

DANYLO HALYTSKY
NATIONAL MEDICAL UNIVERSITY OF LVIV
DEPARTMENT OF THERAPEUTIC DENTISTRY

METHODOLOGICAL GUIDE
IN THERAPEUTIC DENTISTRY

For students of the 5th year

Individual profile elective course “Prosthetic Dentistry”

Методичні вказівки по терапевтичній стоматології
для студентів 5 курсу стоматологічного факультету
індивідуальний профільний курс за вибором “ортопедична стоматологія”.

Lviv-2023

The methodological guide is worked out by: O. Ripetska, M. Renka,

Edited by: prof. V. Zubachyk

Responsible for publishing: first vice-rector of scientific and academic work of Danylo Halytsky National Medical University of Lviv, associate professor I.I.Solonyenko

Reviewers: Associate professor of the Department of Surgical Dentistry and Maxillo-Facial Surgery of Danylo Halytsky National Medical University of Lviv, N.M. Krupnyk,
Associate professor of department of Orthodontics of Danylo Halytsky National Medical University of Lviv, C.Musij-Semrntsiw,
Senior teacher of the Department of Foreign Languages of Danylo Halytsky National Medical University of Lviv, L.O.Chervinska.

Methodological guide was discussed and approved at the meeting of the Department of Therapeutic dentistry (protocol No __ , ____ 2023).

Methodological guide was discussed and approved at the meeting of the Methodical committee in dental disciplines (protocol No __ , ____ 2023).

THEMATIC PLAN
of practical lessons during the internship in discipline „ THERAPEUTIC
DENTISTRY” for 5- year English-medium students, 2023-2024

Individual profile elective course “Prosthetic Dentistry”

5 credits (150 hours), practical training – 75 hours, out of class work – 75 hours.

№	Topic of the lesson	Days
1.	Ergonomics. Aim and tasks of Ergonomics. Instructions on safety measures during the work. Clinical anatomy and histology of the dental hard tissues. Physiology of the dental hard tissues. Tooth embryogenesis.	1
2.	Modern aspects of etiology and pathogenesis of dental caries. Diagnosis, treatment, and prevention of caries.	1
3.	Modern filling materials. Treatment of caries. Peculiarities of teeth restoration. Rubber-dam. Working out practical skills.	1
4.	Modern filling materials. Composites. Glass-ionic cements. Compomers. Cermets. Enamel-dentin adhesives. Patient’s treatment. Treatment of the caries and non-carious defects. Peculiarities of teeth restoration. Rubber-dam. Post-systems, inlays, veneers in restorative treatment. Treatment of patients.	1
5.	Pharmacodynamics of the medications, which are used in therapeutic dentistry. Prescriptions.	1
6.	Endodontics. Morphological aspects (roots canal anatomy). Clinic and diagnostic of the pulpitis.	1
7.	Main principles of endodontic treatment.	1
8.	Modern endodontic instrumentation, its classification.	1
9.	Principles of diagnostic, treatment, and prevention of the apical periodontitis. Endo-periodontal surgery. Practice of practical skills.	1
10	Anatomical-morphological and physiological peculiarities of the periodontium.	1
11.	Complex examination of patients with periodontal diseases.	1
12.	Modern ideas on etiology and pathogenesis of the periodontal disease. Classification of the periodontal diseases. Clinical-morphological peculiarities of the main stages of generalized periodontitis.	
13	Complex treatment and prevention of periodontal diseases. Organization of patients care in periodontal pathology. Patient’s treatment.	1

General information

Practical training on discipline "General practice in dentistry" is held under the curriculum for dentists and program of practice at the fifth year

. Duration of practical training - three weeks.

During the training students carry out dentist's duties at the outpatient departments of therapeutic regional, city and district health care facilities. Students work 6 hours a day and perform independent work in their free time. The department should schedule students' training. Dentists should be assigned as students' practice supervisors.

Before starting the practice a student should obtain instructions from the practice supervisor in the department and program of the training, diary of the practice; and referral for the training.

A student arriving at health care facilities (HCF) shall submit the diary to the head of the practice assigned by the authority in the facility, undergo safety training, and clarify the practice schedule.

During the training a student must strictly observe internal regulations of HCF.

The report on practice is submitted by the student in accordance with the timetable of practice and additional guidance of supervisors from the University and HCF.

Practical training of the student is evaluated in four-point scale and taken into account when assigning scholarships along with other subjects of the curriculum.

A student who has not fulfilled the requirements of practice and received negative feedback about the work or unsatisfactory mark on his/her report, is subject to expulsion from the University.

The aim of practical training on the discipline "General practice in dentistry" is to achieve the final objectives identified in the education and vocational training program for speciality 7.12010005 "Dentistry" and it is the basis to comprise the content of practical training.

The ultimate goals of practical training in the discipline "General practice in dentistry" are:

To acquire moral and ethical principles of a doctor and principles of professional subordination during therapeutic practice.

To master the skills of arranging the therapeutic regimen, to perform the required

medical procedures.

Specific objectives of practical training in the discipline "General practice in dentistry":

1. To conduct a survey and examination of patients and analysis of their findings;
2. To plan approaches to examination of dental patients depending on the clinical peculiarities of the disease;
3. To analyse the results of basic laboratory and instrumental examination techniques;
4. To identify predominant pathological symptoms of caries, pulpitis and pericementitis;
5. To conduct differential diagnosis and to establish a preliminary diagnosis of non-carious lesions of hard tissues;
6. To conduct differential diagnosis of major dental diseases, methods of diagnosis and emergency care;
7. To acquire moral and ethical principles of medical specialist and principles of professional subordination.

PLAN OF PRACTICE

№	Topic	Number of hours	Date	Completion sign-off	Practice supervisor's signature
1	Ergonomics. Purpose and objectives. Safety briefing. Clinical anatomy and histology of tooth hard tissues. Physiological data on the hard tissues of the tooth. Tooth embryogenesis.				
2	Modern look on the etiology and pathogenesis of dental caries. Diagnosis, treatment and prevention of caries.				
3	Modern filling materials. Methods of their application. Enamel-dentin adhesive systems. Treatment of patients.				
4	Treatment of caries and non-carious lesions of the teeth. Reconstruction of teeth, inlays, veneers.				
5	Pharmacodynamics of drugs used in therapeutic dentistry. Recipe.				
6	Endodontics. Morphological aspects. Clinic, diagnosis of				

	pulpitis.				
7	Principles of endodontic treatment. Modern endodontic instruments. Classification.				
8	Principles of diagnosis, treatment and prevention of pericementitis (apical periodontitis). Endo-periodontal surgery.				
9	Conservative-surgical methods of treatment of apical pericementitis.				
10	Clinical and morphological-functional peculiarities of periodontal tissues. Dento-gingival junction. Protective mechanisms. Prevention of accidents in clinic of therapeutic dentistry. Peculiarities of clinical examination of patients with periodontal pathology. The most important clinical methods of examination. Periodontal indices.				
11	Classification of periodontal diseases. The main syndromes of periodontitis. Clinical and morphological characteristics of individual severity of generalized periodontitis.				
12	Surgical treatment of generalized periodontitis (curettage, gingivotomy, gingivectomy, flap surgery)				
13	Algorithm of dental examination of a patient with surgical dental pathology. Subjective and objective diagnostic methods.				
14	Methods of local anesthesia for outpatient surgery on the upper and lower jaw.				
15	Operation of typical tooth extraction - indications, methods, tools, stages.				

