

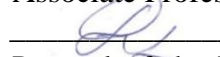
**Ministry of HealthCare of the Republic of  
Belarus  
BELARUSIAN STATE MEDICAL  
UNIVERSITY**

**METHODOLOGY TEXTS  
for Practical Training of Students  
4th year, 8th semester**

BSMU, Minsk

APPROVED by

Head of the Department, Ph.D.,  
Associate Professor

  
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Ya.I. Timchuk  
Protocol of the Methodical Meeting of  
the Department №8 19.01.2024

**Thematic Plan of Practical Training in Prosthodontics  
for 8th semester, 4th year students**

1. Classification of periodontal diseases. Etiology, pathogenesis, clinical features, methods of examination, differential diagnosis of periodontal diseases. Odontoparodontogramm as an indicator of the functional state and endurance of periodontium. Reserve forces of periodontium and their changes depending on the degree of alveolar bone atrophy.
2. The role of the occlusal trauma in the development of periodontal diseases. Occlusal adjustment of teeth as the first stage of prosthetic treatment of periodontal diseases. The immediate prosthetics as a means of preventing of periodontium overloading.
3. Indications for temporary splinting in periodontal diseases treatment. Types of temporary splints, their characteristics. Orthodontic treatment of patients with periodontal diseases.
4. Indications for teeth extraction with periodontal disease. Indications for permanent splinting in treatment of periodontal diseases. Types and characteristics of permanent splints. Types of stabilization. Indications for fixed and removable splints, comparative characteristics of splints.
5. Design features and manufacturing technology of permanent splints and splinting dentures for intact dentitions and dentitions with defects.
6. The final class. Prosthetic treatment of periodontal diseases.
7. The deformations of dentition and occlusion. Etiology, pathogenesis, diagnosis, clinic. Methods of treatment of the deformations of dentition and occlusion.
8. Features of prosthetic treatment of patients with chronic diseases of the oral mucosa.
9. Pathological changes in the state of the organism, tissues and organs of the oral cavity associated with the presence of dental prostheses. Galvanosis. Etiology, pathogenesis, clinical features, prevention, treatment.
10. Pathological changes in the state of the organism, tissues and organs of the oral cavity, associated with the presence of dental prostheses. Allergies. Etiology, pathogenesis, clinical features, prevention, treatment.
11. Functional anatomy of the temporomandibular joint. The fundamentals of functional occlusion.
12. Diseases of the temporomandibular joint. Etiology, pathogenesis, clinical picture, differential diagnostics, methods of prosthetic treatment.
13. The final class. Credit test.

**Thematic Plan of Lectures for 8th semester, 4th year students in Prosthodontics  
(8 lectures, 10 hours)**

Lecture 1. Periodontal diseases. Etiology. Methods of examination. Classifications. Localized and generalized periodontal lesions. Clinical features. Diagnostics. Differential diagnostics.

Lecture 2. Occlusal trauma. Occlusal teeth adjustment. Immediate dentures, orthodontic treatment and their role in the treatment of periodontal diseases.

Lecture 3. The role of prosthodontics and indications for teeth splinting. Objective of teeth splinting. Main principles of teeth splinting. Indications for temporary splinting of teeth. Constructions of the splints, used for temporary splinting.

Lecture 4. Indications for permanent splinting of teeth. Removable and fixed splints constructions. Types of dental arch stabilization.

Lecture 5. Functional pathology of dentoalveolar system, definition. Macro- and microstructural changes in dentoalveolar system associated with the tooth loss. Deformations of dentition and occlusion. Diagnostics, clinical features and methods of prosthetic treatment of deformations of dentition and occlusion.

Lecture 6. The main features of prosthetic treatment of patients with oral mucosa pathology.

Lecture 7. Oral pathology associated with the effect of dentures and materials from which they are made on the human body. Galvanosis and allergies to materials of dental prostheses. Prophylaxis, clinical features, diagnostics and treatment.

Lecture 8. Diseases of temporomandibular joint. Etiology, clinical features, diagnostics, differential diagnostics and methods of prosthetic treatment.

Lectures - 8 (10 hours)

Practical classes - 78 hours

Number of weeks - 13

Total training hours - 88 hours

APPROVED by  
Head of the Department of  
Orthopedic Dentistry and  
Orthodontics



Ya.I. Timchuk  
Protocol of the Methodical  
Meeting of the Department № 8  
19.01.2024

**CRITERIA FOR ASSESSING STUDENTS' KNOWLEDGE ON A 10-POINT SCALE  
for the academic discipline «Prosthodontics»**

No.	Mark	Criteria
1	10 (ten) points, passed	<p>Systematized, deep and comprehensive knowledge of all sections of the educational program for academic discipline «Prosthodontics», as well as on the main issues beyond its scope;</p> <p>accurate use of scientific terminology (including in a foreign language), articulate and logically correct presentation of answers to questions, ability to make reasoned conclusions and generalizations;</p> <p>flawless mastery of the tools of the academic discipline «Prosthodontics», ability to effectively use them in the formulation and solution of scientific and professional tasks;</p> <p>strong ability to independently and creatively solve complex problems in non-standard situations;</p> <p>complete and in-depth assimilation of the primary and additional literature on the studied academic discipline «Prosthodontics»;</p> <p>ability to freely navigate theories, concepts, and directions related to the studied academic discipline «Prosthodontics» and provide them with an analytical assessment, using scientific achievements from other dental disciplines;</p> <p>creative independent work during practical classes, active creative participation in group discussions, high level of task performance culture.</p>

2	9 (nine) points, passed	<p>Systematized, deep and comprehensive knowledge of all sections of the educational program for the academic discipline «Prosthodontics»;</p> <p>accurate use of scientific terminology (including in a foreign language), articulate and logically correct presentation of answers to questions,</p> <p>mastery of the tools of academic discipline «Prosthodontics», ability to effectively use them in the formulation and solution of scientific and professional tasks;</p> <p>ability to independently and creatively solve complex problems in non-standard situations;</p> <p>complete assimilation of the primary and additional literature on the studied academic discipline «Prosthodontics»;</p> <p>ability to freely navigate theories, concepts, and directions related to the studied academic discipline «Prosthodontics» and provide them with an analytical assessment,</p> <p>creative independent work during practical classes, active creative participation in discussions, high level of task performance culture.</p>
3	8 (eight) points, passed	<p>Systematized, deep and comprehensive knowledge of all sections of the educational program for academic discipline «Prosthodontics»,</p> <p>accurate use of scientific terminology (including in a foreign language), articulate and logically correct presentation of answers to questions, ability to make reasoned conclusions and generalizations;</p> <p>assimilation of primary and additional literature recommended by the educational program for the academic discipline «Prosthodontics»;</p> <p>ability to navigate through the main theories, concepts, and directions within the academic discipline «Prosthodontics» and provide their analytical assessment;</p> <p>independent work during practical classes, participation in group discussions, high level of task execution culture.</p>

