

NATIONAL PIROGOV MEMORIAL MEDICAL UNIVERSITY, VINNYTSIA

«APPROVE»

Acting rector of higher education institution
_____ professor of HEI

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« 31 » 08 2023 y.

«AGREE»

Head of Therapeutic Dentistry Department
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SHINKARUK-DYKOVYTSKA

« 28 » 08 2023 y.

SYLLABUS

OF EDUCATIONAL DISCIPLINE

THERAPEUTIC DENTISTRY (3 course)

Specialty	221 Dentistry
Educational level	Master
Educational program	EPP «Dentistry», 2022
Academic year	2023-2024
Department	Therapeutic Dentistry
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Syllabus developer	Nataliia GADZHULA, Candidate of Medical Sciences, Associate Professor Lina KOVALCHUK, Candidate of Medical Sciences, Associate Professor

1. Status and structure of the discipline

Discipline status	Obligatory
Discipline code in EPP / discipline place in EPP	OK 31 // discipline of professional training
Course, semester	3 course (V and VI semesters)
Scope of the discipline (total number of hours / number of ECTS credits)	180 hours / 6 credits ECTS
Number of content modules	4 modules
The structure of the discipline	Lectures – 16 Practical classes - 104 hours Independent work - 60 hours
Teaching language	English
Form of study	Full-time (or on-line by order)

2. Description of the discipline

Short annotation of the course, relevance

The subject of study of the discipline in the second year of study are the etiology, pathogenesis, clinical manifestations of dental diseases of carious and non-carious origin, as well as endodontic diseases, methods of treatment, as well as national and individual preventive measures.

The program focuses on knowledge about the etiology, pathogenesis, clinical manifestations of dental diseases of carious and non-carious origin, endodontic diseases, methods of their treatment, as well as national and individual preventive measures, skills of examination of dental patients with odontopathology, detection of syndroms and symptoms, substantiation and formulation of the preliminary diagnosis; ability to analyze the results of examination of a dental patient and make a differential diagnosis, make a final diagnosis of major diseases of the hard teeth tissues and endodontics, determine the nature and principles of treatment of odontopathology, identify different clinical variants and complications of these diseases, their primary and secondary prevention.

Prerequisite

- Human anatomy (clinical features of the structure of teeth, periodontium, oral mucosa and oral organs)
- Histology, cytology and embryology (histological features of the structure of teeth, periodontium, oral mucosa and oral organs, embryogenesis of oral organs)
- Bioorganic and biological chemistry (biochemical and biophysical processes in hard and soft tissues of the oral cavity)
- Pathological anatomy (pathomorphological signs of diseases of the oral cavity)
- Physiology (physiological processes occurring in the hard and soft tissues of the oral cavity, the transmission of pain impulse through the hard tissues of the tooth)
- Pathophysiology (pathological processes occurring in the hard and soft tissues of the oral cavity)
- Microbiology, virology and immunology (methods of microbiological research, microflora of the oral cavity in normal and in pathology)
- Clinical pharmacology (knowledge of drugs used in dentistry)
- Internal medicine (methods of examination of the patient, clinical signs of general somatic diseases which can have displays in an oral cavity, features of medical tactics concerning patients with general somatic pathology)
- Propaedeutics of therapeutic dentistry (questions of clinical features of teeth, tissues and organs of the oral cavity, organization and equipment of the dental office, principles,

methods and stages of preparation of carious cavities of different localization, composition, properties and methods of dental fillings, endodontic treatment of the cavity canals, materials and methods of their filling).

The purpose of the course and its significance for professional activities

The purpose of teaching the discipline "Therapeutic Dentistry" in the third year of study is to train a dentist who can diagnose, prevent and treat the dental diseases: non-carious lesions, caries and its complications (pulpitis and apical periodontitis).

Competences and learning outcomes, the formation of which is facilitated by the discipline.

According to the requirements of the educational-professional program of the second (master's) level of knowledge 22 "Health", specialty _221 "Dentistry", educational program "Dentistry" discipline "Therapeutic Dentistry (3rd year)" provides students with the following program competencies:

- integral: IC: Specialized conceptual knowledge, which includes modern scientific achievements in the field of professional activity or field of knowledge and is the basis for original thinking and research, critical understanding of problems in the field and at the border of fields of knowledge.

- General competencies (GC):

GC1. Ability to abstract thinking, analysis and synthesis.

GC 2. Knowledge and understanding of the subject area and understanding of professional activity.

GC 3. Ability to apply knowledge in practice.

GC 6. Skills in the use of information and communication technologies.

GC 7. Ability to search, process and analyze information from various sources.

GC 8. Ability to adapt and act in a new situation.

GC 9. Ability to identify, pose and solve problems.

GC 10. Ability to be critical and self-critical.

GC 11. Ability to work in a team.

- special:

SC 1. Ability to collect medical information about the patient and analyze clinical data.

SC 2. Ability to interpret the results of laboratory and instrumental research.

SC 3. Ability to diagnose: determine the preliminary, clinical, final, concomitant diagnosis, emergencies.

SC 4. Ability to plan and implement measures for the prevention of diseases of organs and tissues of the oral cavity and maxillofacial region.

