Ministry of Science, Higher Education, and Innovation of the Kyrgyz Republic
Educational Institution
"Royal Metropolitan University"
Department of Dental Disciplines

"APPROVED"
Vice Rector for Academic and
and Administrative Affairs
N.A. Urazalieva
_____
"06" _____ 2025

TEACHING AND METHODOLOGICAL COMPLEX OF THE DISCIPLINE
"Diagnostic and Treatment Standards in Dentistry"

of the main educational program
in the specialty 560004 **"Dentistry" (for foreign citizens)**

Graduate Qualification: Specialist (Doctor)

Bishkek 2025

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"06" 09 2025

WORKING PROGRAM OF THE DISCIPLINE
"Diagnostic and Treatment Standards in Dentistry"

of the main educational program
in the specialty 560004 **"Dentistry" (for foreign citizens)**

Graduate Qualification: Specialist (Doctor)

Full-time program	
Duration	5
Semester	9
Exam (semester)	
Credit (semester)	9
Total credits in the curriculum	2
Total hours in the curriculum	60

Program developer:
A. E. Zholdoshbekova

Reviewed and approved at a meeting of the
Department of Dental disciplines
Protocol No. 1 dated September 6, 2025
Head of the Dental disciplines Department, PhD,
A. K. Bektasheva
_____ *(signature)*

Bishkek 2025

The work program for the course "Diagnostic and Treatment Standards in Dentistry" has been developed in accordance with the requirements of the State Educational Standard for Higher Education in specialty 560004 "Dentistry."

The work program has been approved by the Educational and Methodological Department of the RMU
Head of the Educational and Methodological Department
Kurtubaeva N.K. ____________
(Full Name) (signature)
"06" 09 2025

The work program has been approved by the head of the main educational program for specialty 560004 "Dentistry"
Head of the Main Educational Program Zaporova A.Z.
____
(Full Name) (Signature)
"09" 09 2025

External review provided on
M.d., professor Khoyshkhuntev D.B.
"4" сентября 2025 (review attached)

The work program has been approved by a specialist from the RMU Quality and Monitoring Department
Q&M Department Mambetaliev U. ____________
(Full Name) (Signature)

"06" 09 2025

Content

1. The working program of the academic discipline

1.1. Explanatory note

The mission of the OU RMU isto improve the health and quality of life of the population through high-quality training of medical personnel capable of intercultural interaction, based on the integration of advanced scientific knowledge, innovation and high standards of practice in the context of the unity of education, science and clinical activity.

Abstract of the academic discipline

"Standards of diagnostics and treatment in dentistry" is a disciplineThe program aims to develop students' systematic understanding of modern approaches to the diagnosis, treatment, and prevention of dental diseases in accordance with clinical guidelines and the principles of evidence-based medicine.Studying this discipline ensures the development of clinical decision-making algorithms based on standards of medical care, as well as the development of professional thinking of a dentist.

The purpose and objectives of the discipline

The purpose of discipline

Basic The goal of training in "Dentistry" is to develop students' clinical knowledge and skills in:

- Modern standards for diagnostics of dental diseases.
- Mastering the principles of evidence-based medicine in dental practice.
- Training in the application of clinical guidelines and treatment protocols in the daily practice of a dentist.
- Developing skills for conducting a comprehensive clinical examination of a dental patient.
- Development of skills in making preliminary and clinical diagnoses based on standard algorithms.
- Training in the selection of rational and justified tactics for the treatment of dental diseases.
- Development of skills for assessing the effectiveness and quality of dental treatment.
- Mastering the principles of safe medical practice and preventing medical errors.
- Development of clinical thinking and the ability to make independent professional decisions.
- Development of professional responsibility in compliance with standards of dental care.

Objectives of the discipline

- study of modern standards and clinical protocols in dentistry
- mastering algorithms for diagnosing dental diseases
- development of skills in choosing optimal treatment tactics

- development of clinical thinking and decision making
- training in the principles of evidence-based medicine
- development of skills for assessing the quality of care provided
- study of aspects of medical safety and infection control

The place of the discipline in the structure of the OOP (prerequisites, postrequisites)

This discipline is studied by students majoring in General Medicine (for foreign citizens) and is included in the compulsory scope of subjects studied in the State Educational Standard of Higher Professional Education.

The course "Diagnostic and Treatment Standards in Dentistry" builds on the previous courses: normal and pathological physiology, histology, topographic anatomy, pathological anatomy, biochemistry, materials science, propaedeutics of therapeutic dentistry, propaedeutics of surgical dentistry, and propaedeutics of orthopedic dentistry. The knowledge gained in "Diagnostic and Treatment Standards in Dentistry" will subsequently be essential for studying the following disciplines: endodontics, periodontology, gerontostomatology and diseases of the oral mucosa, and pediatric dentistry.

The main purpose of the program "Standards of Diagnosis and Treatment in" is to develop students' clinical thinking, the ability to interpret anamnesis data, clinical data, and additional research methods for the correct diagnosis and targeted therapy.

The total workload of the subject is 60 hours.

The course consists of lectures and practical exercises. Ongoing assessments include tests and practical exercises using mock-ups, designed to test the required competencies. The final assessment is a credit.

Course prerequisites: normal and pathological physiology, histology, topographic anatomy, pathological anatomy, biochemistry, materials science, propaedeutics of therapeutic dentistry, propaedeutics of surgical dentistry, propaedeutics of orthopedic dentistry.

Postrequisites: endodontics, periodontology, gerontostomatology and diseases of the oral mucosa, pediatric dentistry.

Competencies of students formed as a result of mastering the discipline, planned results of mastering the academic discipline.

- Graduate in the specialtyDentistrywith the assignment of a specialist qualification"Doctor"in accordance with the goals of the OOP and the objectives of professional activity,must have the following professional competencies:

Code	Content of competence
GC-1	able and willing to analyze socially significant problems and processes, to use methods of natural sciences, mathematics and humanities in various types of professional and social activities

IC-1	able and ready to work with computer equipment and software for system and application purposes to solve professional problems
SPC-1	able and willing to implement ethical, deontological and bioethical principles in professional activities;
SPC-2	able and ready for professional communication techniques; build interpersonal relationships, work in a group, constructively resolve conflict situations, tolerate social, ethnic, religious and cultural differences;
PC-2	able and willing to conduct and interpret interviews, physical examinations, clinical examinations, results of modern laboratory and instrumental studies, morphological analysis of biopsy, surgical and autopsy material of patients, and prepare medical records for outpatient and inpatient patients of children and adults;
PC-3	able and willing to conduct a pathophysiological analysis of clinical syndromes, use sound methods of diagnosis, treatment, rehabilitation and prevention among children, taking into account their age and the adult population;
PC-6	able and ready to work with medical and technical equipment used in work with patients, computer equipment, receive information from various sources, apply the capabilities of modern information technologies to solve professional problems;
PC-4	able and willing to apply aseptic and antiseptic methods, use medical instruments, carry out sanitization of treatment and diagnostic rooms, children's healthcare organizations, and possess the skills to care for sick children and adults;
PC-15	able and willing to collect and record a complete patient medical history, including oral health data;
PC-16	able and ready to make a diagnosis based on the results of clinical and laboratory studies of biological materials and taking into account the laws of the course of pathology in organs, systems and the body as a whole;
PC-19	able and ready to diagnose typical dental diseases of the hard and soft tissues of the oral cavity, dentofacial anomalies in patients of all ages;
PC-20	able and ready to analyze and interpret the results of modern diagnostic technologies in children, adolescents and adults for successful treatment and preventive activities;
PC-22	able and ready to perform basic treatment measures for the most common dental diseases and conditions in adults and children;
PC-23	able and ready to prescribe adequate treatment to patients with dental diseases in accordance with the diagnosis, and to implement an algorithm for selecting drug and non-drug therapy;

APC-1	the ability to use modern digital technologies in the diagnosis and treatment of dental diseases.

LO-1. Understand the basic principles of standard dental diagnostics, the stages of patient examination, methods for collecting complaints, medical history, and life history.

LO-2. Understand the importance of the patient's allergy status, oncological awareness, and general condition when choosing a diagnostic method and dental treatment.

LO-3. Will be able to use basic clinical methods of dental patient examination: inspection, probing, palpation, percussion.

LO-4. Will be able to apply additional diagnostic methods for oral diseases, including radiographic examination, functional testing, and modern digital research methods.

LO-5. Will be able to interpret the results of radiographic images and evaluate the radiographic monitoring of the effectiveness of dental treatment.

LO-6. Will be capable of analyzing data from vascular and functional research methods: rheography, Dopplerography, polarography, and other diagnostic tests.

LO-7. Ability to conduct differential diagnostics of dental diseases based on complaints, anamnesis, clinical and additional research methods.

LO-8. Will be able to justify the choice of diagnostic method taking into account the clinical situation, the patient's condition, allergy history, and potential risks.

LO-9. Will be able to evaluate the results of a comprehensive examination of a dental patient and formulate a preliminary clinical diagnosis.

LO-10. Will be able to apply acquired knowledge to planning further treatment strategies and preventing dental diseases.

After mastering this discipline, the student:
will know:
- The main stages of examination of a dental patient.
- Principles of collecting complaints and disease history.
- Features of collecting anamnesis of the life of a dental patient.
- Basic and additional methods of diagnosing oral diseases.

- Principles of probing, palpation and percussion.
- Types of X-ray examinations in dentistry.
- Modern methods of radiation diagnostics.
- Fundamentals of functional research methods (rheography, Dopplerography, etc.).
- The role of allergological status in dental practice.
- Principles of oncological alertness in dentistry.

will understand:

- The importance of an integrated approach in the diagnosis of dental diseases.
- The relationship between patient complaints and the clinical picture of the disease.
- The role of anamnesis in diagnosis.
- The importance of additional research methods to clarify the diagnosis.
- Principles of choosing diagnostic methods depending on the clinical situation.
- The influence of allergological status on the choice of treatment.
- The importance of X-ray control at the stages of treatment.
- Principles of interpretation of functional tests.
- The need for early detection of cancer.
- The impact of systemic diseases on the patient's dental status will be able to use:
- Methods of collecting complaints and anamnesis from dental patients.
- Basic clinical examination methods (inspection, probing, palpation).
- Percussion for diagnosis of dental diseases.
- Radiological research methods in clinical practice.
- Additional diagnostic methods for oral diseases.
- Functional research methods in diagnostics.
- Anamnesis data for making a preliminary diagnosis.
- Allergic history when choosing treatment.
- Examination results for treatment planning.
- Modern diagnostic technologies.

will be able to carry out:

- Complete collection of the patient's dental history.
- Clinical examination of the oral cavity.
- Carrying out probing, palpation and percussion.
- Referring the patient for additional research methods.
- Assessment of the condition of the oral tissues.
- Conducting primary diagnostics of dental diseases.
- Selection of diagnostic tactics.
- X-ray control of treatment.
- Identification of risk factors for dental diseases.
- Primary oncological alertness.

will be able to analyze:

- Patient's complaints and medical history.

- Results of clinical examination.
- Data from X-ray studies.
- Results of functional tests.
- Condition of oral tissues.
- The influence of comorbidities.
- Allergic status of the patient.
- The effectiveness of the treatment.
- Diagnostic data complex.
- Diagnostic errors.

will be able to synthesize:

- Clinical and additional data for diagnosis.
- Information from the anamnesis and examination results.
- Results of various diagnostic methods.
- Comprehensive diagnostic approach.
- Individual patient examination plan.
- Diagnostic hypothesis.
- Patient examination algorithm.
- Clinical thinking in diagnosis.
- Survey data for treatment selection.
- Interdisciplinary knowledge in diagnostics.

will be able to evaluate:

- The patient's dental health status.
- Results of clinical examination.
- Reliability of diagnostic methods.
- Efficiency of X-ray diagnostics.
- Treatment results based on diagnostics.
- Risks of developing complications.
- Validity of the chosen diagnostic method.
- Need for further research.
- Dynamics of the patient's condition.
- Quality of the diagnostic process.

1.2. Recommended educational technologies

The following educational technologies are used to help students master the academic discipline "Standards of Diagnostics and Treatment in Dentistry," gain knowledge, and develop professional competencies:

- lecture with elements of discussion and problem solving;
- lectures - electronic presentations;
- analysis of specific situations;
- role-playing game "doctor - patient";
- lecture-visualization;
- problem lecture;
- conference session;

- debate;
- brainstorming;
- small group method;
- classes using training equipment and simulators;
- analysis of clinical cases;
- situational tasks;
- preparation and defense of medical history;
- student's research work;
- holding subject Olympiads;
- preparation of written analytical papers;
- preparation and defense of abstracts;

1.3. Scope of the discipline and types of academic work

The section data is presented in tabular form in accordance with the curriculum. It also specifies the volume of classroom instruction (lectures, seminars, practical classes, and labs) and independent student work (overall and by semester in which the course is studied), as well as the types of final assessments.

