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

METHODICAL GIDE

(for the self-study work)

from surgical dentistry

Second level of higher education (Master's Degree)
Sphere of Knowledge 22 «Healthcare»
Specialty 221 «Dentistry»
Faculty, Year: Dentistry, III

Content module 1: Propedeutics of Surgical Dentistry

Lviv – 2019

Recommended by the by the profile methodical commission for dentistry

(Protocol No. __ of _____201_)

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INTRODUCTION

Curriculum for Surgical Dentistry
(in accordance with the Standard of Higher Education for the second level of higher education (Master's Degree)
Sphere of Knowledge 22 "Healthcare"
Specialty 221 "Dentistry"
Master's Degree Program in Dentistry

Description of the discipline (abstract). The discipline involves the study of surgical dentistry in its main sections: "Propedeutics of surgical dentistry and MFD", "Inflammatory diseases of MFA", "Oncology of MFA", "Traumatology of MFA", "Reconstructive-Restorative Surgery of MFA", with emphasis on the study of etiology, pathogenesis, clinics, diagnostics, emergency treatment and prophylaxis of the main and most widespread diseases of MFA.

The main focus of the program is on the formation and development of students' skills in collecting anamnesis, conducting the examination and differential diagnosis of diseases of the MFA with a variety of clinical course and their complications. In the course of this program, modern approaches to the diagnosis are taught in practice, the principles of treatment and prophylaxis are studied on the basis of evidence-based medicine. Furthermore, students are introduced to the range of urgent states in practical surgical dentistry. Students are also involved into the diagnostic and treatment process of in- and out- patients under the guidance of assistants and associate professors of the department. Students also look into a wide scope of therapeutic and prophylactic measures, which are most often applied in dental surgical practice.

The study of surgical dentistry in theory and practice, contributes to the formation of a holistic view of the structure and functioning of organs of MFA, deepening of theoretical and practical training, acquisition of professional practical skills for further independent medical activity.

Structure of the discipline	**Number of credits, hours,including**				**Year of study/ semester**	**Test type**
	Total	**In class**		**Self-study**		
		Lecturesh ours	Ptactical hours			
Name of the discipline: Surgical Dentistry **Number of content modules: 2**	**7 credits / 210 h**	**20**	**120**	**70**	**III year (V, VI semester)**	**credit**
Per semester						
Content module 1	**3,2 credits / 96 h**	**8**	**53**	**35**	**V semester**	**credit**
Content module 2	**3,8 credits / 114 h**	**12**	**67**	**35**	**VI semester**	**credit**

The subject of the study of the discipline is the pathological processes of MFA, which relate to the sphere of competence of surgical dentistry and maxillofacial surgery, their clinical course, the main diagnostic and therapeutic manipulations used in the practice of a surgical dentist.

Interdisciplinary connections: therapeutic dentistry, paediatric dentistry, orthopedic stomatology, normal anatomy, histology, normal physiology, pathologic physiology, topographical anatomy and operative surgery, microbiology, biochemistry, pharmacology, internal diseases, endocrinology, skin and venereal, nervous diseases, otorhinolaryngology, ophthalmology, medicine of extreme conditions.

1. Purpose and tasks of the discipline

1.1. 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.

1.2. The main tasks of the study 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:

Explain and interpret the principles of deontology and medical ethics in surgical dentistry and MFD, the method of examination of MFD patients, involvement of adjacent specialists in the examination.

Analyze the indications and contraindications, especially the application of the basic methods of general and local anesthesia, sedation in the practice of a surgical dentist.

Make a plan and conduct a patient's examination with MFA pathology, refer to an additional research (if needed) and be able to interpret their results, plan for comprehensive examination and treatment of AIDS patients.

Collect anamnesis and examination results of the patient with the specified MFA pathology, fill in the relevant medical documentation; carry out cardiopulmonary resuscitation.

Collect the material for additional research (microbiological, cytological, histological); preventive measures and emergency care.

Assign an individual scheme of premedication, depending on the psycho-somatic state of the patient, the nature and extent of surgical intervention, medical therapy in the postoperative period, to provide appropriate recommendations.

Demonstrate the techniques of preoperative preparation of the surgeon's hands by modern techniques, the technique of antiseptic treatment of the surgical site, techniques of local anesthesia on the upper and lower jaws; operations for the removal of individual groups of teeth on the upper and lower jaw, pericoronarectomy, atypical tooth extraction

Lecture lessons schedule

V semester

№	Topic	Hours
1.	The history of the surgical dentistry and maxillofacial surgery department in the Danylo Halytsky Lviv National Medical University. Examination and diagnostic methods in oral and maxillofacial surgery.	2
2.	Anaesthesia in oral surgery: classification, indications, complications. General anaesthesia. Sedation methods. Neuroleptanalgesia (NLA). Local anaesthesia methods in maxillofacial surgery.	2
3.	Tooth extraction: instruments, indication and contraindications for teeth extraction, treatment planning, tooth extraction technique. Atypical (surgery) extraction. Extraction of impacted and unerupted teeth. Complications of tooth extraction.	2
4.	General and local complications in Oral and maxillofacial surgery. Cardiopulmonary resuscitation.	2
Total:		**8**

Practical lessons schedule

V semester

№	Topic	Hours
1.	**Topic №1.** Organization of dental surgery care. The structure of oral and maxillofacial surgery department. Maxillofacial examination methods. Registration of medical documentation.	3,5
2.	**Topic №2.** Principles of asepsis in oral surgery. Oral resistance factors. Prevention of socially significant infections (AIDS, tuberculosis, hepatitis, syphilis).	3,5
3.	**Topic №3.** Pain, its components, pathways of pain. Classification of anesthesia methods, indications and contraindications. General anesthesia. Sedation.	3,5
4.	**Topic №4.** Local anesthetics, their properties, side effects. Classification. Indications and contraindications for local anesthesia. Methods of topical and infiltrative anesthesias.	3,5
5.	**Topic №5.** Peripheral conductive mandible anesthesia: torusal, mandibular. Indications, methods. Local complications, treatment and prevention.	3,5
6.	**Topic №6.** Peripheral conductive mandible anesthesia: mental, buccal and lingual. Indications, methods. Local complications, treatment and prevention.	3,5
7.	**Topic №7.** Peripheral conductive maxilla anesthesia: tuberal, infraorbital. Indications, methods. Local complications, treatment and prevention.	3,5
8.	**Topic №8.** Peripheral conductive maxilla anesthesia: nasopalatal (incisal), palatal. Indications, methods. Local complications, treatment and prevention.	3,5

9.	**Topic №9.** Central conductive anesthesia methods of jaws and adjacent tissues. Local complications, treatment and prevention.	3,5
10.	**Topic №10.** General complications of local anesthesia, treatment and prevention. Cardiopulmonary resuscitation.	3,5
11.	**Topic №11.** Indications and contraindications of tooth extraction. Instruments. Preoperative management of patients. Patients with concomitant pathology preparation for teeth extraction.	3,5
12.	**Topic №12.** Maxillary teeth extraction methods. Stages of the procedure.	3,5
13.	**Topic №13.** Mandible teeth extraction methods. Stages of the procedure.	3,5
14.	**Topic №14** Complications of tooth extraction: clinical sings, diagnosis, treatment and prevention.	3,5
15.	**Topic №15.** Impacted and unerupted teeth. Classification of Impacted teeth. Indications and contraindications for Impacted teeth extraction. Surgery and perioperative care. Complications of Impaction surgery. **Summary lesson.**	4
Total:		53

6. Self-study work schedule

V semester

№	Topic	Hours	Type of Control
1.	Organization of dental surgery clinic.	3	Current control at practical classes
2.	Principles of asepsis in surgical dentistry.	4	Current control at practical classes
3.	Modern injection equipments in dentistry.	4	Current control at practical classes
4.	The peculiarities of local anaesthesia in patients with somatic diseases.	4	Current control at practical classes
5.	Intensive therapy, cardiopulmonary resuscitation in patient in oral Surgery.	4	Current control at practical classes
6.	Tooth extraction in patient's with cardiac diseases, blood system diseases and diabetes.	4	Current control at practical classes
7.	X-Ray Examination Methods in patients with dental diseases.	4	Current control at practical classes
8.	Equipments and instruments for atypical (surgical, open) teeth extraction.	4	Current control at practical classes
9.	Complex treatment of tooth retention.	4	Current control at practical classes
Total hours: 35			

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and Maxillofacial Surgery

Head of the Department:
professor Ya. E. Vares

METHODICAL GIUDE FOR PRACTICAL LESSONS

Educational discipline	SURGICAL DENTISTRY
Topic of the lesson	**Topic №1.** Organizing of the surgical dentistry office in the outpatient clinic
Course	3rd
Faculty	Dental

Lviv – 2019

1.RELEVANCE OF THE TOPIC.

The differentiation of maxillofacial area diseases, which are within the competence of surgical dentistry, according to the level of complexity made it possible to create a layered structure for the provision of surgical dental care to the population of Ukraine. This structure is similar to other fields of medicine, including specialities in the surgical profile. It is well known and statistically proven that the overwhelming majority of patients encounters to a dental surgeon may be satisfied in the office of the surgical dentistry. Patient's immediate encounter to the department of surgical dentistry of the district (regional) dental clinic or regional hospital will overload these units and distract the doctors from those patients who actually need clinical help or inpatient treatment. Therefore, the organizing and operating of surgical dentistry offices in outpatient clinics is reasonable and necessary.

2. LEARNING OBJECTIVES:

- *Professional competence:*

  1. Collection of medical information on the patient's condition.
  2. Evaluation of the results of laboratory and instrumental research.
  3. Establishment of a clinical diagnosis of dental disease.
  4. Planning and conducting preventive measures for dental diseases.
  5. Execution of medical and dental manipulations.
  6. Organization and conducting of dental medical examination of persons subject to dispensary supervision.
  7. Assessment of the environmental impact on the health of the population (individual, family, population).
  8. Maintaining medical records.
  9. Processing of state, social and medical information.

- *General competence:*

  1. The ability to 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 in the use of information and communication technologies.
  6. Ability to search, process and analyse information from various sources.
  7. Ability to adapt and act in a new situation; ability to work autonomously.
  8. Ability to identify, put and solve 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. SPECIFIC OBJECTIVES:

1. To analyse the statistics of the prevalence surgical dental diseases and the frequency of patients visits to the outpatient surgical dentistry offices.
2. To get familiar with the structure of providing surgical dental care to the population.
3. To get acquainted with the necessary surgical dentistry office equipment.
4. To analyse the sanitary-hygienic standards concerning the surgery room organizing.
5. Be able to form a plan for the q organizing.

4. BASIC KNOWLEDGE, SKILLS, SKILLS REQUIRED FOR STUDY OF THE SUBJECT (INTERDISCIPLINARY INTEGRATION).

Subject	Skills learned
1. General hygiene	General requirements and standards regarding dental offices organizing and equipment of various profiles, including surgery
2. Therapeutic dentistry	Principles and norms of a dental treatment room of organizing in an outpatient clinic
3. Orthopaedic dentistry	Principles and norms of the dental orthopaedic office organizing in an outpatient clinic

5. TASKS FOR INDIVIDUAL WORK DURING THE PREPARATION FOR THE LESSON:

5.1. Theoretical questions to the lesson:

1. Structure of dental surgical care provision to the population.
2. Features of the organizational structure of the inpatient and outpatient phases.
3. Principles of organizing and equipment of the outpatient surgical dentistry office.
4. Sanitary and hygienic standards for the dental surgical outpatient office.

5.2. Practical work (tasks) performed in class:

1. To form the scheme of the dental surgical outpatient office organizing.

6. TABLE OF CONTENTS:

Surgical dental services

Types of surgical dental services: outpatient and inpatient (urgent and elective). Peculiarities of assistance in emergency situations.

Arrangement of work and equipment of surgical department (office) in dental clinic, maxillo-facial department of the hospital, operating and dressing rooms.

Special equipment, devices and instruments to examine patients and perform dental procedures.

In outpatient offices, where the department of surgical dentistry is organized, there should be at least five premises:

- waiting room for patients at the rate of 1.2 m2 per patient, but not less than 6 m2 with the total area;

- preoperative not less than 10 m2 with the total area;

- operating room with one dental chair not less than 23 m2, and at installation of each subsequent chair (table) 10 m2 should be added;

- sterilization not less than 8 m2;

- room for temporary stay of patients after operations at the rate of 2 couches per chair, but not less than 12 m2.

Asepsis and antisepsis during surgery on the face and in the mouth. Preparation for oral surgery. Processing of surgical field.

Sterilization of instruments, dressing and suture materials (silk, catgut, synthetic thread). Preparing of surgeon's hands.

Peculiarities of services for outpatients and inpatients with inflammatory diseases, injuries and after planned surgical interventions in the maxillo-facial area, their nutrition.

Medical documentation in the surgical department (office) of dental clinic and maxillo-facial department of a hospital. Performance measure of dental surgeon.

Indications for hospitalization of patients with disorders of the maxillo-facial area, peculiarities of their examination and rehabilitation.

Hospital-acquired infection in dental clinic and maxillo-facial hospital, ways of transmission. Protection of patients and medical staff from hospital infections, viral hepatitis, HIV, and others.

Examination of surgical dental patient

Peculiarities of examination of patients with diseases of dento-facial system, injuries, inflammation, benign, malignant tumours and mass, congenital and acquired defects, deformities of maxillo-facial area.

The value of personal contact of doctor with patient. Emotional factors associated with facial diseases, injuries and defects and applied treatment. Deontology and medical ethics in dental and maxillo-facial surgery.

Collecting subjective data from the patient:

Present complaints.

Medical history: the disease and its dynamics, previous treatment.

Past history: hereditary diseases, Anamnesis Morbi and comorbidity, bad habits - drugs, alcohol, smoking; heredity, allergological anamnesis.

Physical examination: general condition, consciousness. Examination of organs and systems at the hospital.

Examination of the maxillo-facial area. Inspection of face. Palpation. Examination of organs and soft tissues of the mouth, dental examination. General clinical, laboratory and special techniques. Examination of functions of motor and sensory nerves. Examination of salivary glands and their ducts, temporomandibular joint, lymph system of face and neck. Establishing the nature and size of defects and deformities of facial and mouth tissues, condition of adjacent tissues. Assessment of the extent of anatomical, functional and aesthetic defects.

Objective examination methods with modern diagnostic equipment. Rentgenologic: X-ray, tomography, panoramic radiography and pantomography. Application of artificial contrast. Computed tomography and magnetic resonance imaging, radioisotope and ultrasound diagnostics, distant and contact thermography. Morphological methods: cytology of prints, scrapes, puncture material; histological examination of biopsy material. Methods of functional diagnostics: rheo-, polaro- and electromyography, electroodontodiagnosis. The use of computers in diagnosis: X-ray interpretation, operation planning, health outcomes.