SC 5. Ability to design the process of providing medical care: to determine the approaches, plan, types and principles of treatment of diseases of organs and tissues of the oral cavity and maxillofacial region.

SC 6. Ability to determine the rational mode of work, rest, diet in patients in the treatment of diseases of organs and tissues of the oral cavity and maxillofacial region.

SC 7. Ability to determine the tactics of management of patients with diseases of organs and tissues of the oral cavity and maxillofacial region with concomitant somatic diseases.

SC 8. Ability to perform medical and dental manipulations.

SC 9. Ability to treat major diseases of organs and tissues of the oral cavity and maxillofacial region.

SC 12. Ability to organize and carry out screening examinations in dentistry.

SC 13. Ability to assess the impact of the environment on the health of the population (individual, family, population)

SC 14. Ability to maintain regulatory medical records.

Postrequisite

Therapeutic dentistry is a fundamental science that integrates with other dental disciplines, namely surgical, orthopedic, pediatric dentistry to develop the ability to apply the acquired knowledge in the process of further study of all clinical disciplines and in future professional activities.

3. Learning outcomes

Therapeutic dentistry as a discipline lays the foundation for the further formation of integrative final learning outcomes in accordance with the educational-professional program of the second (master's) level of knowledge _22 “Health” _, specialty _221 “Dentistry” _, educational program _ “Dentistry”, namely:

PRT1. Identify the leading clinical symptoms and syndromes (according to list 1 - 3. 6. 8. 10. 13. 15. 17. 22. 23. 24. 27. 28. 33. 34. 40. 44. 48. 51. 52); according to standard methods, using preliminary history of the patient, examination of the patient, knowledge of the person, his organs and systems, to establish a probable nosological or syndromic preliminary clinical diagnosis of dental disease (according to list 2 - section 1 AB).

PRT2. Collect information about the general condition of the patient, assess the psychomotor and physical development of the patient, the condition of the maxillofacial area, based on the results of laboratory and instrumental studies to assess information about the diagnosis (list 5 - 6. 7. 11. 14).

PRT3. Prescribe and analyze additional (mandatory and optional) examination methods (laboratory, radiological, functional and / or instrumental) according to the list 5 - 6. 7. 11. 14 patients with diseases of organs and tissues of the oral cavity and maxillofacial region for performing differential diagnosis of diseases (according to the list 2, section 1 AB).

PRT4. Determine the final clinical diagnosis in accordance with the relevant ethical and legal norms, by making an informed decision and logical analysis of the obtained subjective and objective data of clinical, additional examination, differential diagnosis under the supervision of a doctor in a medical institution (according to list 2.1, and namely 1, 2, 3, 4).

PRT 5. To diagnose emergencies under any circumstances (at home, on the street, in a medical institution), in an emergency, martial law, lack of information and limited time (according to list 4 - 2. 8. 13. 18).

PRT 6. Plan and implement measures for the prevention of dental diseases among the population to prevent the spread of dental diseases.

PRT7. Analyze the epidemiological situation and carry out measures of mass and individual, general and local drug and non-drug prevention of dental diseases.

PRT 8. Determine the approach, plan, type and principle of treatment of dental disease (according to the list 2, section 1 AB) by making an informed decision according to existing algorithms and standard schemes.

PRT 9. To determine the nature of work, rest and the necessary diet in the treatment of dental diseases (according to the list 2, section 1 AB) on the basis of preliminary or final clinical diagnosis by making an informed decision according to existing algorithms and standard schemes.

PRT 10. To determine the tactics of managing a dental patient with somatic pathology (according to list 3 - the entire section) by making an informed decision according to existing algorithms and standard schemes.

PRT 11. To carry out treatment of the basic stomatologic diseases according to existing algorithms and standard schemes under the control of the doctor-head in the conditions of medical institution (according to the list 2.1, namely 1, 2, 3, 4).

PRT 13. Determine the tactics of emergency medical care, using the recommended algorithms, under any circumstances on the basis of a diagnosis of emergency in a limited time (according to list 4, namely 2, 8, 13, 18).

PRT 15. Assess the impact of the environment on the health of the population in a medical institution by standard methods.

PRT 19. Adhere to the requirements of ethics, bioethics and deontology in their professional activities.

PRT 20. Organize the necessary level of individual safety (own and persons cared for) in case of typical dangerous situations in the individual field of activity.

PRN 21. Perform medical manipulations on the basis of preliminary and / or final clinical diagnosis (according to list 2, section 1 AB, according to list 2.1, namely 1, 2, 3, 4) for different segments of the population and in different conditions (according to list 6 namely 4. 8. 9).

PRT 22. Perform medical dental manipulations on the basis of preliminary and / or final clinical diagnosis (according to list 2, section 1 A, B, according to list 2.1, namely 1, 2, 3, 4) for different segments of the population and in different conditions (according to list 7, namely 2, 11, 13, 24, 29, 30, 33, 34, 46).

PRT 23. Perform manipulations of emergency medical care, using standard schemes, under any circumstances on the basis of a diagnosis of emergency (according to list 4, namely 2, 8, 13, 18) for a limited time (according to list 6. namely 4. 8. 9, after list 7, namely 2. 3. 7, 11, 12, 13, 14, 16, 24, 29, 30, 31, 33, 34, 37, 38, 46).

