

**Ministry of Health of Ukraine
Danylo Halytsky Lviv National Medical University
Department of Surgical Dentistry and Maxillofacial Surgery**

METHODICAL GUIDE

(for the for the English-Medium students of 5th course of Dental faculty)

from surgical dentistry

(individual profile course of choice: Surgical Dentistry)

CC 3.3

Second level of higher education (Master's Degree)

Sphere of Knowledge 22 «Healthcare»

Specialty 221 «Dentistry»

Faculty, Year: Dentistry, V

**Content module 1: Reconstructive and restorative surgery of the maxillo-facial area
Part two**

Recommended by the by the profile methodical commission for dentistry

(Protocol No. __ of _____20__)

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INTRODUCTION

CURRICULUM Surgical Dentistry

According to Standard of Second level of higher education second (master's degree)

Sphere of Knowledge 22 «Healthcare»

Specialty 221 «Dentistry»

educational program of Master of Dentistry

Educational program description (abstract). The discipline involves the study of surgical dentistry in its main sections: "Propaedeutics of surgical dentistry", "Inflammatory diseases of the maxillo-facial area gland", "Oncology of the maxillo-facial area", "Traumatology of the maxillo-facial area", "Reconstructive and restorative surgery of the maxillo-facial area", with emphasis on pathology, clinics, diagnostics, emergency treatment and prevention of the main and most common diseases of maxillo-facial area (MFA).

Special attention is paid to the formation of students' skills of anamnesis collection, examination and differential diagnosis of maxillo-facial area (MFA) diseases with various clinical course and their complications, modern approaches to diagnostics, principles of treatment and prophylaxis on the basis of evidence-based medicine and urgent conditions are studied in practical surgical dentistry. Students participate in the diagnostic and treatment process of outpatient, inpatient patients under the guidance of assistants and associate professors of the department. There is also an introduction to the treatment-and-prophylactic measures that are most commonly used in surgical dental practice.

The study of the discipline "surgical dentistry" helps to form a holistic view of the structure and functioning of the organs of the maxillo-facial area; deepening of theoretical and practical preparation, acquisition of professional practical skills for independent medical activity.

Structure of the discipline	Number of credits, hours,including				Year of study/ semester	Test type
	Total	In class		Self-study		
		Lectures (hours)	Practical (hours)			
Name of the discipline: Surgical Dentistry Number of content modules: 2	12 credits / 360 hours	0	215	145	V course (IX, X semesters)	Credit
by semesters						
content module 1	4,8 credits / 144 hours	0	83	24	IX semester	Credit
content module 2	7,2 credits / 216 hours	0	132	84	X semester	Credit

The subject of study of the discipline are pathological processes of maxillo-facial area, related to the competence of surgical dentistry and maxillofacial surgery, features of their clinical course, the main diagnostic and therapeutic manipulations used in the practice of the dental surgeon.

Interdisciplinary relations: therapeutic dentistry, pediatric dentistry, orthopedic dentistry, normal anatomy, histology, normal physiology, pathological physiology, topographic anatomy and surgery, microbiology, biochemistry, pharmacology, internal diseases, endocrinology, endocrinology, endocrinology otolaryngology, ophthalmology, medicine of extreme conditions.

The purpose and objectives of the discipline

The purpose of teaching the discipline (surgical dentistry) is to provide a comprehensive and highly-specialized training of a dentist, which involves mastering the theory and practice of all sections of surgical dentistry and basics of MFD, from organization of surgical department of dental clinic and maxillofacial hospital to the ability of providing urgent care in extreme conditions and qualified surgical dental and reconstructive-restoration assistance in MFD.

The main tasks of surgical dentistry are to educate a professional surgical dentist who is able to provide a thorough examination of the patient, diagnose the main symptoms and syndromes of MFA pathologies, to substantiate and formulate the preliminary diagnosis; to analyze the results of the examination and conduct differential diagnosis, to formulate a clinical diagnosis of major diseases, to identify the manifestations of somatic diseases in the oral cavity, to define the principles of integrated treatment in the clinic of surgical dentistry, to identify various clinical variants and complications of the most common diseases of the MFA, to be aware of the measures of primary and secondary prevention the most common surgical dental diseases.

Content module 1: Reconstructive and restorative surgery of the maxillo-facial area

Explain and interpret the etiology, classification, clinical picture, differential diagnosis of defects and deformations of MFA, the principles of reconstructive surgery in MFA, methods of examination of patients with pathology of MFA, participation of related specialists in the examination.

To analyze indications and contraindications, features of application of the basic techniques of restorative-plastic interventions on MFA, features of the general and local anesthesia, sedation in practice of the surgeon-dentist.

To develop a plan and conduct an examination of a patient with MFA pathology, make a plan of additional reexamination methods and be able to interpret their results, a plan of comprehensive examination and treatment of patients with defects and deformations of MFA.

To collect the anamnesis and examination of the patient for the specified pathology of MFA, to fill in the corresponding medical documentation.

To carry out the collection of material for additional research methods (microbiological, cytological, histological); measures for the prevention of pathologies of the MFA.

To prescribe an individual scheme of premedication depending on the psycho-somatic condition of the patient, the nature and extent of surgery, drug therapy in the postoperative period, provide appropriate recommendations; prescribe conservative treatment of diseases and pathologies of the MFA.

To demonstrate techniques of preoperative preparation of the surgeon's hands according to modern methods, techniques of antiseptic treatment of the operating field, techniques of local plastic surgery.

Thematic plan of practical (seminar) classes for IX / autumn / semester

№	Topic	Hours
1.	Topic №1. TMJ ankylosis: etiology, pathophysiology, classification, clinical signs, diagnostics, treatment, prevention. Arthroscopy: indications and contraindications, arthroscopic techniques. Mandible contracture: etiology, classification, clinical signs, differential diagnostics, treatment, prevention.	6
2.	Topic №2. Secondary facial soft tissues defects and deformities. The principles of plastic surgery planning. Local plastic surgery. Pedicle flap use. Free dermal transplantation. Soft tissue substitution by means of round Filatov's stem. Salivary gland fistulas surgical treatment.	6
3.	Topic №3. Lip and palate clefts: classification, clinical features, functional disorders. The surgical treatment principles.	6
4.	Topic №4. Modern principles of diagnostics of defects and deformations of the facial skeleton. Anthropometry, cephalometry. Methods of radiological examination, stereolithography. Navigative computer technologies in complex treatment of defects and deformities of the face.	6
5.	Topic №5. Jaw deformities: etiology, pathogenesis, classification, clinical signs, diagnostics. Orthognathic surgery: principles and techniques of mono- and bimaxillary surgery. Distraction osteogenesis methods.	6

6.	Topic №6. Fundamentals of the MFA bone grafting. Osteoplastic materials classification. The concept of autogenous, allogeneic, xenogeneic transplantation, the synthetic (alloplastic) bone substitution. General principles of MFA osteoplastic surgery. The principles of the maternal and donor places preparing for the transplantation.	6
7.	Topic №7. Total and subtotal maxillary and mandibular defects, clinical and radiological features. Principles of MFA reconstructive surgery by means of craniofacial titanium implants and bone autografts. The principles of rhynoplasty and otoplasty. Basics of ectoprosthesis. TMJ reconstruction.	6
8.	Topic №8. Preprosthetic surgery. Soft tissues procedures: dissection of the labial and lingual frenulums, scars, mucous hyperplasia and fibrous inflammatory hyperplastic lesions. Vestibuloplasty: the surgeries principles and techniques.	6
9.	Topic №9. Preprosthetic surgery. Bone surgery: alveolotomy, removal of exostoses, vertical and horizontal augmentation of the alveolar process. Open and closed sinus lifting: indications, methods and modifications.	6
10.	Topic №10. Dental implantation. The history and the main development stages. The types of dental implants. The principles of one and two stage implantation. The concept of immediate and delayed loading. Complications of dental implantation.	6
11.	Тема№11. Platelet concentrates. Classification. Manufacturing techniques. The concept of growth factors and their regenerative potential. Possibilities of application of platelet concentrates and compositions based on them for regeneration of soft tissues of MFA and osteogenesis stimulation.	6
12.	Topic №12. Aesthetic surgery of MFA. Age-related changes in the face and neck soft tissues. Contour facelift. Methods of injection of botulinum toxin, fillers, platelet concentrates to correct age-related changes and eliminate aesthetic defects of the face.	5
13.	Topic №13. Endodontic treatment complications and their surgical treatment. Periodontal surgery: the main principles, bone grafting materials. Guided tissue regeneration.	6
14.	Topic №14. The trigeminal and facial nerves diseases: clinical signs, diagnostics, treatment. Pain syndrome surgical treatment. TMJ pain dysfunction syndrome. The practical skills algorithms performing: local plastic surgery methods, suturing techniques, alveolotomy conducting. Periodontal abscess incision. Summary lesson "MFA Reconstructive Surgery".	6
Total hours: 83		

Independent work schedule for IX /autumn/ semester

№	Topic	Hours	Type of Control
1.	Topic №1. Surgical treatment of TMJ disorders, TMJ reconstruction	3	Current control on the practical classes
2.	Topic №2. TMJ pain dysfunction syndrome.	2	
3.	Topic №3. Mandible contracture surgical treatment.	3	
4.	Topic №4. Soft tissue defects substitution by local (connective tissue, mucosal) grafts. Technique of pedicle flap.	6	
5.	Topic №5. The employment of round Filatov's stem.	4	
6.	Topic №6. Free dermal transplantation.	4	
7.	Topic №7. Salivary glands fistulas surgical closure.	3	
8.	Topic №8. Tissues regeneration. Biological basics of the osteogenesis.	3	
9.	Topic №9. Bone grafting. Osseointegration. Autologous transplantation. Osteogenic	5	

	materials.		
10.	Topic №10. Distraction and compression methods of osteogenesis.	4	
11.	Topic №11. Alveolar bone augmentation before the dental implantation. Methods and materials.	6	
12.	Topic №12. Biological basics of dental implantation. Surgical stages.	4	
13.	Topic №13. Periodontal Surgery. Guided tissues regeneration. Membrane techniques.	6	
14.	Topic №14. MFA neuritis and neuralgia Physical therapy methods of treatment.	3	
15.	Topic №15. MFA microsurgery.	4	
	Total	60	

«Approved»
at the meeting of the Department
of Surgical Dentistry and Maxillofacial
Surgery
Head of the Department
Professor Ya. E. Vares

METHODICAL GUIDE FOR PRACTICAL LESSONS

Educational discipline	Surgical Dentistry and Maxillofacial Surgery
Topic of the lesson	Topic № 8. Preprsthetic surgery. Soft tissue surgeries: lip and tongue bridle plastic surgery, scar deformities, muscle strands and fibrous changes of the oral mucos removal surgery . Vestibuloplasty: principles and techniques of surgery using free mucous and skin grafts.
Course	V
Faculty	Dentistr

THE PLAN OF THE PRACTICAL LESSON № 8

1. Topic of the lesson: «Preprosthetic surgery. Soft tissue surgeries: lip and tongue bridle plastic surgery, scar deformities, muscle strands and fibrous changes of the oral mucosa removal surgery . Vestibuloplasty: principles and techniques of surgery using free mucous and skin grafts.»

Lesson duration 4 hours 30 min., including three breaks of 10 minutes.

2. Learning objectives:

➤ *professional competence :*

1. Collection the medical information of the patient's condition
2. Evaluation of the laboratory and instrumental research results.
3. Establishment of the clinical diagnosis of dental disease.
4. Diagnosis of the emergency conditions.
5. Determining the nature and treatment principles of the dental diseases.
6. Determining the necessary mode of work and rest, the diet in the dental diseases treatment
7. Determination of the treatment tactics of dental patient with the somatic pathology.
8. Performing the medical and dental manipulations.
9. Treatment of the main dental diseases.
10. Organization of medical and evacuation measures..
11. Defining the tactics and providing the emergency medical care.
12. Maintaining medical records.
13. Processing of the state, social and medical information.

➤ *general competence:*

- 1. The ability to the abstract thinking, analysis and synthesis; the ability to learn and be trained today.
- 2. Knowledge and understanding of the subject area and understanding of the profession.
- 3. Ability to apply knowledge in practical situations.
- 4. Ability to communicate in the state language both verbally and in writing; Ability to communicate in a second language.
- 5. Skills to use the information and communication technologies.
- 6. Ability to search, process and analyze information from the various sources.
- 7. Ability to adapt and act in a new situation; ability to work autonomously.
- 8. Ability to identify, set and solve the problems.
- 9. Ability to choose a communication strategy.
- 10. Ability to work in a team.
- 11. Interpersonal skills.
- 12. Ability to act on the basis of ethical considerations (motives).
- 13. Safe skills.
- 14. Ability to evaluate and ensure the quality of the performed work.
- 15. Ability to act in a socially responsible and civic conscious manner.

3. Methods of training:

Preparatory stage - frontal oral interview.

The main stage - practical training, role-playing game.

The final stage – brain storm.

4. Interdisciplinary integration.

Disciplines	Student should to know	Student should be to able
Previous:		
Anatomy. Physiology.	To know the anatomical and physiological features of the maxillofacial area: - structure of the maxilla and mandible; innervation and blood supply of the maxilla and mandible; - the structure of the head and neck lymphatic system ; - the structure of the head and neck muscles; - the structure of the head and neck.	Be able to explain the structure of the MFA organs and systems. Be able to explain the mechanical interaction of muscle groups .
Topographic Anatomy and operative surgery	To know the topography of the MFA organs.	Be able to explain the topography of the MFA organs. Be able to depict schematically the fracture lines of the mandible. Be able to depict schematically the fracture lines of the maxilla according Le For.
Biophysics.	To know the biomechanics of the dento-jaw	Be able to prognosis the mechanical

	system.	loading, mastication loading when different treatment techniques were used treatment.
Disaster (emergency) medicine.	To know the medical care at each stage evacuation.	Be able to explain the basic principles of the emergency care in victims.
Radiology.	To know the most informative additional examination methods for the MFA fractures diagnosis.	Be able to describe the general radiological signs of the facial bones fractures .
Prosthetic Dentistry.	To know the types of materials and applied structures for the orthopedic treatment in victims with fractures of the jaws .	To be able to describe different types of tires and explain the stages of their manufacture.
Pharmacology	To know the main groups of the pharmacological drugs that used for the treatment of the non-gunshot maxilla fractures.	To be able to characterize the mechanism of drugs action. Be able to assign and calculate the dose of the basic medical drugs that are prescribed.
Intra-subject integration:		
Topic 1 («The Surgical dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.	To know the examination methods in patients with the MFA diseases.	Be able to conduct the subjective and objective examination in patient, to prescribe the additional examination methods, fill in the relevant medical documentation.
Topic 3 («The Surgical dentistry Propedeutic»): ... General Anesthesia.	To know the methods, indications of the General Anesthesia in dentistry.	Be able to identify indications to conduct surgery under the General anesthesia
Topic 4-9.« The Surgical dentistry Propedeutic»: ... The conductive anesthesia methods.	To know the types and techniques of the local anesthesia.	Be able to conduct different conduct anesthesia on maxilla and mandible.
Topic 6,7«MFA traumatology». Non-gunshot fracture of the maxilla and mandible.	To know the classification, clinical signs of the maxilla and mandible fractures.	Be able to conduct the diagnose in the patient with face bone fractures.

5. Literature:

1. Educational

The main

1.1 Oral and Maxillofacial Surgery Edited by prof. V. Malanchuk, Vinnytsa, Nova Knyha Publisher, 2011. – part .2. - p. 277-283.

The additional

1.2 PETERSON'S PRINCIPLES OF ORAL AND MAXILLOFACIAL SURGERY, *Second Edition*, 2004, p. 783-803

2. Methodical

3.1 Methodical Guide for Practical Training in Surgical Dentistry for the S-th year Students of the Dentistry Faculty , edited by prof.Ya. Vares, 2014, 32 p.

STRUCTURE OF PRACTICAL LESSON

Preparation stage (30 min.)

- *Organizational part of the lesson:* presence check, evaluation of the uniform.
- *Informing about of the topic and the purpose of the lesson.*

The lesson topic: “Preprsthetic surgery. Soft tissue surgeries: lip and tongue bridle plastic surgery, scar deformities, muscle strands and fibrous changes of the oral mucos removal surgery . Vestibuloplasty: principles and techniques of surgery using free mucous and skin grafts”.

The aim of the lesson: to study the clinical situations that make it impossible or impossible to perform full-fledged dental prosthetics; general and local treatment measures for surgical preparation of the oral cavity and alveolar sprout for dental implantation and prosthetic treatment.

The motivation of educational activity

Despite the successful development of dentistry, various new methods of treatment of teeth and periodontal diseases, the number of patients who need dental prosthetics is not decreasing. The dentist should be familiar with the procedures of surgical preparation of the oral cavity and alveolar sprout, which are an important step before the prosthetic treatment and dental implantation.

Materials of the methodical providing of a preparatory stage of the classes:

The frontal interview questions :

1. Indications and contraindications for the surgical preparation of the oral cavity for prosthetics.
2. Indications for plastic surgery on the oral cavity soft tissues.
3. Methods of lengthening the lips, cheeks, tongue bridges, indications for surgery.
4. Indications for the plastic surgery of the oral cavity soft tissues.
5. Surgical techniques for deepening the vestibulom oris.
6. Indications for free skin plastic surgery, surgery methods .
7. Indications for free plasticity of the mucous membrane, the surgery methods.
8. Complications when performing interventions on the soft tissues of the oral cavity.

Main stage: formation of professional skills and abilities (180 min)

Professional training conducting .

Materials of methodical maintenance of the main stage of the classes:

The task of the preprosthetic surgery is to create a reliable support structure of bone and soft tissues for further optimal functioning of dentures.

