

MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION
Pirogov Russian National Research Medical University (Pirogov Medical University)

Institution of Dentistry

«AFFIRM»

Doctor of Medical Sciences,
Professor

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Date _____

DISCIPLINE WORK PROGRAM

B.1.O.57 ENDODONTICS

for an educational program of higher education -
specialty programs
by specialty
05/31/03 Dentistry

Moscow 2024

This work program for discipline B.1.O.57 "Endodontics"(Hereinafter referred to as the work program of the discipline) is part of the specialty programspecialty 05/31/03 Dentistry.

Focus (profile) of the educational program Dentistry.

Full-time form of education

The work program of the discipline was prepared at the Department of Therapeutic Dentistry (hereinafter referred to as the department) Federal State Autonomous Educational Institution of Russian National Research Medical University named after. N.I. Pirogov of the Ministry of Health of Russia by a team of authors led byIgor Sergeevich Kopetsky, Doctor of Medical Sciences, Professor.

Compiled by:

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Work program of the discipline reviewed and approved at a meeting of the Department of Therapeutic Dentistry of the Northern Fleet (Minutes No. 13 of April 19, 2021).

The work program of the discipline is recommended for approval by the reviewers:

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The work program of the discipline was reviewed and approved by the Council of the Faculty of Dentistry, protocol No. 13 of May 17, 2021.

Regulatory and legal framework for the development and implementation of the work program of the discipline:

- 1) Federal State Educational Standard of Higher Education – specialty specialty 05/31/03 Dentistry, approved by Order of the Minister of Education and Science of the Russian Federation dated 08/12/2020 No. 984 (hereinafter referred to as the Federal State Educational Standard for Higher Education (3++).
- 2) General characteristics of the educational program in the specialty 05/31/03 Dentistry.
- 3) Curriculum of the educational program in the specialty 05/31/03 Dentistry.
- 4) 4) Charter and local regulations of the Federal State Autonomous Educational Institution of Higher Education Russian National Research Medical University named after. N.I. Pirogov Ministry of Health of Russia (hereinafter referred to as the University).

1. General provisions

1.1. The purpose and objectives of mastering the discipline

1.1.1. The goal of mastering the discipline “Endodontics” is to obtain students the theoretical and practical knowledge necessary to provide outpatient dental care to patients with diseases of the pulp and periapical tissues.

1.1.1. Tasks solved during the development of the discipline program:

- formation of a knowledge system in the field of diagnostic methods used in examining patients with diseases of the pulp and periapical tissues;
- developing the student’s ability to plan and determine indications for therapeutic treatment of patients with diseases of the pulp and periapical tissues;
- formation of theoretical and practical skills in the therapeutic treatment of patients with diseases of the pulp and periapical tissues in outpatient settings;
- development of skills and abilities necessary to identify, eliminate and prevent possible complications in the treatment of diseases of the pulp and periapical tissues;
- development of professionally important personality qualities that are significant for the implementation of the developed competencies.

1.2. Place of discipline in the structure of the educational program

The discipline “Endodontics” is studied in the 6th and 7th semesters and belongs to the compulsory part of Block B1 of the Discipline.

The total labor intensity of the discipline is 9 points.

To successfully master this discipline, students must master the following disciplines: Human Anatomy; Biological chemistry; Biology; Histology, embryology, cytology; Immunology; Foreign language; History (history of Russia, general history); Cariesology and disease of hard dental tissues; Latin language; Materials Science; Medical informatics; Microbiology, virology; Normal physiology; Psychology and pedagogy; Physics mathematics; Philosophy; Chemistry; Bioethics; Foreign language in the professional sphere; History of Medicine; Medical law and patient focus; Assistant ward and procedural nurse; Psychological aspects of the work of a dentist.

Knowledge, skills and practical experience acquired in mastering this discipline are necessary for successful mastery of the disciplines: Gerontostomatology; Clinical dentistry; Modern methods of endodontic treatment; Forensic examination in dentistry; Modern methods of mechanical treatment and obturation of root canals; Dental assistant (therapist)

1.3. Planned results of mastering the discipline

6.7 semester

Code and name of competence		
Code and name of the competency achievement indicator	Planned results of mastering the discipline (module) (level of development of the indicator (competence))	
<i>UK-1</i> Able to critically analyze problem situations based on a systematic approach and develop an action strategy		
UK-1.ID1 Analyzes a problem situation as a system, identifying its components and connections between them	Know:	basic principles of critical analysis
	Be able to:	search for information and solutions based on action, experiment and experience
	Possess practical experience (work actions):	Has practical experience: researching the problem of professional activity using analysis, synthesis and other methods of intellectual activity;
<i>OPK-2</i> Able to analyze the results of one's own activities to prevent professional errors		
OPK-2.ID1 Able to analyze the causes of professional errors, adverse outcomes and conflict situations in dentistry	Know:	procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; methodology for analyzing the results of one's own activities
	Be able to:	analyze the results of examination and treatment of patients with dental diseases;
	Possess practical experience (work actions):	participation in a clinical (clinical-anatomical) conference on analysis of professional errors
<i>OPK-4</i> Able to carry out and monitor the effectiveness of prevention measures, the formation of a healthy lifestyle and sanitary and hygienic education of the population		
OPK-4.ID1 Able to analyze public awareness of healthy lifestyles and health literacy	Know:	basic criteria for a healthy lifestyle and methods for its formation;
	Be able to:	conduct sanitary and hygienic education among children and adults
	Possess practical experience (work actions):	has practical experience: promoting a healthy lifestyle and preventing the most common diseases;
<i>OPK-5</i> Able to conduct an examination of a patient in order to establish a diagnosis when solving professional problems		
OPK-5.ID1 Collects anamnesis, analyzing patient complaints, conducting a physical examination at a dental appointment	Know:	methods of collecting anamnesis of life and diseases, complaints in children and adults; examination and physical examination techniques; clinical picture, diagnostic methods for the most common diseases; methods of laboratory and instrumental research to assess health status.
	Be able to:	collect complaints, life history and illness from children and adults; identify risk factors and causes of disease development; apply methods of examination and physical examination of children and adults; interpret the results of examination and physical examination of children and adults; diagnose the most common pathology in children and adults;
	Possess practical experience (work actions):	Has practical experience: collecting complaints, life history and illness in children and adults, identifying risk factors and causes of disease development; examination and physical examination of children and adults; diagnostics of the most common diseases in children and adults;
<i>PC-1</i> Capable of examining a patient in order to establish a diagnosis.		
PC-1.ID1 Conducts an initial and/or repeated examination of the patient in order to establish a preliminary diagnosis.	Know:	General issues of organizing medical care for adults and children Anatomy of the head, maxillofacial region, features of blood supply and innervation, and the structure of teeth
	Be able to:	Collect complaints, life history and illness from children and adults (their legal representatives) with

		<p>dental diseases, identify risk factors and causes of the development of dental diseases</p> <p>Interpret information received from children and adults (their legal representatives) with dental diseases</p>
	Possess practical experience (work actions):	<p>Has practical experience:</p> <p>Collecting complaints, life history and illness in children and adults (their legal representatives), identifying risk factors and causes of the development of dental diseases</p> <p>Examination and physical examination of children and adults with dental diseases</p>
<i>PC-2 Capable of prescribing, monitoring the effectiveness and safety of non-drug and drug treatment</i>		
PC-2.ID1_ Organizes the provision of emergency and emergency medical care for acute dental diseases, exacerbation of chronic diseases that pose a threat to the patient's life or without obvious signs of a threat to the patient's life	Know:	<p>The procedure for providing medical care to the adult population for dental diseases</p> <p>The procedure for providing medical care to children with dental diseases</p>
	Be able to:	Develop a treatment plan for children and adults with dental diseases in accordance with the procedures for providing medical care, clinical recommendations, taking into account the standards of medical care
	Possess practical experience (work actions):	<p>Has practical experience:</p> <p>Development of a treatment plan for children and adults with dental diseases, taking into account diagnosis, age and clinical picture in accordance with current procedures for the provision of medical care, clinical recommendations, taking into account standards of medical care</p> <p>Providing emergency medical care to patients with dental diseases, in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care</p>
<i>PC-6 Capable of analysis and public presentation</i>		
PC-6.ID1_ Searches for medical information based on evidence-based medicine, interprets data from scientific publications and/or prepares a presentation for public presentation of medical information, scientific research results	Know:	Fundamentals of evidence-based medicine; main sources of medical information based on evidence-based medicine; methods and forms of public presentation of medical information;
	Be able to:	Search for medical information based on evidence-based medicine; interpret data from scientific publications; critically evaluate modern methods of diagnosis, prevention and treatment of diseases from the perspective of evidence-based medicine;
	Possess practical experience (work actions):	searching and interpreting medical information based on evidence-based medicine; public presentation of medical information based on evidence-based medicine;

