

DANYLO HALYTSKY LVIV NATIONAL MEDICAL UNIVERSITY

Department of Therapeutic Dentistry

**“APPROVED”**

First Vice-Rector on  
Scientific and Pedagogical Work  
Associate Professor Iryna SOLONYNKO

“    ” \_\_\_\_\_ 2023

## **DISCIPLINE PROGRAM**

**ED- 2.9 “Medical practice in therapeutic dentistry”  
Individual specialized course of practical training “Prosthetic Dentistry”**

**Second (master’s) level of higher education  
Field of Knowledge 22 “Healthcare”  
Specialty 221 “Dentistry”  
Faculty, year: Dentistry, 5<sup>rd</sup> year**

Discussed and approved at the  
educational-methodical meeting of the  
Department of Therapeutic Dentistry  
Minutes No12 dated 13 June 2023  
Head of the Department  
\_\_\_\_\_ Prof. V.Zubachyk

Approved by the Profile Methodical  
Commission of Dentistry Disciplines  
Minutes No2 dated 16 June 2023  
Chair of the Profile Methodical  
Commission  
\_\_\_\_\_ Prof. Jan VARES

The study program of the educational discipline “Medical practice in therapeutic dentistry” was developed and imported by of Therapeutic Dentistry Department of Danylo Halytsky Lviv National Medical University for the 5<sup>rd</sup> year students of the Dentistry Faculty, which are studied on Specialty 221 “Dentistry”.

**Changes and additions to the study program of the discipline during 2023-2024 academic year.**

№	Content of changes (additions)	Protocol of the meeting at the Department, date	Notes

PROGRAM DEVELOPERS: Head of the Department of Therapeutic Dentistry  
 prof. V. Zubachyk, associate prof.: A. Buchkovska,  
 A. Furdychko, O. Ripetska, assistant prof. M. Renka

REVIEWERS: N. Krupnyk, associate professor of the department of Surgical  
 Dentistry and Maxillo-Facial Surgery;  
 K. Musij-Sementsiv, associate professor of the department of Orthodontics

of

Approved by Profile Methodical Commission on Dental Disciplines  
 Protocol №   2   Dated from ”   16   ” June

## **Introduction**

The program of medical practice (for fifth-year students of the Faculty of Dentistry) is made in accordance with the draft Standard of Higher Education of Ukraine (hereinafter - the Standard) of the second (master's) level of higher education 22 "Health", specialty 221 "Dentistry" discussed at XIII All-Ukrainian scientific-practical conference with international participation "Current issues of quality of medical education" (May 12-13, 2016, Ternopil) and a sample curriculum for training specialists of the second (master's) level of higher education in the field of knowledge 22 "Health" in higher educational institutions of the Ministry of Health of Ukraine in the specialty 221 "Dentistry", educational qualification "Master of Dentistry", professional qualification "Dentist", approved by the Ministry of Health of Ukraine 26.07.2016.

## **Description of the discipline (abstract)**

According to the curriculum of medical practice for 5th year students of the Faculty of Dentistry is provided in the case when the student has acquired knowledge of basic clinical disciplines (propaedeutics of therapeutic dentistry, therapeutic dentistry, propaedeutics of pediatric therapeutic dentistry, prevention of dental diseases, pharmacology). Medical practice is carried out by involving students as an assistant to a dentist in the therapeutic department of a dental clinic. Medical practice in therapeutic dentistry is an integral part of therapeutic dentistry - a discipline whose methods are aimed at maintaining the dental health of the human oral cavity, prevention of periodontal disease and oral mucosa. Passing medical practice involves mastering the theoretical material on the peculiarities of the work of a dentist basic manipulations and their practice under the supervision of the head (in the form of practical classes and consultations); independent work of the student in dental departments and consolidation of the received knowledge and skills in the form of independent shifts, preparation for practical employment, mastering of practical skills, filling of the basic reporting documentation, individual work and preparation for final control of knowledge.

**The subject** of medical practice is the performance of dental manipulations, covering the full range of preventive work of the dentist, and medical dental manipulations of the assistant physician-dentist and dentist, based on the etiology, pathogenesis, clinical manifestations of dental and periodontal disease, oral mucosa pathology, methods of their treatment, as well as national and individual preventive measures to prevent the most common diseases.

**Interdisciplinary links:** medical practice for 5th year students of the Faculty of Dentistry is provided in the case when the student has acquired knowledge of human anatomy, histology, cytology and embryology, pathological anatomy, biological chemistry, microbiology, virology and immunology, pathomorphology, pathophysics pharmacology, internal medicine, sociology, as well as the main clinical disciplines (propaedeutics of therapeutic dentistry, therapeutic dentistry, propaedeutics of pediatric therapeutic dentistry, prevention of dental diseases), with which the program of medical practice is integrated. In turn, the practice forms the basis for further study by students of the disciplines of professional training - therapeutic dentistry, which involves integration "vertically" and the formation of skills to apply knowledge in the process of further study and in professional active

## **The purpose and objectives of the discipline**

**1.1. The purpose** of medical practice is to test and consolidate the knowledge and practical skills of a dentist, obtained by students in accordance with the draft Standard of Higher Education of Ukraine of the second (master's) level of higher education 22 "Health Care", specialty 221 "Dentistry".

**1.2. The main objectives** of the practical training are to be able to conduct the examination of the dental patient, to study the main syndromes and symptoms, to formulate the initial diagnosis; The ability to analyse the results of the examination of the patient and conduct a differential diagnosis, to make a residual diagnosis of the main diseases, Determine the nature of treatment in the clinic of therapeutic dentistry, identify different clinical variants and complications of the most widespread diseases, conduct medical examination of patients.

**1.3 Competences and learning outcomes**, the formation of which is facilitated by the discipline (relationship with the normative content of training of higher education, formulated in terms of learning outcomes in the Standard). According to the requirements of the Standard, the practice "Industrial medical practice in therapeutic dentistry" provides students with the acquisition of competencies:

- Integral: The ability to solve complex problems and problems in the field of health care in the specialty "Dentistry" in a professional activity or in the learning process, which involves research and / or innovation and is characterized by uncertainty of conditions and requirements.

