

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

Department of Prosthodontics

**METHODOLOGY TEXTS
for Practical Training of Students
4th year, 7th semester**

Methodology Texts were approved at the Methodical
Meeting of Prosthodontics Department August 30, 2023 №1

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APPROVED by
Associate professor A.S.Barunou
Acting Head of the Dpt., Ph.D.



Protocol of the Methodical
Meeting of the Department № 1
August 30, 2023

Assessment criteria of learning outcomes (grade descriptors)

Grade “10” (ten)

is given to the students who show comprehensive systematic and in-depth knowledge in all areas of the curriculum, as well as on the main issues that go beyond its borders, are fluent in the basic concepts of the prostodontics course, display evidence of extensive background reading of relevant and additional literature recommended by the curriculum, can communicate the material stylistically correctly and in a highly-structured way. The student must demonstrate the ability to independently and creatively solve complex problems, critically evaluate and analyze the theories and concepts in the areas of prostodontics and apply the knowledge of other disciplines to the task set. The student must actively participate in group discussions and show a high level of culture while undertaking the tasks.

Grade “9” (nine)

is given to the students who show deep and systematic knowledge in all areas of the curriculum, are fluent in the basic concepts of the prostodontics course, display evidence of extensive background reading of relevant literature and are familiar with the additional resources, can present the material stylistically correctly and logically coherently. The student must demonstrate the ability to independently and creatively solve complex problems within the framework of the curriculum, feel confident in the basic theories and concepts of prostodontics and give them critical evaluation. The student must actively participate in group discussions and show a high level of culture while undertaking the tasks.

Grade “8” (eight)

is given to the students who show deep and systematic knowledge on the identified issues within the scope of the curriculum, are fluent in the basic concepts of the prostodontics course, display evidence of extensive background reading of relevant literature and are familiar with the additional resources, recommended by the curriculum, can present the material stylistically correctly and logically coherently. The student must demonstrate the ability to independently solve complex problems within the framework of the curriculum and feel confident in the basic theories and concepts of prostodontics. The student must actively participate in group discussions and show a high level of culture while undertaking the tasks.

Grade “7” (seven)

is given to the students who show full and deep knowledge in all areas of the curriculum, have a good command of the basic concepts of the prostodontics course, display evidence of extensive background reading of relevant literature and are familiar with the additional resources, recommended by the curriculum, can present the material stylistically correctly and logically coherently. The student must demonstrate systematic knowledge of prostodontics, show the ability to independently solve complex problems and feel confident in the basic theories and concepts of prostodontics. The student must actively participate in group discussions, show a high level of culture while undertaking the tasks.

Grade “6” (six)

is given to the students who show sufficiently complete knowledge within the scope of the curriculum, have a good command of the basic concepts of the prostodontics course, can communicate the material amply, are able to make informed judgments, display evidence of background reading of the relevant literature recommended by the curriculum. The student must demonstrate systematic knowledge of prostodontics, show the ability to independently apply the standard solutions within the framework of the curriculum, feel confident in the basic theories and concepts of prostodontics and give them a comparative assessment. The student should periodically participate in group discussions, show a high level of culture while undertaking the tasks.

Grade “5” (five)

is given to the students who show sufficient knowledge within the scope of the curriculum, have a good command of the basic concepts of the prostodontics course, can stylistically competently communicate the material on the identified issues, are able to make informed judgments, display evidence of background reading of the relevant literature recommended by the curriculum. The student must demonstrate the ability to independently apply the standard solutions within the framework of the curriculum, feel confident in the basic theories and concepts of prostodontics and give them a comparative assessment. The student must participate in group discussions, work independently in practical classes, show a high level of culture while undertaking the tasks.

Grade “4” (four) – acceptable (passed)

is given to the students who show sufficient knowledge within the educational standard, have a good command of the basic concepts of the prostodontics course, use scientific terminology, can stylistically correctly and logically appropriately communicate the material, are able to draw conclusions without significant errors, display evidence of background reading of the relevant literature recommended by the curriculum. The student must demonstrate the ability to solve standard problems under the supervision of a teacher, feel confident in the basic theories and concepts of prostodontics and be able to evaluate them. The student must work in practical classes under the guidance of a teacher, demonstrate acceptable level of culture while undertaking the tasks.

Grade “3” (three) – unacceptable (failed)

is given to the students who show insufficiently full scope of knowledge within the educational standard, have a low level of command of the basic concepts of the prostodontics course, communicate the material on the identified issue with significant linguistic and logical errors, are incompetent in solving standard problems, show little evidence of background reading of the relevant literature recommended by the curriculum, are not familiar with the basic theories and concepts of prostodontics, are passive in practical classes, show a low level of culture while undertaking the tasks.

Grade “2” (two) – unacceptable (failed)

is given to the students who show fragmentary knowledge within the educational standard, communicate the material with serious stylistic and logical errors, display little knowledge of the relevant literature recommended by the curriculum, are passive in practical classes, show a low level of culture while undertaking the tasks.

Grade “1” (one) – unacceptable (failed)

is given to the students who show lack of knowledge and competences within the educational standard or refuse to answer.

Literature

Basic:

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

Additional:

3. Nallaswamy D. V. Textbook of prosthodontics.- New Delhi, 2011.- 844 p.
Ортопедическая стоматология : учебник
4. 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.