A list of practical skills to be acquired by the fifth-year student at the dental faculty during practical training on the discipline "General practice in dentistry":

1. Conduct a clinical examination of a dental patient.
2. To carry out additional methods of examination of the dental patient.
3. Dissect carious cavities of different localization (I-V classes according to Black).
4. Seal carious cavities with different filling materials.
5. Methods of treatment of pulpitis.
6. Mechanical treatment of the root canal with various endodontic instruments
7. Antiseptic and medicamental treatment of the root canal. Obturation of the root canals. 8. Stages of surgical treatment of apical periodontitis.
9. Method of tooth crown restoration with an anchor pin
10. Be able to conduct a clinical examination of a patient with periodontal pathology.
11. Be able to correctly draw up a medical history, make a plan for examination and treatment of the patient.
12. Determine the indice of Silness-Loe; PMA; PI; CPITN; bleeding index; Pisarev-Schiller test and be able to analyze them.
13. Analyze and assess the condition of the bone of the alveolar process according to panoramic radiographs.
14. determine the depth of periodontal pockets and their contents. Be able to determine the degree of mobility of the teeth.
15. Have the technique of removing dental plaque with hand and electromechanical tools (sound and ultrasound).
16. Choose a local anesthetic and determine the dose. Use anatomical landmarks to determine the location of the target anesthesia.
17. Practice the technique of local anesthesia for outpatient surgery
18. To work out on a phantom a technique of removal of separate groups of teeth on the upper and lower jaws.
19. Stages of treatment of ulcerative and hypertrophic gingivitis.
20. Stages of surgical treatment of periodontal disease.
21. Prepare and apply periodontal dressings
22. Be able to perform closed and open curettage of periodontal pockets.
23. Physiotherapy for the treatment of the periodontal diseases.
24. Possess forms and methods of sanitary-educational work.

Criteria for evaluation of practical skills:

- implementation of practical skills **without mistakes - 5 points,**
- implementation of practical skills **with individual mistakes corrected by a student - 4 points**
- implementation of practical skills **with individual mistakes, corrected by the teacher - 3 points**
- **failed practical skills - 0 points**

ASSESSMENT OF STUDENT WORK DURING PRACTICE

№	A list of practical skills	Date	Score 3-5	Signature
1.	Conduct a clinical examination of a dental patient.			
2.	Conduct additional methods of examination of the dental patient.			
3.	Dissect carious cavities of different localization (I-V classes according to Black).			
4.	Seal carious cavities with different filling materials.			
5.	Methods of treatment of pulpitis.			
6.	Mechanical treatment of the root canal with various endodontic instruments.			
7.	Antiseptic and medicamental treatment of the root canal. Root canal obturation.			
8.	Know the features of the stages of surgical treatment of periapical pathology.			
9.	Method of tooth crown restoration with an anchor pin.			
10.	Be able to conduct a clinical examination of a patient with periodontal pathology.			
11.	Be able to properly draw up a medical history, make a plan for examination and treatment of the patient.			
12.	Determine the indices by Silness-Loe; PMA; PI; CPITN; bleeding index; Pisarev-Schiller test and be able to analyze them.			
13.	Be able to analyze and evaluate the condition of the bone of the alveolar process according to panoramic radiographs.			
14.	Be able to determine the depth of periodontal pockets and their contents. Be able to			

	determine the degree of mobility of the teeth.			
15.	Technique of removing dental deposits with hand and electromechanical tools (ultrasound, VECTOR).			
16.	To choose a local anesthetic and determine the dose. Use anatomical landmarks to determine the location of the target anesthesia.			
17.	Practice the technique of local anesthesia for outpatient surgery			
18.	Know the features of the stages of treatment of hypertrophic and ulcerative gingivitis.			
19.	Know the features of the stages of surgical treatment of periodontal disease.			
20.	Be able to perform closed and open curettage of periodontal pockets.			
21.	Be able to prepare and apply periodontal dressings			
22.	To work out on a phantom a technique of removal of separate groups of teeth on the upper and lower jaws.			
23.	Be able to prescribe physiotherapy for periodontal disease.			
24.	Possess forms and methods of sanitary-educational work			
	Total points for performing practical skills			
				Signature of the head of practice from the university

1. General patient's examination.

2. Carious cavity preparation.

- 2.1. Preparation of class I carious cavity according to Black.
- 2.2. Preparation of class II carious cavity according to Black.
- 2.3. Formation of additional cavity in case of preparing carious cavities class II according to Black.
- 2.4. Preparation of class III carious cavity according to Black with free access to the cavity.
- 2.5. Preparation of class IV carious cavity according to Black.
- 2.6. Preparation of class V carious cavity according to Black (gingival cavity wall at gums level).

3. Restoration of carious cavities.

- 3.1. Amalgam restoration of class I cavities according to Black.
- 3.2. Self-curing resin composite restoration of class I cavities according to Black.
- 3.3. Light-curing resin composite restoration of class II cavities according to Black.
- 3.4. Light-curing resin composite restoration of class IV cavities according to Black.
- 3.5. „Sandwich-technique“.
- 3.6. Glass-ionomer restoration of class V cavities according to Black.
- 3.7. Application of Ca(OH)₂-based lining material (direct and indirect pulp capping).
- 3.8. Placement of zinc-phosphate cement base under self-curing resin composite restoration.

4. Endodontics:

- 4.1. Access cavity preparation in intact incisors and cuspids
- 4.2. Access cavity preparation in intact premolars
- 4.3. Access cavity preparation in intact maxillary molar
- 4.4. Access cavity preparation in intact mandibular molar
- 4.5. „Step-back“ technique in endodontic treatment.
- 4.6. „Crown-down“ technique in endodontic treatment
- 4.7. Compaction of Heat-Softened gutta-percha.
- 4.8. The cold lateral compaction of gutta-percha technique.

5. Method of periodontal tissues and oral mucosa examination

- 5.1. Extra-oral patient examination.
- 5.2. Determination of Papilla Bleeding Index after Saxer and Muhlemann
- 5.3. Determination of degree of teeth mobility after Entin.
- 5.4. Determination of periodontal pockets depth.
- 5.5. Determination of PMA index in Parma modification
- 5.6. Determination of Periodontal index (Russel).
- 5.7. Determination of CPITN index
- 5.8. Determination of Simplified oral hygiene index (Greene and Vermillion).

6. Treatment of diseases of periodontium and oral mucosa

- 6.1. Irrigations.
- 6.2. Application of the medication solutions to the gums.
- 6.3. Application of the periodontal dressing.