- General:

1. Ability to abstract thinking, analysis and synthesis; ability to learn and be modernly trained.
2. Knowledge and understanding of the subject area and understanding of the profession.
3. Ability to apply knowledge in practical situations.
4. Ability to communicate in the state language both orally and in writing. Ability to communicate in another language.
5. Skills in the use of information and communication technologies.
6. Ability to search, process and analyze information from various sources.
7. Ability to adapt and act in a new situation; ability to work autonomously.
8. Ability to identify, pose and solve problems.
9. Ability to choose a communication strategy.
10. Ability to work in a team.
11. Interpersonal skills.
12. Ability to act on the basis of ethical considerations (motives).
13. Skills for safe activities.
14. Ability to evaluate and ensure the quality of work performed.
15. The desire to preserve the environment.

Special:

1. Collection of medical information about the patient's condition.
2. Evaluation of laboratory and instrumental research results.
3. Establishing a clinical diagnosis of dental disease.
4. Diagnosis of emergencies.
5. Planning and implementation of measures for the prevention of dental diseases.
6. Determining the nature and principles of treatment of dental diseases.
7. Determining the necessary mode of work and rest, diet in the treatment of dental diseases.
8. Performing medical and dental manipulations.
9. Treatment of major dental diseases.
10. Assessment of the impact of the environment on the health of the population (individual, family, population).
11. Keeping medical records.
12. Processing of state, social and medical information.
13. Ability to organize and conduct a screening examination in dentistry.
14. Ability to maintain normative medical documentation.
15. Processing of state, social and medical information.
16. Ability to organize and carry out rehabilitation measures and care for patients with diseases of the oral cavity.
17. The ability to legally support one's own professional activity.
1. The ability to provide pre-medical care according to the protocols of tactical medicine.

*- Professional competences of the specialty (FC):*

1. Ability to collect medical information about the patient and analyze clinical data.
2. Ability to interpret the results of laboratory and instrumental research
3. Ability to diagnose: determine preliminary, clinical, final, accompanying diagnosis, emergency conditions.
4. Ability to plan and carry out measures for the prevention of diseases of the organs and tissues of the oral cavity and maxillofacial region.
5. The ability to design the process of providing medical care: to determine the approaches, plan, types and principles of treatment of diseases of the organs and tissues of the oral cavity and maxillofacial region
6. The ability to determine a rational regimen of work, rest, and diet in patients in the treatment of diseases of the organs and tissues of the oral cavity and maxillofacial region.
7. The ability to determine the management tactics of patients with diseases of the organs and tissues of the oral cavity and maxillofacial region with concomitant somatic diseases
8. Ability to perform medical and dental manipulations.
9. The ability to treat the main diseases of the organs and tissues of the oral cavity and maxillofacial area.

10. Ability to organize and carry out medical evacuation measures.
11. Ability to determine tactics, methods and provision of emergency medical assistance.
12. Ability to organize and conduct a screening examination in dentistry.
13. The ability to assess the impact of the environment on the state of health of the population (individual, family, population).
14. Ability to maintain normative medical documentation.
15. Processing of state, social and medical information.
16. Ability to organize and carry out rehabilitation measures and care for patients with diseases of the oral cavity and MFS
17. The ability to legally support one's own professional activity.
18. Ability to provide pre-medical care according to the protocols of tactical medicine.

**Matrix of competences of the educational component  
Individual profile course of practical training "Prosthetic dentistry"**

<b>Program competencies</b>	Individual profile course of practical training "Prosthetic dentistry" <b>ED 2.9</b>
<b><i>General competences</i></b>	
<b>GK 1 Ability to abstract thinking, analysis and synthesis.</b>	+
<b>GC 2. Ability to learn and master modern knowledge.</b>	+
<b>GC 3 Ability to apply knowledge in practical activities.</b>	+
<b>GC 4 Knowledge and understanding of the subject area and understanding of professional activity.</b>	+
<b>GC 5 Ability to adapt and act in a new situation.</b>	-
<b>GC 6 Ability to make informed decisions.</b>	+
<b>GC 7 Ability to work in a team.</b>	+
<b>GC 8 Interpersonal skills.</b>	-
<b>GC 9 Ability to communicate in the state language both orally and in writing;</b>	+
<b>GC 10 Ability to communicate in a foreign language.</b>	+
<b>GC 11 Skills in using information and communication technologies.</b>	-
<b>GC 12 Determination and persistence in relation to assigned tasks and assumed responsibilities.</b>	-
<b>GC 13 The ability to act socially responsibly and consciously.</b>	-
<b>GC 14 Прагнення до збереження навколишнього середовища.</b>	-
<b>GC 15 The ability to act on the basis of ethical considerations</b>	-
<b><i>Professional competences</i></b>	
<b>PC 1 Ability to collect medical information about the patient and analyze clinical data.</b>	+

<b>PC 2</b> The ability to interpret the results of laboratory and instrumental research.	+
<b>PC 3</b> Ability to diagnose: determine preliminary, clinical, final, concomitant diagnosis, emergency conditions.	+
<b>PC 4</b> The ability to plan and carry out measures for the prevention of diseases of the organs and tissues of the oral cavity and maxillofacial area.	-
<b>PC 5</b> The ability to design the process of providing medical care: to determine the approaches, plan, types and principles of treatment of diseases of the organs and tissues of the oral cavity and maxillofacial area.	+
<b>PC 6</b> The ability to determine a rational regimen of work, rest, and diet in patients in the treatment of diseases of the organs and tissues of the oral cavity and maxillofacial area.	-
<b>PC 7</b> The ability to determine the management tactics of patients with diseases of organs and tissues of the oral cavity and maxillofacial area with concomitant somatic diseases.	+
<b>PC 8</b> Ability to perform medical and dental manipulations.	+
<b>PC 9</b> The ability to treat the main diseases of the organs and tissues of the oral cavity and maxillofacial area.	+
<b>PC 10</b> Ability to organize and carry out medical evacuation measures.	-
<b>PC 11</b> Ability to determine tactics, methods and provision of emergency medical assistance.	-
<b>PC 12</b> Ability to organize and conduct a screening examination in dentistry.	+
<b>PC 13</b> The ability to assess the impact of the environment on the state of health of the population (individual, family, population).	-
<b>PC 14</b> Ability to maintain regulatory medical documentation.	+
<b>PC 15</b> Processing of state, social and medical information.	+
<b>PC 16</b> Ability to organize and carry out rehabilitation measures and care for patients with diseases of the oral cavity and OMF.	+
<b>PC 17</b> The ability to legally secure one's own professional activity.	+
<b>PC 18</b> The ability to provide pre-medical care according to the protocols of tactical medicine.	+