Class 1

Subject of the class: Prosthodontics in complete tooth loss (complete secondary edentia). Features of patient clinical examination in complete tooth loss. Determination of morphological characteristics of hard and soft tissues of basal seat area, the degree of atrophy of the alveolar processes and jaws body.

Objective of the class: to study the etiology and pathogenesis of complete tooth loss, anatomical-physiological features of oral bone structures and mucous membrane in edentulous patients, to teach the students to examine the patients with complete tooth loss.

Entry knowledge control

1. Anatomical structure of the upper jaw.
2. Anatomical structure of the lower jaw.
3. Methods of examination of patients in the clinic of prosthodontics.

Test Questions:

1. Complete tooth loss (complete secondary edentia, edentualism). Etiology, prevalence.
2. The features of clinical examination of completely edentulous patients.
3. Anatomical features of the structure of edentulous upper jaw.
4. Anatomical features of the structure of edentulous lower jaw.
5. Functional and morphological changes occurring in the dentoalveolar system with complete tooth loss.

Case studies.

1. Patient M., 67 years came to the prosthodontist with complaints about the complete absence of teeth.

What is the tactics of prosthodontist in handling the patient with complete loss of teeth?

2. Patient B., 60 years old, came to the clinic for the purpose to get prosthodontics treatment. The examination revealed: defects of mastication, speech, external aesthetic appearance, significant genial and nasolabial folds on the face, the complete absence of teeth, prognathic relationship of edentulous jaws.

- a. Which methods of examination were used?
- b. Which additional methods of examination should be performed?
- c. What are the causes of the appearance of genial and nasolabial folds?
- d. What caused prognathic jaw relationship?

3. The examination of the oral cavity of the patient D. shows the presence of mobile mucosa folds arranged longitudinally of the alveolar ridge top. They could be displaced easily with a slight touch.

Classify the state of the mucous membrane of the prosthetic field according to the oral mucosa classification by Supplee.

4. Patient X. 68 years, one month ago received complete removable dentures in both jaws. Currently, he complains of the acute pain under the denture base in the tooth 25 area. The examination of the mucous membrane revealed protruding root of tooth 25, and reddish, swollen mucosa around. Specify what mistake was done during patient examination and making the treatment plan.

Literature

Basic:

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

Additional:

3. Nallaswamy D. V. Textbook of prosthodontics.- New Delhi, 2011.- 844 p.
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Class 2

Subject of the class: Classification of edentulous jaws by Schroeder, Keller, Kurlyandski, Oksman. Assessment of the mucous membrane of the oral cavity with complete loss of teeth.

Objective of the class: to study the classification of edentulous maxilla and mandible.

Entry knowledge control.

1. The anatomy of the maxilla.
2. The anatomy of the mandible.
3. The clinical examination of patients with complete tooth loss.
4. Functional and morphological changes in dentition in complete tooth loss.
5. The classification of oral mucosa by Supplee.

Test Questions:

1. Classification of edentulous maxilla by Schroeder and Kurlyandsky.
2. Classification of edentulous mandible by Keller and Kurlyandsky.
3. Classification of edentulous maxilla and mandible by Oksman.
4. Evaluation of the mucous membrane of the basal seat area of edentulous jaws.

Case studies.

1. During the examination of the oral cavity of patient A. the dentist revealed the following clinical picture: the alveolar ridge of the lower jaw is completely atrophied in the front area, a prosthetic bed in this area is almost absent. The alveolar process in the posterior teeth is high.

Specify the type of edentulous mandible and classification of Kurlyandsky and Keller.

2. Patient B. The examination of the oral cavity reveals the following picture: well-defined alveolar ridge, the neutral zone is far from the top of the alveolar crest, i.e. alveolar bone protrudes above the level of attachment of muscles on both sides.

Specify the type of the edentulous mandible on the classification of Kurlyandsky.

3. During the examination of the oral cavity of patient B. the dentist observed the following: high alveolar crest uniformly covered with thick mucous membrane, well expressed cusp of the upper maxillary alveolar tuberosities. Deep palate. The torus is not pronounced.

Specify the type of edentulous maxilla by Schroeder.

4. The examination of the oral cavity of the patient M. noted the complete absence of the alveolar bone of the upper jaw, a significant atrophy of the maxillary alveolar tuberosities, flat palate and the low-lying neutral zone.

Specify the type of edentulous maxilla by Schroeder.

5. Patient A. The examination of the oral cavity reveals the following picture: a significant uniform atrophy of the alveolar bone of mandible, mobile mucosa attached almost at the level of the alveolar crest.

Specify the type of edentulous mandible by classification of Keller.

6. Patient E., 63 years came to the clinic with the purpose of prosthodontic treatment. The oral examination revealed complete absence of teeth in both jaws. At examination of the alveolar process of the mandible the dentist found that alveolar process is completely atrophied, the folds of lower lip and tongue are close to each other, side folds are attached at the middle of the mandible body. The neutral zone on the labial side could not be defined on most surface, it could be seen a little bit in only in molar region. There the presence of mobile fold (“hanging ridge”) of the mucous membrane of alveolar crest in the area of missing posterior teeth on both sides. The upper jaw has a full denture made a year ago. Specify the type of edentulous mandible by Kurlandsky. What type of mucosa according to Supplee?