6.4. Closed curettage technique.

6.5. Method of conducting medication and surgical treatment of erosions, aphthae, ulcers, cracks.

6.6. Medicament treatment of area with keratosis.

1. General patient's examination.

1. Extra-oral examination.

1. Face symmetry – outline symmetry, the maxillary central incisors should be mirror images of each other. Additionally, a line drawn between the maxillary central incisors should be perpendicular to the horizontal line. Finally, the maxillary dental midline should be coincident with the facial midline.

2. Face proportion (face height) – the face can be divided vertically into thirds, and the length of the middle third of the face should be approximately equal with the lower third of the face. The mid-face is measured from glabella, the most prominent point of the forehead between the eyebrows, to subnasale, the point below the base of the nose. The lower third of the face is measured from subnasale to the lower border of the chin.

3. Lip length – the length of the upper lip is measured from sub-nasale point to the inferior border of the upper lip. The average length of the upper lip is 20 to 22 mm in the young adult female and 22 to 24 mm in the young adult male. The upper lip tends to lengthen with age.

4. Lip mobility – mobility of the upper lip is measured in the position of high smile. The average lip mobility is 6 to 8 mm.

5. Examination of the face, skin and red border of the lips (cracks, cornification, macerations, and tumors).

6. Palpation of the bones of facial skull and regional lymphatic nodes.

II. Intraoral examination.

1. Examination of the vestibule of mouth (buccal cavity) (its depth, attachment points, and length of the frenulums of upper and lower lips, vestibule mucosa).

2. Evaluation of the dentition

a. Assessment of caries risk and plaque

b. Caries diagnosis

c. Assessment of the pulp (electric pulp test, thermal test)

d. Evaluation of existing restorations (structural integrity, mouth opening, anatomic form, restoration-related periodontal health, occlusal and interproximal contacts, caries, esthetics)

e. Evaluation of the occlusion and occlusal contours (occlusal interrelations between the occlusion in central position and that of maximum interrelation; the number and position of occlusal contacts, as well as the stress placed on the occlusal contacts in MI; the amount and pattern of attrition of teeth and restorations resulting from occlusal function and parafunction; the interarch space available for placement of needed restorations).

f. Assessment of nonocclusal contours

g. Assessment of tooth integrity and fractures

h. Evaluation of esthetics (stained or discolored anterior teeth; unesthetic contours in anterior teeth; unesthetic position or spacing of anterior teeth; carious lesions and unesthetic restorations; excessive areas of dark space in the buccal corridors due to a constricted arch form; unesthetic color and/or contour of tissue adjacent to anterior restorations)

3. Evaluation of the periodontium

a. Assessment of disease activity

b. Evaluation of the structure and contour of bone support

c. Mucogingival evaluation

2. Carious cavity preparation.

2.1. Preparation of class I carious cavity according to Black, defects of occlusal and buccal surfaces of teeth.

Aim: to control the skills in the preparation of class I carious cavity according to Black

Material providing: turbine handpiece, angular micromotor handpiece, diamond and carbide drills for the angular and turbine handpiece, excavators, phantom.

Method of conducting:

1. Conduct opening of the carious cavity separately on occlusal and buccal surfaces by cylinder or spherical diamond drills (Speed mode: high).
2. Conduct widening of carious cavity by cylinder diamond drill, executing motions on perimeter of carious cavity. (Speed mode: high).
3. Conduct necrectomy, using an excavator with the size according to the size of carious cavity, working part of the instrument parallel to the bottom of carious cavity and execute comma like movements from the centre to periphery or using round carbide drill in the middle speed range.
4. Conduct separately shaping of carious cavity on occlusal and buccal surfaces by cylinder or inverted cone diamond drill, according to the principles of biological expediency and technical rationality.
5. Conduct preparation of enamel edges of carious cavity, according to the requirements of the filling material, by cone diamond drill in the high speed range.

2.2. Preparation of class II carious cavity according to Black.

Aim: to control the skills of preparation of class II carious cavity according to Black

Material providing: turbine handpiece, angular micromotor handpiece, diamond and carbide drills for the angular and turbine handpiece, excavators, phantom.

Method of conducting:.

1. Create on the occlusal surface of tooth in projection of carious cavity enamel notches by inverted cone or diamond drill, putting the drill of 45-90° to the tooth surface. Preparing conduct in the high speed modes.
2. Conduct trepanation of hard tissues of occlusal surface, using spherical diamond drill, under the corner of 45° to the tooth surface (high speed modes).
3. Conduct widening of trepanation opening using cylinder diamond drill, executing motions on the cavity perimeter (speed mode: high).
4. Conduct necrectomy, using an excavator of the size according to the size of carious cavity, working part of the instrument parallel to the bottom of carious cavity and execute comma like motions from centre to periphery or using round carbide drill in the middle speed range.
5. Conduct shaping of the main and additional cavity by cylinder or inverted cone diamond drill.
6. Conduct preparation of enamel edges of carious cavity, according to requirements of selected filling material, by cone diamond drill in the high speed range.

2.3. Formation of additional cavity in case of preparing carious cavities class II according to Black.

Aim: to control the skills of the formation of additional cavity in case of preparing the carious cavities class II according to Black.

Material providing: turbine handpiece, angular micromotor handpiece, diamond and carbide drills for the angular and turbine handpiece, excavators, phantom.

Method of conducting:

1. After the main cavity formation on the proximal surface create an additional cavity on the occlusal surface of the tooth.
2. Conduct trepanation of hard tissues from occlusal surface, using spherical diamond drill, inclined at 45 degree to the tooth surface (high speed modes).
3. Conduct widening of trepanation opening using cylinder diamond drill, (speed mode: high).
4. Bottom of additional cavity must be located lower than enamel-dentin junction; its length - 1/2-1/3 length of the occlusal tooth surfaces, its width - according to width of main cavity. Create right angle between the main and additional cavities.
5. Form the bottom and walls of additional cavity by inverted cone or cylinder diamond drill (high speed mode).
6. Conduct preparation of enamel edges of additional cavity, according to requirements of

selected filling material, by cone diamond drill in the high speed range.

2.4. Preparation of class III carious cavity according to Black with free access to the cavity.

Aim: to control the skills of preparation of class III carious cavity according to Black

Material providing: turbine handpiece, angular micromotor handpiece, diamond and carbide drills for the angular and turbine handpiece, excavators, phantom.

Method of conducting:

1. Open a carious cavity from oral surface by cylinder or spherical diamond drill with (Speed mode: high).
2. Conduct widening of carious cavity by cylinder diamond drill. (Speed mode: high).
3. Conduct necrectomy, using round carbide drill with comma like motions from the centre to periphery in the middle speed range.
4. Conduct shaping of the main and additional cavities by cylinder or inverted cone diamond drill.
5. Conduct preparation of enamel edges of carious cavity, according to requirements of selected filling material, by cone diamond drill in the high speed range.