2. Forms of work for students, types of training sessions and their labor intensity

Forms of work of students / Types of training sessions / Forms of intermediate certification	Total hours	Hours distribution by semester										
		1	2	3	4	5	6	7	8	9	10	
Training sessions												
<i>Contact work between students and the teacher during the semester (CR), incl. intermediate certification in the form of a test and defense of course work:</i>	196						96	100				
Lecture session (LZ)	40						20	20				
Seminar lesson (SZ)												
Practical lesson (PP)												
Workshop (P)	144						70	74				
Laboratory practical lesson (LPZ)												
Laboratory work (LR)												
Clinical and practical training (CPS)												
Specialized Occupation (SPO)												
Combined lesson (KZ)												
Colloquium (K)	3						3	6				
Test (KR)												
Final lesson (IZ)	6											
Group consultation (GC)												
Conference (Conf.)												
Test (G)	3						3					
Defense of coursework (DKR)												
Other types of activities												
<i>Independent work of students during the semester (SRO), incl.</i>	92						48	44				
Preparation for classroom training sessions	76						40	36				
Preparing a medical history	8						4	4				
Preparation of term paper												
Preparation of an abstract	8						4	4				
Preparation for intermediate certification in the form of a test												
Other types of independent work (including performing practical tasks of project, creative and other types)												
Interim certification in the form of an exam												
<i>Contact work of students during the interim assessment (ICPA), including:</i>	9							9				
Exam (E)	9							9				
<i>Independent work of students in preparation for interim certification (IPA), incl.</i>	27							27				
Exam preparation	27							27				
General labor intensity disciplines (DTD)	in hours:OTD = KR+SRS+KRPA+SRPA	324					144	180				
	in credit units: OTD (in hours):36	9					4	5				

3. The content of the discipline

3.1. The content of sections, topics of discipline

6th semester

No. p/p	Cipher competencies	Name of the section (module), topic of the discipline (module)	Contents of the section and topics in didactic units
1	2	3	4
Section 1. Treatment of pulp diseases			
1.	UK-1.ID1 OPK-2.ID1 OPK-4.ID1 OPK-5.ID1 PC-1.ID1 PC-2.ID1 PC-6.ID1	Topic 1. Anatomy and physiology of dental pulp. Anatomical and topographical structure of the dental cavities of the upper and lower jaws. Root canal configuration	Anatomy and physiology of dental pulp. Anatomical and topographic structure of the dental cavities of the upper and lower jaws. Root canal configuration.
2.		Topic 2. Etiology, pathogenesis of dental pulp inflammation. Classifications of pulp diseases. Methods for diagnosing inflammation of the dental pulp.	Etiology, pathogenesis of dental pulp inflammation. Classifications of pulp diseases. Methods for diagnosing inflammation of the dental pulp. Patient examination. Methods of examining a dental patient: basic, (questioning, external examination, examination of the oral cavity,) additional (electro-odontodiagnostics, x-ray examination), special laboratory methods: index assessment of the condition of teeth, periodontal disease. Drawing up a treatment plan.
3.		Topic 3. Acute pulpitis.	Clinic, diagnosis, differential diagnosis of acute forms of pulpitis.
4.		Topic 4. Biological methods of treating pulpitis. Vital amputation method. Vital extirpation method.	Biological methods of treating pulpitis (direct and indirect pulp coating). Vital amputation method. Indications and contraindications for use.
5		Topic 5. Chronic pulpitis. Clinic. Diagnostics, differential diagnosis.	Chronic pulpitis. Clinic. Diagnostics, differential diagnosis.
6		Topic 6. Pulp necrosis. Dystrophic changes in the pulp. Treatment methods.	Pulp necrosis. Dystrophic changes in the pulp. Treatment methods.
7		Topic 7. Treatment methods for pulpitis that do not preserve pulp viability: vital and devital pulp extirpation.	Treatment methods for pulpitis that do not preserve pulp viability: vital and devital pulp extirpation.
8		Topic 8. Endodontic techniques. Selection and use of endodontic instruments. Classification of endodontic instruments. Selection of filling material and filling of root canals	Endodontic techniques. Selection and use of endodontic instruments. Classification of endodontic instruments. Selection of filling material and filling of root canals.
9		Characteristics of instruments for expanding canal mouths, for passing and expanding canals, instruments for filling canals. Endodontic tips, instruments for machine canal processing. Methods of instrumental treatment of canals, choice of technique depending on the clinical situation.	Characteristics of instruments for expanding canal mouths, for passing and expanding canals, instruments for filling canals. Endodontic tips, instruments for machine canal processing. Methods of instrumental treatment of canals, choice of

			technique depending on the clinical situation.
10		Topic 9. Errors and complications in the diagnosis and treatment of pulpitis. Their prevention and elimination.	Errors and complications in the diagnosis and treatment of pulpitis. Their prevention and elimination.

7th semester

No. p/p	Cipher competencies	Name of the section (module), topic of the discipline (module)	Contents of the section and topics in didactic units
1	2	3	4
Section 2. Treatment of periodontal diseases.			
1.	UK-1.ID1 OPK-2.ID1 OPK-4.ID1 OPK-5.ID1 PC-1.ID1 PC-2.ID1 PK-6.ID1	Topic 10. Anatomical and physiological features of the periodontium.	Anatomical and physiological features of periodontium.
2.		Topic 11. Etiology, pathogenesis of apical periodontium.	Etiology, pathogenesis of apical periodontium.
3.		Topic 12. Methods for diagnosing apical periodontitis. Patient examination.	Methods for diagnosing apical periodontitis. Patient examination.
4.		Topic 13. Classifications of apical periodontitis (MMSI, ICD-10)	Classification of apical periodontitis (MMSI, ICD-10)
5.		Topic 14. Clinical picture of acute apical periodontitis. Diagnosis and differential diagnosis of acute apical periodontitis. Methods for diagnosing periodontitis.	Clinical picture, diagnosis, differential diagnosis of acute apical periodontitis. The severity of clinical manifestations of acute apical periodontitis in the phase of intoxication and in the phase of pronounced exudative phenomena. General condition of a patient with periodontitis.
6.		Topic 15. Clinical picture of chronic apical periodontitis and exacerbation of chronic periodontitis. Diagnosis and differential diagnosis of chronic apical periodontitis. Methods for diagnosing apical periodontitis.	Clinical picture, diagnosis, differential diagnosis of chronic forms of apical periodontitis. Clinical picture of chronic and exacerbation of chronic apical periodontitis. General condition of the patient with exacerbation of chronic apical periodontitis. X-ray examination and electroodontometry.

7.	Topic 16. Planning and preparation for the treatment of apical periodontitis.	<p>Planning and preparation for the treatment of apical periodontitis. Irrigation and disinfection of root canals. Temporary filling of root canals. Antibacterial agents. Selection of filling material and filling of root canals.</p> <p>Conservative surgical methods in endodontics.</p> <p>Endodontic preparation for surgical treatment of periodontal diseases: corono-radicular separation, hemisection, root amputation, root apex resection, tooth replantation.</p>
8.	Topic 17. Emergency care in endodontics.	Emergency treatment of teeth with viable and non-viable pulp.
9.	Topic 18. Errors and complications in the diagnosis and treatment of periodontitis.	Errors and complications in the diagnosis and treatment of pulpitis and periodontitis.
10.	Topic 19. Treatment methods for teeth with “problematic” root canals.	Treatment methods for teeth with “problematic” root canals.
11.	Topic 20. Conservative surgical methods in endodontics.	Medicinal and physical methods of treating periodontitis. Long-term results and prognosis of treatment. Endodontic preparation for surgical treatment of periodontal diseases: corono-radicular separation, hemisection, root amputation, root apex resection, tooth replantation.
12.	Topic 21. Dental restoration after endodontic treatment.	Restoration of teeth after endodontic treatment. Use of pins. Whitening of discolored teeth.
13.	Topic 22. Methods for preventing and eliminating errors and complications in endodontics.	Methods for preventing and eliminating errors and complications in endodontics. Repeated endodontic treatment.

3.1. List of sections, topics of the discipline for self-study by students

Sections and topics of the discipline for independent study by students are not provided in the program.