Literature

Basic:

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

Additional:

3. Nallaswamy D. V. Textbook of prosthodontics.- New Delhi, 2011.- 844 p.
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Class 3

Subject of the class: Methods of fixation and stabilization of complete removable dentures.

Objective of the class: To study the methods of fixation and stabilization of removable dentures.

Entry knowledge control.

1. The anatomy of the upper and lower jaws.
2. The clinical examination of patients with complete loss of teeth.
3. Functional and morphological changes in dentition in complete loss of teeth.
4. Classification of the upper and lower edentulous jaws.
5. The classification of types of oral mucosa by Supplee.

Test Questions:

1. Methods of fixation and stabilization of removable dentures. Definition, groups of methods
2. Mechanical methods of denture fixation on edentulous jaws.
3. Physical methods of denture fixation on edentulous jaws.
4. Biomechanical methods of denture fixation on edentulous jaws.
5. Biophysical methods of denture fixation on edentulous jaws, concept of valve (Neutral) zone.
6. Stabilization factors of dentures on the edentulous maxilla and edentulous mandible in complete tooth loss.
7. Dependence of the denture fixation on the area of basal seat, the effect of masticatory and mimic muscles, the state of the submucosa, the shape of the alveolar process.

Case studies.

1. Patient I., aged 58, complained of poor fixation of her complete denture in the upper jaw. Objectively: the atrophy of alveolar bone in maxilla is moderate, the crest in the maxillary right and left alveolar tuberosities is high, with significant undercuts. On examination of the oral cavity with the denture on the jaw the blind fossa could be seen distal to the denture margin.

Specify, what may be the cause of the patient's complaints on the denture. What should the dentist do?

2. Patient N., 60 years old. Complaints of frequent fractures of the base of maxillary complete removable denture. The oral examination shows: a moderate degree atrophy of the alveolar bone, alveolar tuberosities are not expressed, the average palate depth with a high tori. Earlier made maxillary denture has signs of repeated repairs. The dentures are balancing on the jaw.

Name the tactics of the dentist. What are the causes of fractures? Specify the type of atrophy of alveolar bone of the upper jaw according to Kurlyandsky.

3. Patient M., 74 years old, got a full denture for the upper jaw three days ago. When biting and chewing food the denture moves.

What are the possible causes of this situation and ways to eliminate it.

4. Patient U., 67 years old. Complaints of poor fixation of maxillary denture that she owns for 1 day. Oral examination revealed that the denture balances on the neutral zone fold of in the area of teeth 16, 15, 14, and the epithelial layer of the mucosa is reddish and traumatized in this area.

Specify the cause of this condition. Your tactics.

5. Patient S., 58 years old. Complaints about poor fixation of complete mandibular denture, made a year ago. Objectively: IV type of atrophy of the alveolar bone according to Kourlandsky, high muscle tone of the muscles of the mouth floor. Mucosa, of the alveolar ridge is atrophic, thinned. In the area of the teeth 15, 25 there are mucous folds of 3-4 mm width, dense and rigid in consistency, going from the top of the crest to the neutral zone fold.

Determine the type of mucosa (according to Supplee). What should be the tactics of the dentist.

Literature

Basic:

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

2. Lecture material

Additional:

3. Nallaswamy D. V. Textbook of prosthodontics.- New Delhi, 2011.- 844 p.
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4. 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.

Class 4

Subject of the Class: Anatomical (preliminary) impressions, techniques of taking, materials. Individual trays, characteristics, techniques of manufacturing and materials.

Objective of the Class: to teach the students methods of taking anatomic impressions from edentulous jaws, to learn the methods of individual trays making.

Entry knowledge control

1. Kinds of impressions, impression materials, classification, characteristics.
2. Impression trays, characteristic, rules of their selection.
3. Morphological characteristics of the upper and lower edentulous jaws structure.
4. Plastic materials, their general characteristic, features, techniques.

Test questions

1. Impression, definition, kinds.
2. Impression materials, classification, characteristics.
3. Anatomic impressions: rules of tray selection, kinds of trays, choice of impression material. Methods of anatomical impression taking.
4. Individual trays: general characteristics, materials for their manufacture.
5. The borders of individual trays in the upper and lower jaws.

Case studies

1. Patient M. is 73 years old. Diagnosis: complete edentia on the upper jaw. Atrophy of the upper jaw is 3-d type by Schroeder classification. Mucosa in the front part of alveolar process makes folds, which straiten under pressure.

What are the peculiarities of anatomic impression taking?

2. Patient K. is 62 years old. Diagnosis: complete secondary edentia of both jaws, 1-st class by Schroeder classification on the maxilla and 3-d class by Keller classification on the mandible. Mucosa of the upper jaw is ductile and dense. There is a movable fold on the right lateral part of the lower jaw crest. Indicate impression materials for the anatomic impression on the upper and lower jaws.

3. During fitting of the standard metal tray on the upper jaw it was found that the tray covers $\frac{1}{2}$ of tuber maxillae. Is it possible to take anatomic impression using this tray? What is the tactics of the dentist?

4. Dental technician made the borders of the vestibular surface of the individual trays for the upper and lower jaws 2 mm longer than neutral zone. What are the consequences of the excessively long borders of the individual trays? What is the tactics of the dentist?

5. To decrease time of manufacturing complete dentures the dentist made individual trays in the oral cavity of a patient using base wax. Indicate shortcomings of such trays.

