

**MINISTRY OF SCIENCE AND HIGHER EDUCATION
RUSSIAN FEDERATION**

**FEDERAL STATE AUTONOMOUS EDUCATIONAL INSTITUTION OF
HIGHER EDUCATION
NORTH-CAUCASUS FEDERAL UNIVERSITY**

Methodological Guidelines
for Students on arranging and performing independent work
in the Discipline of Allergology
for Students majoring (Specialty) in 31.05.01 General Medicine

Explanatory Note

Purpose of Independent Work of Students (IWS)

The purpose of IWS is the formation of systemic knowledge, professional and general scientific competencies in the future specialist — a general practitioner (specialty 31.05.01 General Medicine) in allergology. Familiarization of students at a professional level with modern methods of clinical laboratory diagnostics of allergic diseases, existing approaches to solving diagnostic and medical problems.

Objectives

The main objectives of studying the discipline are:

- mastering modern approaches in the diagnosis and treatment of allergic diseases;
- formation of practical skills in the field of allergology;
- assessment of the epidemiological picture of allergic diseases in the Stavropol Territory.

In parallel with solving the main professional tasks, the study of allergology allows to deepen and expand the general educational erudition of future biochemist physicians, to increase their cultural and educational level.

Methodological Guidelines

Methodological guidelines for independent work of students, taking into account modern scientific achievements, cover the tasks and issues of clinical laboratory diagnostics of allergic diseases. Modern classifications of allergic reactions. Factors predisposing to the development of pathology. Levels of laboratory diagnostics, principles and methods of diagnostics in allergology, existing approaches to solving diagnostic and medical problems.

Each chapter examines the main laboratory parameters that have clinical significance for the diagnosis of various diseases.

Students who have studied «Allergology» should be able to determine laboratory parameters of the patient's immunological status and correctly navigate in laboratory diagnostic methods, make a choice, giving preference to a certain diagnostic method, be able to evaluate research results and formulate a conclusion (make a laboratory diagnosis) and conduct a differential diagnosis, using clinical and additional research methods.

Based on the results of mastering the discipline, the student should

Know:

- organization of the allergology service;
- epidemiology of allergic diseases;
- modern approaches in the diagnosis and treatment of allergic diseases;
- basics of health legislation and directive documents defining the activities of health authorities and institutions related to allergology;
- general issues of the organization of the allergology service in the country;
- general issues of the organization of the work of the allergology center, allergology office in the clinic and advisory center; interaction with other medical and preventive institutions;

- general issues of the organization of the work of the allergology inpatient department; documentation of the allergology office and inpatient department;
- basics of medical ethics and deontology in allergology;
- theoretical foundations of allergology;
- genetic aspects of allergic diseases;
- etiological factors, pathogenetic mechanisms and clinical manifestations of the main allergic diseases in adults and children. Their diagnosis, differential diagnosis, treatment and prevention;
- specific immunotherapy (SIT) of allergic diseases; standardization of allergens, schemes for conducting SIT. Indications and contraindications for SIT; provision of emergency care in case of complications of therapy;
- principles of medical and social expertise and rehabilitation of patients with allergic diseases;
- dispensary observation of patients and prevention of allergic diseases.

Be able to:

- obtain comprehensive information about the disease, apply clinical methods of patient examination, identify characteristic signs of allergic diseases;
- assess the severity of the patient's condition;
- organize emergency care in urgent cases;
- determine the need for the use of special research methods;
- be able to analyze and correctly interpret the results of paraclinical examination methods;
- identify possible causes of allergic disease: apply objective methods of patient examination, identify general and specific signs of the disease, especially in cases requiring emergency care and intensive therapy;
- conduct specific allergological in vivo and in vitro diagnostics; evaluate the results of specific allergological examination, including taking into account age characteristics;
- conduct differential diagnosis, substantiate the clinical diagnosis, scheme, plan, tactics of patient management;
- prescribe the necessary treatment taking into account the allergens causing allergic reactions in this patient;
- develop an individual immunoprophylaxis schedule for patients with allergies.

Master:

- paraclinical examination methods,
- objective examination of the patient,
- specific immunological examination,
- differential diagnosis.

Methodological Recommendations for Studying Theoretical Material

When performing independent study of the theoretical material of the discipline «Allergology», the student should be guided by the following rules. It is recommended to take the work program of the discipline in the NCFU library as a

basis. According to the schedule of classroom classes and independent work, different amounts of time are allocated for the study of individual topics. A significant part of the student's independent work should be devoted to mastering the material received at the lecture on the topic covered, writing a summary on the specified theoretical blocks, searching for additional literature in the NCFU library and on the Internet. All covered theoretical material should be comprehended and processed for a deeper understanding of the data obtained.