2.5. Preparation of class IV carious cavity according to Black.

Aim: to control the skills of preparation of class IV carious cavity according to Black

Material providing: turbine hand-piece, angular micro-motor hand-piece, diamond and carbide drills for the angular and turbine hand-piece, excavators, phantom.

Method of conducting:

1. Open the carious cavity from the oral surface by cylinder spherical diamond drill (Speed mode: high).
2. Conduct widening of carious cavity by cylinder diamond drill. (Speed mode: high).
3. Conduct necrectomy, using round carbide drill with comma like movements from the centre to periphery in the average speed range.
4. Conduct shaping of the main and additional cavity with cylinder or inverted cone diamond drill. On esthetic considerations, the preparation should not be extended onto the facial surface unless necessitated by the lesion.
5. Conduct preparation of enamel edges of carious cavity, according to requirements of selected filling material, by cone diamond drill in the high speed range.

2.6. Preparation of class V carious cavity according to Black (gingival cavity wall at gums level).

Aim: to control the skills of preparation of class V carious cavity according to Black.

Material providing: turbine hand-piece, angular micro-motor hand-piece, diamond and carbide drills for the angular and turbine hand-piece, excavators, retraction cord, phantom.

Method of conducting:

1. Conduct opening of carious cavity by cylinder or spherical diamond drill.
2. Retract a gingival edge by the retraction cord. Conduct widening of carious cavity by cylinder diamond drill. (Speed mode: high).
3. Conduct necrectomy, using round carbide drill and execute comma like motions from centre to periphery in the average speed range.
4. Conduct shaping of the main and additional cavity by cylinder or inverted cone diamond drill, preserving principles of biological expedient and technical rationality.
5. Conduct preparation of enamel edges of carious cavity, according to

requirements of selected filling material, by cone diamond drill in the high speed range.

3. Restoration of carious cavities.

3.1 Amalgam restoration of class I cavities according to Black.

Aim: to control ability of correct amalgam restoration of class I cavities according to Black.

Material providing: RotoMix centrifugal capsule mixer, capsules with amalgam, amalgam-treger, phantom.

Method of conducting:

1. It is necessary to use bases in amalgam restorations.
2. Near or suspected pulpal exposures should receive a calcium hydroxide-containing liner confined to the area overlying the pulp.
3. Take capsule with amalgam of necessary volume, dependently from size of carious cavity, and place in RotoMix.
4. Mix an amalgam in RotoMix, display accordingly requirements of producer.
5. Remove a capsule from RotoMix and open it by motion against hour-hand.
6. Take an amalgam using amalgamtreger and apply in prepared carious cavity.
7. Conduct condensation of amalgam by amalgamtreger, executing motions from centre to periphery of carious cavity, and renew anatomic shape of tooth.

3.2. Self-curing resin composite restoration of class I cavities according to Black.

Aim: to control ability of correct self-curing resin composite restoration of class I cavities according to Black.

Material providing: etching gel, brush, adhesive system, self-curing resin composite, plastic spatula, metallic or plastic condensers, filling instruments, phantom.

Method of conducting:

1. Enamel etching: acid etchant is placed over the entire preparation for 15 sec. Wash and dry up cavity (time of washing 30 sec.). The enamel is examined for a frosted matte appearance to confirm proper enamel conditioning.
2. On the prepared surface of enamel and dentine apply an adhesive agent during (15 seconds). Evenly distribute it with not intensive air flow.
3. Mix evenly 1:1 base and catalytic paste
4. Apply the material using plastic filling instrument and condense it in the cavity. Restore occlusal tooth surface in accordance to its anatomic structure.
5. Check the occlusion and adjust as necessary.
6. Use finishing diamond drill to adjust occlusal anatomy.

3.3. Light-curing resin composite restoration of class II cavities according to Black.

Aim: to control ability of correct light-curing resin composite restoration of class I cavities according to Black.

Material providing: etching gel, brush, adhesive system, light curing resin composite, plastic spatula, metallic or plastic condensers, filling instruments, matrix, light-curing lamp, phantom.

Method of conducting:

1. Enamel etching: acid etchant is placed over the entire preparation for 15 sec. A small piece of matrix has been placed to protect the adjacent proximal surface. Wash and dry up cavity (time of washing 30 sec.). The enamel is examined for a frosted matte appearance to confirm proper enamel conditioning.
2. The primer and adhesive are placed with disposable brushes or applicators, and the adhesive is light cured in accordance with the manufacturer's protocol.
3. Sectional matrix is placed. Matrix is burnished in the contact area to enhance proximal contour and contact.
4. Apply material in the carious cavity. If a metal matrix is used, the minimal (0.1mm) gingival

layer is placed and cured. The material is then layered in alternating oblique layers. Each layer should not be thicker than 2.0 mm. To minimize cuspal deformation and polymerization stress, an oblique layer should not contact both facial and lingual cavity walls. After curing the initial layer, the next one is syringed into the place and formed obliquely with a plastic instrument. The restoration should be cured each portion primary from the facial or lingual direction (directed polymerization), and directly on material (final polymerization). If a metal matrix was used, the restoration should be cured from the facial and lingual aspects after matrix removal.

5. Check the occlusion and adjust as necessary.

6. Aluminium oxide disk used to contour and polish the proximal surface of a resin composite restoration. Finishing diamond used to refine occlusal anatomy. A flexible point impregnated with aluminium oxide is used for smoothing the restoration of an occlusal surface. Finishing strip for contouring/finishing/polishing the proximal surface gingival to the interproximal contact.

7. Etching the restoration margins prior to rebonding.

8. Rebonding resin is brushed onto the restoration surface and margins.

3.4. Light-curing resin composite restoration of class IV cavities according to Black.

Aim: to control ability of correct light-curing resin composite restoration of class IV cavities according to Black.

Material providing: etching gel, brush, adhesive system, light-curing resin composite, plastic spatula, metallic or plastic condensers, filling instruments, light-curing lamp, phantom.

Method of conducting:

1. Select a shade before initiation of dehydration.

2. Enamel etching: acid etchant is placed over the entire preparation for 15 sec. A small piece of matrix has been placed to protect the adjacent proximal surface. Wash and dry up cavity (time of washing 30 sec.). The enamel is examined for a frosted matte appearance to confirm proper enamel conditioning.

3. The primer and adhesive are placed with disposable brushes or applicators, and the adhesive is light cured in accordance with the manufacturer's protocol.

4. If the cavity is large, place opaque shades of resin composite into a deep areas. Light cure for at least 40 sec.

5. Place a clear plastic strip or other matrix and wedge.

6. Add composite and contour with a plastic instrument or by pulling the matrix strip tightly around the tooth. Light cure in accordance with the manufacturer's protocol.

7. Remove matrix and contour the restoration with a finishing diamond or abrasive disk.

8. Check the occlusion and adjust as necessary.

9. Finish and polish with disks, rubber points, etc.

10. Apply etchant to surface and margins. Rinse, then apply and cure rebonding agent.

3.5. „Sandwich-technique".