4	7 (seven) points, passed	<p>systematic, deep, and comprehensive knowledge in all sections of the educational program for the academic discipline «Prosthodontics»;</p> <p>use of scientific terminology (including foreign language), articulate and logically correct presentation of answers to questions, ability to make well-founded conclusions and generalizations;</p> <p>mastery of the toolkit of academic discipline «Prosthodontics», ability to use it in setting and solving scientific and professional tasks;</p> <p>proficient command of typical solutions within the framework of the educational program for the academic discipline «Prosthodontics»;</p> <p>assimilation of primary and additional literature recommended by the educational program for the academic discipline «Prosthodontics»;</p> <p>ability to navigate through the main theories, concepts, and directions within the academic discipline «Prosthodontics» and provide their analytical assessment;</p> <p>independent work during practical classes, participation in group discussions, high level of task execution culture.</p>
5	6 (six) points, passed	<p>comprehensive knowledge in all sections of the educational program for the academic discipline «Prosthodontics»;</p> <p>use of scientific terminology, correct presentation of answers to questions, ability to make well-founded conclusions and generalizations;</p> <p>mastery of the toolkit of the academic discipline «Prosthodontics», ability to use it in setting and professional tasks;</p> <p>independent command of typical solutions within the framework of the educational program for the academic discipline «Prosthodontics»</p> <p>assimilation of primary literature recommended by the educational program for the academic discipline «Prosthodontics»;</p> <p>ability to navigate through the main theories, concepts, and directions within the academic discipline «Prosthodontics» and provide their assessment;</p> <p>active work during practical classes, participation in group discussions, high level of task execution culture.</p>

6	5 (five) points, passed	<p>Sufficient knowledge in all sections of the educational program for the academic discipline «Prosthodontics»;  use of terminology, presentation of answers to questions, ability to make conclusions and generalizations;  mastery of the toolkit of the academic discipline «Prosthodontics», ability to use it in solving professional tasks;  command of typical solutions within the framework of the educational program for the academic discipline «Prosthodontics»;  assimilation of primary literature recommended by the educational program for the academic discipline «Prosthodontics»;  ability to navigate through the main theories, concepts, and directions within the academic discipline «Prosthodontics»  independent work during practical classes, participation in group discussions, high level of task execution culture.</p>
7	4 (four) points, passed	<p>Sufficient level of knowledge within the educational program for the academic discipline «Prosthodontics»;  assimilation of primary literature recommended by the educational program for academic discipline «Prosthodontics»;  use of scientific terminology, logical presentation of answers to questions, ability to draw conclusions without significant errors;  mastery of the toolkit of the academic discipline «Prosthodontics», ability to use it in solving standard tasks;  ability to solve standard tasks under the guidance of the instructor;  understanding of the main theories, concepts, and directions within the academic discipline «Prosthodontics» and providing their assessment;  work under the guidance of the instructor during practical classes, acceptable level of task execution culture.</p>
8	3 (three) points, passed	<p>Insufficient level of knowledge within the educational program for the academic discipline «Prosthodontics»;  knowledge of some of the primary literature recommended by the educational program for the academic discipline «Prosthodontics»;  use of scientific terminology, presentation of answers to questions with significant logical errors;  weak mastery of the toolkit of the academic discipline «Prosthodontics», incompetence in solving standard tasks;  inability to navigate the main theories, concepts, and directions within academic discipline «Prosthodontics»  passivity in practical and laboratory classes, low level of task execution culture.</p>

9	2 (two) points, passed	<p>Fragmentary knowledge within the educational program for the academic discipline «Prosthodontics»</p> <p>knowledge of some of the primary literature recommended by the educational program for the academic discipline «Prosthodontics»</p> <p>inability to use scientific terminology of academic discipline «Prosthodontics», presence of significant logical errors in the answers;</p> <p>passivity in practical and laboratory classes, low level of task execution culture;</p>
10	1 (one) point, passed	<p>lack of knowledge and competencies within the educational program for academic discipline «Prosthodontics», refusal to answer, absence from assessment without valid reason.</p>



## LITERATURE

### Basic:

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### Additional:

2. Carr, Alan B. McCracken`s removable partial prosthodontics [Электронный ресурс] / Carr, Alan B., Brown, David T. - 12th ed. - Б. м. : Elsevier, 2011. - 1 электрон. опт. диск (CD-ROM). - Систем. требования: Windows 95/98/NT/ME/2000/XP; ОЗУ 64 МБ; CD-ROM drive. - Частичное съемное протезирование.

3. Complete dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления полных съемных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 32 с.

4. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

5. Fundamentals of fixed prosthodontics / Shillingburg, Hebert T. [и др.]. - 4th ed. - Chicago [etc.] : Quintessence Publishing Co, 2012. - 574 p. : ill. by S.E. Stone. - Index: p. 555-574. - Основы ортопедической стоматологии.

6. Nallaswamy D. V. Textbook of prosthodontics.- New Delhi, 2011.- 844 p. Ортопедическая стоматология : учебник

7. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16 с.

## **Class 1**

**Subject of the class.** Classification of periodontal diseases. Etiology, pathogenesis, clinical features, methods of examination, differential diagnosis of periodontal diseases. Odontoparodontogramm as an indicator of the functional state and endurance of periodontium. Reserve forces of periodontium and their changes depending on the degree of alveolar bone atrophy.

**Objective:** to study etiology, pathogenesis, classification and clinical picture of periodontal diseases, to teach students methods of diagnosis and differential diagnosis of periodontal diseases, deontological rules of taking of this category patients. To teach the students methods of determining the reserve forces and functional state of periodontium, methods of filling and analysis of odontoparodontogramm in periodontal disease.

### **Entry knowledge control**

1. Periodontium, structure, functions.
2. Methods of examination of patients in the clinic of prosthodontics.
3. Deontology in the clinic of prosthodontics.
4. Gnathodynamometer. Periodontium endurance to the load.

### **Test Questions**

1. The role of local and systemic etiological factors in the occurrence of periodontal diseases. The pathogenesis of periodontal diseases.
2. The clinical, X-ray and laboratory methods of examination of patients with periodontal diseases.
3. Classification of periodontal diseases by WHO, VNOS, AAP.
4. Clinical manifestations of periodontal diseases. Differential diagnosis of periodontal diseases.
5. Endurance and reserve forces of periodontium. Their significance in the prosthetic treatment of periodontal diseases. The relationship of changes in reserve forces of periodontium and alveolar bone atrophy.
6. Odontoparodontogramm, the principle of its construction and structure. Analysis of the functional condition of periodontium based on the odontoparodontogramm.

### **Case studies**

1. The patient, 23 years old, came to the clinic with complaints of bleeding and swelling of the gums, pain during taking meals. He did not address for dental care on this issue before. External examination is unremarkable, movements in the temporomandibular joint are in full range, painless.

0 0 F F T T T T T T T F F F T 0

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28  
 48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38  
 0 T T F F T T T T T T T T T F F 0

O – tooth is missing, F – filling, T – intact tooth

On examination of the oral cavity hyperemia and swelling of the gum in the area of the mandibular frontal teeth is revealed, there is crowding of these teeth. Panoramic X-ray shows no bone resorption of the alveolar process of the upper and lower jaw.

Set the diagnosis. Make the differential diagnosis.

