseases;
- to develop the skill of an informed choice of etiopathogenetic treatment;
- научить teach the basic principles of prevention;
- explain the application of legal documents regulating the activities of a pediatrician;
- improve interpersonal communication skills with colleagues, patients and their parents;
- to stimulate the resident's desire for self-development and self-improvement, the choice of a professional trajectory;
- to develop the skill of working with medical literature, the ability to analyze literary and Internet sources.

9. Justification of the choice of discipline:

In the elective discipline "Clinical immunology and Allergology in hospital", a deeper and more complete mastery of the work of future pediatricians is expected.

Clinical immunology in pediatric oncology studies the principles of immunotherapy of immunodeficiency states, modern methods of immunodiagnostics, modern aspects of stem cell transplantation.

Immunology is an artificial stimulation of the immune system for the treatment of cancer, helping the immune system to fight the disease in a natural way. This is a program of fundamental research in the field of cancer immunology and the developing specialization of oncology. Cancer immunotherapy consists in the fact that antibodies of proteins of the immune system can detect and bind to molecules located on the surface of tumor antigens of cancer cells.

The complex therapy started in a timely manner makes it possible to improve the further prognosis of childhood oncological diseases.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application:</p> <p>Evaluation of studies, materials from professional literature on Clinical immunology and Allergology in hospital. Use international databases in your daily activities. Participate in the work of the research team;</p> <ul style="list-style-type: none"> - readiness for abstract thinking, analysis, synthesis; - assign a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - provide assistance in case of complications. <p>Analysis: discusses and categorizes the knowledge of biomedical, clinical, social and behavioral sciences in specialized practice</p> <ul style="list-style-type: none"> - conducts a comprehensive assessment of laboratory and instrumental studies. <p>Rating:</p> <ul style="list-style-type: none"> - evaluate the results of UAC, OAM, biochemical blood tests, BAC. research, coprology, CBS. - appreciate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, NMRI 	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during an objective structured clinical examination.</p> <p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Affective Domain (Attitude/Behavior)</p> <p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization:</p> <ul style="list-style-type: none"> -independent organizes medical procedures according to the list of the residency profile; -willingness to manage a team, to tolerate social, ethnic, religious and cultural differences. 	<p>Medical documentation:</p> <ul style="list-style-type: none"> - readiness to identify pathological conditions, symptoms, disease syndromes, and nosological forms in newborns in accordance with the International Statistical Classification of Diseases and Health-related Problems; - medical documentation: registration of medical documentation for the specialty profile in accordance with the legislation in healthcare.

11. Prerequisites: Children's diseases in the hospital.

12. Postrequisites: profile disciplines

13. References

Main literature:

1. Clinical immunology and allergology with the basics of general immunology [Electronic resource]: textbook / Kovalchuk L.V., Gankovskaya L.V., Meshkova R.Ya. - M. : GEOTAR-Media, 2012. - 640 p.: ill. Chapter 12

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8. Clinical protocols of the Ministry of Health of the Republic of Kazakhstan.

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6. Vorobyov S.V., Emelin A.Yu., Kuznetsova R.N., Kudryavtsev I.V. The role of the immune response in the pathogenesis of Alzheimer's disease and the possibility of anti-inflammatory therapy // Neurological Bulletin. 2020; T. LII (3): 55-62.
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<http://elib.kaznu.kz/>
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3. <http://allergology.ru> - online medical journal for allergologists and immunologists;
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11. meduniver.com
12. badis.narod.ru
13. studentdoctorprofessor.com.ua
14. www.med39.ru
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20. mepmed.ru

- 1. Department:** «Pediatrics-2»
2. Level of preparation: Residency
3. Specialty: 7R01130 «Pediatrics»
4. Course: 2
5. The name of the elective discipline «Clinical and laboratory diagnostics in Pediatrics»
6. Number of credits: 2
7. Purpose of the discipline: Training of a pediatrician who has a volume of knowledge, skills and practical skills that meets modern requirements for independent interpretation of laboratory diagnostic methods of research.