Aim: to control ability of „Sandwich-technique" method.

Material providing: glass-ionomer cement, light-curing resin composite, metallic and plastic filling instruments, light-curing lamp, phantom.

Indications:

Because autocured glass-ionomer materials may be opaque and provide less than optimal esthetics, many clinicians use the sandwich technique. Glass-ionomer is used to replace the missing dentin, reduce microleakage, and increase retention, while a veneer of resin composite is placed to enhance esthetics and polishability and to increase abrasion resistance.

Method of conducting:

1. Apply conditioner for 10-30 sec., rinse that dry up the cavity surface.

2. Place the glass-ionomer cement to the limit of enamel-dentin junction

3. Enamel adhesive is placed with disposable brushes or applicators, and the adhesive is light cured in accordance with the manufacturer's protocol.

4. Apply material in the carious cavity. No increment excess 2.0 mm in thickness. Light cure in accordance with the manufacturer's protocol.
5. Check the occlusion and adjust as necessary.
6. Finish and polish with disks, rubber points, etc.
7. Apply etchant to surface and margins. Rinse, then apply and cure rebonding agent.

3.6. Glass-ionomer restoration of class V cavities according to Black.

Aim: to control ability of correct Glass-ionomer restoration of class V cavities according to Black.
 Material providing: conditioner, glass-ionomer cement, plastic spatula, metallic and plastic filling instruments, cervical matrix, phantom.

Method of conducting:

1. Apply conditioner for 10-30 sec., rinse that dry up the cavity surface.
2. Self-cured glass-ionomer can be placed into the preparation in one increment until it is slightly overfilled. Contoured cervical matrix is than placed over the material, and the excess material is allowed to extrude out the sides. The matrix is left in place until the material is set. After placement resin-modified glass-ionomer(RMGI) material into the preparation, it is light polymerized in a manner similar to light-curing resin composite. The use of a clear cervical matrix is optional.
3. After removal of the matrix, the restoration can be contoured with a diamond drill or disks. This finishing procedures should be performed with water to provide lubrication and prevent desiccation.
4. Resin glaze may be placed and polymerized after polishing is completed.

3.7. Application of Ca(OH)₂-based lining material (direct and indirect pulp capping).

Aim: to control the ability of calcium hydroxide lining material application.

Material providing: calcium hydroxide lining material, condenser smaller size or probe, phantom.

Method of conducting:

Cavity liners placed with minimal thickness, usually less than 0,5 mm, provide not only seal, but fluoride release, adhesion to the tooth structure, and antibacterial action that promotes pulpal health. Calcium hydroxide liner purported ability to stimulate reparative dentin formation.

For a direct pulp capping procedure, a calcium hydroxide lining material is placed on the exposed pulpal tissue and a small amount of surrounding dentin. A sealing liner and/or a sealing restoration is than placed to seal out bacteria and their by-products.

In an indirect pulp capping procedure, all carious, demineralised dentin is removed in the periphery of the preparation, but a small amount of demineralised dentin is left immediately over the area of pulp. A calcium hydroxide lining material is placed to cover the remaining demineralised dentin. A sealing liner and/or a sealing restoration is than placed to seal out bacteria and their by-products.

3.8. Placement of zinc-phosphate cement base under self-curing resin composite restoration.

Aim: to control the technique of placement of zinc-phosphate cement base („Adhesor”) under self-curing resin composite restoration.

Material providing: zinc-phosphate cement, chrome-plate or nickel-plate metallic spatula, condenser, phantom.

Method of conducting:

The mixing is done on a glass plate with a non-corroding spatula at the temperature of 23 ±1°C. To extend the working time, mixing in the temperature below 20°C is recommended. Gradual adding of the powder into the liquid is also recommended. Mixing ratio: 2 scoops of the powder to 3 drops of the liquid. Mixing time: 2-2.5 minutes. Working time: 4-4.5 min(from the start of mixing to the start of setting). Setting time: 6-7min(from the start of mixing to complete setting).

Apply the material on the bottom of the cavity to cover dentin till enamel-dentin junction.

4. Endodontics:

4.1. Access cavity preparation in intact incisors and cuspids

Aim: to control ability to create the optimum access to the pulp chamber for conducting a subsequent endodontic treatment.

Material providing: turbine hand-piece, micro-motor hand-piece with the promote reduction of speed, inverted cone, spherical, cone-shaped drills (diamond, carbide).

Method of conducting:

1. Conduct local anesthesia.
2. Operation field isolation.
3. The ideal access preparation is an ovoid or rounded-triangle shape on the lingual surface of the tooth, with a slight curve lingually to avoid reducing the incisial edge. The cuspid is similar, but the tooth has ovoid root form. The access preparation follows this shape, with an ovoid preparation on the lingual surface.

4.2. Access cavity preparation in intact premolars

Aim: to control ability to create the optimum access to the pulp chamber for conducting a subsequent endodontic treatment.

Material providing: turbine hand-piece, micro-motor hand-piece with the promote reduction of speed, inverted cone, spherical, cone-shaped drills (diamond, carbide).

Method of conducting:.

1. Conduct local anesthesia.
2. Operation field isolation.
3. The maxillary first and second premolars require similar access preparation design. Although the first premolar is usually two rooted and the second premolar single rooted, the preparation is ovoid and directed through the middle of the occlusal surface.

4.3. Access cavity preparation in intact maxillary molar

Aim: to control ability to create the optimum access to the pulp chamber for conducting a subsequent endodontic treatment.

Material providing: turbine handpiece, micromotor handpiece with the promote reduction of speed, inverted cone, spherical, cone-shaped drills (diamond, carbid).

Method of conducting:

1. Conduct local anesthesia.
2. Operation field isolation.
3. The maxillary molar access preparation is traditionally described as having a triangular form that connects the line angle projections of the mesio-buccal root, disto-buccal, and palatal canals.
4. There are two important procedures for enhancing visualization and preparation of the radicular canal system after the clinician access the main chamber:
 - 1) Clearing the overhanging extensions of the pulp horns is best accomplished using the “belly” of a round bur in a vertical direction.
 - 2) The removal of the natural internal protuberance in the cervical region can be achieved using Gates-Glidden Drills and round-nosed, tapered diamond instruments.

4.4. Access cavity preparation in intact mandibular molar

Aim: to control ability to create the optimum access to the pulp chamber for conducting a subsequent endodontic treatment.

Material providing: turbine hand-piece, micro-motor hand-piece with the promote reduction of speed, inverted cone, spherical, cone-shaped drills (diamond, carbide), phantom.

Method of conducting:

1. Conduct local anesthesia.
2. Operation field isolation.
3. The mandibular molar access outline should match the projection of root canals to the occlusal

surface. If the tooth has a single distal canal, the outline form will usually be triangular in shape. If there are two distal canals, the outline is more trapezoidal. It should be pointed out that the central groove of the occlusal surface is actually lingual to the central axis of the pulp chamber. The mesiobuccal canal openings of some molars actually lie under the mesio-buccal cusp tip. Slight changes in mesioangulation can change directions necessary for instrument placement.