2. Patient K., 27 years old, came to the clinic with complaints of bleeding gums when brushing his teeth in the upper and lower jaws, pain in the frontal part of the mandible during meals. External examination is unremarkable, movements in the temporomandibular joint are in full range, painless.

0 T 0 0 T F F T T F T F F 0 T 0

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28  
 48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38  
 0 F 0 0 T T T T T T T F F 0 0 F

On examination of the oral cavity hyperemia and swelling of the gums in the area of the teeth of the upper and lower jaws have been revealed. There is no pathological mobility of teeth. Panoramic X-ray shows horizontal resorption of interdental septa of frontal lower teeth and posterior upper teeth for 1/3.

Set the diagnosis. Make the differential diagnosis.

3. Patient L., aged 38, came to the clinic with complaints of the occasional swelling and bleeding of the gums, mobility of the frontal mandibular teeth. External examination is unremarkable, movements in the temporomandibular joint are in full range, painless.

T T 0 T T T F F F F T T T T 0 F

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28  
 48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38  
 0 T 0 T F F T T T T T F T F F 0

On examination of the oral cavity hyperemia, swelling of the oral mucous in the area of teeth 31, 32, 33, 41, 42, 43, pathological periodontal pockets with depth

of 4 mm, pathologic tooth mobility of 1-2 degree are observed. X-ray reveals alveolar bone resorption around the teeth 31, 32, 33, 41, 42, 43 from 1\4 up to 1\2. Diagnose.

4. The patient V., 49 years old, came to clinic with complaints of loss of teeth, impaired chewing function, mobility of remaining teeth. She was treated by periodontist previously. At external examination there is a decreased lower facial height. Movements in the temporomandibular joint are in full range, painless.

0 0 0 0 F F T T T T 0 0 F 0 0

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

0 0 0 0 0 T F T T T 0 F 0 0 0 0

The examination of the oral cavity reveals hyperemia, swelling of the oral mucous in the area of remaining teeth, pathological pockets of 3 to 5 mm., pathological tooth mobility of 2-3 degree. There are a fanlike divergence of frontal teeth of upper and lower jaw and diastema. Irregular atrophy of alveolar process from 1/2 to 3/4 and pathological intraosseous pockets were determined on panoramic X-ray. Diagnose. Make the differential diagnosis.

## LITERATURE

### Basic:

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### Additional:

2. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

## **Class 2**

**Subject of the Class:** The role of the occlusal trauma in the development of periodontal diseases. Occlusal adjustment of teeth as the first stage of prosthetic treatment of periodontal diseases. The immediate prosthetics as a means of preventing of periodontium overloading.

**Objective :** To teach students to identify the causes of teeth overloading, to determine overloaded teeth, to perform occlusal adjustment of teeth and prevent the complications. To study the aims and objectives of immediate prosthetics, master the techniques of immediate dentures making.

### **Entry knowledge control**

1. Morphology of occlusal surfaces of the teeth of upper and lower jaw.
2. Occlusion, articulation, bite.
3. Types of prosthetics (immediate, proximate, remote) and their characteristics.
4. Clinical and laboratory stages of manufacturing of complete and partial removable dentures.

### **Test Questions**

1. The causes of periodontal overloading of separate teeth or groups of teeth. Occlusal trauma.
2. The clinical and X-ray signs of occlusal trauma.
3. Occlusal adjustment of teeth as the first stage of the treatment of periodontal diseases. Methods of occlusal adjustment of teeth. Complications during occlusal adjustment of teeth.
4. Immediate prosthetics. Clinical and biological basics of immediate denture application at the stages of prosthetic treatment of periodontal diseases. Indications for immediate prosthodontics.
5. The method of manufacturing of immediate dentures by Sosnin.
6. The method of manufacturing of immediate dentures by Oksman.

### **Case studies**

1. Patient A., 52 years old, came to the clinic with complaints of dentition defects, difficulty of food chewing, mobility of the remaining teeth. Previously, he did not address for prosthetic care.

External examination is unremarkable; movements in the temporomandibular joint are in full range, painless.

0 0 0 T 0 T 0 F 0 0 0 0 0 0 F 0

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

0 0 0 0 0 T 0 0 0 0 T T F 0 0 0

On examination hyperemia of the gingiva in the area of teeth 15, 13, 11, 27, 33, 34, 35, 43, the 1 degree of mobility of teeth 13, 33, 34, 43 and 2 degree - of teeth 11, 15, 27, 35 is revealed. On panoramic X ray there is a bone resorption from 1/4 to 1/2 root length around teeth 13, 33, 34, 43 and 3/4 - around teeth 11, 15, 27, 35 with the periodontal space widening.

Diagnose, analyze the functional state of the teeth and create a treatment plan. List the clinical and laboratory stages of manufacturing of immediate dentures on the upper and lower jaw.

2. Patient F, 37 years old, came to the clinic with complaints of the mobility of posterior teeth of the upper and lower jaw on the right side, pain when taking meals. He did not previously seek prosthetic care. External examination is unremarkable, movements in the temporomandibular joint are in full range, painless.

0 T T T T T T F T T T F F F F 0

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

F T T F F T T T T T F F T 0 0

On examination: there are slightly hyperemic, swollen gums, pathological periodontal pockets from 3 to 4 mm, tooth mobility of 1 degree of teeth 15, 16, 17, 45, 46, 47, 48. There are delayed wear of teeth cusps on the right side, the presence of premature contacts in lateral occlusion. X-ray shows the bone resorption in the area of 15, 16, 17, 45, 46, 47 teeth for 1/2, there is no signs of resorption in the area of other teeth.

Diagnose, specify the possible cause of periodontal overloading, create a treatment plan.

3. Patient, 34 years old, came to the clinic with complaints of displacement of tooth 12 to the front. According to the patient apparent displacement of tooth has appeared about 6 months ago. External examination is unremarkable, movements in the temporomandibular joint are in full range, painless.

0 T T T T T T F T T T F F F F 0

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

F T T F F T T T T T F F T 0 0

On examination of the oral cavity: the tooth 12 is displaced from the dental arch vestibular for 2 mm, gum recession about 1/4 of the root length is observed. When

checking the occlusion premature contact is detected on the tooth 12 at protrusion movement of the mandible. On X-ray there is a bone resorption in the area of tooth 12 by  $\frac{1}{2}$  of root length.

Diagnose, specify the possible cause of the disease, create a treatment plan.

4. Patient Z, 48 years old, an immediate denture was made for the upper jaw after the simultaneous extraction of all of her remaining teeth - 12, 11, 23, 25, 26. Arrangement of artificial teeth in the frontal area was carried out without artificial gum.

What error was made in the manufacture of denture and how to correct it?

5. Patient L., 34 years old, came with complaints of hypersensitivity in the area of 14, 15, 24, 25 teeth. According to the patient, occlusal adjustment of teeth was conducted a week ago.

What is the possible cause of the patient's complaints, and what are the ways of their correction.

## LITERATURE

### Basic:

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### Additional:

2. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

### **Class 3.**

**Subject of the Class:** Indications for temporary splinting in periodontal diseases treatment. Types of temporary splints, their characteristics. Orthodontic treatment of patients with periodontal diseases.