## Detailing of competencies according to NQF descriptors in the form of "Competence Matrix".

### Competence matrix

№	Competence	Knowledge	Skills	Communication	Autonomy and responsibility
<b>Integral competence:</b> Ability to solve complex problems and problems in the field of health care in the specialty "Dentistry" in a professional activity or in the learning process, which involves research and / or innovation and is characterized by uncertainty of conditions and requirements					
<b>General competencies</b>					
1.	Ability to abstract thinking, analysis and synthesis; ability to learn and be modernly trained.	Know the current trends in the industry 22 "Health" and the indicators that characterize them .	Be able to analyze professional information, make informed decisions, acquire modern knowledge to improve the activities of a dentist. Be able to analyze professional information, make informed decisions, acquire modern knowledge to improve the activities of a dentist.	Establish appropriate communication links to achieve goals.	Be responsible for the timely acquisition of modern knowledge. Lifelong learning.
2.	Knowledge and understanding	Know the features of the professional	Be able to carry out professional activities that	To form a communication strategy in	Be responsible for continuous professional
	of the subject area and understanding of the profession.	activity of a dentist.	require updating and integration of knowledge.	professional activity.	development with a high level of autonomy.



3.	Ability to apply knowledge in practical situations.	Know the methods of implementing knowledge in solving practical problems of the professional activity of a dentist.	Be able to use professional knowledge to solve practical problems.	Establish links with the subjects of practical activities.	Be responsible for the validity of decisions.
4.	Ability to communicate in the state language both orally and in writing. Ability to communicate in another language.	Know the state language, including professional orientation. Know a foreign language at a level sufficient for professional communication.	Be able to use the state language and a foreign language for professional activities and communication.	Use language skills in the professional activity of a dentist.	Be responsible for the continuous improvement of knowledge of state and foreign languages.
5.	Skills in the use of information and communication technologies.	Have modern knowledge in the field of information and communication technologies used in professional activities.	Be able to use information and communication technologies in the professional field, which requires updating and integration of knowledge.	Use information and communication technologies to establish communication links.	Be responsible for the continuous development of professional knowledge and skills.
6.	Ability to search, process and analyze information from various sources.	Know the algorithm for searching, processing and analyzing information from various sources in the specialty 221 "Dentistry".	Be able to use the algorithm of search, processing and analysis of information from various sources in the professional activity of a dentist.	Use up-to-date information to establish communication links.	Be responsible for the continuous search, processing and analysis of information from various sources in order to improve professional activities.
7.	Ability to adapt and act in a new situation;	Know the methods of implementing knowledge in solving practical	Be able to use professional knowledge to adapt and act in a	Establish links with the subjects of practical activities.	Be responsible for the quality of professional tasks in the new

	ability to work autonomously	problems in new conditions.	new situation.		situation.
8.	Ability to identify, set and solve problems.	Know how to implement the knowledge in identifying, formulating and solving the problems of professional activity of a dentist.	To be able to use knowledge to identify, set and solve problems of professional activity.	Establish links with the subjects of practical activities in order to identify, set and solve problems of professional activity.	Responsibility for the validity of the decisions made on the solution of problems of professional activity.
9.	Diligence in selecting a communication strategy.	Know how to implement a strategy for communicating with patients and colleagues.	Be able to use the knowledge to choose a strategy for communication with patients and colleagues.	Be able to use the knowledge to choose a strategy for communication with patients and colleagues.	Be responsible for choosing a communication strategy with patients and colleagues.
10.	The willingness to work as part of a team.	Know how to interact collectively when working in a team.	Know how to work together productively during teamwork.	Formulate the capacity for professional communication during teamwork.	Be personally responsible for contributing to the team's work.
11.	Interpersonal skills and interpersonal communication.	Know how to communicate with colleagues and patients in an interpersonal way.	Be able to use the knowledge to choose a communication strategy for inter-relationship interaction.	Formulate a communication strategy in professional activities.	Be responsible for continuous professional development.

12.	The commitment to act on the basis of ethical considerations (motives).	Know the moral and ethical principles of the medical specialist and the rules of professional subordination.	Use in practice the moral and ethical principles of the medical specialist and the rules of professional subordination.	To respect the moral and ethical principles of the medical professional and the rules of professional subordination during professional activities.	To be personally responsible for upholding the moral and ethical principles of the medical specialist and the rules of professional subordination.
13.	Skills to carry out safe work.	The ability to assess the level of risk in the performance of professional tasks.	Be able to carry out professional activities in compliance with safety regulations.	Ensure that professional work is carried out in a professional manner work in compliance with safety rules.	To be personally responsible for complying with safety rules when carrying out professional tasks.
14.	The performance of the work must be evaluated and the quality of the work carried out must be ensured.	The competence to assess and ensure quality in the performance of professional tasks.	Know the methods for assessing performance indicators.	Establish communication links to ensure the quality of work.	Be personally responsible for ensuring the quality of professional performance professional activity.
15.	A commitment to the preservation of the natural environment.	The capacity to assess the state of the environment.	To be able to analyse indicators of the quality of the environment, to take part in measures to preserve and improve it.	Use communicative communication to improve efficiency and conservation of the environment. Environmental protection.	To be personally responsible for the environmental protection rules in the performance of professional tasks.
<b>№</b>	<b>Competence</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Communication</b>	<b>Autonomy and responsibility</b>
<i>Special competences</i>					

1.	Gathering medical information about the patient's condition.	Know the algorithm for collecting medical information about the patient's condition by the dentist at the therapeutic appointment.	Know how to describe and identify the main problems, assess the general condition and determine the patient's dental status.	Adhere to ethics, bioethics and deontology during the anamnesis.	To be responsible for the good performance of the tasks assigned.
2.	Evaluating the results of	Structure of hard tissues of the	Evaluate the condition of the	Be able to explain and	Be responsible for the

