Ministry of Health of the Republic of Belarus

Educational Institution "Vitebsk State Order of Peoples' Friendship

Medical University"

Department of Faculty Therapy and Cardiology

with a course of the Faculty of Advanced Training and retraining

Approved at the meeting of the department

Protocol No. 10 from 09.01.2025

**METHODOLOGICAL GUIDELINES FOR STUDENTS**

**for practical training**

in the academic discipline "Internal diseases"

specialties 1-79 01 01 "Medical business"

4th year, Faculty of Medicine

full-time education

Lesson topic: Рneumonia

Duration: 6 hours

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**Motivational characteristics of the need to study the topic**

**Goals and objectives of the lesson:**

***The educational goals*** are to develop students'

*scientific knowledge about:*

the importance of external and internal environmental factors in the development of pneumonia;

mechanisms of pneumonia pathogenesis;

typical clinical manifestations of pneumonia;

modern methods of diagnosing pneumonia;

strategies and tactics for managing patients with pneumonia;

*skills and abilities necessary for:*

individual examination of patients with pneumonia;

diagnosis and differential diagnosis of pneumonia;

drawing up a plan for examination of patients with pneumonia, evaluating the results of laboratory and instrumental research methods;

selection and prescription of drugs for the treatment of pneumonia;

pneumonia prevention;

provision of emergency medical care for acute respiratory distress syndrome, acute respiratory failure.

***Developmental goals*** consist of the formation and development of the student’s mental properties, including attention, sensory-perceptual properties, mnemonic and thinking properties, psychomotor properties, professional inclinations and abilities.

***Educational goals*** are aimed at developing personal qualities of students during the course of study: a sense of mutual assistance, the ability to work in a team, subordination, tact, empathy, responsibility for the assigned task, diligence, accuracy, conscientiousness, understanding the importance of the profession, pride in the achievements of domestic medicine.

During the study of the topic of the lesson, the student must

**study:**

*basic concepts:* pneumonia, community-acquired pneumonia, severe pneumonia, slowly resolving/non-resolving pneumonia, hospital-acquired pneumonia, acute respiratory distress syndrome;

epidemiology, etiology, pathogenesis, predisposing factors, classifications, clinical manifestations, complications, diagnostic methods, differential diagnostics, treatment, primary and secondary prevention, medical examination and prognosis for pneumonia;

**learn:**

*conduct* a survey (collect complaints and anamnesis) and clinical examination of patients with pneumonia;

*make* a plan for examining patients with pneumonia;

*interpret* the results of laboratory and instrumental studies in patients with pneumonia;

*formulate* a preliminary and final diagnosis for pneumonia;

*prepare* medical documentation (medical history, prescription sheet, referrals for laboratory and instrumental examinations and consultations, prescriptions for basic medications);

*use* educational, scientific, regulatory and reference literature;

*comply* with the rules of medical ethics and deontology;

**work out:**

*skills* in providing emergency care for acute respiratory distress syndrome, acute respiratory failure; interpretation of the results of a complete blood count, a complete urine test, a biochemical study of blood serum, a coagulogram, an ECG, radiographs, scanograms, angiograms, scintigrams, ultrasound of large arterial vessels, the heart, abdominal organs and kidneys; formulation of a diagnosis of pneumonia.

**Practical skills developed during the lesson, including the use of simulation training technologies:**

1. Providing emergency care for acute respiratory distress syndrome; acute respiratory failure.

2. Interpretation of chest X-rays, ECG.

3. Interpretation of results of general blood test, general urine test, biochemical study of blood serum, coagulogram, scanograms, angiograms, scintigrams, ultrasound of the heart, abdominal organs and kidneys.

4. Formulating a diagnosis.

**Interdisciplinary and intradisciplinary connections**

When studying the topic, use the knowledge and skills obtained in the study of normal and pathological human anatomy, normal and pathological human physiology, pharmacology, and propaedeutics of internal diseases.

Theoretical part

**Questions for classroom monitoring during the lesson**

1. Community-acquired pneumonia: definition, epidemiology, etiology, pathogenesis, clinical picture.

2. Criteria for the diagnosis of community-acquired pneumonia.

3. Features of clinical manifestations of community-acquired pneumonia depending on the etiologic factor.

4. Methods for identifying the microflora that caused pneumonia.

5. Assessing the severity of pneumonia.

6. Features of the course of pneumonia in the elderly and senile.

7. Pneumonia in pregnant women.

8. Complications of pneumonia.

9. Methods of examining the lungs in the diagnosis and differential diagnosis of pneumonia.

10. Treatment tactics for community-acquired pneumonia.

11. Initial choice of drugs and subsequent tactics.

12. Outpatient treatment, indications for hospitalization.

13. Evaluation of the effectiveness of treatment, duration of antibiotic therapy, criteria for stopping treatment.

14. Pneumonia caused by pneumococci, staphylococci, streptococci, legionella, chlamydia, mycoplasma: epidemiology, routes of infection, clinical features, diagnostic criteria, treatment features.

15. Hospital pneumonia: definition, modern diagnostic criteria, main etiological factors, risk of development, classification.