**Objective of the Class:** To study aims and tasks of temporary splinting. To teach to set indications for temporary splinting, to know the features of temporary splinting, possible errors and complications. To teach to set indications for orthodontic treatment in patients with periodontal diseases, to learn the features of orthodontic treatment, possible errors and complications of orthodontic treatment.

#### **Entry knowledge control.**

1. Periodontium: structure, function.
2. Anatomy of the teeth of the upper and lower jaw.
3. Odontoparodontogramm. Structure, rules of filling.
4. Features of examination of patients with periodontal disease.
5. Methods of X-ray examination in clinic of prosthodontics.
6. Occlusion, articulation, bite.
7. Types and principles of function of orthodontic apparatus.

#### **Test questions.**

1. Indications for temporary splinting.
2. Requirements for a temporary splints.
3. Types of temporary splints and their characteristics .
4. Errors and complications of temporary splinting.
5. Indications and contraindications to orthodontic treatment in patients with periodontal diseases.
6. Features of orthodontic treatment of patients with periodontal diseases.

#### **Case studies.**

1. Patient C, 47 years old, complained of bleeding and swelling of the gums, halitosis (bad breath), tooth mobility in the upper and lower jaw. Examination reveals: the height of the lower third of the face is reduced, mucosa in the area of 31, 32, 33, 34, 41, 42, 43, 44 teeth hyperemic, hydropic, tenderness in palpation, pus from periodontal pockets is observed when pressure is applied to the gum. The mobility of the teeth I - II degree. The splint from self-cure plastic is broken between teeth 41 and 31. X-rays show marked atrophy of alveolar bone about  $\frac{1}{2}$  the length of the roots in the area of teeth 31, 32, 33, 34, 41, 42, 43. Temporary plastic splint was made about six months ago.

Set the diagnosis. Your tactics. What are the possible errors of previous treatment?



2. Patient N., 45 years old, came to the dentist with complaints about the presence of diastema between the teeth of the upper jaw, mobility of the teeth of lower jaw. External examination was normal, movements in the temporomandibular joint are painless, mouth opening unlimited.

Tooth formula:

M H H H H H F H H H F F F M  
18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28  
48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38  
F H H F F H H H H H H F F H M M

(H – healthy, F – filling, M - missing)

Clinical exam revealed the mobility of mandibular incisors II degree and fan-shaped divergence of teeth 13, 12, 11, 21, 22, 23. X-ray of 11, 12, 13, 21, 22, 23, 41, 42, 31, 32 reveals marked

atrophy of the bone tissue about 1/2 of the length of the roots.

Set the diagnosis. Suggest a treatment plan.

3. The patient E., aged 38, complained of bleeding and swelling of her gums, pain in teeth during taking meals. According to the patient, she is in orthodontic treatment for about six months to correct a distal bite. External examination was normal, movements in the temporomandibular joint are painless, in full volume.

Tooth formula:

M H F H H H H H H H H H F F M  
18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28  
48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38  
F F F F H H H H H H H H F H M

(H – healthy, F – filling, M - missing)

The braces of multi-bonding system are fixed on the teeth of the upper and lower jaw. The mucous membrane in the anterior maxilla hyperemic, swollen, painful during palpation. X-rays revealed marked expansion of periodontal ligaments and the atrophy of periodontal bone > than 1/2 the length of the roots of teeth 41, 42, 43, 31, 32, 33.

What errors were made in the previous stages of treatment, your actions to correct them.

4. Patient K., aged 35, complained of trauma of mucosa of the hard palate by mandibular teeth, appearance of the diastema and gaps between maxillary front teeth, ruptures in the corners of the mouth.

According to the patient about 1.5 years ago she began orthodontic treatment with multibonding system for the same condition. After a year of orthodontic treatment was achieved positive result: diastema and gaps between front teeth, that existed

before disappeared, ruptures in the corners of the mouth healed, thus the treatment was completed.

External exam showed a reduction in the height of the lower portion of the face by 3 mm.

TMJ movements painless, in full range.

Tooth formula:

M H H H F H H F H H F F F F M

18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

F H H F F H H H H H H F F H M M

(H – healthy, F – filling, M - missing)

The mucous membrane in the anterior mandible is hyperemic, hydropic, painful in palpation, there are over-and subgingival tooth deposits, a chronic trauma of the palatal mucosa near the necks of the upper front teeth. X-rays revealed marked atrophy of bone about  $\frac{1}{4}$  of the length of roots around teeth 41, 42, 31, 32.

Why did the relapse occur? What was not carried out in order to prevent it?

### LITERATURE

#### Basic:

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

#### Additional:

2. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

## **Class 4.**

**Subject of the Class:** Indications for teeth extraction with periodontal disease. Indications for permanent splinting in treatment of periodontal diseases. Types and characteristics of permanent splints. Indications for fixed and removable splints, comparative characteristics of splints. Types of stabilization.

**Objective:** To teach to set the goals, objectives and indications for permanent splinting, to learn the types of splints and the features of their construction.

### **Entry knowledge control**

1. Periodontium: structure, function.
2. Odontoparodontogramm. Structure, rules of filling.
3. Features of examination of patients with periodontal disease.
4. Methods of X-ray examination in the clinic of prosthodontics.
5. Clinical manifestations of periodontal disease in oral cavity.

### **Test questions:**

1. Indications for extraction of teeth with periodontal diseases.
2. Aims and objectives of permanent splinting. Biomechanical basics of splinting.
3. Indications for fixed splints and splinting dentures. Indications for removable splints and splinting dentures. Comparative characteristic of removable and fixed splints.
4. Requirements for permanent splints.
5. The aim of surveying in the planning of removable splints.
6. What is stabilization? Types of stabilization.

### **Case studies.**

1. Patient M., 46 years. In the complex treatment of generalized chronic periodontitis a removable splint for the upper jaw was made. The design of the splint is cast removable bar with oral cingulum clasps without vestibular processes to save aesthetics.

Does this splint have the splinting effect in this case?

2. Patient S., 50 years old, contacted the dentist with complaints of bleeding and swelling of her gums, pain during taking meals, odor from the oral cavity, mobility of teeth in the upper and lower jaws.

Objectively:

Tooth formula:

M M M F F H M F M H H M M F M M

18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28  
 48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38  
 M H M H H H H H H H F F H M M

(H – Healthy, F – filling, M - missing)

Hyperemia and edema of gingival tissues of all remaining teeth. Teeth 11, 15, 26, 31, 32, 41,42, have III-rd degree of mobility, teeth 14, 22, 47 –II-nd degree, teeth 13, 23, 33, 34, 35, 36, 43, 44 have I-st degree of pathologic mobility. Alveolar bone resorption about ½ of the root length in the teeth 13, 22, 23, 33, 34, 35, 43, 44, ≥3/4 in the teeth 11, 14, 15, 26, 36, 31, 32, 41, 42. Set the diagnose. Suggest your treatment plan. Which teeth should be extracted?

3. Patient R., 42 years old, contacted the dental clinic with complaints of mobility of teeth 31 and 32. According to the patient, a fixed adhesive splint for front mandibular teeth was made during his periodontal treatment about 2 years ago.