Learning outcomes of the discipline:

At the end of the study discipline "Therapeutic dentistry" after the 3rd year students ***should know:***

- Clinical features of the anatomical and histological structure of the teeth, hard teeth tissues and endodontium
- Classification of diseases of the teeth (non-carious lesions, caries and its complications)
- The main methods of examination of dental patients
- Clinical signs of diseases of hard tooth tissues and endodontium
- The main clinical and biochemical indicators of the norm of biological fluids of the human body
- Principles of differential diagnosis of dental diseases
- Principles and stages of treatment of patients with odontopathology
- Types, levels and measures for the prevention of diseases of the hard teeth tissues and endodontium
- The main signs of emergencies at the dentist's office and under any circumstances (at home, on the street, in a medical institution)
- Tactics, algorithms for providing emergency medical care at the dental office and under any circumstances for a limited time

be able to:

- to examine the dental patient;
- to analyze the changes in the structure of the hard tissues of the teeth, pulp, periodontium, periodontium, oral mucosa, which are associated with age and pathological conditions;
- substantiate and formulate a preliminary diagnosis;
- to carry out differential diagnostics;
- to analyze the results of the examination of a dental patient;
- make a clinical diagnosis of diseases of hard teeth tissues and endodontium;
- to determine the nature and principles of treatment of patients with odontopathology;
- identify different clinical variants and complications of diseases of hard tooth tissues;
- to carry out primary and secondary prevention of the most common diseases in the clinic of therapeutic dentistry;
- to determine the necessary mode of work and diet in the treatment of dental diseases;
- to diagnose an emergency;
- determine the tactics and provision of emergency medical care;
- to organize medical and evacuation measures.

4. CONTENT AND LOGISTICS OF THE DISCIPLINE

Module 1 “Methods of examination of a dental patient. Lesions of the hard tissues of the teeth” Content modules 2	V semester 90 hours/ 3.0 credits ECTS	Lectures – № 1-4 Practical classes № 1-26 Topics for self-study № 1-2
Module 2. “Diseases of the endodontic (pulpitis, apical periodontitis). Etiology, pathogenesis. Classification. Clinical manifestations, diagnosis, treatment, prevention” Content modules 2	VI semester 90 hours/ 3.0 credits ECTS	Lectures – № 5-8 Practical classes № 27-52 Topics for self-study № 3-4

The discipline includes 8 lectures and 52 topics, which are divided into 4 thematic modules.

Topics of lectures

Topic 1. Examination of dental patient: subjective and objective basic and auxiliary methods.

Topic 2. Dental caries. Definition. Epidemiology of dental caries: spread and intensity of caries, gain of intensity. Card of epidemiological examination of the patients. Etiology and pathogenesis of dental caries. Modern theories of occurrence of dental caries: positive and negative aspects. Concept of structural-functional caries-resistant of the hard tooth tissues. Dental caries. Classification. Morphological changes in the hard tooth tissues at different stages of carious process according to data of beam, electron and polarization microscopy. Clinical manifestation, diagnostics, differential diagnostics of dental caries. The use of physical methods for caries diagnosis.

Topic 3. Treatment of dental caries. Remineralization therapy of incipient caries: medicines, methods. Stages of treatment, choose the method of cavity preparation depending on depth, course, localization of carious lesion. Features of treatment of deep caries: groups, composition, properties of therapeutic liners, indications and manipulation. Management (general and local treatment) of rampant caries.

Topic 4. Non-carious lesions of the teeth. Classification by V.K. Patrikeyev. Pathomorphology, clinical manifestations, diagnostics, differential diagnostics of non-carious lesions that occur before and after teeth eruption. Treatment.

Topic 5. Pulpitis: definition, etiology and pathogenesis. Classification of pulpitis Y.M. Hofunh (E.S. Javorska, L.I. Urbanovych, 1964), ICD-10. Characteristics and mechanism of pain occurrence. Pathomorphology, clinical manifestations, diagnosis of acute forms of pulpitis. Pathomorphology, clinical manifestation, diagnosis of chronic pulpitis and their exacerbation. Differential diagnostics of various forms of pulpitis.

Topic 6. Analgesia in therapeutic dentistry. Treatment of pulpitis by biological, vital amputation and extirpation methods. Indications, sequence of stages and features. The effectiveness of methods, possible complications and methods of their prevention. Devital extirpation, amputation and combined method of pulpitis treatment. The methods of instrumental treatment of bad-passable root-canals: medicines for chemical expansion, pulp mummification and impregnation of non-passable root canals. Effectiveness of methods, possible complications, their prevention and methods of elimination.

Topic 7. Apical periodontitis. Etiology and pathogenesis. Pathomorphological changes in different forms of apical periodontitis. Classification of periodontitis. Clinical manifestation, diagnosis, differential diagnosis of acute forms of apical periodontitis. Clinical manifestations, diagnosis, differential diagnosis of chronic and exacerbation forms of apical periodontitis. The value of radiological diagnostic methods.

Topic 8. Treatment of different forms of apical periodontitis. Emergency aid. General principles, sequence and features of the stages of treatment. Modern methods of influence on periapical focus of infection. Mistakes and complications in therapeutic dentistry, their causes, prevention and eliminations.