4. Thematic plan of the discipline

4.1. Thematic plan for students' contact work with the teacher

No. p/p	Types of training sessions/form of intermediate certification*	Study period (semester). Serial numbers and names of sections (modules) (in the presence of). Serial numbers and names of topics (modules) of modules. Topics of training sessions.	Number of hours of contact work	Types of ongoing monitoring of	Forms for conducting ongoing progress monitoring and intermediate certification ***					
					KP	OU	OP	TE	ET C	IS
1	2	3	4	5	6	7	8	9	10	eleven
6th semester										
Section 1. Treatment of pulp diseases										
Topic 1. Anatomy and physiology of dental pulp										
1	LZ	Anatomy and physiology of dental pulp. Anatomical and topographic structure of the dental cavities of the upper and lower jaws. Root canal configuration.	3	D	+					
2	PZ	Anatomy and physiology of dental pulp. Anatomical and topographic structure of the dental cavities of the upper and lower jaws. Root canal configuration.	7	D, T	+	+	+			
Topic 2. Etiology, pathogenesis of dental pulp inflammation										
3	LZ	Etiology, pathogenesis of dental pulp inflammation. Classifications of pulp diseases. Methods for diagnosing inflammation of the dental pulp.	3	D	+					
4	PZ	Etiology, pathogenesis of dental pulp inflammation. Classifications of pulp diseases. Methods for diagnosing inflammation of the dental pulp. Patient examination.	7	D, T	+	+	+			
Topic 3. Acute pulpitis										
5	LZ	Clinic, diagnosis, differential diagnosis, treatment of acute pulpitis.	3	D	+					
6	PZ	Clinic, diagnosis, differential diagnosis of acute pulpitis.	7	D, T	+	+	+			
Topic 4. Biological methods of treating pulpitis										
7	LZ	Biological methods of treating pulpitis. Vital amputation method. Vital extirpation method.	3	D	+					
8	PZ	Biological methods of treating pulpitis (direct and indirect pulp coating). Vital amputation method. Indications and contraindications for use.	7	D, T	+	+	+			
Topic 5. Chronic pulpitis										
9	LZ	Chronic pulpitis. Clinic. Diagnostics, differential diagnosis. Pulp necrosis. Dystrophic changes in the pulp. Treatment methods.	3	D	+					
10	PZ	Chronic pulpitis. Clinic. Diagnostics, differential diagnosis.	7	D, T	+	+	+			
Topic 6. Pulp necrosis										
eleven	LZ	Pulp necrosis. Dystrophic changes in the pulp. Treatment methods.	2	D	+					

27	LZ	Clinic, diagnosis, differential diagnosis of acute apical periodontitis.	3	D	+						
28	PZ	Clinic, diagnosis, differential diagnosis of acute apical periodontitis. The severity of clinical manifestations of acute periodontitis in the phase of intoxication and in the phase of pronounced exudative phenomena. General condition of a patient with periodontitis.	5	D, T	+	+	+				
		Topic 15. Clinic, diagnosis and differential diagnosis of chronic apical periodontitis									
29	LZ	Clinic, diagnosis and differential diagnosis of chronic periodontitis. Clinic of chronic and exacerbation of chronic periodontitis. General condition of the patient with exacerbation of chronic periodontitis. X-ray examination and electroodontometry.	3	D	+						
thirty	PZ	Clinic, diagnosis and differential diagnosis of chronic periodontitis. Clinic of chronic and exacerbation of chronic periodontitis. General condition of the patient with exacerbation of chronic periodontitis. X-ray examination and electroodontometry.	5	D, T	+	+	+				
		Topic 16. Planning and preparation for the treatment of apical periodontitis									
31	LZ	Planning and preparation for the treatment of apical periodontitis. Irrigation and disinfection of root canals. Temporary filling of root canals. Antibacterial agents. Selection of filling material and filling of root canals.	4	D	+						
32	PZ	Planning and preparation for the treatment of apical periodontitis. Irrigation and disinfection of root canals. Temporary filling of root canals. Antibacterial agents. Selection of filling material and filling of root canals.	5	D, T	+	+	+				
		Topic 17. Emergency care in endodontics									
33	PZ	Emergency treatment of teeth with viable and non-viable pulp.	5	D, T	+	+	+				
		Topic 18. Errors and complications in the diagnosis and treatment of periodontitis									
34	PZ	Errors in the diagnosis of pulpitis and periodontitis	5	D, T	+	+	+				
35	PZ	Errors and complications in the treatment of pulpitis and periodontitis	5	D, T	+	+	+				
		Topic 19. Treatment methods for teeth with "problematic" root canals									
36	PZ	Treatment methods for teeth with "problematic" root canals.	5	D, T	+	+	+				
		Topic 20. Conservative surgical methods in endodontics									
37	PZ	Conservative surgical methods in endodontics. Medicinal and physical methods of treating periodontitis. Long-term results and prognosis of treatment.	5	D, T	+	+	+				
		Topic 21. Dental restoration after endodontic treatment									
38	PZ	Restoration of teeth after endodontic treatment. Use of pins. Whitening of discolored teeth.	4	D, T	+	+	+				
		Topic 22. Methods for preventing and eliminating errors and complications in endodontics									
39	PZ	Methods for preventing and eliminating errors	5	D, T	+	+	+				

		and complications in endodontics.								
40	PZ	Repeated endodontic treatment.	5	D, T	+	+	+			
41	TO	Current milestone (modular) control under section 2	6	D, R	+	+		+	+	+
		Total hours per semester:	100							
42	E	Interim certification	9		+	+		+		
		Total hours per discipline:	205							

Conventions:

Types of training sessions and forms of intermediate certification *

Types of training sessions, intermediate certification forms	Abbreviated name	
Lecture lesson	Lecture	LZ
Seminar lesson	Seminar	NW
Practical lesson	Practical	PZ
Workshop	Workshop	P
Laboratory-practical lesson	Laboratory-practical	LPZ
Laboratory work	Laboratory work	LR
Clinical and practical training	Clinical and practical	bullpen
Specialized occupation	Specialized	NW
Combined lesson	Combined	short circuit
Colloquium	Colloquium	TO
Test	Counter. Job	KR
Final lesson	Final	FROM
Group consultation	Group consultation	KS
Conference	Conference	Conf.
Test	Test	Z
Defense of course work	Defense of course work	ZKR
Exam	Exam	E

Types of ongoing progress monitoring (VTK)**

Types of ongoing progress monitoring (VTK)**	Abbreviated name		Content
Current disciplinary control	Disciplining	D	Monitoring student attendance at classes
Current thematic control	Thematic	T	Assessment of the student's acquisition of knowledge, skills and practical experience in classes on the topic
Current milestone (modular) control	Rubezhny	R	Assessment of the student's acquisition of knowledge, skills and practical experience on the topic (section, module) of the discipline
Current final control	Final	AND	Assessment of students' acquisition of knowledge, skills and practical experience on topics (sections, modules) of the discipline

Forms of ongoing progress monitoring and intermediate certification of students /types of student work/ ***

No.	Forms of ongoing monitoring of progress and intermediate certification of students (FTKU)***	Technical and abbreviated Name		Types of student work (WRO)***	Types of control
1	Presence control (CP)	Presence	KP	Presence	Presence
	Activity tracking (A)	Activity	A	Work on the topic	Participation

2				in class	
3	Oral survey (OU)	Oral survey	OU	Completing the task orally	Completion is required
4	Written survey (OP)	Written survey	OP	Completing the assignment in writing	Completion is required
5	Combined survey (OK)	Combined survey	OK	Completing tasks orally and in writing	Completion is required
6	Testing in electronic form (TE)	Testing	TE	Completing a test task in electronic form	Completion is required
7	Checking the abstract (PR)	Essay	ETC	Writing (defense) of an abstract	Completion is required
8	Checking laboratory work (LR)	Laboratory work	LR	Performing (defending) laboratory work	Completion is required
9	Preparation of educational medical history (IB)	Disease history	IS	Writing (defending) an educational medical history	Completion is required
10	Solution of a practical (situational) problem (RP)	Practical problem	RZ	Solving a practical (situational) problem	Completion is required
eleven	Preparation of term paper (PKR)	Course work	RCC	Completion (defense) of course work	Completion is required
12	Clinical and practical work (CPW)	Clinical and practical work	KPR	Carrying out clinical and practical work	Completion is required
13	Checking notes (PC)	Abstract	PC	Preparation of notes	Completion is required
14	Checking control standards (PKN)	Checking standards	PKN	Passing control standards	Completion is required
15	Report verification (software)	Report	BY	Preparing of report	Completion is required
16	Monitoring the completion of homework (HZ)	Control of independent work	DZ	Doing homework	Completion is required, Participation
17	Control of the study of electronic educational resources (IEER)	IEER control	IEOR	Studying electronic educational resources	Study of ESM

5. Fund of assessment tools for the combined control of attendance by discipline (module)

5.1. Planned learning outcomes by topics and/or sections of the discipline (module)

Planned learning outcomes for topics and/or sections of the discipline (module), correlated with the planned results of mastering the discipline (module) - according to clause 1.3. and the content of the discipline (module) - according to clause 3. of this work program of the discipline (module).