Objectively: gingival tissues in the area of the front teeth of the lower jaw are swollen, bleed during probing. Teeth 31, 32, 33, 41, 42, 43 have cast adhesive splint on the oral surface,

the teeth 31 and 32 are not fixed to the splint, they show pathologic mobility of II degree. The teeth 33, 41, 42, 43, fixed together with the splint show no mobility. X-rays show vertical bone resorption around 31, 32 teeth of ¾ of the root length, resorption around the teeth 33, 41, 42, 43 about 1 \ 2 of the root length. The teeth and the splint have significant amounts of supra- and subgingival plaque and calculus.

Enter the reason of failure of the splinting effect. Your tactics.

4. Patient S., aged 55, contacted the dentist last year with complaints on bleeding gums and pain when taking food, mobility of back maxillary teeth on the left side and the front mandibular teeth.

Objectively 1 year ago:

M H H H F H H F H H H F F F F M  
 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28  
 48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38  
 F H H F F H H H H H H F F H M M

Teeth 24, 25, 26, 27, 31, 32, 33, 34, 41, 42, 43 show pathologic mobility of II degree. X-rays reveal alveolar resorption more than 1/2 around the teeth 24, 25, 32, 33, 42, 43 and ¾ of the root length around the teeth 26, 27, 31, 41. Conservative periodontal treatment and the prosthodontic treatment - splinting with artificial crowns of teeth 24, 25, 26, 27 and 31, 32, 33, 41, 42, 43 was made.

In the present time the hyperemia and edema of gingival tissues around the teeth 24, 25, 26, 27, 31, 32, 33, 41, 42, 43 is observed, as well as significant pathologic mobility of the splints with the teeth.

What is the reason of the failure of splinting treatment? Your tactics.

### **LITERATURE**

#### **Basic:**

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

#### **Additional:**

2. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

## **Class 5**

**Subject of the Class:** Design features and manufacturing technology of permanent splints and splinting dentures for intact dentitions and dentitions with defects.

**Objective:** to study design features, clinical and laboratory stages and manufacturing technology of permanent splints and splinting dentures for intact dentitions and dentitions with defects.

### **Entry knowledge control**

1. Periodontium: structure, function.
2. Aims and objectives of permanent splinting.
3. Features of examination of patients with periodontal diseases.
4. Clinical and laboratory stages of making different types of dental prostheses.

### **Test questions.**

1. Types of prosthetic constructions used for teeth splinting of intact dentition and their characteristics.
2. Clinical and laboratory stages of manufacturing different types of fixed splints:
  - 2.1 for intact frontal teeth;
  - 2.2 for endodontically treated frontal teeth;
  - 2.3 for posterior teeth.
3. Clinical and laboratory stages of manufacturing different types of removable splints.
4. Clinical and laboratory stages of manufacturing different types of fixed and removable splints when partial tooth loss.

### **Case studies.**

1. Patient F., 55 years complained of mobility of the front mandibular teeth, bleeding of the gums. During the oral cavity examination, pathologic mobility of teeth 41, 42, 43, 31, 32, 33 of I-II degree is observed. X-rays show alveolar resorption about 1/2 root length. Orthognathic bite, intact dentition.

Set the diagnosis. Make a plan of prosthodontic treatment. What type of stabilization of the dentition will provide unloading of the front mandibular teeth?

2. When checking the construction of the framework of cast removable splint in the oral cavity its poor fit to the teeth, balancing and poor fixation are revealed. Can we continue the further making of the splint? What do you need to do in this case?

3. Patient K., 65 y.o. contacted the dental clinic with complaints of tooth mobility and missing teeth.

In examination:

M H F F F H M F M H H F M F H M  
18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28  
48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38  
M M M M H H H M M H H F F M M M

Teeth 17, 16, 15, 14, 24, 26, 27, 34, 35, 44 show pathologic mobility of 1st degree, teeth 32, 42 – mobility of 2nd degree. X-rays show uniform horizontal resorption of the alveolar walls to a height of 1/2 of the roots.

Set the diagnosis. What types of dentition stabilisation are necessary for maxilla and mandible, and which, fixed or removable, splints and dentures should be used?

4. Patient M.? 40 y.o., contacted the dental clinic with complaints of bleeding gums, problems of chewing food and loose back teeth in the upper jaw.

In examination:

M H F H H H F F F H H F H F H M  
18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28  
48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38  
M H H H H H H H H H F F H H M

Teeth 17, 16, 15, 14, 24, 25, 26, 27 show pathologic mobility of 1st degree. X-rays show uniform horizontal alveolar resorption in teeth 17, 16, 15, 14, 24, 25, 26, 27 more than 1/2 of the root length, in teeth 32, 31, 41, 42 зубов - about 1/4 of root length.

Set the diagnosis. What types of dentition stabilisation are necessary for maxilla and mandible, and which, fixed or removable, splints and dentures should be used?

## LITERATURE

### Basic:

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### Additional:

2. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

## Class 6

**Subject of the Class:** The final class. Prosthetic treatment of periodontal diseases.

**Objective:** to repeat educational material about etiology, clinic, diagnostics, classification of periodontal diseases, methods of prosthetic treatment, design features, clinical and laboratory stages and manufacturing technology of permanent splints and splinting dentures for intact dentitions and dentitions with defects.

### Entry knowledge control

1. Periodontium: structure, function.
2. Aims and objectives of permanent splinting.
3. Features of examination of patients with periodontal diseases.
4. Clinical and laboratory stages of making different types of prostheses.

### Test questions.

1. Etiology, pathogenesis, clinical features, methods of examination, differential diagnosis of periodontal diseases.
2. Classification of periodontal diseases.
3. The role of the occlusal trauma in the development of periodontal diseases. Occlusal adjustment of teeth.
4. Indications for temporary splinting in periodontal diseases treatment. Types of temporary splints, their characteristics.
5. Orthodontic treatment of patients with periodontal diseases.
6. Permanent splinting in treatment of periodontal diseases. Types and characteristics of permanent splints.
7. Types of stabilization.
8. Indications for fixed and removable splints, comparative characteristics of splints.
9. Design features and manufacturing technology of permanent splints and splinting dentures for intact dentitions and dentitions with defects.

### Case studies

1. Patient T, 42 years old, came to the clinic with complaints of partial loss of teeth on the lower jaw, the mobility of the remaining teeth, chewing dysfunction. He did not previously address for prosthetic care. External examination is unremarkable, movements in the temporomandibular joint are in full range, painless.

0 F F T F T T F F T T F F F T 0

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38



0 0 0 T F T T 0 0 T T F F 0 0 0

On examination of the oral cavity hyperemia of the oral mucosa around the teeth of the lower jaw and their mobility of 1-2 degrees were observed. There is a dentition defect class 1 Kennedy. On the radiograph bone resorption around lower teeth – 42, 32 by 1/2; around 43, 44, 45, 33, 34, 35 – by 1/4 has been revealed, there is no signs of resorption of upper jaw.

Diagnose, analyze the functional state of the teeth, create a treatment plan.

