

**Thematic plan of independent work of the student
in the discipline "Diagnostics and treatment of periodontal diseases in Therapeutic
Dentistry" for students of the 2020 year of admission in the educational program
31.05.03 Dentistry, in the specialty of training, form of study – resident instruction
5nd-Years Students (Term X), for the 2024-2025 academic year**

№	The topic of independent work	Hours (academic)
1	Etiology, pathogenesis, diagnose and treatment of periodontal diseases. Relationship between periodontal disease and systemic diseases¹	48
	<ul style="list-style-type: none"> • Relationship between periodontal disease and the risk of preterm birth and low birth weight. The problem of low birth weight. Causes of preterm birth and low birth weight. Periodontitis and adverse outcome of childbirth. The importance of treating periodontitis in preventing preterm birth and low birth weight.² • Relationship between periodontal disease and atherosclerosis. A possible biological scenario for the development of a relationship between periodontitis and systemic diseases. Results of epidemiological studies. Significance of the problem for healthcare professionals and society.² • The use of the "Vector" system for the treatment of periodontal diseases. Principles of operation of the Vector system. Areas of use. Advantages of the Vector system for the treatment of periodontal diseases.² • Periodontal disease and diabetes mellitus. Etiology and pathogenesis of inflammatory periodontal diseases. Etiology and pathogenesis of diabetes mellitus. Manifestations in the oral cavity of periodontal diseases against the background of diabetes mellitus. Features of the treatment of periodontal diseases in patients with diabetes mellitus. Clinical examination of patients with periodontal disease on the background of diabetes mellitus.² • Guided tissue regeneration in periodontology. Question history. Repair and regeneration of periodontal tissues. Types of wound healing in periodontology. Guided tissue regeneration and guided bone regeneration (GRT and GBR). periodontal membranes. Membrane classification. Membrane requirements. Membrane functions. Non-resorbable membranes: advantages and disadvantages. NRT technique using non-resorbable membranes. Resorbable membranes: natural and synthetic. Methods of application of biomembranes. Comparative characteristics of collagen and polymer membranes. Synthetic biomembranes.² • Regenerative treatment using matrix proteins, growth and differentiation factors. Growth and differentiation factors: platelet growth factor, insulin-like growth factor, transforming growth factor β, bone morphogenetic proteins, fibroblast growth factor. Mediator systems certified for practical use: platelet rich plasma (PBT), P-15, enamel matrix protein (Emdogain (EM)). Enamel matrix protein flap surgery. Regenerative treatment pros and cons.² • Methods for removing supra- and subgingival dental deposits. Periodontal instruments. Instruments with electric drive for removal of supragingival dental deposits and their application. Manual instruments for the removal of supragingival dental plaque and their application. Hand tools for cleaning and polishing the root - curettes. Power tools. Use of 	

	curette Gracey. Hand instruments (curettes) for problem areas. Treatment with Gracey curettes, method. Tool sharpening. ²	
	<ul style="list-style-type: none"> • Study of body reactions and risk assessment. Recording a periodontal chart. Digital periodontal charts (Florida Probe system). Genetic risk: IL-1 gene polymorphism test. Poor hygiene as a risk factor, bleeding on probing. Drawing up an individual risk profile. Periodontal charts I and II. Electronic patient record.² 	
	<ul style="list-style-type: none"> • Microbiology of inflammatory periodontal diseases. Dental plaque: a biofilm associated with the "host" organism. Macroscopic structure and composition of plaque. Plaque formation. Microscopic structure and physiological properties of plaque. Association of dental plaque microorganisms with periodontal diseases. Specific microbes of periodontal disease. Microorganisms associated with specific periodontal diseases. Significance of biofilm medium.² 	
	<ul style="list-style-type: none"> • Lasers in periodontology. Photodynamic therapy. Laser curettage.² 	
	<ul style="list-style-type: none"> • Pathogenesis of inflammatory periodontal diseases. Body reactions: mechanisms and participants. Non-specific, innate immunity is the first line of defense. Specific, acquired immunity is the second line of defense. Interaction of nonspecific and specific immunities. Cytokines. Eicosanoids are prostaglandins and leukotrienes. enzymatic mechanisms. Action of matrix metalloproteinases. risk of developing periodontitis. The susceptibility of the macroorganism. Genetic risk factors. Modifiable risk factors. Destruction of connective tissue, destruction of bone tissue.² 	
	<ul style="list-style-type: none"> • Electromechanical instruments for the removal of mineralized dental deposits. Instruments with electric drive for removal of supragingival dental deposits and their application. Ultrasonic scalers. Sound scalers. Device Vector. Air abrasive system.² 	
	Total	48

¹ -Subject

² * - essential content (if necessary)

Considered at the meeting of the department of Therapeutic Dentistry "06" June 2024, protocol No12

Head of the Department for Therapeutic Dentistry, DSci, professor



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