**THE MINISTRY OF PUBLIC HEALTH OF REPUBLIC MOLDOVA**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**STATE MEDICAL AND PHARMASEUTICAL UNIVERSITY**

**" NICOLAE TESTEMIŢANU "**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**DEPARTMENT OF PROSTHETIC DENTISTRY**

**METHODICAL ELABORATION**

**to practical lessons**

**for the students of III year V therm**

**Kishinev 2017**

**The purpose of training.**

The defeats of hard tooth tissues are characterized by changes in structure of hard tissues, disorders of the form, volume, colour, position and direction of a tooth crown. Epidemiological examinations prove a high level of lessions of hard tooth tissues at the population reaching 99 %, and in the countries where the preventive maintenance of diseases of the oral cavity is carried out up to the mark this index makes 60 %.

Having polyethiological factors causing defeats of hard tooth tissues, and also a diverse clinical picture these diseases result in various complications - both local (pulpities, periodontities, deformation of tooth rows, disorders of occlusal relations), local-regional (diseases of the TMJ, muscles disorders), and general (gastrointestinal diseases, mental disorders).

In the base of principles of treatment of defeats of hard tooth tissues there is an impossibility of the body to restore the broken structure of a tooth. That is why in the base of restoration of morphology and function of a tooth there is a compensation of absent hard tooth tissues with the help of artificial means ( fillings, inlays, artificial crowns, substitution construction).

The modern concept of prosthetic treatment provides morphological and functional rehabilitation on the base of principles: preventive, medical, biological, biomechanical, homeostatic and ergonomic.

During practical lessons the students materialisy the volume of the received knowledge at lectures and from the manuals in their practical usage during studying clinical picture and definition of the indications to prosthetic treatment of defeats of hard tooth tissues. Thus the special attention addresses on peculiarities of clinical picture, morphological and functional disorders, possible complications and substantiation of necessity of prosthetic treatment. Each student under the direction of the teacher participates in examination of the patients and performance of clinical stages used in treatment of hard tooth tissues with the help of artificial prosthesis according to the purpose of the lesson.

In this plan the practical preparation of the student is provided in view of 4 levels of mastering: I know, I saw, I made with the help of the teacher and I made independently. With this account the level of knowledge on a theme (interrogation, testing) and demonstration of the thematic patient is daily defined (determined). The executed work is registered in a diary of practical skills. The students fill in the medical documentation prosthetic treatment.

**The list of practical manual skills**

on orthopedic dentistry for the students of III year V semester

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Gr. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| № | Practical manual skills | Obligatory | Demonstrated | The signature of the student | The signature of the teacher |
| 1 | a)Clinical examination of the patients with defeats of tooth tissues,diagnosis and plan of the treatment.  b)Determination kind of the bite. | 1  1 |  |  |  |
| 2 | Examination of the patients and determination the indications to prosthetic treatment by **inlays**. | 1 |  |  |  |
| 3 | a)Examination of the patients and determination the indications to prosthetic treatment by **onlays**.  b) Examination of the patients and determination the indications to prosthetic treatment by covering method. | 1  1 |  |  |  |
| 4 | Preparation of the teeth under artificial crowns without bevel. | 3 |  |  |  |
| 5 | a)Preparation of the alginat impression material.  b)Taking anatomical impression with alginat impression material (at the absence of the patients the students get impression to each other). | 4  4 |  |  |  |
| 6 | a)Preparation (testing) of stump artificial crown.  b)Preparation the cementum for fixing of artificial crown.  c)Fixation of the microprosthesis. | 2  2  2 |  |  |  |
| 7  8 | a)Preparation of the teeth with bevel under cast, Jacket, M/A, M/C artificial crowns.  b)Prepaation syliconic impression material.  c)Taking double impressions from orthopedic field. | 2  2 | 1 |  |  |
| 9  10  11  12 | a)Examination of the patients and determination of the indications to prosthetic treatment with phisiognomical artificial crowns.  b)Preparation of gypsum for determination of central jaws relation (by gypsum blocks).  c)Determination of central jaws relation with first layer of double impression material or with gypsum | 1  2  1 |  |  |  |
| 13 | Preparation of the teeth under M/C and M/A artificial crowns. | 1 |  |  |  |
| 14 | a)Preparation of the teeth under combined M/C and M/A artificial crowns.  b)Using the retraction cords. |  | 1  1 |  |  |
| 15  16 | a)Preparation of plastic Jacket crowns.  b)Testing the combined artificial crowns.  c)Determination interdental contacts with articulation paper or soft wax. | 1  1 | 1 |  |  |
| 17 | a)Preparation of the tooth root under substitution construction.  b)Preparation and taking impression from tooth root for manufacturing substitution crowns.  c)Fixation of substitution construction.. |  | 1  1  1 |  |  |

Notes:

1. The practical skills necessary for independent performance and demonstration are carried out with materials destined for the students which are fixed in a special register book.

2. In case of not fulfilling the given list the student is obliged to get practical certification at extra classes (not according to the time-table.

3. According to the decision of department, in exclusive cases, the part of practical skills can be conditionally transferred for performance in the following semester.

