

**MEDICAL UNIVERSITY - PLOVDIV
MEDICAL FACULTY**

**DEPARTMENT OF PROPEDEUTICS OF
SURGICAL DISEASES -
GENERAL SURGERY SECTION**



SYLLABUS

IN

GENERAL AND OPERATIVE SURGERY

Adopted by the Department Council - Protocol № 5/11.07.2022

Confirmed by the Faculty Council - Protocol №7/13.07.2022

General and Operative Surgery Syllabus

Discipline	Final exam/ semester	Auditorium classes				ECTC non-auditorium classes	ECTS total	Academic hours in years and semester	
		Total	Lectures	Practices	ECTS			3 rd year	
								V	VI
General and operative surgery	VI	165	75	90	5.5	3.5	9.0	3/4	2/2

Course title : " General and Operative Surgery"

Type of course according to the uniform state requirements:

Mandatory

Level of training :

Master / M /

Forms of training:

Lectures and practicals

Training course : III year

Hours :

75 hours of lectures, 90 hours of exercises

Teaching aids : multimedia

Forms of assessment : current control and semester exam

Formation of the assessment : test, writing part, practical and oral exam

Aspects in the formation of the assessment: practical knowledge and skills

Semester exam: III course

State exam : after VI semester

Leading lecturer : Prof. Dr. P. Stefanova, MD, Prof . Dr. B. Sakakushev MD, Prof. Dr. A. Yonkov MD

Department : Propaedeutics of Surgical Diseases

ANNOTATION:

The course Propaedeutics of Surgical Diseases aims to acquaint students majoring in "medicine" with the theoretically applied achievements of modern science of surgical diseases - patterns and mechanisms of occurrence, development and manifestation, as well as the main methods of clinical research in surgical patients. In addition to studying the semiotics of surgical diseases, the aim of the training is to master the methodology of local examination of the surgical patient based on a detailed history, in-depth clinical examination, planning, performing and evaluating various paraclinical studies. The construction of the patient's surgical diagnosis is justified by the analysis of the established surgical symptoms and syndromes, combined with the most important clinical signs.

The main aspect in the training of students in surgical propaedeutics is the work at the patient's bedside - improvement of the methodology of communication with the patient, mastering the technique of physical examination methods to the extent of detecting pathological changes. In the course of training, the contemporary forms of education are also included - interactive training, problem-based training, work with models, models, videos, specialized software computer programs.

The analysis and evaluation of the results obtained from the course of training in surgical propagation is carried out by means of combined methods of current and final control - seminars, tests, written, practical and oral examination.

The aim of the training in propaedeutics of surgical diseases is based on the rational combination of traditional, proven teaching methods with modern ones to achieve optimal results - mastering and improving the methodology of local examination of the surgical patient, creating critical clinical thinking in students, which is a necessary prerequisite for therapeutic disciplines at the next stage of training.

PURPOSE OF THE COURSE: Mastering the physical clinical and paraclinical methods of examination in the surgical patients, acquiring basic knowledge of semiotics, of basic surgical operations and acquiring technical skills to perform basic surgical manipulations.

OBJECTIVES OF THE COURSE: Acquiring theoretical knowledge and clinical practice basic surgical skills on the content of the curriculum.

TRAINING METHODS :

- Lecture presentation
- Practical exercises
- Seminar discussions
- Test current semester test
- Role-playing games and exercise / training / of skills of models, models and real patients

TECHNICAL TOOLS AND TOOLS APPLIED IN THE TRAINING:

- Work with real patients and all specific surgical consumables and equipment related to their treatment in the hospital, operating room and manipulation rooms - needles, syringes, infusion systems, infusomats, aspiration systems, oxygen delivery systems, catheters, probes, drainages, dressings, test serums and blood transfusion aids, surgical instruments, operating equipment - tables, lamps, coagulators, etc.

- Modernly equipped classrooms with smart TVs, multimedia projector with folding presentation screen, laptop, digital video camera, computer hardware, overhead projector, specialized software computer programs, multimedia PowerPoint presentations for each exercise and videos on disk or flash drive, models, illustration boards, etc.

