

MINISTRY OF HEALTH, REPUBLIC OF BELARUS

Educational Institution

BELARUSIAN STATE MEDICAL UNIVERSITY

Контрольный
экземпляр

APPROVED BY

First Pro-rector, Professor

I. N. Moroz



10.03.2021

Reg. no. УД- *d. 505/21dd* /к.-2

**MODERN PRINCIPLES OF DENTAL RESTORATION
IN PERIODONTOLOGY**

**Optional Higher Education Curriculum for the Educational Discipline
“Therapeutic Dentistry” for the Speciality:**

1-79 01 07 Dentistry

The Optional Higher Education Curriculum is based on the Education Curriculum “Therapeutic Dentistry”, approved on 1 July 2015, registration no. УД – Л. 505/1516/уч.

DEVELOPED BY:

L. N. Dedova, Head, Therapeutic Dentistry Chair no. 3, Belarusian State Medical University, Doctor of Medicine, Professor;

Yu. L. Denisova, Therapeutic Dentistry Chair no. 3, Belarusian State Medical University, Doctor of Medicine, Professor;

A. S. Solomevich, Therapeutic Dentistry Chair no. 3, Belarusian State Medical University, Candidate of Medical Science, Assistant Professor;

A. A. Volodko, Therapeutic Dentistry Chair no. 3, Belarusian State Medical University, Candidate of Medical Science, Assistant Lecturer;

RECOMMENDED FOR APPROVAL BY:

Therapeutic Dentistry Chair no. 3, Belarusian State Medical University,
(Minutes No. 14 dated 17 February 2021);

Methodology Commission for Dentistry Disciplines, Belarusian State Medical University
(Minutes No. 8 dated 25.02.2021.)

EXPLANATORY NOTE

“Modern principles of dental restoration in periodontology” is an optional course with in-depth study of the main stages of procedures performed before restoration and of the principles and stages of tooth shape restoration in patients with periodontal diseases.

The goal of the optional course curriculum **“Modern issues of dental restoration in periodontology”** is to study the latest scientific concepts of restoration of the anatomic shape of hard dental tissues in patients with periodontal diseases.

The objective of teaching and learning the optional course **“Modern issues of dental restoration in periodontology”** is to provide and develop scientific knowledge on the methodological principles of planning the stages of restoration of hard dental tissues in patients with periodontal diseases and on the integration of the restorative dental treatment and periodontal therapy.

The tasks of the education course are to develop academic competences by students needed for individual search of education and information resources and for learning the methods required for developing:

- the basic principles of restorative dental treatment;
- the main stages of restorative dental treatment in periodontology; and
- assessing the quality of dental restoration in patients with periodontal diseases.

The tasks of the optional course teaching are to develop social, personal and professional competences in order to learn and apply:

- the modern technologies in diagnosis, prevention and treatment of periodontal diseases as well as other dental diseases that help develop clinical thinking in conformity with the norms of medical ethics and deontology;
- the skills for the organization of the workplaces in compliance with the ergonomics, labour safety rules and treatment of dental, patients;
- the skills needed for examination of patients, making diagnosis and implementing the treatment plan.

The teaching and successful learning of the optional course **“Modern issues of dental restoration in periodontology”** are based on the knowledge and skills acquired by students in **“Periodontal Diseases”** section of the **“Therapeutic Dentistry”** discipline.

Following the optional course “Modern issues of dental restoration in periodontology”, the students should know:

- the measures and the sequence of procedures performed for the preparation of patients with periodontal diseases for restoration;
- how to prepare carious cavities and teeth for restoration in patients with periodontal diseases;
- how to select the filling material for patients with periodontal diseases;
- the sequence of measures used to restore the contact point and the shape of the tooth crown in patients with periodontal diseases;
- the criteria for assessing the quality of tooth restoration in patients with periodontal diseases;

- how to plan the stages of preparation of carious cavities and teeth for restoration in patients with periodontal diseases;
- how to plan the stages of restoration of the contact point and the shape of the tooth crown in patients with periodontal diseases;
- how to assess the quality of dental restoration in patients with periodontal diseases;
- how to prevent, identify and eliminate ethical and deontological problems when dealing with patients and medical staff;
- how to fill medical documents during treatment of dental patients;
- the methods of diagnosis of periodontal diseases and other dental, diseases;
- the methods for isolation of the surgical site;
- the methods for removal of dental deposit;
- the methods of hard dental tissue preparation;
- the methods for direct restoration of the tooth shape;
- the skills for filling medical documents.