8. Objectives:

- consolidate skills in interpreting the results of modern laboratory and instrumental methods of examination and diagnosis in various diseases in children;
- increase knowledge on modern methods of examination of diseases in children;
- to teach the maintenance of current medical medical and accounting and reporting documentation in accordance with modern standards in pediatrics;
- to teach the conduct of sanitary and educational work among the population, the formation of a healthy lifestyle in modern conditions;
- the need for continuous professional training and improvement of their knowledge and skills throughout their professional activities.

9. Justification of the choice of discipline:

In the elective discipline "Clinical and laboratory diagnostics in pediatrics", a deeper and more complete mastery of the work of pediatricians is expected. The ability to interpret the results of laboratory functional research methods is necessary for a young specialist to make an accurate diagnosis and conduct a differential diagnosis.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application: can apply his knowledge to problem solving in a new or unfamiliar environment related to his field of study; - appoint a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - to provide assistance in case of complications. Analysis: discusses, categorizes knowledge of biomedical, clinical, social and behavioral sciences in specialized practice - Conduct a comprehensive assessment of the conducted</p>	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during OSKE. Articulation: accurately performs medical procedures on real or standardized patients. Gives value: relationships with patients and medical staff during medical procedures. Organization: independently organizes medical procedures according to the list of the internship profile.</p>	<p>Medical documentation: registration of medical documentation on the profile of the specialty in accordance with the legislation in health care.</p>

laboratory and instrumental studies. Rating: Assess the results of the CBC, OAM, biochemical blood tests, tank. research, scatology, CBS. Evaluate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, MRI		
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11. Prerequisites: biochemistry, biophysics, physiology.

12. Postrequisites: profile disciplines

13. References

Main literature:

1. Hittins K. - Deciphering clinical laboratory tests. Moscow. Bykom. Knowledge Lab. 2004, p.376 b.
2. Kamyshnikov V.S. "Clinical laboratory tests from A to Z and their diagnostic profiles". Moscow. Medpress-Inform. 2005
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2. Bazarbaeva A.A. Differential diagnosis of anemia in children: textbook.- Almaty, 2011.- 99 p.

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| 7. www.spasmex.ru | 15. www.kovostok.ru |
| 8. www.webmedinfo.ru | 16. www.drugme.ru |

17. lepila.tyurem.net

18. top.medlinks.ru

19. doctor-doctor.ru

20. mepmed.ru

1. **Department:** «Pediatrics-2»
2. **Level of preparation:** Residency
3. **Specialty:** 7R01130 «Pediatrics»
4. **Course:** 2
5. **The name of the elective discipline** «Modern aspects of a diyetaprofilaktika and dietotherapy in pediatrics»
6. **Number of credits:** 2
7. **Purpose of the discipline:** to train specialists in nutrition, trained in the methods of diet therapy for various diseases and able to conduct a differentiated diet therapy.
8. **Objectives:**
 - development by residents of theoretical knowledge on the basics of rational and therapeutic nutrition in children;
 - study of special target diets for patients with cardiological, pulmonological, gastroenterological, nephrological, endocrinological pathologies, food allergies and some surgical diseases;
 - pathogenetic substantiation of diet therapy in case of malabsorption syndrome and food allergy;
 - study of the principles of enteral and parenteral nutrition of patients;
 - study of the principles of therapeutic nutrition in alimentary-dependent conditions in young children;
 - to teach to make professional decisions based on the principles of evidence-based medicine;
 - to instill appropriate communication skills when communicating with patients, interacting with colleagues;
 - to instill the skills of moral, ethical and legal culture necessary for servicing patients in the conditions of functional diagnostics;
 - develop a commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and confidentiality;
 - Strengthen teamwork and leadership skills.
9. **Justification of the choice of discipline:** Acquisition of knowledge on the conduct of diet therapy for various diseases and the implementation of dynamic monitoring of the patient. Mastering skills for the preparation of special therapeutic diets for the nutrition of patients with non-communicable diseases.
10. **Result of training (competence):**

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application: Evaluation of studies, materials from professional literature on "Modern aspects of dietary prevention and diet therapy in pediatrics". Use international databases in your daily activities. Participate in the work of the research team;</p> <p>- readiness for abstract thinking, analysis, synthesis;</p>	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during an objective structured clinical examination.</p> <p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Affective Domain (Attitude/Behavior)</p>	<p>Medical documentation:</p> <p>- readiness to identify pathological conditions, symptoms, disease syndromes, and nosological forms in newborns in accordance with the International Statistical Classification of Diseases and Health-related Problems;</p>