MONITORING AND EVALUATION :

Current control:

- entrance tests and examination by sections of the curriculum
- reporting and discussing clinical cases
- demonstrations of local methods of examination of the surgical patients
- demonstrations of mastered surgical manipulations

Final control:

- entrance test
- written exam on topics from the curriculum
- practical exam
- oral exam

METHODS FOR KNOWLEDGE CONTROL :

- tests
- discussion of cases
- demonstrations of acquired skills

COMPULSORY COMPETENCES

- Theoretical knowledge

- acquaintance with the methodology and specifics of examination of the surgical patients
- acquaintance with the achievements of modern science of surgical diseases - the patterns and mechanisms of their occurrence, development and manifestation, as well as the main methods of clinical research in surgery
- study of the semiotics of surgical diseases
- the development of the surgical diagnosis in the patient, based on the analysis of the established surgical symptoms and syndromes, combined with the most important clinical signs

- Practical skills

- mastering the methodology of the local physical examination of the surgical patient on the basis of a detailed anamnesis and in-depth clinical examination
- performing and evaluating various paraclinical studies
- mastering basic surgical manipulations - injections, catheterizations, placement of probes, bandages, determination of blood groups and others

LECTURE COURSE
 PROPEDEUTICS OF SURGICAL DISEASES
 Third-year medical students, first semester

1. Subject and History of surgery
2. Asepsis & Antisepsis
3. Arterial insufficiency. Gangrene
4. Venous and lymphatic insufficiency
5. Congenital diseases

6. Local and Regional Anesthesia
7. Hypovolemic shock
8. Blunt trauma. Classification
9. Penetrating trauma. Wounds
10. Chemical and physical injuries
11. Wound healing and management
12. Local surgical infection
13. General surgical infection. Sepsis
14. Anaerobic, gas and putrid infections
15. Tetanus. Etiology, Signs & Treatment
16. Actinomycosis and echinococcosis
17. Ulcers and fistulas
18. Hernias
19. Hemorrhage
20. Haemostasis
21. Acute Osteomyelitis
22. Haemotransfusion

LECTURE COURSE
 PROPEDEUTICS OF SURGICAL DISEASES
 Third-year medical students, second semester

1. Burns and Frosts
2. Principles of Surgical oncology
3. Tumor classifications, staging and grading
4. Tumor clinical manifestations
5. Preoperative check and preparation
6. Postoperative course and complications
7. Surgical operations
8. Surgical Operation. Types and indications
9. Surgical manipulations
10. Bandages and Dressings
11. Acute Abdomen
12. Organ and tissue transplantation
13. Surgical Endoscopy
14. Mini-invasive Surgery
15. Basic principles of surgical incisions and suturing

LECTURE № 1 - 2 hours. Subject and history of surgery
 - Brief historical data on the development of surgery. Surgery in Bulgaria.

LECTURE № 2 - 2 hours. Asepsis & Antisepsis
 - Asepsis. Historical data. Operating theatre structure.
 - Antiseptics. Historical data. Means to achieve antiseptics.

LECTURE № 3 - 2 hours. Arterial insufficiency. Gangrene.
 - acute and chronic arterial insufficiency, causes and symptoms.
 - gangrene - types - arterial, venous, moist and dry.

LECTURE № 4 - 2 hours. Venous and lymphatic insufficiency.

- Acute superficial and deep thrombophlebitis.
- Postphlebitis syndrome. Varicose veins disease.
- Acute and chronic lymphedema. Lymphangitis. Lymphadenitis

LECTURE № 5 - 2 hours. Congenital diseases

- Teratogenic factors. Prenatal diagnosis.
- Basic principles of surgical treatment of congenital diseases.
- Congenital diseases of the head and neck.
- Congenital diseases of the digestive tract

LECTURE № 6 - 2 hours. Local and Regional anesthesia

- Types, drugs, indications
- Technique, complications.