Form of study – full-time

According to the 2025 curriculum	**9 sem.**	**Total**	
		in hours	**in loans**
Total labor intensity	**60**	**60**	**2**
Classroom work	36	36	
Lectures	18		
Practical classes	18		
Independent work	12	12	
SRSP	12	12	
Type of final control	Credit		

1.4. Structure of the discipline

1.4.1. Thematic plan for studying the discipline –Reflects the course structure, reveals the sequence of study of sections and topics of the program; is presented in the form of a table and provides information on the distribution of the number of hours by topics, types of classes (lectures, seminars, practical classes, laboratory work, independent work of students), the competencies developed, the educational technologies used, the methods and methods of teaching, and forms of assessment.

Subject plan for studying the discipline and competency matrix (workload is indicated in academic hours)

No.	Name sections and topics disciplines (lectures and practical classes)	Classroom activities				Total hours on classroom work	SRSP	Independent work of a student	Formed competencies	Used educational technologies, methods and techniques of teaching	Dummies	Forms of current and border control academic performance
		lectures	seminars	practical classes	laboratory work							
	9th semester											
1	Introduction to diagnostic and treatment standards	*2*		2		4	2	2	*GC-1, IC-1, SPC-1*	*Problematic lecture*	*Models of jaws in permanent and mixed dentition*	*Assessment of the acquisition of practical skills (abilities)*
2	Additional methods for diagnosing and treating oral diseases. Collection of data on patients' dental profiles, complaints, and dental disease history.	2		2		4	2		*GC-1, IC-1, SPC-1, SPC-2, PC-2, PC-3, PC-6*	*lecture-visualization*	*Model of jaws using basic instruments*	*Testing, control work. Assessment of the acquisition of practical skills (abilities).*
3	Radiographic examination of dental patients. Dental patient history.	2		2		4		2	*GC-1, IC-1, SPC-1, SPC-2, PC-2, PC-3, PC-6*	*lecture using video materials*	*Model of jaws*	*Testing, solving situational problems*
4	Modern X-ray methods. The patient's allergy status, its role in	2		2		4	2	2	*GC-1, IC-1, SPC-1, SPC-2, PC-2, PC-3, PC-6*	*lecture-visualization*	*Jaw models,*	*TestingTest work.*

	diagnosis, and the choice of dental treatment method.											*Assessing the acquisition of practical skills (abilities). Solving situational problems*
5	Additional diagnostic methods in the diagnosis and treatment of oral diseases. Primary diagnostic methods: probing and palpation.	2		2		4	2	2	*PK-15, PK-16, PC-19, PC-20*	*lecture using video materials*	*Jaw models, artificial teeth, diagnostic instruments*	*analysis of clinical cases.*
6	Oncological vigilance in dental patients. Percussion in the diagnosis of dental diseases and treatment stages.	2		2		4	2		*GC-1, IC-1, SPC-1, SPC-2, PC-2, PC-3, PC-6, PK-15, PK-16, PC-19, PC-20*	*problematic lecture*	*Jaw models, diagnostic instruments*	*TestingTest work. Assessing the acquisition of practical skills (abilities). Solving situational problems*
7	Additional diagnostic methods for the diagnosis and treatment of allergic diseases in dentistry. X-ray examination of dental patients, types of X-ray images.	2		2		4		2	*PK-15, PK-16, PC-19, PC-20*	*lecture using video materials*	*Jaw models, artificial teeth*	*Analysis of clinical cases. Assessment of the acquisition of practical skills (abilities).*

8	Vascular examination, rheography, Dopplerography, and polarography. X-ray monitoring of dental treatment results.	2		2		4		2	*PC-20, PC-22, APC-1, DPC-2*	*lecture-visualization*	*Skull model*	*Analysis of clinical cases, situational tasks*
9	Study of functional tests in the diagnosis and treatment of dental diseases. Modern digital X-ray methods.	2		2		4	2		*PC-20, PC-22, APC-1, DPC-2*	*problematic lecture*	*Skull model*	*Analysis of clinical cases. Assessment of the acquisition of practical skills (abilities).*
	Total hours by discipline:	**18**		**18**		**36**	**12**	**12**				

Examples of educational technologies, methods and teaching techniques (abbreviated):*traditional lecture (L), lecture-visualization (LV), problem lecture (PL), lecture-press conference (LPC), lesson-conference (LC), training (T), debates (D), brainstorming (MSh), master class (MC), round table (RT), activation of creative activity (ATD), regulated discussion (RD), forum-type discussion (F), business and role-playing educational game (DI, RI), small group method (MG), classes using simulators, imitators (Tr), computer simulation (KS), analysis of clinical cases (KS), preparation and defense of medical history (IB), use of computer training programs (CTP), interactive atlases (IA), attendance of medical conferences, consultations (VK), participation in scientific and practical conferences (SPC), congresses, symposia (Sim), student educational and research work (UIRS), conducting subject Olympiads (O), preparation of written analytical works (AP), preparation and defense of abstracts (R), project technology (PT), excursions (E), distance educational technologies (DOT).*

Sample forms of current and midterm monitoring of academic performance (abbreviated):*T – testing, Pr – assessment of mastery of practical skills (abilities), ZS – solving situational problems, CR – test, KZ – test assignment, IB – writing and defending a medical history, CL – writing and defending a supervisory sheet, R – writing and defending an abstract, S – interview on test questions, D – preparing a report, etc.*

1.4.2. Organization of independent work of students

No.	Topic of independent work for students of 4th semester:	Assignment for independent work	Recommended Literature	Deadlines surrender (week number)
1.	Modern methods of diagnosing oral diseases.	Preparation of a report, schematic representation	1.X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020 2.X-ray examinations in dentistry and maxillofacial surgery: atlas / A. P. Arzhantsev. - Moscow: GEOTAR-Media, 2019. 3. Biochemistry of the connective tissue. Biochemistry of mixed saliva / Glukhov AI, Babchenko EV - Moscow: GEOTAR-Media, 2019 4. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023	1
2.	Algorithm for collecting complaints and anamnesis from a dental patient.	Abstract, presentation, preparation of a report describing clinical cases.	1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018 2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023 3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015 4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised	2

			and enlarged. - Moscow: GEOTAR-Media, 2020 5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019	
3.	Allergic history in dentistry	Abstract, presentation, report preparation.	1.Emergency care in dentistry / Bichun A. B., Vasiliev A. V., Mikhailov V. V. - Moscow: GEOTAR-Media, 2014 2.Emergency care in emergency conditions in dentistry / A. B. Bichun, A. V. Vasiliev, V. V. Mikhailov - Moscow: GEOTAR-Media, 2017 3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015 4. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019	3
4.	Oncological alertness in dental practice	Abstract, presentation, report preparation.	1. Radiological studies in dentistry and maxillofacial surgery: atlas / A. P. Arzhantsev. - Moscow: GEOTAR-Media, 2019. 2.Biochemistry of tissues and fluids of the oral cavity: a textbook / T. P. Vavilova. - 3rd ed., revised and enlarged. - Moscow.: GEOTAR-Media, 2023 3.Surgical Dentistry: textbook / V. V. Afanasyev [et al.]; edited by V. V. Afanasyev. - 3rd ed., revised. - Moscow: GEOTAR-Media, 2021 4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020	4
5	Radiographic examination methods in dentistry	Abstract, presentation, report preparation.	1.X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised	5

			and enlarged. - Moscow: GEOTAR-Media, 2020 2.X-ray examinations in dentistry and maxillofacial surgery: atlas / A. P. Arzhantsev. - Moscow: GEOTAR-Media, 2019. 3. Biochemistry of the connective tissue. Biochemistry of mixed saliva / Glukhov AI, Babchenko EV - Moscow: GEOTAR-Media, 2019 4. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023	
6	Functional diagnostic methods in dentistry.	Abstract, presentation, report preparation.	1.X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020 2.X-ray examinations in dentistry and maxillofacial surgery: atlas / A. P. Arzhantsev. - Moscow: GEOTAR-Media, 2019. 3. Biochemistry of the connective tissue. Biochemistry of mixed saliva / Glukhov AI, Babchenko EV - Moscow: GEOTAR-Media, 2019 4. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023. Bazikyan. - Moscow: GEOTAR-Media, 2023	6
7	The diagnostic value of percussion, palpation and probing	Abstract, presentation, report preparation.	1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018 2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023	7

			3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015 4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020 5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019	
8	Errors in the diagnosis of dental diseases and ways to prevent them	Abstract, presentation. Preparation using dummies.	1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018 2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023 3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015 4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020 5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019	8
9	Emergency situations in dental practice.	Abstract, presentation, report preparation.	1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018 2. Emergencies in dental practice: a teaching aid / S. A. Demyanenko, D. A. Kazantsev, O. N. Kazantseva, G. R. Geletsyan. - Moscow: GEOTAR-Media, 2025	9

			3. Medico-legal and expert assessment of cases of adverse outcomes in the provision of dental care: a study guide / edited by O. O. Yanushevich. - Moscow: GEOTAR-Media, 2023 4. Surgical Dentistry: Textbook / edited by S. V. Tarasenko. - Moscow: GEOTAR-Media, 2021 5. Pain relief and emergency care in outpatient dental practice: a tutorial / Sokhov S. T. [et al.] - Moscow: GEOTAR-Media, 2019.	
10	Ethics and deontology in dental practice. Informed patient consent.	Abstract, presentation, report preparation.	1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018 2. Medico-legal and expert assessment of cases of adverse outcomes in the provision of dental care: a textbook / edited by O. O. Yanushevich. - Moscow: GEOTAR-Media, 2023 3. Psychology of doctor-patient relationships: textbook / L. I. Larentsova, N. B. Smirnova - Moscow: GEOTAR-Media, 2014 4. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019	9

1.4.3. Assessment tools for monitoring academic performance

- **Current and midterm (modular) control**

*Current monitoring of students' knowledge*may represent:
- oral survey;
- solving situational problems;
- assessment of the acquisition of practical skills using dummies;
- test task; test work;
- checking the completion of written homework;
- checking abstracts, reports, presentations.

Topics of abstracts (reports, presentations):
- The main stages of diagnostics of dental diseases.
- Collection of complaints and anamnesis in dental practice.
- The importance of life history in the diagnosis of dental patients.

- Basic methods of clinical examination in dentistry.
- Diagnostic value of probing in dentistry.
- The role of percussion in the diagnosis of dental diseases.
- Palpation as a method for diagnosing diseases of the maxillofacial region.
- Radiological research methods in dentistry.
- Types of X-ray images and their diagnostic value.
- Modern methods of radiation diagnostics in dentistry (CBCT, OPG).
- Digital technologies in diagnostics of dental diseases.
- X-ray control of the effectiveness of dental treatment.
- Allergic status of the patient and its importance in dentistry.
- Oncological alertness of the dentist.
- Early diagnosis of diseases of the oral mucosa.
- Functional research methods in dentistry.
- Application of Dopplerography in dental practice.
- An integrated approach to the diagnosis of dental diseases.
- Errors in the diagnosis of dental diseases.
- The role of additional research methods in diagnosis.

Sample situational problems for the discipline:
Situational tasks

Problem 1

A 25-year-old patient complains of short-term pain in the area of the 3.6 tooth when eating cold foods. The pain quickly subsides after the irritant is removed. Physical examination: a medium-depth carious cavity on the chewing surface; probing along the bottom is painful.
What diagnostic tests are needed? What is the preliminary diagnosis? Are additional tests necessary?

Problem 2

A 40-year-old patient complains of constant aching pain in the 1.6 area, which intensifies when biting. History: previously treated for caries. Objectively: the tooth is discolored, and percussion is painful.
What clinical examination methods should be used? What tests will confirm the diagnosis? What is the preliminary diagnosis?

Problem 3

A 32-year-old female patient presented with complaints of a burning sensation in the oral mucosa. Physical examination revealed mucosal hyperemia and erosive areas. A history of medication allergies was present.
What role does an allergy history play? What additional diagnostic methods are needed? What is the doctor's approach?

Problem 4

A 50-year-old patient complains of a persistent ulcer on the buccal mucosa. Physical examination: the ulcer has firm edges and is painless.
What should a doctor consider? What diagnostic tests should be prescribed? What is the next step?