5.2. Forms of distribution of free control of progress

Current monitoring of the student's progress in the semester is carried out in the forms provided for by the thematic plan of this work program of the discipline (module) (see clause 4.1)

5.3. Criteria, indicators and evaluative means of monitoring the progress of students

5.3.1. The assessment of the results of a student's mastery of the discipline program in a semester is carried out by the teacher of the department in the classroom according to the traditional scale with grades "excellent", "good", "satisfactory", "unsatisfactory".

5.3.2. Criteria for assessing the results of a student's current performance using forms of ongoing monitoring of student progress

Current monitoring of progress is carried out in the following forms:

oral survey, written survey, testing, review of abstracts, defense of medical history.

5.3.2.1. Criteria for assessing oral questioning as part of ongoing monitoring of student progress

Based on the results of oral and written surveys, the following is assigned:

a) grade "excellent" if the student:

- completed the tasks formulated by the teacher;
- demonstrates deep knowledge on the topic (section) of the discipline (during the answer, reveals the essence of concepts, phenomena, principles, laws, patterns, theories, competently uses modern scientific terminology);
- presents the material competently and logically, gives a consistent and comprehensive answer to the questions posed;
- makes generalizations and conclusions;
- confidently applies acquired knowledge and skills when solving practical (situational) problems;
- demonstrates the ability to confidently use the necessary equipment, tools, and handle medications.

Minor inaccuracies are allowed that do not affect the essence of the answer.

b) grade "good" if the student:

- completed the tasks formulated by the teacher;
- demonstrates solid knowledge on the topic (section) of the discipline (during the answer, reveals the essence of concepts, phenomena, principles, laws, patterns, theories, competently uses modern scientific terminology);
- presents the material competently and logically, gives a consistent and complete answer to the questions posed;
- makes generalizations and conclusions;
- applies acquired knowledge and skills when solving practical (situational) problems;
- demonstrates the ability to use the necessary equipment, tools, and handle medications.

Minor inaccuracies and no more than two errors are allowed, which after clarification (leading questions) the student is able to correct.

c) grade "satisfactory" if the student:

- partially completed the tasks formulated by the teacher;
- demonstrates knowledge of the basic material on the topic (section) of the discipline (during the answer, the essence of concepts, phenomena, principles, laws, patterns, theories is revealed in basic terms, and uses basic scientific terminology);
- gives an incomplete, insufficiently reasoned answer;
- does not make correct generalizations and conclusions;
- hesitantly applies acquired knowledge and skills when solving practical (situational) problems;
- answered additional questions;
- demonstrates insufficient skill in using the necessary equipment, tools, and handling medications.

Errors and inaccuracies in the content of the answer are allowed, which are corrected by the student with the help of leading questions from the teacher.

d) grade "unsatisfactory" if the student:

- partially completed or failed to complete the tasks formulated by the teacher;

- demonstrates scattered knowledge on the topic (section) of the discipline (during the answer, he fragmentarily and illogically sets out the essence of concepts, phenomena, principles, laws, patterns, theories, does not use or weakly uses scientific terminology);
 - makes significant mistakes and does not correct the answer after additional and clarifying questions from the teacher;
 - does not make generalizations and conclusions;
 - does not know how to apply theoretical knowledge and skills when solving practical (situational) problems;
 - did not answer additional questions;
 - does not know how to use the necessary equipment, tools, or handle medications;
- or:
- refuses to answer;
- or:
- during preparation for the answer and the answer itself, uses unauthorized sources of information and technical means.

5.3.2.2. Criteria for assessing test results as part of ongoing monitoring of student progress

Based on the test results, depending on the proportion of correctly completed tasks in the test (in percentage), the student is given a grade of “excellent”, “good”, “satisfactory” or “unsatisfactory”:

Grade	Great	Fine	Satisfactorily	Unsatisfactory
Number correct answers	90-100%	80-89.99%	70-79.99%	0-69.99%

5.4. Guidelines for the procedure for conducting ongoing monitoring of students' progress in the discipline (module) according to the forms of ongoing monitoring provided for by this work program of the discipline (module)

Guidelines for the procedure for conducting ongoing monitoring of students' progress in a discipline (module) according to the forms of ongoing monitoring provided for by this work program of the discipline (module) (see clause 5.3.2) are prepared by the department and announced by the teacher on the eve of ongoing monitoring of progress.

6. Organization of intermediate certification of students

6th semester

- 1) The form of intermediate certification according to the curriculum is a test.
- 2) Form of organization of intermediate certification:
 - oral questioning on tickets and testing.
- 3) List of topics and questions to prepare for the intermediate certification
 1. Anatomical and physiological features of the structure of the pulp. Functions of the pulp. Endodont, relationships between the main elements in pulp-dentin complex.
 2. Classification of pulpitis. Clinic, diagnosis, differential diagnosis of pulpitis.
 3. Acute focal pulpitis. Etiology, pathogenesis, pathological anatomy, clinic, differential diagnosis, treatment.
 4. Acute diffuse pulpitis. Etiology, pathogenesis, pathological anatomy, clinic, differential diagnosis, treatment.

5. Chronic fibrous pulpitis. Etiology, pathogenesis, pathological anatomy, clinic, differential diagnosis, treatment.
6. Chronic hypertrophic pulpitis. Etiology, pathogenesis, pathological anatomy, clinic, differential diagnosis, treatment.
7. Chronic gangrenous pulpitis. Etiology, pathogenesis, clinical picture, diagnosis, differential diagnosis. Rationale for choosing a treatment method.
8. Differential diagnosis of chronic fibrous pulpitis. Rationale for the treatment method.
9. Chronic fibrous pulpitis. Etiology, pathogenesis, clinical picture, diagnosis, differential diagnosis. Rationale for choosing a treatment method.
10. Biological method of treating pulpitis. Indications and contraindications for use.
- eleven. Vital amputation of dental pulp. Indications and contraindications for use.
12. Vital pulp extirpation.
13. Treatment of pulpitis using the method of devital pulp extirpation: indications, contraindications. Stages of treatment.
14. Treatment of pulpitis using the method of vital pulp extirpation: indications, contraindications. Types of extirpation. Stages of treatment.
15. Exacerbation of chronic pulpitis in the acute stage. Etiology, clinical picture, diagnosis, differential diagnosis. Treatment.
16. Long-term results and prognosis of endodontic treatment.
17. Tools for preparing filling materials. Errors and complications in the treatment of pulpitis. Ways to eliminate complications in the treatment of pulpitis.

Example tests:

1. In acute focal pulpitis, changes in the periapical tissues on the radiograph:

is there

b) no

2. Pathological picture of acute focal pulpitis:

a) expansion of pulp vessels

b) pulp petrification

c) hyalinosis of vessel walls

d) microabscesses in the pulp

e) serous inflammation in the pulp

e) serous inflammation in the periapical tissues

3. Night spontaneous paroxysmal pain lasting 5-15 minutes is typical for:

a) acute focal pulpitis

b) acute diffuse pulpitis

c) deep caries

7th semester

1) The form of intermediate certification according to the curriculum is an exam.

2) Form of organization of intermediate certification:

- oral questioning on tickets and testing;

3) List of topics and questions to prepare for the intermediate certification

1. Anatomical and physiological features of periodontium. Classification of periodontal diseases.

2. Etiology, pathogenesis, diagnostic methods of apical periodontitis. Patient examination.

3. Acute periodontitis. Clinic, diagnosis, differential diagnosis of acute periodontitis. Treatment.

4. Endodontic preparation for surgical treatment of pulp and periodontal diseases: coronoradicular separation, hemisection, root amputation.