2. Patient P, 45, came to the clinic with complaints of bleeding gums when brushing his teeth, tooth mobility in the frontal area of the mandible, the aesthetic drawback - the lack of a tooth 11. He did not previously address for prosthetic care. External examination is unremarkable, movements in the temporomandibular joint are in full range, painless.

0 T F T T F T 0 T F F F F T T 0

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

0 F T T T F F T F F T T F F T 0

On examination of the oral cavity hyperemia of the oral mucosa around the frontal teeth of the lower jaw and mobility of the teeth 12, 21, 22, 31, 32, 41, 42 of 1-2 were observed. There is a dentition defect 4 class Kennedy on the upper jaw. On radiographs alveolar bone resorption around teeth 12, 21, 22, 31, 41 by 1/2 of root length, around 13, 23, 32, 33, 42, 43 by 1/4 of the length of the roots has been revealed.

Diagnose, analyze the functional state of the teeth and create a treatment plan.

3. Patient F, 71 years old, was referred on consultation by periodontologist. Complaints about loss of teeth, pain when chewing food, the mobility of the remaining teeth. Previously, she was not treated. During the external examination decreased lower facial height, lips and cheeks retraction, deep nasolabial folds were established. Movements in the temporomandibular joint are in full range, painless.

0 0 F 0 0 0 0 0 0 T T 0 0 0 0 0

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

0 T 0 0 0 T 0 0 0 0 T 0 F 0 0 0

On examination hyperemia, swelling of the gums, the presence of pathological periodontal pockets with depths ranging from 3 to 5 mm were observed. There are teeth mobility of 3-4 degrees and dentition defects of the upper and lower jaws. On X-ray there is a bone resorption around 16, 22, 23, 35, 47 teeth more than 3/4, around 33, 43 - more than 1/2.

Diagnose, analyze the functional state of the teeth and create a treatment plan.

4. Patient K, aged 45, came to the prosthetic clinic with complaints about the partial loss of teeth on the upper and lower jaws, impaired chewing function, mobility of remaining teeth. Previously, he had not been treated.

External examination is unremarkable, movements in the temporomandibular joint are in full range, painless.

T F 0 0 F T F 0 0 F T 0 0 F F 0

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

0 F T 0 0 T T 0 0 0 F 0 T F F 0

On examination hyperemia of oral mucosa and tooth mobility of 1-2 degrees were observed. There are dentition defects of the upper and lower jaws of Class 3 Kennedy. On X-ray there is a bone resorption around teeth 12, 14, 18, 22, 26, 27, 42, 47 by 1/2, around teeth 13, 17, 23, 33, 33, 35, 36, 37, 43, 46 by 1/4 of root length.

Diagnose, analyze the functional state of the teeth and create a treatment plan.

5. Patient F, 40 years old, came to the clinic with complaints of partial absence of teeth on the upper jaw, chewing dysfunction. Previously, he did not address for prosthetic care.

External examination is unremarkable; movements in the temporomandibular joint are in full range, painless.

0 0 F 0 T T F F F F T F 0 0 T T

Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

T T T F F T F F T T F F T T T T

On examination: oral mucosa is in a satisfactory state, mobility of teeth 24, 28, 41 of 1 degree was revealed. There is a dentition defect of the upper jaw of Class 3 Kennedy. On X-ray there is a bone resorption around teeth 16, 27, 41 up to 1/4, around teeth 24, 28 up to 1/2. There are no signs of resorption in the area of other teeth.

Diagnose, analyze the functional state of the teeth and create a treatment plan.

## LITERATURE

### Basic:

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### Additional:

2. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

## **Class 7**

**Subject of the Class:** The deformations of dentition and occlusion. Etiology, pathogenesis, diagnosis, clinic. Methods of treatment of the deformations of dentition and occlusion.

**Objective:** To study the causes, mechanisms of development and clinical manifestations of deformations of dentition. To teach students to perform the clinical examination of patients with this pathology.

### **Entry knowledge control:**

1. Anatomical and physiological features of the structure of the upper and lower jaws.
2. The morphology of dentition of upper and lower jaws.
3. The anatomic and physiological features of the structure of the temporomandibular joint.
4. Biomechanics of jaw movements.
5. The causes for the partial loss of teeth.
6. Methods of examination of patients in the clinic of prosthodontics.

### **Test questions:**

1. Etiology, pathogenesis and classification of deformations of dentition in partial loss of teeth. Basic and additional methods of examination of patients with deformations of dentition.
2. Clinical features of dentition deformation caused by the movement of the teeth in the vertical, transversal and sagittal planes. Changes in the temporomandibular joint in patients with deformations of dentition.
3. Methods of treatment of dentition deformations.
4. Method of occlusal teeth adjustment. Orthodontic method. Indications and contraindications. Use of additional physiotherapeutic methods to speed teeth movement.
5. Surgical and prosthetic treatment of deformations.

### **Case studies:**

1. Patient K., 39 years contacted the prosthodontics clinic with complaints of pain in the right temporomandibular joint, difficulty opening the mouth. **OBJECTIVE:** teeth 25, 26, 27, 28 are missing (according to the patient's the teeth were extracted more than 10 years ago), the teeth 35, 36, 37, 38 show vertical dentoalveolar deformation and in the position of central occlusion contact the mucous membrane of the alveolar bone of the upper jaw. Set the diagnosis. Determine the cause of pain in the temporomandibular joint.

2. Patient B., 45 years contacted the clinic of prosthodontics with complaints about the lack of teeth. According to the patient the teeth 16, 17, 26, 27, 38, 37, 46, 47, 48 were removed more than 6 years ago, no prosthetic treatment was carried out.

Determine the necessary range of diagnostic procedures. What types of deformations of dentition can be found in such a patient.

3. Patient S., 53 years contacted the clinic of prosthodontics with complaints about the lack of teeth. Objectively:

External examination was normal, movements in the temporomandibular joint painless, in full range, followed by the clicks on the right and left sides.

0 0 0 h h h h h h h h h h 0 0 0  
Dental formula: 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28  
48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38  
s s s s h h h h h h h h h s h s

0-missing, h – healthy, s – restored by filling

Teeth 36, 37, 38 and 46, 47, 48 in the central occlusion touch the mucosa of alveolar bone of the upper jaw, the clinical crowns are significantly elongated, marked hypertrophy of the alveolar bone is evident as well. Set your diagnose. Determine the type of deformation of dentition.

4. Patient A., 32 years contacted the clinic of prosthodontics with complaints of the presence of the gap in the dental arch on the right side of the maxilla. According to the patient the tooth 15 was extracted about 10 years ago. Objectively: tooth 14 is rotated in its axis, the tooth 16 has a mesial inclination. The size of the distance between the crowns of the teeth 16 and 14 is about 2mm. There are gaps between the teeth 12, 13, 14. Set the diagnosis. Make a plan of treatment.

## LITERATURE

### **Basic:**

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### **Additional:**

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3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

## **Class 8.**

**Subject of the Class:** Features of prosthetic treatment of patients with chronic diseases of the oral mucosa.

**Objective:** to teach students the basic methods of diagnostics and justification of prosthodontic treatment of patients with chronic diseases of the oral mucosa. To study the clinical manifestations of chronic diseases of the oral mucosa.