Literature

Basic:

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

Additional:

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

Class 5

Subject of the Class: Functional tests by Herbst for individual trays fitting. Taking and assessment of functional (final) impressions. Choice of impression material for functional impressions.

Objective of the Class: to study the borders of the complete removable dentures on the upper and on lower jaws, to teach students the methods of individual tray fitting and functional impression taking from the edentulous jaws.

Entry knowledge control

1. Impression, definition, kinds.
2. Impression materials, their classification and properties.
3. Morphological characteristics of edentulous upper and lower jaws structure.
4. The classification of the mucosa types according to Supplee.

Test questions

1. Functional impression, definition, substantiation of the necessity of their taking during prosthodontic treatment in case of complete tooth loss.
2. Individual tray fitting (by Herbst) on the upper jaw.
3. Individual tray fitting (by Herbst) on the lower jaw.
4. The functional impression classification, substantiation the impression material choice in relation to the type of the mucosa by Supplee.
5. Border molding of individual tray, technique, materials.
6. Methods of taking relieved, compressive and differentiated pressure impressions.

Case studies

1. Patient M. is 73 years old. Diagnosis: complete tooth loss on the upper jaw. Atrophy of the upper jaw is 3-d type by Schroeder classification. Mucosa of the front part of alveolar process makes folds, which straiten under pressure. What are the peculiarities of the functional impression taking?

2. The patient O. is 62 years old. The following functional tests were used during fitting of the individual tray for the lower jaw: touching the cheek with the tip of the tongue in case the mouth is half closed; stretching the tongue to the nose tip; swallowing; drawing the lips to the shape of a tube; licking upper and lower lips with the tongue tip; wide opening of the mouth.

Name the mistakes in the sequence of the functional tests performing.

3. The patient A. is 66 years old. After fitting the individual tray on the upper jaw it was revealed during functional tests that the tray displaces easy after pressing on the finger grip up and forward. What is the reason of poor fixation of the tray? What is the dentist's tactics?

4. The patient H. is 60 years old. He complains of frequent fractures of the base of complete removable denture on the upper jaw. The following signs were revealed during oral cavity examination: significant atrophy of the alveolar process, alveolar tubers are not expressed, the middle depth palate has prominent torus. The maxillary denture has marks of the repeated repairs. The denture balances on the

jaw. Specify the tactics of the dentist. What is the reason of the fracture? Specify the type of the alveolar process atrophy according to Kourlandskiy's classification.

5. Patient K. is 62 years old. Diagnosis: complete secondary edentia of both jaws, 1-st class by Schroeder on the upper jaw and the 3-d class by Keller on the lower jaw. Mucosa of the upper jaw is ductile and dense. There is a movable fold in the right lateral part of the lower jaw crest.

Indicate impression materials for the functional impression on the upper and lower jaws.

Literature

Basic:

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

2. Lecture material

Additional:

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

Class 6

Subject of the Class: Cast pouring and making of record bases with occlusion rims. The borders of denture bases in complete tooth loss.

Objective of the class: to teach students methods of functional impressions molding and wax baseplate with occlusion rims making.

Entry knowledge control

1. Master model casting, methods, materials.
2. Borders of the neutral zone in the upper and lower jaws.
3. Materials for modeling, general characteristics, application.

Test questions

1. Molding of the margin of functional impression, application, technique.
2. Cast pouring and guide lines drawn on the cast (neutral zone, alveolar and middle lines).
3. The borders of the complete removable dentures in the upper and on lower jaws.
4. Materials used for making of wax (record) base with occlusion rims.
5. Requirements for record bases with occlusion rims and method of their making.
6. Indications for making of rigid record base plates with occlusal rims.

Case studies

1. After the dentist made the functional impression, he gave it to the lab. The dental technician cast the master model without molding the margin. Indicate technical mistake and possible negative consequences.

2. The dental technician used the type 1 gypsum to cast master model in manufacturing the complete removable denture. What are the possible negative consequences during manufacture of the complete removable denture in case such a working model is used?

3. The dental technician revealed many pores within the prosthetic bed borders after opening the master model. What is the tactics of the dental technician and the dentist in this case? Indicate measures to prevent such mistakes.

4. The prosthodontist examined wax base plates with occlusal rims on the master models prior to the registration of the centric jaw relation and revealed the following: the upper and the lower wax base plates do not fit to the master models tightly; absence of the reinforcing wire; sharp junction between the base plate and the occlusal rims; width of the occlusal rims is 0,5 mm in the front part and 1,0 mm in the lateral.

Which mistakes were made by dental technician? Is it possible to detect the centric jaw relation using such a wax base plate with occlusal rims?

Literature

Basic:

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

2. Lecture material

Additional:

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

Class 7

Subject of the class: Determining the centric relation in complete tooth loss. Vertical dimension of occlusion.

Objective of the class: to teach the students methods of centric relation determining and record.

Entry knowledge control.

1. Biomechanics of the mandible.
2. Functional anatomy of the temporomandibular joint.
3. Articulation, occlusion, bite.
4. Types of occlusion. Signs of centric occlusion.
5. Requirements for the wax basewith occlusion rims and method of its manufacture

Test questions

1. The concept of centric relation and centric occlusion.
2. Methods for determining the height of the lower third of the face (the vertical dimension of occlusion - VDO) and their characteristics.
3. Anatomical and physiological method for determining VDO, details of the technique.
4. Sequence of determining the centric relation.
5. Methods of recording the centric relation.
6. Anatomical landmarks (guide lines) transferred on wax base plates.