5. Techniques for instrumental processing of canals using hand tools.
6. Medications for irrigation and disinfection of root canals.
7. Treatment of acute and chronic traumatic periodontitis.
8. Resection of the root apex. Tooth replantation. Indications, stages of implementation, endodontic preparation of the tooth.
9. Retrograde filling of tooth roots. Methodology, drugs. Indications for use.
10. Planning and preparation for the treatment of apical periodontitis. Endodontic treatment of root canals for apical periodontitis.
11. Irrigation and disinfection of root canals. Antibacterial agents.
12. Temporary filling of root canals. Materials used, purposes, indications for temporary filling.
13. Selection of filling material and method of filling root canals.
14. Depophoresis with copper-calcium hydroxide. Calcium hydroxide as a temporary root canal filler.
15. Endodontic treatment. Working length of the root canal: methods of determination. Objectives and basic rules of mechanical treatment of root canals.
16. Indications and contraindications for the use of antibacterial therapy in the treatment of patients with pulp and periodontal diseases.
17. Materials used for filling root canals. Procedure for filling root canals.
18. Vital, devital pulp extirpation. Features, indications, contraindications, technique.
19. Methods of filling root canals using the single pin method and the lateral condensation method of gutta-percha. Obstructive systems.
20. Chronic forms of pulpitis. Clinic, diagnosis, differential diagnosis.
21. Errors and complications in the treatment of periodontitis and ways to eliminate them. Evaluation of the results of endodontic treatment.
22. Acute pulpitis. Clinic, diagnosis, differential diagnosis, treatment.
23. Chronic forms of periodontitis, clinical picture, diagnosis, radiological signs, treatment.

Example tests:

1. The first step in instrumental expansion of the root canal is:
 - a. antiseptic treatment
 - b. expansion of the apical foramen
 - c. determination of root canal length
 - d. expansion of the root canal orifices
 - e. use of H-files
2. The advantage of root canal filling using the Thermofil system is:
 - a. short period of plasticity
 - b. three-dimensional canal obturation
 - c. painful sensations
 - d. removal of material from the top
 - e. periodontal trauma
3. An error in endodontics at the diagnostic stages is:
 - a. misinterpretation of radiographs
 - b. insufficient sealing of the devitalizing paste
 - c. displacement of arsenic paste when applying a bandage
 - d. closing arsenic paste with oil dentin
 - e. perforation

7. Evaluation fund for intermediate certification discipline students

7.1. Planned learning outcomes in the discipline, correlated with the planned results of mastering the educational program (by periods of mastering the educational program) - according to clause 1.3. this work program of the discipline

7.2. Criteria, indicators and procedure for intermediate certification of students

7.2.1. Criteria, indicators and procedure for conducting intermediate certification in the discipline in the form of a test

Interim certification of students in the discipline in the form of a test is organized according to the class schedule and is carried out, as a rule, in the last week of studying the discipline in the semester or at the end of the educational cycle.

The credit is accepted by the teacher leading classes in a group or lecturing in the discipline, or by another teacher appointed by the head of the department.

Assessment of the level of development of knowledge, skills, practical experience and competence of students during intermediate certification, carried out in the form of a test, it is carried out by issuing an undifferentiated assessment of “pass” or “fail”.

The procedure for assessing the student’s level of knowledge, skills, practical experience and competence in the discipline:

The assessment at the intermediate assessment, carried out in the form of a test, consists of two components: grades for work in the semester (results of ongoing progress monitoring) and grades received on the test.

The grade for work in the semester is determined as the ratio of the sum of grades received by the student based on the results of the current thematic control to the number of current thematic tests per semester, rounded to the nearest whole number according to the rules of mathematics.

If a student in a semester, based on the results of the current thematic control, received an unsatisfactory grade or missed classes and was unable to work on a topic or section of the discipline, in this case, during the test, the student will be required to complete an additional assignment on the corresponding section or topic.

The grade on the test consists of the grades received by the student for passing the electronic test and interview.

Based on testing results, depending on the proportion of correctly completed tasks in the test (in percentage), the student is given a grade of “excellent”, “good”, “satisfactory” or “unsatisfactory”:

Grade	Great	Fine	Satisfactorily	Unsatisfactory
Number correct answers	90-100%	80-89.99%	70-79.99%	0-69.99%

Based on the results of the interview, the:

- a) grade “excellent” if the student:
- completed the tasks formulated by the teacher;
 - demonstrates deep knowledge of the discipline (during the answer, reveals the essence of concepts, phenomena, principles, laws, patterns, theories, competently uses modern scientific terminology);
 - presents the material competently and logically, gives a consistent and comprehensive answer to the questions posed;
 - makes generalizations and conclusions;

- confidently applies acquired knowledge and skills when solving practical (situational) problems;
- demonstrates the ability to confidently use the necessary equipment, tools, and handle medications.

Minor inaccuracies are allowed that do not affect the essence of the answer.

b) grade “good” if the student:

- completed the tasks formulated by the teacher;
- demonstrates solid knowledge of the discipline (during the answer, reveals the essence of concepts, phenomena, principles, laws, patterns, theories, competently uses modern scientific terminology);
- presents the material competently and logically, gives a consistent and complete answer to the questions posed;
- makes generalizations and conclusions;
- applies acquired knowledge and skills when solving practical (situational) problems;
- demonstrates the ability to use the necessary equipment, tools, and handle medications.

Minor inaccuracies and no more than two errors are allowed, which after clarification (leading questions) the student is able to correct.

c) grade “satisfactory” if the student:

- partially completed the tasks formulated by the teacher;
- demonstrates knowledge of the basic material in the discipline (during the answer, the essence of concepts, phenomena, principles, laws, patterns, theories is revealed in basic terms, and uses basic scientific terminology);
- gives an incomplete, insufficiently reasoned answer;
- does not make correct generalizations and conclusions;
- hesitantly applies acquired knowledge and skills when solving practical (situational) problems;
- answered additional questions;
- demonstrates insufficient skill in using the necessary equipment, tools, and handling medications.

Errors and inaccuracies in the content of the answer are allowed, which are corrected by the student with the help of leading questions from the teacher.

d) grade “unsatisfactory” if the student:

- partially completed or failed to complete the tasks formulated by the teacher;
- demonstrates scattered knowledge of the discipline (during the answer, he fragmentarily and illogically sets out the essence of concepts, phenomena, principles, laws, patterns, theories, does not use or weakly uses scientific terminology);
- makes significant mistakes and does not correct the answer after additional and clarifying questions from the teacher;
- does not make generalizations and conclusions;
- does not know how to apply theoretical knowledge and skills when solving practical (situational) problems;
- did not answer additional questions;
- does not know how to use the necessary equipment, tools, or handle medications;

or:

- refuses to answer;

or:

- during preparation for the answer and the answer itself, uses unauthorized sources of information and technical means.

The overall grade on the test consists of the grades for testing and interview and cannot be higher than the grade for the interview.

<i>Excellent rating</i>							
Test score	5	4					
Interview score	5	5					
<i>Rated "good"</i>							
Test score	5	4	3	3			
Interview score	4	4	5	4			
<i>Rating "satisfactory"</i>							
Test score	5	4	3	2	2	2	
Interview score	3	3	3	5	4	3	
<i>Rating "unsatisfactory"</i>							
Test score	5	4	3	2			
Interview score	2	2	2	2			

The procedure for grading for intermediate certification in a discipline, carried out in the form of a test:

Grade "passed" For intermediate certification in the discipline in the form of a test, the following is awarded:

- when students receiving a positive grade ("excellent", "good", "satisfactory") for work in the semester and a positive grade ("excellent", "good", "satisfactory") on the test;
- if a student receives an "unsatisfactory" grade for work in the semester and an "excellent" or "good" grade on the test.

Grade "not accepted" For intermediate certification in the discipline in the form of a test, the following is awarded:

- if the student received an "unsatisfactory" grade during the test;
- if the student receives an "unsatisfactory" grade for work in the semester and a "satisfactory" or "unsatisfactory" grade on the test.

7.2.2. Criteria, indicators and procedure for conducting intermediate certification in the discipline in the form of an exam

Tolerance student for intermediate certification, carried out in the form of an exam, is carried out on the basis of the results of his work in the semester (final semester).

The student's work in the semester (final semester) is assessed by the department's teachers during ongoing monitoring of progress on a traditional scale with grades: "excellent", "good", "satisfactory", "unsatisfactory".

If a student studied in a semester with a grade of at least "satisfactory," the student is recognized as certified and is allowed to undergo intermediate certification in the form of an exam.