Topics of practical classes

Module 1. Methods of examination of a dental patient. Lesions of the hard tissues of the teeth. Content module 1. Examination of a dental patient with odontopathology.

Topic 1. Organization of dental care in Ukraine. The structure of dental clinic and its therapeutic department. Tasks of therapeutic dentistry, relationship with general clinical and dental disciplines.

Topic 2. Equipment of dentist's workplace: universal dental units and chairs. Safety. Ethics and deontology in dentistry. Iatrogenic diseases.

Topic 3. Scheme of dental patients' examination. Subjective examination: complaints, anamnesis morbi and anamnesis vitae. Characteristics of pain syndrome in various lesions of the teeth.

Topic 4. Clinical examination methods, their value for diagnosis of oral diseases: extraoral and intraoral examination (external, examination of patient's face, vestibule, proper oral cavity, dentition). Examination of a disease site (Locus morbi): examination of the affected tooth, probing, percussion, palpation. Auxiliary methods of patient's examination: thermo-diagnostics, electro-odonto-diagnostics, using of caries detectors: procedures, interpretation of results.

Topic 5. X-ray, fluorescent and transillumination diagnostics, computer's tomography: indications, features of carrying out. Diagnostic tests: with anesthesia and preparation. Method of determining the trigger zones, including of peripheral branches of the trigeminal nerve.

Topic 6. Laboratory examination methods of dental patient. Interpretation of results of analysis of oral fluid, blood, urine etc.

Topic 7. Medical documentation of therapeutic reception (forms № 043/o, № 037/o, № 039-2/o) according to the order of the Ministry of Health № 110 dated February 14, 2012: the rules of filling, registration of directions for additional research, etc. Medical card of dental patient – medical, scientific and legal document.

Topic 8. Oral hygiene and its importance in the complex prophylaxis of oral cavity diseases and the body as a whole. Methods for indicating of microbial biofilm: staining, determination of GI by Green-Vermillion, the index of the effectiveness of oral hygiene (Podshadley, Haley).

Topic 9. Dental deposits, types, mechanism of formation. Microbial biofilm, mechanism of formation. The structure, properties, composition of microflora.

Topic 10. Methods for removal of dental deposits: manual, hardware method (sound, ultrasonic), air-abrasive, combined. Chemical control of biofilm. Algorithm of professional oral hygiene.

Content module 2. Caries and non-caries lesions of the teeth

Topic 11. Dental caries. Definition. Statistical indicators of dental caries. Classification of caries. The concept of structural and functional resistance of hard tooth tissues. Determination of structural and functional enamel resistance (TER-test, KERER).

Topic 12. Modern views on the etiology and pathogenesis of dental caries. The contribution of scientists: Miller, DA Entin, IG Lukomskyi, AE Sharpenak, AI Rybakov, PA Leus, VK Leontiev, VR Okushko, EV Borovskiy et al.

Topic 13. Acute and chronic incipient caries (in the stage of spot). Pathomorphology, clinical manifestations, diagnostics, differential diagnostics. Treatment of acute and chronic incipient caries. Medicines: groups, properties, features of use. Methods of remineralization therapy usage.

Topic 14. Acute and chronic superficial caries: pathomorphology, clinical manifestations, diagnostics, differential diagnostics, treatment.

Topic 15. Acute and chronic middle caries: pathomorphology, clinical manifestations, diagnostics, differential diagnostics, treatment.

Topic 16. Acute and chronic deep caries: pathomorphology, clinical manifestations, diagnostics, intra- and extrasyndromic differential diagnostics.

Topic 17. Methods of one-visit and two-visit (recall) treatment of acute deep caries. Therapeutic liners: groups, properties, methods of use. Treatment of chronic deep caries.

Topic 18. Rampant caries: causes of development, pathomorphology, clinical manifestations, diagnostics. Management of rampant caries: general and local treatment. Therapeutic medicines: groups, dosage, methods of use.

Topic 19. Prevention of dental caries. The value of individual and social prevention. Means of prevention. Organization of prevention of dental caries in the persons of decreed groups of the population. Estimation of efficiency.

Topic 20. Non-caries lesions of the teeth. Classification by VK Patrikeev. Pathomorphology, clinical features and diagnosis of carious lesions that arise before teeth eruption: hypoplasia and hyperplasia. Treatment.

Topic 21. Pathomorphology, clinical features and diagnosis of carious lesions that occur before teeth eruption: endemic fluorosis, abnormalities of teeth development. Treatment.

Topic 22. Pathomorphology, clinical features, diagnosis and treatment of carious lesions that arise after teeth eruption: enamel erosion, wedge-shaped defect.

Topic 23. Pathomorphology, clinical features, diagnosis and treatment of carious lesions that arise after teeth eruption: increased abrasion, necrosis of hard tooth tissues.

Topic 24. Pathomorphology, clinical features, diagnosis and treatment of carious lesions that arise after teeth eruption: trauma of the teeth. Hypersensitivity of dental hard tissues. Modern desensitizers: groups, composition, properties, methods of use.