	laboratory and instrumental investigations.	tooth, pulp, periodontium, organs and mucous membrane of the cavity, changes in them, associated with age and pathological conditions. Clinical and anatomical features of the structure of teeth, signs of relevance to the appropriate slit, sides. Biochemical, microbiological composition of plums, oral fluid, their biophysical properties and remineralizing potential. Methods for determining the length of the root canal.	teeth, periodontium, organs and mucous membrane of the mouth. Determine whether the teeth belong to the same group, side (right, left), upper or lower slit. Evaluate and interpret the results of biochemical, biophysical, microbiological examinations of the oral mucosa and its remineralising properties. Evaluate the color, the condition of the tooth tissue in normal conditions, demineralization , etc. To determine the length of the root canal using various methods.	explain the changes in the condition of the teeth, periodontium, organs and mucous membranes of the mouth, the mucosa of the mouth and the oral cavity to the patient and colleagues.	correctness and accuracy of the evaluation of laboratory and instrumental methods of investigation.
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3.	Establishing a clinical diagnosis of a dental disease.	1. Have specific knowledge of the diagnostics of dental diseases specified by the standard of higher education. 2. Classification of carious diseases according to Blek.	1. Identify and identify the main clinical symptoms and syndromes, using the patient's history, examination data, knowledge of the human body, its organs and systems, and establish the initial clinical diagnosis of the dental disease.	Establish communication links to ensure the quality of the diagnostic process.	Be responsible for the results of the diagnosis of dental disease. Be responsible for providing the appropriate knowledge and skills.
		3. Clinical features of the anatomic and histological structure of the teeth. 4. Topography of dental tissues and structures. 5. Dental formulas.	2. Determine whether the carious lesions belong to a certain class according to Blek. 3. Evaluate the extent of carious damage, dental tissues condition. 4. Mark the teeth with different dental formulas.		
4.	Diagnosis of non-critical conditions.	Diagnosis of non-critical conditions at a dental appointment.	Have specialised knowledge of the diagnosis of non-injurious conditions as defined by the Higher Education Standard.	Perform diagnosis of non-injurious conditions according to standard schemes.	Determine tactics for emergency medical care according to the algorithm.

5.	Planning and carrying out preventive measures against dental diseases.	To know the principles of prevention of dental diseases and their complications. Knowledge of the basic principles of hygienic education and education of the population.	Be able to plan measures to prevent the spread of dental diseases and evaluate their effectiveness. Plan primary and secondary prevention of the most common dental diseases in children of different ages.	Be able to explain and substantiate the principles of prevention of dental diseases and their complication to the patient, colleagues.	To be responsible for the correctness and accuracy of dental disease prevention measures.
			Carry out prophylactic measures for the main dental diseases.		
6.	The nature and principles of the treatment of dental diseases.	Knowledge of algorithms for determining the nature and principles of treatment of dental diseases of the therapeutic patients.	To be able to practically use treatment protocols to determine the nature and principles of the treatment of therapeutic patients.	Be able to explain and justify the choice of treatment principles for dental diseases to the patient, colleagues.	To be responsible for the correctness and accuracy of the treatment of dental diseases.

7.	Identification of the necessary working and resting regimen, diet in the treatment of dental diseases.	To commit to healthy lifestyles, personal hygiene and to implement them in health care practices.	To be able to analyse the health status of a given population, based on official data, by comparing it with statistical averages. Based on data on environmental conditions, foodstuffs, leisure and work regime, the health status of the contingent, identify the link between them.	Establish communicative links to ensure a good working and rest time regime, diet in the treatment of dental diseases.	To be responsible for ensuring that you have the appropriate knowledge and skills for the work and rest time regime, diet in the treatment of dental diseases.
8.	Performing medical and dental procedures.	1.Methods and techniques for the treatment of various classes of cavities according to Black. 2.Composition, properties, indications for the use of filling materials for permanent and	1.Repeat the treatment of carious cavities in different ways with classic and minimally invasive techniques. 2.Fill carious cavities of grades I to V according to	Be able to select methods and carry out individual treatment steps in a well-grounded manner.	To be responsible for the acquisition of relevant knowledge and skills.



		temporary fillings, treatment pads and techniques for their use. 3.Clinical peculiarities of the structure of the cavity of the tooth and root canals. 4.Composition, properties, indications for the use of root canal filling materials (sealers and fillers).	Black with materials of different groups. 3.Trepanning of crowns of teeth of different groups, amputation, pulp extirpation, removal of cavities, instrumental and medicamentous treatment of root canals and their filling by different methods and groups of sealers for the purpose.		
9.	The treatment of basic dental diseases.	Knowledge of protocols for the treatment of dental diseases of patients in the therapeutic area with odontopathology.	To be able to practically apply treatment protocols in dental patients with a therapeutic profile.	Know how to explain and justify the treatment of dental diseases to the patient, colleagues. accurately.	Be responsible for the treatment of general dental patients with odontopathology

### Learning outcomes:

Integral and final programme learning outcomes, which are shaped by the discipline:

Completion of "medical practice" forms the basis for the formation of further practical part of the program results of training in accordance with the standard of higher education of Ukraine for undergraduate training of specialists of the second (master) level specialty 221 "Dentistry:

1. Gather information about the general state of the patient, assess the psychomotor and physical development of the patient, the condition of the palpebral-facial area, based on the results of laboratory and instrumental examinations to evaluate the information about the diagnosis.

2. Identify and identify the leading clinical symptoms and syndromes; using standard methods, using the previous history of the patient, examination of the patient, knowledge of the person, its organs and systems, establish a virogynous nosological preliminary clinical diagnosis of dental disease.

3. Recognize and analyze laboratory, functional, and/or instrumental examinations of patients with dental disease for differential diagnosis of diseases.
4. Establish a residual clinical diagnosis according to appropriate ethical and legal standards by rendering an informed decision and logical analysis of the obtained subjective and physical findings, Additional examinations, differential diagnostics under the supervision of a medical supervisor in a treatment setting.
5. Determine the diagnosis of non-disabling conditions in the treatment setting.
6. Plan and implement preventive measures of dental diseases in the population to prevent the spread of dental diseases.
7. To analyse epidemiological state and conduct mass and individual, general and local medical and non-medicinal prophylaxis of dental diseases.
8. Determine the nature of treatment of dental disease by taking an informed decision according to the current algorithms and standard schemes.
9. Determine the nature, principles of the work regime, rest and necessary diet in the treatment of dental diseases on the basis of the previous or residual clinical diagnosis.
10. To carry out treatment of the main dental diseases according to the current algorithms and standard schemes under the control of the medical supervisor in the conditions of the treatment facility.
11. Analyse and evaluate public, social and health information using standard approaches and computer-based information technology.
12. Evaluate the impact of the environment on the health of the population in the medical institution according to standard methods.
13. Determine the tactics of providing emergency medical care, using the recommended algorithms, under any circumstances based on the diagnosis of an emergency condition in limited time (according to list 4).
14. Analyze and evaluate government, social and medical information using standard approaches and computer information technologies.
15. Assess the impact of the environment on the state of health of the population in the conditions of a medical institution according to standard methods.
16. To form goals and determine the structure of personal activity based on the result of the analysis of certain social and personal needs.
  17. Follow a healthy lifestyle, use self-regulation and self-control techniques.
  18. To be aware of and be guided in one's activities by civil rights, freedoms and duties, to raise the general educational cultural level.
  19. To comply with the requirements of ethics, bioethics and deontology in their professional activities.
  20. To organize the necessary level of individual safety (own and the persons he cares for) in case of typical dangerous situations in the individual field of activity.
  21. Perform medical manipulations on the basis of a preliminary and/or final clinical diagnosis (according to lists 2, 2.1) for different segments of the population and in different conditions (according to list 6).
  22. Perform medical dental manipulations on the basis of a preliminary and/or final clinical diagnosis (according to lists 2, 2.1) for different segments of the population and in different conditions (according to list 7).