LECTURE № 7 - 2 hours. Hypovolemic shock

- Symptoms, Stages, Causes, Diagnosis
- Treatment

LECTURE № 8 - 2 hours. Blunt trauma. Classification

- Definition of trauma and trauma. Types of injuries. Classification.
- Closed mechanical injuries. Contusion. Compression. Traumatic toxicosis (crash syndrome). Traumatic decolman
- Closed head injuries. Concussion, contusion, compression of the cerebrum
- Closed chest and abdominal injuries

LECTURE № 9 - 2 hours. Penetrating trauma. Wounds

- Injury and laceration - contusion wound
- Cut wound. Bite wound
- "A gunshot wound." A stab wound

LECTURE № 10 - 2 hours. Chemical and physical injuries

- Burn from acids, bases and other chemical agents, damage from electricity

LECTURE № 11 - 2 hours. Wound healing and management

- Wound healing - primary, secondary. Suture of wounds.
- Wound healing. Principles in wound healing
- Postoperative complications of the wound

LECTURE № 12 - 2 hours. Local Surgical Infection

- Abscess, phlegmon
- Acute purulent infection - chronic purulent infection.
- Purulent infections of the skin and its appendages - folliculitis, boils, carbuncles, hidradenitis.

LECTURE № 13 - 2 hours. General Surgical infection. Sepsis

- Classification, etiology and pathogenesis of surgical infection. Acute purulent infection - abscess. Acute purulent infection - phlegmon. Chronic purulent infection.
- Sepsis – causes and symptoms.

LECTURE № 14 - 2 hours. Anaerobic, gas and putrid infections

- etiology, pathogenesis, clinic and diagnosis
- local and general symptoms

LECTURE № 15 - 2 hours. Tetanus. Etiology, Signs & Treatment

- etiology, pathogenesis, clinic - symptoms and clinical forms, prevention.

LECTURE № 16 - 2 hours. Actinomycosis and echinococcosis

- actinomycosis - causative agents, clinical forms, main symptoms, main diagnostic methods
- echinococcosis - clinical forms, biological cycle, symptoms and diagnosis

LECTURE № 17 - 2 hours. Ulcers and fistulas

- Etiology. Classification
- types of ulcers and fistulas, clinical symptoms and diagnostic methods

LECTURE № 18 - 2 hours. Hernias.

- Definition, classification, Symptoms, Causes
- Surgical treatment & Prevention

LECTURE № 19 - 2 hours. Haemorrhage

- definition, classification, pathophysiology, clinical picture, stages, treatment.

LECTURE № 20 - 2 hours. Haemostasis

- Temporary and definitive hemostasis. Methods

LECTURE № 21 - 2 hours. Acute Osteomyelitis

- Symptoms, Causes, Treatment

LECTURE № 22 - 2 hours. Haemotransfusion

- history, ABO system and rhesus system / Rh /. Determination of blood groups. Blood transfusion procedure. Selection of donated blood for blood transfusion.
- indications and contraindications for blood transfusion. Clinical manifestations of immune and hemolytic reactions. Common mistakes and complications.
- action of transfused blood. Types of blood transfusion. Indications and contraindications for blood transfusion. Blood products

LECTURE COURSE - PROPEDEUTICS OF SURGICAL DISEASES

Third-year medical students, Second Semester

LECTURE № 1 - 2 hours. Burns and Frosts

- Definition, etiology, pathogenesis, degrees, surface determination, phases. General cooling
- Clinical evolution and types of treatment - conservative and operative, resuscitation

LECTURE № 2 - 2 hours. Principles of Surgical oncology

- Epidemiology of malignant neoplasms. Biology of malignant transformation.
- General Principles

LECTURE № 3 - 2 hours. Tumor classifications, staging and grading

- Clinical classification of malignant tumors. TNM - system. Basic blood and instrumental test. Morphological diagnosis. Tumor markers. Grading and staging of cancer.
- Benign and malignant neoplasms of epithelial origin.
 - Benign and malignant neoplasms of connective tissue.
 - Mixed tumors.