4. Writing off materials, intended for performing the practical skills by the students, is carried out according to the working orders of the Ministry of public health Services with factor 2, authorized Administrative Council of Dental Clinic.

**Methodical elaboration Nr. 1**

**Theme:** ***Hard tooth tissues lesions. Etiology and pathogenesis.***

***Clinical picture. Classifications.***

**Place of work:**clinic room*.*

**The purpose of the lesson:** during the lesson students materialize the received knowledge about clinical and para clinical methods of examination of the patients with hard tooth tissues lesions.

**To the students are demonstrated** peculiarities of clinical and paraclinical patients examination.

**The students practically**take part in clinical and para clinical patients examination, formulate the diagnosis and plan of the treatment.

**Plan of the lession:**

1. Discussion of a theme ----------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient ---------------------------------------------------20 min.

3. Reception of the patients -------------------------------------------------------------------145 min.

4. Conclusion -------------------------------------------------------------------------------------5 min.

**The contents of the lesson:**

The defeats of hard tooth tissues are characterized by changes of structure of the teeth, disorders of the form, volume, colour, position and direction of the tooth crown. Epidemiological examinations prove a high level of hard tooth tissues lesions at the population reaching 99 %, and in the countries where the preventive measures of diseases of the oral cavity will be carried out in a high level this index makes 60 %.

Having poliethiological factors causing defeats of hard tooth tissues, and also a diverse clinical picture, these diseases result in various complications - as local (pulpities, periodontities, deformation of tooth row, disorders of occlusal relations), local-regional (diseases of the TMJ, muscles disorders), and general (gastro-intestinal and mental).

In a basis of principles of treatment of hard tooth tissues there is an impossibility of the body to restore the broken tooth structure. For this reason in a basis of restoration of morphology and function of a tooth there is a compensation of absent hard tooth tissues with the help of artificial prosthesis (seal (fillings), inlays, artificial crowns, substitution construction).

The modern conception of prosthetic treatment provides morphological and functional rehabilitation on the basis of principles: preventive, medical, biological, biomechanical, homeostasic and ergonomic.

**Checking questions:**

**1. Characteristic of defeats of hard tooth tissues.**

**2. Etiology of hard tooth tissues lesions.**

**3. On what factors depend pathogenesis of defeats of hard tooth tissues?**

**4. Classification of hard tooth tissues lesions by Burlui. Characteristic of I - II class.**

**5. Classification of hard tooth tissues lesions by Burlui. Characteristic of III - IV class.**

**6. Classification of hard tooth tissues lesions by Black.**

**7. Clinical picture of hard tooth tissues lesions.**

**8. On what factors the degree and expressivity of symptoms of hard tooth tissues lesions depend on?**

**Independent work of the students:**

The students write the abstract on a theme: "Clinical picture of hard tooth tissues lesions"

**Methodical elaboration Nr. 2**

**Theme:** **Clinical examination of the patients with dental lesions, diagnosis and indications to prosthetic treatment.**

**Place of the lesson:** the clinic room.

**The purpose lesson:** during the lesson the students materialize the received knowledge about clinical examination of the patients with dental lesions, putting diagnosis and determination of the indications for prosthetic treatment.

**To the students are presented:** the particularity of clinical examination of the patients with dental lesions, formulating the diagnosis and determination the plan of the prosthetic treatment.

**Practically the students** make clinical examination of the patients with hard tooth tissues lesions, determination the diagnosis, get patients.

**Plan of the lesson:**

1. Discussion of a theme ----------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient ---------------------------------------------------15 min.

3. Reception of the patients -------------------------------------------------------------------95 min.

4. Conclusion -------------------------------------------------------------------------------------5 min.

**The contens of the lesson:**

The clinical picture is diverse also depends on the degree of a defeat, etiology, evolution of pathological process, age, general condition of the body etc. Alongside with morphological disorders they result in disorders of mastication function, aesthetics, self-preservation. In this connection it is necessary to carry out clinical and para clinical examination of the patients. The purpose of examination is to reveal essence of disease, formulate the diagnosis and make the correct plan of the treatment. At examination is paid attention to peculiarities of clinical and paraclinical examination of the patients with defeats of hard tooth tissues.

The subjective clinical examination provides the analysis of the complaints, development of hard tooth tissues and influence of life conditions (concomitant diseases, harmful conditions of work, life) on appearance of disease. At objective examination facial changes are revealed, and at intraoral - morpho-functional changes caused by defeat of hard tooth tissues.

At additional (para clinical) examination it is necessari to carry out the study X-ray examination and in accordance with indications – electroodontometry, study of diagnostic models etc.

Examination of the patients finishes with formulation of the diagnosis and planning of treatment. Data, received during examination are brought in patient’s history.

**Control questions:**

1. **Consecuitivity of the clinical examination of the patients with dental lessions.**
2. **Sybjective symptoms of the dental lessions.**
3. **Objetive symptoms of the dental lessions.**
4. **Subjective examination of the patients with dental lessions.**
5. **Extraoral examination.**
6. **Intraoral examination.**
7. **local, loco-regional and general complications of dental lesions.**
8. **Component elements of the diagnosis.**
9. **Formilation of the diagnosis.**
10. **Principles of prosthetic treatment of dental lessions.**
11. **Local and general indications for prosthetic treatment of dental lessions.**

**Indipendent work of the students:**

The students write abstract on the theme: „Consequity of clinical examination of the patients with dental lessions”.