The structure of optional course curriculum includes the procedures of selecting the filling material for dental restoration; the characterization of stages for carious tooth cavities; the procedures for isolation of the surgical site during dental restoration; and the procedures for restoration of the contact point and the shape of the tooth crown in patients with periodontal diseases.

The total number of academic hours for optional course is 42 academic hours. The class hours are divided as follows: 28 hours for practical exercises, and 14 hours for individual work of the students.

The regular examination is performed according to the education plan in the speciality through tests (10th half-year term).

TOPIC PLAN

Section (Topic)	Number of class hours
	Practical hours
1. The dynamics of the periodontium biological system. The main principles of restoration of the tooth shape in patients with periodontal diseases. The stages of restoration of the tooth shape in patients with periodontal diseases. Primary visual characterisation of hard dental tissues, first-order procedures before restoration.	7
2. Preparation before restoration: detailed assessment of the hard dental tissue defect boundaries. Diagnosis and methods of restoration of the biological width of the periodontium. Second-order procedures before restoration: specific issues of the surgical site isolation, modern methods of hard dental tissue preparation.	7
3. Direct dental restoration procedures in patients with periodontal diseases. Concepts and methods of direct dental restoration. Classification of modern filling materials. Adhesive systems. Methods of contact point restoration.	7
4. Indirect dental restoration procedures in patients with periodontal diseases. Criteria for assessment of restoration quality. Professional preventive oral cavity procedures.	7
Total number of hours	28

EDUCATION MATERIAL CONTENTS

1. The dynamics of the periodontium biological system. The main principles of restoration of the tooth shape in patients with periodontal diseases. The stages of restoration of the tooth shape in patients with periodontal diseases. Preparation before restoration: primary visual characterisation of hard dental tissues; 1st order procedures before restoration.

The basic terminology in periodontology.

The dynamics of the periodontium biological system: the crown environment factors.

The dynamics of the periodontium biological system: the root environment factors.

The main principles of restoration of the tooth shape in patients with periodontal diseases: monitoring the clinical condition of teeth with hard tissue defects in the dynamics of the periodontal biological system.

The main principles of restoration of the tooth shape in patients with periodontal diseases: integration of restorative and periodontal procedures.

The main principles of restoration of the tooth shape in patients with periodontal diseases: providing the required conditions for hygienic procedures in the area of restored teeth.

The stages of tooth shape restoration in patients with periodontal diseases.

The main features of preparation before restoration.

The stages of preparation before restoration: primary visual characterization of hard dental tissues.

The stages of preparation before restoration: the first-order procedures before restoration.

The first-order procedures before restoration: professional oral cavity hygiene (methods, stages, tools and accessories).

The first-order procedures before restoration: temporary closure of a hard dental tissue defect.

The first-order procedures before restoration: elimination of adverse factors by the indications.

The first-order procedures before restoration: anti-inflammatory treatment of periodontal tissues.

2. Preparation before restoration: detailed assessment of hard dental tissue defects. Diagnosis and methods of restoration of the biological width of the periodontium. Second-order procedures before restoration: specific issues of the surgical site isolation, modern methods of hard dental tissue preparation.

Preparation before restoration: detailed assessment of the hard dental tissue defect boundaries.

Detailed assessment of the hard dental tissue defect boundaries: modern methods of assessment of the defect supragingival boundary, means for improving the surgical site view.

Detailed assessment of the hard dental tissue defect boundaries: non-invasive and invasive methods of assessment of the defect subgingival boundary.

The notion of the “biological width of the periodontium”.

Diagnosis and methods of restoration of the biological width of the periodontium. Periodontal surgery before restoration: indications, methods. Orthodontal procedures before restoration.

Second-order procedures before restoration: isolation of the surgical site and hard dental tissue preparation.

Specific features and methods of isolation of the surgical site in patients with periodontal diseases. Cofferdam system: tools and accessories, methods and clinical aspects of application.

Methods of hard dental tissue preparation: mechanical, ultrasound and laser preparation.

3. Direct dental restoration procedures in patients with periodontal diseases. The concept of direct dental restoration. Classification of modern filling materials. Adhesive systems. Methods of the contact point restoration.

Direct dental restoration in patients with periodontal diseases: indications and counterindications.

Concepts and methods of direct dental restoration.

Classification of modern filling materials.

Main characteristics of modern filling materials.

Choice materials for direct dental restoration in patients with periodontal diseases.