Problem 5

A 28-year-old patient complains of pain when biting on tooth 4.6. Objectively: there is no carious cavity, percussion is sharply painful.
What additional diagnostic tests are indicated? What is the preliminary diagnosis? How should radiographic results be interpreted?

Problem 6

A 35-year-old patient was referred for an X-ray examination. The image revealed widening of the periodontal space in the root apex area. What does this radiographic finding mean? What other conditions should it be differentiated from? What clinical findings should be considered?

Problem 7

A 22-year-old patient complains of bleeding gums when brushing his teeth. Objectively: gingival hyperemia, swelling, and soft plaque.
What diagnostic methods are needed? How can oral hygiene be assessed? What is the preliminary diagnosis?

Problem 8

A 45-year-old patient complains of numbness in the lower lip. Objectively: there are no visible changes in the oral cavity.
What diagnostic tests should be performed? Why is radiography important? What conditions should be ruled out?

Problem 9

A 30-year-old patient was referred for a follow-up examination following treatment for caries. He has no complaints.
What methods should be used to monitor treatment effectiveness? How can the quality of restoration be assessed? Is radiographic monitoring necessary?

Problem 10

A 38-year-old patient complains of intermittent pain in tooth 2.6. The pain occurs spontaneously and intensifies at night.
What diagnostic methods are necessary? What is the preliminary diagnosis? What additional methods will help clarify the diagnosis?
**further see the FOS Application*

***Boundary (modular) control*may represent:**
- testing by section (computer);
Sample test assignments for midterm (modular) assessment:
1. The main method of collecting information about the patient is:
A. Radiography
B. Anamnesis
C. Percussion
D. Palpation

2. The main clinical diagnostic methods include:
A. CBCT
B. Probing
C. Dopplerography
D. Rheography
3. Percussion is used to determine:
A. Enamel conditions
B. Pulp conditions
C. Periodontal conditions
D. Depth of caries

4. The most informative method for assessing periapical tissues:
A. Inspection
B. Palpation
C. Radiography
D. Probing

5. Additional diagnostic methods include:
A. Inspection
B. Anamnesis
C. Percussion
D. Radiography

6. An allergological history is necessary for:
A. Bite assessments
B. Choice of treatment method
C. Tooth color determination
D. Hygiene assessments

7. If you suspect cancer, you must:
A. Prescribe a filling
B. Limit yourself to inspection
C. Refer for further examination

D. Prescribe antibiotics

8. The main method for assessing the effectiveness of treatment:
A. Patient complaints
B. X-ray control
C. Tooth color
D. Temperature test

9. Dopplerography is used to assess:
A. Hard tissues of the tooth
B. Blood flow
C. Depth of caries
D. Bite

10. The main purpose of diagnostics in dentistry:
A. Treatment Prescription
B. Collection of complaints
C. Making a diagnosis
D. Conducting an inspection

**further see the FOS Application*

Final control

Final control at the end of the study of the academic discipline it is carried out in the form of an exam, whichis exhibitedbased on the results of testing and midterm (modular) control in the discipline.

1.4.4. Course policy and assessment criteria

Students' knowledge is assessed using a point-rating system.in accordance with the standard "Regulations on the modular point-rating system for assessing students' knowledge."

Course "Standards of Diagnostics and Treatment in Dentistry"assessed on a 100-point scale:

The maximum score is 100, of which:

- SRS - 20 points;
- current control - 40 points
- midterm control (module completion) - 40 points.

The results of the two modules are added together to produce an average score.

Scoring Policy	**Module 1**	**Module 2, etc.**
Classroom work (activity in discussions, oral questioning, group work, etc.)	40 points	40 points
Independent work: essay, report	20 points	20 points
Total for the module (testing)	40 points	40 points
Total for the discipline:	100 points	

Exam	

Final assessment in the form of a test is carried out based on the results of attendance, current and midterm (modular) assessment.
The final assessment form is a credit.
The following scale of grades and scores is used to evaluate student performance:

Rating and Scoring Scale				
Maximum score	Intervals			
	unsatisfactory	"satisfactorily"	"Fine"	"Great"
20	0-11	12-15	16-17	18-20
40	0-23	24-30	31-35	36-40
60	0-35	36-45	46-53	54-60
100	0-59	60-75	76-89	90-100

Academic achievement grading scale

Rating (points)	**Letter grading system**	**Value for calculating GPA**	**Digital equivalent of the assessment**	**Assessment according to the traditional system**
96-100%	A+	4.00	5	Great
93-95.99%	A	3.75		
90-92.99%	A-	3.67		
87-89.99%	B+	3.33	4	Fine
83-86.99%	B	3.00		
80-82.99%	B-	2.67		
77-79.99%	C+	2.33	3	Satisfactorily
73-76.99%	C	2.00		
70-72.99%	C-	1.67		
67-69.99%	D+	1.33	2	
63-66.99%	D	1.00		
60-62.99%	D-	0.67		
00-59.99%	F	0.00	1	Unsatisfactory
	P			Credit
	NP			Fail

	I		Not taken into account when calculating the average grade	Failed to comply with all disciplinary requirements for a valid reason
	W			Refusal to attend a course that is not mandatory
	AU			Attended the course as a listener, without receiving grades (awarded to a student if he/she has attended at least 80% of the classes in the additional discipline as a listener).

I - awarded to a student who has failed to complete all course requirements for a valid reason. The student has the right to complete all course requirements within the time limit established by the educational institution, after which the grade will be adjusted.

W - assigned to a student who decides to withdraw from a course no later than the sixth week of the semester. Applies only to elective courses.

AU - awarded to a student if he/she has attended at least 80% (eighty percent) of the classes in the additional discipline as a listener.

For each discipline, GPA is calculated automatically in the information system.

GPA (Grade Point Average (GPA) is a weighted average of a student's academic achievement. GPA is a key indicator of academic performance.

Based on academic performance, a GPA is calculated, with a maximum of 4.0. A student's GPA is calculated based on their academic performance in each semester and at graduation.

1.4.5. Educational, methodological and informational support of the discipline

List of sources and literature:

a) main literature:

1.X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020

2.X-ray examinations in dentistry and maxillofacial surgery: atlas / A. P. Arzhantsev. - Moscow: GEOTAR-Media, 2019.

3. Biochemistry of the connective tissue. Biochemistry of mixed saliva / Glukhov AI, Babchenko EV - Moscow: GEOTAR-Media, 2019
4. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023

b) additional literature:

1.Emergency care in dentistry / Bichun A. B., Vasiliev A. V., Mikhailov V. V. - Moscow: GEOTAR-Media, 2014
2.Emergency care in emergency conditions in dentistry / A. B. Bichun, A. V. Vasiliev, V. V. Mikhailov - Moscow: GEOTAR-Media, 2017
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

List of resources of the information and telecommunications network "Internet" necessary for mastering the discipline

Provide links to websites that are publicly accessible.

List of resources of the information and telecommunications network "Internet" required for mastering the discipline (modules)

- www.dentalcare.com, www.ohi-s.com
-www.kyrlibnet.kg.
-www.iprbookshop.ru.
-www.consilium-medicum.com.
-www.medportal.ru.
-www.studmedlib.ru
- Cochrane.org, sciencedireckt.com.
-www.mediliter.ru,www.meduniver.com,
- kingmed.info, vk.com, itweek.ru, medlit.biz,
- allmedbook.ru, booksmed.com, medicalenglish.ru,
- library.bsu.edu.ru, rutracker.org.

1.4.6. Material and technical support of discipline

When teaching students, modern methods and forms of teaching are used, using the latest information technologies, electronic educational resources and other information systems necessary for the successful implementation of educational, scientific and therapeutic activities.

The department has the necessary equipment for teaching, demonstration devices, posters, and visual aids. The classroom requirements include computer labs, academic and specially equipped classrooms and laboratories, and a blackboard.

The lecture room is equipped with a power supply kit (220 V, 2 kW, complete with an RCD), specialized furniture and office equipment (a blackboard for writing with

chalk and felt-tip pen, a stand-lectern, a lecturer's desk, a chair-chair, classroom tables, a classroom chair, as well as technical teaching aids (a wall-mounted screen with an electric drive and remote control, a multimedia projector with a laptop).
A new innovative teaching method is used for presentations, lectures and videos.
The practical lesson consists of two parts: the first half is an analysis of the student's theoretical knowledge (etiology, clinical picture, complaints, etc.); the second half is a general examination of the patient, examination in the dental chair, examination of models of jaws and artificial teeth.

Table 1

No. p/p	Type	Name	Note
1.	Presentations.	Throughout the lecture course	From 20 to 30 slides per presentation
2.	Written and test assignments.	Throughout the lecture course	In a significant way quantity
3.	Practical training. Simulation center (stations)	Throughout the course	In a significant way quantity

List of premises used
Table 2.

No.	Audience type	List of equipment
1	An auditorium for lecture-type classes.	A stationary multimedia projector, laptop, 3x4 m screen, whiteboard, and audio equipment. (microphone, speakers)
2	Auditorium for seminars, ongoing monitoring and midterm assessment, group and individual consultations	Stationary multimedia projector, laptop, 3x4 m screen, interactive whiteboard, dummies, phantoms.

1.4.7. Student research work

The research work in the discipline "Dentistry" has the following goals: increasing the level of professional and creative training of students, improving the forms of involving young people in scientific research and using the creative potential of students to solve current scientific problems.

The research work is aimed at solving the following problems:

- to form an idea of the main stages of scientific research activities;
- to teach how to use the conceptual apparatus of scientific research in work;
- teach how to work with various information sources;
- development of skills for perception and analysis of professional information;
- development and improvement of decision-making and implementation abilities;
- training students by means of their acquisition of methods, techniques and skills for carrying out scientific research work during the learning process;
- development of their creative abilities, independence, initiative in studies and future professional activities within the framework of their specialty.

The program of scientific research work of students (SRW), as a section for mastering practical skills, includes:

- study of specialized literature and other scientific and medical information, achievements of domestic and foreign science and technology in the field of medical knowledge, preparation of scientific papers (literature reviews);
- participation in conducting scientific research or in carrying out certain developments in departments;
- collection, processing, analysis and systematization of scientific information on a topic or assignment;
- preparing reports and presenting a paper at a conference, preparing scientific work for publication;
- participation in mass events of the research and development system (student scientific conferences, seminars, subject Olympiads, competitions, Science Week, exhibitions, discussions, debates, etc.).

To solve the problem, students are offered to read and meaningfully analyze scientific monographs and articles on various issues of obstetrics and gynecology contained inlist of resources of the information and telecommunications network "Internet":

http://journals.medi.ru
www.agog.org
www.obgyn.onlinelibrary.wiley.com
www.journals.lww.com
http://www.doctor-ru.org/
http://www.med2000.ru/catalog.htm
http://www.nlr.ru/res/inv/ic med/index.php
http://www.elibrary.ru/
http://www.medmir.com/
http://www.medLine.ru
http://varles.narod.ru
http://whodc.mednet.ru/
http://www.aonb.ru/iatp/guide/library.html

http://elibrary.rsl.ru/
http://studentam.net/
http://www.europeana.eu/portal/
https://kuzdrav.ru/special/guideline/cragmz.php
The results of work with scientific monographs and articles are discussed during practical classes.

To develop and improve communication skills, decision-making skills, and medical tactics in emergency situations, special training sessions are organized in the form of work in small groups, role-playing games, brainstorming, discussions, presentations, or, in preparation for which, students are divided into groups in advance, defending one or another point of view on the issue under discussion.

2. Educational and methodological materials

Educational and methodological materials (EMM), as methodological support for the discipline, are presented in the form of lecture texts, developments of practical classes, both in printed and electronic form.

2.1. Lecture notes

Lecture Topic #1: Introduction to Diagnostic and Treatment Standards.

1. The purpose of the lecture:

To develop students' understanding of modern standards for the diagnosis and treatment of dental diseases, their importance in clinical practice, and to develop an understanding of the principles of evidence-based medicine and the algorithmic nature of the treatment and diagnostic process.

2. Issues under consideration:

- The concept of diagnostic and treatment standards in dentistry.
- The role of standards in ensuring the quality of medical care.
- Principles of evidence-based medicine in dentistry.
- Algorithms for examination of a dental patient.
- The main stages of diagnosis of oral diseases.
- Classification of diagnostic methods (basic and additional).
- The role of clinical guidelines and treatment protocols.
- Individualization of patient treatment within the framework of standards.