4. There are two important procedures for enhancing visualization and preparation of the radicular canal system after the clinician access the main chamber:

1) Clearing the overhanging extensions of the pulp horns is best accomplished using the “belly” of a round bur in a vertical direction.

2) The removal of the natural internal protuberance in the cervical region can be achieved using Gates-Glidden Drills and round-nosed, tapered diamond instruments.

4.5. “Step-back” technique in endodontic treatment.

Aim: to control ability of the “Step-back” technique conducting.

Material providing: K-type file, K-type reamer, H-type file, K-flex file, endodontic handpiece, phantom

Method of conducting:

1. On the chosen files of small sizes (10-25 sizes of the ISO) a working length of root canal on which it is necessary to pass a root canal to the apex opening should be marked with a rubber stop.

2. The size 10 K-file is first introduced into the canal with rotary movements to the full working length of canal to the apex. Take out the file with a filing action.

1. Then conduct such manipulation by the endodontic instrument of the next size (15). After each increase in size of instrument the previous size is inserted into the canal to prevent the canal from becoming blocked. The sequence of files in this case was: 10-15-10-20-15-25-20.

2. Thus, canal should be broaden at full length minimum to 25 instrument size (minimum size of the file, that secures sufficient treatment for the good cleaning and filing of the apical part of root canal).

3. After treatment of apical part of root canal with file (25) an instrument of larger size (30) is placed 1mm short of the working length of the canal, thus, the middle part of root canal is broadened.

4. Each larger instrument should be inserted 1 mm less into the canal than previous one. For example, if working length of the canal is 20 mm, the file of size 30 is inserted to the length of 19 mm size 35-18mm, size 40-17mm. After every increase of file size it is necessary to come back to the file with which the canal was treated at the full working length.

5. Coronal and middle part of the canal are broaden by a suitable sized of Gates Glidden burs. The bur is inserted into the straight part of the canal and a cutting action made only on the withdrawal stroke. Any small ledges are removed by filing with the last instrument used at the full working length.

4.6. “Crown-down” technique in endodontic treatment.

Aim: to control the ability of conducting the crown-down technique.

Material providing: K- files (15-40), K- reamers for strait root canals, H-type file, K-flex files, niti-flex files, endodontic ruler, Gates Glidden burs, endodontic hand-piece, phantom, antiseptic solutions.

Method of conducting:

1. Wash canal orifice with sodium Hypo-Chloride solution, insert file 35 size into the canal to its stop and fix the length of the instrument.

2. Treat the canal on this length by Gates Glidden burs type 1 that 2 (to the 80 size).

3. Insert file 30 size into the canal to its stop and fix the length of the instrument, file this part of root canal.

4. Conduct treatment of canal to the apex area, gradually diminishing sizes of files.

5. Conduct the exact determination of length of root canal.

6. Gradually broaden an apex part of the canal to the file 25, using „Step-back” technique.
7. Any small ledges of canal walls are removed by filing with the 30-35 H-type files.

4.7. Compaction of Heat-Softened Gutta-Percha

Aim: to control ability to fill a root channel using the Heat-Softened compaction of gutta-percha technique.

Material providing: standard gutta-percha cones, root canal sealer, a plugger, glass plate (or paper notebook), a spatula, root filling instrument.

Method of conducting:

A master gutta-percha cone is chosen that approximates the length and shape of the prepared canal. The cone is fit snugly to within 1 to 2 mm of the apical extent of the preparation, depending on the nature of the canal anatomy and shape. The common compacting instrument is the plugger, which is chosen based on canal size, length, and curvature. The plugger can be a hand or finger instrument, and the selected instruments are pre-fitted into the canal to determine the proper depth of penetration without binding against the canal walls. A root canal sealer that can be mixed to a creamy consistency and has ample working time (i.e., 15 to 30 minutes) is selected. The sealer is placed into the canal to the depth of the master cone position; the master cone is lightly coated on its apical half and placed in the canal. A heated instrument is used to sear off and remove coronal segments of gutta-percha and to transfer heat to the remaining portion of the master cone. A cold plugger is used to compact the softened portion of the cone apically and laterally. This process of heating, removing, and compacting are continued until softened gutta-percha is delivered into the apical 1 to 2 mm of the prepared canal. Subsequently, softened segments are added and compacted to obturate the canal from the apical segment to the canal orifice.

4.8. The cold lateral compaction of gutta-percha technique.

Aim: to control ability to fill a root channel using the cold lateral compaction of gutta-percha technique.

Material providing: standard gutta-percha cones, root canal sealer, spreader, glass plate (or paper notebook), spatula.

Method of conducting:

In this technique a master gutta-percha cone is chosen that corresponds to the final root canal enlarging instrument that went to the apical extent of the canal (working length). The common compacting instrument is the spreader, which comes in various sizes and is chosen based on the canal size, length, and curvature. The spreader can be a hand or finger instrument. A root canal sealer that can be mixed to a creamy consistency and has ample working time (i.e., 15 to 30 minutes) is selected. The master cone is placed along with sealer in the canal, and both are compacted with the tapered metallic spreader in a lateral and vertical direction. The space created by the metallic spreader is filled with additional smaller or accessory cones that are also compacted until the canal is filled.

5. Method of periodontal tissues and oral mucosa examination

5.1. Extra-oral patient's examination

Aim: to expose the changes, that arises up in case of maxillo-facial area diseases.

Material providing: adequate illumination, gloves, masks.

Method of conducting:

We pay attention to bilateral symmetry of the face, to color of the facial skin. Then, we examine the orto-facial soft tissues. Begin by examining the submandibular glands and cervical nodes for abnormalities in size, texture, mobility, and sensitivity to palpation, then, palpate the masticatory muscles for pain or tenderness and maxilla-temporal joint. Next, start in one area of the mouth and

follow a routine pattern of visual examination and palpation of the cheeks, lips. And also we must check the points of Nervus Trigemini exit.

5.2. Determination of Papilla Bleeding Index after Saxer and Muhlemann.

The aim: to know how to determine the degree of gingival bleeding.

Material providing: periodontal probe, dental mirror.

Method of conducting:

Conduct gently probing of gingival sulcus or periodontal pocket. Define time of blood appearance after gingival probing. Conduct estimation of bleeding on lingual surfaces of the first and the third quadrants and on vestibular surfaces of the second and the fourth quadrants. Results are estimated according to the 4-degree scale:

- 1 — absence of bleeding
- 2 – bleeding appears as small spot of blood,
- 3 – bleeding appears as multiple blood spots or linear bleeding,
- 4 – bleeding appears as a triangle, filling the interdental spaces,
- 5 – intensive bleeding on probing, blood is overlaying the tooth and adjacent gums.

5.3. Determination of the degree of tooth mobility after Entin.

Aim: to define a degree of tooth mobility, depth of destruction of periodontal ligament.

Material providing: dental mirror, pincers.