23. Perform emergency medical aid manipulations using standard schemes under any circumstances based on the diagnosis of an emergency (according to list 4) in limited time (according to lists 6, 7).

Upon completion of the practical training "Medical Practice in Therapeutic Dentistry" students will be able to know:

- clinical features of anatomic and histological structure of teeth, periodontium, mucous membrane and mouth cavity organs;
- Basic methods of examination of dental patients;
- Clinical signs of dental diseases of hard tissues and periodontium;
- Basic clinical and biochemical indices of the human organism biologic standards;
- Principles of differential diagnostics of dental diseases;
- Principles and stages of treatment of dental diseases;
- Types, levels and prophylactic measures for diseases of the oral cavity;
- Tactics, algorithms of emergency medical aid at dental appointments.

skills:

- Carry out examination of a dental patient;
- establish and formulate the initial diagnosis;
- Carry out the differential diagnosis;
- Analyze the results of the examination of the patient;
- Make a clinical diagnosis of the main diseases;
- Detect and identify manifestations of somatic diseases in the oral cavity.

### PROGRAM LEARNING OUTCOMES

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12	PLO 13	PLO 14	PLO 15	PLO 16	PLO 17	PLO 18	PLO 19	PLO 20	PLO 21	PLO 22	PLO 23
ED 2.9	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	+	+	+	+	+

### 2. Informative scope of practice "Medical Practice in Therapeutic Dentistry".

3 weeks are set aside for the production practice of therapeutic dentistry at the 5th year of study.

### 3. Structure of educational discipline "Medical Practice in Therapeutic Dentistry"

Name of practice	Number of weeks	Number of credits / hours	Year of study / semester	Type of control

"Medical Practice in Therapeutic Dentistry"	3	5/150	V year/ IX semester	Differentiated Credit
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**4. The topics of the lectures** are not part of the curriculum.

**5. Topics of seminars** - not required by the curriculum.

## 6. The themes of practical classes:

№	Topic	Hours	Date	Note on the charging	Signature of the Head of Practice
1	Ergonomics. Aim and tasks of Ergonomics. Instructions on safety measures during the work. Clinical anatomy and histology of the dental hard tissues. Physiology of the dental hard tissues. Tooth embryogenesis.	6			
2	Modern aspects of etiology and pathogenesis of dental caries. Diagnosis, treatment, and prevention of caries.	5			
3	Modern filling materials. Treatment of caries. Peculiarities of teeth restoration. Rubber-dam. Working out practical skills.	6			
4	Modern filling materials. Composites. Glass-ionic cements. Compomers. Cermets. Enamel-dentin adhesives. Patient's treatment. Treatment of the caries and non-cariou defects. Peculiarities of teeth restoration. Rubber-dam. Post-systems, inlays, veneers in restorative treatment. Treatment of patients.	6			
5	Pharmacodynamics of the medications, which are used in therapeutic dentistry. Prescriptions.	6			
6	Endodontics. Morphological aspects (roots canal anatomy). Clinic and diagnostic of the pulpitis.	6			
7	Main principles of endodontic treatment.	5			
8	Modern endodontic instrumentation, its classification.	6			

9	Principles of diagnostic, treatment, and prevention of the apical periodontitis. Endo-periodontal surgery. Practice of practical skills.	6			
10	Anatomical-morphological and physiological peculiarities of the periodontium.	6			
11	Complex examination of patients with periodontal diseases.	5			
12	Modern ideas on etiology and pathogenesis of the periodontal disease. Classification of the periodontal diseases. Clinical-morphological peculiarities of the main stages of generalized periodontitis.	6			
13	Complex treatment and prevention of periodontal disease. Organization of patients care in periodontal pathology. Patient's treatment.	6			
	Total	75			

**7. Laboratory occupations** - not required by the curriculum

**8. Independent work** - not required by the curriculum

**9. Individual tasks** - not required by curriculum

**10. Out of class work**

Keeping a diary of medical practice (Appendices 1-5), which is filled by the student every day and signed by the attending after the completion of the self-study part of the work of the student in the dental clinic. At the end of the practice the student completes a summary report on the work performed.

The student must acquire the following practical skills during the practical training in therapeutic dentistry at dental clinics:

1. The competence to prepare the dental unit, working place, dental instruments, filling materials, equipment for the work of a dentist in a therapeutic office.

2. To be able to perform the examination according to the algorithm. Recording a dental form.

3. Know the safety rules of working in a dental office.

4. To be able to provide unaided assistance in case of indifference, shock, allergic reactions, hypertonic crisis of the patient at the dental appointment.

5. To be able to conduct a subjective examination of the patient at the dental appointment with the dentist-therapist: The examination (history, medical history, medical history of the disease) and the physical examination (examination of the patient, examination of the cavity of the mouth, oral cavity, teeth, place of disease (the causal tooth), palpation, percussion, palpation of oral cavity mucosa in the projection of the upper root of the causal tooth, palpation of regional lymph nodes, thyroid gland.

6. Be able to evaluate the results of the examination.

7. Be able to perform and evaluate the findings of additional examination methods: thermodiagnosis, X-ray diagnosis, electro-odontodiagnosis, oral examination, luminescence diagnostics, transilluminal diagnostics.

8. Be able to perform and evaluate the data of diagnostic tests: for preoperative, with anesthesia, identification of trigger zones, examination of places of peripheral branches of the trigeminal nerve (Valle points).

9. Determine the acidity of dental enamel using the TER test. Evaluate the data obtained

10. Determine the index of the oral cavity (Fedorov-Volodkina, Grin-Vermillion).

11. Know how to use the dental chart of the patient.

12. To be able to select the most appropriate method for the treatment of periodontal disease using new materials, techniques and technologies.