Topic 25. Mistakes and complications in the diagnosis and treatment of dental caries. Secondary caries of devital and vital teeth: the cause, clinical features, diagnosis, differential diagnosis, treatment, prevention.

Topic 26. The use of physical methods for treatment and prevention of caries and non-caries lesions. Credit.

Module 2. Endodontic diseases (pulpitis and apical periodontitis). Etiology, pathogenesis. Classification. Clinical manifestations, diagnosis, differential diagnosis, treatment, prevention.

Content module 3. Pulpitis

Topic 27. Pulpitis. Etiology, pathogenesis, classification (Y.M. Hofunh, KMI (E.S. Javorska, L.I. Urbanovych, 1964), ICD-10), their positive qualities and negative aspects. Concept of reversible and irreversible forms.

Topic 28. Acute traumatic pulpitis: pathomorphology, clinical symptoms, diagnostics.

Topic 29. Pulp hyperemia and acute circumscription (focal) pulpitis: pathomorphology, clinical symptoms, diagnostics, differential diagnosis.

Topic 30. Acute diffuse and acute purulent pulpitis: pathomorphology, clinical symptoms, diagnostics, differential diagnosis.

Topic 31. Chronic fibrous and hypertrophic pulpitis: pathomorphology, clinical symptoms, diagnostics, differential diagnosis.

Topic 32. Chronic gangrenous and concrementouse pulpitis: pathomorphology, clinical symptoms, diagnostics, differential diagnosis. Root (retrograde) pulpitis (condition after incomplete pulp removing): clinical symptoms, diagnostics.

Topic 33. Exacerbation of chronic pulpitis: pathomorphology, clinical symptoms, diagnostics, differential diagnosis.

Topic 34. Analgesia at pulpitis treatment: kinds and indications. Groups of anesthetics, mechanism of action, comparative characteristics of effectiveness and toxicity. Premedication: concept, medicines, features of manipulations.

Topic 35. Methods of pulpitis treatment. Justification of choice of pulpitis treatment depending on the form, course and general condition of organism. Conservative method of pulpitis treatment (biological): content, indications for use. Stages of treatment. Therapeutic liners: groups, properties, composition and prescription of combined therapeutic pastes. Effectiveness and possible complications.

Topic 36. Vital amputation method of pulpitis treatment: content, indications, stages of technique. The effectiveness of the method.

Topic 37. Vital extirpation method of pulpitis treatment: content, indications, technique. The effectiveness of the method, possible complications. Diathermocoagulation. Indications, stages of treatment, complications.

Topic 38. Devitalization of pulp, content, indications for use, stages of manipulations. Medicines for devitalizing of the pulp: indications, mechanism of action, features of usage. Possible complications and their elimination. The effectiveness of the method. Devital amputation and combined methods of pulpitis treatment: content, indications, methods of carry out.

Topic 39. Sealers and fillers for root canals obturation at pulpitis: groups, properties, indications for use.

Topic 40. Methods of root canal filling in pulpitis treatment by method of central core, lateral condensation and vertical condensation of gutta-percha. Mistakes and complications.

Content module 4. Apical periodontitis

Topic 41. Apical periodontitis: etiology, pathogenesis, classification (I.G. Lukomskyy, M.A. Hroshykov, S.A. Vajndruh, ICD-10). Classification of trauma by N.M. Chuprykina (1985).

Topic 42. Acute medicamentous and traumatic apical periodontitis: etiology, pathomorphology, clinical manifestations, diagnosis.

Topic 43. Acute serous apical periodontitis of infectious genesis: pathomorphology, clinical manifestations, diagnostics, differential diagnosis.

Topic 44. Acute purulent apical periodontitis: pathomorphology, clinical manifestations, diagnostics, differential diagnosis.

Topic 45. Chronic forms of apical periodontitis: fibrous, granulation and granulomatous apical periodontitis: pathomorphology, clinical manifestations, diagnostics, differential diagnosis.

Topic 46. Exacerbation of chronic apical periodontitis: etiology, pathomorphology, clinical manifestations, diagnostics, differential diagnosis. Clinical manifestations of apical periodontitis complicated with periostitis.

Topic 47. X-ray diagnostics of chronic apical periodontitis. The concept of osteosclerosis, osteoporosis, destruction, deformation, hypercementosis, etc. Analysis of computer's tomograms of jaw-facial field.

Topic 48. Treatment of acute serous and purulent apical periodontitis of infectious and non-infectious genesis (medicamentous and traumatic). Emergency aid. The sequence and features of treatment stages. Antidote therapy. Modern technologies and instruments for root canal treatment. Features of filling.

Topic 49. Treatment of chronic apical periodontitis of one-rooted and multi-rooted teeth. Principle, sequence and features of treatment stages. Methods of influence on periapical focus of infection. Plastic non-hardening therapeutic pastes for temporal obturation of root canals: groups, composition, properties. The effectiveness of treatment.

Topic 50. Treatment of apical periodontitis in the shortened terms.

Topic 51. Errors in diagnosis and treatment of apical periodontitis. Reasons, methods of removal and prevention.

Topic 52. The use of physical factors in complex treatment of pulpitis and apical periodontitis.