**Methodical elaboration Nr. 3**

**Theme:** **Paraclinical examination of the patients with dental lesions, diagnosis and indications to prosthetic treatment.**

**Place of the lesson:** the clinic room.

**The purpose of the lesson:** during the lesson the students materialize the received knowledge about paraclinical examination of the patients with dental lesions, put diagnosis and determine the indications for prosthetic treatment.

**To the students are presented:** the particularity of para clinical examination of the patients with dental lesions, formulating the diagnosis and determination the plan of the prosthetic treatment.

**Practically the students** analyse diagnostic models, X-rays, panoramic X-rays, determine the IDOTS, occlusiography, determine criteria of functional occlusion by Ene, determine diagnosis, plan of the treatment, receive the current patients.

**Plan of the subject:**

1. Discussion of a theme ----------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient ---------------------------------------------------15 min.

3. Reception of the patients -------------------------------------------------------------------95 min.

4. Conclusion -------------------------------------------------------------------------------------5 min.

**The contens of the lesson:**

Para clinical examination of the patients with defeats of hard tooth tissues includes analysis of the diagnostic models, sectorial X-ray examination, orthopantomography, electroodontometry, detemination ILSOD, oclusiography, determination of of criteria of functional occlusion by Ene.

At analysing of diagnostic models the attention is paid to changes of dental-dental contacts appeared as a result of hard tooth tissues lessions depending on varieties of the pathology.Patients examination finishes with diagnosing and planning the treatment in accordance with received data from clinical and para clinical examination.

**Control questions:**

1. **Paraclinical methods of examination of the patients with dental lessions.**
2. **Thermometry.**
3. **Electroodnometry.**
4. **Sectorial X-ray.**
5. **Ortopantomography.**
6. **Studying of the diagnostis models.**
7. **IDOTS.**
8. **Occlusiography.**
9. **Criteries of functional occlusion by Ene.**
10. **Diagnosis. Component elements.**
11. **Local and general indications to prosthetic treatment of dental lessions.**
12. **Principles of treatment of dental lessions.**
13. **Methods of treatment of dental lessions.**

**Indipendent work of the students:**

The students write abstract on the theme: „Consequity of paraclinical examination of the patients with dental lessions”.

**Methodical elaboration Nr. 4**

**Theme:** **The indications and prosthetic treatment of the patients with hard tooth tissues lesions with intra- and extra- tissues lay (inlays, onlays).**

**Place of the work:** the clinic room.

**The purpose of the lesson:** during the lesson the students materialize the received knowledge about the indications and clinical-laboratory stages of prosthetic treatment of hard tooth tissues lesions with intra- and extra- tissues lay.

**To the students are presented:** the particularity of prosthetic treatment of dental lesions with lays.

**Practically the students** make clinical examination of the patients with hard tooth tissues lesions, define (determine) the indications to manufacturing of lays, kinds of occlusion.

**Plan of the subject:**

1. Discussion of a theme ----------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient ---------------------------------------------------15 min.

3. Reception of the patients -------------------------------------------------------------------95 min.

4. Conclusion -------------------------------------------------------------------------------------5 min.

**The contens of the lesson:**

At hard tooth tissues lesion, as a rule, is spent therapeutically (conservative) treatment by method of sealing (filling). In those cases, when this method is less effective or is impossible, prosthetic treatment is applied.

Lay - it is a mycroartificial prosthesis which restores morphology and function of one tooth, but it is also applied as the support element in other artificial prosthesis on healthy (intact) teeth or at immobilisation of mobile teeth. Distinguish two kinds of lays: intra- and extra-tissues lies. The first is called inlay, and the second - onlay.

During patients examination are defined (determine) the indications and contra-indications to treatment of hard tooth tissues lesions with lays. It is also define (determine) kind of lay, particularities of preparation of a cavity under intra- (inlay) and a tooth under extra-tissues lay (onlay). The attention is paid to toolkit necessary for preparation of teeth under such micro artificial prosthesis, complications during preparation and at stages of their manufacturing.

**Plan of the subject:**

1. Discussion of a theme ----------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient ---------------------------------------------------15 min.

3. Reception of the patients -------------------------------------------------------------------95 min.

4. Conclusion -------------------------------------------------------------------------------------5 min.

**Checking questions:**

**1. Indications and contra-indications to treatment of hard tooth tissues lesions with lay.**

**2. Classifications of caries cavities on Black, Ţitrin, Kurilenko.**

**3. What is IDOTS and methods of its determination?**

**4. Name the dangerous zones of the teeth by Gavrilov and Abolmasov. Practical meaning (importance).**

**5. Classification of lays.**

**6. Particularity of tooth preparation under inlay.**

**7. Particularity of tooth preparation under onlay.**

**8. Clinical-laboratory stages of lay manufacturing by direct method.**

**9. Manufacturing of lays in one visiting, disadvantages of this method.**

**10. Definition "onlay", kinds.**

**11. Indications and contraindications to prosthetic treatment with onlays.**

**12 Technique of tooth preparation under onlay.**

**13. Clinical – laboratory stages of onlay manufacturing.**

**12. Advantages and disadvantages of inlays and onlays.**

**Independent work of the students:**

The students write the abstract on a theme:"Particularities of cavities preparation under inlay and onlay."