Range of examination of patients with disorders of the maxillo-facial area during treatment in outpatient and inpatient departments, participation of allied professionals in examination.

7. MATERIALS FOR SELF-CONTROL:

1. A regional dentist applied for permission to open a private dental office for two general dental units. The area where the dentist plans to receive patients is 26 m^2. What area should appartment have for two general dental units?

A. 14 m^2 per unit and 10 m^2 extra.
B. 10 m^2 per unit and 10 m^2 extra.
C. 10 m^2 per unit and 7 m^2 extra.
D. 7 m^2 per unit and 7 m^2 extra.
E. 20 m^2 per unit and 12 m^2 extra.

2. During repairing the dental office it was decided to illuminate it with fluorescent lamps. What should be the level of illumination?
A. 500 lux.
B. 400 lux.
C. 300 lux.
D. 200 lux.
E. 100 lux.

3. What should be the area of the surgical dental office per one chair (operating table)?
A. 23 m^2.
B. 17 m^2
C. 20 m^2.
D. 13 m^2
E. 30 m^2

4. What height from the floor to walls should be in the surgical dental office?
A. 1.8 m
B. 1.7 m.
C. 2.0 m.
D. 1.3 m
E. 1.0 m.

5. What should be the minimum ceiling height in a surgical dental office?
A. Not less than 3.0 m.
B. Not less than 2.7 m.
C. Not less than 2.0 m.
D. Not less than 2.3 m.
E. Not less than 2.5 m.

Literature:

Basic:

1. Oral and Maxillofacial Surgery: Textbook, Part 1, 2 / V.O. Malanchuk. – Vinnytsia: Nova Knyha Publishers, 2011. – 453p.
2. Principles of Dental Local Anaesthesia and Teeth Removal / Ya. E. Vares, R. Z. Ogonovsky, Ch. R. Pohranychna – LNMU, 2007. – 63p.
3. Atlas of Human Anatomy / F. Netter – 2nd ed. – New Jersey: ICON Learning Systems. – 592 p.

Additional:

1. Contemporary Oral and Maxillofacial Surgery / L. J. Peterson, E. Ellis, J. R. Hupp, M.R. Tucker – 3rd ed. – St. Louis: Mosby – Year Book, Inc. – 1998. – 1477 p.

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METHODICAL GIUDE FOR PRACTICAL LESSONS

Educational discipline	SURGICAL DENTISTRY
Topic of the lesson	**Topic №2.** Aseptic and antiseptic in dental surgery
Course	3rd
Faculty	Dental

Lviv – 2019

1. RELEVANCE OF THE TOPIC.

The discovery of the antiseptic method by D. Lister in 1867 made the revolution in surgery, which allowed to distinguish two stages of development - pre-antiseptic and antiseptic. Today, ignorance of the rules of antiseptic is incompatible not only with the surgical specialty, but also with medical science in general. It remains one of the most essential problems of modern medicine.

Antiseptic is the only treatment-and-prophylactic set of measures aimed at reducing the number of germs in the wound, reducing their viability, the risk of penetration into the surrounding tissues and other environments of the body, as well as reducing intoxication, increasing the immunobiological activity of the patient's body, its reactivity.

Along with antiseptic, aseptic method in surgery is the most important method of combating nosocomial infection and prevention of postoperative purulent complications. Introduced in 1890 by E. Bergman and greatly improved over the next century, asepsis in combination with antiseptic drugs made it possible to reduce frequency of the incidence of postoperative purulent complications in surgery by several dozen times, and at the same time significantly reduce postoperative mortality. All this undoubtedly points to the high relevance of this topic, not only for future surgeons, but also for those students who plan to become specialists in other medical specialities, because aseptic is necessary not only for operations, but also for performing such commonly used manipulations as subcutaneous and prenatal injections, venipunctures, etc.

2. LEARNING OBJECTIVES:

- *Professional competence:*

1. Collection of medical information on the patient's condition.
2. Evaluation of the results of laboratory and instrumental research.
3. Establishment of a clinical diagnosis of dental disease.
4. Planning and conducting preventive measures for dental diseases.
5. Execution of medical and dental manipulations.
6. Organization and conducting of dental medical examination of persons subject to dispensary supervision.
7. Assessment of the environmental impact on the health of the population (individual, family, population).
8. Maintaining medical records.
9. Processing of state, social and medical information.

- *General competence:*

1. The ability to 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 in the use of information and communication technologies.
6. Ability to search, process and analyse information from various sources.
7. Ability to adapt and act in a new situation; ability to work autonomously.
8. Ability to identify, put and solve 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. SPECIFIC OBJECTIVES:

1. To organize the provision of prevention of wound infection during surgery and research.
2. To apply all types of antiseptic in order to destroy germs in wounds, tissues, cavities, etc.
3. To demonstrate the usage of different types of antiseptic in practice.

4. To demonstrate the usage of chemical antiseptics in the form of solutions, ointments and powders.
5. To demonstrate the usage of halogens and halogen-containing agents for the treatment of the operating field and hands.
6. To demonstrate methods for treating purulent wounds or burn surfaces with chlorine-containing antiseptics.
7. To be able to demonstrate the usage of oxidizers (hydrogen peroxide) for irrigation deep wounds and cavities with pus or detritus.
8. To organize the work and ensure the maintenance of sanitary and hygiene regime in the operating room, its cleaning.
9. To demonstrate the technique of operating underwear dressing.
10. To demonstrate on the phantom the preparation of the operative field (the skin of the patient and the sanitation of the oral cavity) for the operation, choosing the necessary means for this purpose.
11. To prepare surgical underwear and dressing material for sterilization.
12. To demonstrate methods of suture material sterilization.
13. To prepare surgical instruments for sterilization.
14. To carry out tests for quality of pre-sterilization processing of tools.
15. To demonstrate the technique of making napkins, tampons, medical balls for the care of surgical patients and the rules for their disposal after use.
16. To demonstrate the technique for the disposal of dressing material contaminated with purulent discharge in purulent dressing-room.

4. BASIC KNOWLEDGE, SKILLS, SKILLS REQUIRED FOR STUDY OF THE SUBJECT (INTERDISCIPLINARY INTEGRATION).

Subject	Skills learned
1. Microbiology	To know pathogens and be able to prepare agents with bactericidal and bacteriostatic action. To be able to apply appropriate hygiene measures depending on the identified pathogen.
2. Inorganic chemistry, physics	To know the effect of chemical antiseptics on human tissues and organs. To be able to prepare working solutions independently.
3. Bioorganic chemistry	To be able to use a variety of antiseptics in accordance with instructions
4. Normal anatomy	To know the structure and function of systems and organs. To reproduce the structure of human biological barriers on macropreparations.
5. Normal physiology	To know the function of organs and tissues under the influence of surgical trauma. To be able to detect violations of the functions of organs and systems.
6. General hygiene	To know the hygiene regime in the operating unit. To be able to evaluate the hygiene regime in the operating unit.
7. Pharmacology	To know the pharmacological characteristics of antiseptic agents. To be able to write prescriptions for the manufacturing of antiseptic.

8. Specialties of surgical profile	To know how to scrub-up hands and the operating field. To be able to scrub-up hands and operating the field, wear a sterile operating gown and gloves.

5. TASKS FOR INDIVIDUAL WORK DURING THE PREPARATION FOR THE LESSON.

5.1. Theoretical questions to the lesson:

1. Antiseptic is one of the components of a single aseptic method.
2. Modern antiseptic.
3. D. Lister's primary antiseptic.
4. Types of modern antiseptic.
5. Biocompatibility and direction of modern antiseptic.
6. The concept of "clinical antiseptic".
7. The value of halides and halogen-containing drugs in modern medicine.
8. The usage of oxidants, dyes, alcohols in modern surgery.
9. Antiseptic agents of nitrofuran group.
10. Possible contraindications and complications from the use of drugs related to chemical antiseptic.
11. Definition of asepsis, methods.
12. Aseptic as a major factor in the prevention of nosocomial infection.
13. Method of dressing sterile operating gowns.
14. Types of surgical instruments, classification, ways of application, sterilization.
15. Ways to prevent the development of implantation infection.
16. Ways to sterilize dressing and underwear.
17. Autoclave structure and sterilization rules.
18. Occupational safety with chemical and physical disinfection.

5.2. Practical work (tasks) performed in class:

1. To learn the basic rules of organization of operation of an operating and sanitary-hygienic schedule in pure and purulent dressing-rooms.
2. To master the technique of scrubbing hand by the method of Alfeld, Bruno, Furbringer, Spasokukotsky-Kochergin, modern methods of scrubbing.
3. To control the sterility of the hands after their scrubbing.

6. TABLE OF CONTENTS:

Aseptic is a set of measures aimed at preventing the invasion of microorganisms in the wound, organs and tissues of the patient in the course of any medical manipulation. Aseptic in surgical dentistry includes:

- preparation of an office;
- special scrubbing of the surgeon's hands;
- disinfection of the operative field; sterilization of dental instruments; sterilization of dressing material and underwear; sterilization of suture material; sterilization of tissues and substances that are inserted into the tissues of the patient;
- adherence to special methods during therapeutic manipulations in surgical dentistry, which prevent airborne pathway of infection transmission;
- organization of work of personnel on implementation of special hygienic and organizational measures in the surgical room.

Aseptic consists of: disinfection and sterilization.

Disinfection is a set of techniques and methods aimed at the complete, partial or selective destruction of potentially pathogenic microorganisms on objects the environment in order to break

the transmission pathways of infectious diseases from sources of infection to susceptible people. The requirement of disinfection of all objects is dictated by the possibility of transmitting infections to patients in a hidden form in the absence of information about such features in their state of health and lifestyle.
Sterilization is the process of complete destruction of microorganisms, including their spore forms, using chemical and physical methods of exposure.
Tests for checking the quality of tools disinfection:
Benzidine test. The reagent is prepared immediately before use. A few crystals of benzidine are placed in a clean dry beaker, then 1 ml of glacial acetic acid (or 2 ml of 50% acetic acid solution) and 2 ml of 3% hydrogen peroxide solution are poured. The reagent was pipetted onto the glass syringes to be tested; the solution is injected into the needle channel with a syringe. If there is blood remaining on the instruments, the reagent is colored in bright green. Late color change after 2 minutes or more is not counted.
Orthotolidine test. Take 5-10 ml of 4% solution of acetic acid and the same amount of distilled water. Apply 2-3 drops of this mixture and 1-2 drops of 20% hydrogen peroxide solution on the tool. In the presence of blood remaining, a bright green color is observed.
Phenolphthalein test. Used to detect residual detergents. Wash the tools with a 1% solution of phenolphthalein - the remnants of detergents give a pink color. If residual blood or detergent is detected using the above samples, the treatment of the instruments is repeated and then the control reactions are repeated.

Antiseptic is a complex of measures aimed at combating infection in the wound.
Methods:
- Mechanical (primary surgical treatment of the wound, excision of the edges and bottom of the wound, removal of non-viable tissues, removal of foreign bodies, washing of the wound with antiseptic solutions, etc.);
- for purulent wounds, in addition, conducting a wide opening of the wound for drainage of stitches;
- physical (external drainage of the infected wound through drainage, as well as drying of the wound and conducting thermal and light procedures);
- chemical (destruction of microbial flora by various chemical compounds. These include inorganic compounds - halides (iodine, lugol, iodine, iodonate), oxidizers (hydrogen peroxide, potassium permanganate), inorganic acids and alkalis, salts or alkalis, salts or alkalis. alcohols, aldehydes, phenols, nitrofurans, dyes, organic acids;
- biological methods (antibiotics).

Preparation of a sterile table.
The operating nurse scrubs her hands through one of the accepted ways and goes to the operating room where she opens a sterile linen box from which she removes her robe, turns it around and puts it on. The younger nurse ties the waistbands and straps behind. Sisters put on gloves on their own and always wipe them with 96% alcohol to remove talc residue.
A special tool table is covered with a sterile oilcloth, then folded in half with a sterile sheet. On the lower half of the sheet such tools are put, suture material, napkins, tampons, then the upper edge cover the entire set of material and tools. In urgent operating rooms large table is covered, from which tools and materials are replenished on portable tables for each operation. Unused long-standing tools are re-sterilized.

7. MATERIALS FOR SELF-CONTROL:

1. A doctor who provided dental care to a patient infected with HIV infection accidentally got a mixture of fluid from the patient's mouth to his eye. What are the doctor's primary actions?
A. Wash the eye with 2% boric acid solution.
B. Wash the eye with plenty of water.
C. Wash the eye with a weak solution of alkali.

D. Wash eye with isotonic solution.
E. Bury the eye with a 1% solution of atropine.

2. The patient, 34 years old, was diagnosed with acute purulent odontogenic periostitis of the upper jaw to the left of 24 teeth. Surgery performed - opening of abscess. The wound was washed with 0.06% solution of chlorhexidine bigluconate and rubber graduate was left in it. What types of antiseptics were used to this patient?
A. Physical and chemical.
B. Physical.
C. Biological and chemical.
D. Physical and biochemical.
E. Chemical and biological.

3. What sample is used to detect blood residues on instruments after their pre-sterilization cleaning?
A. Azopiram test.
B. Phenolphthalein test.
C. The chlorhexidine sample.
D. Methylene blue sample.
E. Phenyl acetate sample.

4. Dental surgeon before the surgery washed his hands for a minute under running water with soap. Then, for 3 minutes each, he washed his hands with napkins one after another in two basins with 0.5% ammonia solution, then dried them with a sterile cloth and treated with 96% alcohol solution for 3 minutes. What method of hand treatment did the doctor use?
A. Spasokukotsky-Kochergin.
W. Furbringer.
S. Bruno.
D. Alfred.
E. Zabludsky.

5. The Surgical Department of the City Dental Polyclinic was visited the sanitary and epidemiological service in order to control the sanitary conditions. What is the criteria for assessing the sanitary status of a sterilization room in clinic?
A. Bacteriological control.
B. Sterilization room accounting records.
C. Sterilization room visual control records.
D. Determination of the concentration of disinfectant solutions.
E. All the answers are correct.