3. Educational technologies

-problematic lecture

4. Primary and secondary literature:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023

3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

Modern dentistry is based on the principles of standardized diagnostics and treatment, which improves the quality of medical care, reduces the risk of errors, and ensures a unified approach to patient care. Diagnostic and treatment standards are a set of scientifically based recommendations defining optimal methods for examining and treating patients with various dental conditions.

The standards are based on the concept of evidence-based medicine, which requires the use of the most reliable scientific data when making clinical decisions. This means that dentists should rely not only on their own experience but also on the results of clinical studies, systematic reviews, and international guidelines.

Diagnosis of dental diseases involves several sequential stages. The first stage involves collecting the patient's complaints and medical history. It is important to determine the nature of the pain, its duration, the conditions under which it occurs, and the factors influencing its intensity. The patient's medical history, including the presence of concomitant diseases, allergies, and bad habits, is also of great importance.

The next step is a clinical examination, which includes oral examination, probing, palpation, and percussion. These methods allow us to identify visible tissue changes, determine the location of the pathological process, and preliminarily assess its nature.

To clarify the diagnosis, additional diagnostic methods are used. These include radiographic methods (targeted radiography, orthopantomography, cone-beam computed tomography), as well as functional diagnostic methods. Radiographic examination plays a key role in assessing the condition of dental hard tissues and periapical structures.

Modern standards place particular emphasis on algorithmic diagnostic processes. This means that physicians must follow a specific sequence, starting with simple and accessible methods and moving on to more complex and expensive tests when necessary. This approach helps avoid overdiagnosis and unnecessary interventions.

Dental treatment standards are also based on clinical guidelines and protocols. These include choosing the optimal treatment method, using modern materials and technologies, and monitoring the effectiveness of the treatment.

It's important to understand that standards don't preclude an individualized approach to each patient. Each clinical case requires consideration of the patient's age, general health, allergy status, and other factors. The physician must be able to adapt standard protocols to the specific clinical situation.

Thus, diagnostic and treatment standards are an important tool in dental practice. They contribute to improving the quality of medical care, ensuring patient safety, and shaping clinical judgment based on the principles of evidence-based medicine.

Lecture Topic No. 2: Additional Methods of Diagnosis and Treatment of Oral Diseases.

1. The purpose of the lecture:

To develop in students a systematic understanding of additional methods of diagnosis and treatment of oral diseases, their importance in clinical practice, and to teach them how to make a well-founded choice of research methods and interpret the results obtained.

2. Issues under consideration:

- The concept of additional diagnostic methods in dentistry.
- Classification of additional research methods.
- X-ray diagnostic methods (targeted radiography, OPG, CBCT).
- Digital technologies in diagnostics of dental diseases.
- Functional research methods (EOD, rheography, Dopplerography).
- Laboratory diagnostic methods (cytology, bacteriological studies).
- Additional methods for diagnosing diseases of the oral mucosa.
- Additional methods for monitoring treatment effectiveness.

3. Educational technologies

- Lecture-visualization

4. Primary and secondary literature:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020

5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

Additional diagnostic methods play an important role in modern dentistry and are used to clarify diagnoses, assess disease severity, and monitor treatment effectiveness. Unlike basic clinical methods (examination, probing, percussion, palpation), additional methods provide more objective and detailed information about the condition of oral tissues.

One of the most widely used additional methods is radiographic examination. The main types of radiographic diagnostics include targeted intraoral radiography, orthopantomography (OPT), and cone-beam computed tomography (CBCT). Targeted images allow one or more teeth to be assessed, identifying carious lesions, changes in the root area, and periapical tissues. OPT provides a general overview of the dental system, while CBCT provides a three-dimensional image, which is especially important in complex clinical cases.

Modern digital technologies have significantly expanded diagnostic capabilities. Digital X-ray systems reduce radiation exposure, improve image quality, and facilitate analysis. Intraoral cameras and scanners make it possible to visualize hard-to-reach areas and use the resulting data for treatment planning.

Functional diagnostic methods are aimed at assessing tissue viability and the functional state of oral organs. These include electroodontodiagnostics (EOD), which allows for the assessment of dental pulp. Rheography and Doppler sonography are used to assess tissue blood flow, which is particularly important in periodontal and mucosal diseases.

Laboratory diagnostic methods include cytological and bacteriological examinations. Cytological analysis is used to assess the cellular composition of tissues and identify precancerous and oncological changes. Bacteriological studies help determine the composition of oral microflora and select appropriate antimicrobial therapy.

Additional diagnostic methods for diseases of the oral mucosa are particularly important. If pathological changes are suspected, biopsy, histological examination, and various tests to detect infectious and autoimmune processes may be used.

Additional methods are widely used not only for diagnosis but also to monitor treatment effectiveness. Radiographic monitoring allows for assessment of the quality of root canal filling, the condition of periapical tissues, and the progression

of the pathological process. Repeated functional and laboratory tests allow for evaluation of the effectiveness of the treatment.

It is important to note that the choice of additional diagnostic methods should be justified and appropriate to the clinical situation.
The patient's age, comorbidities, allergy status, and potential risks must be taken into account. Excessive testing can increase the patient's workload and is not always clinically justified.

Thus, additional diagnostic methods are an integral part of modern dental practice. They improve diagnostic accuracy, enhance treatment quality, and ensure safer and more effective patient care. A well-balanced combination of primary and additional diagnostic methods forms the basis of a dentist's clinical judgment and facilitates the adoption of sound diagnostic and treatment decisions.

Lecture Topic #3: X-ray Examination of Dental Patients

1. The purpose of the lecture:

To develop in students a systematic understanding of radiographic examination methods in dentistry, their diagnostic capabilities, indications, and limitations, as well as to teach them how to make a well-founded choice of research method and interpret radiographic data.

2. Issues under consideration:

- The importance of X-ray examination in dentistry.
- Types of radiographic methods (intraoral and extraoral).
- Targeted intraoral radiography: indications and possibilities.
- Orthopantomography (OPT): features and diagnostic value.
- Cone beam computed tomography (CBCT): advantages and disadvantages.
- The main radiographic signs of dental diseases.
- Interpretation of radiographic images.
- X-ray monitoring of treatment effectiveness.
- Principles of radiation safety in dentistry.

3. Educational technologies

- Lecture using video materials

4. Primary and secondary literature:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015

4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

Radiographic examination is one of the key additional diagnostic methods in dentistry. It provides objective information about the condition of dental hard tissues, the periodontium, jaw bone, and surrounding anatomical structures. In some cases, radiographic examination allows for confirmation of the diagnosis, localization of the pathological process, and evaluation of the effectiveness of treatment.

All radiographic methods in dentistry are conventionally divided into intraoral and extraoral. Intraoral methods include targeted radiography, which is widely used in clinical practice. This method allows for a detailed examination of an individual tooth, its roots, the condition of the root canals, and periapical tissues. Targeted radiographs are indispensable in the diagnosis of caries, pulpitis, periodontitis, and endodontic treatment.

Extraoral methods include orthopantomography (OPT), which provides a panoramic image of both jaws. This method allows for an overall assessment of the dental system, identifying impacted teeth, developmental anomalies, and pathological changes in bone tissue. OPT is widely used in planning orthopedic and surgical treatment.

Cone-beam computed tomography (CBCT) occupies a special place, providing a three-dimensional image of the area being examined. CBCT allows for highly accurate imaging of anatomical structures, assessing bone thickness, the location of tooth roots, and their relationship to surrounding structures. This method is especially important in complex endodontic cases, implant placement, and surgical interventions.

When interpreting radiographs, several factors must be considered. The dentist must evaluate the shape and size of the tooth, the condition of the root canals, the width of the periodontal space, and the bone structure. Normally, the periodontal space is uniform in width, and the bone tissue is characterized by a distinct trabecular structure. Pathological changes may include widening of the periodontal space, areas of rarefaction, or areas of bone compaction.

Radiographic signs of various diseases have their own characteristics. In dental caries, a zone of rarefaction of hard dental tissue is visible. In periodontitis, changes are detected in the root apex, such as widening of the periodontal space or a focus

of bone destruction. In pulpitis, radiographic changes may be absent, emphasizing the need for a comprehensive approach to diagnosis.

Radiographic examination also plays an important role in monitoring the effectiveness of treatment. In endodontics, it allows for the assessment of the quality of root canal filling, the degree of root canal filling, and the absence of voids. Bone restoration in the periapical area can be monitored dynamically.

When conducting X-ray examinations, it is necessary to strictly adhere to the principles of radiation safety.
This includes using the lowest possible radiation dose, the use of protective equipment (lead aprons, collars), and the appropriateness of the examination. Particular attention should be paid to children and pregnant patients.

Thus, radiographic examination is an integral part of modern dental diagnostics. It complements clinical examination methods, improves diagnostic accuracy, and allows for monitoring of treatment outcomes. Proper use of radiographic methods improves the quality of medical care and patient safety.

Lecture Topic #4: Modern X-ray Methods.

1. The purpose of the lecture:

To develop students' understanding of modern X-ray methods used in dentistry, their physical principles, diagnostic capabilities, advantages and limitations, and to teach them the rational and safe use of radiation research methods.

2.The issues under consideration:

- The concept of X-ray radiation and its properties.
- Principles of X-ray image formation.
- Classification of modern methods of X-ray diagnostics.
- Digital radiography: features and advantages.
- Cone beam computed tomography (CBCT).
- Reducing radiation exposure in modern dentistry.
- Principles of Radiation Safety (ALARA).
- Advantages and limitations of modern methods of radiation diagnostics

3. Educational technologies

- lecture-visualization

4. Primary and secondary literature:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023

3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

X-rays are one of the main tools in modern dental diagnostics. They are high-energy electromagnetic radiation that can penetrate body tissue and form images of internal structures. Depending on the tissue density, X-rays are absorbed to varying degrees, allowing for the visualization of teeth, bone tissue, and pathological changes.

Modern X-ray diagnostic methods differ significantly from traditional film-based technologies. The primary focus of development is the transition to digital systems, which provide higher image quality, the ability to process and store images, and reduce radiation exposure to the patient.

Digital radiography is widely used in dentistry and is gradually replacing film radiography. It relies on digital sensors that convert X-rays into an electrical signal. The resulting image is immediately displayed on a computer screen, allowing the doctor to quickly evaluate the examination results. The advantages of digital radiography include high image acquisition speed, the ability to enlarge, adjust contrast, and archive images.

One of the most modern methods is cone-beam computed tomography (CBCT). Unlike traditional CT, CBCT uses a cone-shaped beam of X-rays, producing a three-dimensional image of the area being examined. This is especially important for diagnosing complex anatomical structures, planning implants, endodontic treatment, and surgical procedures. CBCT provides high accuracy and image detail, but is associated with higher radiation exposure compared to targeted radiography.

Modern X-ray techniques are aimed at minimizing radiation dose without compromising image quality. A key principle is ALARA (As Low As Reasonably Achievable), which means using the lowest possible radiation dose sufficient to obtain diagnostically significant information. This is achieved through improved equipment, the use of digital technologies, and optimized imaging parameters.

Various types of digital detectors are used in dental practice, including sensors and phosphor plates. Sensors provide instant image acquisition, while phosphor plates require additional processing but are more convenient to use. The choice of a specific method depends on the clinical situation and the medical facility's equipment.

Despite significant advantages, modern X-ray diagnostic methods also have limitations. These include the high cost of equipment, the need for specialized personnel training, and contraindications for certain categories of patients. Particular attention should be paid to pregnant women and children, for whom exposure to ionizing radiation should be minimized.
Thus, modern X-ray methods play a vital role in the diagnosis of dental diseases. They provide highly accurate images, improve treatment effectiveness, and reduce the risk of diagnostic errors. Rational use of these methods, taking into account radiation safety principles, is a crucial task for dentists.

Lecture Topic #5: Additional Research Methods in the Diagnosis and Treatment of Oral Diseases.

1. The purpose of the lecture:

To develop in students a systematic understanding of additional research methods used in the diagnosis and treatment of oral diseases, their diagnostic value, indications and limitations, and to develop skills in rational selection and interpretation of research results.

2. Issues under consideration:

- Concept and meaning of additional research methods.
- Classification of additional diagnostic methods.
- Radiological research methods in dentistry.
- Functional diagnostic methods (EOD, Dopplerography, etc.).
- Laboratory research methods (cytology, bacteriology).
- Methods for diagnosing diseases of the oral mucosa.
- The role of additional methods in differential diagnostics.
- Additional methods for monitoring treatment effectiveness.