**Methodical elaboration Nr. 5**

**Theme:** **The indications and prosthetic treatment of the patients with hard tooth tissues lesions with artificial metal swage crowns.**

**Place of the lesson:** the clinic room.

**The purpose of the lesson:** during the lesson the students materialize the received knowledge about the indications and clinical-laboratory stages of prosthetic treatment of hard tooth tissues lesions with swage crowns, get impressions.

**To the students are presented** the particularities of patients examination, determination indications to prosthetic treatment with swage crowns and steps of tooth preparation.

**Practically the students** prepare one tooth under artificial metal swage crown.

**Plan of the lesson:**

1. Discussion of a theme ----------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient ---------------------------------------------------10 min.

3. Reception of the patients -------------------------------------------------------------------95 min.

4. Conclusion -------------------------------------------------------------------------------------5 min.

**The contents of the lesson:**

At hard tooth tissues lesions, when the treatment by methods of sealing or with inlays is contra-indicated, prosthetic treatment with artificial crown is indicated. Prosthetic treatment with artificial crowns concerns to one of the most numerous (frequent) methods. The large variety of artificial crowns requires (demands) their correct application what is reached (achieved) by perfect complete examination of the patients. In this connection during patient’s examination we must pay attention to the indications and contraindications to prosthetic treatment with swage crowns, sequence of a tooth preparation, getting impressions and realization of protective measures.

At tooth preparation the anaesthesia is applied. Tooth preparation is made with special abrasive instruments taking into consideration clinical situation, kinds of artificial crowns (full or partial), technology of their manufacturing and used material. Thus the tooth preparation is carried out taking into account the requirements to artificial crown. During probe and fixation of the metal swage crown, possible (probable) complications and their preventive maintenance are studied.

**Checking questions:**

**1. Indications and contra-indications to treatment of a hard tooth tissues lesions with metal swage crown.**

**2. Clinical-laboratory stages of metal swage crown manufacturing.**

**3. Stages of a tooth preparation under metal swage crown and requirement to abutment.**

**4. Classical method of a tooth preparation under artificial metal swage crown.**

**5. Modern method of a tooth preparation under artificial metal swage crown.**

**6. Abrasive tools used at tooth preparation under metal swage crown.**

**7. Possible (probable) complications appearing at tooth preparation under artificial metal swage crown and their preventive maintenance.**

**8. Methods of anaesthesia applying during tooth preparation under swage crown.**

**9. Methods and technique of getting impressions at swage crowns manufacturing.**

**10.Protection of prepared tooth tissues.**

**11. Requirements to stump crowns.**

**12. Opinions about correlation between artificial crown=s edge and dental/gzgival sulcus.**

**13. Methods of swage crowns testing.**

**14. Possible complications during stump crown testing. Preventive steps.**

**15. Technique of swage crown fixing. Complications. Preventive steps.**

**Independent work of the students:**

The students write the abstract on a theme: "Sequence of tooth preparation under swage crowns”.

**Methodical elaboration Nr. 6**

***Theme:*** **Indications and contraindications to prosthetic treatment of the patients with hard tooth tissues lesions with artificial metal cast crowns.**

**Place of the lesson:** the clinic room.

**The purpose of the lesson:** during the lesson the students materialize the received knowledge about the indications and contraindications to prosthetic treatment with artificial cast metal crowns, clinical-laboratory stages of prosthetic treatment of hard tooth tissues lesions with artificial cast crowns, particularities of getting impressions and clinic-laboratory stages of their manufacturing.

**To the students are presented:** tooth preparation without bevel and methods of getting impressions.

**Practically the students:** prepare impression material and make preparation of artificial cast metal crown.

**The contents of the lesson:**

Metal swage crowns have a number of disadvantages, among which the major is that they as a rule imperfectly cover a tooth cervix and restore their morphology (equator, occlusal relief, contact points) inexactly. In this connection last decades the modern technology of manufacturing of cast metal crowns is advanced and they almost completely have superseded swage crowns. Therefore it is necessary to pay attention to disadvantages of metal swage crowns and indications to metal cast crowns. Teeth preparation is made under anaesthesia and protective measures of prepared surface are also made. Thus during preparation of tooth surfaces we burnish much greater layer of hard tooth tissues, as artificial crown thickness 0,3 - 0,5 mm. It is necessary to remember, that one of the features of teeth preparation under artificial metal cast crown is creation of a bevel at a tooth cervix line. Bevel can be created parallel to gingival edge or under gingival. In this connection gingival retraction is carryied out by one of the known methods, however tooth can be prepared and without bevel.

**Plan of the subject:**

1. Discussion of a theme ----------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient ---------------------------------------------------15 min.