Case studies.

1. After the fitting of the maxillary wax baseplate was done, the edge of the occlusal rim protrudes down from the upper lip of the patient about 4 mm, prosthetic plane in the frontal area is parallel to the pupillary line, in the lateral area – to the line connecting the tragus of the ear and the angle of the mouth (ala tragus line); when looking from aside the upper lip is standing out visibly. Which mistakes were made by the dentist during the fitting of the wax baseplate with occlusal rims, methods of their correction.

2. Patient H., who lost all his teeth completely, contacted the prosthodontist soon after the dentures were made to him with complaints of "knocking" of artificial teeth, discomfort in the temporomandibular joint and fast fatigue of the muscles, which raise the lower jaw. What is the possible reason of these complaints? What is the tactics of the dentist?

3. Patient K., 60 years old, contacted the prosthodontics clinic with complaints on the complete lack of teeth in the upper and lower jaws. In examination of the oral cavity uneven atrophy of the alveolar bone of the upper jaw is observed. The alveolar ridge on the right side is higher than on the left side of the maxilla. In the mandible uniform atrophy of II degree is observed. During the formation of prosthetic occlusal plane on maxillary occlusal rim the dentist has ensured that the height of the occlusal rim was the same in every place. After the

dentist has finished the work with the maxillary rim, she began fitting of the mandibular rim to it. Are these actions of the dentist correct? Give your reasons.

4. After determining and recording centric relation of the jaws at complete loss of teeth, the dentist took out connected wax baseplates out of the patient's mouth, cooled them and separated. To verify the correctness of the manipulation, wax baseplates were put back into the oral cavity and set on the prosthetic beds. When biting together, the gap between the occlusal rims in the front region within 1- 1.5 mm is observed. Which mistake was done during the procedure of registration of centric relation, how to correct it?

5. The dentist uses anthropometric method by comparing the thirds of the face for determining the height of the lower third of the face (VDO). Give your comments on her actions.

6. Patient B., 63 years old. The diagnose after the examination of his oral cavity is complete secondary edentia of the maxilla and secondary partial edentia of the mandible 1 class Kennedy. What are the peculiarities of determining and fixing centric relation in a given situation?

Literature

Basic:

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

2. Lecture material

Additional:

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

Class 8

Subject of the class: Laws of articulation. Artificial teeth arrangement in complete tooth loss. Features of tooth arrangement in patients with malocclusion.

Objective of the class: to teach the students rules of artificial teeth arrangement in complete tooth loss.

Entry knowledge control

1. Articulation, occlusion , bite
2. Articulators, their construction and principles of use.
3. Artificial teeth, types, rules of teeth selection.
4. The features of anatomy of maxilla and mandible in complete tooth loss.

Test questions

1. Laws of articulation by Gysi – Hanau. Basic principles of balanced occlusion.
2. Types of artificial teeth, comparative characteristics, rules of artificial teeth selection in making complete dentures.
3. Occlusal schemes, advantages, indications.
4. Methods of teeth arrangement.
5. Teeth arrangement on the glass plate (method by Vassilyev). Cast mounting on articulator and setting of horizontal plane (glass plate).
6. The features of artificial teeth arrangement in prognathic and prognathic relation of alveolar processes.

Case studies.

1. During the verification of complete denture design the dentist noted that the central lines between the upper and the lower incisors don't match. Specify a mistake made by a dental technician or dentist.

2. The patient is 74 years old. The complete denture was inserted 3 days ago. The denture is displaced when biting food. Name the possible reasons of this defect and ways of its elimination.

3. During the clinical check of design of the complete lower and upper dentures with anatomic artificial dentition, sagittal and transversal occlusal curves are not marked.

Which mistake was done in the arrangement of artificial teeth?

4. Examination of the patient revealed mobile mucosa fold in distal parts of the alveolar ridge of mandible. Which occlusion scheme is preferable for arrangement of artificial teeth in this patient?

5. The dental technician used scheme of Vassil'ev for arrangement of artificial dentition in complete denture, at the same time all maxillary and mandibular teeth were arranged on the midline on the alveolar crest.

Which mistake was done by the dental technician? How to correct it?

Literature

Basic:

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

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Additional:

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

Class 9

Subject of the class: Try in of wax up of complete denture. Analysis and correction of medical and technical errors in determining the centric relation.

Objective of the class: to teach the students to try-in wax up constructions of complete removable dentures and to reveal the errors made at the stage of determining the centric relation.

Entry knowledge control

1. Articulation and occlusion
2. Types of occlusion. Signs of centric occlusion
3. Check of wax up of partial removable denture.
4. Methods of determining the vertical dimension of occlusion and their characteristics.
5. Procedure of centric relation determining and registration.
6. Methods of arrangement of artificial dentition.

Test questions

1. Occlusion, types of occlusion. Signs of centric occlusion in orthognatic bite.
2. Method and consequence of trial fit of wax reproductions of complete dentures.
3. Requirements for arrangement of artificial teeth.
4. Clinical signs and tactics of the dentist when increased and decreased lower face height (VDO) at the stage of wax try in.
5. Clinical signs and tactics of the dentist for errors associated with the displacement of the mandible in the sagittal and horizontal planes when recording centric relation.
6. Errors, caused by horizontal, sagittal and vertical displacement of the wax base plates or their deformation during the registration of centric relation.