Thematic plan for independent work

1. Emergency conditions at the dental appointment: causes, clinical manifestations, medical care
2. Changes of colour of the teeth (discolorites) and methods for their removal.
3. Methods of endodontic treatment of instrumental unpassable root canals: medicines for chemical expansion, pulp mummification and impregnation of nonpassable root canals. Depophoresis. Mistakes and possible complications.
4. The concept of tooth restoration. Planning of restoration of vital teeth and the teeth after endodontic treatment.

Practical classes provide a theoretical justification of the main issues of the topic and the acquisition of the following practical skills:

List of practical skills in the discipline “Therapeutic dentistry”

1. To use knowledge of normative documents for the equipment of a dental office and to provide its functioning with observance of hygienic requirements and bases of ergonomics in dentistry.
2. Have the rules of safety in working with electrical appliances, universal installations and dental chairs, potent drugs, small endodontic instruments.
3. Provide medical care for fainting, collapse, shock, allergic reactions, hypertensive crisis.
4. Carry out a subjective examination of the patient: collect complaints, medical history and life.
5. Carry out the main methods of objective examination: external examination of the patient, examination of the dorsum and the actual oral cavity.
6. Examine the site of the disease: examination of the carious cavity, probing, percussion, palpation of the oral mucosa in the area of the causative tooth.
7. Carry out auxiliary methods of examination of the patient: thermodiagnosics, EOD, caries marking (vital staining), etc.
8. Evaluate the results of auxiliary methods of examination of the patient: thermodiagnosics, EOD, caries marking (vital staining), etc.
9. It is reasonable to appoint and evaluate the results of X-ray, luminescent and transillumination diagnostics, computed tomography.
10. It is reasonable to appoint, carry out and interpret diagnostic tests: with anesthesia and for preparation.
11. To carry out examination of places of an exit of peripheral branches of a trigeminal nerve.
12. Evaluate the results of clinical tests of oral fluid, blood and urine.
13. Fill in the outpatient card of the dental patient, the sheet of daily registration of patients.
14. Write a referral to a physiotherapy office, for consultation with other specialists, for X-ray, allergological examination.
15. To determine the hygienic index according to Fedorov-Volodkina and to assess the state of oral hygiene.
16. To determine the hygienic index by Green-Vermillion and to assess the state of oral hygiene.
17. To remove plaque and tartar in different ways: manual, chemical, hardware (air-abrasive, sound, ultrasonic magnetostrictive and piezoelectric), combined.
18. Carry out professional oral hygiene.
19. Evaluate the effectiveness of oral hygiene.
20. Determine the prevalence, intensity and increase in the intensity of caries.
21. Determine the state of enamel resistance (enamel resistance test).
22. Determine the rate of enamel mineralization.
23. Diagnose acute and chronic primary, superficial, moderate, deep caries, using basic and additional methods of examination.
24. To carry out intrasyndrome differential diagnosis of various forms of caries.
25. Diagnose secondary caries of depulped and non-depulped teeth, using basic and additional methods of examination.
26. Diagnose multiply caries using basic and additional methods of examination.
27. Prescribe general treatment of multiply caries.
28. Prescribe and carry out non-surgical treatment of acute primary caries (remineralizing therapy).
29. Prescribe and carry out surgical treatment of various forms of caries.
30. Perform application, infiltration, nerve block, intraligamentary, hypoxic anesthesia.
31. Prescribe and carry out a single-session method of treatment of acute deep caries using odontotropic pastes.
32. Assign and carry out a two-session method of treatment of acute deep caries using odontotropic pastes.
33. Prescribe physical methods according to the indications for the complex treatment of caries and non-carious lesions of the teeth.
34. Prescribe preventive measures and carry out preventive manipulations to prevent caries.