3. Reception of the patients -------------------------------------------------------------------95 min.

4. Conclusion -------------------------------------------------------------------------------------5 min.

**Checking questions:**

**1. Indications and contra-indications to application of artificial cast metal crowns.**

**2. Clinical-laboratory fabrication stages of artificial cast metal crowns.**

**3. Peculiarity of teeth preparation under cast metal crowns. Peculiarities of tooth tissues preparation of gingival area.**

**4. Abrasive tools used for teeth preparation under cast crowns.**

**5. Classical method of teeth preparation under cast crowns.**

**6. Modern method of teeth preparation under cast crowns.**

**7. Possible (probable) complications arising during and after teeth preparation under cast crowns.**

**8. Peculiarity of central occlusion definition and fixation at application of cast crowns. Indications.**

**9. Protection of prepared tooth tissues.**

**10. Metal alloys used at cast crowns manufacturing.**

**Independent work of the students:**

The students write the abstract on a theme: "Methods of protection of toot prepared under artificial crowns”.

**Methodical elaboration Nr. 7**

***Theme:*** **The indications and prosthetic treatment of the patients with hard tooth tissues lesions with artificial cast metal crowns.**

**Place of the lesson:** the clinic room.

**The purpose lesson:** during the lesson the students materialize the received knowledge about preparation of artificial cast metal crowns, possible complications and measures of their preventive steps.

**To the students are presented** tooth preparation with bevel in cervical area and methods of getting double-layer impressions.

**Practically the students** get two-layer impression, and at absence of the patients they get them each other.

**Plan of the lesson:**

1. Discussion of the theme -----------------------------------------------------------------------20 min.

2. Demonstration of tooth preparation under cast metal crown------------------------------15 min.

3. Reception of the patients ----------------------------------------------------------------------95 min.

4. Conclusion ----------------------------------------------------------------------------------------5 min.

**The contents of the lesson:**

Cast metal crowns are not aesthetic that is why they are applied on the lateral teeth. Taking into account the results of the patient examination a doctor decides what kind of cast crown (with uniform and non-uniform thickness of their walls) to use.

The attention is paid to cast metal crowns advantages in comparison with swage crowns, peculiarities of tooth preparation in cervical area, realization of protective measures with application of temporal crown, in particular to a technique of temporal crowns by Scutan and kinds of plastic, used at it. For getting precise impression of bevel (in cervical tooth area) before getting impression gingival retraction by various methods is made.

**Checking questions:**

**1. Indications to prosthetic treatment of hard tooth tissues lesions with cast metal crowns.**

**2. Technique of manufacturing of cast crown with uniform thickness of walls. Advantages.**

**3. Technique of manufacturing of cast crown with non-uniform thickness of walls. Disadvantages.**

**4. Technique of teeth preparation without bevel by Kerber.**

**5. Technique of teeth preparation in cervical area. Advantages, complications and their prevention.**

**6. The characteristic of methods of gingival retraction. Advantages and disadvantages.**

**7. Kinds of finishing line in cervical area. Indications.**

**8. Technique of getting impression. Used materials.**

**9. Technique of manufacturing of temporal crown by Scutan.**

**10. Plastic used at manufacturing of temporal crowns. Technique of applications, Complications.**

**Independent work of the students:**

The students write the abstract on a theme: “Methods of manufacturing of temporal crowns. Indications, advantages and disadvantages".

**Methodical elaboration Nr. 8**

***Theme:*** **The indications and prosthetic treatment of the patients with hard tooth tissues lesions with physiognomic artificial plastic crowns.**

**Place of the lesson:** the clinic room.

**The purpose of the lesson:** during the lesson the students materialize the received knowledge about the indications and contraindications to prosthetic treatment with artificial plastic crowns, clinical-laboratory stages of artificial plastic crowns manufacturing, getting impressions.

**To the students are demonstrated** preparation of the tooth in cervical area without bevel and methods of getting impression.

**Practically the students** define (determine) the indications to plastic crowns manufacturing, prepare impression material and get two-layer impression, and at absence of the patients they get them to each other.

**Plan of the lesson:**

1. Discussion of a theme -------------------------------------------------------------------------20 min.

2. Demonstration of tooth preparation under plastic crown---------------------------------15 min.

3. Reception of the patients ----------------------------------------------------------------------95 min.

4. Conclusion ----------------------------------------------------------------------------------------5 min.

**The contents of the lesson:**

Plastic crowns are referred to aesthetic micro prosthesis that expands their indications in a frontal site of tooth arches. The classical and modern methods of their manufacturing allow receiving of plastic crowns appropriate to colour of the natural teeth. The questions about indications and contra-indications to treatment with plastic crowns are decided at a stage of patient’s examination. Thus the method of teeth preparation and getting impression is defined (determined).

The attention is paid to disadvantages of metal crowns in aesthetics rehabilitation and advantages of plastic crowns in it. The attention is paid to realization of clinical stages of plastic crowns manufacturing: peculiarities of teeth preparation, getting impressions, definition of colour of plastic, crowns preparation and fixing. The patients are recommended to avoid hard food and take care of hygiene of the oral cavity.