Literature:

Basic:

1. Oral and Maxillofacial Surgery: Textbook, Part 1, 2 / V.O. Malanchuk. – Vinnytsia: Nova Knyha Publishers, 2011. – 453p.
2. Principles of Dental Local Anaesthesia and Teeth Removal / Ya. E. Vares, R. Z. Ogonovsky, Ch. R. Pohranychna – LNMU, 2007. – 63p.
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Ministry of Health of Ukraine

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Head of the Department:
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METHODICAL GIUDE FOR PRACTICAL LESSONS

Educational discipline	SURGICAL DENTISTRY
Topic of the lesson	**Topic №3.** Modern syringes and injection systems in dentistry
Course	3rd
Faculty	Dental

Lviv – 2019

1.RELEVANCE OF THE TOPIC.

Most of dental interventions, especially in the practice of the dental surgeon, are accompanied by painful sensations of varying intensity, so anaesthesia during their conduct is one of the main stages of surgical manipulation. However, sometimes local anaesthesia can cause local and general disorders. According to the professional literature, in recent years there has been an increase in the number of urgent conditions associated with conducting of local disorders in general and in the clinic of surgical dentistry.

Most researchers see the cause of this situation in violation of the immunological state and reactivity of the organism, the increase of allergy, which is caused by urbanization processes, the active use of household chemicals, the use of nuclear energy sources, defective and unbalanced nutrition, low cultural level of population, widespread and unjustified use of antibiotics, corticosteroids, cytostatics and immunosuppressants, which are noted in all economically developed countries. In addition, the mass type of specialized outpatient care, which is often provided on the background of concomitant pathology, fear of dental interventions conducted during the period of maximum emotional stress, the potential danger of anesthetizing drugs contributes to the rapid development of patient's life-threatening complications.

2. LEARNING OBJECTIVES:

- *Professional competence:*
  1. Collection of medical information on the patient's condition.
  2. Evaluation of the results of laboratory and instrumental research.
  3. Establishment of a clinical diagnosis of dental disease.
  4. Planning and conducting of preventive measures for dental diseases.
  5. Execution of medical and dental manipulations.
  6. Organization and conducting of dental medical examination of persons subject to dispensary supervision.
  7. Assessment of the environmental impact on the health of the population (individual, family, population).
  8. Maintaining medical records.
  9. Processing of state, social and medical information.
- *General competence:*
  1. The ability to 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 non-verbally; ability to communicate in a second language.
  5. Skills in the usage of information and communication technologies.
  6. Ability to search, process and analyze information from various sources.
  7. Ability to adapt and act in a new situation; ability to work autonomously.
  8. Ability to identify, put and solve 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. SPECIFIC OBJECTIVES:

1. To know methods of local anaesthesia during operations in the maxillofacial area.
2. Know the basic physicochemical properties of anesthetics and vasoconstrictor drugs used with anesthetics.

3. Be able to prepare the patient for local anaesthesia.
4. Estimate the general condition of patients, identify the risk group for local anaesthesia.

4. BASIC KNOWLEDGE, SKILLS, SKILLS REQUIRED FOR STUDY OF THE SUBJECT (INTERDISCIPLINARY INTEGRATION).

Subject	Skills learned	Be able to make
1. Anatomy.	To know the anatomical and physiological features of the maxillofacial area.	Be able to explain the structure of the organs and systems of the maxillofacial area.
2. Histology.	Know the physiological features of the central and peripheral nervous system; structure and function of cranial nerves.	Be able to explain the features of the central and peripheral nervous system; structure and function of cranial nerves.
3. Topographic anatomy.	Know the topography of the maxillofacial organs. Know the topography of the bones of the base of the skull, facial skeleton, cranial nerves.	Be able to explain the topography of the maxillofacial organs. Be able to explain the topography of the bones of the base of the skull, facial skeleton, cranial nerves.
4. Pharmacology.	To know the pharmacological features of drugs that affect the central and peripheral parts of the physiology of the nervous system: anaesthetics, agents for local potentiated anaesthesia, narcotic and non-narcotic analgesics, neuroleptics, tranquilizers, sedatives and hypnotics. Know the pharmacological features of emergency medications.	Be able to characterize the preparations of different pharmacological groups: anaesthetics, narcotic and non-narcotic analgesics, neuroleptics, tranquilizers, sedatives and hypnotics; disinfectant, aseptic and antiseptic agents. Be able to characterize the drugs used to provide first aid.
5. Urgent conditions. Internal diseases	Know the etiology and pathogenesis of fainting, collapse, anaphylactic shock, acute intoxication, etc., Complications of injection pain, principles of resuscitation, and emergency care.	Be able to provide immediate assistance in fainting, collapse, anaphylactic shock, acute intoxication and other conditions that threaten the patient's life.
6. Microbiology. Virology	To know the species identification of oral microorganisms; concepts of conditionally-pathogenic and pathogenic microorganisms and their role. Know the possible ways of transmitting the infection.	Be able to characterize the features of the oral microflora. Explain possible ways of transmission of infection. Be able to explain the essence of bacteriological research.

5. TASKS FOR INDIVIDUAL WORK DURING THE PREPARATION FOR THE LESSON.

5.1. Theoretical questions to the lesson:

1. Classification of local anaesthesia.
2. Advantages and disadvantages of local and local-potentional anaesthesia.
3. The latest technologies of local anaesthesia - The Wand plus and Quick sleeper.
4. Pharmacological drugs used for local and local-potentional anaesthesia. Their features.
5. Features of local anaesthesia on the upper and lower jaw.
6. Complications of anaesthesia.
7. Causes of complications during anaesthesia.

5.2. Practical work (tasks) performed in class:

1. Use phantom techniques to perform upper and lower jaw anaesthesia using The Wand plus and Quick sleeper.
2. Be able to determine, with anatomical guidance, the injection site and the location of the target anaesthesia.
3. Make a probable diagnosis of complications of local anaesthesia, make differential diagnosis, choose appropriate treatment tactics, provide emergency medical care.

6. TABLE OF CONTENTS:

Block (regional) anaesthesia is performed to prevent pain during tooth, root and neoplasm extraction, during major alveolar process operations, when treating for diffuse pyoinflammatory processes, jaw fractures, when, in the course of applying infiltration anaesthesia, there is a risk of infection spreading to the surrounding tissues and when infiltration anaesthesia proves ineffective. Applying of this kind of anaesthesia means blocking the nerve, supply to a part of the body, outlying the part being operated. Today, such method of anaesthesia is performed by specific instruments and solutions.

Applying block anaesthesia involves using certain anatomic landmarks to deposit anaesthetics to block the nerve trunk. During maxillofacial operations aesthetic is deposited to the nerve where it passes or exits a bone channel. It can be done either from the mouth cavity (oral anaesthesia) or through the skin (extra oral anaesthesia).

The inferior alveolar nerve block

The inferior alveolar nerve block, commonly (but inaccurately) referred to as the mandibular nerve block is one of the most frequently used and quite possibly the most important injection technique in dentistry. Another common name is mandibular block. It is an especially useful technique for low quadrant dentistry.

Nerves anesthetized:

1. Inferior alveolar, a branch of the posterior division of the mandibular
2. Lingual (quite commonly)
3. Incisive
4. Mental

Areas anesthetized Mandibular teeth to the midline Body of the mandible, inferior portion of the ramus, mucosa, half of the inferior lip, tip of the tongue.

Mental nerve block

The mental nerve is a terminal branch of the inferior alveolar nerve. Exciting the mental foramen at or near the apices of the mandibular premolars, it provides sensory innervation to the buccal soft tissues lying anterior to the foramen and the soft tissues of the lower lip and chin on the side of injection. For most dental procedures there is very little indication for use of the mental nerve block indeed of the techniques described in this section. The mental nerve block is the least frequently

used, it is used primarily for buccal soft tissue procedures, such as suturing of lacerations or biopsies. Its success rate approaches 100% because of the ease of accessibility to the nerve.

Areas anesthetized are buccal mucous membranes anterior to the mental foramen (around the second premolar) to the midline and skin of the lower lip and chin.

Indication

When buccal soft tissue anaesthesia is required for procedures in the mandible anterior to the mental foramen such as

Soft tissue biopsies

Suturing of soft tissues

Contraindication: Infection or acute inflammation in the area of injection.

Infraorbital nerve block

Block of superior anterior alveolar nerves (infraorbital anaesthesia). Used in operative interferences on the front and lateral region of the maxilla, extraction of upper incisors, canines and bicuspids, and in operations on the lower eyelid, cheek, nose and upper lip. Anaesthesia near the infraorbital foramen is executed by two methods - intra- and extraoral

Nasopalatine nerve block

A nasopalatine nerve goes out in the front area of the hard palate through the incisival channel. The incisival foramen is located on the middle line of the palate between central incisors, in 7-8 **мм** from an gingival edge. Anteriad from the infraorbital foramen the mucousa of the hard palate forms a incisival papilla which serves as a mark for incisival anaesthesia. There are two way of nasopalative anaesthesia - intraoral and extraoral (intranasal).

Greater Palatine Nerve Block

The greater palatine nerve block is quite useful during dental procedures involving the palatal soft tissues distal to the canine. Minimum volumes of solution (0.3 to 0.6 ml) provide profound hard and soft tissue anaesthesia. Although potentially traumatic, the greater palatine nerve block is less than nasopalatine nerve block because the tissues surrounding the greater palatine foramen are better able to accommodate the volume of solution deposited.

Posterior Superior Alveolar Nerve Block (tuberosital)

Destination point - tuber maxillae, where posterior superior alveolar branches go into maxilla, and supply posterior part of alveolar process. Used to anesthetize the pulpal tissue, corresponding alveolar bone, and buccal gingival tissue to the maxillary 1^{st}, 2^{nd}, and 3^{rd} molars.

7. MATERIALS FOR SELF-CONTROL:

1. Anaesthesia with the use of which system in dentistry allows to carry out effective anaesthesia of hard tissues and mucous membrane in the area from 2 to 10 teeth with one injection and duration of analgesic effect from 40 to 80 minutes?
A. Quick Sleeper
B. The Wand plus
C. Single syringe system
D. Quick Sleeper and The Wand plus

2. The intensity of the control Flo anaesthetic solution is:
A. Controlled flow is below the patient's pain threshold
B. Rapid feed - used for infiltration and mandibular anaesthesia
C. Double Speed Rapid Flo - used after numbness in the area of anaesthetic administration

3. What are the benefits of using The Wand?
A. A smaller amount of anaesthetic is used to reduce toxicity
B. Specially designed needle for intraligamentary anaesthesia
C. Computerized dosage of anaesthetic
D. Rapid onset of anaesthesia
E. All answers are correct

4. The application of which anaesthesia system is not accompanied by numbness of the lips and tongue, which eliminates uncomfortable sensations both during treatment and after its completion.
A. Quick Sleeper
B. The Wand plus
C. Single syringe system
D. Quick Sleeper and The Wand plus

Literature:

Basic:
1. Oral and Maxillofacial Surgery: Textbook, Part 1, 2 / V.O. Malanchuk. – Vinnytsia: Nova Knyha Publishers, 2011. – 453p.
2. Principles of Dental Local Anaesthesia and Teeth Removal / Ya. E. Vares, R. Z. Ogonovsky, Ch. R. Pohranychna – LNMU, 2007. – 63p.
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METHODICAL GIUDE FOR PRACTICAL LESSONS

Educational discipline	SURGICAL DENTISTRY
Topic of the lesson	**Topic №4.** Specifics of local anaesthesia in patients with concomitant pathology.
Course	3rd
Faculty	Dental

Lviv – 2019

1.RELEVANCE OF THE TOPIC.

In dental practice, the question of conducting local indisposition in patients with concomitant pathology remains relevant. According to statistics, at least 30% of such patients receive dental care. Local anxiety in patients in this group may affect their overall condition. In addition, the maxillofacial area is a powerful reflexogenic zone and requires adequate anaesthesia, which is not always achieved. Therefore, patients are afraid of dental intervention, which increases the sensitivity to pain. Changes occur in the nervous and hypothalamic-pituitary-adrenal systems, manifested by adverse reactions.

Dental interventions occur in many patients during the period of maximum emotional stress, causing a decrease in the threshold of perception of irritation, and, of course, raising to a pathological level of stress response of the body.

The potential danger of anaesthetics, as well as the rapid development of complications that are life-threatening to patients, should not be forgotten. The presence of concomitant pathology, increased anxiety and fear of treatment can lead to the development of various complications, both during local discomfort and in the distant period. All these patients are at risk. Performing local sensitization should be done with caution, a conscious choice of locally anaesthetics should be made to prevent unwanted complications.

2. LEARNING OBJECTIVES:

- *Professional competence:*
  1. Collection of medical information on the patient's condition.
  2. Evaluation of the results of laboratory and instrumental research.
  3. Establishment of a clinical diagnosis of dental disease.
  4. Planning and conducting preventive measures for dental diseases.
  5. Execution of medical and dental manipulations.
  6. Organization and conducting of dental medical examination of persons subject to dispensary supervision.
  7. Assessment of the environmental impact on the health of the population (individual, family, population).
  8. Maintaining medical records.
  9. Processing of state, social and medical information.
- *General competence:*
  1. The ability to 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 in the use of information and communication technologies.
  6. Ability to search, process and analyze information from various sources.
  7. Ability to adapt and act in a new situation; ability to work autonomously.
  8. Ability to identify, put and solve 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. SPECIFIC OBJECTIVES:

3.1. Know the clinical and pharmacological characteristics of local anaesthetics.

3.2. Know the indications and contraindications to the use of local anaesthetics in the presence of concomitant pathology.
3.3. Analyse the pharmacokinetic and pharmacodynamic characteristics of drugs used to treat concomitant pathology.
3.4. Learn how to predict and prevent complications when using local anaesthetics.

4. BASIC KNOWLEDGE, SKILLS, SKILLS REQUIRED FOR STUDY OF THE SUBJECT (INTERDISCIPLINARY INTEGRATION).

Subject	Skills learned
1. Latin language.	Correct spelling of medicines in Latin according to grammar rules.
2. Normal anatomy.	Features of the structure of the organism and its individual organs and systems.
3. Topographic anatomy.	Principles of the location of organs and systems of the body.
4. Propedeutics of internal diseases.	Conduct general examination of the patient. Develop a plan for comprehensive examination of patients with concomitant pathology.
5. Pathological physiology.	To apply knowledge on pathogenesis of general somatic diseases.
6. Pharmacology.	The mechanism of action of the anaesthetic substance used and its effect on the body.

5. TASKS FOR INDIVIDUAL WORK DURING THE PREPARATION FOR THE LESSON.
5.1. Theoretical questions to the lesson:
1. Classification of types of local anaesthesia.
2. Anatomical and topographical evidence of local indigenous species, technique of their implementation.
3. Mechanisms of action and pharmacodynamic effects of local anaesthetics.
4. Indications and contraindications to the local anaesthesia for patients with concomitant pathology.
5. Clinical interpretation and diagnostic significance of the results of laboratory tests.
6. Possible complications, their prevention, diagnosis and treatment.