3. Educational technologies

- Lecture using video materials

4. Primary and secondary literature:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

Additional diagnostic methods are an important component of modern dental diagnostics. They are used to clarify a preliminary diagnosis, determine the severity of the disease, and monitor the effectiveness of treatment. Unlike primary clinical methods, additional diagnostics provide objective data on the condition of oral tissues and organs.

The classification of additional methods includes radiological, functional, laboratory, and specialized research methods. Each of these groups has its own characteristics and is used depending on the clinical situation.

Radiographic methods are the most common. They allow for the assessment of the condition of dental hard tissues, jawbone, and periapical structures. These include targeted radiography, orthopantomography, and cone-beam computed tomography. These methods are widely used in the diagnosis of caries, pulpitis, periodontitis, and other diseases.

Functional methods aim to assess tissue viability and its functional state. One of the most common methods is electroodontic diagnostics (EOD), which allows one to determine the condition of the dental pulp. Doppler ultrasonography is used to assess tissue blood flow, which is important in periodontal and mucosal diseases.

Laboratory methods include cytological and bacteriological examinations. Cytology is used to assess the cellular composition of tissues and identify inflammatory, precancerous, and oncological changes. Bacteriological methods allow us to determine the oral microflora and its sensitivity to antimicrobials.

Diagnostic methods for diseases of the oral mucosa are particularly important. In such cases, biopsy, histological examination, and various tests for infectious and autoimmune diseases may be used. These methods allow for accurate differential diagnosis and the selection of appropriate treatment strategies.

Additional methods play an important role in differential diagnosis. They allow us to distinguish between diseases with similar clinical presentations, clarify the location of the pathological process, and determine its nature. This is especially important in complex clinical cases when clinical data are insufficient for an accurate diagnosis.

Additionally, additional methods are used to monitor treatment effectiveness. Radiographic examinations allow us to assess the quality of endodontic treatment and the progress of bone tissue restoration. Repeated functional and laboratory tests help determine the effectiveness of the treatment and promptly adjust the treatment plan.

When choosing additional research methods, it is necessary to take into account their diagnostic value, safety, availability and economic feasibility.
It is important to avoid unjustified appointments of tests, guided by the principles of evidence-based medicine and an individual approach to the patient.

Thus, additional diagnostic methods are an integral part of the diagnostic process in dentistry. Their proper use increases diagnostic accuracy, improves treatment outcomes, and contributes to the development of the dentist's clinical judgment.

Lecture Topic No. 6: Oncological Vigilance in Dental Patients.
1. The purpose of the lecture:
To develop students' understanding of oncological vigilance in dentistry, teach them how to identify early signs of precancerous and oncological diseases of the oral mucosa, and develop skills for timely referral of patients for specialized examination.
2. Issues under consideration:

- The concept of oncological vigilance in dentistry.
- The relevance of early diagnosis of oncological diseases.
- Precancerous diseases of the oral mucosa.
- Early clinical signs of malignant neoplasms.
- Risk factors for the development of oral cancer.
- Methods of diagnostics of oncological diseases in dentistry.
- Differential diagnosis of mucosal lesions.
- Tactics of a dentist in case of suspected oncology.

3. Educational technologies
- Lecture using video materials
4. Primary and secondary literature:
1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

Oncological vigilance is an important component of a dentist's professional practice. Because oral mucosal diseases are often asymptomatic or have minimal clinical

manifestations, dentists are often the first professionals to suspect oncological pathology.

Oncologic vigilance involves a physician's ability to promptly identify suspicious tissue changes, accurately assess the clinical picture, and refer the patient for further examination. Early diagnosis of malignant tumors significantly increases the effectiveness of treatment and improves the patient's prognosis.

Precancerous lesions of the oral mucosa include leukoplakia, erythroplakia, chronic ulcers, papillomatous growths, and other pathological conditions. These changes require special attention, as they can transform into malignant tumors.

Early clinical signs of cancer include persistent ulcers, areas of tissue hardening, discoloration of the mucous membrane, unexplained bleeding, and sensory disturbances. Painless lesions with hard edges in the early stages should be of particular concern.

Risk factors for cancer development include smoking, alcohol consumption, chronic mucosal trauma, chemical exposure, and viral infections. Taking these factors into account when collecting a medical history allows us to identify high-risk groups.

Diagnosis of oncological diseases in dentistry is based on a comprehensive approach. In addition to clinical examination, additional diagnostic methods are used, such as cytological and histological examination, biopsy, and modern imaging techniques. Biopsy is the most reliable method for confirming a diagnosis.

Differential diagnosis plays an important role, as many benign diseases can have similar clinical presentations. The physician must be able to distinguish inflammatory, infectious, and traumatic lesions from precancerous and malignant processes.

When cancer is suspected, a dentist's approach includes immediately referring the patient to a specialist (oncologist), conducting the necessary tests, and refraining from self-treatment without a confirmed diagnosis. It is important to adhere to the principle of oncological alertness and not ignore even minor changes in the mucous membrane.

Thus, oncological vigilance is an essential element of a dentist's clinical judgment. It enables early detection of diseases, prompt referral of patients for treatment, and significantly improves the effectiveness of medical care.

Lecture Topic #7:Additional research methods in the diagnosis and treatment

of allergic diseases in dentistry.

1. The purpose of the lecture:

To develop students' understanding of additional diagnostic methods for allergic diseases in dentistry, their role in identifying allergic reactions to dental materials and medications, and to teach them how to correctly select and interpret diagnostic tests.

2. Issues under consideration:

- The concept of allergic diseases in dentistry.
- The role of allergic history in diagnosis.
- Classification of allergic reactions (immediate and delayed type).
- Skin allergy tests (application, scarification).
- Laboratory methods for diagnosing allergies (IgE, immunological tests).
- Provocative tests in dentistry.
- Diagnosis of allergies to dental materials and anesthetics.
- The role of additional methods in choosing treatment tactics.
- Prevention of allergic reactions in dental practice
- **3. Educational technologies**

- lecture using video materials

4. Primary and secondary literature:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019
5. Pediatric Maxillofacial Surgery. Guide to Practical Exercises / edited by O. Z. Topolnitsky, A. P. Gurgenadze. - 2nd ed. - Moscow: GEOTAR-Media, 2020

Allergic diseases play a significant role in dental practice, as modern dental procedures involve the use of numerous medications and materials that can cause allergic reactions. These substances include local anesthetics, filling materials, antiseptics, latex, and other components.

Diagnosis of allergic diseases is based on a comprehensive approach, including medical history, clinical examination, and the use of additional diagnostic methods. An allergy history is particularly important, as it allows us to identify previous allergic reactions, their nature, and possible causes.

Allergic reactions are divided into immediate-type reactions (type I), which develop quickly and can manifest as anaphylaxis, urticaria, Quincke's edema, and delayed-type reactions (type IV), which manifest as contact stomatitis or dermatitis.

Additional diagnostic methods include skin allergy testing. Patch tests are used to detect delayed reactions and are widely used when an allergy to dental materials is suspected. Prick tests and skin prick tests are used to diagnose immediate reactions.

Laboratory diagnostic methods include measuring immunoglobulin E (IgE) levels in the blood, as well as specific antibodies to various allergens. These methods help confirm the presence of allergic sensitization and determine its cause.

Provocative tests are used less frequently and only in specialized settings, as they carry the risk of severe allergic reactions. In dentistry, they can be used to clarify reactions to specific medications or materials.

Diagnosing allergies to dental materials, such as composites, cements, denture metals, and local anesthetics, is particularly important. Incorrect material selection can lead to contact stomatitis, inflammatory reactions, or systemic complications.

Additional diagnostic methods allow the physician to choose the appropriate treatment strategy. If an allergy is confirmed, it is necessary to eliminate the patient's exposure to the allergen, select alternative materials and medications, and, if necessary, prescribe medication.

Prevention of allergic reactions includes a thorough medical history, testing when necessary, using hypoallergenic materials, and taking precautions when performing dental procedures.

Thus, additional diagnostic methods play a key role in the diagnosis of allergic diseases in dentistry. They help identify the cause of the allergic reaction, prevent complications, and ensure patient safety during treatment.

Lecture Topic #8:Study of the vascular bed, rheography, Dopplerography, polarography.

1. The purpose of the lecture:
To develop students' understanding of the methods of vascular bed research in dentistry, their diagnostic capabilities, and their importance in assessing the blood supply to oral tissues, as well as to teach them how to interpret the results obtained.
2. Issues under consideration:

- The importance of vascular bed research in dentistry.

- Concept and principles of rheography.
- Methodology for conducting rheographic research.
- Dopplerography: physical principles and diagnostic capabilities.
- Application of Dopplerography in Dentistry.
- Polarography: the essence of the method and its significance.
- Evaluation of microcirculation of oral tissues.
- Indications for the use of methods for studying the vascular bed.
- Interpretation of research results.

3. Educational technologies

- Lecture visualization

4. Primary and secondary literature:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

Vascular examination plays a crucial role in the diagnosis of oral diseases, particularly periodontal and mucosal pathologies, and post-surgical interventions. The state of tissue blood flow directly impacts tissue nutrition, regeneration, and resistance to pathological processes. Therefore, microcirculation assessment is a crucial component of a comprehensive dental examination.

One method for studying the vascular bed is rheography. This method is based on recording changes in tissue electrical resistance associated with pulsatile fluctuations in vascular blood flow. As blood flow increases, tissue resistance decreases, which is recorded by the device as a graphical curve called a rheogram. Analysis of the rheogram's shape allows us to assess vascular tone, vascular wall elasticity, and blood flow.

Rheography is used to assess the condition of periodontal vessels, identify microcirculation disorders, and monitor the effectiveness of treatment for inflammatory diseases. The method is non-invasive and safe for the patient, allowing for its dynamic use.

Dopplerography is a modern method for studying blood flow based on the Doppler effect. It involves changing the frequency of an ultrasound wave when it is reflected from moving blood cells. This allows one to assess the speed and direction of blood flow in blood vessels.

In dentistry, Doppler ultrasonography is used to study the blood supply to the mucosa and periodontium, as well as to assess vascular health after surgery and implantation. This method allows for the detection of blood flow disturbances, such as decreased velocity or asymmetry, which has important diagnostic value.

Polarography is a diagnostic method aimed at assessing tissue oxygen metabolism. It is based on measuring the partial pressure of oxygen in tissues, which reflects their oxygenation level. This method allows for assessment of microcirculation and tissue respiration.

Polarography is used less frequently in dentistry, but can be used to assess tissue viability, especially in chronic inflammatory conditions and circulatory disorders. Decreased tissue oxygen levels indicate hypoxia, which may indicate pathological changes.

All of these methods allow for a comprehensive assessment of the vascular bed and microcirculation in the oral tissues. They complement clinical examination methods and facilitate more accurate disease diagnosis.

Indications for the use of these methods include periodontal disease, inflammatory processes of the mucous membrane, impaired tissue healing, and monitoring of the condition after surgical interventions. The results should be interpreted taking into account the clinical picture and data from other examination methods.

Thus, methods of studying the vascular bed - rheography, Dopplerography and polarography - are important tools in dental practice.They allow us to assess the state of tissue blood supply, identify pathological changes, and monitor the effectiveness of treatment, which helps improve the quality of medical care.

Lecture Topic #9:Study of functional tests in the diagnosis and treatment of oral diseases.

1. The purpose of the lecture:

To develop students' understanding of functional tests used in dentistry, their diagnostic value, and their role in assessing the condition of oral tissues, as well as to teach them how to correctly conduct and interpret the results of functional studies.

2. Issues under consideration:

- The concept of functional tests in dentistry.
- The importance of functional methods in diagnostics.

- Electroodontodiagnostics (EOD): principle and application.
- Thermal diagnostics (cold and heat test).
- Chewing and functional tests.
- Evaluation of the condition of the dental pulp using functional tests.
- Application of functional tests in periodontal diseases.
- The role of functional tests in monitoring treatment effectiveness.

3. Educational technologies

- problem lecture

4. Primary and secondary literature:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

Functional tests play an important role in the diagnosis of dental diseases, as they allow for the assessment of not only the morphological but also the functional state of oral tissues. Unlike radiographic and laboratory methods, functional tests aim to determine tissue viability, their response to various stimuli, and the degree of functional preservation.

One of the most common functional methods is electroodontodiagnosis (EOD). This method is based on determining the sensitivity of the dental pulp to electrical stimulation. Normally, the pulp responds to specific electrical currents; however, during inflammatory or degenerative changes, the sensitivity threshold changes. EOD is widely used for the differential diagnosis of caries, pulpitis, and periodontitis.