<p>- assign a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - provide assistance in case of complications.</p> <p>Analysis: discusses and categorizes the knowledge of biomedical, clinical, social and behavioral sciences in specialized practice - conducts a comprehensive assessment of laboratory and instrumental studies.</p> <p>Rating: - evaluate the results of UAC, OAM, biochemical blood tests, BAC. research, coprology, CBS. - appreciate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, NMRI</p>	<p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization: -independent organizes medical procedures according to the list of the residency profile; -willingness to manage a team, to tolerate social, ethnic, religious and cultural differences.</p>	<p>- medical documentation: registration of medical documentation for the specialty profile in accordance with the legislation in healthcare; - Knows the basics of rational and therapeutic nutrition in pediatrics. - Knows the principles of enteral and parenteral nutrition of sick children. - Knows how to make a diet for alimentary-dependent conditions in young children.</p>
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11. Prerequisites: Children's diseases in the hospital.

12. Postrequisites: profile disciplines

13. References

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2. Kildiyarova, R. R. Fundamentals of the formation of children's health. Textbook / R.R. Kildiyarova, V.I. Makarova, Yu.F. Lobanov. - M.: GEOTAR-Media, 2021. - 328 p.
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12. State policy of the Russian Federation in the field of healthy nutrition: Report. - M.: Federal Service for Supervision of Consumer Rights Protection and Human Welfare, 2015. - 89 p.
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Electronic resources (for example: video, audio, digests):

1. Sorvacheva T.N., Martinchik A.N., Pyrieva E.A. Comprehensive assessment of actual nutrition and nutritional status of children and adolescents: textbook - M.: GBOU DPO RMAPO, 2014. - 73 p.

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20. mepmed.ru

- 1. Department:** «Pediatrics-2»
2. Level of preparation: Residency
3. Specialty: 7R01130 «Pediatrics»
4. Course: 2
5. The name of the elective discipline «Functional diagnostics in Pediatrics»
6. Number of credits: 2
7. Purpose of the discipline: Formation and consolidation of deep knowledge, skills and abilities of residents in industrial, scientific and pedagogical practice for conducting research work of residents in the specialty «Pediatrics».

8. Objectives:

- Consolidation of practical skills and theoretical foundations of functional diagnostics in cases often encountered in pediatric cardiology, pulmonology, neurology;
- adoption of specialized decisions based on the principles of evidence-based medicine;
- mastering communication skills in relationships with patients and colleagues;
- formation of a moral and ethical culture, which is supported during the observation and examination of patients;
- development of practical values, principles of altruism, mercy, responsibility, honesty and confidentiality;
- formation of leadership qualities and ability to work in a group;
- ability to independently work with scientific literature on the topic and form clinical thinking;
- formation of the ability to analyze socio-biological, medico-social and epidemiological conditions and factors of diseases;
- appointment of laboratory, functional and instrumental methods of examination;
- develop the ability to work with medical literature, the ability to analyze literary and Internet sources;
- ability to independently work with scientific literature on the topic and form clinical thinking;
- development of the ability to analyze socio-biological, medical-social and epidemiological conditions and factors of diseases;
- teaching the intern the principles of diagnosing diseases, prescribing methods of laboratory, functional and instrumental examination;
- Improving the skills of manual examination of the patient, palpation, percussion and auscultation;
- development of the ability to interpret the results of paraclinical examination of the patient;
- to teach how to draw up an algorithm for the differential diagnosis of diseases;
- development of the ability to choose the right etiopathogenetic treatment;
- teach the basic principles of prevention;
- explain the application of legal acts regulating the activities of a pediatrician;
- Improving communication skills with colleagues, patients and their parents;
- to stimulate the desire of the resident for self-development and self-improvement, for the choice of a professional trajectory;

9. Justification of the choice of discipline: In the elective discipline «Functional diagnostics in Pediatrics», a deeper and more complete mastering of the work of future pediatric oncohematologists is expected.