Preparation of the theoretical part of the lesson should begin with familiarization with the questions for self-study. The study of theoretical material should be based on the initial level of knowledge on the topic or section. The necessary educational information is contained in the recommended textbooks of basic and additional literature.

Questions for self-control are given in the fund of assessment tools for the discipline.

Methodological Guidelines for Preparing a Report

Report Structure

The structure of the report includes the following elements:

- title page;
- table of contents;
- introduction;
- main part;
- conclusion;
- list of references and sources.

Title page is information about the output data of your work. It is the first page of the work and is filled out according to strictly defined rules. The title page is not numbered.

Table of contents sequentially lists the titles of the report items with indication of the page number on which each item begins. The headings in the table of contents must exactly repeat the headings in the text. They cannot be shortened or given in a different wording, sequence and subordination compared to the headings in the text. Headings of the same level of rubrication should be placed one under the other. Headings of each subsequent level are shifted three to five characters to the right in relation to the headings of the previous level. All headings begin with a capital letter without a dot at the end. The last word of each heading is connected by a dotted line to the corresponding page number in the right column of the table of contents.

Introduction usually substantiates the relevance of the chosen topic, the purpose and content of the tasks set.

The content of the chapters of the main part must exactly correspond to the topic of the report and fully disclose it. These chapters should show the author's ability to present the material concisely, logically and with argumentation. It is important to understand that each chapter should be a complete work. It should begin with a

statement of the problem under consideration, and end with clear, reasoned conclusions. All data given in the work must be accompanied by a footnote to the source, the description of which must be given in accordance with the requirements of bibliographic standards. As a rule, the main part of the report consists of 2-3 chapters. The report ends with a final part, which is called «Conclusion». This synthesis is a consistent, logically coherent presentation of the results obtained and their relationship with the overall goal and specific tasks set and formulated in the introduction.

After the conclusion, a bibliographic list of used literature is placed, which includes original texts, monographic studies, scientific articles, textbooks, etc. Each literary source included in such a list must have a reflection in the text of the report. If the author of the report refers to any borrowed facts or quotes the works of other authors, then he must indicate in the footnote where the cited materials were taken from. The list of references should include at least 5 sources.

The volume of the report should be 10-15 pages of typewritten text. The topics of the reports are given in the fund of assessment tools for the discipline.

General Requirements for the Design of the Report

The text of the report should be printed on one side of a standard sheet of white paper of A4 format (210×297 mm) through one and a half line spacing (font size — 14) using black ink with margins around the text. The size of the left margin is 30 mm, the right margin is 10 mm, the top margin is 20 mm, the bottom margin is 20 mm. With such margins, each page should contain approximately 1800 characters (30 lines, 60 characters per line, counting each punctuation mark and space between words as a printed character).

The text is reprinted in strict sequence. Various kinds of text inserts and additions placed on separate pages or on the reverse side of the sheet, and transfers of pieces of text to other places are not allowed. All footnotes and footnotes are reprinted (through one interval) on the page to which they relate. All pages are numbered, starting with the title page. The number indicating the serial number of the page is placed in the upper right corner of the top margin of the sheet (on the first and second pages, the number indicating the serial number is not put).

Students submit the report to the teacher within the period specified by the curriculum and the work program of the discipline. The submitted report involves discussion and defense in the study group.

Sample Report Topics

1. Anaphylactic shock. Etiology and pathogenesis of anaphylactic shock. Features of the immunological stage.
2. Bronchial asthma. Epidemiology. Classification. Etiology and pathogenesis of various forms of bronchial asthma. Clinical picture of bronchial asthma.
3. Extrinsic allergic alveolitis. Etiology. Pathogenesis. Clinical picture. Diagnosis, differential diagnosis. Treatment. Prevention.

4. Allergic bronchopulmonary aspergillosis. Etiology. Pathogenesis. Clinical picture. Diagnosis and differential diagnosis. Treatment. Prognosis.
5. Allergic rhinitis. Allergic diseases of the ear. Serous otitis media.
6. Allergic conjunctivitis. Pathogenesis. Anamnesis, physical and laboratory examinations, differential diagnosis.
7. Pollen conjunctivitis, conjunctivitis when wearing contact lenses, «dry eye» syndrome, infectious conjunctivitis and keratoconjunctivitis.
8. Urticaria and Quincke's edema. Classification, etiology and pathogenesis.
9. Pseudoallergic reactions. Clinical picture, diagnosis and differential diagnosis.
10. Allergic contact dermatitis. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
11. Atopic dermatitis. Clinical picture. Complications. The role of genetic factors in the development of atopic dermatitis.