5.2. Practical work (tasks) performed in class:
1. Prepare a medical history and conduct a clinical examination.
2. To choose the necessary type of pain relief and local anaesthetic for patients with concomitant pathology.
3. To diagnose possible complications of local anaesthesia.
4. To provide emergency medical care to patients with concomitant pathology in case of complications of local anaesthesia.

6. TABLE OF CONTENTS:
Medical emergencies require prompt assessment and action. There may not be time for a detailed assessment but it is possible to buy time by using a basic protocol that simultaneously assesses and

supports vital functions. Fortunately, serious medical emergencies in dental practice are not common, but that means that they are all the more likely to be alarming when they do occur. The ability to stay calm and manage the situation successfully depends on prior planning and rehearsal for such an event.

There are essential drugs and items of equipment that every dental practitioner should have available for use in an emergency. Some of these are based on providing simple and uncomplicated treatments while others necessitate providing early definitive treatment. Acute asthma and anaphylaxis are two examples of emergencies where simple first aid measures are inadequate and definitive treatment should be started by the dentist while waiting for the ambulance service to transfer the patient to an accident and emergency (A&E) department. This essential treatment is described as *first-line treatment* in the following protocols. Some drugs are available in preloaded syringes for fast preparation.

Syncope

Signs and symptoms: may be preceded by nausea and closing in of visual fields; pallor and sweating; heart rate below60 beats/min (bradycardia) during attack. First line treatment including:

- Lay flat
- Give oxygen
- Expect prompt recovery.

Hyperventilation

- Signs and symptoms: light-headed; tingling in the extremities; muscle spa cm may lead to characteristic finger position (carpo-pedal spasm).

Postural hypotension

Signs and symptoms: light-headed; dizzy; loss of consciousness on returning to upright or standing position from supine position.

Treatment:

- Lay the patient flat and give oxygen
- Sit the patient up very slowly.

Diabetic emergencies: hypoglycaemia

Signs and symptoms: shaking and trembling; sweating; hunger; headache and confusion.

- If the patient is conscious, give three sugar lumps or glucose and a little water or glucose oral gel; repeated if necessary in 10 minutes

Cause: usually known diabetic; the patient may have taken medication as normal but not eaten before a dental visit.

Grand mal epileptic seizure

Signs and symptoms: a sudden loss of consciousness associated with *tonic phase* in which there is sustained muscular contraction affecting all muscles, including respiratory and mastication; breathing may cease and the patient becomes cyanosed; the tongue may be bitten and incontinence occur; after about 30 seconds, a *clonic phase* supervenes, with violent jerking movements of the limbs and trunk.

Acute asthma

Signs and symptoms: persistent shortness of breath poorly relieved by bronchodilators; restlessness and exhaustion; tachycardia greater than 110 beats/min and low peak expiratory flow; respirations may be so shallow in severe cases that wheezing is absent.

Anaphylactic shock

Signs and symptoms:
- Paresthesia, flushing and swelling of face, especially eyelids and lips
- Generalized urticaria, especially the hands and feet
- Wheezing and difficulty in breathing
- Rapid weak pulse.

Stroke

Stroke results from either cerebral haemorrhage or cerebral ischaemia. Signs and symptoms
- Confusion followed by signs and symptoms of focal brain damage
- Hemiplegia or quadriplegia
- Sensory loss
- Dysphasia
- Locked-in syndrome (aware, but unable to respond).

Angina pectoris and myocardial infarction

Angina results from a reduced coronary artery lumen diameter because of atheromatous plaques
Myocardial infarction is usually the result of thrombosis in the coronary artery.
Signs and symptoms:
- Sudden onset of severe crushing pain across the front of the chest, which may radiate towards the shoulder and down the left arm or into the neck and jaw; pain from angina usually radiates down the left arm
- Skin pale and clammy
- Shallow respirations
- Nausea
- Weak pulse and hypotension
- If the pain is not relieved by glyceryl trinitrate (GTN), then the cause is myocardial infarction rather than angina.

Cardiac arrest

Most cardiac arrests result from arrhythmias associated with acute myocardial infarction or chronic ischaemic heart disease.

The heart arrests in one of three rhythms
- VF (ventricular fibrillation) or pulseless VT (ventricular tachycardia)
- asystole
- PEA (pulseless electrical activity) or EMU (declromechanical dissociation).

7. MATERIALS FOR SELF-CONTROL:

1. Identify the drug used in classical neuroleptanalgesia:
A. Aminazine with droperidol.
B. Fentanyl with droperidol.
C. Omnopon with aminosine.
D. Diazepam with Pipolphene.
E. Sodium thiopental with suprastin.

2. The following drugs contribute to the improvement of peripheral blood circulation:
A. Use of sympathomimetics (ephedrine, mesaton, adrenaline).
B. Use of cardiac glycosides and analgesics.
C. Infusion of high molecular weight dextran (polyglucine).
D. Dextran infusion (reopolyglucine, rheumac) and hemodilution.

E. Hemotransfusion.

3. Patient N., 62 years old, suffering from hypertension of the second degree, the removal of 14 teeth due to acute odontogenic osteomyelitis is prescribed. Which anaesthetic is most appropriate for this patient?
A. Xylocaine.
B. Mepivacaine.
C. Xylodont.
D. Ubestesin Fort.
E. Xylonor.

4. To relieve angina it is necessary to appoint:
A. Validol, corvalol, valocordin.
B. Storophanthin, Corglycone.
C. Anaprilin, phentolamine, tropafen.
D. Furosemide, mannitol.
E. Diprophilin, euphilin.

5. In case of heart failure, it is necessary to appoint:
A. Furosemide, mannitol.
B. Storophanthin, Corglycone.
C. Validol, corvalol, valocordin.
D. Diprophilin, euphilin.
E. Tavegil, diazolin.

6. In case of bronchospasm it is necessary to appoint:
A. Stroophanthin, Corglycone.
B. Validol, corvalol, valocordin.
C. Tavegil, diazolin.
D. Diprophilin, euphilin.
E. Furosemide, mannitol.

7. Respiratory analeptics act on:
A. Suppress CNS function, excite respiratory and vascular centers.
B. Stimulate CNS function, inhibit respiratory and vascular centers.
C. Stimulate CNS function, excite respiratory and vascular centers.
D. Suppress CNS function, inhibit respiratory and vascular centers.
E. Stimulate CNS function, stimulate respiratory and suppress vascular centers

8. Patient, 25 years old, at the 22nd week of pregnancy should remove 38 tooth. Which anaesthetic is appropriate given pregnancy?
A. Ultracaine.
B. Priloocaine.
C. Bupivacaine.
D. Novocaine.
E. Xylonor.

9. The patient needs to have 36 teeth removed, suffered a myocardial infarction a year ago, has angina pectoris. Choose a method of indulgence.
A. Application anaesthesia.
B. General anaesthesia.
C. Infiltration anaesthesia.
D. Conductive anaesthesia.

E. Conductive potentiation anaesthesia.

10. Patient M., 68, went to the dentist to remove the root of the 24 tooth. Suffers from coronary heart disease. As she climbed to the 4th floor and sat down in her chair, she began to complain of pain behind the sternum. Which of the following should be used to relieve angina pectoris?
A. Cordyamine, caffeine.
B). Strophanthin, corglucon.
C. Furosemide, mannitol.
D. Anaprilin, captopress.
E. Validol, nitroglycerin.

11. Patient M., 38., during the surgical rehabilitation of the oral cavity - multiple removal - there were phenomena of poisoning with a local anaesthetic. What are the main agents for the prevention of anaesthetic intoxication?
A. Do not exceed higher single dose anaesthetics.
B. Slowly inject the anaesthetic.
C. Avoid administration of anaesthetic to patients on an empty stomach.
D. Avoid the use of anaesthetics with a high content of vasoconstrictor drugs.
E. Use non-stop anaesthetics.

12. During admission to the dentist, a patient, 52 years old, suffering from hypertension, complained of headache. The patient had dizziness, nausea, aching pain behind the sternum, vision was deteriorated. The intensity of the headache was increasing and there was vomiting. Pulse 64 beats / min, rhythmic, intense, blood pressure 220/150 mm Hg Heart sounds are loud, systolic murmur over the top of the heart, accent of the 2nd tone over the aorta. Vesicular breathing. Determine the diagnosis in this case:
A. Hypertensive crisis.
B. Angina.
C. Myocardial infarction.
D. Hypertension 2 A Art.
E. Heart defect.

Literature:

Basic:

1. Oral and Maxillofacial Surgery: Textbook, Part 1, 2 / V.O. Malanchuk. – Vinnytsia: Nova Knyha Publishers, 2011. – 453p.
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METHODICAL GIUDE FOR PRACTICAL LESSONS

Educational discipline	SURGICAL DENTISTRY
Topic of the lesson	**Topic №5.** Intensive care, cardiopulmonary resuscitation in maxillofacial surgery.
Course	3rd
Faculty	Dental

Lviv – 2019

1. RELEVANCE OF THE TOPIC.

Human life is the highest value. All those involved in intensive care, cardiopulmonary resuscitation like no other, understand that every minute is important for life preservation. This is the quintessence of knowledge, skills and responsibilities of every qualified healthcare professional.
The life of the body is closely linked to metabolism, especially its oxide type. The supply of the necessary amount of oxygen to the tissues is mainly provided by two systems: the respiratory system and the cardiovascular system. Sudden cessation of their activity (or initially one of them) leads to disruption and cessation of metabolism of aerobic type and, ultimately, to the death of the body. Death is not a sudden process, but a gradual one, since the vital activity of the tissues after the cessation of cardiac activity and respiration persists for some time through the metabolism of anaerobic type. If after the cessation of metabolism of the oxide type, but with the vital activity of the tissues, it is possible to restore the function of the cardiovascular system and respiration, then it is possible to restore the functioning of the organism and cardiovascular resuscitation, intensive therapy becomes important. Therefore, the issue of intensive care and cardiopulmonary resuscitation is relevant in modern dental practice.

2. LEARNING OBJECTIVES:

- *Professional competence:*
  1. Collection of medical information on the patient's condition.
  2. Evaluation of the results of laboratory and instrumental research.
  3. Establishment of a clinical diagnosis of dental disease.
  4. Planning and conducting preventive measures for dental diseases.
  5. Execution of medical and dental manipulations.
  6. Organization and conducting of dental medical examination of persons subject to dispensary supervision.
  7. Assessment of the environmental impact on the health of the population (individual, family, population).
  8. Maintaining medical records.
  9. Processing of state, social and medical information.
- *General competence:*
  1. The ability to 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 in the use of information and communication technologies.
  6. Ability to search, process and analyze information from various sources.
  7. Ability to adapt and act in a new situation; ability to work autonomously.
  8. Ability to identify, put and solve 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. SPECIFIC OBJECTIVES:

3.1. Analyse statistics on survival rates of patients with cardiac arrest and breathing during resuscitation.
3.2. Explain the meanings of the letters A, B, C, D, E, F, G, H, I, which are used to characterize the resuscitation and control of the body systems (P. Safar).

3.3. To make an algorithm of actions of the doctor in a difficult situation.
3.4. Establish a diagnosis of clinical death.
3.5. Develop students' confidence in the effectiveness of managing the situation in case of resuscitation.
3.6. Perform the main stages of cardiopulmonary resuscitation (CPR).
3.7. Justify the choice of medicines needed to provide emergency care.

4. BASIC KNOWLEDGE, SKILLS, SKILLS REQUIRED FOR STUDY OF THE SUBJECT (INTERDISCIPLINARY INTEGRATION).

Subject	Skills learned
1. Normal anatomy.	Specifics of structure of cardiovascular and respiratory systems.
2. Topographic anatomy.	Principles of the location of organs and systems of the body.
3. Normal physiology.	Specifics of the circulatory system and breathing.
4. Pathological physiology.	Pathogenesis of brain cell hypoxia.
5. Pharmacology.	Select the necessary drug for first aid, determine the dose. Characterize drug groups.
6. Propedeutics of internal diseases.	General examination of the patient.

5. TASKS FOR INDIVIDUAL WORK DURING THE PREPARATION FOR THE LESSON.
5.1. Theoretical questions to the lesson:
1. Dying periods, signs and diagnosis.

2. Stages and phases of CPR (by P. Safar, 1997).

3. External heart massage.

4. Methods for ensuring of airway patency.

5. Basic provisions of artificial lung ventilation.

6. Cardiovascular reanimation complications.

5.2. Practical work (tasks) performed in class:
1. To evaluate and control the main signs of the patient's condition.

2. Draw up a plan for the stage of the CPR.

3. Conduct external heart massage.

4. Process triple reception of P. Safar.

5. Provide artificial ventilation of the lungs with exhaled air.

6. Demonstrate the technique and sequence of tracheotomy, conicotomy.

7. To choose medicines for cardiopulmonary resuscitation.

8. Fill in the medical history.

9. Differentially approach patients in a state of clinical death, depending on their age and conditions for resuscitation.

6. TABLE OF CONTENTS:

Early basic life support for cardiac arrest

The following instructions are based on the UK Resuscitation Council guidelines for basic life support. The essential features are remembered by ABC: airway, breathing and circulation.

Risks to the rescuer

- Before starting a resuscitation attempt, the rescuer must rapidly assess the risks: traffic, falling masonry, toxic fumes and other potential hazards relevant to the environment
- Mucous membrane exposure to hepatitis B virus (HBVJ and human immunodeficiency virus (HIV) is less of a risk than needle stick exposure, strongly suggesting that the chance of infection from mouth-to- mouth ventilation is negligible. However, the US Centers for Disease Control and Prevention advises universal precautions.

Basic life support

- Initial patient asses cment, airway maintenance, expired air ventilation and chest compression constitute basic life support (BLS) or cardiopulmonary resuscitation.
- BLS is a “holding operation” maintaining ventilation and circulation until treatment of the underlying cause can be instigated.
- BLS implies that no equipment is used. Where a simple airway or face mask is used, this is described as ‘basic life support with airway adjunct’.

Theory of chest compression

- The ‘thoracic pump’ theory proposes that chest compression, an increasing intrathoracic pressure, propels blood out of the thorax, forward flow occurring because veins at the thoracic inlet collapse while the arteries remain patent.
- Even when performed optimally, chest compressions do not achieve more than 30% of the normal cerebral perfusion.

