

**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 "Oncology, Radiation Therapy"
for Students majoring (Specialty) in 31.05.01 General Medicine

introduction

The aim of mastering the academic discipline of oncology, radiation therapy is to form competencies in a holistic understanding of oncology as one of the fundamental clinical disciplines in its scientific and practical significance and to assimilate the following sections:

1. Familiarization of students with the basic provisions of theoretical oncology.
2. Formation of oncological alertness in students.
3. Study of the main localizations of malignant tumors, their early diagnosis and prevention.
4. Modern principles of treatment of oncological patients. Organization of dispensary observation. Rehabilitation in oncology.

The objectives of the discipline are:

1. The study of factors contributing to the occurrence of malignant tumors.
2. The study of symptoms and syndromes in malignant neoplasms. The pathogenesis of their development.
3. The study of modern methods of diagnosing malignant tumors.
4. The study of modern principles of complex and combined treatment of malignant neoplasms.
5. Formation of ideas about the prevention of malignant neoplasms.
6. Formulation of a diagnosis based on the conducted examination.
7. The study of deontological aspects in oncology.
8. The study of the system of palliative care for incurable patients.

At the final classes, an interview is conducted in oral form or a written work.

The teaching of this subject requires the inclusion of general scientific methods:

analysis (a method of scientific research consisting in the mental or actual decomposition of a whole into its component parts) and synthesis (a method of scientific research of an object or phenomenon consisting in cognizing it as a single whole, in the unity and mutual connection of its parts); methods of induction (logical inference from particular individual cases to a general conclusion, from individual facts to generalizations); deduction (logical inference from the general to the particular, from general judgments to particular or other general conclusions); modeling, experiment (including using the potential of a thought experiment). In addition, the possibilities of the method of indirect practical verification are used, when the proof is presented as a chain of logical reasoning and only individual links of this chain require the setting up of an experiment. The possibilities of the axiomatic method are also used.

Methods of educational activity include independent and classroom work of students, the development of creative abilities (work on essays, reports, work within the framework of a scientific school, etc.).

Material and technical support includes tables, slides, stands, computer programs, micro- and macro-preparations, dummies, video films, and technical means.

Methodological recommendations for independent work of students

A **"satisfactory" grade** is given if the student, when performing an individual task, needed the teacher's help, made inaccuracies and non-fundamental errors in the work, did not show activity in searching for solutions, and experienced great difficulties in analyzing the results of the work.

An **"unsatisfactory" grade** is given if the student did not complete a separate task, made fundamental errors in the work, and did not work through all the main literature.

Recommended literature.

Main literature:

1. Popova, T. N., Zhandarova, L. F., Barsukov, V. Yu. et al. (2019). Oncology. Complete Handbook [Electronic resource]. Saratov: Nauchnaya Kniga. 734 p. ISBN 978-5-9758-1856-0. Available at: <https://www.iprbookshop.ru/80184.html>

Additional literature:

1. Glushkov, A. N. (2002). Fundamentals of Carcinogenesis, Prognosis, Prevention, Immunodiagnostics and Biotherapy of Malignant Tumors [Electronic resource]: textbook on oncology for clinical residents, interns and physicians. Kemerovo: Kemerovo State Medical Academy. 90 p. Available at: <https://www.iprbookshop.ru/6181.html>
2. Korenev, S. V. (2010). Clinical Oncology. Part 1 [Electronic resource]: textbook. Kaliningrad: Immanuel Kant Baltic Federal University. 174 p. ISBN 978-5-9971-0097-1. Available at: <https://www.iprbookshop.ru/23786.html>
3. Korenev, S. V. (2010). Clinical Oncology. Part 2 [Electronic resource]: textbook. Kaliningrad: Immanuel Kant Baltic Federal University. 204 p. ISBN 978-5-9971-0098-8. Available at: <https://www.iprbookshop.ru/23785.html>
4. Lamotkin, I. A. (2020). Clinical Dermato-Oncology: atlas. 4th ed. Moscow: Laboratoriya Znaniy. 500 p.
5. Antonenkova, N. N., Averkin, Yu. I., Belotserkovsky, I. V. et al. (2007). Oncology [Electronic resource]: textbook. I. V. Zalutsky (Ed.). Minsk: Vysheyshaya Shkola. 704 p. ISBN 978-985-06-1330-1. Available at: <https://www.iprbookshop.ru/24070.html>
6. Pletnev, A. S., & Ulashchik, V. S. (2016). Magnetic Fields in Experimental and Clinical Oncology [Electronic resource]. Minsk: Belorusskaya Nauka. 230 p. ISBN 978-985-08-1959-8. Available at: <https://www.iprbookshop.ru/61104.html>
7. Tarutin, I. G., & Titovich, E. V. (2014). Application of Linear Electron Accelerators in High-Tech Radiation Therapy [Electronic resource]. Minsk: Belorusskaya Nauka. 176 p. ISBN 978-985-08-1727-3. Available at: <https://www.iprbookshop.ru/29502.html>
8. Tarutin, I. G., Titovich, E. V., & Gatskevich, G. V. (2015). Radiation Protection in Radiation Therapy [Electronic resource]. Minsk: Belorusskaya Nauka. 213 p. ISBN 978-985-08-1914-7. Available at: <https://www.iprbookshop.ru/51826.html>