Preparation of the patient for pre-prosthetic surgery of the oral cavity:

1. Referral from an orthopedist.
2. Psychological readiness of the patient to use prostheses, especially removable, as well as for surgery in this regard.
3. Conducting a joint examination with an orthopedic dentist and determining the absence of general contraindications to surgery.
4. Thorough examination of the oral cavity (assessment of changes in soft tissues and bone formations that prevent prosthetics).
5. Evaluation of the jaws models and X-ray examination.

There are following surgery methods :

- on the jaw bones ;
- on the soft tissues (oral mucosa, muscle bundles, periosteum);
- on the peripheral branches of the trigeminal nerve;
- raising the bottom of the maxillary sinus (sinus lift).

Reducing the unevenness of the oral cavity mucous and jaws periosteum .

Surgery technique :

- 1) Make elliptical convergent incisions that border the pathological area.
- 2) Mobilize the muco-periosteum flaps on the vestibular and oral sides to connect them without tension.
- 3) The wound is sutured with nodular or continuous sutures.

Reduction of retromolar tissues. In the retromolar area, excess tissue is usually associated with hypertrophy.

Technique of operation:

- 1) Make elliptical incisions.
- 2) Thin the tissues along the edges of the defect.
- 3) The wound is sutured with nodular or continuous sutures.

Removal of excess soft tissue in the distal palate. Excess tissue in the distal part of the palate causes its narrowing and creates difficulties in prosthetics.

Surgery technique :

- 1) Excess soft tissue is cut with a sharp thin scalpel on the tangential surface to the depth of the mucous and submucosal layers.
- 2) The edges of the wound are brought together, sutures are applied.
- 3) Put a protective plate on the wound surface.

Complications: shallow tissue excision is recommended, as damage to the anterior palatine artery, loops of the pterygoid venous plexus is possible.

Removal of excess soft tissue of the alveolar arch. Bone atrophy, the use of inadequately fixed dentures, creates an excess of soft tissue that is devoid of bone support. Tissue removal is performed with two parallel, converging at the ends, incisions to the periosteum along the alveolar arch, and the wound is sutured by the usual method.

Excision of excess inflammatory-altered tissue. Excess inflammatory-altered tissue is formed when using unreliable dentures, their inadequacy. The simplest method is electrocoagulation or laser excision with subsequent wound healing by secondary tension under a tampon. At the considerable sizes of an excess inflammatory site carry out usual excision to a periosteum with suturing of a wound by a nodal or continuous seam.

Surgery on the shortened bridle of the tongue. To lengthen the bridle of the tongue, make a median incision through the bridle, form two triangular flaps, which are mutually moved and fixed with a thin catgut or synthetic thread. During the surgery, it is necessary to remember the location of the sublingual papillae in order to prevent their injury.

With a significant shortening of the bridle of the tongue, it is more appropriate to perform the operation by horizontal dissection of the bridle.

Excision of the bridle of the lip (lip frenectomy), removal of scar muscle strands of the mouth.

With a shortened bridle of the upper / lower lip, it is difficult to fixate the dentures.

Excision of the bridle is performed by attaching the bridle of the lip to the alveolar arch with a wide base. The mucous membrane is sutured to the periosteum, preferably to the full depth of the gingival sulcus. The wound is sutured along its entire length together with the periosteum.

Plastic counter triangular flaps are used to lengthen the bridle of the lip.

Plastic dorsum of the oral cavity using grafts. Indications: insufficient depth of the dorsum of the oral cavity for adequate fixation of the denture; lack of mucous membrane on the upper lip; if plastic surgery with submucosal tissue can cause shortening of the lips.

Surgery technique :

- 1) An incision is made in the area of the oral cavity vestibulum, the mucous-periosteum flap is separated.
- 2) A free split skin graft is placed in the formed wound.
- 3) Tires or prefabricated prostheses are used to create the conditions for graft integration.

According to the available clinical variants of the structure of the mucous membrane, treatment includes a large number of possible surgical interventions to prepare the mucous membrane for prosthetic teeth: 1) excision of scar adhesions of the mucous membrane using triangular flaps of mucous membrane to close the defect; 2) deepening of the small orifice of the mouth is necessary before the manufacture of a removable plate prosthesis, clasp prosthesis, bridge in an aesthetically significant area. To conduct this, use a variety of surgical techniques. The most common of them are: transplantation of split Tirsch skin (1-stage technique): perform an incision of the mucous membrane to the bone in the transitional fold, exfoliate the tissue flap, form a stent new form of the transitional fold, lift the split skin graft, glue it, glue it the liner with the wound surface of the graft on the wound of the tissue bed and fix the liner with sutures for 12-14 days; split skin transplantation by 2-stage method: from two small vertical incisions stratify the tissues along the transition fold, make a tunnel in the takanin, enter it rolled into a tape on a rubber tube skin graft with the wound surface outwards and after 12-14 days the mucous membrane above the tube is cut, the tube is removed, made in this area shaping devices and prescribe massage; transplantation of the muco-oxidative flap from the alveolar ridge to the body of the jaw with fixation of the flap by sutures or a peloid prosthesis (according to Rumpel); 3) the mobility of the mucous-muscle flaps is more often performed from the lingual surface of the anterior mandible, when moving down the muscles of the bottom of the oral cavity with the mucous membrane; 4) removal of excess oral mucosa in local hyperplasia, fibromatosis of the alveolar process, hump of the upper jaw, fibropapillomas and papillomatosis, which may occur due to prolonged injury to the mucous membrane by the edges of removable dentures; 5) at a mobile mucous membrane on a crest of an alveolar shoot carry out various types of operations: movement of mucous down and its hemming in the lower pole of a wound (according to Kazanyan), movement down, on a bare bone and closing by an iodoform tampon (according to Wassmund), movement of a mucous membrane on the lower jaw down simultaneously from the lingual and labial sides (according to Rerman); 6) myoplasty of the muscles adjacent to the mandible involves moving to a new position m.mentalis, m.genioglossus, m.milohioideus, which allows you to significantly deepen the dorsum of the mouth and the level of tissues on the side of the tongue. After most plastic surgeries it is necessary to use forming plastic caps on the area of reconstruction of the mucous membrane, alveolar processes, the orifice of the oral cavity.

- *Algorithms for the formation of the professional abilities.*

1. Make a plan for pre-prosthetic preparation of the patient.
2. Make a plan of the comprehensive treatment and care of the patient after local plastic surgery.
3. Work out the technique of the frenuloplasty surgery on the phantom.
4. Work out the technique of the vestibuloplasty surgery on a phantom.

- *Practical tasks (typical, atypical, unpredictable situations).*

Individual task

Task №1.

Vestibuloplasty according to Clark is performed:

- A. Under conditions of poor general condition of the patient.
- B. Only under conditions of complete adentia.
- C. On the upper jaw.
- D. On the lower jaw.
- E. All answers are correct.

Task №2.

What are the different types of frenuloplasty according to Limberg?

- A. Z-shaped.
- B. Y-shaped, Z-shaped.
- C. Z-shaped, W-shaped.
- D. Open and closed.
- E. M-shaped.

Tasks for the independent work and work in small groups (interactive teaching methods).

A 50-year-old woman had extracted teeth because the generalized periodontitis 9 years ago. Uses removable dentures. There was a complete atrophy of the alveolar processes of the jaws. What is the reason of the jaws atrophy? Which methods of permanent fixed prosthetics can be offered in such clinical case? Justify your choice.

Final stage (30 min)

Summing up of the lesson.

Materials of methodological support of the final stage of the lesson:

- *Brain storm.*

Students demonstrate an exhaustive description of the unusual clinical situation and offer to offer the most rational diagnostic methods. After recording all the proposed diagnostic methods during the discussion, students choose the most rational.

- *Tasks for the self-employment.*

Fill in the medical documentation, make a plan of the patient examination with the appropriate clinical situation and determine the indications for the osteoplastic surgery, make a plan of postoperative care of the patient

Evaluation.

«Approved»
at the meeting of the Department
of Surgical Dentistry and Maxillofacial
Surgery
Head of the Department
Professor Ya. E. Vares

METHODICAL GUIDE FOR PRACTICAL LESSONS

Educational discipline	Surgical dentistry and Maxillofacial Surgery
Topic of the lesson	Topic № 9. Preprsthetic surgery. Bone surgery: alveolotomy, exostoses excision, vertical and horizontal augmentation of the alveolar process. Open and closed sinus lifting: indications, methods and modifications.
Course	V
Faculty	Dentistry

THE PLAN OF THE PRACTICAL LESSON № 9

1. Topic of the lesson: “Preprsthetic surgery. Bone surgery: alveolotomy, exostoses excision, vertical and horizontal augmentation of the alveolar process. Open and closed sinus lifting: indications, methods and modifications “.

Lesson duration 4 hours 30 min., including three breaks of 10 minutes.

2. Learning objectives:

➤ *professional competence :*

1. Collection the medical information of the patient's condition
2. Evaluation of the laboratory and instrumental research results.
3. Establishment of the clinical diagnosis of dental disease.
4. Diagnosis of the emergency conditions.
5. Determining the nature and treatment principles of the dental diseases.
6. Determining the necessary mode of work and rest, the diet in the dental diseases treatment
7. Determination of the treatment tactics of dental patient with the somatic pathology.
8. Performing the medical and dental manipulations.
9. Treatment of the main dental diseases.
10. Organization of medical and evacuation measures..
11. Defining the tactics and providing the emergency medical care.
12. Maintaining medical records.
13. Processing of the state, social and medical information.

➤ *general competence:*

1. The ability to the abstract thinking, analysis and synthesis; the ability to learn and be trained today.
2. Knowledge and understanding of the subject area and understanding of the profession.
3. Ability to apply knowledge in practical situations.
4. Ability to communicate in the state language both verbally and in writing; Ability to communicate in a second language.
5. Skills to use the information and communication technologies.
6. Ability to search, process and analyze information from the various sources.
7. Ability to adapt and act in a new situation; ability to work autonomously.
8. Ability to identify, set and solve the problems.
9. Ability to choose a communication strategy.
10. Ability to work in a team.
11. Interpersonal skills.
12. Ability to act on the basis of ethical considerations (motives).
13. Safe skills.
14. Ability to evaluate and ensure the quality of the performed work.
15. Ability to act in a socially responsible and civic conscious manner.

3. Methods of training:

Preparatory stage - frontal oral interview.

The main stage - practical training, role-playing game.

The final stage – brain storm.

4. Interdisciplinary integration.

Disciplines	Student should know	Student should to able
Previous:		
Anatomy.	To know the anatomical and physiological features of the maxillofacial area: - structure of the maxilla and mandible; innervation and blood supply of the maxilla and mandible; - the structure of the head and neck lymphatic system ; - the structure of the head and neck muscles; - the structure of the head and neck.	Be able to explain the structure of the MFA organs and systems. Be able to explain the mechanical interaction of muscle groups .
Physiology.		
Topographic Anatomy and operative surgery .	To know the topography of the MFA organs.	Be able to explain the topography of the MFA organs. Be able to depict schematically the fracture lines of the mandible. Be able to depict schematically the fracture lines of the maxilla according Le For.
Biophysics.	To know the biomechanics of the dento-jaw system.	Be able to prognosis the mechanical loading, mastication loading when different treatment techniques were

		used treatment.
Disaster medicine. (emergency)	To know the medical care at each stage evacuation.	Be able to explain the basic principles of the emergency care in victims.
Radiology.	To know the most informative additional examination methods for the MFA fractures diagnosis.	Be able to describe the general radiological signs of the facial bones fractures .
Prosthetic Dentistry.	To know the types of materials and applied structures for the orthopedic treatment in victims with fractures of the jaws .	To be able to describe different types of tires and explain the stages of their manufacture.
Pharmacology	To know the main groups of the pharmacological drugs that used for the treatment of the non-gunshot maxilla fractures.	To be able to characterize the mechanism of drugs action. Be able to assign and calculate the dose of the basic medical drugs that are prescribed.
Intra-subject integration:		
Topic 1 («The Surgical dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.	To know the examination methods in patients with the MFA diseases.	Be able to conduct the subjective and objective examination in patient, to prescribe the additional examination methods, fill in the relevant medical documentation.
Topic 3 («The Surgical dentistry Propedeutic»): ... General Anesthesia.	To know the methods, indications of the General Anesthesia in dentistry.	Be able to identify indications to conduct surgery under the General anesthesia
Topic 4-9.« The Surgical dentistry Propedeutic»: ... The conductive anesthesia methods.	To know the types and techniques of the local anesthesia.	Be able to conduct different conduct anesthesia on maxilla and mandible.
Topic 6,7«MFA traumatology». Non-gunshot fracture of the maxilla and mandible.	To know the classification, clinical signs of the maxilla and mandible fractures.	Be able to conduct the diagnose in the patient with face bone fractures.

5. Literature:

1. Educational

The main

1.1 Oral and Maxillofacial Surgery Edited by prof. V. Malanchuk, Vinnytsa, Nova Knyha Publisher, 2011. – part .2. - p. 277-283.

The additional

1.2 PETERSON'S PRINCIPLES OF ORAL AND MAXILLOFACIAL SURGERY, *Second Edition*, 2004, p. 783-803

2. Methodical

3.1 Methodical Guide for Practical Training in Surgical Dentistry for the S-th year Students of the Dentistry Faculty , edited by prof.Ya. Vares, 2014, 32 p.

STRUCTURE OF PRACTICAL LESSON

Preparation stage (30 min.)

- *Organizational part of the lesson:* presence check, evaluation of the uniform.
- *Informing about of the topic and the purpose of the lesson.*

The lesson topic: “Preprsthetic surgery. Bone surgery: alveolotomy, exostoses excision, vertical and horizontal augmentation of the alveolar process. Open and closed sinus lifting: indications, methods and modifications “.

The aim of the lesson: to study clinical situations that make impossible or impossible to perform the dental prosthetics; general and local treatment measures for surgical preparation of the oral cavity and alveolar jaws for dental implantation and orthopedic treatment.

The motivation of educational activity

Preprosthetic surgery is the creation of a reliable support structure of bone and soft tissues for the subsequent manufacture and optimal functioning of dentures. Despite the successful development of dentistry, various new methods of treatment of teeth and periodontal diseases, the number of patients who need dental prosthetics after their loss is not decreasing. The dentist should be familiar with the procedures of surgical preparation of the oral cavity and alveolar sprout, which are an important step before orthopedic treatment and dental implantation.

Materials of the methodical providing of a preparatory stage of the classes:

The frontal interview questions :

1. Methods of local prevention of the alveolar processes atrophy after tooth extraction.
2. Indications for open alveolectomy and closed transmucosal alveolocompression.
3. Indications for the osteoplasty and surgical methods.
4. Classification of osteoplastic materials.
5. The most common modern osteoplastic materials, their properties.
6. Indications for alveoloplasty and surgical methods.
7. Methods of increasing the height of the jaw alveolar processes.
8. Methods of increasing the thickness of the jaw alveolar processes.
9. Goals and objectives of sinus lifting surgery. Open and closed sinus lifting.
10. Indications for raising the bottom of the nasal cavity, surgical methods.
11. Indications for the alveolar inferior nerve transposition .
12. Methods of the exostoses excision, techniques.
13. Local and general treatment measures for surgery on the jaw alveolar processes.

Main stage: formation of professional skills and abilities (180 min)

Professional training conducting .

Materials of methodical maintenance of the main stage of the classes:

The task of the preprosthetic surgery is to create a reliable support structure of bone and soft tissues for further optimal functioning of dentures.

The main reasons for the lack of support for fixing dentures in the oral cavity: 1. Atrophy of the jaw alveolar processes after tooth extraction. 2. Injury during tooth extraction and loss of one of the alveoli walls . 3. Progression of bone atrophy due to the systemic diseases and involutive processes . 4. Progression of the bone atrophy due to the use of prostheses, especially with their unreliable fixation. 5. Atrophy of the alveolar bone in the marginal periodontal diseases. 6. Disproportion of alveolar bone in atrophy of the jaws. 7. Individual anatomical features of the jaws (pronounced torus, occlusion anomalies). 8. Decrease in the arch because of the shallow orifice of the oral cavity , pronounced bridles of the lips and tongue, mucous and muscular cords due to atrophy of the alveolar processes. 9. Cicatricial changes of the mucosa after tooth extraction, use of not functional dentures, injuries and operations.

Preparation of the patient for pre-prosthetic surgery of the oral cavity: 1. Referral from an orthopedist. 2. Psychological readiness of the patient to use prostheses, especially removable, as well as for surgery in this regard. 3. Conducting a joint examination and determining the absence of general contraindications to surgery. 4. Thorough examination of the oral cavity (assessment of changes in soft tissues and bone formations that prevent prosthetics). 5. Evaluation of models of jaws and X-ray examination.

Pre-prosthetic surgery involves careful planning and implementation of the following measures of general and local nature: 1. General treatment: general patient's examination, detection of general somatic contraindications to the chosen type of prosthesis, treatment of common diseases, or achieving compensated condition. 2. Local treatment: extraction of the fully decay teeth and roots, periapical granulomas, tumors, jaw cysts, impacted teeth. Preparation of the mucous and bones for prosthetics.

All local treatment measures are divided into 3 main groups: A. traditional treatment measures to rehabilitate the oral cavity, which should be carried out with regard to further dental prosthetics. B. Engineering of the soft tissues of the oral cavity before prosthetics with a specific surgical methods. B. Engineering of jaws bone structures before prosthetics with a specific surgical methods. D. Installation of supports for dentures (this may not be required when using removable plate dentures).

Various forms of the alveolar process crest , which are favorable or unfavorable for the manufacture of removable prostheses, are described. Trapezoidal, semicircular shaped and hemispherical are favorable for prosthetics. Unfavorable are - triangular with a sharp tip, triangular with a toothed tip, cone-shaped and awl-shaped. All of them require osteoplastic surgical correction.