Basic airway management

- Jaw thrust rather than chin lift is method of choice for the trauma victim.
- An oropharyngeal airway such as a Guedel or nasopharyngeal airway, may be used.
- A face mask used for ventilation allows oxygen enrichment. Sequence of actions

1. Ensure safety of rescuer and victim (referred to below as he, for simplicity).
2. Check whether casualty is responsive.
3. If he responds by answering or moving

- leave him in the position in which you find him (providing he is not in further danger), check his condition and get help if needed
- reassess him regularly. If he does *not* respond
- shout for help
- open the airway by tilting the head and lifting the chin.

4. Keeping the airway open; look, listen and feel for breathing.
5. If he is breathing

- turn him into the recovery position;
- check for continued breathing
- send someone for help.

If he is *not* breathing

- send someone for help or, if you are on your own, leave the victim and go or help

- turn victim unto his back
- remove visible obstruction from the victim's mouth
- give 2 breaths.

6. Assess the victim for signs of a circulation
- check the carotid pulse
- take no more than 10 seconds to do this.

7. If you are confident that you can detect signs of a circulation
- continue rescue breathing
- check circulation about every minute
- if the victim starts to breathe on his own but remains unconscious, turn him into the recovery position.

If (there are no signs of a circulation or you are at all unsure
- start chest compression
- combine rescue breathing and compression in the ratio of 2:15.

Continue until successful, help arrives, you become exhausted.

Going for assistance

- A lone rescuer will have to decide whether to start resuscitation or go for help first. If the cause of unconsciousness is likely to be trauma, drowning, or if the victim is an infant or a child, the rescuer should perform resuscitation for about 1 minute before going or help.
- If the victim is an adult and the cause of unconsciousness is not trauma or drowning, the rescuer should assume that the victim has a heart problem and go for help immediately it has been established that the victim is not breathing.
  - Transfer to A&E
  - Advanced life support.

Advanced life support for cardiac arrest, advanced airway management techniques and specific treatment of the underlying cause of cardiac arrest constitute advanced life support (ALS).

Advanced airway management

- A self-inflating bag and mask with attached oxygen permits ventilation with around 45 % oxygen. However, it is preferable also to use a reservoir as oxygen can then be provided at around 90% (Fig. 2.28).
- The laryngeal mask airways (LMA), which seals around the larynx, is becoming popular as it provides more effective ventilation with a bag- valve system than with a face mask.
- The 'gold standard' of airway management is endotracheal intubation as it protects against contamination by regurgitated gastric contents and blood, allows suctioning of the respiratory tract and drugs can be administered by this route. However, its use requires considerable training.
- A surgical airway intervention such as a needle cricothyroidotomy may be necessary if it is not possible to ventilate with bag-valve-mask or to intubate. This may be because of maxillofacial trauma or laryngeal obstruction.

High-pressure oxygen is given via a cannula inserted into the trachea, although this is only a temporary measure lasting about 40 minutes until a theatre is prepared for formal tracheostomy.

Specific treatment. Specific treatment algorithms (guidelines) are followed according to the electrocardiogram rhythm assessment and the clinical context. These are based on best scientific evidence.

Treatment is directed toward correcting underlying causes, use of specific drugs and defibrillation.

Defibrillation

- Defibrillation is indicated in ventricular fibrillation and pulseless ventricular tachycardia,

which arc the commonest arrhythmias causing cardiac arrest and the most treatable. However, the chances of successful defibrillation decline by about 5 % with each minute; therefore early management is vital.

- Defibrillation depolarizes most or all of the cardiac muscle simultaneously, allowing the natural pace-making tissues to resume control of the heart.
- All defibrillators have two features in common: a power source capable of providing direct current, and a capacitor, which can be charged to a predetermined level and subsequently discharged through two electrodes placed on the casualty's chest. Defibrillators may be manual (the operator interprets the rhythm and decides if a shock is necessary), semi-automatic (when the tasks of recognizing the arrhythmia and preparing for defibrillation are automated) or fully automatic.

Exodontia means extraction or removal of teeth. Exodondia is a procedure that incorporates the principles of surgery and many principles from phisics and mechanics. When these principles are applied correctly, a tooth must probably be removed intact from the alveolar process without untoward sequelae. This operation does not require a large amount of brute force and rather can be accomplished with finesse and controlled force in such a man ner that the tooth is not pulled from the bone but instead is lifted gently from the alveolar process.

During the preoperative period the degree of difficulty that is anticipated for removing a particular tooth is assessed. If the preoperative assessment leads the surgeon to believe that the degree of difficulty will be high and the initial attempts at tooth removal confirm this, a deliberate surgical approach should be taken. Excessive force may injure local tissues and destroy surrounding bone and teeth. Moreover, excessive force heightens the intraoperative discomfort and anxiety of the patient. The most efficient way to remove a tooth is slowly.

7. MATERIALS FOR SELF-CONTROL:

1. The optimal route of injection of adrenaline in CPR:
A. Intramuscular and intravenous.
B. Subcutaneous and intravenous.
C. Intravenous and intraosseous.
D. Intraosseous and intramuscular.
E. Intramuscular and intracardiac.

2. The duration of clinical death is determined by the lifetime of:
A. Myocardial cells.
B. Stem structures of the brain.
C. Brain cortex.
D. The hypothalamic-pituitary system.
E. Spinal cord.

3. The most informative ways for timely diagnosis of cardiac arrest are:
A. Miosis.
B. Absence of pulsations on the carotid arteries.
C. Cyanosis of the skin.
D. Absence of ripples on peripheral arteries.
E. Decrease in blood pressure.

4. Advantages of IVL by mouth-to-mouth method:
A. Ability to use in any case.
B. Nerve-reflex stimulation of the respiratory center.
C. Neuro-reflex stimulation of the cardiovascular center.
D. Provision of respiratory volume 2-3 times more than normal.

E. Impossibility of infection by resuscitator.

5. Recovery with complete recovery of CNS functions is possible with the duration of clinical death:
A. 3-4 min with hyperthermia.
B. 3-5 min with normothermia.
C. 6-8 min with normothermia.
D. 12-15 min with hyperthermia.
E. 8-10 min with normothermia.

6. During external heart massage, the resuscitator lays the base of the palm on:
A. The lower third of the sternum.
B. Upper third of the sternum.
C. The middle third of the sternum.
D. The top of the heart.
E. Section 2-4 ribs on the left.

7. Indirect cardiac massage for adults is processed with:
A. One finger.
B. With one hand.
C. With two fingers.
D. With two hands.
E. Separate blows.

8. Patient N., 32, was injured. There is no pulse in the carotid arteries and self-breathing, pupils dilated. How to get immediate help:
A. IVL by mouth-to-mouth method.
B. Indirect cardiac massage.
C. Carrying out defibrillation.
D. Triple Safari's intake.
E. Forward of the mandible.

9. The effectiveness of mechanical ventilation is controlled by:
A. Chest excursions.
B. Tachycardia.
C. Motor activity.
D. Consciousness.
E. Muscle tone.

10. While conducting CPR, you have paid attention to the inefficiency of mouth-to-mouth ventilation. What to do to improve the ventilation:
A. Lower the head of the victim and continue the ventilation.
B. Carry out the Safara triple method and continue IVL.
C. Call an assistant and continue the ventilation.
D. Carry out a precardial stroke and continue IVL.
E. Proceed with indirect massage and continue mechanical ventilation.

11. The diagnosis of clinical death should be no more than:
A. 8-10 seconds.
B. 8-10 minutes.
C. Not more than 5 minutes.
D. 10-15 minutes.
E. Not more than 20 minutes.

12. Name the stage I of cardiopulmonary resuscitation:
A. Stage of further life support.
B. Stage of long-life support.
C. Post-resuscitation disease.
D. Stage of elementary life support.
E. Stage of a lively organism.

13. During the indirect heart massage, you experienced a characteristic crunch, indicating a fractured rib. Your actions:
A. Continue CPR by placing your hands correctly on your sternum.
B. Stop resuscitation and make a pre-cardiac stroke.
C. Continue CPR by moving your hands to the intact ribs.
D. Determine biological death.
E. Do a direct heart massage.

14. Cardiovascular resuscitation is performed in the victim, 19 years old, with clinical death. Which of the following indicates the effectiveness of closed heart massage:
A. Passive movements of the chest.
B. Decrease in body temperature.
C. Lack of consciousness.
D. Ripple on carotid artery.
E. Pupil enlargement.

15. What actions includes a triple intake of Safara:
A. Bending of the head forward, opening the mouth, revision of the oral cavity.
B. Throwing the head, pushing the mandible forward, opening the mouth.
C. Opening of the mouth, revision of the mouth, introduction of the Safari tube.
D. Head deflection, oral audit, mechanical ventilation.
E. Provision of functional position, mechanical ventilation and indirect cardiac massage.

16. When performing resuscitation for 15 minutes, you have noted the narrowing of the pupils, the lesion of the skin, the absence of heart contractions and independent breathing. What are your next steps:
A. Stop resuscitation.
B. Continue resuscitation.
C. Stop mechanical ventilation, continue heart massage.
D. Discontinue resuscitation until pupil dilation.
E. Change mouth-to-mouth breathing by manual methods.

17. What is the ratio between the number of pressures on the chest and the number of breaths during artificial ventilation of the lungs during resuscitation?
A. 5 presses - 1 breath.
B. 10 presses - 1 breath.
C. 15 presses - 2 breaths.
D. 10 presses - 2 breaths.
E. 30 presses - 2 breaths.

18. The closed heart massage in adults is performed with the following frequency:

A. 60–80 jolts per minute.
B. 80–100 strokes per minute.
C. 100–120 strokes per minute.
D. 120–140 strokes per minute.
E. 140-160 jolts per minute.

Literature:

Basic:

1. Oral and Maxillofacial Surgery: Textbook, Part 1, 2 / V.O. Malanchuk. – Vinnytsia: Nova Knyha Publishers, 2011. – 453p.
2. Principles of Dental Local Anaesthesia and Teeth Removal / Ya. E. Vares, R. Z. Ogonovsky, Ch. R. Pohranychna – LNMU, 2007. – 63p.
3. Atlas of Human Anatomy / F. Netter – 2nd ed. – New Jersey: ICON Learning Systems. – 592 p.

Additional:

1. Contemporary Oral and Maxillofacial Surgery / L. J. Peterson, E. Ellis, J. R. Hupp, M.R. Tucker – 3rd ed. – St. Louis: Mosby – Year Book, Inc. – 1998. – 1477 p.

Ministry of Health of Ukraine

Danylo Halytsky Lviv National Medical University

"Approved"
on the meeting of the Department
of Surgical Dentistry
and Maxillofacial Surgery

Head of the Department:
professor Ya. E. Vares

METHODICAL GIUDE FOR PRACTICAL LESSONS

Educational discipline	SURGICAL DENTISTRY
Topic of the lesson	**Topic №6.** Tooth extraction for patients with diseases of the cardiovascular system, blood system, diabetes.
Course	3rd
Faculty	Dental

Lviv – 2019

1. RELEVANCE OF THE TOPIC.

Despite the continuous development of dentistry and the establishment of new therapies, in some cases, the preservation of the tooth becomes impossible and sometimes simply impractical. Tooth and root surgery are one of the most frequently performed surgeries (more than 90% of surgeries performed at the clinic are related to tooth extraction). However, like any other manipulation accompanied by impaired tissue integrity, tooth extraction can cause several complications that occur during and after surgery. These complications can be a consequence of disorders in the general state of the body - diseases of the cardiovascular system, blood system, diabetes.

Diabetes mellitus (about 3% of the globe population has diabetes), cardiovascular disease is part of the triad of diseases (along with cancer), which are the main causes of disability and mortality. Patients with blood diseases need special tactics from a dentist when performing professional activities.

Due to the high prevalence and increase in the number of patients with diseases of the cardiovascular system, blood system, diabetes, the dentist must clearly know how to perform tooth extraction in this group of patients, be able to prevent and treat complications.

2. LEARNING OBJECTIVES:

- *Professional competence:*
  1. Collection of medical information on the patient's condition.
  2. Evaluation of the results of laboratory and instrumental research.
  3. Establishment of a clinical diagnosis of dental disease.
  4. Planning and conducting preventive measures for dental diseases.
  5. Execution of medical and dental manipulations.
  6. Organization and conducting of dental medical examination of persons subject to dispensary supervision.
  7. Assessment of the environmental impact on the health of the population (individual, family, population).
  8. Maintaining medical records.
  9. Processing of state, social and medical information.
- *General competence:*
  1. The ability to 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 in the use of information and communication technologies.
  6. Ability to search, process and analyse information from various sources.
  7. Ability to adapt and act in a new situation; ability to work autonomously.
  8. Ability to identify, put and solve 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. SPECIFIC OBJECTIVES:

3.1. To analyse the influence of subjective and objective factors on the development of complications in patients with diseases of the cardiovascular system, blood system, diabetes.

3.2. Classify complications during and after tooth extraction.

3.3. To know the features of tooth extraction in patients with concomitant diseases that may exacerbate this pathology.

3.4. Be able to assist with the general complications of tooth extraction.

3.5. Be able to assign and decipher the results of additional research methods to prevent complications of tooth extraction surgery.

3.6. Perform phantom manipulations to assist with local complications after a tooth extraction operation.

3.7. Be able to diagnose and treat complications that occur during and after a tooth extraction surgery and take preventative measures to prevent the development of a complication.

4. BASIC KNOWLEDGE, SKILLS, SKILLS REQUIRED FOR STUDY OF THE SUBJECT (INTERDISCIPLINARY INTEGRATION).

Subject	Skills learned
1. Anatomy, histology, normal physiology.	Anatomical features of the structure and function of the maxillofacial area, cardiovascular system, blood system, endocrine system.
2. Histology.	Histological structure of the mucous membrane of the oral cavity.
3. Pharmacology.	To apply knowledge of pharmacodynamics and pharmacokinetics of medicines.
4. Propedeutics of internal diseases.	Collection of anamneses. Clinical examination of the patient. Registration of the medical history.
5. Internal Medicine.	Modern methods of diagnosis and treatment of diseases of the heart, blood vessels.
6. Endocrinology.	Etiology, pathogenesis, clinical picture of diabetes mellitus.
7. Hematology.	Structure, functions of blood and blood-forming system, diseases and methods of treatment.

5. TASKS FOR INDIVIDUAL WORK DURING THE PREPARATION FOR THE LESSON.

5.1. Theoretical questions to the lesson:

1. Anatomical and topographic structure of the maxillofacial area.

2. Know the indications and contraindications to the tooth removal surgery.

3. Anaesthetics used for local (infiltration and conduction) anaesthesia.

4. Instrumental, functional and laboratory methods of research of the cardiovascular system, endocrine system, blood system and interpretation of their results.