Classification of adhesive systems in dentistry.

Adhesive preparation of hard dental tissues for restoration.

Methods of periodontal tissue restoration by composite materials. Restoration techniques.

The definition and the role of the tooth contact point.

Classification of modern matrix systems.

Methods of restoration of the equator and the tooth contact point in patients with periodontal diseases.

Methods of restoration of included defects of a tooth alignment.

4. Indirect dental restoration procedures in patients with periodontal diseases. Criteria of restoration quality assessment. Professional preventive oral cavity procedures.

Indirect dental restoration in patients with periodontal diseases: indications and counterindications.

Specific features of selection of indirect dental restoration in patients with periodontal diseases.

Techniques of indirect dental restoration in patients with periodontal diseases.

Methods of elimination of “subgingival embrasures”.

The main criteria of restoration quality assessment: anatomic shape, gingival attachment, gingival colouring, the surface status and colour matching.

Professional preventive oral cavity procedures.

Recommendations on individual oral cavity hygiene.

TEACHING METHODOLOGY MAP FOR THE OPTIONAL COURSE “MODERN ISSUES OF DENTAL RESTORATION IN PERIODONTOLOGY”

Section number, topic	Section, topic	Number of class hours	Individual work of the students	Knowledge control
		Practical hours		
1.1.	The dynamics of the periodontium biological system. The main principles of restoration of the tooth shape in patients with periodontal diseases. The stages of restoration of the tooth shape in patients with periodontal diseases. Primary visual characterisation of hard dental tissues, first-order procedures before restoration.	7	3	1
1.2.	Preparation before restoration: detailed assessment of the hard dental tissue defect boundaries. Diagnosis and methods of restoration of the biological width of the periodontium. Second-order procedures before restoration: specific issues of the surgical site isolation, modern methods of hard dental tissue preparation.	7	3	1
1.3.	Direct dental restoration procedures in patients with periodontal diseases. Concepts and methods of direct dental restoration. Classification of modern filling materials. Adhesive systems. Methods of contact point restoration.	7	4	1
1.4.	Indirect dental restoration procedures in patients with periodontal diseases. Criteria for assessment of restoration quality. Professional preventive oral cavity procedures.	7	4	1,2,3
		28	14	

INFORMATION AND METHODOLOGY

REFERENCES

Basic:

1. L. N. Dedova et al., Therapeutic Dentistry. Periodontal Diseases: Manual. Minsk: Ekoperspektiva Publishing House, 2016, 268 p.

Additional:

1. Goncharov, V. D. et al., Atomic force microscopy of the Distribution of Inorganic Fillers in Composite Filling Materials. *Stomatolog*, Minsk, 2016, no. 4(23), pp. 34-37.
2. Dedova, L. N. and Solomevich, A. S., Features of Restoration of the Tooth Shape in Patients with Periodontal Diseases. *Stomatolog*, Minsk, 2017, no. 2 (25), pp. 72-76.
3. Dedova, L. N. and Solomevich, A. S., Conceptual Restoration of the Tooth Shape in Patients with Periodontal Diseases. *Parodontologiya*, 2018, vol. 23, no. 1, pp. 4-9.
4. Krikhelli, N. I. Aesthetic Dentistry. Moscow: Prakticheskaya Meditsina Press, 2018, 320 p.
5. Nikolayev, A. I. and Tsepov, L. M., Practical Therapeutic Dentistry, 9th ed., MEDpress-inform, 2019, 928 p.
6. Nikolayev, A. I. et al., The Effect of Composite Restoration Polishing in Individual Oral Cavity Hygiene. *Parodontologiya*, 2016, vol. 21, no. 2, pp. 65-69.
7. Novak, N. V., Translucent Composite Materials in Aesthetic Dentistry. *Stomatolog*, Minsk, 2019, no. 2(33), pp. 68-73.
8. Orekhova, L. Yu., Prokhorova, O. V., and Shefov, V. Yu., Quality Anatomic Restoration of the Tooth Contact Point: Prevention of Localized Periodontal Diseases. *Parodontologiya*, 2020, vol. 25, no. 1, pp. 10-15.
9. Terry D., Tooth Restoration by Yielding Composites. Azbuka Publishing House, 2017, 282 p.
10. Khudaleeva, K. A. et al., Microcirculation of the Marginal Parodontium in Fabricating Artificial Crowns with Different Levels of the Preparation Boundaries Location. *Parodontologiya*, 2020, vol. 25, no. 1, pp. 54-58.
11. Aesthetic Periodontology / J. L. Denisova [et al.]. Minsk: BSMU, 2015. 20 p.
12. Demirci, M., Tuncer, S., Sancakli, H. S., Tekce, N., and Baydemir, C., Clinical Performance of Different Solvent-based Dentin Adhesives with Nanofill or Nanohybrid Composites in Class III Restorations: Five Year Results, *J. Oper Dent.*, 2017, vol. 42, no. 4, pp. 67-69.
13. Newman, M. G. et al., Newman and Carranza's Clinical Periodontology. 13-th ed. Saunders Elsevier, 2018. – 944.