If a student in a semester, based on the results of the current thematic control, received an unsatisfactory grade or missed classes and was unable to work on a topic or section of the discipline in a timely manner, in this case the student is considered not certified and is not allowed to take the exam as someone who has not completed the discipline program.

Interim certification of students in the discipline in the form of an exam is organized during the examination session according to the examination schedule.

Examinations are taken by department teachers (examiners) appointed by order of the rector.

Assessment of the level of development of knowledge, skills, practical experience and competence of students during intermediate certification in the form of an exam, is carried out using a traditional grading scale: “excellent”, “good”, “satisfactory”, “unsatisfactory”.

The procedure for assessing the student’s level of knowledge, skills, practical experience and competence in the discipline during the exam:

The exam is organized in two stages in the form of electronic testing and a ticketed interview. The ticket contains two tasks: a theoretical question and a practical task. The weight of each of the two elements of a two-stage exam (test and interview) is not equal. The overall score for the exam (based on the test and interview results) cannot be higher than the score for the interview.

Based on testing results, depending on the proportion of correctly completed tasks in the test (in percentage), the student is given a grade of “excellent”, “good”, “satisfactory” or “unsatisfactory”:

Grade	Great	Fine	Satisfactorily	Unsatisfactory
Number correct answers	90-100%	80-89.99%	70-79.99%	0-69.99%

Based on the results of the interview, the following is assigned:

a) grade “excellent” if the student:

- completed the tasks formulated in the ticket;
- demonstrates deep knowledge of the discipline (during the answer, reveals the essence of concepts, phenomena, principles, laws, patterns, theories, competently uses modern scientific terminology);
- presents the material competently and logically, gives a consistent and comprehensive answer to the questions posed;
- makes generalizations and conclusions;
- confidently applies acquired knowledge and skills when solving practical (situational) problems;
- demonstrates the ability to confidently use the necessary equipment, tools, and handle medications.

Minor inaccuracies are allowed that do not affect the essence of the answer.

b) grade “good” if the student:

- completed the tasks formulated in the ticket;
- demonstrates solid knowledge of the discipline (during the answer, reveals the essence of concepts, phenomena, principles, laws, patterns, theories, competently uses modern scientific terminology);
- presents the material competently and logically, gives a consistent and complete answer to the questions posed;
- makes generalizations and conclusions;
- applies acquired knowledge and skills when solving practical (situational) problems;
- demonstrates the ability to use the necessary equipment, tools, and handle medications.

Minor inaccuracies and no more than two errors are allowed, which after clarification (leading questions) the student is able to correct.

c) grade “satisfactory” if the student:

- partially completed the tasks formulated in the ticket;
- demonstrates knowledge of the basic material in the discipline (during the answer, the

essence of concepts, phenomena, principles, laws, patterns, theories is revealed in basic terms, and uses basic scientific terminology);

- gives an incomplete, insufficiently reasoned answer;
- does not make correct generalizations and conclusions;
- hesitantly applies acquired knowledge and skills when solving practical (situational) problems;
- answered additional questions;
- demonstrates insufficient skill in using the necessary equipment, tools, and handling medications.

Errors and inaccuracies in the content of the answer are allowed, which are corrected by the student with the help of leading questions from the teacher.

d) grade “unsatisfactory” if the student:

- partially completed or failed to complete the tasks formulated in the ticket;
- demonstrates scattered knowledge of the discipline (during the answer, he fragmentarily and illogically sets out the essence of concepts, phenomena, principles, laws, patterns, theories, does not use or weakly uses scientific terminology);
- makes significant mistakes and does not correct the answer after additional and clarifying questions from the teacher;
- does not make generalizations and conclusions;
- does not know how to apply theoretical knowledge and skills when solving practical (situational) problems;
- did not answer additional questions;
- does not know how to use the necessary equipment, tools, or handle medications;

or:

- refuses to answer;

or:

- during preparation for the answer and the answer itself, uses unauthorized sources of information and technical means.

The overall grade for the exam consists of two grades: the test grade and the interview grade.

Excellent rating

Test score	5	4					
Interview score	5	5					

Rated "good"

Test score	5	4	3	3		
Interview score	4	4	5	4		

Rating "satisfactory"

Test score	5	4	3	2	2	2	
Interview score	3	3	3	5	4	3	

Rating "unsatisfactory"

Test score	5	4	3	2			
Interview score	2	2	2	2			

7.3. Typical control tasks or other materials required for intermediate certification

Test task for conducting intermediate certification in the form of an exam

Sample tests:

4. On the upper jaw there are two roots:
 - a. incisors
 - b. fangs
 - c. first premolars
 - d. second premolars
 - e. molars
5. On the upper jaw there are three roots:
 - a. incisors
 - b. fangs
 - c. first premolars
 - d. second premolars
 - e. molars
6. The opening of the tooth cavity of intact molars of the upper jaw is carried out in the area:
 - a. anterior fissure
 - b. posterior fissure
 - c. buccal cusp
 - d. palatal tubercle
 - e. roller

Ticket for the exam in the discipline "Endodontics" in the specialty 05/31/03 "Dentistry":

MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION

Pirogov Russian National Research Medical University (Pirogov Medical University)

Institution of Dentistry

Examination ticket №2

for the exam in the discipline "Endodontics"
specialty "05/31/03 Dentistry"

1. Etiology, pathogenesis, diagnostic methods of acute apical periodontitis of pulpal origin.
2. Temporary filling of root canals. Materials used, purposes, indications for temporary filling of root canals of teeth.
3. Practical task. Carry out mechanical treatment of the root canal of the tooth using the Crown-Down method.

Head of the department _____ Kopetsky I.S.

8. Guidelines for teaching the development of the discipline

Students' mastery of the academic discipline B.1.O.57 "Endodontics" consists of contact work, including lecture-type classes (lectures) and seminar-type classes, as well as independent work. Contact work with students involves ongoing monitoring of progress and intermediate certification.

To prepare for lecture-type classes (lectures), the student must:

- carefully read the material from the previous lecture;
- familiarize yourself with the educational material from the textbook, teaching aids, as well as electronic educational resources with the topic of the lecture given;
- make additions to previously acquired knowledge on the topic of the lecture in the margins of the lecture notebook;
- Write down possible questions that should be asked to the teacher based on the material of the lecture studied.

To prepare for seminar-type classes, the student must:

- carefully study the theoretical material from the lecture notes, textbooks, teaching aids, as well as electronic educational resources;
- prepare for a speech on a given topic, if this task is provided for in the discipline;
- complete written work, if this task is provided for in the discipline;
- prepare a report, presentation or abstract, if this task is provided for in the discipline.

Independent work of students is an integral part of training and is aimed at consolidating and deepening acquired knowledge, skills and abilities, searching and acquiring new knowledge, completing educational tasks, preparing for upcoming classes, ongoing monitoring of progress and intermediate certification.

Homework is completed in the form of:

- work with educational, educational, methodological and scientific literature, electronic educational resources (for example, watching video lectures or educational films), student notes: reading, studying, analysis, collection and synthesis of information, taking notes and summarizing, translating texts, compiling professional glossaries;
- problem solving, execution of written assignments and exercises;
- preparing (developing) albums, diagrams, tables, slides, performing other practical tasks;
- preparation of thematic reports and speeches;

Current monitoring of students' progress in the discipline B.1.O.57 "Endodontics" is carried out during a separate type of lesson - a colloquium. Current control includes current thematic control and current boundary (module) control.

To prepare for the current thematic control, the student should study the educational material on the topic of the lesson or individual significant educational issues on which the survey will be carried out.

To prepare for the current midterm (modular) control, the student should study the educational material on the most significant topics and (or) sections of the discipline in the semester.

Interim certification in the form of a test by discipline B.1.O.57 "Endodontics" is carried out, as a rule, in the last week of studying the discipline in the semester or at the end of the academic cycle.

To prepare for the test, the student should study the educational material of the discipline:

- familiarize yourself with the list of questions and tasks submitted for intermediate certification in the form of a test;
- analyze the material and outline the sequence of its repetition;

- identify the simplest and most complex topics and (or) sections of the discipline;
- repeat material on the most significant/complex topics and (or) sections of the discipline using lecture notes and educational literature, as well as electronic educational resources;
- repeat exercises, practical (situational) tasks, diagrams, tables and other material studied in the process of mastering the discipline.

Interim certification of students in the form of an exam in discipline B.1.O.57 “Endodontics” organized during the examination session according to the examination schedule.