**Checking questions:**

**1. Indications and contra-indications to application of plastic crowns.**

**2. Classical method of plastic crowns manufacturing. Clinical-laboratory stages.**

**3. Peculiarities of teeth preparation under plastic crowns.**

**4. Technique of a tooth preparation under plastic crowns without bevel. Advantages and disadvantages.**

**5. Technique of a tooth preparation under plastic crown with bevel. Advantages and disadvantages.**

**6. Methods of getting impression and materials, used at it.**

**7. Plastic used for manufacturing of plastic crowns by a classical method. Polymerization.**

**8. Modern technique of plastic crowns manufacturing and materials used at it.**

**9. Technique of plastic crown preparation and its fixing. Complications, prevention.**

**10. Advantages and disadvantages of plastic crowns.**

**Independent work of the students:**

The students write the abstract on a theme:"The indications and contra-indications to manufacturing of plastic crowns".

**Methodical elaboration Nr. 9**

***Theme:*** **The indications and prosthetic treatment of the patients with hard tooth tissues lesions with artificial ceramic crown.**

**Place of the lesson:** the clinic room.

**The purpose of the lesson:** during the lesson the students materialize the received knowledge about the indications and contraindications to prosthetic treatment with artificial ceramic crowns, clinical-laboratory stages of artificial ceramic crowns manufacturing, getting impressions.

**To the students are presented** peculiarities of patients examination and determination of indications to ceramic crowns manufacturing.

**Practically the students** make clinical examination of the patients, define (determine) the indications to ceramic crowns manufacturing, mix the cement for micro prosthesis fixing.

**Plan of the lesson:**

1. Discussion of a theme -------------------------------------------------------------------------20 min.

2. Demonstration of the patient to which the ceramic crowns are indicated---------------15 min.

3. Reception of the patients ----------------------------------------------------------------------95 min.

4. Conclusion ----------------------------------------------------------------------------------------5 min.

**The contents of the lesson:**

Ceramic crown is a modern and aesthetic micro prosthesis. Used ceramic mass at manufacturing crowns allows creating colour of the crown appropriate to colour of a natural tooth and saving this quality of colour for the long period of time. In the oral cavity the ceramic does not make negative influence on the organs and tissues of a mouth.

The attention is paid to disadvantages of plastic artificial crowns and advantages of the ceramic crowns, indications and contra-indications to their manufacturing, clinical-laboratory stages of their manufacturing, peculiarities of tooth preparation, getting impressions, determination the colour of the ceramic, preparation and fixation of the ceramic crowns. Taking into account the depth of a tooth preparation protective measures taken after operative intervention play an important role in preventing the possible complications.

**Checking questions:**

1. **Indications and contra-indications to prosthetic treatment of hard tooth tissues lesions with ceramic crowns.**
2. **Clinical-laboratory stages of ceramic crowns technique.**
3. **Peculiarities of tooth preparation under ceramic crown.**
4. **Technique of a tooth preparation with bevel in cervical area under ceramiс crown. Methods of gingival retraction.**
5. **Explain retention form of a prepared tooth under ceramic crown.**
6. **Possible (probable) complications appearing during tooth preparation under ceramic crown.**
7. **Methods of getting impressions in ceramic crown manufacturing.**
8. **Preparation of ceramic crown in the oral cavity, its correction in dynamic occlusion.**
9. **Kinds of ceramic used at manufacturing of ceramic crown and their characteristic.**
10. **Determination of ceramic colour.**
11. **Possible (probable) complications appearing at stages of ceramic crown preparation and fixation.**
12. **Advantages and disadvantages of ceramic crowns.**

**Independent work of the students:**

The students write the abstract on the theme: "Possible complications at ceramic crown preparation and fixation. Protective steps”.

**Methodical elaboration Nr. 10**

***Theme:*** **The indications and contraindications to prosthetic treatment of the patients with hard tooth tissues lesions with combined metal plastic crowns, made on the base of cast crowns (M/A).**

**Place of the lesson:** the clinic room.

**The purpose of the lesson:** during the lesson the students materialize the received knowledge about the indications and contraindications to prosthetic treatment with metal plastic crowns, methods of combined metal-plastic crowns manufacturing, made on the base of cast crowns, clinical-laboratory steps of their manufacturing.

**To the students are presented** clinical patients’ examination and determination of the indications to M/P crowns application, tooth preparation with bevel in cervical area and methods of getting impressions.

**To the students are demonstrated** the peculiarities of clinical examination and determination of the indications to combined M/A on the base of cast crowns manufacturing.

**Practically students** carry out clinical examination of the patients and define (determine) the indications to application M/P crowns on the base of cast crowns, get impressions with syliconic impression material, determine and register central occlusion.

**Plan of the lesson:**

1. Discussion of a theme ------------------------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient and various kinds of combined metal plastic crowns, made on the basis of cast crowns and indications to their manufacturing --------------------------------------15 min.

3. Reception of the patients --------------------------------------------------------------------------------95 min.

4. Conclusion --------------------------------------------------------------------------------------------------5 min.

**The contents of the lesson:**

Combined M/P crown on the base of cast crown have a number of advantages over M/P crowns on the base of swage crowns and indications to them more extended, because they can be made on all teeth.