The work program of the topic included the main sections of topical problems of functional diagnostics in pediatrics: indications, contraindications for functional diagnostics in children of different ages, functional diagnostics and interpretation of research results, functional diagnostics in congenital heart defects. Daily blood pressure monitoring. The method of spiographic research in children. Diagnosis of hyperactivity of the lungs in children and adolescents. Theoretical foundations of clinical physiology of the cardiovascular system. The structure of the conduction system of the heart. ECG parameters for rhythm disturbances in children. Normal ECG parameters.

The mechanism of development of rhythm disturbances. Ultrasound of the heart. Physical and technical bases of echocardiogram, echocardiogram method. Echocardiography in various pathologies of the heart. Ultrasound diagnosis of diseases of the thyroid gland, diseases of the abdominal cavity. Electroencephalography. echoencephalography. Electromyography.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application: Evaluation of studies, materials from professional literature on functional diagnostics in pediatrics. Participate in the work of the research team;</p> <ul style="list-style-type: none"> - readiness for abstract thinking, analysis, synthesis; - assign a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - provide assistance in case of complications. <p>Analysis: discusses and categorizes the knowledge of biomedical, clinical, social and behavioral sciences in specialized practice</p> <ul style="list-style-type: none"> - conducts a comprehensive assessment of laboratory and instrumental studies. <p>Rating:</p> <ul style="list-style-type: none"> - evaluate the results of UAC, OAM, biochemical blood tests, BAC. research, coprology, CBS. - appreciate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, NMRI 	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during an objective structured clinical examination.</p> <p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Affective Domain (Attitude/Behavior)</p> <p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization:</p> <ul style="list-style-type: none"> -independent organizes medical procedures according to the list of the residency profile; -willingness to manage a team, to tolerate social, ethnic, religious and cultural differences. 	<p>Medical documentation:</p> <ul style="list-style-type: none"> - readiness to identify pathological conditions, symptoms, disease syndromes, and nosological forms in newborns in accordance with the International Statistical Classification of Diseases and Health-related Problems; - medical documentation: registration of medical documentation for the specialty profile in accordance with the legislation in healthcare.

11. Prerequisites: Children's diseases in the hospital.

12. Postrequisites: profile disciplines

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12. Kushakovsky M.S., Zhuravleva N.B. Arrhythmias and heart blocks: an atlas of electrocardiograms. - L. Medicine, 2007.
13. Oskolkova M.K., Kupryanova O.O. Electrocardiography in children - M.: Medicine, 2006.
14. Schiller Yu. Practical echocardiography. M.-2006

Electronic resources (for example: video, audio, digests):

1. Scopus / Elsevier Inc., Reed Elsevier. - Philadelphia: Elsevier B.V., PA. - URL: <http://www.scoDus.com/> (National project)
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3. Web of Science / Clarivate Analytics. - URL: <http://apps.webofknowledge.com> (Naitoekt).
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| 4. www.rusmedserv.com/topsites/ | 10. medcompany.ru |
| 5. www.doktor.ru | 11. meduniver.com |
| 6. medinfa.net | 12. badis.narod.ru |

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- 1. Department:** «Pediatrics-2»
- 2. Level of preparation:** Residency
- 3. Specialty:** 7R01130 «Pediatrics»
- 4. Course:** 2
- 5. The name of the elective discipline:** «Functional diagnostics in Pediatrics»
- 6. Number of credits:** 2
- 7. Purpose of the discipline:** Formation and consolidation of deep knowledge, skills and abilities of residents in industrial, scientific and pedagogical practice for conducting research work of residents in the specialty «Pediatrics».