### **Entry knowledge control:**

1. Anatomy and histology of the oral mucosa.
2. Primary elements of lesions of the oral mucosa.
3. Secondary lesions of the oral mucosa cells.
4. Removable partial dentures with two-layer baseplates, their characteristics.

### **Test questions:**

1. Etiology, clinical features and diagnostics of chronic diseases of the oral mucosa: thrush, papillomatosis, angular cheilitis, leukoplakia, gingival fibromatosis, lichen planus.
2. Differential diagnosis of chronic diseases of the oral mucosa.
3. What additional methods are used in the diagnostics of these diseases?
4. Methods of treatment and special preparation for prosthodontics of patients with chronic diseases of the oral mucosa. Features of prosthodontic treatment in patients with these diseases.

### **Case studies:**

1. A patient with lichen planus in acute stage contacted the prosthodontics clinic for the making of dental bridge on abutment teeth 34, 35, 38.

What is the tactics of the prosthodontist? What should be the denture design and what materials should be preferred?

2. Patient S., 61, contacted the prosthodontics clinic with complaints about the angular cheilitis. According to the words of the patient, the disease started six months ago after complete dentures in both jaws were made, effect of therapeutic treatment is poor, there are frequent relapses.

Objectively: marked decrease in the height of the lower portion of the face about 4 mm, lowered corners of the mouth, the chin and of nasolabial folds are expressed. The margins of the dentures correspond to the neutral zone, fixation is good, multiple tight contact of artificial dentition in the position of centric relation is marked.

Tactics of the dentist.

3. Patient A., 46 years complained of biting the right cheek. According to the patient about 5 months ago PFM bridges were made on the upper and lower jaws with abutment teeth 13, 16 and 45, 47. The patient smokes more than 20 years. Objectively: leukoplakia portion is determined on the inner surface of the cheeks according to the line of the contact of occlusal surfaces of upper and lower teeth on both sides. In addition on the right side there is a zone of chronic injury with the imprints of the teeth. At the closing of the teeth in the position of central occlusion on the right side: the palatal cusps of the upper premolars and molars contact the lingual cusps of the lower antagonists.

What could be the cause of leukoplakia? What is the prosthodontist's tactics.

4. Patient R., 49, complained of burning tongue and dryness of the oral mucosa. The patient associates these complaints with prosthetics- stamp- soldered bridges with a titanium nitride coating made for the upper and lower jaws, the dentures were completed a month ago. In addition, the patient has recently suffered pneumonia, treated with a course of antibiotic therapy.

In the mouth: there are bridges with abutment teeth 17, 16, 13, 12, 33, 34, 37. Condition of the dental work is satisfactory. A white cheesy touch is defined on the back of the tongue, mucosa of the tongue and cheeks is hyperemic.

What additional methods of examination should be carried out for the final diagnosis. Tactics of the dentist.

## LITERATURE

### Basic:

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### Additional:

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3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

## **Class 9**

**Subject of the Class:** Pathological changes in the state of the organism, tissues and organs of the oral cavity associated with the presence of dental prostheses. Galvanosis. Etiology, pathogenesis, clinical features, prevention, treatment.

**Objective:** to study the etiological factors, pathogenesis and clinical picture of galvanosis, to teach the students methods of diagnostics, treatment and prevention of galvanosis.

### **Entry knowledge control:**

1. Anatomical and physiological features of the structure of the oral mucosa.
2. The noble and base metals and metal alloys in dentistry. Composition, properties.
3. Clinical and laboratory stages of manufacturing fixed and removable dentures.

### **Test questions:**

1. Galvanosis and galvanism. Definition and difference.
2. Etiology, pathogenesis, clinical picture of oral galvanosis.
3. Diagnostics of oral galvanosis.
4. Differential diagnosis of intolerance to metal dentures.
5. Methods of measurement of electric potential on the surface of dental prostheses.
6. Tactics of prosthodontist in case of oral galvanosis. Prevention.

### **Case studies:**

1. Patient S., 45 years contacted the prosthodontics clinic with complaints of burning feeling in the mouth and taste the metal. According to the patient, metal bridges in her the upper teeth were made about 2 months ago. The examination of the oral cavity revealed: metal-ceramic bridges in the upper jaw with abutment teeth 18, 14 and 23, 26 and stamped-soldered bridge made from gold alloy in the lower jaw with abutment teeth 34, 37, this one was made more than 20 years ago. What additional methods of diagnostics should be carried out? Tactics of the dentist.

2. Patient T., 43 years contacted the prosthodontist with complaints of dryness of the oral mucosa, burning feeling around the bridge in the lower jaw, which was made about 1 year ago. Objectively: stamped-soldered bridge in the lower jaw with abutment teeth 33, 34, 37 made from stainless steel with titanium nitride coating. The coating shows defects, with greenish color spots on the connectors of the prosthesis. The gum in the teeth 33 and 34 shows hyperemia, in



the area of the tooth 37 an evident necrosis of the gingival papillae is marked. No other metallic components in the oral cavity.

What is the reason of the developed lesion? Tactics of the dentist.

3. Patient M., 29 years. Manufacture of PFM bridge with abutment teeth 13 and 16 was recommended for replacement of extracted teeth 14, 15. No other prosthetic constructions in the oral cavity, there are amalgam fillings in the teeth 17, 18, all other restorations are made from composites and glass ionomer cement.

What advice should be given to the patient for the prevention of oral galvanosis?

## LITERATURE

### Basic:

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### Additional:

2. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

## **Class 10.**

**Subject of the Class:** Pathological changes in the state of the organism, tissues and organs of the oral cavity, associated with the presence of dental prostheses. Allergies. Etiology, pathogenesis and clinical picture.

**Objective:** to study etiological factors, pathogenesis and clinical picture of allergic reactions to the denture materials, to teach the students methods of diagnostics, treatment and prevention of oral diseases, caused by allergic reactions to the denture materials.

### **Entry knowledge control**

1. Anatomical and physiological features of the oral mucosa structure.
2. Precious and base metals and metal alloys in dentistry. Composition and properties.
3. Characteristic of acrylic resins used in prosthetic dentistry.
4. Clinical and laboratory stages of manufacturing of removable and fixed dentures.

### **Test Questions**

1. Allergic reactions, types, stages and mechanism of development.
2. Epidemiology of allergic reactions to the components of dental materials.
3. Etiology, pathogenesis, clinical picture of allergic reactions of the oral cavity.
4. Diagnostics (clinical and laboratory) of allergic reactions to dental materials.
5. Methods of the treatment of allergic reactions to dental materials.
6. Prevention of oral diseases caused by allergic reactions.

### **Case studies**

1. The Patient M., 45 years old, contacted the clinic of prosthetic dentistry for the replacement of golden stamped-soldered dental bridge with new metal-ceramic dentures. There is allergic dermatitis in the patient's anamnesis. Which materials should be used for new denture's manufacturing?

2. The Patient E., 52 years old, is complaining of burning sensation and dryness in the mouth, the patient is connecting the start of her complaints with the fixation of stamped-soldered dental bridges made from stainless steel with titanium nitride coating, which was done two months ago. The patient never had dentures before. What additional research methods should be carried out, what must be clarified from the patient anamnesis? Dentist's tactics.