The indications and the contra-indications to combined M/P crowns on the base of cast crowns manufacturing are determined during examination of the patients taking into consideration particularities of clinical picture.

Attention is paid to teeth preparation, getting impressions, preparation of the metal frame (skeleton) and definition of colour of plastic, final preparation and fixation of the crowns, possible (probable) complications and their preventive steps.

**Checking questions:**

**1. Indications and contra-indications to application of combined metal plastic crowns, made on the basis of cast crowns.**

**2. Clinical-laboratory stages of combined metal-plastic crowns manufacturing made on the basis of cast crowns.**

**3. Particularities of tooth preparation under combined metal-plastic crowns on the basis of cast crowns.**

**4. Preparation of a metal part of M/A crowns and definition of colour of plastic .**

**5. Methods of anaesthesia used at preparation of tooth with a live pulp under combined metal plastic crown on the basis of cast crowns.**

**6. Protective measures of prepared tooth tissues in manufacturing of metal-plastic crowns on the basis of cast.**

**7. Classical and modern methods of drawing of plastic in combined M/A crowns manufacturing.**

**8. Methods of gingival retraction. Advantages and disadvantages. Complications.**

**9. Technique of temporal crowns manufacturing by Scutan. The indications.**

**10. Possible (probable) complications at clinical stages of metal-plastic crown manufacturing, made on the basis of cast crowns.**

**Independent work of the students:**

The abstract on a theme: "Particularities of teeth preparation under combined M/P crowns made on the base of cast".

**Methodical elaboration Nr. 11**

***Theme:*** **The indications and contraindications to treatment of the patients with hard tooth tissues lesions with combined metal fused ceramic (M/C) crowns.**

**Place of the lesson:** the clinic room.

**The purpose of the lesson:** during the lesson the students materialize the received knowledge about the indications and methods of manufacturing of combined metal fused ceramic crowns, particularities of tooth preparation and getting impressions.

**To the students are presented:** particularityies of clinical patients’ examination and determination the indications to application M/C crowns, tooth preparation, methods of getting impressions.

**Practically students** carry out clinical examination of the patients, define (determine) the indications to application M/C crowns, get impressions and determine central occlusion.

**Plan of the subject:**

1. Discussion of a theme -------------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient and tooth preparation under metal fused ceramic crown ------------------------------------------------------------------------------------------------15 min.

3. Reception of the patients ----------------------------------------------------------------------95 min.

4. Conclusion ----------------------------------------------------------------------------------------5 min.

**The contents of the lesson:**

Metal fused ceramic crown (M/C) concern to modern kind of micro prosthesis, have many advantages in comparison with other kind of artificial crowns. The used materials allow restoring of morphological and functional value of a tooth for a long period of time. The variety of colours of ceramic allows reaching (achieving) ideal aesthetic qualities appropriate to the natural teeth.

The indications and the contra-indications to treatment of hard tooth tissues lesions with combined metal fused ceramic crowns (M/C) are defined (determined) during examination of the patients depending on clinical picture and of the support tooth conditions (topography, stability, height of a tooth crown, condition of hard tooth tissues, the kind of the bite etc.) During treatment is paid attention to teeth preparation under metal-ceramic crowns, getting impressions, definition of central occlusion, protective measures of prepared tooth surfaces, preparation of a metal skeleton (frame) and definition of colour of ceramic, final preparation and fixation of M/C crown.

**Checking questions:**

**1. Indication and contra-indication to metal-ceramic crown manufacturing.**

**2. Clinical-laboratory stages of metal-ceramic crown manufacturing.**

**3. Particularity of teeth preparation under metal-ceramic crowns.**

**4. Kinds of bevel, formed in a cervical tooth area during tooth preparation under metal-ceramic crown.**

**5. Methods of getting impression at manufacturing of metal-ceramic crowns.**

**6. Preparation of a metal frame (skeleton) and definition of colour of ceramics.**

**7. Possible (probable) complications in time and after tooth preparation.**

**8. Definition of central occlusion at metal-ceramic crowns manufacturing.**

**9. Alloys of metals used at metal-ceramic crowns manufacturing.**

**10. Final preparation and fixation of M/C crown.**

**Independent work of the students:** The abstract on a theme: “Central occlusion. Characteristic signs."

**Methodical elaboration Nr. 12**

***Theme:*** **The indications and contraindications to treatment of the patients with hard tooth tissues lesions with combined metal ceramic crowns.**

**Place of work:** clinic room.

**The purpose lesson:** during the lesson the students materialize the received knowledge about constructional particularities and sequence of clinical-laboratory stages of combined metal/ceramic crowns manufacturing.

**To the students are presented** technique of a metal skeleton or preliminary metal-ceramic crown preparation and its individualisation.

**Practically students** define (determine) occlusal contacts through an articulation paper or softened wax in the oral cavity or on the models.

**Plan of the lesson:**

1. Discussion of a theme -------------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient and metal-ceramic crown preparation in oral cavity ---------------------------------------------------------------------------------------------------------15 min.