16. Features of the clinical course and diagnosis of hospital pneumonia caused by various infections.

17. Initial choice of antibacterial treatment for hospital pneumonia, as well as treatment taking into account the type of infectious agent that caused pneumonia.

18. Aspiration pneumonia: main causes, clinical features, clinical examination.

19. Interpretation of laboratory and instrumental lung examination data, differential diagnostics, determination of diagnostic criteria, formulation of diagnosis, selection of treatment tactics in accordance with modern international recommendations and clinical protocols of the RB Ministry of Health.

20. Pneumonia in immunodeficiency states: main causes, features of the clinical picture, clinical examination.

21 Features of treatment tactics in accordance with modern international recommendations and clinical protocols of the RB Ministry of Health.

22. Acute respiratory failure: clinical manifestations, classification, assessment of concomitant diseases, physical and instrumental examination data (spirography, radiography, ultrasound examination of the heart), diagnostics and differential diagnostics.

23. Selection of treatment methods in accordance with modern international recommendations and clinical protocols of the RB Ministry of Health.

24. Diagnostics and monitoring of respiratory failure in outpatient settings, in hospitals, in intensive care units. 25. Features of monitoring respiratory failure in coronavirus pneumonia.

26. Acute respiratory distress syndrome: diagnostic methods, clinical picture, diagnostic criteria, diagnosis formulation, treatment tactics, respiratory support methods.

**Practical part**

*Patient supervision:* collection of complaints and anamnesis of the disease of patients with pneumonia; objective examination; preparation of an examination plan; interpretation of results of laboratory and instrumental examination methods; formulation of a diagnosis; preparation of a treatment plan, algorithm for providing emergency medical care in acute respiratory failure, acute respiratory distress syndrome. Registration of medical documentation.

*Modeling and solving situational problems.*

**Tasks and questions to monitor the assimilation of the topic**

1. Prescribe basic medications for the treatment of pneumonia (azithromycin, amoxiclav, cefotaxime, ambroxol, acetylcysteine, libexin, paracetamol).

2. Justify and formulate a diagnosis when solving a situational problem.

3. Test tasks on the topic of the practical lesson.

**Questions for guided independent work**

Guided independent work is not provided for by the educational institution's curriculum for the academic discipline "Internal Medicine" for the specialty 1-79 01 01 "General Medicine".

**Literature**

**Main:**

1. Internal Diseases = Внутренние болезни : textbook : in 2 vol. Vol. 1 : / edited by A. I. Martynov, J. D. Kobalava, S. V. Moiseev. - Moscow : GEOTAR-Media, 2022. - 683 p. : ill. - Bibliogr.: p. 677. - ISBN 978-5-9704-6766-4. - Режим доступа: https://www.studentlibrary.ru/book/ISBN9785970467664.html – 30 экз.

2. Internal Diseases = Внутренние болезни : textbook : in 2 vol. Vol. 2 : / edited by A. I. Martynov, J. D. Kobalava, S. V. Moiseev. - Moscow : GEOTAR-Media, 2022. - 614 p. : ill. - ISBN 978-5-9704-6767-1. - Режим доступа*:* https://www.studentlibrary.ru/book/ISBN9785970467671.html – 30 экз.

3. Special propedeutics of internal diseases : lecture course / Vitebsk State Medical University, Dep. of Propedeutics of Internal Diseases ; comp. by L. M. Nemtsov. - 2-е изд. - Vitebsk : VSMU, 2016. - 318 p. - Bibliogr.: p. 318. - ISBN 978-985-466-822-2. - Режим доступа: https://elib.vsmu.by/handle/123/9837 - 317 экз.

4. Немцов, Л. М. Пропедевтика внутренних болезней = Propaedeutics of Internal Diseases : учеб. пособие на англ. яз. : для иностр. студентов учреждений высш. образования по специальности "Лечебное дело" : [в 2 ч.]. Ч. 2 : : Обследование органов систем пищеварения, мочевыделения, желез внутренней секреции, крови и опорно-двигательного аппарата / Л. М. Немцов, В. А. Прищепенко, Ю. Г. Юпатов ; М-во образования Республики Беларусь, УО "Витебский гос. мед. ун-т". - Витебск : [ВГМУ], 2023. - 423 с. : ил. - Библиогр.: с. 421-423. - ISBN 978-985-580-165-9. - Режим доступа: https://elib.vsmu.by/handle/123/25144 Гриф(приоритет документа): МО - 250 экз.

**Additional:**

5. Examination of patients in clinic of internal diseases = Обследование пациентов в клинике внутренних болезней : educational instruction for students of 2nd and 3rd years in specialties "General Medicine" and "Stomatology" / Г. И. Юпатов [и др.] ; Ministry of Public Health of Republic of Belarus, EI "Vitebsk State of the order of International Friendship Medical University", Dep. of Internal Diseases Propedeutics. - Vitebsk : VSMU, 2016. - 59 p. - Bibliogr.: p. 31. - ISBN 978-985-466-838-3. – 254 экз.