13. Analyze long-term results of periodontal pathology treatment

**A list of theoretical questions for the summary examination:**



1. Safety rules for work in the dental office.
2. Emergency treatment in cases of nondisability, shock, allergic reactions, hypertonic crisis.
3. Substantive examination of the patient: history and history of illness and life.
4. Clinical examination of the dental patient, using basic and additional examination methods.
5. Examination of cervical lymphatic nodes and thyroid gland, their palpation.
6. Palpation, probing, percussion.
7. Dental formulas: recognition and designation. Record of clinical (graphical and binary systems) and anatomical dental formulas.
8. Additional methods of examination of the patient with odontopathology (thermiodiagnostics, electroodontiodiagnostics, caries-marking).
9. Medical documentation.
10. Determination of the Fedorov-Volodkina, Green-Vermillion hygienic index and assessment of the oral cavity hygienic status.
11. Treatment plan of the patient for caries, pulpitis, periodontitis.
12. Radiological and laboratory examination methods.
13. Splinting (applique, inactive) of dental hard tissues and the pulp.
14. Steps of preparation of Bleck's carious cavities of grade 1-5, carious cavities for composite filling materials, atypical carious cavities.
15. Renovation of the anatomic tooth shape with composite filling materials for non-carious dental hard tissue damages (erosion, clinopodibular defect, hypoplasia, etc.).
16. Physical methods during complex treatment and prophylaxis of caries and non-carious lesions.
17. Non-emergent support to the patient with acute septic pulpitis.
18. Mechanical treatment and enlargement of the root canals by step-back, crown-down techniques.
19. Medical treatment of the root canals.
20. Determination of root canal length.
21. Filling the root canals with plastic non-solid, plastic solid materials and with gutta-percha pins.
22. Removal of root canals.
23. Grinding and polishing the permanent fillings of various filling materials.
24. Removal of dental plaques.
25. Evaluation of the effectiveness of hygiene of the oral cavity.
26. Differential diagnosis of caries.
27. Differential diagnosis of pulpitis and periodontitis.
28. Choice of optimal method of treatment of disease, pulpitis, periodontitis using new materials, methods and technologies.
29. Distant results of treatment of disease, pulpitis, periodontitis.
30. Recommendations for oral cavity hygiene taking into account the individual characteristics of the patient.

31. Anatomy, histology, physiology of periodontal tissues (jaw, alveolar process, periodontium, root cementum). Mechanisms of protection. Safety techniques during work in the office of the therapeutic dentistry.
32. Periodontium. Definition of the concept. Clinical morphofunctional features of periodontium.
33. Tooth-endodontium. Temporal changes of periodontal tissues.
34. Modern views on systematization of periodontal disease. Terminology, classification.
35. Specific features of clinical examination of patients with periodontal pathology. Basic clinical methods.
34. Index evaluation of periodontal tissues state.
35. Methods of examination of the bone tissue of the alveolar process.
36. Laboratory methods of examination used in patients with periodontal tissue pathology.
37. Functional testing methods used in patients with periodontal tissue pathology.
38. Mechanism of occurrence of over- and underlying dental plaques, their influence on periodontal tissue conditions and methods of their elimination.
39. Papillitis. Catarrhal Gingivitis. Etiology, pathogenesis, classification, diagnosis, differential diagnosis.
40. Treatment of catarrhal gingivitis.
41. Hypertrophic Gingivitis. Etiology, pathogenesis, classification, treatment, diagnosis, differential diagnosis.
42. Treatment of Hypertrophic Gingivitis.
43. Gingivitis syndrome. Etiology, pathogenesis, classification, treatment, diagnosis, differential diagnosis.
44. Treatment of disseminated gingivitis.
45. Atrophic and desquamative gingivitis.
46. Significance of spontaneous gingivitis in the initiation of periodontitis. Prophylaxis of gingivitis.
47. Localized periodontitis. Etiology, pathogenesis, classification, diagnosis, differential diagnosis, treatment and prophylaxis of localized periodontitis.
48. Etiology, pathogenesis of dystrophic and inflammatory diseases of periodontal tissues. Role of local and general factors.
49. Generalized periodontitis. Classification. Main syndromes of periodontitis.
50. Clinical and morphological characteristics of the particular severity levels of generalized periodontitis.
51. Analysis of data of the additional methods of examination of the patients with generalized periodontitis.
52. Differential diagnostics of generalized periodontitis.
53. General principles and treatment plan for generalized periodontitis patients. Creation of a treatment plan.
54. Elimination of local exogenous factors of periodontal tissue damage. Vibrational resurfacing of the teeth. Indications. Methods of treatment.
55. Treatment of symptomatic gingivitis. Usage of medical products for local therapy: mechanism of action, methods of application, depending on the form and the course of symptomatic gingivitis.
56. Periodontal connections. Types. Indications for use.

57. Surgical methods of treatment of generalized periodontitis (curettage, wingiwotomii, wingiwectomii). Indications, methods.
58. Differential diagnosis of periodontal disease.

59. Orthopedic treatment in complex treatment of generalized periodontitis. Methods of fixation of root teeth. Temporary splinting. Indications. Methods of treatment.

60. General pharmacotherapy of generalized periodontitis. Indications. Medicinal preparations.

61. Periodontosis. Etiology, pathogenesis. Clinic, diagnosis, treatment.

62. Methods of elimination of hyperesthesia.

63. Idiopathic periodontal diseases. Clinic, diagnosis, differential diagnosis, treatment principles.

64. Periodontal tissue plaques. Etiology, treatment principles, diagnosis and treatment.

65. Specific features of periodontal tissue treatment of patients with pathologies of internal organs and systems.

66. Mistakes and complications during diagnosis and treatment of periodontal disease.

67. Organization of the physical therapy room. Indications, counter-indications for use, treatment methods. Methods of physical therapy treatment.

68. Laser therapy in periodontal diseases.

69. Prophylaxis of periodontal tissue diseases. Etiologic and pathogenetic prophylaxis measures. Disease control of the patients.

70. Stages and criteria of periodontal disease surveillance

### 11. Teaching methods:

- Verbal (lecture, explanation, narration, conversation, instruction);
- Extramural (observation, illustration, demonstration);
- Practical (practice to develop skills and competences);
- Independent work of students in comprehension and assimilation of new material.

### 12. Control methods

Practical verification of the formed professional skills. Conducted according to the results of the practical skills, each of which is evaluated depending on the level of performance from 3 to 5 points.

Criteria for evaluating the performance of practical skills:

- performance of the practical skills without failures - 5 points,
- the practical skills completed with some faults corrected by the student - 4 points,
- Completion of the practical skills with the shortcomings coordinated by the teacher - 3 points,
- not completing the practical skills - 0 points.