Recommended Literature and Internet Resources

Basic Literature

1. Morozova, N. V. All about allergies. Complete reference book [Electronic resource] / N. V. Morozova. — Electronic text data. — Saratov : Scientific book, 2019. — 589 p. — 978-5-9758-1853-9. — Access mode: <http://www.iprbookshop.ru/80208.html>
2. Fundamentals of clinical immunology and allergology [Electronic resource] : textbook / A.A. Alekseeva [et al.]. — Electronic text data. — M. : Pediatrician, 2016. — 152 p. — 978-5-906332-32-5. — Access mode: <http://www.iprbookshop.ru/70801.html>

Additional Literature

1. Allergology and immunology : national guide / Assoc. med. societies on quality, Russian Association of Allergologists and Clinical Immunologists ; chief ed. R. M. Khaitov, N. I. Ilyina. — M. : GEOTAR-Media, 2009. — 656 p. : append. — (Series «National Guides») (National Project «Health»). — Subject index: p. 647-649. — ISBN 978-5-9704-0903-9
2. Allergology : textbook : specialty 060112 – Medical Biochemistry / compiled by O. I. Anfinogenova ; Ministry of Education and Science of the Russian Federation, GOU VPO «Stavropol State University». — Stavropol : SSU Publishing House, 2010. — 184 p. — Bibliography: p. 179-180
3. Diagnosis and treatment of allergy to cow's milk proteins in infants and young children [Electronic resource] : practical recommendations / A.A. Baranov [et al.]. — Electronic text data. — M. : Pediatrician, 2014. — 48 p. — 978-5-906332-14-1. — Access mode: <http://www.iprbookshop.ru/70509.html>
4. Zemskov, A. M. Clinical immunology : textbook for universities / A. M. Zemskov, V. M. Zemskov, A. V. Karaulov. — M. : GEOTAR-Media, 2008. — 432 p. — Bibliography: p. 423-426. — ISBN 978-5-9704-0775-2

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7. Diagnosis and treatment of allergy to cow's milk proteins in infants and young children [Electronic resource] : practical guide / S.G. Makarova / T.E. Borovik / L.S. Namazova-Baranova / A.A. Baranov. - Diagnosis and treatment of allergy to cow's milk proteins in infants and young children, 2022-09-26. - Moscow : Pediatrician, 2014. - 48 p. - The book is in the basic version of the IPRbooks EBS. - ISBN 978-5-906332-14-1
8. Zemskov, A. M. Clinical immunology : textbook for universities / A. M. Zemskov, V. M. Zemskov, A. V. Karaulov. - M. : GEOTAR-Media, 2008. - 432 p. - Bibliography: p. 423-426. - ISBN 978-5-9704-0775-2

List of Internet Resources Required for Mastering the Discipline

<http://rudoctor.net/> - Medical portal

<http://www.livemedical.ru/> - IT-medicine

<https://www.rmj.ru/> - Russian Medical Journal

www.elibrary.ru – electronic scientific library.

www.biomed.net – club of biological and medical community.

www.healthgate.net – search for information in MEDLINE and other bibliographic databases.

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Methodological Guidelines for Performing Practical (Seminar) Work in the
Discipline «Allergology»

Questions for Self-Control

1. Classification of allergic reactions
2. Studies carried out for the diagnosis of allergic diseases.
3. Delivery, registration and labeling of material.
4. Typical errors in the determination of immunoglobulins.
5. Reasons for increase and decrease of immunoglobulins.
6. Clinical manifestations of anaphylaxis.
7. Clinical varieties of anaphylactic shock.
8. Stages of anaphylactic shock.
9. First aid.
10. Prevention.
11. Etiology of pollinosis.
12. Pathogenesis of pollinosis.
13. Clinical picture of pollinosis.
14. Diagnosis of pollinosis.
15. Etiology and pathogenesis of bronchial asthma.
16. Classification of bronchial asthma.
17. Clinical manifestations and diagnosis.
18. Etiology of conjunctivitis.
19. Characteristics of the main types of conjunctivitis.
20. Urticaria and Quincke's edema.
21. Allergic contact dermatitis.
22. Mechanisms and methods of application of specific immunotherapy.
23. Complications of specific immunotherapy.
24. Primary prevention.
25. Observation of children from the risk group.
26. Secondary prevention.

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- <https://www.rmj.ru/> - Russian Medical Journal
- www.elibrary.ru – electronic scientific library.
- www.biomed.net – club of biological and medical community.
- www.healthgate.net – search for information in MEDLINE and other bibliographic databases.