6. Family Medicine : in 3 books : textbook for students of higher medical education establishments - medical universities, institutes and academies. Book 2 : : Symptoms and Syndromes in Clinical Course of Internal Diseases / L. S. Babinets [и др.] ; edited by O. M. Hyrina, L. M. Pasiyeshvili. - Kyiv : AUS Medicine Publishing, 2018. - 375 p. : ill. - Bibliogr. at the end of the chapters. - ISBN 978-617-505-652-3. Гриф(приоритет документа): МО Укр. *-* 1 экз*.*

7. Family Medicine : in 3 books : textbook for students of higher medical education establishments of the 4th level of accreditation. Book 1 : : General Issues of Family Medicine / O. M. Hyrina [и др.] ; edited by O. M. Hyrina, L. M. Pasiyeshvili. - Kyiv : AUS Medicine Publishing, 2016. - 558 c. : ill. - Bibliogr. at the end of the chapters. - ISBN 978-617-505-494-9. Гриф (приоритет документа): МО Укр. - 1 экз.

8. Internal Medicine: Critical Care : textbook / Babak O. Ya. [и др.] ; edited by O. Ya. Babak, O. M. Bilovol. - Kyiv : AUS Medicine Publishing, 2018. - 367 p. : ill. - ISBN 978-617-505-636-3. Гриф(приоритет документа): УМО Укр. - 1 экз.

9. Kumar & Clark's Clinical Medicine / ed. by Parveen Kumar, Michael Clark ; editor, Online Content Adam Feather. - 9th ed. - Edinburgh [etc.] : Elsevier, 2017. - XIV, 1437 p. : ill. - Bibliogr. at the end of the chapters. - ISBN 978-0-7020-6601-6. - 1 экз.

10. Буйневич, И. В. Болезни органов дыхания = Pulmonary Diseases : учеб.-метод. пособие для студентов 4 и 6 курсов фак. по подгот. специалистов для зарубеж. стран учреждений высш. мед. образования / И. В. Буйневич, Д. Ю. Рузанов ; М-во образования Республики Беларусь, УО "Гомельский гос. мед. ун-т", Каф. фтизиопульмонологии. - 2-е изд., стер. - Гомель : ГомГМУ, 2019. - 101 с. : ил. - Библиогр.: с. 101. - ISBN 978-985-588-153-8. - Режим доступа: http://elib.gsmu.by/handle/GomSMU/3133 - 45 экз.

11. Буйневич, И. В. Неотложные состояния в пульмонологии = Urgent conditions in pulmonology : учеб.-метод. пособие для студентов учреждений высш. образования, обучающихся по специальности 1-79 01 01 "Лечебное дело" / И. В. Буйневич, Э. Н. Платошкин, Н. Э. Платошкин ; М-во здравоохранения Республики Беларусь [и др.]. - Гомель : ГомГМУ, 2023. - 57 с. : ил. - Библиогр.: с. 56-57. - ISBN 978-985-588-269-6. - Режим доступа: https://elib.gsmu.by/handle/GomSMU/14251 Гриф(приоритет документа): УМО - 1 экз.

12. Внутренние болезни = Internal diseases : учеб. пособие для студентов фак. иностр. учащихся и магистрантов (с англ. яз. обучения) / В. М. Пырочкин [и др.] ; М-во здравоохранения Республики Беларусь, УО "Гродненский гос. мед. ун-т" ; под общ. ред. В. М. Пырочкина. - Гродно : ГрГМУ, 2016. - 389 с. : ил. - Библиогр. в тексте. - ISBN 978-985-558-617-4. – 1 экз.

13. Дополнительные методы исследования в клинике внутренних болезней. Практикум = Diagnostic methods in the internal medicine. Workbook : учеб.-метод. пособие для студентов учреждений высш. образования, обучающихся по специальности 1-79 01 01 "Лечебное дело" / Э. А. Доценко [и др.] ; М-во здравоохранения Республики Беларусь, Белорус. гос. мед. ун-т, Каф. пропедевтики внутрен. болезней. - 4-е изд. - Минск : БГМУ, 2024. - 158 с. - Загл. обл.: Diagnostic methods in the internal medicine. Workbook. - ISBN 978-985-21-1556-8. - Режим доступа: https://rep.bsmu.by/handle/BSMU/44425 Гриф(приоритет документа): УМО – 1 экз.

14. Платошкин, Э. Н. Неотложные состояния в пульмонологии = Urgent conditions in pulmonology : учеб.-метод. пособие для студентов 4-6 курсов фак. по подгот. специалистов для зарубеж. стран мед. вузов / Э. Н. Платошкин, Н. Э. Платошкин, И. В. Буйневич ; М-во здравоохранения Республики Беларусь, УО "Гомельский гос. мед. ун-т", Каф. внутрен. болезней № 2 с курсом эндокринологии. - Гомель : ГомГМУ, 2016. - 33 с. - Библиогр.: с. 33. - ISBN 978-985-506-841-0. - Режим доступа***:*** http://elib.gsmu.by/handle/GomSMU/2273 - 1 экз.

**Regulatory legal acts:**

15. О здравоохранении: Закон Республики Беларусь от 18 июня 1993 г. № 2435-XII: с изменениями и дополнениями. **Литература** / ООО «Профессиональные правовые системы». – Минск, 2019.