Thermal diagnostics involves the use of temperature stimuli—cold and heat tests. The tooth's response to cold or heat allows one to assess the condition of the pulp. Short-term pain that quickly subsides after the stimulus is removed is typical of superficial lesions, while prolonged or intense pain may indicate pulp inflammation.

Functional tests are also used to assess masticatory function. Chewing tests help determine chewing efficiency, coordination, and the condition of the dental system. These tests are especially important in orthopedic treatment and temporomandibular

joint disorders.

In periodontal disease, functional tests are used to assess tooth stability, the condition of the ligamentous apparatus, and tissue response to stress. This allows us to determine the extent of damage and choose the optimal treatment strategy.

Functional tests play an important role in monitoring the effectiveness of treatment. Repeated EOD and thermodiagnostics allow us to assess the restoration of pulp function or, conversely, identify the need for further intervention. Similarly, assessing chewing function after orthopedic treatment allows us to assess its success.

Despite their high information content, functional tests have certain limitations. Their results can depend on the patient's subjective perceptions, as well as the accuracy of the test. Therefore, data interpretation should be conducted in conjunction with other diagnostic methods.

Thus, functional tests are an important tool in the diagnosis and treatment of oral diseases. They allow one to assess the functional state of tissues, clarify the diagnosis, and monitor the effectiveness of treatment. Their proper use improves the quality of dental care and develops the physician's clinical judgment.

2.2. Development of practical/seminar/laboratory classes

Lesson Topic 1:Introduction to diagnostic and treatment standards.

1. Objective of the lesson: To form a general understanding of diagnostics in dentistry and its role in clinical practice.

2. Educational technologies

Case method, work in small groups

3. Basic concepts that students should learn while studying the topic:

- diagnostics,
- dental status,
- survey algorithm,
- clinical thinking

4. Questions for the lesson:

- What is diagnostics?
- Stages of patient examination
- The role of a dentist in diagnosis
- Basic and additional methods

5. Questions for self-control:

- What stages of diagnostics do you know?
- What does the initial examination include?
- Why is an integrated approach important?

6. Primary and secondary literature to the topic:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

7. List of questions and tasks for independent work:

- elaboration of educational material based on lecture notes, educational and scientific literature;
- working with questions for self-control;
- preparation of abstracts and presentations.
  Topics of abstracts (presentations, reports):
- The role of diagnostics in dentistry
- Stages of clinical examination of a patient

8. Location of the lesson:

Department of Dental Disciplines, RMU,
Moscow, 172.

Lesson Topic 2:Collection of data on the dental profile of patients, complaints and history of dental diseases.

1. Objective of the lesson:

Study of competent collection of complaints, medical history.

2. Educational technologies

-Pre-test, work in small groups, post-test

3. Basic concepts that students should learn while studying the topic:

- complaints,
- morbid history,
- symptom,
- pain irradiation

4. Questions for the lesson:

- Complaint structure
- The nature of pain
- Medical history
- Typical mistakes

5. Questions for self-control:

- What questions should you ask the patient?

- How to determine the nature of pain?
- What is important in the anamnesis?
-

6. Primary and secondary literatureto the topic:

1. X-ray examinations in dentistry and maxillofacial surgery: atlas / A. P. Arzhantsev. - Moscow: GEOTAR-Media, 2019.
2. X-ray anatomy and X-ray diagnostics in dentistry: a tutorial / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
3. Microbiology, virology, immunology of the oral cavity: textbook / ed. V. N. Tsareva. - 2nd ed. , processed and additional - Language: GEOTAR-Media, 2021
4. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
5. Dentistry. Recording and maintaining a medical history: a guide / Edited by V. V. Afanasyev, O. O. Yanushevich. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2016

7. List of questions and tasks for independent work:

- elaboration of educational material based on lecture notes, educational and scientific literature;
- working with questions for self-control;
- preparation of abstracts and presentations.
  Topics of abstracts (presentations, reports):
- Medical history in dentistry
- Errors in collecting complaints

Lesson Topic 3:Anamnesis of the dental patient's life.

1. Objective of the lesson:

To study the importance of life history in diagnostics.

2. Educational technologies

- Pre-test, case method, work in small groups, post-test.

3. Basic concepts that students should learn while studying the topic:

- anamnesis vitae,
- chronic diseases,
- bad habits

4. Questions for the lesson:

- What does a life history include?
- Impact of systemic diseases
- Allergies and medications

5. Questions for self-control:

- Why is life history important?
- What factors influence treatment?

6. Primary and secondary literature to the topic:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018

2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

7. List of questions and tasks for independent work:

- elaboration of educational material based on lecture notes, educational and scientific literature;
- working with questions for self-control;
- preparation of abstracts and presentations.
  Topics of abstracts (presentations, reports):
- Anamnesis of life and dentistry
- Systemic diseases and the oral cavity

Lesson Topic 4:The patient's allergological status, its role in diagnosis, and the choice of dental treatment method.

1. Objective of the lesson:

Master the skills of assessing the patient's allergy status.

2. Educational technologies

-Pre-test, demonstration of clinical cases (photos, radiographs), case method, work in small groups, post-test

3. Basic concepts that students should learn while studying the topic:

- allergy,
- anaphylaxis,
- hypersensitivity

4. Questions for the lesson:

- Types of allergic reactions
- Allergy to anesthetics
- Collection of an allergological anamnesis

5. Questions for self-control:

- How to identify an allergy?
- What are the risks of treatment?

6. Primary and secondary literatureto the topic:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018

2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

7. List of questions and tasks for independent work:

- elaboration of educational material based on lecture notes, educational and scientific literature;
- working with questions for self-control;
- preparation of abstracts and presentations.
  Topics of abstracts (presentations, reports):
- Allergies in dentistry
- Prevention of allergic reactions

Lesson Topic 5: Basic diagnostic methods: probing, palpation.

1. Objective of the lesson:

Master the basic methods of clinical examination.

2. Educational technologies

-pre-test, work on dummies, work in small groups, post-test

3. Basic concepts that students should learn while studying the topic:

- probing,
- palpation,
- sensitivity

4. Questions for the lesson:

- Probing technique
- Palpation of tissues
- Diagnostic value

5. Questions for self-control:

- What does probing reveal?
- When is palpation used?

6. Primary and secondary literature to the topic:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023

3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

7. List of questions and tasks for independent work:

- elaboration of educational material based on lecture notes, educational and scientific literature;
- working with questions for self-control;
- preparation of abstracts and presentations.
  Topics of abstracts (presentations, reports):
- Examination methods in dentistry
- Clinical significance of palpation

Lesson Topic 6:Percussion in the diagnosis of dental diseases and stages of treatment.

1. Objective of the lesson:

To study the methodology and importance of percussion in diagnostics.

2. Educational technologies

-Working with jaw models, case method, work in small groups.

3. Basic concepts that students should learn while studying the topic:

- percussion,
- periodontium,
- inflammation

4. Questions for the lesson:

- Types of percussion
- Interpretation of pain
- The value of the method

5. Questions for self-control:

- When is percussion positive?
- What does it show?

6. Primary and secondary literature to the topic:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015

4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

7. List of questions and tasks for independent work:

- elaboration of educational material based on lecture notes, educational and scientific literature;
- working with questions for self-control;
- preparation of abstracts and presentations.
  Topics of abstracts (presentations, reports):
- Percussion in dentistry
- Diagnosis of periodontitis

Lesson Topic 7: X-ray examination of dental patients, types of X-ray images.

1. Objective of the lesson:

To study the methods of X-ray diagnostics.

2. Educational technologies

-Conference-session (C-S) work in small groups.

3. Basic concepts that students should learn while studying the topic:

- radiography,
- OPTG,
- CBCT

4. Questions for the lesson:

- Types of images
- Indications
- Interpretation

5. Questions for self-control:

- When is an x-ray prescribed?
- What can you see in the picture?

6. Primary and secondary literatureto the topic:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

7. List of questions and tasks for independent work:

- elaboration of educational material based on lecture notes, educational and scientific literature;
- working with questions for self-control;
- preparation of abstracts and presentations.
  Topics of abstracts (presentations, reports):
- X-rays in dentistry
- Types of X-ray examinations

Lesson Topic 8:X-ray control of the results of treatment of dental diseases.

1. Objective of the lesson:

Master the skills of assessing treatment results.

2. Educational technologies

-Conference-session (C-S) work in small groups

3. Basic concepts that students should learn while studying the topic:

- treatment control,
- dynamics

4. Questions for the lesson:

- Post-treatment follow-up
- Evaluation of fillings
- Errors

5. Questions for self-control:

- When do they do the checkup?
- What do they evaluate?

6. Primary and secondary literature to the topic:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

7. List of questions and tasks for independent work:

- elaboration of educational material based on lecture notes, educational and scientific literature;
- working with questions for self-control;
- preparation of abstracts and presentations.

Topics of abstracts (presentations, reports):

- Treatment control in dentistry

Lesson Topic 9:Modern methods of X-ray radiation, digital.

1. Objective of the lesson:

Explore modern digital diagnostic methods

2. Educational technologies

-Conference-session (C-S) work in small groups

3. Basic concepts that students should learn while studying the topic:

- digital radiography,
- CBCT,
- ALARA.

4. Questions for the lesson:

- Digital technologies
- Advantages of CBCT
- Radiation safety

5. Questions for self-control:

- What are the benefits of digital x-ray?
- What is ALARA?

6. Primary and secondary literature to the topic:

1. Introduction to Dentistry / Sevbitov AV - Moscow: GEOTAR-Media, 2018
2. Propaedeutics of dental diseases: textbook / O. O. Yanushevich, E. A. Bazikyan, A. A. Chunikhin [et al.]; edited by O. O. Yanushevich, E. A. Bazikyan. - Moscow: GEOTAR-Media, 2023
3. Patient management plans. Dentistry / O. Yu. Atkov et al.; edited by O. Yu. Atkov, V. M. Kamenskikh, V. R. Besyakov. - 2nd ed., corrected and enlarged. - Moscow: GEOTAR-Media, 2015
4. X-ray anatomy and X-ray diagnostics in dentistry: a textbook / V. P. Truten. - 2nd ed., revised and enlarged. - Moscow: GEOTAR-Media, 2020
5. Propaedeutics of dental diseases: textbook / edited by S. N. Razumova, I. Yu. Lebedenko, S. Yu. Ivanov - Moscow: GEOTAR-Media, 2019

7. List of questions and tasks for independent work:

- elaboration of educational material based on lecture notes, educational and scientific literature;
- working with questions for self-control;
- preparation of abstracts and presentations.
  Topics of abstracts (presentations, reports):
- Digital dentistry
- CBCT in dental practice

3. Methodological recommendations/instructions for students

3.1. Methodological recommendations for students on studying the discipline

The study of the theoretical part of the disciplines is intended not only to deepen and consolidate the knowledge acquired in the classroom, but also to promote the development of students' creative skills, initiative, and time management.

The material taken during lectures must be regularly reviewed and supplemented with information from other sources of literature, presented not only in the course program, but also in periodicals.

When studying a course, you should first read the recommended literature for each topic and compile a brief summary of the key concepts, terms, and information that must be memorized and that is fundamental to mastering subsequent topics in the course. To expand your knowledge of the course, it is recommended to use online resources; conduct searches in various systems and use materials from websites recommended by the instructor.

Each student keeps a workbook,the design of which must meet the requirements,the main ones are the following:

- the title page indicates the subject,well,group,last name,Name,student's patronymic;
- each work is numbered in accordance with the methodological instructions,indicate the date of completion of the work;
- write down the title of the work in full,purpose and principle of the method,briefly characterize the progress of the task and the object of the study;
- If necessary, provide a graphic image;The results of the tasks are presented in the form of graphic images with mandatory captions to them,as well as tables or describe verbally;
- at the end of each work, a conclusion or inference is made,which are discussed when summing up the lesson.

All initial notes must be made in a notebook as you complete the tasks.

To check the student's academic activity and the quality of his or her work, the workbook is periodically checked by the teacher.

The material taken during lectures must be regularly reviewed and supplemented with information from other sources of literature, presented not only in the course program, but also in periodicals.

When studying a course, you should first read the recommended literature for each topic and compile a brief summary of the key concepts, terms, and information that must be memorized and that is fundamental to mastering subsequent topics in the course. To expand your knowledge of the course, it is recommended to use online resources; conduct searches in various systems and use materials from websites recommended by the instructor.