On the edentulous jaws areas note a different classes of the alveolar process defects , which in accordance with the planned type of denture need to be eliminated :

- class I - bucolingual bone loss, normal height of the alveolar process;
- class II - loss of height of the alveolar process at normal bucolingual width;
- class III - combined loss of height and width of the alveolar process.

Osteoplasty. Performed in the presence of bone exostoses, osteoma, unfavorable for prosthetic teeth shape of the alveolar process, enlarged torus of the palate and torus of the mandible, enlarged humps of the upper jaw. Some of these formations are unilateral, bilateral, or median. Removal of small exostoses, enlarged toruses of the jaws, is carried out more often in an outpatient setting under local anesthesia. Operations are typical - incision, exposure and removal of the tumor, suturing the wound.

Transposition of the vascular-nervous bundle, if it is under the mucous membrane and can be injured by the base of the prosthesis - for the bundle create a new place in the bone.

Alveoloplasty. Restoration of the volume of the jaw alveolar process, hump on the maxilla before removable prosthetics is carried out by various materials and methods: canned cartilage or bone; autologous bone; hydroxyapatite; demineralized bone graft and hydroxyapatite.

Surgical methods before the dental implantation for fixing dentures. These methods are numerous and usually involve increasing the height and width of the alveolar process of the jaws, improving the quality of existing bone.

Introduction of dental implants is performed depending on the design of the implants, the number, place of their introduction.

Reconstruction of the supporting bone. У 60-х роках ХХ століття, П.І. Бранемарк (Швеція), показав, що The titanium implant can be in strong contact with the bone surface due to a phenomenon that called "osseointegration". Signs of osseointegration - immobility of the implant, close contact with the bone without signs of inflammation, the absence on the radiograph of the vacuum between the bone and the implant, the normal condition of the surrounding tissues. So a considerable attention has been paid to the condition of the bone supporting the intraosseous implant.

To increase the height of the alveolar processes (support bone) perform: local osteoplastic surgeries - planar osteotomy of the alveolar process or the body of the mandible, open and closed osteotomies, the use of muco-periosteum-bone flaps, free transplantation of autologous bone; directed tissue regeneration - for this purpose, separating membranes, forming metal frames, various materials for filling bone defects are used; vertical distraction of the alveolar process is performed by special distraction devices, special distraction implants.

Increasing the wideness of the jaws alveolar process is achieved by: dissection and splitting of the alveolar process, insertion into the cleft bone of grafts or implants together with bone replacement materials; transplantation of free bone autologous grafts on different surfaces of alveolar processes ("blocks"); distraction of the alveolar process in the transverse direction.

Raising the bottom of the maxillary sinus (**sinus lift**). Increasing the vertical size of the maxilla alveolar process - the surgery is indicated at a low location of the maxillary sinus bottom. Sinus lifting can be open, performed through the anterior wall of the maxillary sinus, or closed, conducted through the tooth socket or hole in the sinus floor using to detach the mucous membrane of the maxillary sinus and create space by the osteogenic materials using, special tools – dull osteotoms.

Raising the bottom of the nasal cavity. The surgery is performed for the enlargement of the alveolar process in the area of the nasal cavity with bone atrophy in this area and the need for the introduction of endosseous implants. The surgery is performed in an open way on the transition fold, less often - through access from the nasal cavity, or in a closed way - through the alveolar process.

Transposition of the inferior alveolar nerve is necessary when the vascular-nerve bundle interferes with the installation of an intraosseous dental implant. The surgery is performed along the entire length of the mandible body. To do this, the mandibular canal should be open, expose the vascular-nervous bundle and move it out and on the holders dislocate the nerve outside.

Alveoloplasty.

Surgery technique :

- 1) Exfoliation of the muco-periosteum flap to expose the affected area of bone.
- 2) Elimination of deformation on the outer, inner surface of the alveolar arch with bone forceps, bone file, drill or cutter.
- 3) Return of the muco-periosteum to the place, and suturing the wound.

Reduction and correction of the uneven surface of the alveolar bone of maxilla or mandible. Indications: hump of the bone, which interferes with normal prosthetics, which is due to bone protrusions, excess, as well as hypertrophy of the soft tissues that cover it.

Surgery technique .

- 1) Formate the mucous-periosteum flap, expose on both sides the alveolar crest or alveolar part of the jaw.
- 2) Areas of protrusions, irregularities and other deformations of the bone forceps bone drills, cutters.
- 3) If there is an excess of soft tissues, they are excised, the wound is sutured.

Removal of exostoses on the upper and lower jaws. Indications: the presence of severe exostoses in the upper and lower jaws, which contribute to the balancing of prostheses and the mucous trauma.

Surgery technique :

1) Make a linear incision along the alveolar arch or supplement it with vertical incisions, discarding the flap of angular or trapezoidal shape.

- 2) Expose each area of deformed bone.
- 3) Exostoses are removed with bone nippers or bone drills, . Smooth bone surface with a cutter.
- 4) The muco-periosteum flap is placed and fixed with suture.

Reduction of the chin tubercle and chin protrusion. Indications: the presence of a protruding chin, which is an obstacle to adequate fixation of the denture in atrophy of the mandible.

Surgery technique :

1) Make an incision along the alveolar arch at the level of the incisors.
2) Formate the muco-periosteum flap on the lingual side, cut off the chin-lingual muscle, and carefully remove the exposed area of the chin protrusion and smooth the surface of the bone .

- 3) The muscle is sutured or left without fixation so that the bottom of the mouth is lowered.

Surgery of formation of high and wide alveolar arch. Indications: sufficient height, but insufficient width of the alveolar arch, the presence of a sharp edge in the area of the alveolar arch, the complete absence of the arch to the base of the jaw due to significant resorption of the latter. Bone plastics with an autobone from an iliac crest or osteoplastic materials or their combination.

Transposition of the inferior alveolar nerve. Indications: significant atrophy of the alveolar part of the mandible, when the vascular-nervous bundle coming out of the chin opening is in the area of the dental arch; lack of space for implant placement

- *Algorithms for the formation of the professional abilities.*

1. Make a plan for pre-prosthetic preparation of the patient.
2. Make a plan of the comprehensive treatment and care of the patient after local plastic surgery.
3. Work out the technique of the open and close sinuslifting surgery on the phantom.
4. Work out the technique of an alveolar ridge splitting surgery on a phantom.

- *Practical tasks (typical, atypical, unpredictable situations).*

Individual task

Task №1.

What does not apply to the local prevention measures of the alveolar processes bone atrophy after the tooth extraction?

- A. Prevention the possibility of inflammatory and other complications.
- B. Prevention of "dry socket", filling it with the patient's blood from the surrounding tissues.
- C. Closing the socket with a mucous flap.
- D. Deepening the deep oral cavity vestibulum .

Task №2.

Examination of the patient before prosthetics revealed sharp edges of the sockets and interradicular bone septa teeth extraction. Which preprosthetic treatments can be conduct?

- A. The method of open alveolectomy.
- B. Closed alveolectomy method.
- C. The method of open transmucosal alveolocompression.

Tasks for the independent work and work in small groups (interactive teaching methods).

Patient M., 53, complains about the impossibility of using partial removable dentures. Objectively: partial secondary adentia of the maxilla and mandible in the distal parts, end defect. The patient has been suffering from type II diabetes for 25 years. History of generalized periodontitis III degree. What treatment plan do you suggest? What methods of surgical treatment can be offered ? Justify your choice.

Final stage (30 min)

Summing up of the lesson.

Materials of methodological support of the final stage of the lesson:

- *Brain storm.*

Students demonstrate an exhaustive description of the unusual clinical situation and offer to offer the most rational diagnostic methods. After recording all the proposed diagnostic methods during the discussion, students choose the most rational.

- *Tasks for the self-employment.*

Fill in the medical documentation, make a plan of the patient examination with the appropriate clinical situation and determine the indications for the osteoplastic surgery, make a plan of postoperative care of the patient

Evaluation.

«Approved»
at the meeting of the Department
of Surgical Dentistry and Maxillofacial
Surgery
Head of the Department
Professor Ya. E. Vares

METHODICAL GUIDE FOR PRACTICAL LESSONS

Educational discipline	Surgical dentistry and Maxillofacial Surgery
Topic of the lesson	Topic №10. Dental implantation. History and main stages of implantology development. Types of dental implants, materials for their manufacture. Principles and methods of one- and two-stage implantation. The concept of immediate and delayed implants loading . Complications of dental implantation.
Course	V
Faculty	Dentistry

THE PLAN OF THE PRACTICAL LESSON № 10

1. Topic of the lesson: “. Dental implantation. History and main stages of implantology development. Types of dental implants, materials for their manufacture. Principles and methods of one- and two-stage implantation. The concept of immediate and delayed implants loading . Complications of dental implantation “.

Lesson duration 4 hours 30 min., including three breaks of 10 minutes.

2. Learning objectives:

➤ *professional competence :*

1. Collection the medical information of the patient's condition
2. Evaluation of the laboratory and instrumental research results.
3. Establishment of the clinical diagnosis of dental disease.
4. Diagnosis of the emergency conditions.
5. Performing the medical and dental manipulations.
6. Organization and carrying out of dental medical examination of persons subject to dispensary supervision.
7. Organization of medical and evacuation measures..
8. Defining the tactics and providing the emergency medical care.
9. Maintaining medical records.
10. Processing of the state, social and medical information.

➤ *general competence:*

1. The ability to the abstract thinking, analysis and synthesis; the ability to learn and be trained today.
2. Knowledge and understanding of the subject area and understanding of the profession.
3. Ability to apply knowledge in practical situations.
4. Ability to communicate in the state language both verbally and in writing; Ability to communicate in a second language.
5. Skills to use the information and communication technologies.
6. Ability to search, process and analyze information from the various sources.
7. Ability to adapt and act in a new situation; ability to work autonomously.
8. Ability to identify, set and solve the problems.
9. Ability to choose a communication strategy.
10. Ability to work in a team.
11. Interpersonal skills.
12. Ability to act on the basis of ethical considerations (motives).
13. Ability to act in a socially responsible and civic conscious manner.

3. Methods of training:

Preparatory stage - frontal oral interview.

The main stage - practical training, role-playing game.

The final stage – brain storm.

4. Interdisciplinary integration.

Disciplines	Student should know	Student should to able
Previous:		
Anatomy	To know the anatomical structure of maxilla and mandible, nerve and blood supply of the maxilla and mandible.	Be able to explain the structure of maxilla and Mandible
Histology	To know the histological structure of the alveolar processes mucosa and bone.	Be able to explain the histological structure of the alveolar processes mucosa and bone.
Topographic Anatomy and operative surgery .	To know the topography of the MFA organs.	Be able to explain the topography of the MFA organs.
Radiology.	To know the peculiarities of radiological structures of maxilla and mandible.	To be able to use modern methods of X-ray examination. Be able to use modern methods of X-ray examination.
Pharmacology	To know the pharmacokinetics of drugs prescribed to patients with dental implantation in the postoperative.	Be able to prescribe a scheme of drug treatment to patients with dental implantation.
Prosthetic dentistry	To know the main stages of prosthetic treatment on dental implants.	Be able to explain the main stages of prosthetic treatments on dental implants.
Intra-subject integration:		
Topic 1 («The Surgical dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.	Topic 1 («The Surgical dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.	Topic 1 («The Surgical dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.
Topic 4-9.« The Surgical dentistry Propedeutic»: ... The conductive anesthesia methods.	To know the types and techniques of the local anesthesia.	Be able to conduct different conduct anesthesia on maxilla and mandible.
Topic 9. «Reconstructive Surgery of MFA»: Preparing of alveolar crest for dental implantation.	To Know the methods of the alveolar crest preparing for dental implantation.	Have the techniques for preparing the alveolar crest for dental implantation.

5. Literature:

1. Educational

The main

1.1 Oral and Maxillofacial Surgery Edited by prof. V. Malanchuk, Vinnytsa, Nova Knyha Publisher, 2011. – part .2. - p. 2712-236.

The additional

1.2 PETERSON'S PRINCIPLES OF ORAL AND MAXILLOFACIAL SURGERY, *Second Edition*, 2004, p. 189-235

2. Methodical

3.1 Methodical Guide for Practical Training in Surgical Dentistry for the S-th year Students of the Dentistry Faculty , edited by prof.Ya. Vares, 2014, 32 p.

STRUCTURE OF PRACTICAL LESSON

Preparation stage (30 min.)

- *Organizational part of the lesson:* presence check, evaluation of the uniform.
- *Informing about of the topic and the purpose of the lesson.*

The lesson topic: «Dental implantation. History and main stages of implantology development. Types of dental implants, materials for their manufacture. Principles and methods of one- and two-stage implantation. The concept of immediate and delayed implants loading . Complications of dental implantation.»

The aim of the lesson: to learn indications and contraindications for dental implantation, types of implants, features of patient's examination before dental implantation, complications during and after dental implantation , their treatment and prevention.

The motivation of educational activity

In recent years, implantology has emerged as a separate branch of dentistry, which is developing rapidly. The surgical stage plays an important role in both dental and maxillofacial implantation. The dentist must know the indications, contraindications to implantation, types of implants, the amount of examination before dental implantation, methods of implantation, complications after dental implantation and their treatment.

Materials of the methodical providing of a preparatory stage of the classes:

The frontal interview questions :

1. Features of patient examination before dental implantation.
2. Indications and contraindications for dental implantation.
3. Types of implants.
4. The structure of implants:
 - a) by type of material;
 - b) by type of construction;
 - c) components of implants.
5. Support areas for dental implants.
6. Types of bone density by Misch.
7. Functional loads on implants .
8. Basic requirements for the design and materials of implants.
9. Types of dental implantation
10. Clinical stages of dental implantation.
11. Planning the the method of prosthetic treatment based on implants.
12. Methods of endoosal implantation and features of it's implementation on the maxilla and mandible.
13. The main criteria when designing implants.
14. The main criteria for assessing the condition of the endoosal implant in the bone.
15. Basics of medical tactics when using dental implants.
16. Complications during and after implantation and their treatment.
17. Expediency and inexpediency of using dental implants.

Main stage: formation of professional skills and abilities (180 min)

Professional training conducting .

Materials of methodical maintenance of the main stage of the classes:

Dental implantation is a branch of dentistry that solves the problems of restoring the anatomical shape and function of various parts of the dental system through the introduction of alloplastic materials into the tissue. With the help of various implants it is possible to restore the continuity of the jaws, TMJ, facial contours (maxillofacial implantology), or dental arches and individual teeth (odontoimplantology). An implant is a structure made of a material of non-biological origin, which is inserted into the tissues of a macroorganism for the purpose of prosthetics, or to create a support for fixing the prosthesis.

Indications for prosthetic treatment on dental implants:

- 1) the absence of the teeth in the dentition;
- 2) limited included defects of the frontal part of the dentition;
- 3) terminal unilateral, bilateral defects of the dentition in the absence of 3 or more teeth;
- 4) complete adentia and atrophy of the alveolar process of the jaws;
- 5) intolerance to dentures;
- 6) diseases of the digestive tract.

Contraindications for dental implantation:

- absolute: 1) tuberculosis, rheumatism, uncompensated diabetes mellitus; 2) blood diseases; 3) bone diseases: 4) diseases of the central and peripheral nervous system; 5) malignant tumors;
- relative: 1) periodontitis; 2) pathological bite; 3) unsatisfactory oral hygiene; 4) precancerous diseases; 5) precious metals in the oral cavity; 6) TMJ disease; 7) bruxism.

The patient's examination should be thorough, comprehensive and include the completion of a questionnaire, general and local examination.

Types of dental implants:

- 1) Insert implants
- 2) Endodontic-endoosseous implants
- 3) Subperiosteal implants
- 4) Endoosseous implants
- 5) Endoosal-subperiosteal implants
- 6) Submucosal implants.

Components of dental implants:

1. Intratissue, supporting part
2. Adjacent to the mucous membrane - suture
3. Intraoral - coronal or superstructure, abutment.

За видом конструкції імплантати можуть бути:

1. Цільними
2. Розбірними
3. З опорною головою для фіксації знімного протеза або опорної балки.

A functional loading on the implants after their installation is apply at different times after surgery:

1. Immediately, in 3-5 hours after placement of the implant in the jaw.
2. After 1-4 weeks after surgery, after wound healing.
3. After 2-6 months after surgery, after the effect of implant osseointegration

Clinical stages of the prosthetic treatment based on dental implants:

1st stage - planning the type of dental prosthesis based on implants, which involves a team of specialists: dentist-therapist, dental surgeon or maxillofacial surgeon, orthopedist, hygienist, dental technician;

2nd stage - surgical - it involves pre-prosthetic (pre-implant) surgical preprosthetic treatment of soft tissues and bone structures of the jaws, implant placement (performed by a surgeon under the supervision of an orthopedist);

3rd stage - orthopedic - production of dentures (performed by an orthopedist, supervised by a surgeon, hygienist);

The 4th stage - hygienic - begins after the prosthesis installation and involves long-term management of the patient after prosthetics by a dental hygienist (under the supervision of a surgeon, orthopedist).

Methods of endoosal implants at the time of installation of the superstructure and on the basis of the connection of the bone wound with the oral cavity:

- 1) one-stage method - installation of a single implant with intraosseous and coronal part, with superstructure;
- 2) two-stage method (intraosseous part of the implant and it's crown are connected by a screw): the first stage - installation of the intraosseous part of the implant, the second - installation of gum shaper, which in 10-14 days is replaced by the overbone structure connected with intraosseous part by screw, then take an impression and make dentures. This is done in 2-7 months after the first stage.

Immediate dental implantation is a technique according to which the implant is inserted into the socket immediately after tooth extraction (immediate implantation), after 10 days (early delayed implantation) or after 30 days (late delayed implantation). It takes 10-30 days to eliminate, for example, inflammatory phenomena in the area of the socket of extracted tooth.