3. Reception of the patients ----------------------------------------------------------------------95 min.

4. Conclusion ----------------------------------------------------------------------------------------5 min.

**The contents of the lesson:**

The important clinical stages in prosthetic treatment with combined M/C crown are the stages of their preliminary and final preparation and fixation. At a stage of preliminary preparation define (determine) conformity of metal-ceramic crown colour to colour of natural teeth, carry out artificial crown preparation in central and dynamic occlusion. With the purpose of revealing supracontacts apply an articulation paper, plate of softened wax. The correction of metal-ceramic crowns is spent with diamond burns and the final stage - is final metal-ceramic crown preparation, preparation of a tooth abutment to fixation and fixation.

**Checking questions:**

**1. Classification of metal-ceramic crowns by a principle of a design.**

**2. Indications to various kinds of metal-ceramic crowns manufacturing.**

**3. Method of realization of metal-ceramic crown correction at functional occlusion.**

**4. Tools used for metal-ceramic crown correction.**

**5. Possible (probable) complications at metal-ceramic crown manufacturing.**

**6. Metal-ceramic crown fixation. Materials for fixing. Complications. Preventive maintenance.**

**7. Late complications after metal-ceramic fixation.**

**8. Methods of connection of ceramics with metal.**

**Independent work of the students:** The abstract on a theme: "Gingival retraction. The indications, kinds, advantages and disadvantages".

**Methodical elaboration Nr. 13**

***Theme:*** **The indications and contraindications to treatment of the patients with hard tooth tissues lesions with substitution construction (post crowns). Practical testing.**

**Place of work:** clinic room.

**The purpose lesson:** during the lesson the students materialize the received knowledge about indications, kinds of substitution construction, clinical-laboratory stages of substitution construction manufacturing and particularities of their design.

**To the students are demonstrated** the technique of tooth root preparation under substitution construction and getting impression of the root canal for manufacturing of this construction.

**Practically students** carry out patient’s examination and define (determine) the indications to manufacturing of substitution construction.

**Plan of the subject:**

1. Discussion of a theme ------------------------------------------------------------------------------------20 min.

2. Demonstration of the thematic patient and various kinds of substitution construction----------15 min.

3. Reception of the patients --------------------------------------------------------------------------------95 min.

4. Conclusion --------------------------------------------------------------------------------------------------5 min.

**The contents of the lesson:**

The complete destruction of teeth crowns results in disorders of functions of stomatognat system. The preservation of roots of teeth for their subsequent application at prosthetic treatment by designs allows avoiding denture bridges for which it is necessary to prepare support teeth. The correct application of roots of teeth is possible at detailed examination of the patients and planning of prosthetic treatment.

The indications and contra-indications to substitution construction manufacturing depend on the condition of roots, topography, kind of occlusion etc. With this account it is necessary to know the requirements to tooth root, kinds of substitution construction designs, clinical-laboratory stages of their manufacturing, requirements to them, possible (probable) complications at stages of their manufacturing and their preventive maintenance.

**Checking questions:**

**1. Indications and contra-indications to application of substitution construction.**

**2. Requirements to a root of the destroyed tooth and pin of a substitution construction.**

**3. Classifications of substitution constructions by: function, material, methods of manufacturing and constructive pecularities.**

**4. Types of preparation of root channel and surfaces of a root.**

**5. Preparing and taking impression from root canal. Methods of impressions.**

**6. Simple substitution tooth. The indications.**

**7. Clinical-laboratory stages of simple substitution tooth manufacturing.**

**8. Substitution tooth by Ilina - Marcosean, Ricimond. Structure.**

**9.Indications to substitution construction by Ilina - Marcosean, Ricimond manufacturing. Clinical-laboratory stages of manufacturing.**

**10.Substitution crown on an artificial post. The indications to his manufacturing.**

**11. Clinical-technical fabrication stages of artificial post tooth. The indications.**

**12. Describe a method of manufacturing of a substitution tooth in one visiting. The indications.**

**13. A direct method of manufacturing of artificial pin tooth.**

**14. An indirect method of manufacturing of artificial pin tooth.**

**15. Advantages and disadvantages of substitution construction.**

**Independent work of the students:** The abstract on a theme: "Methods of getting impression of the root channel at substitution construction manufacturing".

**Material-technical equipments:**

1. **Equipment:**

* dental machine;
* articulators;
* occludators;
* spirit lamps;
* Larin apparatus;
* Kop apparatus.

1. **Tools:**

* set of sterile instruments;
* straight handpiece;
* right angle handpiece;
* crampon forceps;
* abrasive instruments;
* scalpels;
* anatomical pincers;
* spatulas for mixing gypsum;
* rubber retort;
* anvils;
* impression trays;
* dental hammer;
* right elevator;
* burs of different forms and size;
* vulcanite discus;

1. **Materials:**

* impression materials;
* cement for fixation of fix prosthesis;
* cold cure acryl;
* occlusal wax;
* basic wax;
* occlusal spray;
* study models;
* articulator paper;
* medical gypsum;
* spirit;
* cotton;
* peroxide hydrogen;
* iodine;
* masks;
* gloves;
* disinfection solution.

Study Manager\_\_\_\_\_\_\_\_\_\_\_ lecturer N. Cojuhari

The document has been translated by University Assistant M. Ceban.