3.2. Methodological recommendations for the implementation of practical/seminar classes, laboratory work.

*Practical classes*These are held after lectures and serve as explanatory, generalizing, and reinforcing elements. They can be held not only in the classroom but also outside the educational institution.

During practical classes, students absorb and comprehend new learning material. Practical classes are systematic, regularly following each lecture or two or three lectures.

Practical classes are carried out according to the schedule of the educational process and independent work of students in disciplines.

When preparing for practical classes, it is necessary to study the methodological recommendations for its implementation in advance..Pay attention to the purpose of the lesson,on the main questions to prepare for the lesson,on the content of the lesson topic.

Before each practical lesson, students review the seminar plan, including a list of topics and questions, a bibliography, and homework assignments for the material covered. The following seminar preparation plan is recommended:

1. Work through lecture notes;
2. Read the main and additional literature recommended for the section being studied;
3. Answer the questions in the seminar plan;
4. Study the topic and select literature for writing essays, reports, etc.;

3.3. Methodological recommendations for completing independent work.

When studying the discipline "Dentistry", the following types of independent work of students are used:

– study of theoretical material using lecture notes and recommended teaching aids, educational dummies, educational literature, and reference sources;

– independent study of some theoretical issues not covered in lectures, with writing papers and preparing presentations;

WITHStudents are invited to read and analyze monographs and scientific articles on issues in obstetrics and gynecology. The results of their work with these texts are discussed during practical classes.

To develop independent work skills, students complete assignments by independently consulting textbooks, reference books, and scientific and methodological literature. Assignment completion is assessed both during practical classes through oral presentations and group discussions, and through written independent work.

Section 1.4.2 provides topics for independent study of theoretical material, assignment for each topic, deadline for submitting work, educational literature.

Section 1.4.3. contains topics for writing an abstract.

Section 2.2 provides assignments, problems, and exercises for each course topic. A list of necessary literature for independent study is provided.

Independent work helps students develop essential skills such as choosing and solving a given problem, collecting and analyzing published data, and the ability to identify key points and draw informed conclusions.

3.4. Guidelines for completing papers, reports, and essays

Abstract -a written summary of the content of a scientific paper on the given topic.This is an independent research work.,where the student reveals the essence of the problem being studied with elements of analysis on the topic of the abstract.
Brings together different points of view,as well as personal views on the issues of the topic of the paper.The content of the abstract should be logical,presentation of the material to wear
problematic and thematic nature.

Requirements for the abstract:

The volume of the abstract may vary within the range9-10printed pages.
Main sections:table of contents(plan),introduction,main content,conclusion,list of references.
The text of the abstract should contain the following sections:
-title page with indication:names of the university,departments,essay topics,Full name of the author and full name of the teacher

- introduction,relevance of the topic.
- main section.
- conclusion(analysis of literature search results);conclusions.
- the list of literary sources must have at least10bibliographic titles,including network resources.

*The text part of the abstract is formatted*on a sheet of the following format:

- top indent – 2 cm; left indent – 3 cm; right indent – 1.5 cm; bottom indent – 2.5 cm;
- text font: Times New Roman, font height – 14, space – 1.5;
- Page numbers are at the bottom of the sheet. The first page is not numbered.

The abstract must be written competently and in a respectful manner. References to references, including periodicals from the past five years, must be included.
Abstract evaluation criteria:

- relevance of the research topic;
- compliance of the content with the topic;
- depth of material processing;
- the correctness and completeness of the development of the questions posed;
- the significance of the conclusions for further practical activities;
- correctness and completeness of use of literature;
- compliance of the abstract design with the standard;

– the quality of the message and answers to questions during the defense of the abstract.

3.5. Guidelines for preparation for final certification.

Final certification in the form of a test in the discipline "Dentistry" is carried out based on the results of attending classes, current and midterm (modular) control.

In this regard, to successfully pass the final assessment, it is recommended that the student attend all classes and actively participate in classroom activities and complete independent work.

All modules are conducted according to a modular schedule. The tests themselves have three sections: an exam, a module, and a practice mode. The exam and module are available as scheduled, while the practice mode is available on the online learning platform, where students can practice taking tests online.

Each student has their own ID number and password to access this platform. Students can log in from a computer, tablet, or phone, select a course, and view relevant course materials, lecture notes (in PPT or PDF format), and complete a quiz (MCQ) for each topic.

3.6. Methodological recommendations for student research work.

The purpose of research is to develop students' intellectual abilities by studying the algorithm of scientific research and acquiring initial experience in carrying out a research project using the educational material of their chosen specialty.

The main objectives and results of the research work are:

- mastering scientific methods of cognition and deepening the theoretical knowledge of students in their specialty;
- mastery of modern methods of scientific research;
- development of students' practical skills in independently searching for scientific and technical information, conducting theoretical and/or experimental work;
- students acquire the ability to analyze the results of conducted research, formulate conclusions and recommendations;
- developing in students the ability for independent, creative, active work to continuously update and enrich their scientific knowledge.

When completing research work, a student must master the following basic steps:

- independent search for information on a given topic;
- selection of essential information necessary for full coverage of the problem being studied, separation of this information from secondary information (within the framework of a given topic);
- analysis and synthesis of knowledge and research on the problem;
- generalization and classification of information on research problems;
- logical and consistent disclosure of the topic;

- generalization of psychological knowledge on the problem and formulation of conclusions from a literature review of the material;
- stylistically correct presentation of scientific thought of the abstract type;
- competent design of scientific abstract text;
- correct presentation of scientific work;
-creation of a glossary of terminology;
- role-playing games and trainings on a given topic, discussions, situational tasks.

For research work, a senior student must do the following:

- write an abstract using general scientific and special methods,
- participate in scientific projects;
- prepare and deliver a report or presentation on a given topic at conferences and round tables;
- study and analyze general concepts, programs, clinical protocols on a given topic;
- write a medical history.

4. Glossary

- **Abutment**— an element that connects a dental implant to a crown or other prosthesis.
- **Abscess**— limited purulent inflammation, accompanied by the formation of a cavity filled with pus.
- **Agaliya**- decreased or complete absence of salivation.
- **Adaptation to treatment**— the process of acclimating a child to dental procedures, often using behavioral techniques.
- **Prosthesis adaptation**— the process of the patient getting used to wearing a prosthesis, including functional and psychological aspects.
- **Adhesion**— the ability of materials to firmly adhere to dental tissues.
- **Actinic cheilitis**— chronic inflammation of the lips caused by prolonged sun exposure; often seen in the elderly.
- **Alveolitis**- inflammation of the tooth socket after its extraction (often called "dry socket").
- **Anatomy of a baby tooth**— structural features of a temporary tooth: thin enamel, large pulp chamber, short roots.
- **Anesthesia**— anesthesia. In surgical dentistry, conduction, infiltration, topical, and intraligamentary anesthesia are most commonly used.
- **Malocclusion**— deviation from physiological occlusion; can develop from an early age.
- **Tooth apathy**— the absence of a tooth’s response to thermal or electrical stimuli often indicates pulp necrosis.
- **Atypical removal**— complex tooth extraction requiring root cutting, flap cutting, trepanation, etc.

- **Alveolar ridge atrophy**— a decrease in the volume of jaw bone tissue after tooth loss; a common problem in the elderly.
- **Gum atrophy**— a decrease in the volume of the gums, often accompanied by exposure of the roots of the teeth.
- **Beam prosthesis**— a prosthesis fixed on implants or teeth using a beam system.
- **Biopsy**— taking a tissue sample for histological examination.
- **Biopsy**— taking a tissue sample for histological examination (for example, suspicious formations on the mucous membrane).
- **Biocompatibility of prostheses**— the ability of materials not to cause allergies, toxic or irritating effects in weakened patients.
- **Paget's disease**— a chronic bone disease that can affect the jaws and complicate dental treatment.
- **Bruxism-** involuntary grinding or clenching of teeth, often during sleep.
- **Bruxism in children**— grinding teeth in sleep may be associated with emotional stress or the development of a bite.
- **Tubercular anesthesia**— a type of infiltration anesthesia used in the upper jaw.
- **Baby bottle caries-** early childhood caries, which occurs due to prolonged contact of teeth with formula, juices or breast milk at night.
- **Clasp denture**— a removable denture with a metal arch base that evenly distributes the chewing load.
- **Vestibuloplasty**— surgical correction of the vestibule of the oral cavity (often performed during prosthetics).
- **Vestibuloplasty**— surgical deepening of the oral vestibule, often necessary before prosthetics in cases of severe tissue atrophy.
- **Temporomandibular joint (TMJ)**— the joint between the lower jaw and the skull, often involved in trauma or inflammatory processes.
- **Vital pulpotomy**— partial removal of the pulp while maintaining its viability.
- **Susceptibility to infections**— decreased local immunity of the oral mucosa in the elderly.
- **Tooth restoration**— the process of restoring the shape, function and aesthetics of a damaged tooth (for example, with inlays, crowns).
- **Temporary crown**— a temporary covering of the prepared tooth, protecting it until the permanent structure is installed.
- **Temporary filling**— a material that temporarily fills a tooth cavity until a permanent filling is placed.
- **Temporary filling**— a filling material placed for a short period of time, often in anticipation of permanent treatment.
- **Temporary (baby) bite**— a full set of baby teeth, usually formed by 2.5–3 years.
- **Hematoma**— accumulation of blood in soft tissues after injury or surgery.

- **Hemisection**— removal of one of the roots of a multi-rooted tooth with part of the crown.
- **Fissure sealing**— a preventive procedure: filling fissures (grooves) on chewing teeth to protect against caries.
- **Sleeve crown**— a one-piece cast metal crown that covers the entire tooth.
- **Gingivitis**- inflammation of the gums without disruption of the gingival attachment.
- **Enamel hypoplasia**— a congenital or acquired disorder of enamel formation, often manifested in the form of spots, grooves or chips.
- **Hyposalivation**— decreased salivation, especially when taking medications (antidepressants, antihypertensive drugs, etc.).
- **Glossalgia**— a burning pain or discomfort in the tongue, often without apparent cause, often associated with psychosomatics or vitamin deficiency.
- **Gnathology**— the science of the function of the masticatory apparatus, especially the temporomandibular joint (TMJ).
- **Granuloma**— a chronic inflammatory focus at the apex of the tooth root, surrounded by connective tissue.
- **Cyst decompression**— a surgical method of reducing the size of a cyst while preserving teeth.
- **Dementia**- cognitive impairment that complicates oral hygiene and treatment.
- **Dental implants**— artificial roots implanted into the jawbone to fix dentures.
- **Dentine**— hard tissue of the tooth under the enamel, the main mass of the crown and root.
- **Depophoresis**— a method of treating root canals using electric current and medications.
- **Gums in children**— the mucous membrane covering the alveolar process in children is looser and prone to swelling and inflammation.
- **Dental defect**— absence of one or more teeth, subject to orthopedic treatment.
- **Dissection**- tissue dissection.
- **Dysphagia**- difficulty swallowing, often requires a special approach when fitting prosthetics.
- **Dysfunction of the masticatory muscles**— dysfunction of the muscles involved in chewing can manifest itself as clicking, pain, and asymmetry.
- **Chewing trauma**- chronic damage to the mucous membrane due to biting, nipping, or an uncomfortable prosthesis.
- **Chewing efficiency**— the patient's ability to fully chew food with a prosthesis.
- **Burning mouth syndrome**- a burning or tingling sensation, more often in elderly women, in the absence of visible pathology.
- **Dystopic tooth**- a tooth that has erupted in an incorrect position (for example, outside the dental arch).

- **Erupting tooth**— a tooth going through the eruption stage often causes discomfort, salivation, and capriciousness.
- **Impacted tooth**— a tooth that has not fully erupted due to anatomical or pathological reasons (often wisdom teeth).
- **Dental formula of children**— children have 20 baby teeth (temporary bite).
- **Tartar**- mineralized dental plaque.
- **Tartar**— often develops faster due to changes in the composition of saliva and poor hygiene.
- **Dental bridge**— a fixed structure that replaces missing teeth by supporting them on adjacent teeth.
- **Dental plaque**— soft plaque on teeth containing bacteria and food debris, a precursor to tartar.
- **Denture**— an orthopedic structure that restores partially or completely lost teeth.
- **Denture**— the primary means of restoring dental health in the elderly; they can be full or partial, removable or fixed.
- **Game adaptation**— a method of psychologically preparing a child for treatment through games, stories, and demonstrations.
- **Immediate prosthesis**— a temporary prosthesis installed immediately after tooth extraction.
- **Immunosenescence**- age-related decrease in immune protection, which increases the risk of inflammation in the oral cavity.
- **Dental implantation**— installation of an artificial titanium root (implant) in the jaw for subsequent prosthetics.
- **Caries indexing**— quantitative assessment of the prevalence and intensity of caries in a child (for example, the KPU index).
- **Personal hygiene**— adaptation of teeth cleaning methods to the patient's physical and cognitive capabilities.
- **Individual spoon**— a device for taking an accurate impression of the dentition and mucous membrane.
- **Incision**- dissection of soft tissues (for example, when opening an abscess).
- **Canal irrigation**— rinsing the root canal with antiseptic solutions for disinfection.
- **Oral candidiasis**- fungal infection, often observed with xerostomia, wearing dentures or taking antibiotics.
- **Children's mouthguard**— a silicone or plastic overlay on teeth for protection (for example, during bruxism, sports).
- **Caries**— destruction of hard dental tissues under the influence of acids produced by bacteria.
- **Deciduous tooth decay**— destruction of the hard tissues of the baby tooth; develops faster than in adults due to anatomical features.