The main criteria for assessing (osseointegration) of the endoosal implant in the bone:

- 1) implant mobility;
- 2) bone damage, degree and rate of bone atrophy;
- 3) the condition of the gums adjacent to the implant;
- 4) the depth of the pocket;
- 5) the effect of the implant on neighboring teeth;
- 6) efficiency of functioning;
- 7) external aesthetic appearance of the prosthesis and implant;
- 8) the presence of an infectious process around the implant;
- 9) the ratio (whether there is an invasion) of the implant to the mandibular canal, maxillary sinus, nasal cavity, soft tissues with loss of fertility;
- 10) the patient's reaction to the implant, etc.

Complications that may occur during implantation:

1. Intraoperative: bleeding (errors of operative technique, anesthesia, assessment of preoperative status, chronic inflammatory processes, poor preparation of the patient, etc.), overheating of the bone and the occurrence of its burns; tool fracture; fracture of cortical plates of bone; damage to the bottom of the maxillary sinus, the bottom of the nasal cavity, mandibular canal; damage or compression of the mandibular nerve; mismatch of soft tissue rags; mismatch between the size of the bone bed and the implant; implant rejection.:

2. Early: excessive infection of the bone bed and the development of the inflammatory process; maxillary abscesses and phlegmons; hematomas of the operated soft tissues and bones; paresthesias; implant rejection.

3. Late: progressive resorption of bone above standard (1 mm in the first year and then 0.1 mm annually); osteomyelitis due to bone overheating (over 47°C); penetration of the bottom of the maxillary sinus, nasal cavity, mandibular canal, adjacent teeth; perimucositis; perimplantitis; implant rejection

4. Exacerbation of chronic inflammatory processes: sinusitis, osteomyelitis of the alveolar process.

- *Algorithms for the formation of the professional abilities.*

1. To be able to examine a patient with partial and complete defects of the dentition, to make a plan of complex treatment with the use of dental implantation.
2. Be able to analyze orthopantomograms, CT to determine the width and height of the alveolar crest, the location of the mandibular canal and the bottom of the maxillary sinus to select the optimal length and diameter of the implant.
3. To work out the technique of surgical stages of implantation on phantoms.

- *Practical tasks (typical, atypical, unpredictable situations).*

Individual task

Task №1.

A 58-year-old patient underwent dental implantation surgery on the mandible by a two-stage method. How many months does it take to connect the parts of dental implants?

- A. 3-4
- B. 5-6
- C. 9-10
- D. 1-2
- E. 7-8

Task №2.

Which factors do not affect the osseointegration of the implant?

- A. Type of anesthesia
- B. Material and shape of the implant
- C. The degree of preparation of the bone bed
- D. Adherence to the rules of asepsis
- E. Time.

Tasks for the independent work and work in small groups (interactive teaching methods).

A 43-year-old patient consulted a dental surgeon for dental implantation in maxilla. When studying sections of the maxilla, it was found that the volume of bone to the bottom of the maxillary sinus is 5.7 mm, the thickness of the alveolar ridge 5.7 mm. Determine the most rational management of the patient.

Final stage (30 min)

Summing up of the lesson.

Materials of methodological support of the final stage of the lesson:

- *Brain storm.*

Students demonstrate an exhaustive description of the unusual clinical situation and offer to offer the most rational diagnostic methods. After recording all the proposed diagnostic methods during the discussion, students choose the most rational.

- *Tasks for the self-employment.*

Fill in the medical documentation, make a plan of the patient examination with the appropriate clinical situation and determine the indications for the osteoplastic surgery, make a plan of postoperative care of the patient

Evaluation.

«Approved»
at the meeting of the Department
of Surgical Dentistry and Maxillofacial
Surgery
Head of the Department
Professor Ya. E. Vares

METHODICAL GUIDE FOR PRACTICAL LESSONS

Educational discipline	Surgical dentistry and Maxillofacial Surgery
Topic of the lesson	Topic №11. «Platelet concentrates. Classification. Techniques. The concept of growth factors and their regenerative potential. Possibilities of using platelet concentrates and compositions based on them for regeneration of MFA soft tissues and stimulation of osteogenesis».
Course	V
Faculty	Dentistry

THE PLAN OF THE PRACTICAL LESSON № 11

1. Topic №11. «Platelet concentrates. Classification. Techniques. The concept of growth factors and their regenerative potential. Possibilities of using platelet concentrates and compositions based on them for regeneration of MFA soft tissues and stimulation of osteogenesis».

Lesson duration 4 hours 30 min., including three breaks of 10 minutes.

2. Learning objectives:

➤ *professional competence :*

1. Collection the medical information of the patient's condition
2. Evaluation of the laboratory and instrumental research results.
3. Establishment of the clinical diagnosis of dental disease.
4. Diagnosis of the emergency conditions.
5. Performing the medical and dental manipulations.
6. Organization and carrying out of dental medical examination of persons subject to dispensary supervision.
7. Organization of medical and evacuation measures..
8. Defining the tactics and providing the emergency medical care.
9. Maintaining medical records.
10. Processing of the state, social and medical information.

➤ *general competence:*

- 1. The ability to the abstract thinking, analysis and synthesis; the ability to learn and be trained today.
- 2. Knowledge and understanding of the subject area and understanding of the profession.
- 3. Ability to apply knowledge in practical situations.
- 4. Ability to communicate in the state language both verbally and in writing; Ability to communicate in a second language.
- 5. Skills to use the information and communication technologies.
- 6. Ability to search, process and analyze information from the various sources.
- 7. Ability to adapt and act in a new situation; ability to work autonomously.
- 8. Ability to identify, set and solve the problems.
- 9. Ability to choose a communication strategy.
- 10. Ability to work in a team.
- 11. Interpersonal skills.
- 12. Ability to act on the basis of ethical considerations (motives).
- 13. Ability to act in a socially responsible and civic conscious manner.

3. Methods of training:

Preparatory stage - frontal oral interview.

The main stage - practical training, role-playing game.

The final stage – brain storm

4. Interdisciplinary integration.

Disciplines	Student should know	Student should to able
Previous:		
Anatomy	To know the anatomical structure of maxilla and mandible, nerve and blood supply of the maxilla and mandible.	Be able to explain the structure of maxilla and mandible
Histology	To Know cytology and histology features of the blood and hematopoietic system	Be able to explain the cytology and histology of the blood and hematopoietic system .
Physiology	To know the blood physiology.	To be able to explain the blood physiology/
Intra-subject integration:		
Topic 1 («The Surgical	Topic 1 («The Surgical dentistry	Topic 1 («The Surgical dentistry

dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.	Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.	Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.
Topic 1 («The Surgical dentistry Propedeutic»): Pain, its components, the leading pathways of the pain.	To know the components and pathways of pain.	Be able to explain the components and leading paths of the pain.
Topic 2. "Reconstructive MFA surgery"): The concept of transplantation.	To know the methods of the MFA soft tissues and bone optimization.	To be able to explain the methods of the MFA soft tissues and bone optimization.

5. Literature:

1. Educational

The main

1.1 Oral and Maxillofacial Surgery Edited by prof. V. Malanchuk, Vinnytsa, Nova Knyha Publisher, 2011. – part .2. - p. 65-73, 126-130.

The additional

1.2 PETERSON'S PRINCIPLES OF ORAL AND MAXILLOFACIAL SURGERY, *Second Edition*, 2004, p. 783-803.

2. Methodical

3.1 Methodical Guide for Practical Training in Surgical Dentistry for the S-th year Students of the Dentistry Faculty , edited by prof.Ya. Vares, 2014, 32 p.

STRUCTURE OF PRACTICAL LESSON

Preparation stage (30 min.)

- *Organizational part of the lesson:* presence check, evaluation of the uniform.
- *Informing about of the topic and the purpose of the lesson.*
The lesson topic. «Platelet concentrates. Classification. Techniques. The concept of growth factors and their regenerative potential. Possibilities of using platelet concentrates and compositions based on them for regeneration of MFA soft tissues and stimulation of osteogenesis».

The aim of the lesson: to get acquainted with modern concepts of growth factors and their regenerative potential, technologies of the platelet concentrates production. To teach students to make platelet concentrates.

The motivation of educational activity.

In recent years, the use of platelet concentrates has become widespread. Due to their low cost, availability and safety, they are considered as a promising method of obtaining autologous growth factors and influence on the course of reparative processes in various fields of medicine, in particular, in dentistry and maxillofacial surgery.

Materials of the methodical providing of a preparatory stage of the classes:

The frontal interview questions :

1. The concept of "platelet concentrates".
2. Methods of their manufacture.
3. The concept of growth factors and their regenerative potential.
4. Possibilities of application of platelet concentrates and compositions based on them for regeneration of the MFA soft tissues .
5. The use of platelet concentrates and compositions based on them to stimulate osteogenesis in MFA.

Main stage: formation of professional skills and abilities (180 min)

Professional training conducting .

Materials of methodical maintenance of the main stage of the classes:

Platelet concentrates or platelet-enriched plasma is a blood concentrate containing platelets in an amount exceeding the initial value by 3-5 times. Upon activation, platelets change their shape and secrete specific biological factors that induce migration and proliferation of mesenchymal progenitor cells, stimulate neoangiogenesis and regeneration in both hard and soft tissues, and contain some plasma proteins (fibrinogen, prot etc.), which affect the regeneration processes,

being a matrix for cell migration. The potential for the use of platelet-rich plasma in surgery is very large, but the question of methods of preparation and quality of the product remain insufficiently studied.

In 1934, VF Voino-Yasenetsky published "Essays on Purulent Surgery", which described the methods of autohemotherapy, in the form of infiltration of whole blood into the inflammatory process of soft tissues. Positive results and a minimum of side effects for many years made autohemotherapy and autoserotherapy auxiliary treatments, until the beginning of the era of antibiotics. The next step in the development of methods using autologous blood was the use of pure blood plasma, free of erythrocytes, but rich in platelets. The reason for the use of autoplasm with a rich content of platelets was the discovery of the fact that platelets contain factors (PRG-factors) that initialize the cellular regenerative process.

Studies in recent years have shown that natural material, which has specific properties and a wide range of action, in particular can stimulate repair processes, is platelet-enriched blood plasma. The range of indications for the use of platelet-rich plasma is very wide and applies to many branches of medicine. This method is widely used in the clinic of surgical and implant dentistry as a stand-alone material and in combination with osteoplastic applications of the membrane or clot.

The strategy of application of autoplasm is to improve and accelerate the regeneration of growth factors contained in platelets. In addition, platelet-containing autoplasm simulates and regenerates the function of primary growth factors. This property distinguishes growth factors of platelet-rich plasma from recombinant growth factors, each of which is responsible for a separate mechanism of regeneration.

Platelets contain the following growth factors:

- IGF (insulin-like growth factor);
- PDGF (platelet growth factor);
- EGF (epidermal growth factor);
- FGF (fibroblast growth factor);
- TGFT (transforming growth factor);
- PDEGF (platelet endothelial cell growth factor);
- VEGF (germinal factor of vascular endothelium);
- PLGF - 1/2 (placental germ factor), as well as thrombospondine, osteonectin "culture shock protein".

Growth factors are delivered to the tissues in injectable form of autoplasm and are concentrated by the introduction of large amounts of plasma, which stimulates the formation of fibroblasts of connective tissue cells. Fibroblasts, in turn, produce collagen, hyaluronic acid and elastin. This process leads to the formation of "young" connective tissue, capillary growth. Growth factors also block osteoclasts and stimulate osteoblast proliferation, which reduces the processes of bone thinning, but promotes its recovery. Starting all parts of natural regeneration processes simultaneously and acting on them synergistically, platelet-containing autoplasm is a safe and biological "tool" that accelerates regenerative processes. The use of autoplasm injections with high platelet content is one of the promising areas in allows to reduce inflammatory processes of gums, their bleeding and a pain syndrome. It is an effective and reliable method of soft and hard tissue repair during implantology, periodontal surgery, osteoplasty and other surgical interventions in the oral cavity. Indications for the introduction of autoplasm are gingivitis, localized periodontitis, tooth extraction surgery, implantation surgery to prevent periodontal disease. This method does not preclude the appointment of antibacterial, anti-inflammatory, anti-edematous and immunostimulating drugs.

To obtain tromo, it is enough to take 45-60 ml of blood from the patient by venipuncture. Such a small blood loss does not affect the state of health, does not require any treatment or lifestyle changes. To isolate platelets from native blood, the centrifuge must work in two stages. In the first stage, erythrocytes are separated from plasma and leukocytes with platelets. During the second stage, the final separation of plasma, leukocytes and platelets with a small number of erythrocytes into Platelet concentrates and platelet-poor plasma (the presence of a small number of erythrocytes in Platelet concentrates is inevitable, because the young and most active platelets are together with the lightest fraction of erythrocytes). Platelets themselves are straw-yellow in color. At one-stage division of blood of true TC is not formed. Instead, a mixture of platelet-rich and platelet-poor plasma with an extremely low platelet concentration is obtained. Regardless of the speed of rotation of the centrifuge and the time of centrifugation, the separation of erythrocytes and platelets in one step is impossible. Blood clotting is accompanied by the activation of platelets, the latter releasing growth factors. During the first 10 minutes platelets secrete about 70% of the growth factors from those in them. Complete release of growth factors occurs within an hour. After that, the platelets continue to synthesize additional growth factors for about 8 days, after which the platelets die. Therefore, plasma is enriched in platelets, should be activated immediately before use and in any case in advance. The use of thrombocyte concentrate is an effective and reliable method of repairing various types of tissues after their damage and can significantly increase the effectiveness of many treatments. Today, the use of platelet-enriched plasma is the "gold standard" in cosmetology due to its high safety. Plasma is rich in hormones, enzymes, minerals and vitamins. Enriching plasma with platelets, we introduce a large number of growth factors that stimulate the processes of skin regeneration - the production of collagen fibroblasts, elastin, hyaluronic acid. The use of autologous blood excludes any allergic reactions, as well as the rejection reaction.

Platelet-enriched plasma can be mixed with bone material applied to the bed before using bone material or used as a biological membrane. In any case, Platelet-enriched plasma should be coagulated extempore (ie immediately before use). Blood clotting is accompanied by the activation of platelets, which release growth factors. The Platelet-enriched plasma membrane is the result of activation of coagulation factors. They activate platelets, ie stimulate the release of growth factors by platelets. Plasma enriched with platelets after activation is both a fresh clot and the fluid above it. The natural function of platelets is to initiate the healing process and homeostasis, so when a blood clot forms, all the platelets that are in it will remain, and there will be no platelets in the serum

They activate platelets, ie stimulate the release of growth factors by platelets. Plasma enriched with platelets after activation is both a fresh clot and the fluid above it. The natural function of platelets is to initiate the healing process and homeostasis, so when a blood clot forms, all the platelets that are in it will remain, and there will be no platelets in the seru.

The choice of anticoagulants today is extremely large, despite the fact that only two of them can support platelet metabolism and ensure their release without destroying. Citrate anticoagulant with dextrose (ACD-A) is most often used in the preparation of Platelet-enriched plasma. Citrate binds calcium ions, preventing the blood from clotting, and dextrose and buffers support platelet metabolism. This coagulant is used in blood banks to store platelet mass, which is used for infusions. Citrate phosphate dextrose anticoagulant (CPD) can also be used, however, compared to ACD-A, it is 10% less effective in supporting platelet metabolism.

- *Algorithms for the formation of the professional abilities.*

1. Master the method of manufacturing platelet concentrates.
2. Learn to identify indications for the use of platelet concentrates.
3. To make the plan of the patient's examination and complex treatment using the thrombocyte concentrates

- *Practical tasks (typical, atypical, unpredictable situations).*

Individual task

Task №1.

Which growth factors are contained in platelets?

- A. FGF (fibroblast growth factor);
- B. TGFT (transforming growth factor);
- C. PDEGF (platelet endothelial cell growth factor);
- D. VEGF (germinal factor of vascular endothelium);
- E. All mention above

Task №2.

How much blood should be taken from a patient to make platelet concentrates?A. 45-60 мл

- B. 70-80 ml
- C. 30-50 ml
- D. 100 ml

Tasks for the independent work and work in small groups (interactive teaching methods).

Patient M. 48 years old was diagnosed with a radicular cyst in the area of 44, 45, 46, 47 teeth. Make a treatment plan using platelet concentrates.

Final stage (30 min)

Summing up of the lesson.

Materials of methodological support of the final stage of the lesson:

- *Brain storm.*

Students demonstrate an exhaustive description of the unusual clinical situation and offer to offer the most rational diagnostic methods. After recording all the proposed diagnostic methods during the discussion, students choose the most rational.

- *Tasks for the self-employment.*

Fill in the medical documentation, make a plan of the partient examination with the appropriate clinical situation and determine the indications for the osteoplastic surgery, make a plan of postoperative care of the patient

Evaluation.

«Approved»
at the meeting of the Department
of Surgical Dentistry and Maxillofacial
Surgery
Head of the Department
Professor Ya. E. Vares

METHODICAL GUIDE FOR PRACTICAL LESSONS

Educational discipline	Surgical dentistry and Maxillofacial Surgery
Topic of the lesson	Topic №12. MFA aesthetic surgery. Age-related changes in the face and neck soft tissues. Contour plasticity of the face. Methods of injection of botulinum toxin, fillers, platelet concentrates to correct age-related changes and eliminate aesthetic defects of the face.
Course	V
Faculty	Dentistry

THE PLAN OF THE PRACTICAL LESSON № 12

1. Topic of the lesson: «MFA aesthetic surgery. Age-related changes in the face and neck soft tissues. Contour plasticity of the face. Methods of injection of botulinum toxin, fillers, platelet concentrates to correct age-related changes and eliminate aesthetic defects of the face.».

Lesson duration 4 hours 30 min., including three breaks of 10 minutes.