Case studies.

1. During the trial fit of complete dentures in patient M. the flatness of nasolabial and mental folds is observed, artificial dentition is “knocking” at speech trial. When the mandible of the patient is at rest position, no vertical gap between the front teeth is observed. When the mouth of the patient is half-open, incisal edges of maxillary front teeth protrude about 3-4 mm from the upper lip. Which mistake was made? At which stage of denture fabrication was it made? How to correct it?

2. During the trial fit of the complete denture construction of patient B. the prognathic relation of artificial dentition, cusp-to-cusp contacts of lateral teeth, sagittal gap between the frontal teeth, raise of height of the lower face are revealed.

Which mistake was made and when was it made? Method of its correction.

3. Name the clinical signs of registering the decreased VDO and the tactic of dentist when diagnosing this mistake.

4. During the trial fit of the complete denture construction the cusp-to-cusp contacts on the right side, increased VDO, displacement of the midline of mandibular denture to the right, gap between the lateral teeth on the left side are observed.

At which stage of denture manufacture was the error done? What is the error? Methods of its correction.

5. During the trial fit of the complete denture construction occlusal contacts are seen only between the front teeth, there is gap between the lateral teeth on both sides, that the spatula can go through. VDO is not increased.

Which error was made? Tactics of the dentist of its correction.

Literature

Basic:

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

2. Lecture material

Additional:

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

Class 10

Subject of the Class: Fitting and insertion of removable dentures in complete tooth loss. Rules of removable denture use and correction.

Objective of the Class: to study evaluation of the quality of complete dentures, to learn how to fit and insert dentures, to know the rules of correction and patient maintenance of removable complete dentures.

Entry knowledge control:

1. Insertion and fitting of removable partial dentures.
2. The clinical and laboratory stages of making complete removable dentures.

Test Questions:

1. Which errors in the manufacturing of dentures can be identified by visual inspection? Dentist's tactic for elimination.
2. Fitting and insertion of complete denture.
3. Which errors in the manufacturing of complete dentures can be revealed at the stage of fitting and insertion of the denture. Methods of their correction.
4. Post insertion instructions to the patient on use of the complete dentures.
5. Correction of the denture, procedure.
6. What is the principle of completeness of the treatment?

Case studies:

1. The patient is 60 years old. She contacted the clinic with complaints of inability to chew, pain in the masticatory muscles and temporomandibular joints. She feels pain when using complete dentures. Protheses were made a month ago. At examination the lower third of the face is increased. When the patient smiles, the denture base plate is exposed. At the mouth opening the frontal teeth visible for 4-5 mm below the upper lip. Defect of diction. When these complete dentures were made, the clinical stage of verification of the design of wax reproductions of complete dentures was skipped.

What's the mistake in the manufacture of the dentures? At what stage of manufacture was it done? How to solve the problem of this patient?

2. At the stage of fitting and insertion of complete dentures the dentist reveals a decrease in the lower third of the face, distinct nasolabial folds, depressed corners of the mouth. During the speech test a marked distance between the teeth of the upper and lower jaw equal to 8-9 mm is observed.

What is the mistake of the prosthodontic work? At what stage of manufacture of the dentures? How to fix the error in this case?

3. The patient is using the complete dentures for 3 days. She complains of problems of poor fixation of the maxillary denture when eating and speaking. At examination, the oral margin of the prosthesis covers maxillary alveolar tuberosity, goes on the neutral zone on vestibular surface. On the distal border of the hard palate the blind fossae are clearly visible.

What is the cause of unsatisfactory denture fixation? How to fix the error?

4. During the fitting of complete removable dentures the dentist noted that the base plate is too thick. The lower third of the face of the patient is increased. In a position of physiological rest there is no gap between the teeth. The teeth of the upper jaw visible below the upper lip for 3-4 mm, the teeth of the lower jaw outstand for 2-3 mm above the vermilion border of the lower lip. During the speech test could hear "knocking" of teeth.

What is the mistake in the manufacture of the dentures? What should the doctor do to fix the problem?

5. The patient is referred to the clinic with complaints of unsatisfactory fixation of mandibular prosthesis. The examination of the oral cavity reveals the 2 mm gap between the vestibular margin of the prosthesis and neutral zone fold on the right side.

What is the reason for the poor fixation of the denture? What is the tactics of the dentist?

Literature

Basic:

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

2. Lecture material

Additional:

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.

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Ортопедическая стоматология : учебник

Class 11

Subject of the Class: Clinical management of patients in long-term periods. Adaptation.

Objective of the Class: to study mechanisms of adaptation to complete dentures, to teach students the technique of relining and repair of dentures, and the tactics of managing the patients in long-term period.

Entry knowledge control:

1. Reaction of oral tissues to removable dentures.
2. Clinical and laboratory stages of making complete dentures.

Test Questions:

1. Adaptation of patients to dentures. The phases of adaptation.
2. Recommendations for patients to speed up adaptation to complete removable dentures.
3. Reaction of the tissues of the basal seat area to the use of complete removable dentures.
4. Relining and rebasing of base plates. Indications and contraindications.
5. The materials for rebasing of complete dentures, comparative characteristic.
6. The reasons of breakages and rules of repair of removable dentures.