№	Skill title, practical skills	Assessment in scores
1.	Know how to perform an active, targeted anamnesis in patients with periodontal disease.	<b>3-5</b>
2.	Be able to perform a clinical examination of a patient with periodontal pathology, be able to correctly formulate a history of the disease, make a plan for the examination and treatment of the patient.	<b>3-5</b>

3.	Identify the hygienic indexes (according to Fedorov-Volodkina, Grin-Wermillion) and evaluate them	<b>3-5</b>
4.	Identify the Silness-Loe index; PMA; PI; CRTN; bleeding index; Pissariev-Schiller test and be able to analyse them.	<b>3-5</b>
5.	Conduct these additional examinations of the patient and be able to evaluate them: 1. EPT; 2. Allergy testing; 3. Thermoelectrothermia.	<b>3-5</b>
6.	Know how to analyse and assess the condition of the alveolar bone in terms of orthopantomograms, panoramic radiographs, echosteometry.	<b>3-5</b>
7.	Be able to determine the depth of the periodontal intestines and their volume. Be able to determine the degree of tooth rugosity.	<b>3-5</b>
8.	Be able to analyse and evaluate the results of bacteriological and cytological intestinal tests, immunological tests, clinical blood tests, blood glucose tests.	<b>3-5</b>
9.	Compose a periodontogram of a patient with periodontitis (by determining the depth of the periodontal gut).	<b>3-5</b>
10.	Master the technique of removal of dental deposits using hand-held instruments.	<b>3-5</b>
11.	Master the technique of extracting dental deposits with electromechanical instruments (sonic and ultrasonic).	<b>3-5</b>
12.	Master the technique of medication treatment of the damaged areas of the periodontal tissues (irrigation, applications, intilations).	<b>3-5</b>
13.	Know how to make and apply connections that do not harden.	<b>3-5</b>
14.	Know how to prepare and apply a hard periodontal bond.	<b>3-5</b>
15.	Know the special features of the stages of treatment of bacterial gingivitis.	<b>3-5</b>
16.	Know the special features of the stages of treatment of Hypertrophic Gingivitis.	<b>3-5</b>
17.	Know the specificities of the stages of surgical treatment of periodontal disease.	<b>3-5</b>
18.	Master the technique of vibrofilling and smoothing of the occlusal surfaces of the teeth.	<b>3-5</b>
19.	Know how to perform a closed curettage of the periodontal pocket.	<b>3-5</b>
20.	Master the technique of extradental splinting of movable teeth.	<b>3-5</b>
21.	Master the technique of intradental splinting of movable teeth.	<b>3-5</b>
22.	Carry out a re-mineralisation therapy session on the exposed roots of the teeth.	<b>3-5</b>
23.	Know how to administer physiotherapeutic treatment for periodontal disease.	<b>3-5</b>
24.	Teach the forms and methods of health education	<b>3-5</b>

**Forms of in-progress control:**

1. Oral examination (frontal, individual, combined), discussion.
2. Practical verification of formed professional skills. Conducted according to the results of practical work at the end of the class. 3.
3. Test control.

### **13. Form of summary control of learning success**

A final control (differential assessment) of the medical internship is carried out after the last day of the internship and includes the completion of test tasks of varying complexity by the student

### **14. Scheme of calculation and distribution of scores, which are received by students:**

Forms of control and evaluation system are carried out in accordance with the requirements of the program of production medical practice for students of the 4th year of the Faculty of Dentistry.

The grade for the referenced hall is defined as the sum of the marks received by the student for the practical skills (in points) and the assessment of the post-summary control (in points). The total student earns 200 points, including 120 points for the practical skills - 120 points, for the results of the summary control - 80 points.

The final control is carried out in accordance with the results of the training. One of the activities of students and its control by the practice supervisor is the maintenance of the practice diary of medical practice (Appendices 1-5). The diary is the main document for the period of medical practice, including its protection. Students are obliged to record every day in the practice diary everything done during the day. It also includes a general sequence of community work (issuing sanitary bulletins, writing essays, conducting talks in organized teams, etc.).

At least two times a day the student must submit the application for review to the assistant (associate professor) - head of industrial practice of the department and every year - to sign the indirect supervisor (doctor from the medical institution).

After completing the practice, the student completes a summary report on the work performed. Upon completion of the practical training, making a digital and textual report to the student is issued a characteristic and review of the Code, which are signed by the supervisor of the practice and the head physician. When writing the characteristic, the following indicators should be included: level of theoretical training, mastery of practical skills, knowledge of prescribing, adherence to the basics of deontology and ethics, student's attitude to mastery of practical skills. The characteristic must be sealed with a stamp of the medical institution where the medical practice was carried out. The presence of the completed according to the form and signed by the head of the practice and the summary statement is indispensable for the admission of the student to the differentiation hall.

Sanitary-educational work (issuing sanitary bulletins, holding talks, abstracts) is evaluated as an individual work of the student.

The grade is determined according to Table 1.

Students who have attended all working days and 100% completed the requested number of practical skills, learned them in written form and answered the questions on the content of the Student Guide with 72 points (which is 60%) of the maximum 120 points are admitted to the final control.

Midpoint of the final success rate on a traditional 4-point scale	Score for the current success rate after converting the midpoint	Midpoint of the final success rate on a traditional 4-point scale	Score for the current success rate after converting the midpoint
2,00	0	3,55	85
2,05	49	3,60	86
2,10	50	3,65	87
2,15	52	3,70	89
2,20	53	3,75	90
2,25	54	3,80	92
2,30	55	3,85	93
2,35	56	3,90	94
2,40	58	3,95	95
2,45	59	4,00	96
2,50	60	4,05	97
2,55	61	4,10	98
2,60	62	4,15	99
2,65	64	4,20	101
2,70	65	4,25	102
2,75	66	4,30	103
2,80	67	4,35	104
2,85	69	4,40	106
2,90	70	4,45	107
2,95	71	4,50	108
3,00	72	4,55	109
3,05	73	4,60	110
3,10	74	4,65	111
3,15	75	4,70	113
3,20	77	4,75	114
3,25	78	4,80	115
3,30	79	4,85	116
3,35	80	4,90	118
3,40	82	4,95	119
3,45	83	5,00	120
3,50	84		

**The final control of medical practice**, which is carried out in the form of a differentiated credit accepted by the responsible teachers, requires the student to perform 80 test tasks.

The maximum number of points a student may receive during the test control is 80.

The final test will be deemed passed if the student scores at least 50 points.

The points can be added to the number of points in the production practice for students who



have scientific publications or won prizes for participation in the Olympics of Ukraine in the disciplines that are included in the practice and others.