2. Learning objectives:

➤ *professional competence :*

1. Collection the medical information of the patient's condition
2. Evaluation of the laboratory and instrumental research results.
3. Establishment of the clinical diagnosis of dental disease.
4. Diagnosis of the emergency conditions.
5. Performing the medical and dental manipulations.
6. Organization and carrying out of dental medical examination of persons subject to dispensary supervision.
7. Organization of medical and evacuation measures..
8. Defining the tactics and providing the emergency medical care.
9. Maintaining medical records.
10. Processing of the state, social and medical information.

➤ *general competence:*

1. The ability to the abstract thinking, analysis and synthesis; the ability to learn and be trained today.
2. Knowledge and understanding of the subject area and understanding of the profession.
3. Ability to apply knowledge in practical situations.
4. Ability to communicate in the state language both verbally and in writing; Ability to communicate in a second language.
5. Skills to use the information and communication technologies.
6. Ability to search, process and analyze information from the various sources.
7. Ability to adapt and act in a new situation; ability to work autonomously.
8. Ability to identify, set and solve the problems.
9. Ability to choose a communication strategy.
10. Ability to work in a team.
11. Interpersonal skills.
12. Ability to act on the basis of ethical considerations (motives).
13. Ability to act in a socially responsible and civic conscious manner.

3. Methods of training:

Preparatory stage - frontal oral interview.

The main stage - practical training, role-playing game.

The final stage – brain storm

4. Interdisciplinary integration.

Disciplines	Student should know	Student should to able
Previous:		
Anatomy	To know the anatomical structure the MFA.	Be able to explain the structure MFA.
Histology	To know histology structure of the skin and it's derivatives.	Be able to explain the histological structure of the skin and it's derivatives..
Topographic Anatomy and operative surgery .	To know the topography of the MFAarea.	Be able to explain the topography of the MFA area.
Pathological physiology	To determine the etiology and pathogenesis of the wound process.	Be able to explain the the etiology and pathogenesis of the wound process..
Intra-subject integration:		
Topic 1 («The Surgical dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.	Topic 1 («The Surgical dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.	Topic 1 («The Surgical dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.
Topic 4-9.« The Surgical dentistry Propedeutic»: ... The conductive anesthesia methods.	To know the types and techniques of the local anesthesia.	Be able to conduct different conduct anesthesia on maxilla and mandible.
Topic 9. «Reconstrutive Surgery of MFA»: Principles of plastic surgery planning .	To know the principles of plastic surgery planning.	Be able to plan the plastic surgery.

5. Literature:

1. Educational

The main

1.1 Oral and Maxillofacial Surgery Edited by prof. V. Malanchuk, Vinnytsa, Nova Knyha Publisher, 2011. – part .2. - p. 126-130.

The additional

1.2 PETERSON'S PRINCIPLES OF ORAL AND MAXILLOFACIAL SURGERY, *Second Edition*, 2004, p. 1317-1449

2. Methodical

3.1 Methodical Guide for Practical Training in Surgical Dentistry for the S-th year Students of the Dentistry Faculty , edited by prof.Ya. Vares, 2014, 32 p.

STRUCTURE OF PRACTICAL LESSON

Preparation stage (30 min.)

- *Organizational part of the lesson:* presence check, evaluation of the uniform.
- *Informing about of the topic and the purpose of the lesson.*

The lesson topic: «MFA aesthetic surgery. Age-related changes in the face and neck soft tissues. Contour plasticity of the face. Methods of injection of botulinum toxin, fillers, platelet concentrates to correct age-related changes and eliminate aesthetic defects of the face.»

The aim of the lesson: to study the age-related changes in facial tissues, basics of aesthetic facial surgery and etiology, clinical features, diagnosis, treatment methods of facial and neck wrinkles.

The motivation of educational activity

The task of aesthetic surgery is to eliminate defects (congenital and acquired) and age-related changes in the face and neck, to create harmonization of changes in facial organs with the surrounding tissues. Aging of the human body,

including facial tissues - a biologically programmed process. With age, a person develops more and more chronic general somatic diseases, which negatively affect the general state of health and appearance of a person, including the face. Plastic, aesthetic or cosmetic surgery of the maxillofacial area aims to eliminate by surgical methods the appearance of an old, tired, senile face, which occurs as a result of natural processes.

Materials of the methodical providing of a preparatory stage of the classes:

The frontal interview questions :

1. The purpose and objectives of aesthetic facial surgery.
2. Etiology of age-related facial changes.
3. Types and stages of facial aging.
4. The main principles of execution and types of plastic surgery on the face.
5. Elimination of wrinkles all over the face and neck.
6. Elimination of wrinkles of different parts of the face.
7. Correction of the nose shape .
8. Correction of the auricles shape .
9. Aesthetic liposuction.
10. Chemical peeling.
11. Mechanical, laser skin resurfacing.
12. Contour modeling of the face.
13. Use of botulinum toxin A, fillers and platelet concentrates.

Main stage: formation of professional skills and abilities (180 min)

Professional training conducting .

Materials of methodical maintenance of the main stage of the classes:

Aesthetic surgery can be considered in two ways: as a final surgery after major reconstructive surgery, and as a special field.

Aesthetic surgery uses methods of general plastic surgery: excision of scars and closure of wound defects of superficial tissues by direct connection of edges, local plasticity, movement of flaps and free transplantation of skin or combined flaps.

Indications can be absolute (in the presence of pronounced and very noticeable cosmetic defects) and relative (deficiencies are slightly pronounced and inconspicuous).

The task of the face aesthetic surgery, maxillofacial area is to assess the parameters of the face and correction of bone and soft tissues. Aesthetic facial surgery uses all the possibilities of maxillofacial surgery, and also borders on otorhinolaryngology, eye surgery, dermatology. Aging of the human body, including facial tissues - a biologically programmed process. With age, a person develops more and more chronic general somatic diseases, which negatively affect the general state of health and appearance of a person, in particular the face.

Endogenous and exogenous factors affect the appearance of a person, the condition of the skin - changes in metabolism, disorders of the nervous and hormonal systems, microcirculation, etc. Sunlight, excessive heat, cold, wind, affect the skin, it becomes dry, thin, flabby, facial muscles when contracted form skin folds, and where they are formed more often, there are furrows or wrinkles across the direction of reduction of facial expressions. muscles. Subcutaneous fat and facial bones decrease in size with age, the skin loses the ability to shrink, which leads to sagging skin, wrinkles, there is a "double chin".

Stages of aging:

Early stage: premature aging and early form of natural aging. Including :

- the first type is characterized by a "tired face", ie a decrease in the elasticity of the soft tissues of the face and neck;
- the second type is a "wrinkled face" with small wrinkles;
- the third type is a "deformed face" with senile deformity of the face and neck;
- the fourth type - the combined type with inclusion of three previous signs;
- Fifth - muscle type

The late stage of aging includes middle and late forms of natural aging, creating a sixth type, in the form of "senile exhausted face".

The first type is aging people with a middle position between a wide and narrow face, with normal in youth and moderately dry skin in middle age, with a medium expression of subcutaneous fat and muscle layer. During this period, tissue withering begins, but there are no permanent wrinkles. The shape of the face remains unchanged, although its youthful roundness disappears.

For the second type of aging, wrinkles are the main thing. It is characteristic of narrow oval faces of asthenics, people with poorly developed subcutaneous fat, dry thin skin. According to the constitution, these individuals are not prone to fullness, and therefore at the age of 35-45 have a stable weight.

The third type of aging predominates in people of picnic composition, with oily porous skin and large facial features. They are prone to fullness at the age of 35, they have an increased subcutaneous fat layer, long-lasting roundness of the face, no wrinkles. But over time, under the force of weight, fat moves down, the cheeks shift and sag, the oval and shape of the lower part of the face changes, the tissues around the mouth are deformed, the nasolabial folds deepen, there is a second chin, changes around the eyes. The dominant feature is soft tissue deformity, which leads to changes in the shape of the face.

The fourth (combined) type of aging occurs in people with moderately developed subcutaneous fat, moderately thin skin and dry skin.

The fifth type of aging is characteristic of people with developed facial muscles, moderately moist and oily skin, which is difficult to move relative to the underlying tissues. The aging process in them is based on the type of malnutrition and atrophy of the skin and muscles, without the stage of hypertrophy of subcutaneous fat, these people age later than others. According to this type, the Japanese, Mongols, people of Central Asia are aging.

The sixth type of aging occurs after 75 years of age, when the main and secondary signs of aging are clearly manifested.

The described age-related changes in the bone skull and soft tissues of the head and face significantly change the overall appearance and shape of individual parts of the face. Cheeks, eyes, mouth, temples sink, nose, chin, chin and eyebrow arches protrude. The proportions of the face change - the lower part decreases, the nose and ears increase. Atrophy of adipose tissue and a decrease in the height of the bite lead to sagging of the stretched skin around the mouth and in the cheeks, sharply stand out nasolabial and buccal-chin folds, all wrinkles. Lips become thinner, change shape and color. All this gives a deforming face, changes beyond recognition its general appearance and shape.

The main principles of most open plastic, aesthetic, "rejuvenating" operations on the face:

- Incision of the skin in inconspicuous places.
- Extensive exfoliation of the skin and other underlying tissues.
- Moving skin and tissues to a new position.
- No skin tension or moderate skin tension.
- Excision of excess skin of the desired size.
- Layered suturing of the wound with the elimination of skin stretching of the sutures applied to it.
- Minimal tissue injury.

To remove wrinkles, cut off excess flabby skin and apply tightening sutures. In the presence of wrinkles and folds in the area of the outer corners of the eyes, cheeks, parotid and auricular areas, sagging tissues of the chin area, excess skin of the upper and middle third of the face is a circular operation - full lifting or full lifting. In young people, partial lifting of certain areas of the face or skin (mini-lifting) may be performed. Wrinkle removal surgeries are most often performed under general anesthesia, and sometimes neuroleptanalgesia is used. There are methods of Michelson, Timofeev. To remove horizontal wrinkles and folds of the skin, surgical treatment is performed (tightening and excision of excess skin). In the presence of vertical wrinkles of the forehead, the gel is injected under their base.

Age-related changes in the eyelids are characterized by thinning of the skin, its folding with hanging over the eyelashes. The same changes can be not only an age-related pathology, but can occur in children with a genetic predisposition, hypertrophy of the circular muscle of the eye, or be a sign of kidney or cardiovascular disease. Removal of excess eyelid skin (aesthetic upper and lower blepharoplasty). The amount of skin to be removed is determined. The incision is made along the physiological folds. To remove the folds of the lower eyelids make an incision below the lashes from the inner to the outer corner of the eye with the transition to a natural fold. Sutures on the eyelids are removed 3-4 days after surgery.

Aesthetic otoplasty is performed with protruding ears (flaccidity), changing the size and shape of the auricle. Pathological forms of the ear: flattened or feline, pointed, angular. At a flap ear 2 incisions of skin on a back surface of an auricle are made, a cartilage fragment is cut out.

Correction of deformities of the nose is performed due to curvatures of the nose, sagging of its back, the presence of standing, drooping, widened, flattened, bifurcated tips of the nose.

The tasks of rhinoplasty are to align the back of the nose and narrow it, shorten, narrow and change the configuration of the tip of the nose. Operational accesses: external and internal. The incision like "bird-type" : the base of which is located on the skin of the nasal septum. After the incision is made, the cartilage and bone (subperiosteally) are detached from the skin along its entire length. The bony hump is removed with an osteotome followed by rasp treatment. Reducing the height of the bone wall is performed by osteotomy. At the forked tip of a nose resect a place between medial legs of large wing cartilages. Saddle-shaped deformity of the back of the nose is eliminated by chondrinoplasty (cartilage transplantation). A collodion bandage is applied in the postoperative period.

Over the last decade, significant progress in the field of biomaterials and the development of facial implants has expanded their scope in cosmetic surgery and offered ready-made solutions for tissue replacement, prevention of complications in donor material and reducing the complexity of the operation itself. Implants in facial surgery are now used to increase skeletal structures, to restore facial features by enlarging areas with loss of volume, and in combination with rhytidectomy or other operations as part of a comprehensive approach to facial rejuvenation. The scope of implants includes augmentation of the cheeks to reduce the effect of hypoplasia of the chin protrusions: - enlargement of the lower jaw to create stronger features and a better nose-chin ratio; - correction of the body and the angle of the lower jaw to

increase the expressiveness by expanding the frontal size; - implantation under the cheekbones and in the middle part of the face to fill the depressions and highlight the flattening formed on the face during the process of natural aging; - introduction of implants only in the back of the nose or in the back of the nose and columella; - implantation on the anterior surface of the upper jaw, under the pear-shaped hole, to correct the displacement of the middle third of the face back.

Use of botulinum toxin

In cosmetology, botulinum neurotoxin A (BTH-A) is used in high dilution, which causes temporary paralysis of the striated muscles, neuromuscular blockade at the injection site and does not lead to fatal consequences.

Suppression of those facial muscles, the function of which is the main cause of wrinkles, helps to prevent the appearance of new and eliminate existing wrinkles on the face.

If the elimination of the functional activity of these muscles does not change the basic facial features of the face, then their function is extinguished. To do this, Botox solution is injected into the corresponding motor nerves that innervate these facial muscles, after which the corresponding muscles stop contracting. This mainly affects the facial muscles of the forehead.

Some time after the cessation of facial muscle function, the skin in the area of wrinkles is smoothed and the aesthetic appearance of the face improves.

The use of fillers. The filler is a thick gel that is injected under the skin to fill the volume. Unlike botulinum toxin, which blocks nerve impulses and paralyzes muscles, filler, which is based on collagen and elastin, fills in wrinkles. The filler is evenly distributed under the skin, smoothly spreading evens out the unevenness of the skin surface. Fillers differ in density. Soft gels are given to patients with thin skin. Also, the density of the filler used depends on the injection zone. For example, deep suprapubic administration requires a high-density gel, and for surface administration a fairly light agent.

Chemical peeling

Superficial dosed destruction of the skin starts the process of its recovery, for this purpose various methods are used: ultrasound, more mechanical or laser exposure, enzymes, acids, phenols, etc.

Solutions of acids of various concentration are more often used for chemical peeling. It is superficial, medium depth and deep. Solutions of salicylic, trichloroacetic and other acids, Jessner's solution, azelaic acid cream, etc. are used. After skin damage, inflammation develops, and during the recovery period, the skin tightens and has a more aesthetic appearance.

Laser skin resurfacing

The methods involve superficial destruction of the skin to the desired depth, after which the processes of its recovery are started, after which the skin has a new look. Mechanical dermabrasion is performed mainly under local anesthesia, using diamond or carborundum stones with different speeds. The layers of skin are removed before the drip bleeding, ie remove part of the papillary layer of the skin, then apply a bandage for 10-14 days.

- *Algorithms for the formation of the professional abilities.*
 1. To master the method of patient's with age-related changes in the soft tissues of the face and neck examination
 2. To master the techniques of incisions to eliminate wrinkles in different parts of the face.
- *Practical tasks (typical, atypical, unpredictable situations).*

Individual task

Task №1.

What are the most characteristic age-related changes in facial proportions?

- A. The lower part decreases, the nose and ears increase
- B. The upper part increases, the nose and ears decrease
- C. The middle part, nose and ears are enlarged
- D. The lower part is enlarged, the nose and ears are unchanged
- E. The middle part decreases, the nose and ears increase

Task №2.

Which part is removed during the mechanical grinding of the skin (dermabrasion) :

- A. Papillary layer
- B. Epidermis
- C. Mesh layer
- D. Subcutaneous basis
- E. Subcutaneous fat

Tasks for the independent work and work in small groups (interactive teaching methods).

Patient P., 55 years old, complaints of wrinkles on the overhanging edge of the skin in the outer corners of the orbital area. When collecting the anamnesis, the doctor found out that cosmetic blepharoplasty was performed 10 months ago, but the intervention did not give the desired result. Which treatment tactics should the surgeon choose?

Final stage (30 min)

Summing up of the lesson.

Materials of methodological support of the final stage of the lesson:

- *Brain storm.*

Students demonstrate an exhaustive description of the unusual clinical situation and offer to offer the most rational diagnostic methods. After recording all the proposed diagnostic methods during the discussion, students choose the most rational.

- *Tasks for the self-employment.*

Fill in the medical documentation, make a plan of the patient's examination with the appropriate clinical situation and determine the indications for the aesthetic surgery , make a plan of postoperative care of the patient

Evaluation.

«Approved»
at the meeting of the Department
of Surgical Dentistry and Maxillofacial
Surgery
Head of the Department
Professor Ya. E. Vares

METHODICAL GUIDE FOR THE PRACTICAL LESSONS

Educational discipline	Surgical Dentistry and Maxillofacial Surgery
Topic of the lesson	Topic № 13 Endodontic complications surgical treatment. Periodontal surgery: the main principles, bone grafting materials using. Directed tissues, regeneration.
Course	V
Faculty	Dentistry

THE PLAN OF THE PRACTICAL LESSON № 13

1. Topic of the lesson: «Endodontic complications surgical treatment. Periodontal surgery: the main principles, bone grafting materials using. Directed tissue regeneration.».

Lesson duration 4 hours 30 min., including three breaks of 10 minutes.

2. Learning objectives:

➤ *professional competence:*

1. Collection of medical information of the patient's condition
2. Evaluation of the results of laboratory and instrumental research..
3. Establishment of the clinical diagnosis of dental disease.
4. Diagnosis of the emergency conditions.
5. Performing the medical and dental manipulations.
6. Organization and carry out of dental monitoring of the persons subjected to the dispensary supervision.
7. Organization of medical and evacuation measures.
8. Defining tactics and providing emergency medical care
9. Maintaining medical records.
10. Processing of the state, social and medical information.