8. Objectives:

- Consolidation of practical skills and theoretical foundations of functional diagnostics in cases often encountered in pediatric cardiology, pulmonology, neurology;
- adoption of specialized decisions based on the principles of evidence-based medicine;
- mastering communication skills in relationships with patients and colleagues;
- formation of a moral and ethical culture, which is supported during the observation and examination of patients;
- development of practical values, principles of altruism, mercy, responsibility, honesty and confidentiality;
- formation of leadership qualities and ability to work in a group;
- ability to independently work with scientific literature on the topic and form clinical thinking;
- formation of the ability to analyze socio-biological, medico-social and epidemiological conditions and factors of diseases;
- appointment of laboratory, functional and instrumental methods of examination;
- develop the ability to work with medical literature, the ability to analyze literary and Internet sources;
- ability to independently work with scientific literature on the topic and form clinical thinking;
- development of the ability to analyze socio-biological, medical-social and epidemiological conditions and factors of diseases;
- teaching the intern the principles of diagnosing diseases, prescribing methods of laboratory, functional and instrumental examination;
- Improving the skills of manual examination of the patient, palpation, percussion and auscultation;
- development of the ability to interpret the results of paraclinical examination of the patient;
- to teach how to draw up an algorithm for the differential diagnosis of diseases;
- development of the ability to choose the right etiopathogenetic treatment;
- teach the basic principles of prevention;
- explain the application of legal acts regulating the activities of a pediatrician;
- Improving communication skills with colleagues, patients and their parents;
- to stimulate the desire of the resident for self-development and self-improvement, for the choice of a professional trajectory;

9. Justification of the choice of discipline: In the elective discipline «Functional diagnostics in Pediatrics», a deeper and more complete mastering of the work of future pediatric oncohematologists is expected.

The work program of the topic included the main sections of topical problems of functional diagnostics in pediatrics: indications, contraindications for functional diagnostics in children of different ages, functional diagnostics and interpretation of research results, functional diagnostics in congenital heart defects. Daily blood pressure monitoring. The method of spiropgraphic research in children. Diagnosis of hyperactivity of the lungs in children and adolescents. Theoretical foundations of clinical physiology of the cardiovascular system. The structure of the conduction system of the heart. ECG parameters for rhythm disturbances in children. Normal ECG parameters. The mechanism of development of rhythm disturbances. Ultrasound of the heart. Physical and

technical bases of echocardiogram, echocardiogram method. Echocardiography in various pathologies of the heart. Ultrasound diagnosis of diseases of the thyroid gland, diseases of the abdominal cavity. Electroencephalography. echoencephalography. Electromyography.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application: Evaluation of studies, materials from professional literature on functional diagnostics in pediatrics. Participate in the work of the research team;</p> <ul style="list-style-type: none"> - readiness for abstract thinking, analysis, synthesis; - assign a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - provide assistance in case of complications. <p>Analysis: discusses and categorizes the knowledge of biomedical, clinical, social and behavioral sciences in specialized practice</p> <ul style="list-style-type: none"> - conducts a comprehensive assessment of laboratory and instrumental studies. <p>Rating:</p> <ul style="list-style-type: none"> - evaluate the results of UAC, OAM, biochemical blood tests, BAC. research, coprology, CBS. - appreciate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, NMRI 	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during an objective structured clinical examination.</p> <p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Affective Domain (Attitude/Behavior)</p> <p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization:</p> <ul style="list-style-type: none"> -independent organizes medical procedures according to the list of the residency profile; -willingness to manage a team, to tolerate social, ethnic, religious and cultural differences. 	<p>Medical documentation:</p> <ul style="list-style-type: none"> - readiness to identify pathological conditions, symptoms, disease syndromes, and nosological forms in newborns in accordance with the International Statistical Classification of Diseases and Health-related Problems; - medical documentation: registration of medical documentation for the specialty profile in accordance with the legislation in healthcare.

11. Prerequisites: Children's diseases in the hospital.

12. Postrequisites: profile disciplines

13. References

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9. Clinical epileptology (with elements of neurophysiology): a guide for physicians /L.R. Zenkov. - Ed. 2nd, rev. and additional - Moscow: MIA, 2010.- 408 p.
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14. Schiller Yu. Practical echocardiography. M.-2006

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| 5. www.doktor.ru | 13. studentdoctorprofessor.com.ua |
| 6. medinfo.net | 14. www.med39.ru |
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- 1. Department:** «Pediatrics-2»
2. Level of preparation: Residency
3. Specialty: 7R01130 «Pediatrics»
4. Course: 2
5. The name of the elective discipline «Clinical immunology and Allergology in hospital»
6. Number of credits: 2
7. Purpose of the discipline: Training of highly qualified, competitive pediatricians who are able to meet the needs of society in providing medical care to sick children, apply and develop advanced innovative technologies in medicine, science and practice.