The exam is organized in two stages. The first stage takes place in the form of electronic testing, the second - in the form of an interview on a ticket. The ticket includes two theoretical questions and one practical task.

When preparing for electronic testing you should:

- work through standard versions of test tasks, which are presented in the collection of test tasks/educational manuals for preparing for intermediate certification in the discipline B.1.O.57 “Endodontics”;
- repeat test questions/tasks and answers to them that were provided by the teacher during the course training
- repeat the most significant concepts, formulas, judgments presented in diagrams, tables, slides, practical problems;
- repeat material on the most significant/complex topics and (or) sections of the discipline using lecture notes and educational literature, as well as electronic educational resources.

When preparing for a ticket interview you should:

- familiarize yourself with the list of questions and practical tasks submitted for intermediate certification in the form of an exam;
- analyze the material and outline the sequence of its repetition;
- identify the simplest and most complex topics and (or) sections of the discipline;
- repeat material on the most significant/complex topics and (or) sections of the discipline using lecture notes and educational literature, as well as electronic educational resources;
- repeat exercises, practical (situational) tasks, diagrams, tables and other material studied in the process of mastering the discipline.

Guidelines for students on writing an essay

The abstract is prepared by the student in semesters 6 and 7 in accordance with the methodological recommendations of the department during independent work hours and is submitted to the teacher within the established time frame. The results of checking the essay are announced by the teacher at one of the scheduled lessons.

The purpose of preparing an abstract is development of students' thinking (ability to think, reason, analyze, compare, generalize, make inferences and logical conclusions), formation of skills in preparing scientific or other special written texts on a given topic.

Work on an abstract begins with choosing a research topic. The student is given the right to independently choose the topic of the essay from the list of topics recommended by the teacher. The preparation of the abstract must be carried out in accordance with the plan, the text must have organic internal unity, strict logic of presentation, and semantic completeness.

Sample abstract topics:

- 1. Antibiotic therapy in endodontics.**
- 2. Modern protocols for irrigation of dental root canals.**
- 3. Sealers for obturation of the root canals of teeth. properties of an ideal filling material.**
- 4. Intracoronaral teeth whitening.**
- 5. Nickel-titanium endodontic instruments.**
- 6. Photo protocol in endodontics.**
- 7. Laser in endodontics.**
- 8. Activation of irrigants.**
- 9. X-ray diagnostics in endodontics.**
- 10. Anatomy and morphology of root canals of teeth of various groups.**

Basic requirements for the content of the abstract

- the material used in the abstract must strictly relate to the chosen topic;
- it is necessary to present the main aspects of the problem not only competently, but also in accordance with one or another logic (chronological, thematic, eventual, etc.);
- when presenting, the ideas of different authors should be grouped according to common points of view;
- the abstract should end with conclusions based on the research work carried out;
- the abstract is written in compliance with the norms and rules of the Russian language.

General requirements for the preparation of an abstract

1) Total scope of work

In terms of the total amount of work, it is recommended to focus on 15-20 pages.

2) Design format

The text of the abstract should be easy to read. It is printed on one side of a standard sheet of white single grade A4 paper. When printing, you must use one and a half line spacing, Times New Roman Cyr font (14 points) and leave margins: left - 30 mm, right - 15 mm, top - 20 mm, bottom - 20 mm. It is recommended to print footnotes and notes in the same type of font, but in a smaller size (10 points), with the same line spacing. Headings of the structural parts of the work must be formatted in accordance with the rules for categorizing the text, headings for illustrative material - in accordance with the requirements for the design of illustrative material. The rest of the text should be justified. Each page of text should contain approximately 1800 characters (30 lines of 60 characters per line, counting each punctuation mark and space between words as a printed character).

3) Pagination

Pages should be numbered in Arabic numerals. The page numbering of the work begins with the title page, while continuous numbering is maintained throughout the entire text, including appendices. There is no page number on the title page. Pages should be numbered at the bottom of the sheet, centered or in the lower right corner.

4) Abstract structure

1. Title page

At the top of the page in the center is the name of the educational institution (FGAU HE RNRMU named after N.I. Pirogov of the Ministry of Health of Russia), below in the center is the name of the department.

In the middle of the page, in the center, the title of the abstract is written in capital letters; below on the right - the surname and initials of the performer, indicating the faculty and group

number, below - the surname and initials of the teacher; at the bottom of the page in the center - the city and year of writing.

2. Table of contents

An example of a table of contents:

Introduction	1
Main part	
1.	2
2.	4
Conclusion	10
Bibliography	eleven
Applications	12

3. Text of the abstract (introduction, main part and conclusion).

a) The introduction contains a brief justification of the topic, its place in the relevant section of social life and scientific development.

b) Main part contains:

- material generated taking into account the specifics of the work, selected to reveal the topic of the abstract;

- cited sources (normative documents) and scientific works (monographs, publications in journals, collective works) are indicated in line-by-line footnotes indicating the bibliography.

Sample:

According to Yu.K. Babansky, there are clear criteria for choosing a teaching method [1, p. 38].

Requirements for visual materials:

- visual materials (drawings, photographs, graphs, diagrams, tables) must have continuous numbering and mandatory links in the text.

Finally contains conclusions by section and summarizes the abstract research.

4. References:

- the literature used must be up-to-date;

- a link to Internet resources must contain author's data, title of article, website, date of access;

- the list of references is formed by headings: sources, literature, electronic resource - in alphabetical order with continuous numbering; must contain at least five positions.

Sample:

Literature

1. Korobkina A.S. Adaptation of students at difficult age stages. System of work with children, parents, teachers. – Volgograd: Teacher, 2012. – 261 p.

Electronic resource

2. Sukhomlinsky V.A. About mental education // KooB.ru. –
 URL:http://www.koob.ru/suhomlinskij_vasilij_aleksandrovich/intellectual_education

3. Applications (tables, diagrams, drawings, etc.).

9. Educational, methodological, informational and logistical support of the discipline

9.1. Literature by discipline:

No.	Author, title, place of publication, publisher, year of publication	Availability of literature in library	
		Col. copy	Electr. address resource
1	2	3	4
1	Practical guide to endodontics [Text]: textbook. manual for students studying special education. 040400 - Dentistry E.A.Bazikyan, L. V. Volchkova, G. I. Lukina. M.: Pract. medicine, 2007.	47	
2	Therapeutic dentistry [Electronic resource]. Cariesology and diseases of hard dental tissues. Endodontics: textbook. manual / Yu. M. Maksimovsky, A. V. Mitronin; edited by Yu. M. Maksimovsky. - M.: GEOTARMEDIA, 2016. – 480 p.		Remote access: http://marc.rsmu.ru:8020/marcweb2/Default.asp .

9.2. The list of resources of the information and telecommunication network "Internet" necessary for the development of the discipline

1. www.stom.ru - Russian Dental Portal.
2. stomport.ru - Dental portal for professionals. Website builder for a doctor, dental technician, clinic, laboratory, manufacturer and trading organization. Personal messaging system, articles and news for professionals, bulletin board, forum, photographs, online consultations, videos.
3. www.edentworld.ru - General dental resource Information about periodicals, events in the dental world in Russia and abroad, scientific articles in various areas of dentistry.
4. www.dental-revue.ru - Dental information site. Articles on various sections of dentistry. Discussions.
5. www.mmbook.ru - Medical literature on dentistry.
6. www.dentalsite.ru - For professionals about dentistry.
7. www.web-4-u.ru/stomatinfo - Electronic books on dentistry.
8. www.doktornarabote.ru - Social network Doctor at work is a mass resource focused on specialists and constructing an exclusively professional medical community. The resource has the status of an official electronic publication and uses all the latest web 2.0 tools and technologies in its activities. The portal is intended for free communication between doctors, aimed, first of all, at continuously improving their professionalism and enriching their experience.
9. www.medscape.ru - Medical information site for communication between dentists and colleagues of all specialties on a professional level.
10. www.zub.ru - An actively developing dental portal containing a lot of useful information for both patients and professionals. For professionals: news, reference book, medicines and preparations, employment, abstracts, dentists' club.
11. www.dental-azbuka.ru - The Azbuka company specializes in the translation and publication of the best foreign monographs on dentistry. The best books by the most respected authors. Classics of dental literature, and the latest publications devoted to the most pressing

problems of dentistry. The level of translation is guaranteed by highly qualified translators who have a medical education and are fluent in English. The company's partners are the publishing houses Quintessence, BC Decker, LippincottWilliams&Wilkins, GeorgeThieme, Teamworks.