➤ *general competence:*

1. The ability to the abstract thinking, analysis and synthesis; the ability to learn and be trained today.
2. Knowledge and understanding of the subject area and understanding of the profession.
3. Ability to apply knowledge in practical situations.
4. Ability to communicate in the state language both verbally and in writing; Ability to communicate in a second language.
5. Skills to use the information and communication technologies.
6. Ability to search, process and analyze information from the various sources.
7. Ability to adapt and act in a new situation; ability to work autonomously.
8. Ability to identify, set and solve the problems.
9. Ability to choose a communication strategy.
10. Ability to work in a team.
11. Interpersonal skills.
12. Ability to act on the basis of ethical considerations (motives).
13. Ability to act in a socially responsible and civic conscious manner.

3. Methods of training:

Preparatory stage - frontal oral interview.

The main stage - practical training, role-playing game.

The final stage – brain storm.

4. Interdisciplinary integration.

Disciplines	Student should know	Student should be able to
Previous:		
Anatomy Physiology	To know the anatomical and physiological features of the MFA: - the structure of the maxilla and mandible; - MFA innervations and blood; - the structure of the head and neck lymphatic system; - the structure of the head and neck muscles; - the structure of the head and neck organs.	Be able to explain the structure of the MFA organs and systems.
Topographical Anatomy	To know the topography of the MFA.	Be able to explain the topography of the MFA.
Pathomorphology	To know the mechanism of inflammation and it's morphological manifestation.	Be able to explain the mechanisms of the inflammatory process

Pathophysiology		development, the phases of inflammation. Be able to describe the pathomorphological and clinical signs of inflammation.
Radiology	To know the additional examination methods in dentistry.	Be able to explain the principles on which different examination methods are based (X-Ray, CT, ultrasound, MRI).
Therapeutic dentistry	To know the ways of the pathogenic microorganisms spreading into the pulp cavity and periodontium.	Be able to conduct the teeth examination.
Intra-subject integration:		
Topic 1 («The Surgical dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods.	To know the examination methods in patients with the MFA diseases.	Be able to conduct the subjective and objective examination in patient, to prescribe the additional examination methods, fill in the relevant medical documentation.
Topic 2. («MFA inflammatory diseases»): periodontitis: the surgical treatment methods.	To know the clinical signs, diagnosis, surgical treatment methods of the chronic periodontitis.	Be able to determine the indications and contraindications to epy surgery of the chronic periodontitis.
Topic 9 («MFA traumatology»): <i>The types of bone regeneration, primary and secondary bone healing.</i> The optimization methods of the bone regeneration.	To know the stages of the bone regeneration and methods of the bone regeneration optimization.	Be able to choose the optimal material for the stimulation of the bone regeneration.

5. Literatura:

1. Educational

The main:

5.1 Oral and Maxillofacial Surgery Edited by prof. V. Malanchuk, Vinnytsa, Nova Knyha Publisher, 2011. – part .2. - p. 198-212.

The additional:

5.2 PETERSON'S PRINCIPLES OF ORAL AND MAXILLOFACIAL SURGERY, *Second Edition*, 2004, p. 3-17, 277-295.

2. Methodical:

2.1 Methodical Guide for Practical Training in Surgical Dentistry for the S-th year Students of the Dentistry Faculty , edited by prof.Ya. Vares, 2014, 32 p.

STRUCTURE OF PRACTICAL LESSON

Preparation stage (30 min.)

- *Organizational part of the lesson:* presence check, evaluation of the uniform.
- *Informing about of the topic and the purpose of the lesson.*

The lesson topic: «Endodontic complications surgical. Periodontal surgery: themain principles, bone grafting materials using. Directed tissue regeneration.»

The aim of the lesson: to teach the students to diagnose complications of endodontic treatments, to know the clinical features, to make a plan of complex treatment of patients with endodontic complications, to master the principles of surgical treatment of patients with endodontic treatment complications. To study the main provisions of the periodontal reconstructive and plastic surgery. Master the basic techniques of surgical treatment of parodontitis. To teach students to make a plan of complex treatment of the patients with periodontal tissues pathology. Get acquainted with bone replacement materials.

The motivation of educational activity.

Endodontic treatment in the structure of dental care have the one of the leading places. In addition, on the background of current advances in endodontics in recent years, the number of complications has increased significantly.

Complications of the endodontic treatments are detected in the 53.6% of cases. The most common are perforation of the tooth cavity bottom or the root canal walls (37.7%), fragmentation of an endodontic instruments (19.9%), excessive expansion and rupture of the apical opening (34.2%), output the filling material through the apex (23.9%), pushing the filling material into the adjacent anatomical structures (39%), in particular, in the mandibular canal (23.2%) or mental opening (12.3%). At such complications the expressed painful and paresthetic syndromes are observed, destructive changes in surrounding tissues is developed - first of all, in a cancellous bone, and also such structures as the inferior alveolar nerve, a mental nerve are suffer considerably. Such conditions require immediate intervention, including surgery. The biological essence of the directed tissue regeneration is to use the different in potency and in time of implementation of the reparative capabilities of the tissue components of the tooth-muco-periosteum-bone complex of the jaws. The bone directed regeneration allows complete or significant restoration of the volume and morphological structure of the bone, regeneration of periodontium and cementum, new fixation of the ligament. Therefore, for practical dentistry it is important to develop and improve methods of endodontic complications treatment.

Materials of the methodical providing of a preparatory stage of the classes:

The frontal interview questions :

1. The clinical features of the endodontic treatment complications.
2. The indications and contraindications for the appropriate surgical treatment.
3. The principles of the granuloma ectomy in the tooth root apex and interradicular septum.
4. The techniques and stages of the root apex resection surgery.
5. The resection (amputation) of the tooth root.
6. The coronary-radicular separation.
7. The tooth hemisection.
8. The tooth replantation.
9. The directed bone regeneration.
10. The main tasks of the periodontal reconstructive and plastic surgery.
11. The indications and contraindications of the periodontal tissues surgical treatment.
12. The periodontal surgery planning.
13. The methods of periodontal reconstructive and plastic surgery:
 - surgery within the periodontal, gingival pocket;
 - flap surgery;
 - vestibular plasty.
14. Osteoplastic materials.

Main stage: formation of professional skills and abilities (180 min)

Professional training conducting .

Materials of methodical maintenance of the main stage of the classes:

Tooth-preserving surgical treatment methods of the chronic periodontitis are used after high-quality endodontic treatment and arresting of the additional infection in the periodontium from the root canal. The purpose of treatment is to preserve the tooth or part of it and ensure its continued functioning.

The root apex resection is indicate in case when the root canal is sealed to 2/3 of the root length, the presence or absence of the periapical bone changes and the functional value of tooth crown. The technique: after the anesthesia the incision is make and exfoliation the mucous periosteum flap. The frontal cortical bone is remove by the bone drill, the apex of the causative tooth is open and cutting 1/3 of the root from the apex, visually controlling the presence of a filling material in the root canal, after the wound is sutured. The wound healing lasts 7-8 days. The surgery is performed mainly in the area of teeth and roots available for surgery. The complications - suppuration of the wound, preservation of the bone defect, displacement of the tooth under the functional load in the direction of the bone defect (for single-rooted teeth)

The root amputation is indicate in the case of incomplete filling (up to 1/2-1/3 of the root length) of one of the roots of a multi-rooted tooth. Usually is performed on the upper molars, removing the medial buccal root. The anesthesia, the surgery technique, the postoperative period and the medical support - similar to the surgery of the root apex resection. The difference is that cut off up to 3/4 of the length of one of the roots of a multi-rooted tooth. The condition of the surgery is the need to preserve the mucous membrane in the area of the resected root to prevent postoperative recession of the gums. Complications - recession of the gums in the area of the surgery, insufficient (sometimes) tooth stability under the functional load.

The crown-radicular (coronar-radicular) separation is indicated when the bottom of the pulp cavity is perforated and periodontitis has occurred in the area of the interradicular septum of the bifurcated molar of the mandible, and there are no signs of periapical tissues changes. To preserve such a tooth, it is necessary to allow the outflow of exudate from the interradicular septum and eliminate the inflammatory process. The technique: after the anesthesia, by the separation disk the cross section of the "causal" tooth from its occlusion surface to the inter-root septum is conduct, the one half of the tooth crown and root is separate, from the other. The distance between the tooth parts should be up to 1-1,5 mm. Thus, the upper parts of the interradicular septum become accessible for the removal of pathologically altered tissues and a constant outflow from the area of inflammation and it's healing. As a result of the surgery, the patient has two single-rooted teeth instead of a double-rooted tooth, which can later be used for prosthetics.

The tooth hemisection is indicate in the presence of apical periodontitis in the area of only one of the two roots of the lower molars, the impossibility of quality endodontic treatment of the root canal, the need to preserve the maximum possible number of teeth. The technique: after the anesthesia the crown-radicular separation is conduct. Then the affected part of the tooth is extracted. The socket of the extracted root heals typically under the blood clot. After the surgery, the patient has a functionally capable half of the tooth.

The main tasks of the periodontal reconstructive and plastic surgery:

1. Enlargement of the keratinized attached area of the gums. This helps to stop the soft tissues recession and the bone resorption, for example, as a result of the teeth orthodontic movement or other reasons, helps to improve hygiene in the teeth area, dental implants and dental bridges areas.
2. Elimination of gum declines.
3. Increased the volume of the alveolar spine in the alveolar area. Typically, such surgery are performed for the permanent prosthesis or prosthetics based on the dental implants to optimize the aesthetic and functional result.
4. Removal of the shortened bridle of the lips, cheeks - it allows to move correctly soft tissues, to use the dentures and the orthodontic devices.
5. Prevention of defects of the alveolar process crest after the tooth extraction. Preservation the shape of the alveolar ridge in the area of the extracted teeth is a positive condition for the dental implantation.
6. Prolongation of the tooth crown clinical length improves the aesthetic appearance of the dentition.
7. Exposure of the impacted teeth allows their subsequent orthodontic moving into the dentition.
8. Restoration of the lost gingival papilla helps to improve the aesthetic appearance of the dentition.
9. Elimination of the excessive gums growth (hyperplasia, hypertrophy) and periodontal pockets - eliminates the pathologically changed tissues and improves the aesthetics of teeth, smile.

All surgical methods of the inflammatory and dystrophic periodontal diseases treatment are divided into the 3 main groups: I. Surgery within the periodontal and gingival pockets: open and closed curettage, vacuum curettage, cryocurettage, gingivotomy, gingivectomy, gingivoplasty, etc..

II. Flap plasty surgery - methods to eliminate recessions, including apically or laterally displaced flap, a flap of two interdental papillae; freely transplanted connective tissue graft.

III. Formation of the oral cavity vestibulum- frenuloplasty, vestibuloplasty by the local tissues plasty, free grafts, etc.

Curettage - scraping of the gingival pocket in order to remove subgingival calculus, granulations, softened cementum and epithelium germinated into the gingival pocket, pocket contents (microorganisms, tissue breakdown products and bacterial activity). Indications: pathological gingival pockets up to 4 mm deep, no bone pockets and the presence of dense gums. During the intervention it is necessary to create a clean wound surface, then the blood clot of the wound is organized and the connective tissue grows into the newly formed root cementum. The operation is completed by the applying a hardening protective bandage for 1-2 days. It is forbidden to probe the pocket for three or four weeks and it is recommended not to eat solid food, to use a soft brush for teeth brushing. Curettage is contraindicated: for deep gingival and bony pockets, III-IV degree teeth mobility, acute inflammatory processes, scarring and thinning gums.

Gingivotomy is a linear dissection of the periodontal pocket mucose in order to open a periodontal abscess or for the open curettage of the periodontal pocket under visual control. Indications are deep and poorly visible gingival and bony periodontal pockets in the area of one or more teeth, single recurrent abscesses. For this purpose, incisions of different shapes are used: vertical along the tooth axis, displaced distally, through the interdental papilla, crescent, T-shaped, etc. After opening the pocket, it is rinsed with antiseptic solutions, thorough curettage is performed, then the wound is treated again with antiseptic solutions, a biologically active suspension of proteolysis enzyme inhibitors is injected, glued with medical glue, covered with a film or medical bandage for 2-3 days. At the abscesses opening the sutures are not imposed, biologically active suspensions (from enzymes, inhibitors and other substances) are entered into a cavity.

Gingivectomy is the excision of the periodontal pocket to its full depth (at the level of the alveolar edge) simultaneously with the pathologically altered gingival margin and the contents of the pocket. There are simple and radical gingivectomy. Simple is performed at a depth of periodontal pockets of more than 4-5 mm and horizontal, uniform resorption of the alveolar edge, with hypertrophic gingivitis, increased granulation, increased desquamation of the epithelium, without scarring after curettage. The surgery scope is limited to 2-3 lateral and 4-6 front teeth. After preoperative preparation (anesthesia, antiseptic rinsing) specify the limits of gingivitis, determine the depth of the incision (corresponds to the pockets depth). The incision line is marked with an aqueous solution of methylene blue or iodine-containing solution. The surgery consists of the following stages:

- 1) excision of the gingival margin from the lingual (palatine) and vestibular sides parallel to the gingival margin, taking into account the uneven depth of the pockets;
- 2) removal of subgingival tartar;
- 3) open curettage of granulations and pathologically altered bone of the alveolar process;
- 4) stop bleeding;
- 5) introduction of the osteoplastic materials into the surgical wound;
- 6) deposit and application of medicines.

The disadvantages of the surgery are the exposure of the teeth cervical part, interdental spaces; excision of all gingival papillae in the surgery area forms a cosmetic defect, the hyperesthesia of the bare roots from temperature, chemical and tactile stimuli often develops after the surgery.

Radical gingivectomy combines simple gingivectomy and leveling of the alveolar edge to change vertical bone resorption into horizontal.

Flap surgery is performed to eliminate periodontal pockets and to correct defects of the alveolar process of the jaws alveolar part. Indications for the flap surgery are periodontitis of moderate and severe degree and a depth of periodontal pockets more than 5 mm, destruction of the bone by no more than 1/2 the length of the tooth root, thinned and fibrous gums. At flap operations after a gingivotomy exfoliate and form a mucous-periosteum flap from lingual (palatal) and vestibular sides. There are complete and split periodontal flaps. The complete flap includes epithelium, connective

tissue, periosteum, split - consists of epithelium and connective tissue. In some cases, the prepared flap is placed into the place, in others - moved at the end of the surgery to a new site.

Radical flap surgery (by the Cheshinsky - Otman - Neumann method) is indicated in the presence of deep periodontal bone pockets with a vertical type of bone resorption, the teeth mobility of the III degree, with thinned gums. As with simple gingivectomy, after irrigation of the oral cavity with antiseptic solutions, anesthesia, treatment of the gingival margin with iodine-containing solution make two vertical incisions to the bone, limiting the surgery area, from the gingival margin to the transitional fold (incisions should not pass along the top of the papillae. Then bluntly separate the mucous-periosteum flap from the vestibular and lingual (palatal) sides. The vestibular flap is taken on hooks, the lingual (palatine) is separated to a depth not more than 0.5 cm. Then remove the tartar, the altered gums edge, granulations, perform the curettage, smooth the alveolar process bone, polish the cementum of the root. The surgery area is rinsed with antiseptic solutions, arrest bleeding, mobilize the muco-periosteum flap, then put the flap into the place, apply sutures in each interdental space and vertical incisions. The operation simultaneously includes an area of not more than 6 teeth. Healing is the primary, the sutures are removed on the 6-7th day after the surgery. The disadvantages of the surgery are: the exposure of the teeth cervical part, hyperesthesia, reducing the height of the alveolar edge, the exposure of the interdental spaces.

Frenulotomy - dissection of the bridle - is used to elongate the lip and tongue bridles.

Surgery: after the usual preparation, the bridle is cut to the required depth with a cutting tool at the base of the bridle.

Frenulectomy - the excision of the tongue or lip bridle, is indicated in cases with a short bridle. The lip bridle is excised with two semi-oval vertical incisions, a compact osteotomy is performed between the central incisors, the mucous membrane around the incision is mobilized, the wound edges are connected together and sutured tightly.

In cases of the small oral cavity vestibulum and a short bridle at once the bridle excision and vestibulum deepening are conducted. After the anesthesia with two converging semi-oval incisions to the periosteum in the area of the bridle attachment the muco-periosteum flap is separated towards the apex of the root to the required depth (8-10 mm), the edge is sutured to the base of the newly formed vestibulum. 1-2 sutures are applied to the lip mucous. Then the muscles of the lower lip are cut off from the periosteum and together with the mucous membrane are moved and sutured to the periosteum. An iodoform bandage is applied to the wound, the wound heals secondary, epithelialization occurs in 10-14 days.

Directed tissue regeneration using the membranes

Indications: treatment of the deep narrow two- or three-walled bone pockets, the 2nd degree naked furcations of the first molars on the buccal side, the gums recession (in this case, thick and wide keratinized gums are desirable). Worse results are in the cases of the through defects of furcation of the 3rd degree and at molars of an upper jaw with distal and buccal defects of furcation of the 2nd degree. Before the surgery, the patient is instructed, and periodontal conservative treatment is prescribed to create favorable hygienic conditions and eliminate inflammatory phenomena.