35. Diagnose non-carious lesions that occur before teething: hypoplasia, hyperplasia, dental fluorosis, etc.
36. Diagnose non-carious lesions that occur after teeth eruption: traumatic lesions, chemical lesions, enamel erosion, hyperesthesia, increased abrasion, wedge-shaped defect.
37. To whiten teeth by different methods, taking into account the cause of discoloration.
38. Identify errors and complications in the diagnosis and treatment of caries, using basic and additional methods of examination, to eliminate them.
39. Diagnose different forms of acute etiology, pathomorphological manifestations of acute and chronic inflammation of the pulp, using basic and additional methods of examination.
40. Provide emergency care to a patient with acute purulent pulpitis.
41. To appoint according to indications and to carry out treatment of a pulpitis by a method of preservation of vital activity of a pulp, using medicines of various groups as a part of medical pastes. Write recipes.
42. To appoint according to indications and to carry out treatment of a pulpitis by a vital amputation method, using medicines of various groups as a part of medical pastes. Write recipes.
43. To appoint according to indications and to carry out treatment of a pulpitis by a vital extirpation method, using medicinal substances of hemostatic, antiseptic action.
44. To appoint according to indications and to carry out treatment of a pulpitis by a devital extirpation method.
45. To appoint according to indications and to carry out treatment of a pulpitis by a devital amputation method, using medicines of various groups as a part of mummifying liquids and pastes. Write recipes.
46. To appoint according to indications and to carry out treatment of a pulpitis by a devital combined method, using medicines of various groups as a part of mummifying liquids and pastes. Write recipes.
47. Carry out treatment of instrumentally impassable root canals, using drugs for chemical expansion, pulp mummification and impregnation of impassable root canals.
48. Carry out depophoresis of the root canal, taking into account the shortcomings and possible complications.
49. Carry out filling of canals, differentiatedly choose sealers of different groups for different clinical situations in the treatment of pulpitis.
50. Obturate root canals in the treatment of pulpitis by central pin, vertical, cold and warm lateral condensation of gutta-percha.
51. Identify the causes of errors and complications and ways to eliminate them when filling root canals.
52. Diagnose different etiology, pathomorphological manifestations of acute and chronic inflammation of apical periodontitis, using basic and additional methods of examination.
53. Carry out intra-syndrome differential diagnosis of various forms of apical periodontitis.
54. Carry out out-of-syndrome differential diagnosis of various forms of apical periodontitis.
55. Carry out X-ray diagnosis of chronic forms of periodontitis.
56. Perform computed tomography of the maxillofacial area.
57. Carry out step-by-step treatment of acute forms of apical periodontitis depending on etiological factors.
58. Provide emergency care to a patient with acute purulent apical periodontitis.
59. To carry out step-by-step treatment of chronic forms of apical periodontitis depending on etiological factors, using various methods of influence on the apical center of an infection.
60. Prescribe and treat chronic apical periodontitis in one visit, using modern technologies of treatment and filling of the root canal.
61. Carry out planning and restoration of vital teeth and teeth after endodontic treatment.
62. Prescribe physical methods in the treatment of various forms of apical periodontitis: intracanal electrophoresis, depophoresis, UHF therapy, laser therapy, fluctuation, d'Arsonvalization.

63. Identify errors in the diagnosis and treatment of periodontitis, perform manipulations to eliminate them.

The student's independent work involves preparation for practical classes and intermediate tests, study of topics for independent extracurricular work, preparation of presentations, tables. Control of mastering the topics of independent extracurricular work is carried out in practical classes and final control of the discipline.

Individual work includes the study of scientific literature, preparation of reviews on the topics provided for presentation at meetings of the student scientific group, the implementation of scientific and practical research, participation in specialized competitions, scientific and practical conferences, competitions of student research papers.

Thematic plans of practical classes, thematic plan of independent extracurricular work, volume and directions of individual work are published on the site of the department.

Route of receiving materials: Department of Therapeutic Dentistry / Student / Full-time study / Dentistry / 3rd year / Teaching materials / or at the link <https://www.vnmu.edu.ua/deepartmentoftherapeuticdentistry>.

Access to materials is provided from the student's corporate account s000XXX@vnmu.edu.ua

5. Forms and methods of monitoring learning success

Current control in practical classes	Methods: oral examination; written survey; test control; solving situational problems; structured according to the procedure control of practical skills and abilities in accordance with the list of practical skills for each lesson.
Control of mastering the thematic section of the discipline at intermediate control classes	Methods: oral or written questioning, electronic testing, solving situational problems, control of practical skills
Final semester control (credit) at the end of the third semester	According to the regulations on the organization of the educational process in National Pirogov Memorial Medical University (link https://www.vnmu.edu.ua/General information / Basic documents)
Final control of the discipline - differentiated credit	Methods: oral examination (according to the regulations on the organization of the educational process in National Pirogov Memorial Medical University (link https://www.vnmu.edu.ua/General information / Basic documents))
Tools for diagnosing learning success	Theoretical questions, tests, clinically-oriented situational tasks, practical tasks, demonstration of practical skills.

6. Evaluation criteria

Assessment of knowledge is carried out in accordance with the Regulations on the organization of the educational process in National Pirogov Memorial Medical University, Vinnytsya (link [https://www.vnmu.edu.ua/General information / Basic documents](https://www.vnmu.edu.ua/Generalinformation/Basicdocuments))

Current control	According to the four-point system of traditional grades: 5 “excellent”, 4 “good”, 3 “satisfactory”, 2 “unsatisfactory”
Intermediate separation controls	According to the four-point system of traditional evaluations
Control of practical skills	According to the four-point system of traditional evaluations
Credit	On a 200-point scale (arithmetic mean for the semester is converted into points) Credited: from 122 to 200 points Not credited: less than 122 points (see Evaluation Scale)
Final control of the discipline	Score for differentiated credit: 71-80 points – “excellent” 61-70 points – “good” 50-60 points – “satisfactory” Less than 50 points – “unsatisfactory” / did not pass
Discipline assessment	Current performance - from 72 to 120 points (conversion of the average traditional grade for practical classes on a 120-point scale): 60% of the grade for the discipline Final control - from 50 to 80 points: 40% of the grade for the discipline Individual work - from 6 to 12 points A total from 122 to 200 points.