Case studies:

1. The patient A. contacted the clinic with complaints on breakage of maxillary complete denture. He used this denture for more than 5 years. The fixation of the denture became poor in last year. There is a break of baseplate of the denture in the area of a torus. Your tactics to correct the problem.

2. The patient B. contacted the clinic with complaints on unsatisfactory fixation of the lower jaw denture. This denture was made 5 years ago. There is a gap about 2 mm between the vestibular margin of the denture and the neutral zone. What is the reason of poor fixation of the denture? Your tactics to correct the complication.

3. The patient C. contacted the clinic with complaints on the pain during chewing food in the area of maxillary alveolar ridge on the next day after his complete denture was repaired. There is a site of a hyperemic and edematous mucous membrane in the area of neutral zone at the level of teeth 16, 17. Specify the diagnosis. Your tactics to eliminate the complication.

Literature

Basic:

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

2. Lecture material

Additional:

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

Class 12

Subject of the Class: Prosthetic treatment of patients with complete tooth loss in one jaw. Repeated prosthetics in complete tooth loss.

Objective of the Class: to teach students in prosthodontics in patients with complete absence of teeth in one jaw and the features of repeated prosthodontics.

Entry knowledge control

1. Methods of fixation and stabilization of removable dentures.
2. Articulation, occlusion, bite.
3. The immediate and remote results of prosthetics with removable dentures.

Test Questions

1. Features of making dentures in patients with complete tooth loss in one jaw.
2. Indications and terms of repeated prosthodontics in complete tooth loss.
3. Method of manufacturing of complete dentures with metal base.
4. Method of manufacturing of complete dentures with two-layer base.
5. Duplication of complete dentures in repeated prosthetics, indications, advantages, technique.

Case studies:

1. The patient A. is 63 years old. The maxillary teeth are intact. This is a total loss of teeth of the lower jaw. The occlusal surfaces of teeth 17, 16, 25, 26, 27 are located 3 mm lower than chewing surfaces of the neighbor teeth. All teeth have no pathologic mobility. Teeth on the lower jaw were extracted a month ago. He hasn't use any dentures before.

What are the features of the prosthodontic treatment of this patient?

2. Patient N., 60 years old, uses her complete maxillary denture for over 7 years. Complaints on frequent fractures of the denture. At the oral examination: moderate even atrophy of the alveolar bone, maxillary tubercles are not expressed, the average depth of the palate with a marked torus. The previously made maxillary denture shows traces of repeated repairs. The denture is loose on the jaw. What is the tactics of the dentist.

3. Patient Y., 67 years old. Complaints on poor fixation of the maxillary denture. He uses the denture for more than 3 years. At the oral examination the dentist reveals that the maxillary denture balances at the neutral zone in the area of teeth 16, 15, 14, the baseplate has remnants of the fixing cream and debris. There are areas of swelled and reddish mucosa on the palate.

Specify the cause of the pathologic condition. Your tactics with this patient.

Literature

Basic:

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

2. Lecture material

Additional:

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

Class 13

Subject of the class: Clinical and laboratory stages of complete removable dentures manufacturing.

Objective of the class: to be able to perform successfully the clinical stages of manufacturing of complete dentures, to know the laboratory stages of their manufacturing.

Entry knowledge control

1. Clinical stages of manufacture of complete removable dentures.
2. Laboratory stages of manufacturing of complete removable dentures.

Test questions

1. Features of examination of patients with complete tooth loss.
2. Functional and morphological changes in dentition system at complete loss of teeth.
3. Classification of edentulous jaws and oral mucosa (Schroeder, Keller, Kurlyandsky, Supplee).
4. Clinical stages of manufacturing of complete removable dentures.
5. Laboratory stages of manufacturing of complete removable dentures.
6. The sequence of determining the centric relation of edentulous jaws.
7. The insertion and fitting of complete dentures.
8. Rules of use and hygienic care of complete dentures.

Literature

Basic:

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

2. Lecture material

Additional:

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.

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Class 14

Subject of the class: Pathological wear of hard dental tissues. Characteristic of tooth wear, types, etiology, pathogenesis. Classification of pathological tooth wear. Clinical picture, diagnostics.

Objective of the class: to study the etiology and pathogenesis of pathological wear of dental hard tissues. To know the different types of pathological tooth wear and changes in the hard tissues of teeth, the pulp and the periodontium.

Entry knowledge control

1. The anatomical structure of teeth and periodontium.
2. Methods of examination of dental patients.
3. Mechanical properties of dental materials used for restorations and prosthetics.

Test questions

1. Types of wear of hard tissues of the teeth. Physiological role of tooth wear in the prevention of dental system pathology.
2. Epidemiological data on pathological wear of hard tissues of teeth. The etiology and pathogenesis of pathological tooth wear. Role of dental restorative materials in etiology and pathogenesis of pathological tooth wear.
3. Methods of diagnostics and differential diagnostics of pathological tooth wear.
4. The classification of pathological tooth wear and methods of evaluation of the degree of tooth wear severity.
5. Clinical picture with localized and generalized forms of pathological tooth wear.
6. Changes in the hard tissues of teeth, dental pulp and periodontal tissues in pathological tooth wear.