5. Risk factors and nature of diabetes mellitus.

6. Have knowledge of diseases of the cardiovascular system, blood system.

5.2. Practical work (tasks) performed in class:

1. To make anamnesis and plan of examination of patients with diseases of the cardiovascular system, blood system, diabetes.

2. Clinical evaluation of additional methods of examination and formulation of clinical diagnosis.

3. Prepare tools for the tooth extraction surgery.

4. To prescribe a complex of measures for treatment of complications during and after surgery of tooth extraction.

5. To provide first aid in case of complications arising in patients with diseases of the cardiovascular system, blood system, diabetes.

6. TABLE OF CONTENTS:

Tooth removal surgery, like any other manipulation that is accompanied by impaired tissue integrity, can cause several complications that occur during and after surgery. These complications can be a consequence of disorders in the general state of the body - diseases of the cardiovascular system, blood system, diabetes.

Common (temporary) relative contraindications for tooth extraction:

1) cardiovascular diseases (pre-infarction and 3-6 months after suffering myocardial infarction, hypertension in a period of crisis, coronary heart disease with frequent attacks of angina, paroxysmal atrial fibrillation, paroxysmal tachycardia, acute angioedema; acute);

2) acute diseases of parenchymatous organs - liver, kidney, pancreas (infectious hepatitis, glomerulonephritis, pancreatitis, etc.);

3) hemorrhagic diathesis (hemophilia, Verlhof disease, C-vitamin deficiency); diseases with hemorrhagic symptoms (acute leukemia, agranulocytosis).

4) acute infectious diseases (influenza, acute respiratory diseases, erysipelas, pneumonia);

5) diseases of the central nervous system (acute disorders of cerebral circulation, meningitis, encephalitis);

6) mental illness during exacerbation (schizophrenia, manic-depressive psychosis, epilepsy);

7) acute radiation sickness I-III stages;

8) pregnancy (1-2 and 8-9 months due to danger of miscarriage or premature birth).

After consultation with a specialist doctor and therapeutic preparation of the patient for tooth extraction (ie after removal of decompensation phenomena), it can be carried out in a hospital setting.

Treatment planning

The information from the history and examination is used to formulate the best plan for the patient. This will include measures for adequate preparation for the procedure and also the selection of anaesthesia: whether local anaesthesia, conscious sedation with local anaesthesia or general anaesthesia. Anticipated difficulties are better discussed with the patient before treatment rather than during treatment, when they may be perceived as excuses for inadequate planning or experience.

It is not usual to ask patients about to have extractions to stop taking drugs they are taking to reduce platelet activity such as aspirin. The incidence of abnormal bleeding in such individuals is low. Patients on warfarin therapy, however, require very careful management. It is now

recommended that provided the INR is 4.0 or less on the day of extraction, treatment may proceed but the sockets should be dressed with a resorbable haemostatic agent such as oxidized cellulose and sutured. Clinical trials have shown few serious bleeding complications with this approach. If bleeding continues despite reasonable attempts to stop it, or if it restarts within 3 days, bleeding and clotting function tests should be performed. These include the international normalized ratio (INR) (for the extrinsic part of the coagulation cascade), activated partial thromboplastin time (APTT) (for the intrinsic part) and a platelet count, which may be done as part of a full blood count that will also include hemoglobin estimation. Any further investigations that might be indicated as a result of these tests may be better performed in a hematology unit.

Patients with a known blood-clotting disorder will be under the care of the regional hemophilia centre. Such units are generally extremely helpful in preparation and after care of the patient for dental purposes, but they must be consulted early in the planning process. Patients may require both factor replacement and antifibrinolytic medication.

Prevention of complications should be a major goal of the surgeon. Skillful management of complications when they do occur is the *sine qua non* of the wise and mature surgeon.

The surgeon who anticipates a high probability of an unusual specific complication should inform the patient and explain the anticipated management and sequelae. Notation of this should be made in the informed consent that the patient signs.

General complications, which occur after tooth extraction: miocardial infarction; stroke; subcutaneous emphysema, in cheek, neck or chest; bruise of sclera; hysteria; traumatic delirium; hyperthermia; cavernous sinus thrombosis.

7. MATERIALS FOR SELF-CONTROL:

1. A man, 26, complains of thirst, increased urination, general weakness, weight loss. Objectively: dry skin, red cheeks, vesicular breathing. Heart sounds are audible. Tongue dry. There are no symptoms of peritoneal irritation. What is the most informative study to diagnose?

A. Blood test for glucose.

B. General blood test.

C. General analysis of urine.

D. Urine analysis according to Zymnitsky.

E. Blood test for liver samples.

2. The normal indicators of glucose in venous blood do not include:

A. 3.3 mmol / L.

B. 5.8 mmol / L.

C. 4.8 mmol / L.

D. 5.2 mmol / L.

E. 6.8 mmol / L.

3. Patient 64 years after strong emotional stress experienced strong pain behind the sternum, sharp weakness, nausea, shortness of breath, and anxiety. The clinic was diagnosed with acute myocardial infarction. What is the patient's main complaint?

A. Shortness of breath.

B. Nausea.

S. Pain for the sternum.

D. Weakness.

E. Feeling anxious.

4. What is the normal heart rate:

A. 40-60 in 1 minute

B. 60-80 in 1 min.

Pp. 90-120 min.

D. 120-240 in 1 minute

E. 30-40 in 1 minute

5. Regarding absolute contraindications to the operation of tooth extraction.

A. Glomerulonephritis, pancreatitis.

B. Myocardial infarction, first month.

C. Acute radiation sickness of I-III stage.

D. AIDS, hemorrhagic diathesis.

E. None of the answers is correct.

6. The patient, 20, went to the dentist-surgeon to remove the roots of 47 teeth. A concomitant disease is hemophilia. Under what conditions should tooth extraction be performed?

A. Preoperative training is required in the clinic

B. Conduct in-hospital interventions with pre- and postoperative training.

C. Postoperative treatment is not necessary.

D. Perform outpatient removal with further recommendations.

E. Perform removal under the supervision of a hematologist at the clinic.

7. A 66-year-old patient suffering from coronary artery disease and atherosclerosis during dental surgery experienced severe chest pain, irradiation to the left shoulder blade, followed by numbness of the left arm. Sick of ill, sweat on his forehead. AT - 140/90 mm Hg, heart rate 75 / min, rhythmic. The pain was not relieved by validol, but began to decrease after taking "nitroglycerin". The attack of what disease developed in the patient?

A. Angina.

B. Myocardial infarction.

C. Hypertensive crisis.

D. Tachycardia.

E. Paroxysmal tachycardia.

8. At the reception at the dentist-surgeon during the removal of the tooth in the patient began an attack of epilepsy. The attack was stopped. What mistake did the doctor make?

A. Did not apply one type of local anesthesia.

B. Violated the stages of tooth extraction.

C. I have not completely collected anamnesis.

D. Has not conducted psychological training of the patient.

E. Did not use general anesthesia.

Literature:

Basic:

1. Oral and Maxillofacial Surgery: Textbook, Part 1, 2 / V.O. Malanchuk. – Vinnytsia: Nova Knyha Publishers, 2011. – 453p.
2. Principles of Dental Local Anaesthesia and Teeth Removal / Ya. E. Vares, R. Z. Ogonovsky, Ch. R. Pohranychna – LNMU, 2007. – 63p.
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Additional:

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Head of the Department:
professor Ya. E. Vares

METHODICAL GIUDE FOR PRACTICAL LESSONS

Educational discipline	SURGICAL DENTISTRY
Topic of the lesson	**Topic №7.** X-ray examination of dental diseases.
Course	3rd
Faculty	Dental

Lviv – 2019

1. RELEVANCE OF THE TOPIC.

Radiological examination methods are reliable and informative, and therefore leading in the diagnosis of diseases of the maxillofacial area. X-ray methods are widely used in the practice of therapeutic dentistry (for the detection of periodontal diseases, periodontal disease, control of endodontic interventions); in orthopedic dentistry (to evaluate the status of preserved teeth, periapical tissues, periodontal). Radiological examination methods are also essential in surgical dentistry for the diagnosis of traumatic injuries, inflammatory diseases, cysts, tumors and other pathological conditions.

2. LEARNING OBJECTIVES:

- *Professional competence:*
  1. Collection of medical information on the patient's condition.
  2. Evaluation of the results of laboratory and instrumental research.
  3. Establishment of a clinical diagnosis of dental disease.
  4. Planning and conducting preventive measures for dental diseases.
  5. Execution of medical and dental manipulations.
  6. Organization and conducting of dental medical examination of persons subject to dispensary supervision.
  7. Assessment of the environmental impact on the health of the population (individual, family, population).
  8. Maintaining medical records.
  9. Processing of state, social and medical information.
- *General competence:*
  1. The ability to 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 in the use of information and communication technologies.
  6. Ability to search, process and analyze information from various sources.
  7. Ability to adapt and act in a new situation; ability to work autonomously.
  8. Ability to identify, put and solve 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. SPECIFIC OBJECTIVES:

3.1. To analyze and classify radiodiagnosis techniques.

3.2. To determine radiodiagnosis based on the needs of the dental patient.

3.3. To learn how to interpret diagnostic results.

3.4. To make a diagram of the diagnostic process.

4. BASIC KNOWLEDGE, SKILLS, SKILLS REQUIRED FOR STUDY OF THE SUBJECT (INTERDISCIPLINARY INTEGRATION).

Subject	Skills learned
1. Anatomy	Demonstrate the ability to navigate the anatomical structures of the bones of the facial skeleton, to be able to show on the phantom all the bone formation of the jaws, maxillary orbital complex.
2. Surgical and therapeutic dentistry	Apply clinical knowledge and skills to choose the method of radiodiagnosis. Apply clinical knowledge and skills for the interpretation of radiographs and diagnosis.

5. TASKS FOR INDIVIDUAL WORK DURING THE PREPARATION FOR THE LESSON.

5.1. Theoretical questions to the lesson:

1. Types of X-ray examination.

2. Indications for radiographs.

3. Indications for carrying out X-ray images of teeth.

4. Indications for an orthopantomogram.

5. Types of intraoral radiographs.

6. Advantages of digital radiography.

7. Features of X-ray examination with contrast.

8. Features of computed tomography.

5.2. Practical work (tasks) performed in class:

1. To choose one of the methods of radiographic examination of a patient with a specific pathology.

2. To describe the radiograph of a patient with a traumatic fracture of the mandible.

3. To write a referral for X-ray examination.

4. To learn how to work on a computer with a computer tomography scanner.

6. TABLE OF CONTENTS:

The technique and technique of radiological examination of teeth and jaws has its own peculiarities. Most often in dental practice are used:

• X-ray examination;

• Extraoral radiography of teeth and jaws;

• Intraoral radiography.

Examination radiographs can be performed in three projections - direct, lateral and anterior semi-axial and allow to obtain an image of the entire facial and cerebral skull. Direct projection can be performed at the naso-frontal or nasal-chin position relative to the cartridge. Indications for images in the nasal-frontal projection are: injuries and diseases of the brain and facial skull. This styling is

also used in sialography and fistulography. Snapshots are used for the study of the bones of the middle and upper divisions of the facial skull, maxillary sinus. The state of the teeth on the radiographs in direct projection is not analyzed.

Radiography of the lateral projection of the body and branches of the mandible. On extraoral radiographs of the body and branches of the mandible get the opportunity to study the ratio of their size, measuring the angle of the mandible and the nature of the eruption of wisdom teeth.

Axial and anterior semi-axial images are performed when necessary to study all structures of the base of the skull, bones of the middle area of the face, including the eye sockets, maxillary sinuses, cheekbones.

Extraoral (extraoral) images of the jaws are performed using both dental and other x-ray machines. A 13 × 18 or 18 × 24 cm X-ray film is used and the corresponding cartridges with amplifying screens. Extraoral radiographs are performed to study the mandible, the jawbone, the TMJ, as well as in sialography, fistulography. Indications for such pictures may be inflammatory, tumoral, traumatic injuries of the jaws, large cysts, lesions of the periodontal mandible when it is impossible to perform intraoral radiographs.

To study the state of the TMJ can be used special laying on Schuller, for Parma. Snapshots are mandatory on both sides to compare the joints.

Radiography of the temporomandibular joints. Indication of such a method is the presence of patients complaints or symptoms from the TMJ, or the presence of a dental-jaw abnormality associated with a displacement of the mandible (distal, mesial, crossover).

X-ray examination is performed by the method of Schuller, Parma, etc.

Oral radiography is the main radiological examination for most dental and periodontal diseases. Intraoral radiography is divided into:

1. Contact radiography - a film or sensor is pressed against the inner surface of the alveolar process of the jaw.

2. X-ray bite (occlusal) - the film is sandwiched between the teeth of the upper and lower jaws.

Tomography is a layer-by-layer image of the object being studied on an x-ray film - an additional method that allows you to get an image of a particular layer. Tomography is mainly used to clarify the pathology of the upper jaw and in studies of the TMJ. A low-angle (8-100) layer-by-layer survey or zonography is a combination of an X-ray and a tomogram. In this case, the image of the object under study is clearer and more contrasting.

X-ray computed tomography is a method of layer-by-layer examination of organs and tissues that allows to obtain images in axial projection. By changing the contrast of the image, you can evaluate the condition of the bone structures in details. One of the advantages of CT is the ability to get reconstructive images in different planes, as well as in three-dimensional form.

The scan is performed using a high resolution algorithm with a slice thickness not exceeding 1.5 mm. Based on the total block of axial sections, orthoradial planar reconstructed tomograms are obtained, allowing to estimate the sizes of the alveolar process in three dimensions (vertical, sagittal and transversal directions).

7. MATERIALS FOR SELF-CONTROL:

1. Optimal methods of X-ray examination of the TMJ:

A. In axial projection.

B. Side X-ray.

By Schuler.

D. Sialography.

E. Examination radiograph.

2. To confirm the diagnosis of fracture of the mandible, it is advisable to do:

A. Panoramic radiograph.

B. X-ray examination in direct projection.

C. The Schuler tab.

D. Sight X-ray.

E. Carry out a CT scan.

3. Patient 27 years old has retentio canine on the right. In connection with orthodontic treatment removal of this tooth is shown. When planning surgery, the doctor noticed signs of a follicular cyst on the orthopantomogram, but he is not sure, as he believes that a bay of the maxillary sinus can give a similar radiographic picture. Which methods will help you make an accurate diagnosis?