8. Objectives:

- to form clinical thinking and the ability to independently work with scientific literature on the discipline;
- develop the ability to analyze socio-biological, medico-social and epidemiological conditions and factors of the occurrence of diseases;
- to teach the resident the principles of diagnosis of diseases, reasonably prescribe laboratory, functional and instrumental methods of examination;
- совершенствовать improve the skill of manual examination of the patient, palpation, percussion and auscultation;
- to develop the skill of interpreting the results of a paraclinical examination of the patient;
- обуч to teach the compilation of an algorithm for the differential diagnosis of diseases;
- to develop the skill of an informed choice of etiopathogenetic treatment;
- научить teach the basic principles of prevention;
- explain the application of legal documents regulating the activities of a pediatrician;
- improve interpersonal communication skills with colleagues, patients and their parents;
- to stimulate the resident's desire for self-development and self-improvement, the choice of a professional trajectory;
- to develop the skill of working with medical literature, the ability to analyze literary and Internet sources.

9. Justification of the choice of discipline:

In the elective discipline "Clinical immunology and Allergology in hospital", a deeper and more complete mastery of the work of future pediatricians is expected.

Clinical immunology in pediatric oncology studies the principles of immunotherapy of immunodeficiency states, modern methods of immunodiagnostics, modern aspects of stem cell transplantation.

Immunology is an artificial stimulation of the immune system for the treatment of cancer, helping the immune system to fight the disease in a natural way. This is a program of fundamental research in the field of cancer immunology and the developing specialization of oncology. Cancer immunotherapy consists in the fact that antibodies of proteins of the immune system can detect and bind to molecules located on the surface of tumor antigens of cancer cells.

The complex therapy started in a timely manner makes it possible to improve the further prognosis of childhood oncological diseases.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
<p>Application:</p> <p>Evaluation of studies, materials from professional literature on Clinical immunology and Allergology in hospital. Use international databases in your daily activities. Participate in the work of the research team;</p> <ul style="list-style-type: none"> - readiness for abstract thinking, analysis, synthesis; - assign a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - provide assistance in case of complications. <p>Analysis: discusses and categorizes the knowledge of biomedical, clinical, social and behavioral sciences in specialized practice</p> <ul style="list-style-type: none"> - conducts a comprehensive assessment of laboratory and instrumental studies. <p>Rating:</p> <ul style="list-style-type: none"> - evaluate the results of UAC, OAM, biochemical blood tests, BAC. research, coprology, CBS. - appreciate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, NMRI 	<p>Accuracy: demonstrates the ability to perform medical procedures on dummies during an objective structured clinical examination.</p> <p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Affective Domain (Attitude/Behavior)</p> <p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization:</p> <ul style="list-style-type: none"> -independent organizes medical procedures according to the list of the residency profile; -willingness to manage a team, to tolerate social, ethnic, religious and cultural differences. 	<p>Medical documentation:</p> <ul style="list-style-type: none"> - readiness to identify pathological conditions, symptoms, disease syndromes, and nosological forms in newborns in accordance with the International Statistical Classification of Diseases and Health-related Problems; - medical documentation: registration of medical documentation for the specialty profile in accordance with the legislation in healthcare.

11. Prerequisites: Children's diseases in the hospital.

12. Postrequisites: profile disciplines

13. References

Main literature:

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5. Baldueva I.A., Nekhaeva T.L., Novik A.V., Danilova A.B., Pipia N.P., Shcherbakov A.M., Belyaev A.M. Antitumor vaccines based on dendritic cells // Priroda. 2018. No. 6 (1234). pp. 14-19.
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8. Novikov D.K. Clinical immunology and allergology: textbook /D. K. Novikov, P. D. Novikov, N. D. Titova. - Minsk: Higher School, 2019. - 495 p.
9. Fundamentals of clinical immunology and allergology: textbook. allowance / ed. L.S. Namazova-Baranova, L.V. Gankovskaya, N.G. Astafieva - M.: Pediater, 2016. - 152 p.
10. Khaitov R.M., Elisyutina O.G., Danilycheva I.V. Allergology and clinical immunology. Clinical guidelines. GEOTAR-Media, 2019. 352 p.