Case studies

1. The patient is 45 years old. Her complaints: the aesthetic defect, increased sensitivity of hard tooth tissue in front teeth from chemical, thermal and mechanical stimuli. Anamnesis determined that the patient is working in the shop for production of acids. Objectively: facial configuration is not changed. In oral cavity examination the maxillary front teeth are eroded approx. 1/3 of the height of the tooth crown, direct type of the bite. Dentitions on the upper and lower jaws are intact.

Determine the reason of abnormal wear of the teeth. Set the diagnose.

2. The patient 40 years old complains of lack of aesthetic. At the oral examination the dentist establishes that the teeth 12, 11, 21, 22 are eroded about half of their crown height. The probing of worn surfaces of teeth is painful. Tooth 11 is changed in color. Radiographs show the destruction of bone tissue with rounded shape and distinct contours about 2mm in diameter around the apex of the tooth 11.

Diagnose. Evaluate the clinical situation.

3. The patient 35 years was referred to the prosthodontist with complaints on aesthetic disadvantage, hypersensitivity of dental hard tissues from chemical, thermal, mechanical separation stimuli in all teeth. Anamnesis data: the patient observes the grinding teeth at night for over 10 years. Objectively: a decrease of the height of lower third of the face for about 4 mm, movements of the jaw is painless in the joint, but at the opening of the mouth a knock is heard. The teeth of the upper and lower jaw are eroded for 1/2 the height of the crowns, tooth rows are intact.

Diagnose. Evaluate the clinical situation.

4. The patient 65 years old, came to the dental clinic with complaints about missing teeth, difficulty in chewing food. According to the patient his back teeth were extracted about 6 years ago without any following prosthodontic treatment. Objectively: a decrease of the height of the lower third of the face for 2 mm, the movements in the joint are painless, the face is symmetrical.

Dentition:

L	L	L	I	F	F	I	I	I	I	I	L	L	F	F	L
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
L	L	L	L	F	I	I	I	I	I	I	F	L	L	L	L

L – lost,

I – intact,

F - filling

The front teeth of the upper and lower jaw are eroded for 1/3 of the height of the crowns, teeth 26, 27 show dentoalveolar elongation. Signs of periodontal disease are not present.

Name the reason for abnormal wear of the teeth. Diagnose.

Literature

Basic:

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

2. Lecture material

Additional:

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

Class 15

Subject of the class: Pathological abrasion of teeth hard tissues (localized and generalized form). Etiology. Clinics, diagnostics, the methods of prosthodontic treatment. Types of dentures.

Objective of the class: to teach students methods of diagnosis and prosthodontic treatment of localized and generalized forms of pathological abrasion of hard tissues of teeth.

Entry knowledge control

1. The etiology and pathogenesis of pathological tooth wear.
2. Classification of pathological wear of teeth.
3. Methods of examination of dental patients.
4. Clinical and laboratory stages of manufacturing fixed and removable dentures.
5. Anatomical and physiological changes in the maxillofacial area depending upon the age.

Test questions

1. General principles of prosthodontics in the pathological tooth wear (localized and generalized forms).
2. Methods of prosthetic treatment of the localized form of pathological tooth wear (with intact dentition).
3. Preparatory stage (diagnostic measures) of prosthodontics of pathological tooth wear
4. Features of prosthodontics at the I degree of pathological tooth wear.
4. Features of prosthodontics at the II degree of pathological tooth wear.
4. Features of prosthodontics at the III degree of pathological tooth wear.

Case studies

1. During the fit of plastic aligners in the treatment of localized form of the pathological abrasion of front maxillary teeth of the patient in the oral examination a vertical gap between back teeth about 5-6mm is detected. Determine the tactics of the dentist?

2. The patient 37 years old complained at admittance on the wear of the teeth and pain from various kinds of stimuli. The examination found that the teeth 12, 11, 21, 22 are eroded to half of the height of their crowns, dental arches of upper and lower jaw are intact. Aligners were made for the patient and follow-up was performed. After 3 months when the aligners are removed, the oral examination reveals the vertical gap between the front teeth of the upper and lower jaw more than 4 mm in centric occlusion position.

Evaluate the clinical situation. Tactics of the dentist?

3. After 2 weeks after fitting and fixing the plastic aligners in front teeth of the upper jaw patient complained of bleeding of the gum. The examination of the oral cavity revealed hyperemia and swelling of the mucous membrane near the aligners, a marked bleeding when probing the gingival margin. The margin of acrylic aligners overlaps the alveolar ridge, sits about 1.5 mm below the gum on abutment teeth.

What was the mistake? Further tactics?

4. Patient A., 38 years, came to the clinic with complaints of pain from chemical and thermal stimuli in the teeth 25, 26, 27. According to the patient a PFM bridge on teeth 35 and 37 was made approximately one year before. Right after the bridge was fixed, the patient felt discomfort when closing the teeth because of premature contacts, which disappeared eventually. Objectively: the teeth 25, 26, 27 are worn for 1/3 of the crown height. The deformation of the occlusal plane is determined.

What is the reason of the localized attrition? Set the diagnosis. Your tactics?

Literature

Basic:

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

2. Lecture material

Additional:

3. Nallaswamy D. V. Textbook of prosthodontics.- New Delhi, 2011.- 844 p.
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