A. Orthopantomogram is made more qualitatively.

B. Computed tomography of the upper jaw.

C. X-ray of the palate.

D. Sighting radiograph in the area of the bottom of the nose.

E. Radiography of maxillary sinus.

4. The following projections are used for radiography of the paranasal sinuses:

A. Chin-nose or frontal-nasal.

B. By Schuler.

C. Lateral right and left.

D. Orthopantomogram.

E. Viewing in direct projection.

5. X-ray methods used for the diagnosis of salivary gland cancer:

A. Orthopantomography.

V. Sialography.

C. Teleroentgenography.

D. Radiography in special projection for glands.

E. Lateral X-ray examination.

Literature:

Basic:

1. Oral and Maxillofacial Surgery: Textbook, Part 1, 2 / V.O. Malanchuk. – Vinnytsia: Nova Knyha Publishers, 2011. – 453p.
2. Principles of Dental Local Anaesthesia and Teeth Removal / Ya. E. Vares, R. Z. Ogonovsky, Ch. R. Pohranychna – LNMU, 2007. – 63p.
3. Atlas of Human Anatomy / F. Netter – 2nd ed. – New Jersey: ICON Learning Systems. – 592 p.

Additional:

1. Contemporary Oral and Maxillofacial Surgery / L. J. Peterson, E. Ellis, J. R. Hupp, M.R. Tucker – 3rd ed. – St. Louis: Mosby – Year Book, Inc. – 1998. – 1477 p.

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Head of the Department:
professor Ya. E. Vares

METHODICAL GIUDE FOR PRACTICAL LESSONS

Educational discipline	SURGICAL DENTISTRY
Topic of the lesson	**Topic №8.** Equipment and tools for performing atypical tooth extraction.
Course	3rd
Faculty	Dental

Lviv – 2019

1. RELEVANCE OF THE TOPIC.

In the clinical practice of the dental surgeon, there are often situations where it is impossible to carry out or complete the removal of a tooth or root with forceps and elevators. Due to the peculiarities of placement of the tooth (for example, retentive, semi-retentive, dystopic) or root (remnant of the apex of the root in the depth of the hole, peculiarities of the anatomical structure of the root, significant hyper-cementosis, etc.), which is confirmed radiologically, the surgeon does not begin atypical removal without using before other, less complicated methods. The operation involves the removal (alveolectomy) or trepanation (alveolotomy) of the wall or bone of the jaw and the removal of the exposed tooth (root).

2. LEARNING OBJECTIVES:

- *Professional competence:*

  1. Collection of medical information on the patient's condition.
  2. Evaluation of the results of laboratory and instrumental research.
  3. Establishment of a clinical diagnosis of dental disease.
  4. Planning and conducting preventive measures for dental diseases.
  5. Execution of medical and dental manipulations.
  6. Organization and conducting of dental medical examination of persons subject to dispensary supervision.
  7. Assessment of the environmental impact on the health of the population (individual, family, population).
  8. Maintaining medical records.
  9. Processing of state, social and medical information.

- *General competence:*

  1. The ability to 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 in the use of information and communication technologies.
  6. Ability to search, process and analyze information from various sources.
  7. Ability to adapt and act in a new situation; ability to work autonomously.
  8. Ability to identify, put and solve 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. SPECIFIC OBJECTIVES:

3.1. To know the stages of surgery atypical tooth extraction.
3.2. To be able to prepare tools and equipment for atypical tooth removal surgery.
3.3. To know the various techniques of atypical tooth extraction.
3.4. To be able to plan a treatment for patients after atypical tooth surgery.
3.5. To know the stages of surgery for retention and dystopia of wisdom teeth.

4. BASIC KNOWLEDGE, SKILLS, SKILLS REQUIRED FOR STUDY OF THE SUBJECT (INTERDISCIPLINARY INTEGRATION).

Subject	Skills learned
1. Anatomy, histology, physiology.	Anatomical features of structure and function of nerves of maxillofacial area
2. Pharmacology.	Means for providing local anesthesia, antiseptics.
3. Therapeutic dentistry, pediatric surgical dentistry, orthopedic dentistry	Principles and techniques of tooth extraction, indications and contraindications to tooth extraction.

5. TASKS FOR INDIVIDUAL WORK DURING THE PREPARATION FOR THE LESSON.

5.1. Theoretical questions to the lesson:

1. Indications for surgery atypical tooth extraction.
2. The tools necessary for the operation of atypical tooth extraction.
3. Techniques of atypical tooth extraction of the upper and lower jaws.
4. Wound healing after surgery for atypical tooth extraction.
5. Local complications during the operation of atypical tooth extraction, causes of their occurrence, clinical manifestations, treatment and prevention.

5.2. Practical work (tasks) performed in class:

1. To be able to prepare the surgeon's hands before surgery.

2. To supervise the patient: to collect anamnesis, to conduct a clinical examination, to determine the preliminary diagnosis and indications for surgery of atypical tooth extraction.

3. To be able to prepare an operating field.

4. To prepare a medical card of the dental patient.

6. TABLE OF CONTENTS:

Atypical tooth extraction is a method of removing teeth or roots with a chisel or bur. Shown in cases where it is not possible to remove the tooth or root using forceps and elevators. This is most often the case of retention or dystopia of the teeth, removal of the semi-retained or incomplete removal of the teeth.

Teeth that are most often normally formed but are not cut through for some reason (inflammatory processes, tumors, tumor growns, etc.) in their timing of eruption. If the tooth has not completely erupted its crown part through the mucous membrane in the dental row, then such a tooth is called semi-retained. Some of the retouched teeth may have a wrong location in the jaw (in the area of the branch of the mandible, in the wall of the maxillary sinus, etc.) is called dystopia.

Indications for the removal of teeth in case of retention and dystopia are as follows:

1) remove a tooth if it is associated with common pathological manifestations (headache, etc.);

2) shows the removal of the retouched and dystopic tooth, which is in the tumors or in tumorous formations;

3) shows the removal of these teeth in osteotomy, if these teeth pass through the line of osteotomy.

If the tooth does not cause general and local pathological manifestations, then it is not removed.

Atypical tooth extraction is more difficult surgery than conventional tooth extraction. Therefore, it should be performed with the help of an assistant. The treatment of the surgeon's hands and the surgical field is performed according to conventional methods in surgery. Surgery should be performed in the recumbent or supine position of the patient, the patient's head should be turned towards the surgeon (with atypical wisdom tooth removal to the left) or to the opposite side (with atypical tooth extraction to the right). Anesthesia is performed depending on the location of the removed tooth. The assistant pulls the cheek and lip with the help of a blunt hook, thus giving free access to the operating field.

With atypical tooth extraction in the lower jaw, it is recommended to make an angular incision (if the operation is performed in the area of large molars) or trapezius (in the mental department). The incision of the mucous membrane is made through the entire thickness of the tissues (to the bone).

The horizontal direction of the incision is carried out on the alveolar ridge (in the absence of a tooth in the dentition) or on the gumline. A vertical incision is made from the previous tooth to the transitional fold. The mucous-flap flap from the alveolar edge in the direction of the transitional fold is detached by means of a spreader. Particular caution should be exercised when exfoliating the mucous-oxide flap in the mental compartment because there is a chin opening of the mandible through which the neuromuscular bundle emerges. Injury of the latter causes both bleeding and development of post-traumatic neuritis. Therefore, the flap should be peeled only to the mental opening. The blunt hook hold the peeled mucous-oxide flap.

Bur can be used to cut the roots of the teeth to remove them separately. Initially, only a small section of tooth or root is exposed. In the future it is necessary to release a large part of the retouched tooth or the removed root, only after that attempts should be made to remove it with the help of an elevator (lever-like movements to eject the tooth or root). In some cases, it is possible to remove the apex of the root of the tooth with a smoothing tool or a tool for removing plaque. Cutters or sharp bone spoon smooth sharp bone edges, remove bone fragments and granulation tissue. If the crown part of the retinal tooth is rotated in the buccal, pelvic side or tooth is horizontal, medially oblique or distally oblique, then when exposed from the bone of the crown part of it is possible to completely saw it with a drill or partial removal for unobstructed horizontal dislocation in the vertical direction the rest of the uncut tooth. That is, the removal of the retouched tooth is possible in parts.

The postoperative bone wound must be rinsed with hydrogen peroxide to remove fine debris. The mucous-oxide flap is put in place. If it is not possible to completely close the bone wound in the area of the alveolar edge, then it is necessary to mobilize the mucous-oxide flap (ie horizontally cut the periosteum in the area of the transitional convolution). On the postoperative wound impose sutures of catgut or silk. Seams of silk are removed for 4-6 days.

7. MATERIALS FOR SELF-CONTROL:

1. Atypical tooth extraction involves:

A. Use in addition to forceps and elevators of bone bur, scalpel, spreader.

B. Removal under general feeling.

C. Single-implantation.

D. Removal of teeth with atypical structure.

E. All of the above.

2. Impressions for atypical tooth extraction:

A. Removal of the impaced tooth.

B. Removal of dystopic and impacted tooth.

C. Removal of a semi-impacted tooth

D. It is not possible to remove a tooth with forceps and an elevator.

E. All options are correct.

3. Patient O., 23, was referred to a dental surgeon to remove 48 teeth by orthodontic findings. Objectively, the face is symmetrical, proportional. Regional lymph nodes are not palpated. When inspecting the oral cavity, only the distal humps of the 48 tooth are visualized, the medial humps are covered with a pale pink mucosa, and on the radiograph, the roots of the 48 teeth are formed. The tooth is inclined at the 45 ° axis, with the medial humps resting on the root of the 47 tooth. Select a tool to remove 48 teeth.

A. Scalpel, dental drill tip, bone drill, chisel, hammer, rasp.

B. Beak-shaped forceps curved on rib with converging cheeks.

C. Beak-shaped forceps curved along an edge with spikes on both cheeks.

D. Beak-shaped forceps with spikes on both cheeks, curved in a plane.

E. The Lecluse Elevator.

4. What medications should be given to the patient after surgery for atypical tooth extraction?

A. Augmentin, ketans, givalex.

B. Dimedrol, ketane.

C. Biseptol, diazolin.

D. Augmentin, nitroglycerin, saline rinse.

E. Analgin, dibazole.

5. Patient N., aged 18, underwent surgery for atypical removal of a completely retouched and dystopic 23 tooth according to orthodontic indications. During surgery, a mucous-oxide flap was created and peeled, a bone tissue around the tooth was removed with a drill, and the tooth was removed with an elevator without any complications. How should a postoperative wound heal?

A. The wound is sutured and healed by primary tension.

B. The wound is sutured and healed by a second tension.

C. The atypical tooth wound is never sutured.

D. The well is filled with an iodine swab and the wound heals with a secondary tension.

E. The mucous-oxide flap engrafts itself.

Literature:

Basic:

1. Oral and Maxillofacial Surgery: Textbook, Part 1, 2 / V.O. Malanchuk. – Vinnytsia: Nova Knyha Publishers, 2011. – 453p.
2. Principles of Dental Local Anaesthesia and Teeth Removal / Ya. E. Vares, R. Z. Ogonovsky, Ch. R. Pohranychna – LNMU, 2007. – 63p.
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METHODICAL GIUDE FOR PRACTICAL LESSONS

Educational discipline	SURGICAL DENTISTRY
Topic of the lesson	**Topic №9.** Complex treatment of tooth retention.
Course	3rd
Faculty	Dental

Lviv – 2019

1. RELEVANCE OF THE TOPIC.

Teething, first temporary (primary) and then permanent, is a physiologically programmed process. However, it can be affected by certain negative factors that lead to complex undesirable consequences. The most common complications are seen in the eruption of the lower wisdom tooth - in 54.6% of people, mostly between the ages of 21 and 30 years. This anomalous process is commonly known as "difficult teething". Patients with pericoronitis occur quite often during surgical dental admission, so knowledge of the etiology, pathogenesis, clinics, diagnostics of this pathology will allow to provide qualified medical assistance to patients.

2. LEARNING OBJECTIVES:

- *Professional competence:*

  1. Collection of medical information on the patient's condition.
  2. Evaluation of the results of laboratory and instrumental research.
  3. Establishment of a clinical diagnosis of dental disease.
  4. Planning and conducting preventive measures for dental diseases.
  5. Execution of medical and dental manipulations.
  6. Organization and conducting of dental medical examination of persons subject to dispensary supervision.
  7. Assessment of the environmental impact on the health of the population (individual, family, population).
  8. Maintaining medical records.
  9. Processing of state, social and medical information.

- *General competence:*

  1. The ability to 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 in the use of information and communication technologies.
  6. Ability to search, process and analyze information from various sources.
  7. Ability to adapt and act in a new situation; ability to work autonomously.
  8. Ability to identify, put and solve 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. SPECIFIC OBJECTIVES:

3.1. To classify inflammatory complications of difficult teething of impacted teeth.
3.2. To be able to explain the etiology and pathogenesis of the difficult incision of the lower third molars.
3.3. To know the clinical picture, the main symptoms of pericoronitis.
3.4. To be able to provide first aid and treatment in case of difficult incision of the lower third molars.

4. BASIC KNOWLEDGE, SKILLS, SKILLS REQUIRED FOR STUDY OF THE SUBJECT (INTERDISCIPLINARY INTEGRATION).

Subject	Skills learned
1. Normal anatomy	Features of anatomical structure of maxillofacial area and oral cavity. Anatomical areas of the face, neck and oral cavity.
2. Operative surgery and topographic anatomy	Features of topography of the retromolar area of the mandible and upper jaw, cellular spaces and ways of spreading purulent infection in the MFA; features and stages of surgical interventions in the mouth. Prompt access to the cells of purulent inflammation of the maxillofacial area.
3. Pharmacology	Remedies for local anesthesia and treatment of inflammatory diseases of the maxillofacial area.
4. Patophysiology	Pathogenesis of inflammatory processes of the maxillofacial area.
5. Microbiology	Etiology of inflammatory processes of maxillofacial area.

5. TASKS FOR INDIVIDUAL WORK DURING THE PREPARATION FOR THE LESSON.

5.1. Theoretical questions to the lesson:

1. To explain the term "difficult wisdom tooth eruption".
2. To classify the inflammatory complications of difficult teething of impacted teeth.
3. To define the concept of pericoronitis.
4. Classification of pericoronitis.
5. Etiology, pathogenesis of pericoronitis.
6. Clinical manifestations of pericoronitis.
7. Diagnosis of complications.
8. Treatment of pericoronitis.
9. Indication for removal and technique of atypical removal of third molars in the mandible.

5.2. Practical work (tasks) performed in class:

1. To conduct a clinical examination of a patient with pericoronitis.

2. To appoint additional methods of examination of the patient with pericoronitis.

3. To make a medical card of the dental patient.

4. To form a treatment plan for a patient with pericoronitis.

6. TABLE OF CONTENTS:

The term "difficult wisdom tooth eruption" is a collective term. Various violations of the normal eruption of the wisdom tooth, both in terms of time and direction or location of his tooth in the jaw can be considered difficult. Therefore, in establishing the diagnosis of "difficult wisdom tooth eruption" it is necessary to specify and point to the complications that led to this pathological

process. Difficult teething of impacted teeth is accompanied by various inflammatory complications (more often - on the lower jaw, less often - on the upper).