Regulations and laws:

14. On Approval of Clinical Dentistry Protocols Annulment of Some Structural Elements of the Orders of the Ministry of Health of the Republic of Belarus, dated 25 October 2006 No. 807, 25 February 2008 no. 142: Order of the of the Ministry of Health of the Republic of Belarus dated 26.12.2011 no.1245.

THE LIST OF THE USED DIAGNOSIS MEANS

The following forms are used for diagnosing the competences:

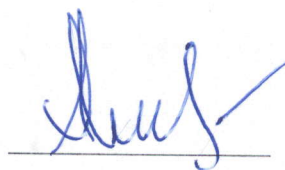
1. Verbal form:
 - conversation;
2. Written form:
 - tests;
3. Verbal, and written form:
 - test/exam.

THE LIST OF PRACTICAL SKILLS

1. Selecting the methods of restoration for patients with periodontal diseases.
2. Assessing the quality of restoration in patients with periodontal diseases.
3. Selecting the preventive measures for patients with periodontal diseases.
4. Recording the documentation of dentistry patients.

Drafted by:

Head, Therapeutic Dentistry Chair
no. 3, Belarusian State Medical
University, Doctor of Medicine,
Professor



L. N. Dedova

Therapeutic Dentistry Chair no. 3,
Belarusian State Medical University,
Doctor of Medicine, Professor




Yu. L. Denisova

Therapeutic Dentistry Chair no. 3,
Belarusian State Medical University,
Candidate of Medical Science,
Assistant Professor



A. S. Solomevich

Therapeutic Dentistry Chair no. 3,
Belarusian State Medical University,
Assistant Lecturer

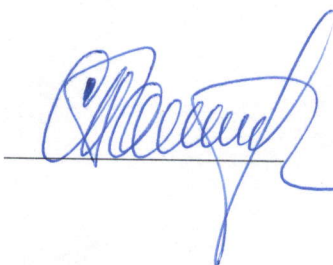


A. A. Volodko

The optional course and the accompanying documents are arranged in conformity
with the requirements.

Dean, Dentistry Faculty,
Belarusian State Medical
University

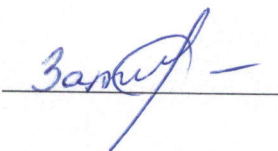
10.05. 2021



S. N. Parkhamovich





Methodologist,
Belarusian State Medical
University

10.05. 2021



S. V. Zaturanova

Data on the authors of the optional course

Surname, name, patronymic	Dedova Lyudmila Nikolayevna
Position, scientific degree, academic title	Head, Therapeutic Dentistry Chair no. 3, Belarusian State Medical University, Doctor of Medicine, Professor
 office	(017) 215 19 88
Fax:	(017) 215 19 88
<i>E-mail:</i>	stomterap3@bsmu.by
Surname, name, patronymic	Denisova Yuliya Leonidovna
Position, scientific degree, academic title	Therapeutic Dentistry Chair no. 3, Belarusian State Medical University, Doctor of Medicine, Professor
 office	(017) 215 19 88
Fax:	(017) 215 19 88
<i>E-mail:</i>	stomterap3@bsmu.by
Surname, name, patronymic	Solomevich Aleksandr Sergeyevich
Position, scientific degree, academic title	Therapeutic Dentistry Chair no. 3, Belarusian State Medical University, Candidate of Medical Science, Assistant Professor
 office	(017) 373 53 30
Fax:	
<i>E-mail:</i>	stomterap3@bsmu.by
Surname, name, patronymic	Volodko Aleksandr Aleksandrovich
Position, scientific degree, academic title	Therapeutic Dentistry Chair no. 3, Belarusian State Medical University, Assistant Lecturer
 office	(017) 373 53 30
Fax:	
<i>E-mail:</i>	stomterap3@bsmu.by