3. The Patient C., 68 years old, referred to the clinic of prosthetic dentistry with complaints of burning feeling under the basis of maxillary full removable

denture. The denture was made 2 weeks ago, before the patient had been using a removable dentures for more than 15 years, she hasn't had any complaints.

Objectively: the mucosa of the prothetic field in the upper jaw is bright red, hyperemic; on the lower jaw the mucosa is without changes. Examining the upper jaw denture, you can see multiple marble stains in the acrylic basis, the lower jaw denture is uniform i colour, without pores.

Make the differential diagnostics. The dentist's tactics.

4. The patient O., 35 years old, contacted the clinic of prosthetic dentistry with complains of absence of teeth 25, 26. While her anamnesis taking, it was found out that the patient has been suffering from food and household allergies for more than 10 years; she can't wear any jewelry of base metals, previously she hasn't had any dentures.

Objectively: in the oral cavity teeth 25, 26 are missing. Teeth 24, 27 are intact, without any destruction of periodontal tissue.

What additional examination should be carried out to make the final treatment plan? The dentist's tactics.

## LITERATURE

### Basic:

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### Additional:

2. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

## **Class 11**

**Subject of the Class:** Functional anatomy of the temporomandibular joint. The fundamentals of functional occlusion.

**Objective:** to study the functional anatomy of the temporomandibular joint and the fundamentals of functional occlusion, to teach students diagnosis of occlusion problems.

### **Entry knowledge control**

1. Anatomy of the temporomandibular joint.
2. Biomechanics of the lower jaw movements.
3. The morphology of the occlusal surface of the teeth.

### **Test Questions**

1. Functional anatomy of the temporomandibular joint.
2. Biomechanics of the lower jaw movements in three dimensions.
3. Centric relation, centric occlusion. Definition, features, fixation methods.
4. Teeth contacts in lateral movements of mandible.
5. Occlusion factors.

### **Case studies**

1. The Patient A., 65 years old, contacted the clinic of prosthetic dentistry to make dentures because of the complete loss of teeth in both jaws. While examining her old removable dentures, it is marked the teeth separation on the balance side, accompanied by lack of denture fixation, during movements of the mandible to the right and to the left.

What is the reason of poor stabilization of the denture? What occlusion is the most preferable to the complete removable dentures?

2. The patient E., 52 years old, was examined and diagnosed, the plan of the prosthetic treatment was made involving the manufacturing of a porcelain fused to metal dental bridges in the lower jaw fixed on teeth 43, 44, 47 and in the upper jaw fixed on teeth 13, 15, 18. All the other teeth are intact, the canine guidance is the work directing function on the left.

Define, what type of lateral occlusion must be created in the articulator during the manufacture of dental bridges?

3. The patient C., 48 years old, referred to the clinic of prosthetic dentistry with complains of the pain in parotid-masseter area on the left, getting worse in movement of the mandible to the right. According to the patient, the pain appeared a month later the insertion of the PFM dental bridge on the upper jaw fixed on teeth 24, 25, 27. While examining the occlusal relations during the sliding of the

mandible to the right, the highspot contact is marked on the cusps of the teeth 27 and 37.

What is the possible cause of pain? The dentist's tactics.

4. The patient T., 42 years old, contacted the clinic of prosthetic dentistry with complaints of pain in the both temporomandibular joints, which appeared 3 month later after denture setting. While examining the cusp contacts in the centric occlusion position, multiple dental contacts are found out; however the premature contact is determined on the left in the rear contact position.

What is the possible cause of the occlusion infraction? The dentist's tactics.

## LITERATURE

### **Basic:**

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### **Additional:**

2. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16

## **Class 12**

**Subject of the Class:** Diseases of temporomandibular joint. Etiology, pathogenesis, clinical picture, differential diagnostics, methods of prosthetic treatment.

**Objective:** to study the etiology, pathogenesis, clinical picture of the temporomandibular joint diseases, to teach students diagnostics, prosthodontic methods of treatment of the temporomandibular joint diseases.

### **Entry knowledge control**

1. Anatomy of the temporomandibular joint.
2. Biomechanics of mandible movements.
3. The functional anatomy of the temporomandibular joint.

### **Test Questions**

1. Etiological factors and pathogenesis of the temporomandibular joint diseases. Classification of the diseases of TMJ.
2. Differential diagnosis of the TMJ diseases.
3. Etiology, pathogenesis, diagnostics and methods of prosthodontic treatment of pain dysfunction syndrome of TMJ.
4. Etiology, pathogenesis, diagnostics and methods of prosthodontic treatment of habitual dislocations and subluxations of the mandible.
5. Etiology, pathogenesis, diagnostics and methods of prosthodontic treatment of displacement of the articular disc.
6. Etiology, pathogenesis, diagnostics and methods of prosthodontic treatment of arthritis and arthrosis of TMJ.

### **Case studies**

1. The patient E., 52 years old. A complete luxation of the mandible accompanied by severe pain occurred during mandible tooth extraction. The dislocation was for the first time in the patient, the mandible was immediately put back in the joint at the dental surgery, after that patient was send to the prosthodontist for treatment.

The prosthodontist's tactics.

2. The patient C., 68 years old, contacted the clinic of prosthetic dentistry with complaints of aching pains in both TMJ when moving the mandible, and crackle in the joints. According to the patient, these complaints have been present for more than 1 year.

Objectively: the face is symmetrical, when the patient is opening the mouth a crackle in the joints is heard with aching pain, the mouth is opening for more than 5 cm. On zonogramms (OPG) of the joint in the central occlusion position the

heads of mandible are located in the centre of the glenoid fossa; when opening the mouth the heads of the mandible have no contact with the articular tubercle and are located in front of them.

Set the diagnosis. The dentist's tactics.

3. The patient O., 51 years old, referred to the clinic of prosthetic dentistry with complaints of limited mouth opening (about 2 cm) after the surgical resection of left mandibular angle, ramus and left TMJ because of the tumor.

Objectively: the face is asymmetric; the mouth opening is limited, painless, S-curved. In the oral cavity: on the left side of the mandible there is a unilateral edentulous area located posterior to 34. All the other teeth are intact or restored with dentures, being in a satisfactory state.

The dentist's tactics.

4. The patient P., 56 years old, contacted the prosthodontics clinic with complaints of teeth absence and difficulties during chewing food. According to anamnesis of the patient, she has been suffering of the rheumatoid arthritis for about 10 years.

What possible negative consequences of somatic pathology should be considered when making the plan of prosthetic treatment?

What additional methods of examinations of the maxillofacial area should be carried out?

## LITERATURE

### Basic:

1. Prosthetic Dentistry / V.P. Nespriadko [et al.]. – Житомир : Полісся, 2015. – 260 с.

### Additional:

2. Fixed dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления несъемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 30 с.

3. Removable partial dentures. Algorithm of producing. («Клинико-лабораторные этапы изготовления съемных зубных протезов») / С. А. Наумович [и др.]. – 3-е изд. – Мн. : БГМУ, 2018. – 16