Classification of inflammatory complications of difficult teething of impacted teeth (by O.O. Timofeev, 1995):

• complications with a predominant involvement in the inflammatory process of the soft tissues that cover and surround the tooth (pericoronitis);

• complications with predominantly involvement in the inflammatory process of the soft tissues surrounding the jaw (lymphadenitis, inflammatory infiltrate, abscesses, phlegmon, inflammatory contracture, subcutaneous granuloma, ulcerative stomatitis);

• pathological processes in the jaw (cysts, periostitis, osteomyelitis).

According to the author's researches, the greatest number of complications in case of difficult teething of impacted teeth develops in persons aged 19–26 years: acute and recurrent pericoronitis, lymphadenitis, abscesses and phlegmon. At the age of 26-30 years mainly develop periostitis, osteomyelitis, abscesses and phlegmon. At the age of 50-60 years, the late eruption of impacted teeth is usually associated with their passive stripping due to atrophy of the toothless alveolar process.

Pericoronitis (pericoronitis: peri - around + corona dentis - tooth crown + it) - inflammation of the soft tissues surrounding the tooth crown in case of incomplete or difficult tooth eruption. This is often a complication of difficult teething of impacted teeth.

Pericoronitis classification:

• acute (catarrhal, purulent, ulcerative);

• chronic;

• recurrent.

Etiology, pathogenesis. Pericoronitis develops as a result of trauma to the mucous membrane, which is located above the delayed tooth and does not have time to completely atrophy. The soft tissues above the tooth crown are easily injured during chewing. If microorganisms and food residues enter the formed pocket, a purulent inflammatory process develops.

Clinical manifestations. The disease begins with unpleasant sensations in the area of a tooth that is not impacted or partially erupted. Soon, pain associated with swallowing, difficulty with opening the mouth, malaise, headache, loss of appetite, sleep disorders, fever.

In contrast to acute pericoronitis, the clinical manifestations of the chronicity of the process are quite small, even asymptomatic: no pain, the mouth opens freely, from the hood is possible to secrete a small amount of serous purulent exudate. In case of exacerbation of chronic pericoronitis, symptoms of acute inflammation are revealed.

Diagnosis of complications. Lymphadenitis. Difficult eruption of the lower belated tooth is often accompanied by the development of inflammation of the mandibular (more often) and chin (rarely) lymph nodes.

Abscesses and phlegmon. Hidden center of infection, which is located under the hood of an impacted tooth, in the presence of prior sensitization and reduced immunological resistance can cause complications in the form of abscesses and phlegmon of the jaw soft tissues.

Periostitis. The spread of the inflammatory process from the pathological bone pocket and the soft tissues that cover the impacted tooth to the periosteum and bone of the mandible leads to the development of the periosteum. The pain becomes intense, irradiates with the course of the branches of the trigeminal nerve; if the inflammatory process is localized on the inner surface of the

body or branch of the mandible, pain occurs when swallowed. An inflammatory contracture develops. The mucous membrane around the alveolar process of the mandible is hyperemic, swollen, infiltrated.

Osteomyelitis. Odontogenic osteomyelitis of the mandible as a complication of difficult teething of impacted teeth has a rather severe course and is more often localized in the region of the branch of the mandible, more rarely - in the area of ts body.

Impressions for the removal of delayed teeth in case of their difficult eruption:

• all positions of the lower third large angular tooth except the vertical;

• detection of bone marrow lesions in the X-ray pattern in the form of a Vassmund crescent;

• recurrent course of the process;

• the presence of periapical changes in the tooth;

• destruction of the crown of the tooth by carious process;

• periostitis, osteomyelitis, lymphadenitis, abscess, phlegmon, or inflammatory infiltrate at any position of the tooth.

7. MATERIALS FOR SELF-CONTROL:

1. Patient J., 29, was diagnosed with acute purulent pericoronitis 48. 48 erupted with medial humps, distally covered by the hood of the mucous membrane. The tooth stands in the dental arch. How much surgery is appropriate in this case?

A. Incision of the hood of the inflamed mucosa.

B. Incision of the hood of the inflamed mucosa and removal 48.

C. Excision of the hood of the inflamed mucosa.

D. Excision of the hood of the inflamed mucosa and removal 48.

E. No surgery required.

2. The patient, 33 years old, went to the dental clinic complaining of aching pain in the 48 tooth area, which aggravated by bitting, deterioration in the condition and increase of body temperature to 37.6 ° C. Objectively, there is little swelling and hyperemia of the mucous membrane in the retromolar region. 48 The tooth is covered with a mucous hood, sharply painful on palpation, with pus under it. Make a diagnosis.

A. Acute pulpitis.

B. Acute purulent pericoronitis.

C. Acute periodontitis of 48 teeth.

D. Aphthous stomatitis.

E. Acute purulent periostitis.

3. The patient noted periodic pain in the area of 38 tooth. The mouth opens completely, 38 teeth erupted with distal humps, the mucous membrane around it is hyperemic, swollen, painful during

palpation. 38 tooth medial humps touches the neck of the 37 tooth. What is the treatment method shown?

A. Removal of 37 teeth.

B. Anti-inflammatory therapy.

C. Atypical removal of 38 teeth.

D. Irrigation with antiseptics.

E. Removal of mucous membrane over 38 tooth.

4. The patient has acute purulent pericoronitis, mouth opening 1.5 cm, mucous membrane of the retromolar area swollen, hyperemic, 38 tooth covered with a hood, from which pus is excreted, body temperature 37.8 ° C, pain when swallowing. What first aid is shown in this case?

A. 38 tooth removal.

B. Hood dissection and drug therapy.

C. Antibacterial therapy.

D. Excision of the hood and removal of 38 tooth.

E. Hood rinsing with antiseptic, antibiotic prescription.

Literature:

Basic:

1. Oral and Maxillofacial Surgery: Textbook, Part 1, 2 / V.O. Malanchuk. – Vinnytsia: Nova Knyha Publishers, 2011. – 453p.
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Control methods.

Control measures are a necessary element of feedback in the learning process. They determine the correspondence of the level of knowledge acquired by students with the requirements of the normative documents on higher education.

Control methods and assessment system are developed in accordance with the requirements of "Criteria, rules and procedures for evaluating the results of students' educational activities at the Danylo Halytsky LNMU, approved by the Academic Council of LNMU of 02/21/2018, protocol No. 1.

Control measures in the study of "Surgical dentistry" include current control and final control, which is called a semester test.

Before studying a new course, students have to take 'entrance control' test in order to determine the level of preparation of students to the discipline (based on the fundamentals of previous studies). Entrance control is carried out on the first lesson and is based on the assignments corresponding to the program of relevant discipline studied before. The results of the entrance control are analyzed at the department (chair) meetings and also involve the representatives of methodology committee as well as the teachers of the relevant discipline. According to the results of the entrance control test, students may be provided with individual assistance or with some measures of adjusting the educational process.

Current control is carried out on every practical lesson according to the specific goals of each topic. It is based on the comprehensive evaluation of the student's activity, which takes into account the entrance control test, the quality of practical work, the level of theoretical training, the level of performance in individual assignments according to the thematic plan and the results of the final control.

In the course of assessing the educational activity of students, the preference is given to standardized methods of control: test tasks, situational tasks, control questions, oral questioning, structured written work, structured control of practical skills in conditions that are close to real ones (algorithm -based).

Final control, which is a semester credit, is a form of summarizing control, which assesses the level of student solely on the basis of the results of certain types of work in practical classes. It is conducted in accordance with the curriculum in terms set by the schedule of the educational process and in the amount of educational material determined by the program of academic discipline.

Assessment procedure for the discipline of "Surgical Dentistry", presented by the two content modules, is rating-based and is made up of the sum of evaluation points of the current educational activity, which can be gained for theoretical knowledge and practical skills in accordance with the lists determined by the discipline program.

Current control is carried out during the training sessions and aims at checking students' acquisition of the material, the level of theoretical and practical training. Current control can be presented in the form of testing, solving situational problems, solving clinical situational problem, demonstration of practical skills or abilities, answers to standardized theoretical questions. Forms of assessment of the current educational activity are standardized and correspond to the standards of answers.

Assessment of current educational activity. Evaluation of current student's progress made on each practical lessons on the 4- point scale and recorded in the register of academic success.

Knowledge of students are evaluated both theoretical and practical training by the following criteria:

"Perfect" – the student perfectly mastered theoretical material, shows the deep and comprehensive knowledge of the relevant subject or discipline, the basic provision of the basic textbook and recommended literature, have the logical thinking and make the answer, freely use the acquired theoretical knowledge in the analysis of practical material, expresses his attitude to various problems, demonstrates the high level of practical skills;

"Good" – the student learned theoretical material good, has the main aspects of the basic textbook and recommended literature, the knowledge set reasonable; has the practical skills, expressed own views of the problem, but assume certain inaccuracies in the logic of the theoretical contents presentation or by the analysis of the practical contents;

"Satisfactory" – the student basically mastered the theoretical knowledge of the subject or discipline, oriented in the basic textbook and recommended literature, but unconvincingly answer, confuses the notions, additional questions arouse the student uncertainty or absence of stable knowledge, answering the practical questions reveals inaccuracies in knowledge, can not estimate the facts and events, link them to the future activities;

"Unsatisfactory" - the student has not mastered the subject (discipline) course material, does not know the scientific facts, definitions, hardly versed in the basic textbook and recommended literature, the scientific thinking is absent, practical skills are not formed.

Evaluation of self-made student work

Material for independent work of students, which is provided simultaneously with the practical classes and estimated during the current control of the theme on the appropriate practical classes. Self-made themes are evaluated and controled during the final control.

The final control - semester credit is performed to assess learning outcomes on a national scale and ECTS scale.

The students, who attended all the stipulated discipline curriculum classes and scored for current progress score not less than the minimum are allowed to the final control. For students, who missed classes, with the dean permission is permitted to fulfill academic debt to the fixed period within the term.

The semester credit is the form of final control, which is consist in the evaluation assess of the educational material mastering exclusively on the basis of the certain types of work realization at the practical classes.

The semester test performed at the end before the examinations. Credits accept teachers, who conducted practical classes in the group or hold lectures in the discipline.

A student is considered to be admitted to semester control if all kinds of work provided the curriculum and the work program have been made.

The results of students work evaluation during the semester should be documented (included in the academic journal, credit - examination sheet, student Gradebook). Performed by students during the semester control tests, individual tasks are kept at the department during the year.

In the educational process of University, the following grading scales are used: multimark (200 -point) scale, the traditional 4- point scale and ECST rating scale. The results are converted from one scale to another according to the following rules.

In evaluating the mastering of each theme for current educational student activity the score by the 4- point scale (traditional) are set. This takes into account all types of work, provided the curriculum. The student must obtain an assessment of each theme. The assessment's forms of current educational activity should include control of theoretical and practical training. Marks of traditional assessment scale are converted into the points.

The maximum number of points, that a student can collect for current educational activity at the subjects study is 200 points.

The minimum number of points that a student must collect for current educational activity for enrollment courses is 120 points.

Calculating the number of points is based on student evaluations received by traditional scale while learning subjects during the semester, by calculating the arithmetic mean rounded to two decimal places. The result value is converted into points by multi- scale as follows:

$$x = \frac{CA \times 200}{5}$$

For convenience, a table converting 200 -point scale:

Table 1

Conversion of the average score for current activity in multimark scale for disciplines ending as a credit (differentiated credit)

4-points scale	200-points scale
5	200
4.97	199
4.95	198
4.92	197
4.9	196
4.87	195
4.85	194
4.82	193
4.8	192
4.77	191
4.75	190
4.72	189
4.7	188
4.67	187
4.65	186
4.62	185
4.6	184
4.57	183
4.52	181
4.5	180
4.47	179

4-points scale	200-points scale
4.45	178
4.42	177
4.4	176
4.37	175
4.35	174
4.32	173
4.3	172
4.27	171
4.24	170
4.22	169
4.19	168
4.17	167
4.14	166
4.12	165
4.09	164
4.07	163
4.04	162
4.02	161
3.99	160
3.97	159
3.94	158

4-points scale	200-points scale
3.92	157
3.89	156
3.87	155
3.84	154
3.82	153
3.79	152
3.77	151
3.74	150
3.72	149
3.7	148
3.67	147
3.65	146
3.62	145
3.57	143
3.55	142
3.52	141
3.5	140
3.47	139
3.45	138
3.42	137
3.4	136

4-points	200-points
3.37	135
3.35	134
3.32	133
3.3	132
3.27	131
3.25	130
3.22	129
3.2	128
3.17	127
3.15	126
3.12	125
3.1	124
3.07	123
3.02	121
3	120
Less then 3	Not enough

Evaluation of the disciplines (subjects) which the final control is the **test** is based solely on the results of current training and expressed by two points national scale: "Passed" or "Not passed". To enroll the student must receive for current training activities at least 60 % of the maximum amount of points in the discipline (120 points). Scores are ranked on a scale of discipline ECTS (Table 3) for the above scheme.

Grade F (unsatisfactory with required repeated course) put at the test or differential credit to students who attended all subject (discipline) classes, but did not reach the minimum number of points for current educational activity. These students are not obtained credit and are not allowed to pass examinations.

Scores of discipline for students, who successfully completed the program, converted into traditional 4- point scale by absolute criteria, which are listed in the table below:

Table 2

Discipline scores	**4 – point scale**
From 170 to 200 points	5
From 140 to 169 points	4
From 139 points to the minimal points number, which the student must score	3
Less then the minimal points number, which the student must score	2

Evaluation of ECTS to the traditional scale is not converted because the scale of ECTS and 4-point scale are independent.

Objectivity evaluation of educational activities of students tested statistically (correlation coefficient between ECTS assessment and evaluation on of national scale).

Scores of students enrolled in one specialty, given the number of points gained in the discipline ranked on a scale ECTS as follows:

Table 3

Evaluation of ECTS	Statistical index
A	The best 10 % students
B	The next 25 % students
C	The next 30 % students
D	The next 25 % students
E	The last 10 % students

Ranking of assigning ratings of "A", "B", "C", "D", "E" held for the students of the course, who are studying for one specialty and successfully completed the study subjects. Students, who received estimates FX, F («2») are not made to the list of students who ranked. Students with an estimate after repassing FX get automatically mark "E".