Method of conducting:

Define a tooth mobility degree by pincers.

Three degrees of mobility of teeth:

I degree - tooth is mobile in the vestibular-oral direction within the width of cutting edge of the tooth

II degree - tooth is mobile in the vestibular-oral and mesio-distal directions

III degree - tooth is mobile in the vestibular-oral, mesio-distal and vertical directions

5.4. Determination of periodontal pockets depth.

Aim: to define the depth of periodontal pockets.

Material providing: periodontal probe, dental mirror.

Method of conducting:

Examine the patient in dental unit. Conduct the examination in sufficient illumination. Determine the depth of periodontal pockets with periodontal probe by putting it into the pocket without pressure. When probing, it is important to place an instrument along the central axis of the tooth, strictly perpendicularly to the gingival edge, putting working part of the probe close to the inspect surface of the tooth. Measure the depth in medial, vestibular, distal and oral surfaces of the tooth. In oral and vestibular surfaces of the tooth make probing in the central part and two proximal sides. In case of when measuring take into account a maximal depth of periodontal pocket. In case of gums hypertrophy, the depth of the pocket is measured from the cementum-enamel junction.

5.5. Determination of P.M.A. index in Parma modification.

Aim: to control ability to determine visually an inflammatory process in gums.

Material providing: mirror, periodontal probe.

Method of conducting:

Originally the P.M.A. Index consisted of counting the number of gingival units affected with gingivitis. This approach was predicated on the belief that the number of units affected would convey the degree or severity of gingival inflammation. The facial surface of gingiva around a tooth was divided into three gingival scoring units: the mesial dental papilla (P), the gingival margin (M),

and the attached gingiva (A). The presence or absence of inflammation on each gingival unit is recorded as 1, 2, 3.

$$\text{Index PMA} = \frac{\text{summary of all analyzed units}}{3 \times \text{number of teeth} \times 100\%}$$

Criteria for scoring index PMA

up to 25% - slight gingivitis

25-50% - moderate -"-

more than 50% - heavy gingivitis

5.6. Determination of Periodontal index (Russel)

Aim: to register and estimate developed forms of periodontal pathology.

Material providing: X-ray, forceps, dental mirror, periodontal probe.

Method of conducting:

PI score per individual is determined by summing all of the tooth scores and dividing by the number of teeth examined

Score Criteria and Scoring

Additional X-ray Criteria

0 - Negative

Radiographic appearance is essentially normal

1 - Mild gingivitis. There is an overt area of inflammation in the free gingivae, but this area does not circumscribe the tooth

2 - Gingivitis. Inflammation completely circumscribes the tooth but there is no apparent break in the epithelial attachment

4 - Used when radiographs are available

There is early, notch-like resorption of the alveolar crest

6 - Gingivitis with pocket formation. The epithelial attachment has been broken and there is a pocket. The tooth is firm has not drifted, normal masticatory

There is horizontal bone loss involving the entire alveolar crest, up to half of the length of the tooth root

8 - Advanced destruction with loss of masticatory function. The tooth may be loose, may have drifted, may sound dull on percussion with a metallic instrument, may be depressible in its socket

There is advanced bone loss, involving more than one-half of the length of the tooth root, or a definite infra-bony pocket with widening of the periodontal ligament. There may be root resorption, or rarefaction at the apex

Rule: when in doubt, assign the lesser scores

Periodontal Index Score

summary of individual scores

per Person = number of teeth present

Clinical Condition

Group PI Scores

Stage of Disease

Clinically normal supportive tissues Simple gingivitis
0 to 0,2
0,3 to 0,9

Reversible
Beginning destructive periodontal disease
0,7 to 1,9

Established destructive periodontal disease
1,6 to 5,0

Irreversible
Terminal disease
3,8 to 8,0

5.7. Determination of CPITN - Community Periodontal Index of Treatment needs

Aim: to control ability to determine a CPITN index.

Material providing: mirror, periodontal probe, dental explorer.

Method of conducting:

This index is proposed by WHO.

Dentition is divided into sextants upper and lower molars and premolars and front teeth.

All teeth are examined in the sextant and the maximal score achieved near one of the teeth is taken as the sextant's score.

Score

Treatment needs

1 - bleeding on probing

improvement of oral hygiene

2 - supra and sub-gingival calculus; probing depth up to 3 mm

professional oral hygiene

3 - probing depth 4-5 mm

complex treatment including periodontal surgery

4 - probing depth more than 6 mm

complex treatment including periodontal surgery

5.8. Determination of Simplified oral hygiene index (Greene and Vermillion)

Aim: to assess the amount of plaque and calculus to determine a person's level of oral cleanliness.

Material providing: a mouth mirror and shepherd's crook or sickle-type dental explorer.

Method of conducting:

The OHI-S consists of two components;

a Debris Index (DI-S) and a Calculus Index (CI-S). Each component is assessed on a scale of 0 to 3.

The six tooth surfaces examined in the OHI-S are the facial surfaces of the teeth numbered 3, 8, 14, and 24 and the lingual surfaces of the teeth numbered 19 and 30. Each tooth surface is divided horizontally into gingival, middle, and incisal thirds.

Criteria for Scoring Oral Debris (DI-S) Component of OHI-S.

0 - No debris or stain present.

1 - Soft debris covering not more than one third of the tooth surface, or the presence of extrinsic stains without other debris regardless of surface area covered.

2 - Soft debris covering more than one third but not more than two thirds of the exposed tooth surface.

3 - Soft debris covering more than two thirds of the exposed tooth surface.

Explorer is placed on the incisal third of the tooth and moved toward the gingival third. The Debris Index score per person is obtained by totaling the debris score per tooth surface and dividing by the number of surfaces examined.

The Calculus Index (CI-S) is performed by gently placing a dental explorer into the distal gingival crevice and drawing it sub-gingivally from the distal contact area to the mesial contact area (i.e., one half of a tooth's circumference is considered a scoring unit). The Calculus Index score per person is obtained by totaling the calculus score per tooth surface and dividing by the number of surfaces examined. The OHI-S score per person is the total of the DI-S and CI-S scores per person. The clinical levels of oral cleanliness for debris that can be associated with group Simplified Debris Index scores are as follows:

Good 0.3 to 0.6

Fair 0.7 to 1.8

Poor 1.9 to 3.0.

1. Supra-gingival calculus covering not more than one third of the exposed tooth surface.
2. Supra-gingival calculus covering more than one third but not more than two thirds of the exposed tooth surface or the presence of individual flecks of sub-gingival calculus around the cervical portion of the tooth or both.

3. Supra-gingival calculus covering more than two thirds of the exposed tooth surface or a continuous heavy band of subgingival calculus around the cervical portion of tooth or both.

The clinical levels of oral hygiene that can be associated with group OHI-S scores are as follows;

Good 0.3 to 0.6

Fair 0.7 to 1.8

Poor 1.9 to 3.0

6. Treatment of diseases of periodontium and oral mucosa

6.1. Irrigations.

The aim: To control the mastering of irrigation technique.