Internet resources:

1. <http://rudocor.net/> — Medical Portal
2. <http://www.e-reading.club/> — Large Online Library
3. <https://dic.academic.ru/> — Dictionaries and Encyclopedias
4. <https://roszdravnadzor.gov.ru/> — Federal Service for Surveillance in Healthcare (Roszdravnadzor)
5. <https://www.rmj.ru/> — Russian Medical Journal

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Tasks

1. How should the prevention of delayed nausea and vomiting be carried out with low or minimal emetogenicity of chemotherapy?
 1. Dexamethasone 4 mg once a day from day 1 to day 3
 2. Metoclopramide 10 mg 3 times a day for 5 days
 3. Ondansetron 4 mg once a day from day 1 to day 3
 4. Olanzapine 5 mg once a day from day 1 to day 3
 5. Prevention is not carried out
2. You are consulting a 62-year-old patient diagnosed with metastatic involvement of the skeletal bones from an unidentified primary focus. Based on the results of morphological and immunohistochemical studies, the situation was interpreted as adenocarcinoma without signs of organ specificity. When analyzing the images, your attention was drawn to the fact that the described foci in the bones are predominantly osteoblastic in nature. First of all, one should think about the following localization of the primary tumor:
 1. Renal cell carcinoma
 2. Osteosarcoma
 3. Prostate cancer
 4. Pancreatic cancer
3. When determining the prognostic group of gastrointestinal stromal tumors, the following factors are taken into account:
 1. General status according to the Karnofsky scale, time before the start of systemic therapy, hemoglobin concentration in the blood, platelet and neutrophil levels, albumin-corrected calcium concentration in the blood plasma
 2. The presence of excess body weight, platelet level, leukocyte level in the blood, and hemoglobin concentration
 3. Localization of the primary tumor, its size, and mitotic index
 4. Time from diagnosis to the start of systemic therapy

Questions for the interview

1. Definition of the science of oncology, its tasks.
2. Definition of the concept of a tumor.
3. Biological features of malignant tumors.
4. What is called tumor progression? Basic principles of progression.
5. Broders' index.
6. Theories of the origin of cancerous tumors (Virchow, Conheim, Ribbert, Fischer-Wasels, Mechnikov, Zilber, polyetiologic theory).
7. Background diseases (processes).
8. Obligate and facultative precancers.
9. Carcinoma "in situ."
10. Carcinogenic agents, definition, their division (physical, chemical, biological).
11. Stages of carcinogenesis.
12. Paraneoplastic syndromes.
13. Clinical and biochemical investigations in oncology.
14. X-ray methods of visualization of neoplasms.
15. Endoscopic methods of visualization of neoplasms.
16. Visualization of neoplasms by MRI and ultrasound methods.
17. Radionuclide visualization of neoplasms.
18. Morphological diagnosis of neoplasms.

19. Immunohistochemical studies in oncology.
20. Cytological diagnosis of neoplasms.
21. Methods of collecting material for oncomorphological studies.
22. Tumor markers in oncology.
23. The concept of the clinical minimum of examination in case of suspected cancer.
24. Methods of assessing the extent of the tumor process.
25. Types of prevention in oncology.
26. Clinical groups of dispensary observation.
27. What is screening? Give examples.
28. Principles of oncological alertness.
29. Oncological risk groups.

Choose one correct answer.

1. IT IS ADVISABLE TO START SCREENING STUDIES FOR ONCOLOGICAL DISEASES AT THE AGE OF

1. 15-24
2. 25-34
3. 35-44
4. 45-54

2. THE CLINICAL GROUP TO WHICH A PATIENT WITH BREAST FIBROADENOMA BELONGS

1. 1a
2. 1b
3. 2
4. 3

3. THE CLINICAL GROUP TO WHICH A PATIENT WITH BARRETT'S ESOPHAGUS BELONGS

1. 1a
2. 1b
3. 2
4. 4

4. THE CLINICAL GROUP TO WHICH A PATIENT WITH STOMACH CANCER AND LIVER METASTASES BELONGS

1. 1b
2. 2
3. 3
4. 4

5. THE MAIN CAUSE OF THE NEGLECT OF ONCOLOGICAL DISEASES

1. fear of knowing the truth
2. latent course of oncological diseases
3. turning to traditional medicine
4. low intellectual and cultural level of patients

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4. <https://roszdravnadzor.gov.ru/> — Federal Service for Surveillance in Healthcare (Roszdravnadzor)
5. <https://www.rmj.ru/> — Russian Medical Journal