**Conversion** of the number of points from the production practice into the marks according to the ETSU and 4-ball (traditional) scales.

The number of points from the discipline awarded to students is converted to the ETS scale as follows:

Evaluation of the ECTS	Statistical indicator
A	Top 10% of students
B	Next 25% of students
C	Incoming 30% of students
D	Incoming 25% of students
E	Remaining 10% of students

The number of students is determined by the electorate for the students of the course within the boundaries of the respective speciality.

The number of discipline points awarded to students is converted into a 4-point scale as follows:

Evaluation of the ECTS	Rating on a 4-point scale
A	«5»
B,C	«4»
D,E	«3»
FX, F	«2»

The FX grade ("2") is given to the students who scored the minimum number of points for the in-service training activities, but did not complete the summary module control. They have the right to repeat the summary modular control not more than two (2) times according to the schedule approved by the Rector.

Students who received a grade of F at the end of medical internship (did not complete the training program or did not get the minimum number of points for the current training activity) have the right to repeat the training. The decision is made by the head of the HEI in accordance with the regulations approved in the established order.

### 15. Methodological support:

- Work plan and programme of practical training;
- The students' practical and self-study work plans;
- Guidelines and methodology for the teacher;
- Guidelines for practical exercises for students;
- methodological materials to ensure students' self-study;
- Tests and control tasks for the practical exercises;
- Topics and tasks for the control of the unit;
- The list of theoretical topics and tasks for practical skills testing during the summary module control.

### 16. Recommended literature

#### Basic:

1. Nikolyshyn A.K. Therapeutic dentistry /A.K. Nikolyshyn: a textbook is for the students of dental faculties of higher medical educational establishments of IV level of accreditation in two volumes, T.I.-Poltava: Divosvit, 2005.- 392 p.

2. Borovskiy E.V. Therapeutic dentistry: a textbook is for the students of dental faculties of higher medical educational establishments.- M.: Med. Inform, agency, 2006.- 840 p.
3. Nikolysyn A.K. Therapeutic dentistry /A.K. Nikolysyn: a textbook is for the students of dentistry faculties of higher medical educational establishments of IV level of accreditation in two volumes, TJI.-Poltava: Divosvit, 2007.- 280 p.
4. Preclinical course of therapeutic dentistry: course of lectures /L.O. Tsvykh, O.A. Petryshyn, V.V Kononenko, M.V.Hysyk-Lviv, 2002.-159p.
5. The methodological manual for practical of therapeutic dentistry /L.O.Tsvykh, O.A. Petryshyn, V.V. Kononenko, M.V. Hysyk.- Lviv, 2003.- 98 p.
6. S. Hussain. Textbook of Dental Materials // Printed of Gopsan Papers Ltd.- NewDelli,2004.-475p.
7. T.M. Robertson, H.O. Heymann, E.J. Swift. Sturdevant's Art & Science of Operative Dentistry 4<sup>th</sup>Edition-Mosby, 2002-947p.
8. WJ. O'Brien. Dental Materials and their selection // Quintessence Publishing.-Chicago, Berlin, Tokyo, Copenhagen, London, 2002,- 418 p.
9. James B. Summitt, J. William Robbins, Richard S. Schwartz. Fundamentals of Operative Dentistry (second edition) // Quintessence Publishing, 2001.

#### **Additional:**

1. Atlas of microanatomy of organs of oral cavity of/LA. Lutsik, VF. Makeev, A.M. Yashchenko, O.E. Zavadka, Yu.V. Makeeva, YuYa. Kryvko.- Lviv: Nautilus, 1999.-208 p.
2. Nikolysyn A.K. Therapeutic dentistry /A.K. Nikolysyn: a textbook for the students of dental faculties of higher medical educational establishments of IV level of accreditation in two volumes, T.I.- Poltava: Divosvit, 2005.- 392 p.
3. Dmitrieva AA. Therapeutic dentistry.(M.: Medpress-inform, 2003.) 896 p.
4. Pediatric dentistry (Editor prof. L.O. Khomenko).( K.: Book plus, 1999.)524 p.
5. Therapeutic dentistry (Editor Yu.M. Maksimovskij).- M.: Medicine, 2002-640 p.
6. Preclinical course of therapeutic dentistry /E.A. Skorikovaj V.A. Volkov, N.P. Bazhenova, N.V. Lapina, I.V. Erechev,- Rostov.: Feniks, 2002.- 640 p.
7. Clinical endodontics: a textbook /Leif Tronstad.- 3rd' rev. ed.- New Yourk, 2009- 249 p.
8. Stephen Cohen, Richard C Burns. Pathways of the pulp. Eighth edition.- Mosby,2002.-1031p.
9. Fan B, Wu M-K, Wesselink PR. Leakage along warm gutta-percha fillings in the apical canals of curved roots. Endod Dent Traumatol 2000;16:29-33.
- 10.Glosson CR, Haller RH, Brent Dove S, del'Rio .CE. Comparison of root canal preparations using NiTi hand, NiTi engine-driven and K-flex endodontic instruments. J Endod 1995;21:146-51.
- 11.Molven O, Halse A, Grung B. Surgical management of endodontic failures: indications and treatment results. Int Dent J 1991;41:33-42.
12. Seltzer and Bender's. Dental pulp // Quintessence Publishing, 2002.

## 17. Information resources

1. Official website Danylo Halytsky Lviv national medical university:

<http://www.meduniv.lviv.ua/>

2. Electronic information resources University Library:

- Library Catalogue.

- Directory Information sources: encyclopedias, reference books, dictionaries.

- Educational electronic publications and resources: Materials containing organic material within the framework of the course.

2. Information on the Web:

- <http://obkmed.by/stomatologiya/propedevtika-stomatologicheskikh-zabolevanij-skorikova-1-a.html>

[http://dentalss.org.ua/load/Imiga\\_stomatologia/obshhaja\\_stomatologija/propedevtika\\_stomatologicheskikh\\_zabolevanij/6-1-0-422](http://dentalss.org.ua/load/Imiga_stomatologia/obshhaja_stomatologija/propedevtika_stomatologicheskikh_zabolevanij/6-1-0-422)

<http://vAvwJibrai.gov.ua/novi-nadkhodzhenia/stomatolohiia-eds-m-m-rozhok-liber-2/802-stomatolohiia-eds-m-m-rozhok-liber-2>

- <http://www.booksmed.com/stomatologiya/153-terapevticheskaya-stomatologiya-borovskij.html>