Material providing: irrigator, solutions for irrigations (Solution of Furacilinum 1:5000, Solution of KMnO₄ 1:10000, Solution of Rivanoli 1:1000, plant extracts: infusion of Calendula, Kolanchoe, etc.).

Method of conducting:

1. Warm up the solution to 22-23°C.
2. Put the solution into the irrigator.
3. Conduct the irrigation procedure

6.2. Application of the medication solutions to the gums.

The aim: Applications of the solutions to the gums is used for local treatment of periodontal diseases.

Material providing: syringe with the blunted needle (volume 10 ml), pincers, sterile cotton wool pledgets and rolls, gauze tampons, Solution of Furacilinum 1:5000, Solution of KMnO₄ 1:10000, Solution of Rivanoli 1:1000, plant extracts: infusion of Calendula, Salvinum etc.).

Method of conducting:

Oral cavity is washed with antiseptic solution. The gums are dry out and isolated from the saliva by cotton rollers. Gauze tampons soaked in the solution of Chlorhexidine Bigluconate (0,05%) are applied to the gums for 15-20 minutes. After the procedure gauze tampons are removed with the pincers. Patient wash oral cavity with water.

6.3. Application of the periodontal dressing.

Aim: Periodontal dressings are kept on for 2-3 hours to prolong the contact of medications used for

the local treatment of periodontal diseases.

Material providing: syringe with the blunted needle (volume 10 мл), pincers, spatula, gauze tampons, zinc oxide powder, dentine powder, solution of Chlorhexidine Bigluconate (0,05%), methyluracyl ointment (5%).

Method of conducting:

The pack is prepared ex tempore by mixing the ingredients on the rough side of the glass according to the receipt: zinc oxide, methyluracyl ointment (5 %).

Oral cavity is irrigated with the solution of chlorhexidine bigluconate (0,05%). The gums are dry out and isolated from the saliva by cotton rollers.

The pack is rolled into two strips approximately the length of the treated area. It is put over the gums from the oral and then vestibular surfaces of the teeth. The strips are joined interproximally by applying gentle pressure on the facial and lingual surfaces of the pack.

The pack should cover the gingiva, but overextensions onto uninvolved mucosa and occlusion surfaces of the teeth should be trimmed away.

Time of hardening 8-10 minutes.

6.4. Closed curettage technique

Aim: Curettage removes degenerated tissue, proliferating epithelial buds, and granulation tissue, which will go to form the inner aspect of the pocket wall, and creates a cut, bleeding connective tissue surface.

Material providing: syringe with the blunted needle (volume 10 ml), syringe with a needle (volume 5 мл), solution of lidocaine (2 %) - 4 мл, pincers, spatula, excavator, curette, flat plastic, finishing burs, sterile cotton wool rolls, gauze tampons, solution of Chlorhexidine Bigluconate (0,05 %), methyluracyl ointment (5 %), zinc oxide powder, dentine powder.

Method of conducting:

Step 1. Isolation and anesthetizing of the area.

Step 2. Removal of the supra-gingival calculus.

Step 3. Removal of the sub-gingival calculus.

A curette is inserted to the bottom of the pocket just beneath the lower border of the calculus and the calculus dislodged.

Step 4. Smoothing of the tooth surface.

Step 5. Curettage of the soft tissue wall.

Curettage is employed to remove the diseased inner lining of the pocket wall, including the junctional epithelium. If the junctional epithelium is permitted to remain, epithelium from the crest of the gingiva will proliferate along the curetted pocket wall to join it and prevent any possibility of reattachment of the connective tissue to the root surface. Curettes can be used for this purpose with cutting edges on two sides of the blade so that the root is smoothed in the same operation.

Step 6. Polishing of the root surface.

Root surface are polished by using a rubber cups with pastes. The flexibility of the rubber cup permits access to the sub-gingival area avoiding tissues traumatizing. Brushes are not used for polishing the root surfaces at this stage because of the difficulty of avoiding soft tissue injury.

6.5. Method of conducting medication and surgical treatment of erosions, aphthae, ulcers, cracks.

The aim: mastering the technique of medication and surgical treatment of erosions, aphthae, cracks, and ulcers. Materials:

1. Syringe, irrigator, air-flow device, glasses, spatula, excavator, scalpel, pincers.

2. Sterile cotton wool pledges and rolls, gauze tampons.

3. Solutions, extracts, ointments, liniments, creams, emulsions, pastes, powders.

Surgical and medication treatment of ulcers, erosions, aphthae, cracks is conducted in definite sequence:

I. In the hydration phase:

1. Anaesthetize the operating area.
2. Treatment of oral cavity and wounds with antiseptic solutions.
3. Surgical treatment of operating field (removal of necrotizing pseudomembranous slough with excavators is accompanied by the permanent irrigation of operating field with antiseptic solutions), removal of local irritables.
4. Treatment of oral lesions with necrolytic solutions.
5. Treatment of oral lesions by antibacterial, anti-inflammatory remedies, enzyme inhibitors, medications with osmotic function.

II. In the phase of dehydration:

1. Treatment of the lesion with antiseptics.
2. Treatment of the lesion with medications, stimulating tissue reparation and with keratoplastic properties.

Method of conducting:

1. Anaesthetize the operating field by application of cotton rollers soaked in anaesthetic solution for 3-5 minutes. To be used: 1 % solution of Piramecaine.

Aerosol solutions (Trymecaine, Lidocaine).

2. Conduct the antiseptic treatment by irrigation of oral cavity with warm antiseptic solutions (Solution of Furacilinum 1:5000, Solution of KMnO₄:10000, Solution of Rivanoli 1:1000, etc.). Irrigation is conducted by a syringe.

3. Carefully carry out mechanical debridement of necrotic tissues and debris irrigating constantly the operating field with antiseptic solutions.

4. To improve the effect of mechanical cleaning proteolytic enzymes (trypsin, chimotrypsin) are used. Applications are put for 15-20 minutes, being changed three times during this period. Necrotic tissues are taken off by the cotton rolls more easily after the applications of proteolytic enzymes. If necessary, applications can be repeated (10 minutes more).

5. After removal of necrotic tissues erosions are treated with medications stimulating regeneration.

In the case when ulcers, aphthae, erosions, cracks, are not covered with fibrous tissue, the proteolytic treatment is not needed.

6.6. Medicament treatment of keratosis area.

The aim: to control the ability of the treatment of a keratosis lesion

Material providing:

1. Syringe, irrigator, air-flow device, glasses, pincers.
2. Sterile cotton wool pledges and rolls, gauze tampons.
3. Solution of vitamin A, extract of flax.

Method of conducting:

1. Isolate orifices of salivary gland ducts by cotton wool pledges.
2. Dry up the lesion with gauze tampons.
3. Apply the solution of vitamin A.
4. In case of spreading the lesion to the adjacent areas it is treated with gauze tampons impregnated with flax extract for 20 minutes two times a day up to achievement of clinical effect.