The technique: intrasulcular incision is performed with preservation of the papillae, and vertical lateral incisions - at a distance of 4-6 mm from the tooth of the operation area. The mucous-periosteum flap is separated from the bone, the epithelium and granulation tissue are cut from its inner surface, and subgingival scaling with root polishing is performed. Then the membrane of the desired shape is chosen and fit to the tooth and the adjacent bone. Then the membrane is fixed in the correct position. Tight adaptation of the membrane to the tooth ensures its retention over the periodontal defect, and the muco-periosteum flap should overlap the membrane by 2-3 mm. After the surgery using the membrane, it is necessary to refrain from applying a periodontal protective bandage, because under its pressure, the membrane can sink into the defect. To maintain the desired shape after the introduction of the osteogenic materials into the bone defect using metal mesh with screw fixation. It is advisable to cover the mucous sutures with protective films such as "Diplen-Denta", etc., which have anti-inflammatory properties. Before removing the mesh or resorbing the membrane (the first four weeks) it is necessary to avoid brushing the teeth in the surgery area and rinse the mouth with 0.2% chlorhexidine solution 1-2 times a day. After 4-6 weeks, the non-resorbable membrane is carefully removed through an intrasulcular incision so as not to injure the restored tissue. After removing the connective epithelium from the inside of the flap, it is adapted and sutured. Because it is very important to completely close the regenerated sensitive tissue, a slit-like incision in the bone periosteum can be made, and then move the flap.

• *Algorithms for the formation of the professional abilities.*

1. To be able to make the examination and make a treatment plan in patient with the endodontic treatment complications.
2. Master the technique of the root apex resection.
3. Master the technique of coronary-radicular separation, tooth hemisection, the tooth root amputation, tooth replantation.
4. Master the technique of the surgical periodontal instruments using.
5. Master the techniques of periodontal reconstructive surgery.
6. To master the technique of the flap surgery method according to Cieszynski-Widmann-Neumann.
7. Master the technique of the directed tissue regeneration by membranes.

Practical tasks (typical, atypical, unpredictable situations).

Individual task

Task №1.

A 43-year-old patient apply the dentist with complaints of pain in 36 tooth. X-ray examination revealed the remnant of an endodontic instrument in the distal root. In the area of the root apex there is bone resorption up to 5 mm with limited contours. Which treatment method should be indicated?

- A. Tooth hemisection.
- B. Conservative treatment.
- C. Tooth replantation.
- D. Root amputation.
- E. Root apex resection.

Task №2.

A 40-year-old patient complains of the gums bleeding from the mechanical stimuli, tooth mobility. From the anamnesis: 12 years suffering from chronic gastroduodenitis. Objectively: the gums of both jaws are hyperemic, swollen. Sub- and supragingival dental deposits are noted. Depth of periodontal pockets is 4-5 mm. 43, 42, 41, 31, 32, 33 teeth are mobile (I-II degree). On the X-Ray: atrophy of the intersocket septa up to 1/2 the length of the root. Choose a surgical treatment method :

- A. Flap surgery.
- B. Close curratage.
- C. Gingivectomy.
- D. Gingivotomy.
- E. Osteoplasty.

Tasks for the independent work and work in small groups (interactive teaching methods).

A 50-year-old patient complains of difficulty mastication, tooth mobility, bad breath, bleeding gums. Objectively: the gums are hyperemic with a cyanotic tinge with excessive enlargement of the gums, gingival pockets 4-5 mm deep. On the X-Ray: horizontal, uniform resorption of the alveolar ridge edge by 1/3 of the root length. Make a diagnosis and make a treatment plan.

Final stage (30 min)

Summing up of the lesson.

Materials of methodological support of the final stage of the lesson:

- *Brain storm.*

Students demonstrate an exhaustive description of the unusual clinical situation and offer to offer the most rational diagnostic methods. After recording all the proposed diagnostic methods during the discussion, students choose the most rational.

- *Tasks for the self-employment.*

Develop on the models and phantoms an examination and palpation method of the maxillofacial area and oral cavity in the phantom class.

Evaluation.

«Approved»
 at the meeting of the Department
 of Surgical Dentistry and Maxillofacial
 Surgery
 Head of the Department
 Professor Ya. E. Vares

METHODICAL GIDE FOR PRACTICAL LESSONS

Educational discipline	Surgical dentistry and Maxillofacial Surgery
Topic of the lesson	I
Course	Topic №14. Diseases and injuries of the trigeminal and facial nerves. Clinical signs, diagnosis, treatment. Pain syndromes surgical treatment : neuralgia, MFA neuritis. TMJ pain dysfunction syndrome. Algorithms for performing the practical skills: local plastic surgery , suturing techniques, alveolotomy, opening of periodontal abscess. Final lesson from the "MFa reconstructive surgery ".
Faculty	V
	Dentistry

THE PLAN OF THE PRACTICAL LESSON № 14

1. Topic of the lesson. Diseases and injuries of the trigeminal and facial nerves. Clinical signs, diagnosis, treatment. Pain syndromes

surgical treatment : neuralgia, MFA neuritis. TMJ pain dysfunction syndrome.

Algorithms for performing the practical skills: local plastic surgery , suturing techniques, alveolotomy, opening of periodontal abscess.

Final lesson from the "MFa reconstructive surgery " ..

Lesson duration 4 hours 30 min., including three breaks of 10 minutes.

2. Learning objectives:

➤ *professional competence :*

1. Collection the medical information of the patient's condition
2. Evaluation of the laboratory and instrumental research results.
3. Establishment of the clinical diagnosis of dental disease.
4. Diagnosis of the emergency conditions.
5. Performing the medical and dental manipulations.
6. Organization and carrying out of dental medical examination of persons subject to dispensary supervision.
7. Organization of medical and evacuation measures..
8. Defining the tactics and providing the emergency medical care.
9. Maintaining medical records.
10. Processing of the state, social and medical information.

➤ *general competence:*

1. The ability to the abstract thinking, analysis and synthesis; the ability to learn and be trained today.
2. Knowledge and understanding of the subject area and understanding of the profession.
3. Ability to apply knowledge in practical situations.
4. Ability to communicate in the state language both verbally and in writing; Ability to communicate in a second language.
5. Skills to use the information and communication technologies.
6. Ability to search, process and analyze information from the various sources.
7. Ability to adapt and act in a new situation; ability to work autonomously.
8. Ability to identify, set and solve the problems.
9. Ability to choose a communication strategy.
10. Ability to work in a team.
11. Interpersonal skills.
12. Ability to act on the basis of ethical considerations (motives).
13. Ability to act in a socially responsible and civic conscious manner.

3. Methods of training:

Preparatory stage - frontal oral interview.
 The main stage - practical training, role-playing game.
 The final stage – brain storm

4. Interdisciplinary integration

Disciplines	Student should know	Student should to able
Previous:		
Anatomy	To know the anatomical structure of maxilla and mandible, the trigeminal and facial nerve nerve, the TMJ structure.	Be able to explain the structure of maxilla and mandible the trigeminal and facial nerve nerve, the TMJ.
Histology	To know the nerve system histological structure.	Be able to explain the nerve system hystological structure.
Topographic Anatomy and operative surgery	To know the topography of the trigeminal and facial nerves and TMJ.	To be able to explain the topography of the of the trigeminal and facial nerves and TMJ.
Physiology	To know the physiology of nerve system, mastication, pain physiological mechanisms.	To be able to explain the the physiology of nerve system, mastication, pain physiological mechanisms.
Neurology	To know the sensitive, motoric and autonomic innervation of the MFA, neurological diseases of the MFA.	Be able to explain the sensitive, motoric and autonomic innervation of the MFA, neurological diseases of the MFA.
Pharmacology	To know the mechanism of drugs used to treat MFA neuralgia, neuritis and TMJ painful dysfunction.	Be able to explain the mechanism of drugs action in case of MFA neuralgia, neuritis and TMJ painful dysfunction.
Orthodontic. Prosthetic Dentistry	To know the orthodontic and orthopedic aspects of TMJ pain dysfunction	Be able to explain the mechanisms of TMJ pain dysfunction in occlusal disorders and irrational orthopedic treatment.
Intra-subject integration:		
Topic 1 («The Surgical dentistry Propedeutic»): ... The oral cavity, jaws, face and neck examination methods..	To know the examination methods in patients with the MFA diseases.	Be able to conduct the subjective and objective examination in patient, to prescribe the additional examination methods, fill in the relevant medical documentation.
Topic 3. "Propaedeutics of surgical dentistry": Pain, its components, the leading pathways of pain.	To know the components and pathways of pain.	Be able to explain the components and pathways of pain.
Topic 17. «MFa inflammatory diseases»: TMJ arthritis and arthrosis .	To know the main clinical features of the TMJ arthritis, arthrosis and pain dysfunction.	Be able to conduct the differВміти проводити differential diagnosis of arthritis, osteoarthritis and TMJ pain dysfunction.

5. Literature:

1. Educational

The main

1.1 Oral and Maxillofacial Surgery Edited by prof. V. Malanchuk, Vinnytsa, Nova Knyha Publisher, 2011. – part .2. - p. 236-241.

The additional

1.2 PETERSON'S PRINCIPLES OF ORAL AND MAXILLOFACIAL SURGERY, *Second Edition*, 2004, p. 1015-1033

2. Methodical

3.1 Methodical Guide for Practical Training in Surgical Dentistry for the S-th year Students of the Dentistry Faculty , edited by prof.Ya. Vares, 2014, 32 p.

STRUCTURE OF PRACTICAL LESSON

Preparation stage (30 min.)

- *Organizational part of the lesson:* presence check, evaluation of the uniform.

- *Informing about of the topic and the purpose of the lesson.*

The lesson topic: "Diseases and injuries of the trigeminal and facial nerves. Clinical signs, diagnosis, treatment. Pain syndromes

surgical treatment : neuralgia, MFA neuritis. TMJ pain dysfunction syndrome.

Algorithms for performing the practical skills: local plastic surgery , suturing techniques, alveolotomy, opening of periodontal abscess.

Final lesson from the "MFa reconstructive surgery " .

The aim of the lesson: to study the etiology, pathogenesis, to master the main clinical symptoms and principles of diagnosis of trigeminal neuralgia and neuritis, painful dysfunction of the TMJ. To teach students to make a plan of patient's complex treatment .

The motivation of educational activity

Pain syndromes perceive stress reactions that disrupt normal life, which causes, causes psycho-emotional disorders, deterioration of quality of life. According to the WHO, the prevalence of trigeminal neuralgia in European countries averages 4.3 per 100 thousand population. At the age of 60, even more is counted - from 5 to 20 new cases of this action per 100 thousand population are reviewed annually. About 10% of the world's population is affected by greater TMJ dysfunction.

Materials of the methodical providing of a preparatory stage of the classes:

The frontal interview questions :

1. Causes of trigeminal neuralgia and neuritis, TMJ painful dysfunction. Factors contributing to the development of diseases.
2. Modern classifications of facial pain, trigeminal neuralgia.
3. Clinical symptoms of neuralgia and neuritis of the trigeminal nerve, painful dysfunction of the TMJ.
4. Diagnosis of neuralgia and neuritis of the trigeminal nerve, painful dysfunction of the TMJ.
5. Modern medical, physiotherapeutic and surgical methods of the neuralgia and neuritis of the trigeminal nerve treatment, treatment of the Tmj painful dysfunction .

Main stage: formation of professional skills and abilities (180 min)

Professional training conducting .

Materials of methodical maintenance of the main stage of the classes:

Classification of facial pain

1. Facial pain in neuralgia and neuritis of the sensitive nerves
2. Facial pain in ganglionitis
3. Stomalgia
4. Facial pains of arthrogenic and vertebrogenic origin
5. Facial pain of vascular origin
6. Reflection of facial pain
7. Neuro-psychogenic facial pain
8. Pain syndrome in dental diseases, oto-, rhino-, ophthalmogenic pain.

Neuralgia is a symptom complex that manifests itself in attacks of intense pain, localized in the area of innervation of one or more branches of the trigeminal nerve.

All types of trigeminal neuralgia are divided into 2 main groups:

- trigeminal neuralgia of central genesis (classical) (with a predominance of the central component),
- trigeminal neuralgia of peripheral origin (with a predominance of peripheral component).

Trigeminal neuralgia of central genesis

Etiology: vascular diseases (hypertension), rheumatism, traumatic brain injury, infectious diseases, lesions of the central nervous system (arachnoiditis, encephalitis), acute cerebrovascular disorders, menopause, chronic bacterial (tonsillitis) and viral (influenza, SARS) , poisoning by various poisons (lead, copper, arsenic), endogenous intoxications, endocrine diseases, etc. People aged 40-60 are more likely to get sick.Клініка.

The disease is characterized by the appearance of sharp, cutting, paroxysmal facial pain. Patients compare them with the "passage of electric current". Pain paroxysms last from a few seconds to several minutes. The frequency of attacks varies. Pain can occur spontaneously, but more often appear when the muscles of the face (talking, eating, washing, shaving, etc.). patients freeze in a certain position, are afraid to move (hold their breath or breathe heavily, squeeze the painful area or rub it with their fingers, some perform chewing movements.). Pains occupy a certain area of the face, which is innervated by a branch of the trigeminal nerve (often II or III branch, rarely I). Pain is accompanied by autonomic manifestations - facial flushing, tearing, rhinorrhea, hypersalivation (rarely dry mouth). There are hyperkinesias of the facial muscles - twitching of the muscles of the chin, eyes or other muscles. The attack of pain stops suddenly.

Trigeminal neuralgia of peripheral origin

Arise as a result of influence of pathological process on various sites of peripheral department of a trigeminal nerve. The etiological factors that can cause trigeminal neuralgia of peripheral origin include the following diseases: pulpitis; periodontitis; chronic periostitis; osteomyelitis; sinusitis; galvanism of the oral cavity; tumors and tumor-like formations of soft tissues and bones of the facial skeleton; prostheses that injure the oral mucosa or violate the height of the bite; filling material, which is removed outside the during apical therapy; at ossification of the mandibular canal (passes the mandibular nerve) or the infraorbital foramen (the infraorbital nerve emerges); herpes simplex or shingles (caused by a neurotropic virus), etc.

It is currently believed that a factor that can support the course of neuralgia is the presence of unremoved foci of chronic infection in the nasal cavity (chronic rhinitis, polyps, etc.), oropharynx (chronic tonsillitis, etc.) and oral cavity (carious teeth, recurrent mucosal diseases or gums, tartar, decayed teeth, etc.). Clinically, the disease is characterized by the presence of paroxysmal pain along the corresponding branches of the trigeminal nerve. Pain paroxysms in trigeminal neuralgia of peripheral and central genesis do not differ from each other (see the description of the previously listed symptoms). The pain spreads along the II and III branches of the trigeminal nerve.

Vegetative symptoms (lacrimation, rhinorrhea, hypersalivation, etc.) in peripheral neuralgia are not so pronounced. Trigger areas are less common (47%), less common in Bali. There is no vegetative aura.

Treatment of neuralgia

The patient needs a comprehensive examination: physician, neurologist, neurosurgeon, endocrinologist. It is necessary to find out the cause of neuralgia.

For treatment use:

- Anticonvulsants: finlepsin (carbamazepine, tegretol), pregabalin (lyrics)
- Antidepressants and tranquilizers
- Neurotrophic drugs (neurovitan, nootropil)
- Desensitizing drugs (fencarol, tavegil, suprastin) in combination with nicotinic acid
- Vitamin therapy (group B)
- Biogenic stimulants (plasmol, aloe, FIBS)
- Physiotherapeutic methods

Surgical treatment methods:

- Blockades with anesthetics (novocaine and alcohol-novocaine blockades)
- neurotomy
- neurectomy
- neuroexeresis.
- for the treatment of peripheral forms of trigeminal neuralgia, decompression operations are used with the release of peripheral branches from the bone canals.
- Percutaneous stereotactic destruction of the trigeminal node.
- Hypothermic and chemical rhizotomies

Neuritis - a lesion of the nerve, characterized by changes in the interstitium, myelin sheath and axial cylinders. At neuralgias changes only in its covers are observed. Manifested by symptoms of irritation and (or) loss of function in the area of appropriate innervation. Nerve damage is caused by various etiological factors: bacterial and viral infections, endogenous and exogenous intoxications, injuries, vascular and metabolic disorders, allergic factors, cooling, beriberi, etc.

The pathogenesis of neuritis is complex and due to toxic, metabolic and vascular changes in the nerve, as well as violation of the anatomical integrity of the nerve fiber.

The peculiarity of the clinical manifestation of trigeminal neuritis is that the disease is manifested by pain, impaired sensitivity in the area of innervation (hypoesthesia, paresthesia, etc.), as well as motor disorders (with mandibular nerve neuritis).

There is both neuritis of three branches of the trigeminal nerve, and neuritis of its individual branches. Clinically, trigeminal neuritis is manifested by involuntary, constant, aching pain in the area of innervation of its branches (jaws, teeth, gums), numbness (there may be paresthesia) of the upper, lower lip and chin, as well as in the teeth and gums. Clinical symptoms can be expressed both in a mild form (does not bother the patient), and in a severe form (causes considerable concern). The examination reveals the loss of all types of sensitivity in the area of innervation of the trigeminal nerve.

Neuritis of the inferior alveolar nerve most often occurs as a result of trauma (difficult tooth extraction, after anesthesia, fracture of the jaw, etc.), during osteomyelitis, after removal of a large amount of filling material behind the tooth root (premolar or molar), tumor-like and tumor processes which are localized in the body of the mandible, etc. Patients complain of aching pain (which can sometimes be mild), numbness in the lower teeth and the corresponding half of the lower lip and chin. The pain can be constant, and in some cases even increase or decrease. There is a feeling of discomfort in the chin. In the acute stage (inflammation) there may be paresis of the masticatory muscles and trismus - a tonic contraction of the masticatory muscles, manifested by compression of the jaws. The examination reveals the loss of all types of surface sensitivity on the mucous membrane of the alveolar process on the vestibular side (except for a small area from the second premolar to the second molar), on the mucous membrane and skin of the lower lip and chin skin. Percussion of teeth is painful. Determining the electrical excitability of the pulp of the teeth on the corresponding half of the mandible, it can be established that it is reduced or absent. Not all groups of teeth respond equally to the current, so there may be damage to a certain area of the nerve in the mandibular canal. Electric irritation can cause aching and sometimes prolonged pain in the teeth. Neuritis of the inferior ventricular nerve can be combined with neuritis of the lingual and buccal nerves.