12. www.medalfavit.ru - magazine "Medical Alphabet - Dentistry" The quarterly magazine for specialists publishes articles on the latest developments in the field of dental equipment, the use of new materials, pharmaceuticals and progressive treatment techniques. The journal publishes articles on implantology, surgery, and orthopedics. Covers innovations in the field of materials and technologies. The magazine publishes detailed information about exhibitions and conferences, prints reports from exhibitions held in Moscow and in the regions. Distributed at exhibitions free of charge, by subscription, sent to clinics throughout Russia. The electronic version of the magazine can be found on the Internet at: www.medalfavit.ru

Special issues of Medtehnika are published quarterly.

13. www.dentsplycis.com - Product catalog of the DENTSPLY concern: about materials and new technologies of the world's largest manufacturer of dental materials and equipment, new products, special events.

14. www.rosmedportal.com – Rosmedportal. Medical scientific and practical electronic journal for healthcare professionals. Dentistry section. Chairman of the Editorial Council V.N. Tsarev, Doctor of Medical Sciences, Professor. Scientific articles, normative documents.

15. www.nidr.nih.gov - National Institute of Dentistry and Craniofacial Research in the USA. The leading source of information on all aspects of dental care for dentists of any specialization.

16. www.chicagocentre.com - Official website of the Chicago Center for Modern Dentistry. The educational center provides a number of courses, lectures, round tables and conferences (implantology, periodontology, orthopedics, maxillofacial surgery, marketing).

17. www.doctour.ru - Company website - DOCTOUR, Here you can find programs of international conferences, symposia, scientific forums, educational programs for dentists.

18. www.fdiworldental.org/home/home.html - Website of the World Dental Federation (FDI), information about activities, congresses, events, conditions for entry and participation in international congresses.

19. www.esthetics.ru - Aesthetic dental restorations. Aesthetics in dentistry, why teeth decay and how to restore them, direct restorations as an alternative to prosthetics, the golden ratio and Fibonacci numbers, color in dentistry, temporomandibular joints, a large library of clinical cases.

20. www.adha.org - American Hygienists Association.

21. stomatlife.ru - Dental portal Stomatlife is a reference and information resource on dentistry and medicine.

22. denta-info.ru - Dental information resource. Articles about dentistry, new treatment methods, equipment and materials, advice from dentists, dental dictionary - glossary.

23. endoforum.ru - The site provides detailed information about the educational programs of the Endoforum company, invites dentists to visit international congresses and training centers abroad. Information has been published about the Russian Endodontic Society - its members, charter, entry into the International Endodontic Federation in October 2010 in Athens, Greece.

24. www.dentist.h1.ru - Official website of the Russian Dental Association.

25. www.stomatologclub.ru - Club of dentists - a community of dentists. Exchange of experience and knowledge in dentistry (therapy, orthopedics, orthodontics, pediatric dentistry, surgery).

26. www.gmstraining.ru - GMS Training - TRAINING for dentists. GMS Training is part of the GMS group of companies. GlobalMedicalSystem, existing since 1995. The professional scope of activity of the GMS Training company covers: .postgraduate education for dentists .organization of lecture and practical courses, including seminars, master classes, as well as congresses with the participation of leading Russian and foreign specialists in Moscow and regional centers of Russia and the CIS. formation and support of Russian-speaking groups to participate in international professional events held abroad. provision of professional simultaneous and consecutive translation services.

27. www.stom-kongress.ru - Official website of the International Congress of Dentists. The annual Congress of Dentists, held at the end of May in St. Petersburg. The innovation of the Congress lies in the scientific and practical program of the event, which includes many unique master classes and interesting lectures on a whole range of topical issues necessary for practicing dentists. The parade of master classes is conducted over three days by highly qualified dentists. The scientific program of the congress, the schedule of master classes, as well as the registration form are posted on the Congress website.

28. www.gnathology.ru - information and reference portal covering issues of modern dentistry and gnathology in the world. It is intended for specialists in various fields of dentistry: both for dental therapists and surgeons, and for orthodontists and orthopedic dentists.

29. colgateprofessional.ru - ColgateProfessional is a unique resource for dental professionals that allows you to:

- print or send educational materials to your patients
- upload images, videos and interactive guides
- receive the latest news in the world of dentistry.

30. www.studmedlib.ru

31. zapah-izo-rta.info/ - Articles for patients suffering from bad breath. Specialized literature for dentists. Educational materials for dental students.

9.3. The list of information technologies used in the implementation of the educational process in the discipline, including the list of software and information reference systems

1. Automated educational environment of the university.
2. Microsoft Word
3. Microsoft PowerPoint
4. Microsoft Excel
5. Platforms for distance learning ZOOM, Discord, skype

9.4. Logistics of discipline

Name		Amount per 1 student	Amount per group of 8 students
EQUIPMENT			
1	educational films		15
2	Computer	1	8
3	Screen	-	1
4	Tables, posters	-	15
5	Desktop	1	8
6	Chair	1	8
7	Dental chair	—	1 to 3 groups
8	Drill (turbine, micromotor)	—	1 to 3 groups
9	Set of tips (straight, angular) turbine)	1 of each	8 per group
10	Phantom with a set of teeth	1	8
elev	Lighting lamp	1	8
12	Tool tray	1	8
13	Curing lamp	1	8
TOOLS			
1	Dental mirror	1	8
2	Dental tweezers	1	8
3	Angle probe	1	8

4	Excavator	1	8
5	Dental spatula	1	8
6	Plugger-stroker	1	8
7	Dental spatula	1	8
8	Plaster knife	-	1
9	Set of tools for removing dental plaque	1	10
10	Set of separators, wedges	—	1 per 1 gr.
elev en	Die holder and set of dies	—	1 per 1 gr.
12	Parapulpal pins	—	1 pack for 1 g.
13	Anchor pins	—	— II —
14	Straight handpiece burs	20	160 per 1 gr.
	For corner	20	160 per 1 gr.
	For a turbine tip, diamond (spherical, cylindrical, reverse-cone, etc.):	thirty	240 per 1 g.
	For turbine tip carbide	thirty	240 per 1 g.
15	Carborundum heads	10	80 per 1 gr.
16	For finishing fillings:		
	a) polishing heads, cups	—	1 pack for 1 g.
	b) polishing brushes	1	8
	c) strips of various grain sizes	1 set	8
	d) disks	—	— // —
17	Cements: phosphate		1 pack per gr.
	silicate		— // —
	silicophosphate		— // —
	glass ionomer		— // —
	Polycarboxylate		— // —
18	Medical pads		1 pack per gr.
19	Temporary filling materials		— // —
20	Disinfecting wipes	1 pack	8
21	Composites: A) chemical curing		1 pack per group
	B) light curing		1 pack for 3 groups
	B) microhybrid		1 pack for 3 groups
	D) fluid		1 pack per group
22	Compomers		1 pack for 3 groups
23	Ceramers		1 pack for 3 groups
24	Wedges: A) assorted wood	1 pack	8
	B) light-conducting assorted	1 pack	8
25	Retraction thread		1 pack for 1 g.
26	Polishing pastes		1 pack for 1 g.

27	Brushes for removing plaque	2 pcs	16
28	Filling materials for filling root canals:		1 pack per group
	a) non-hardening pastes with calcium hydroxide		— // —
	b) based on epoxy resins		— // —
	c) alginates		— // —
	d) zinc oxide eugenol		— // —
29	Arsenic paste		1 pack for 3 grams.
thirt v	Complexones (EDTA, Trilon B, methel, etc.)		1 pack per group
31	Antiseptics: iodinol, chloramine, hydrogen		100 ml per group
32	Anesthetics with vasoconstrictors (carpuled)	4 carpules	32 per group
33	Anesthetics in ampoules	3 ampoules	24 per group
34	Dressing material: cotton wool, bandages		1 pack per group
35	Petrolatum		40 gr. per group
36	Alcohol		60 kg. for a year
37	Hydrol		1 fl. per group
38	Tip care kit		1 per group
39	Suture material: (silk, catgut, synthetic suture material)	By 1	8 pcs. per group
40	Ligature wire		1m. per group
41	Aluminum wire		1 m. per group
42	caries test		1 per group
43	cofferdam (set)		3 frames per group
44	curtains for coffee dam	2	16 per group
45	Ashless pins		1 pack per group
46	sodium hypochlorite	100 ml.	800 ml. per group
47	isokol varnish		1 per group

Department head

Kopetsky I.S

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