Rating scale: national and ECTS

The sum of points for all types of educational activities	ECTS assessment	Score on a national scale	
		for exam, course project (work), practice	for credit
180-200	A	excellent	credited
170-179,99	B	good	
160-169,99	C		
141-159,99	D	satisfactory	
122-140,99	E	satisfactory	
0-121,99	FX	unsatisfactory with the possibility of reassembly	not credited with the possibility of re-assembly
	F	unsatisfactory with compulsory re-study of the discipline	not credited with compulsory re-study of the discipline

7. Discipline policy

The student has the right to receive quality educational services, access to modern scientific and educational information, qualified counseling during the study of the discipline and the acquisition of practical skills. The policy of the department during the provision of educational services is student-centered, based on the regulations of the Ministry of Education and the Ministry of Health of Ukraine, the university charter and the procedure for providing educational services, regulated by the main provisions of the educational process in National Pirogov Memorial Medical University and the principles of academic integrity.

Observance of National Pirogov Memorial Medical University regulations, safety measures at practical classes

Requirements for preparation for practical classes. The student must arrive on time for a practical lesson, theoretically prepared according to the topic. Form of clothing: medical gown, changeable shoes, mask, gloves. Adhere to ethical norms and tolerance when discussing the topic of the lesson. Follow the rules of safety and ergonomics when practicing practical skills.

Use of mobile phones and other electronic devices. The use of mobile phones during classes is prohibited (except for emergencies to call for help). It is allowed to use the following electronic devices: equipment for multimedia presentation of material, devices for practicing practical skills.

Academic integrity. During the study of the discipline the student must be guided by the Code of Academic Integrity of National Pirogov Memorial Medical University ([https://www.vnmu.edu.ua/general information / Basic documents / Code of Academic Integrity](https://www.vnmu.edu.ua/general-information/Basic-documents/Code-of-Academic-Integrity)). In case of violation of academic integrity (write-off, use of mobile phone during knowledge assessment, etc.) during the current and final tests, the student receives a grade of “2” and must work it out to his teacher in the prescribed manner within two weeks after unsatisfactory grade.

Missed classes. Missed classes are practiced in the manner prescribed by the Regulations on the organization of the educational process in National Pirogov Memorial Medical University (link [https://www.vnmu.edu.ua/ General information / Basic documents](https://www.vnmu.edu.ua/General-information/Basic-documents)) at the time specified in the schedule of work (published on the website of the department <https://www.vnmu.edu.ua/кафедра-терапевтичної-стоматології> to duty teacher. In order to complete the missed lesson, the student must answer theoretical questions and perform practical tasks on the missed topic. To complete the lecture, the student must make a short summary of the missed topic, navigate the topic and be ready for discussion / answer to questions on the subject of the lecture.

The procedure for admission to the final control of the discipline is given in the Regulations on the organization of the educational process in National Pirogov Memorial Medical University (link [https://www.vnmu.edu.ua/ General information / Basic documents](https://www.vnmu.edu.ua/General-information/Basic-documents)). Students who have not missed unfinished practical classes and lectures and received an average traditional grade of at least “3” are admitted to the final control.

Additional individual points. Individual points in the discipline (from 6 to 12) the student can get for individual work, the amount of which is published on the website of the department in educational materials of the discipline, the number of points is determined by the results of IRS according to the Regulations on the organization of educational process in National Pirogov Memorial Medical University (link [https://www.vnmu.edu.ua/ General information / Basic documents](https://www.vnmu.edu.ua/General-information/Basic-documents)).

Conflict resolution. In the event of misunderstandings and complaints to the teacher due to the quality of educational services, assessment of knowledge and other conflict situations, the student must first report their claims to the teacher. If the conflict issue is not resolved, the student has the

right to submit an appeal to the head of the department in accordance with the Regulations on the consideration of appeals of applicants for higher education at National Pirogov Memorial Medical University (<https://www.vnmua.edu.ua/> General information / Basic documents).

Politics in terms of distance learning. The procedure for distance learning is regulated by the Regulations on the introduction of elements of distance learning in National Pirogov Memorial Medical University, Vinnytsya (<https://www.vnmua.edu.ua/> General information / Basic documents). The main training platforms for training are Microsoft Team, Google Meets. The procedure for performing practical classes and lectures, exercises and consultations during distance learning is published on the website of the department (<https://www.vnmua.edu.ua/> Department of Therapeutic Dentistry / Student or <https://www.vnmua.edu.ua/> Department of Therapeutic Dentistry / News).

Feedback from the teacher is via messengers (Viber, Telegram, WhatsApp) or e-mail (at the teacher's choice) during business hours.

1. Training resources

Educational and methodological support of the discipline is published on the website of the department (<https://www.vnmua.edu.ua/kafedra-terapevtychnoi-stomatologii/> Student). Consultations are held twice a week according to the consultation schedule.


2. The schedule and distribution of groups by teachers is published on the web page of the department (<https://www.vnmua.edu.ua/kafedra-terapevtychnoi-stomatologii/> Student).

3. Questions to the intermediate and final controls of the discipline are published on the web page of the department (<https://www.vnmua.edu.ua/kafedra-terapevtychnoi-stomatologii/> Student)

The syllabus on the subject “Therapeutic Dentistry” (3rd course) was discussed and approved at the meeting of the department of Therapeutic Dentistry (protocol № 1, from “28” August 2023 y.

Responsible for the course  Ass. Prof. of HEI Nataliia GADZHULA

(signature)

Head of the Department  Prof. of HEI Mariia SHINKARUK-DYKOVYTSKA

(signature)