- **Ceramic crown**— an aesthetic crown made of zirconium dioxide, porcelain or glass ceramics.
- **Cystectomy**— removal of a dental cyst along with the root apex.
- **Clammer**— a metal element of a clasp or partial removable denture that holds it on the supporting teeth.
- **Wedge-shaped defect**— non-carious lesion of the tooth in the neck area, in the form of a wedge-shaped notch.
- **Moller's Ring**- ring-shaped hyperemia of the gums around the erupting tooth.
- **Comprehensive rehabilitation**— restoration of the entire dental system (in case of complete edentia or severe bite deformations).
- **Corticotomy**— removal of the cortical (outer) bone plate to access the lesion.
- **Xerostomia**— a feeling of dry mouth; a common complaint among the elderly, especially when treating chronic diseases.
- **Curettage**— scraping of pathological tissues (for example, granulomas from a socket or periodontal pocket).
- **Mucosal lability**- increased sensitivity of the mucous membrane, leading to irritation upon contact with dentures.
- **Lacunas and fissures**- natural depressions on the surface of the teeth, often requiring sealing in childhood.
- **Treatment under sedation**- treatment under drug-induced sleep/sedation in anxious or young children.
- **Ligature**— a thread or wire used to tie off blood vessels or fix tissues.
- **Lignin**— a natural component used in some dental materials that is well tolerated by elderly patients.
- **Cast inlay**— a microprosthesis made of metal or ceramic that replaces the damaged part of the tooth.
- **Flap surgery**— a surgical procedure involving the separation of a mucoperiosteal flap (for example, during root apex resection).
- **Prosthesis play**- unwanted mobility of the orthopedic structure.
- **Masticatory dysfunction**— disruption of chewing function due to loss of teeth, muscle weakness or malocclusion.
- **Medicinal treatment of canals**- introduction of medications into the root canal to destroy the infection.
- **Mesial bite**— a form of malocclusion in which the lower incisors overlap the upper ones.
- **Modeling**— creation of a wax or digital model of the future prosthesis.
- **Milk tooth**— a temporary tooth that erupts in childhood and is replaced by a permanent one.
- **Bridge prosthesis**— a structure made of several crowns, which forms a “bridge” to cover the defect of the dental arch.
- **Mucocele**— a cyst of the minor salivary glands, most often on the lower lip, may require removal.

- **Malocclusion**- age-related changes in bite due to tooth loss, abrasion and atrophy of the jaws.
- **Malocclusion**- incorrect closure of the teeth of the upper and lower jaws.
- **Disruption of eruption**- deviation from the normal timing or order of teeth appearance.
- **Hereditary dental anomalies**— genetic disorders of the number, shape or structure of teeth (e.g., adentia, microdontia).
- **Neurinoma**- a benign tumor originating from the nerve sheaths.
- **Neurolysis**- surgical release of the nerve from compressing tissues.
- **Nylon prosthesis**— a flexible removable denture made of soft polymer, more comfortable, but less durable.
- **Trigeminal neuropathy**— may manifest as pain in the face, including in the oral cavity; requires careful dental intervention.
- **Pulp necrosis**— death of the pulp tissue (nerve) of the tooth.
- **Fixed prosthesis**— a structure that is permanently fixed in the oral cavity (for example, crowns, bridges, implants).
- **Reverse bite**— pathological position of the incisors: the lower ones overlap the upper ones (similar to a mesial bite).
- **Obturation of the canal**- filling the root canal with filling material after its processing.
- **Odontogenic infection**- an infection arising from dental tissues or adjacent structures.
- **Odontogenic infection**— an infection originating from a tooth or its periodontal tissues, often leading to abscesses and phlegmons.
- **Occlusal pad**— an orthopedic device for correcting bite or protecting teeth from bruxism.
- **Occlusion**— contact between the teeth of the upper and lower jaws when closing.
- **Orthodontic observation**— regular assessment of the development of the child’s bite, starting from 5–6 years of age.
- **Orthopedic bite correction**— restoration of the correct bite with the help of dentures.
- **Orthopedic treatment**— restoration of teeth with prostheses taking into account the individual characteristics of tissue aging.
- **Osteoporosis**— a decrease in bone density, which affects the condition of the jaws and the stability of dentures.
- **Osteotomy**- dissection of bone tissue.
- **Periodontal disease/periodontitis**— chronic inflammatory diseases of the gums and surrounding tooth tissues, a common problem in the elderly.
- **Periodontitis**- inflammation of the tissues surrounding the tooth root.
- **Perioprosthesis**— the condition of the tissues around orthopedic structures (for example, gums and bone near implants).

- **Periostotomy**- dissection of the periosteum.
- **Frenuloplasty**— correction of the frenulum of the lip or tongue that interferes with normal function or prosthetics.
- **Complete removable denture**— the main remedy for complete edentia, requires regular monitoring and correction.
- **Complete removable denture**— a prosthesis that replaces all the teeth on one jaw.
- **Permanent bite**— formed after 12–13 years, includes 28 permanent teeth (excluding wisdom teeth).
- **Dissection**— turning a tooth for a crown or inlay.
- **Pulpitis**- inflammation of the pulp (nerve) of the tooth.
- **Pulpitis of a baby tooth**- inflammation of the pulp, treated taking into account the anatomy and the need to preserve the tooth until replacement.
- **Early caries**- caries that develops in children under 3 years of age, often on the front teeth.
- **Root apex resection**— removal of the apex of the tooth root containing the site of inflammation.
- **Alveolar ridge resorption**- bone loss after tooth extraction, especially pronounced in the elderly.
- **Prosthesis repair**— restoration of damaged orthopedic structure.
- **Tooth restoration**— restoration of the shape and function of a damaged tooth (for example, with a photopolymer or glass ionomer cement).
- **Retention elements**— parts of the prosthesis that improve its fixation (clasps, buttons, beams, etc.).
- **Retention**— the ability of the prosthesis to be retained in the oral cavity.
- **Tooth retention**- delayed tooth eruption.
- **Gum retraction**- retraction of the gums for accurate impression taking.
- **Gum retraction**- moving the gum edge away from the tooth for better visualization and work.
- **Gum recession**- lowering of the gum level with exposure of the tooth root.
- **Sedation**- introducing the child into a controlled, relaxed state to reduce fear and discomfort.
- **Sedation**- medicinal sedation of the patient during surgical interventions.
- **Senile gingivitis**- inflammation of the gums associated with age-related tissue changes and hygiene problems.
- **Sensitization of dentin**- increased sensitivity of the tooth when irritated.
- **Sensory impairments**— decreased taste, smell, and tactile sensitivity, affecting the patient's quality of life.
- **Sinus lift**— surgical lifting of the maxillary sinus floor to create bone volume for the implant.
- **Scanning (intraoral)**— obtaining a digital impression using a scanner, without traditional masses.

- **Mucosal-supporting prosthesis**— a structure supported by the gum and alveolar process.
- **Changing teeth**— the physiological process of replacing baby teeth with permanent ones, begins at 5–7 years of age.
- **Thumb/Pacifier Sucking**— a bad habit that can cause bite deformations.
- **Stomatitis**- an inflammatory disease of the oral mucosa.
- **Denture stomatitis**- inflammation of the mucous membrane under a removable denture, often when worn for a long time without a break.
- **Dental infection**- an infection that originates in the oral cavity and spreads to other areas.
- **Removable denture**— a prosthesis that the patient can remove and put on independently.
- **Tamponade**- insertion of gauze or material into a wound to stop bleeding or promote drainage.
- **Taylor prosthesis**— a type of clasp denture with a minimal base and maximum metal construction.
- **Thermoplastic**— material for flexible dentures (e.g. acrylic, nylon, polyurethane).
- **Topical fluoridation**— local application of fluoride-containing preparations to strengthen enamel and prevent caries.
- **Total edentia**- complete absence of teeth.
- **Tooth trauma in children**— a bruise, fracture, or dislocation of a tooth is a common problem in childhood.
- **Hand tremors**- may interfere with independent oral hygiene and requires special hygiene devices.
- **Bone trepanation**— creating an opening in the bone to access the site of inflammation or the cyst.
- **Trophic disorders**— deterioration of tissue nutrition (for example, gums) due to vascular diseases and aging.
- **Shortened frenulum of the tongue/lip**— an anatomical feature that affects speech, nutrition, and bite. May require plastic surgery.
- **Installing a crown**— the final stage of prosthetics, including fixing the structure to the tooth.
- **Establishing contact with the child**— an important stage of the reception: establishing trust, reducing anxiety.
- **Stability of the prosthesis**— the ability of the structure to remain stable during chewing; it worsens with jaw atrophy.
- **Loss of retention**- weakening of the prosthesis fixation, requiring correction or re-basing.
- **Oral care**- an important part of geriatric care, can be performed by relatives or staff.

- **Fixation of the prosthesis**— a method of attaching a prosthesis to teeth or implants (mechanical, cement, screw).
- **Fixation of the prosthesis**— improving the retention of a removable denture using creams, gels or structural elements.
- **Fissure**— a natural groove on the surface of chewing teeth, often prone to caries.
- **Fissure caries**- caries in the natural grooves of chewing teeth, often develops in children after the eruption of molars.
- **Phlegmon**— diffuse purulent inflammation of soft tissues, without clear boundaries (a dangerous complication).
- **Flux (periostitis)**- inflammation of the periosteum, often with swelling of the face.
- **Flux (periostitis)**- purulent inflammation of the periosteum, often with swelling of the cheek.
- **Milled frame**— a precisely manufactured prosthesis framework (usually made of zirconium or titanium) created using CAD/CAM.
- **Fluorosis**- chronic excessive intake of fluoride, manifested by spots and enamel defects.
- **Functional restoration**— the goal of treatment is to restore chewing, speech and aesthetics with minimal stress to the body.
- **Angular cheilitis (cheilitis)**- cracks and inflammation in the corners of the mouth, often associated with a deficiency of B vitamins or a yeast infection.
- **Cheilitis in children**- inflammation of the red border of the lips, can be caused by irritation, allergies, infection.
- **All-ceramic crown**— an aesthetic crown without a metal frame.
- **Cementation**— gluing a crown or inlay to a tooth with special dental cement.
- **Circulatory disorders**- circulatory disorders that affect healing after dental procedures.
- **Maxillofacial surgery**— a section of surgery that deals with the treatment of diseases and injuries of the jaws, face, and soft tissues.
- **Splinting**- fixation of loose teeth or jaw fractures using splints.
- **Extracoronal fixation**— fixing the prosthesis outside the crown of the tooth (for example, using clasps).
- **Electroodontometry**— a method of diagnosing the condition of the pulp using electric current.
- **Emotional state**- anxiety, depression, fear - common reactions of elderly patients to dental treatment.
- **Endodontics**— a section of dentistry that deals with root canal treatment.
- **Enamel erosion**- destruction of enamel due to exposure to acids (in the diet or with gastroesophageal reflux).
- **Smile aesthetics**— is important not only for young people: older patients also value restoration of the appearance of their teeth.

- **Aesthetic restoration**— restoration of teeth taking into account their appearance, especially relevant for the front teeth of children.
- **Aesthetic prosthetics**— dental restoration with an emphasis on the natural appearance and harmony of the smile.
- **Iatrogenesis**- damage caused by medical intervention (for example, incorrect grinding of teeth during prosthetics).

Application 1

Change Registration Sheet Form

p/p	Document (order, order, etc. (indicating the number and date) which reflects the changes	Signature	Full name
1			
2			
3			

5. Reference materials and appendices *–are indicated as necessary.*