Neuritis of the upper dental plexus occurs after storage of teeth, with excessive removal of the teeth of the filling mass, with inflammatory processes in the upper jaw (osteomyelitis, sinusitis), after surgery and others. There is a slight pain and numbness in the upper teeth (or in a certain group of teeth), as well as a disorder of all other superficial sensitivities of the mucous membrane of the alveolar process on the vestibular side and the adjacent area. The electrical excitability of the pulp

in the corresponding teeth is reduced or absent. For neuritis of the upper alveolar nerves is characterized by a long course (for several months). The electrical excitability of the dental pulp may not be restored. The latter applies only if the nerves that extend from the maxillary plexus are damaged.

Facial nerve neuritis.

The facial nerve contains fibers of various functional purposes (motor, sensory, autonomic). In this regard, its damage entails a number of different symptoms. Neuritis is characterized by changes in the interstitium, myelin sheath and axial cylinders. Manifested by symptoms of irritation and (or) loss of function in the relevant area of innervation. The etiology of facial nerve neuritis is different. Neuritis can be observed without violating the integrity of the nerve (in inflammatory processes, tumors, pseudotuberculosis, Melkersson-Rosenthal syndrome, etc.) and in its traumatic injuries (surgery, trauma, etc.). facial nerve. As a result, there are movement disorders in the form of paresis and paralysis of facial muscles.

Treatment of neuropathies

- First you need to eliminate the cause (eliminate pinching),
- Drug therapy: NSAIDs (mesulid, indomethacin), analgesics, neuroleptics, sedatives, nootropic drugs (nootropil, piracetam, glutamic acid), vitamins (B1, B2, C, D), aloe, galacerin, ATP, progenin, inhibitors).
- Effective neuromidine.
- Physiotherapeutic treatment.

TMJ pain dysfunction.

J. Costen (1934) described the symptom complex observed in toothless patients and persons with reduced occlusion:

- dull pain in the TMJ;
- headache, dizziness;
- pain in the cervical spine, occiput and behind the ear, which intensifies by the end of the day;
- clicking in the TMJ while walking;
- hearing loss, tinnitus;
- burning sensation in the throat and nose.

Later, this symptom complex was called "Kosten's syndrome". To the described manifestations were later added others: paresthesia, xerostomia, glossodynia, a feeling of pressure in the ears, soreness of the auricle, and so on.

The clinical manifestations of TMJ pain dysfunction are similar to those of arthritis and osteoarthritis. Patients complain of dull aching headache and TMJ pain, soreness and tenderness on palpation of the parotid area and external auditory canal, opening and closing of the mouth. The pain radiates to the temporal or infraorbital area, sometimes to the back of the head and spine. Clicking and crepitation in the TMJ, the presence of painful and spasmodic areas in the masticatory muscles. Palpation of the TMJ is painless. Usually the amplitude of movements of the lower jaw increases.

It has been shown that clicking in the TMJ is a consequence of anterior meniscal displacement (R. H. Tallents et al., 1985; P. L. Westesson et al., 1985). When opening the mouth, the articular head comes into contact with the posterior edge of the meniscus and jumps to the central position of its concave zone, as a result of which a clicking sound is heard. When moving backwards, the condyle jumps over the posterior edge of the meniscus again, causing a joint sound. It is noted that in the clinical course of the disease, a clicking sound during mouth opening develops later than during closing. Characteristic of the TMJ painful dysfunction is the deviation of the lower jaw to the side during the opening of the mouth, the so-called S-shaped movements. VM Banukh (1986) proposes to distinguish two clinical forms of the disease: latent and active. The latter form is characterized by pain and acoustic symptoms (noise, crack, click).

Treatment of the TMJ painful dysfunction is complex.

First of all, take measures to normalize the occlusion of the teeth. OI Mirza (1993) recommends the use of selective grinding of teeth to remove certain areas of the occlusal surface of the teeth that prevent multiple contacts of the teeth. When carrying out this method of occlusal correction, the basics of biomechanics of the masticatory apparatus are taken into account. To avoid excessive grinding of the teeth, it is advisable to first make a grinding plan, then grind the teeth on the model and decide whether it is possible to eliminate sepercontacts by grinding or other methods of occlusal correction are needed. The nature of occlusal contacts is checked with wax occludograms and carbon paper.

• *Algorithms for the formation of the professional abilities.*

1. To master the examination methods in patient with facial pain syndromes, trigeminal neuritis .
2. Learn to identify the characteristic clinical symptoms of the trigeminal neuralgia and neuritis , painful dysfunction of the TMJ.
3. Learn to differentiate neuralgia and neuritis of the trigeminal nerve .
4. To make the plan of complex treatment of patients with a neuralgia and a neuritis of a trigeminal nerve.
5. Explain and be able to perform alveolotomy surgery.
6. Explain and be able to perform an autopsy of a periodontal abscess.
7. Explain and be able to perform various techniques of suturing.
8. Explain and be able to perform various localplastic techniques.

• *Practical tasks (typical, atypical, unpredictable situations).*

Individual task

Task №1.

A 42-year-old patient apply the dentist with complaints of intense cutting paroxysmal pain with a feeling of electric shock in the upper lip on the right. Pain attacks occur spontaneously and last 3-5 minutes. Number of attacks - 2-3 times a day. The patient cannot determine the causes of the disease. Examination of the oral cavity revealed no pathological changes. Sanitized. The control orthopantomography revealed an overcomplete impacted 13 tooth. What is the most likely diagnosis?

- A. Peripheral neuralgia of the second branch of the trigeminal nerve
- B. Pterygopalatine ganglionitis
- C. Neuritis of the second branch of the trigeminal nerve
- D. Neuralgia of the second branch of the trigeminal nerve of central origin
- E. Pulpitis of the tooth on the upper right jaw

Task №2.

A 42-year-old patient complains of the pain in the right half of the head, restriction of lower jaw movements, clicking, periodic spasm of the masticatory muscles. Objective: the face is symmetrical, the opening of the mouth is limited. On palpation in the right TMJ, crepitation and crunch are noted during movements of the lower jaw. Examination of the oral cavity revealed a defect in the dentition on the right of class II according to Kennedy. What is the most likely diagnosis?

- A. Pain dysfunction of the right TMJ
- B. Acute arthritis of the right TMJ
- C. Sclerosing osteoarthritis of the right TMJ
- D. Contracture of the right TMJ
- E. Ossifying myositis

Tasks for the independent work and work in small groups (interactive teaching methods).

Patient M., 48 years old, was diagnosed with the trigeminal nerve second branch neuralgia of the peripheral origin. Make a treatment plan.

Final stage (30 min)

Summing up of the lesson.

Materials of methodological support of the final stage of the lesson:

- *Brain storm.*

Students demonstrate an exhaustive description of the unusual clinical situation and offer to offer the most rational diagnostic methods. After recording all the proposed diagnostic methods during the discussion, students choose the most rational.

- *Tasks for the self-employment*

Fill in the medical documentation, make a plan of the patient examination with the appropriate clinical situation, make a plan of postoperative care of the patient

Evaluation.

Evaluation of the discipline

Current control

Control measures in the study of the discipline "Surgical Dentistry" include current control, final control - semester test credit.

At the start of a new course an initial test is conducted in order to check students' knowledge in disciplines making up the course. The initial test is conducted during first class using the tasks corresponding to the syllabus of previous discipline. Test results are analyzed during department (inter-department) meetings and sessions of methodological committees with participation of academic staff who teach the discipline. Initial test results are used for development of student individual assistance means and academic process correction.

Current control is carried out at each practical lesson in accordance with the specific objectives of each topic. Current control is carried out on the basis of a comprehensive assessment of student activities, including control of the input level of knowledge, the quality of practical work, the level of theoretical training, independent work according to the thematic plan and the results of initial control of knowledge.

Current evaluation is conducted on the basis of comprehensive evaluation of student's activities, including assessment of initial level of knowledge, quality of practical work done, level of theoretical training and final level of knowledge. Forms of routine assessment – tests tasks, situational problems, recitation, structured written task and practical skills assessment under conditions approximating real. Forms of assessment of current learning activities are standardized and meet the standards of answers.

Evaluation of current educational activities. During the evaluation of the mastering of each topic for the current educational activity of the student, marks are set on a 4-point scale (national). This takes into account all types of work provided by the curriculum of discipline. The student must receive a mark from each topic for further conversion of marks into points on a multi-point (200-point) scale.

Evaluation of current student performance is carried out at each practical lesson and is recorded in the journal of academic performance.

Students' knowledge is evaluated from both theoretical and practical training according to the criteria given in the table.

Code of the result of education	Code of the type of the lesson	Method of verifying of learning outcomes	Enrollment criteria
<p><i>Kn1, Kn2, Skl1, Skl2, Com1, Com2, Aut1, Aut2, Aut3</i></p> <p><i>PRE1, PRE 2, PRE 3, PRE 4, PRE 5, PRE 6, PRE 7, PRE 8, PRE 9, PRE 11, PRE 12, PRE 14, PRE 15, PRE 16, PRE 17, PRE 18, PRE 21, PRE 22, PRE 23</i></p>	<p><i>IX semester: P1-P14 SIW1- SIW 15</i></p> <p><i>X semester: P1-P22 SIW1- SIW 14</i></p>	<p>package of test tasks,</p> <p>open questions,</p> <p>situational tasks,</p> <p>practical skills</p>	<p>- "excellent" – a student has perfectly mastered the theoretical material, demonstrates profound and comprehensive knowledge of a relevant topic or discipline as well as the main ideas of scientific sources and recommended literature; thinks logically and gives a logically built answer; freely uses theoretical knowledge gained during analysis of practical material; expresses attitude towards various problems; demonstrates a high level of practical skills;</p> <p>- "good" – a student has mastered theoretical material well, is aware of the main theoretical principles discussed in scientific sources and recommended literature and is capable of substantiating them; has practical skills and expresses opinion on this or that issue yet may be inaccurate and erroneous when presenting theoretical material or analyzing the practical material;</p> <p>- "satisfactory" – a student has generally mastered theoretical material on the topic or discipline, is aware of the scientific sources and recommended literature, yet is uncertain when answering and additional questions cause him/her to give an unclear answer or no answer at all; when answering practical questions a student demonstrate inaccuracies, is not capable of evaluating facts and phenomena and linking them to future activities;</p>

			<p>- "unsatisfactory" – a student has not mastered the material of the topic (discipline); has no knowledge of scientific facts and definition; is hardly aware of the scientific sources and recommended literature; he/she lacks academic thinking, practical skills have not been formed.</p> <p>The evaluation criteria by type of control are given below</p>
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Criteria for evaluating the test task

"Excellent" - the student solved 95-100% of the proposed set of test tasks;

"Good" - the student solved 80-94% of the proposed set of test tasks;

"Satisfactory" - the student solved 60.5-79% of the proposed set of test tasks;

"Unsatisfactory" - the student solved less than 60.5% of the proposed set of test tasks.

Criteria for evaluating the package of open questions

The task includes 5 open questions on the topic of practical lesson. The cost of each question is 1 point, or 20%. The results of the answers are summarized and rated on a five-point scale: 5 "excellent" - 4.5-5 points; 4 "good" - 3.5-4 points; 3 "satisfactory" - 3 points; 2 "unsatisfactory" - 2 or less points.

Each of the questions is evaluated according to the following criteria:

1 point - the student perfectly mastered the theoretical material of the topic of the lesson; independently, competently and consistently with exhaustive completeness answered questions; demonstrates deep and comprehensive knowledge, logically builds the answer, expresses his attitude to certain problems; is able to establish causal relationships, logically and reasonably draw conclusions; unmistakably answers questions using materials submitted for independent work.

0.75 points - the student has mastered the theoretical material of the topic of the lesson, teaches it; reveals the main content of educational material, gives incomplete definitions, allows minor violations in the sequence of presentation of material and inaccuracies in the use of scientific terms, vaguely formulates conclusions, expresses its views on certain issues, but assumes certain errors in the logic of theoretical content.

0.5 points - the student has mainly mastered the theoretical material of the lesson, fragmentarily reveals the content of educational material, shows the initial idea of the subject of study, when reproducing the basic educational material makes significant mistakes, gives simple examples, unconvincing answers, confuses concepts.

0 points - the student has not mastered the educational material of the topic, does not know the basic concepts; gives the wrong answer to the questions.

Criteria for assessing the situational tasks

"Excellent" - the student has deeply mastered the theoretical material of the lesson, is able to connect theory with practice, which allows him to solve situational tasks of increased complexity.

"Good" - the student has firmly mastered the theoretical material of the topic of the lesson, correctly applies theoretical knowledge in solving situational problems of medium difficulty.

"Satisfactory" - the student has mastered only the basic material without details, solves only the easiest tasks, assumes inaccuracies, chooses insufficiently clear wording, violates the sequence in the presentation of the answer.

"Unsatisfactory" - the student does not know much of the theoretical material of the topic of the lesson, makes mistakes, does not solve the situational task.

Criteria for evaluation of the practical skills

"Excellent" - the student has full practical skills, is able to connect theory with practice.

"Good" - the student partially has a practical skill, correctly applies the theoretical provisions in solving practical problems.

"Satisfactory" - the student has only a mandatory minimum of practical tasks, familiar with the technique of performing.

"Unsatisfactory" - the student does not have practical skills.

When using different methods of verifying learning outcomes, their scores are summed to the arithmetic mean.

Evaluation of the students' independent work

The material for independent work of students, which is foreseen in the topic of practical lessons at the same time as classroom work, is evaluated during the current control of the topic of the relevant lesson. Evaluation of topics that are submitted for independent work and are not included in the topics of practical lessons, are controlled during the final control.

In the process of control measures the teacher evaluates:

- the level of assimilation by the student of the educational material submitted for independent processing;
- ability to use theoretical knowledge in performing practical tasks;
- validity and logic of presentation of independently studied material;
- completeness of disclosure of the research topic;
- registration of materials according to the requirements.

Marks on the performance or non-performance of various types of independent work of students are placed in the teacher's Journal of attendance and performance the of students.

Possible forms of independent work of students, forms of control and reporting

Types and forms of independent work of students	Forms of conduction, control and reporting
<i>1. Preparation for current practical lessons</i>	
1.1. Study of required and additional literature, texts of the lectures etc.	1.1. Active participation in various types of practical lessons and lectures
1.2. Performing of hometasks	1.2. Checking the correctness of the tasks
1.3. Preparation for practical lessons	1.3. Active participation in practical lessons
1.4. Preparation for control works and to another forms of current control	1.4. Writing of control worl etc.
<i>2. Research-analytic work</i>	
2.1. Search (selection) and review of literature sources on a given issue	2.1. Consideration of prepared materials during practical lessons
2.2. Writing of the referate on a given issue	2.2. Discussion (defense) of the materials of the referate during practical lessons or checking of the work by the teacher
2.3. Analytical review of a scientific publication	2.3. Discussion of the results of the work done during practical lessons
2.4. Analysis of a specific clinical situation	2.4. Examination of patients, acquaintance with results of examination, filling in of the documentation
2.5. Workshop on the educational discipline using software	2.5. Checking the correctness of performing of the tasks
<i>3. Scientific work</i>	
3.1. Participation in scientific student conferences and seminars	3.1. Approbation of research results at scientific student conferences and seminars
3.2. Preparation of scientific publications	3.2. Discussion with the teacher of the prepared materials, submission to the press the results of scientific researches
3.3. Execution of tasks within the research projects of the department (faculty)	3.3. Use of research results in the SRW report, preparation of work for the competition of student research papers

Final control

Final control - semester test credit - is a form of final control, which consists in assessing the student's mastery of educational material solely on the basis of the results of his performance of certain types of work on practical lessons. It is conducted in accordance with the curriculum within the timeframe set by the schedule of the educational process and in the amount of educational material determined by the curriculum of the discipline.

Semester test credit of the discipline is conducted after the end of its study, before the examination session.

To the final control are admitted the students who have attended all practical lessons foreseen by the curriculum in the discipline and scored at least the minimum number of points for the current evaluation. For students who have missed 3 or more practical lessons, these lessons can be repassed with the permission of the dean's office to eliminate

<p>academic debt by a certain deadline within the semester. Final controls are held by lecturers who had practical classes in the academic group. Students are admitted to the semester final control if they perform all types of assignments foreseen by syllabus and curriculum. Evaluation of the student's work during semester must be recorded (in academic journal, grade report sheet, student credit book). Tests and individual assignments performed by students during the term are kept at the department for a year.</p>		
General system of evaluation	<p>Participation in the work during the semester - 100% on a 200-point scale</p>	
Scales of evaluation	<p>traditional 4-point scale, multi-point (200-point) scale, ECTS rating scale</p>	
Conditions of admission to the final control	<p>The student attended all practical lessons, met the requirements of the curriculum and received at least 120 points for current evaluation.</p>	
Type of the final control	Method of performing of final control	Enrollment criteria
Semester test credit	<p>Assessment of the discipline is based solely on the results of current educational activities and is expressed on a two-point national scale: "credited" or "not credited". All topics submitted for current control must be included. Marks from the 4-point scale are converted into points on a multi-point (200-point) scale in accordance with the Regulation "Criteria, rules and procedures for evaluating the results of students' learning activities."</p>	<p><i>Maximum number of points</i> is 200 points. <i>Minimum number of points</i> is 120 points. To be enrolled, a student must receive at least 60% of the maximum amount of points of the discipline (120 points) for the current educational activity. Points of the discipline are ranked on the ECTS scale.</p>
<p>Calculation of the number of points is conducted on the basis of grades under traditional grade scale received by the student during the term by determining arithmetic average (AA) rounded off to the nearest hundred. The resulting value is then converted into points according to the multipoint grade scale using the following procedure:</p> $x = \frac{AA \times 200}{5}$		