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1. Higgins, K. Decoding of clinical laboratory tests [Electronic resource]: monograph / K. Higgins; per. from English. E. K. Vishnevskaya. - 7th ed. -M. : Lab. knowledge, 2016. - 587 p.
<http://elib.kaznu.kz/>
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3. <http://allergology.ru> - online medical journal for allergologists and immunologists;
4. <http://esid.org> – reference web page of the European Society of Immunodeficiencies.

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| 3. www.medprof.ru | 8. www.webmedinfo.ru |
| 4. www.rusmedserv.com/topsites/ | 9. www.medicum.nnov.ru |
| 5. www.doktor.ru | 10. medcompany.ru |

11. meduniver.com
12. badis.narod.ru
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14. www.med39.ru
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16. www.drugme.ru
17. lepila.tyurem.net
18. top.medlinks.ru
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«Approved»
at the meeting of the Department of Pediatrics -2
Professor Bektenova G. E.
Protocol number 7 dated «29» March 2024

Catalog of elective disciplines for the 2024-2025 academic year

- 1. Department:** «Pediatrics-2»
2. Level of preparation: Residency
3. Specialty: 7R01130 «Pediatrics»
4. Course: 2
5. The name of the elective discipline «Clinical and laboratory diagnostics in Pediatrics»
6. Number of credits: 2
7. Purpose of the discipline: Training of a pediatrician who has a volume of knowledge, skills and practical skills that meets modern requirements for independent interpretation of laboratory diagnostic methods of research.

8. Objectives:

- consolidate skills in interpreting the results of modern laboratory and instrumental methods of examination and diagnosis in various diseases in children;
- increase knowledge on modern methods of examination of diseases in children;
- to teach the maintenance of current medical medical and accounting and reporting documentation in accordance with modern standards in pediatrics;
- to teach the conduct of sanitary and educational work among the population, the formation of a healthy lifestyle in modern conditions;
- the need for continuous professional training and improvement of their knowledge and skills throughout their professional activities.

9. Justification of the choice of discipline:

In the elective discipline "Clinical and laboratory diagnostics in pediatrics", a deeper and more complete mastery of the work of pediatricians is expected. The ability to interpret the results of laboratory functional research methods is necessary for a young specialist to make an accurate diagnosis and conduct a differential diagnosis.

10. Result of training (competence):

Knowledge (cognitive sphere)	Skills and abilities (psychomotor sphere)	Personal and professional competencies (relationships)
Application: can apply his knowledge to problem solving in a new or unfamiliar environment related to his field of study;	Accuracy: demonstrates the ability to perform medical procedures on dummies during OSKE.	Medical documentation: registration of medical documentation on the profile of the specialty in

<p>- appoint a plan of laboratory and instrumental methods of examination; - interpret the results of laboratory and instrumental methods of examination; - to provide assistance in case of complications.</p> <p>Analysis: discusses, categorizes knowledge of biomedical, clinical, social and behavioral sciences in specialized practice - Conduct a comprehensive assessment of the conducted laboratory and instrumental studies.</p> <p>Rating: Assess the results of the CBC, OAM, biochemical blood tests, tank. research, scatology, CBS. Evaluate the indicators of peak flowmetry, ultrasound, radiography, computed tomography, MRI</p>	<p>Articulation: accurately performs medical procedures on real or standardized patients.</p> <p>Gives value: relationships with patients and medical staff during medical procedures.</p> <p>Organization: independently organizes medical procedures according to the list of the internship profile.</p>	<p>accordance with the legislation in health care.</p>
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11. Prerequisites: biochemistry, biophysics, physiology.

12. Postrequisites: profile disciplines

13. References

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1. Hittins K. - Deciphering clinical laboratory tests. Moscow. Bykom. Knowledge Lab. 2004, p.376 b.
2. Kamyshnikov V.S. "Clinical laboratory tests from A to Z and their diagnostic profiles". Moscow. Medpress-Inform. 2005
3. A.Yu. Vasiliev, E.B. Olkhov. Ultrasound diagnostics in emergency pediatric practice. Guide for doctors. GEOTAR. Media. 2010
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