LECTURE № 4 - 2 hours. Tumor clinical manifestations

- Overview of the clinical features. Asymptomatic lesions.
- Early cancer signs. Paraneoplastic syndromes.
- Cancer clinical manifestation of different body systems.

LECTURE № 5 - 2 hours. Preoperative check and preparation

- Routine and specific examinations - hematological, endoscopic, imaging.
- Scales for assessment of anesthesiological and operative risk.
- Preparation for anesthesia and surgery

LECTURE № 6 - 2 hours. Postoperative course and complications

- Postoperative complications - surgical, pulmonary, cardiovascular, renal, digestive tract, liver, hepatorenal syndrome.

LECTURE № 7 - 2 hours. Surgical operations

- Classification. Types of operations according to the term of execution, complexity, location. One-stage, multi-stage. Hybrid operations.
- Indications, tactics, types

LECTURE № 8 - 2 hours. Surgical Operation. Types and indications

- Definition, types. Conventional & Laparoscopic approach. Main indications

LECTURE № 9 - 2 hours. Surgical manipulations

- Puncture - types, indications, technique. Puncture of vessels and anatomical cavities.
- Puncture of newly formed cavities - abscess (hot & cold) and hematoma. Drainage - types, indications, techniques.
- Tomia. Stomy. Incision. Excision. Trepanation.
- Anastomosis. Bypass. Resection. Ectomy. Amputation.

LECTURE № 10 - 2 hours. Bandages and Dressings

- Bandages - types, materials. Indications. Principles and methods of bandaging.
- Bandages of the head, neck and eyes
- Bandages of upper and lower limbs
- Bandages of the chest

LECTURE № 11- 2 hours. Acute abdomen

- Definition. Etiology. Clinical features - symptoms and physical examination.
- Clinical picture of abdominal inflammation, perforation and obstruction.
- Laboratory and instrumental tests.

LECTURE № 12- 2 hours. Organ and tissue transplantation.

- Transplantology - definition, terminology. Tissue transplantation.
- Organ transplantation - kidney, heart, liver, lungs, pancreas, etc.

LECTURE № 13 - 2 hours. Surgical Endoscopy.

- Indications. Contraindications. Upper and lower endoscopy of the GIT. Other types of endoscopic procedures - bronchoscopic, arthroscopic, etc.

LECTURE № 14 - 2 hours. Mini-invasive Surgery

-History, development, principles. Advantages and disadvantages. Necessary equipment and instruments. Types of laparoscopic operations.

LECTURE № 15 - 2 hours. Basic principles of surgical incisions and suturing

1. Basic principles and rules.

2. Technique of tissue separation - skin, fascia, muscles, peritoneum.

3. Tissue joining technique.

CURRICULUM
FOR THE PRACTICAL EXERCISES
PROPEDEUTICS OF SURGICAL DISEASES
For 3rd year medical students

1. Anamnesis.
2. General physical examination.
3. Local physical examination.
4. Asepsis and types of sterilization.
5. Antisepsis
6. Examination of skin and soft tissues.
7. Examination of the arterial system.
8. Examination of the lymphatic-venous system.
9. Examination of the head and neck.
10. Examination of the breast.
11. Examination of the thorax.
12. Examination of the lungs and mediastinum.
13. Abdominal examination. Inspection. Borders and regions.
14. Examination of the abdomen. Palpation.
15. Examination of the abdomen. Percussion and auscultation.
16. Examination of abdominal organs.
17. Stomach tubes. Upper endoscopy.
18. Examination of the inguino-femoral region.
19. Examination of the perineum and anus.
20. Colon and Rectum examination
21. Urologic physical examination.
22. Urologic instruments.
23. Examination of a patient with hemorrhage.
24. Soft tissue and wound infection examination
25. Oncological patient examination. Local signs and symptoms of a tumor.
26. Paraclinical and histological verification of tumors. Staging.
27. Dressings.
28. Examination of fistula & ulcer.
29. Determination of blood groups.

30. Examination of a traumatic patient.
31. Examination of a patient with thermal trauma.
32. Basic surgical manipulations - injections, infusion systems, etc.
33. Preoperative preparation and examination.
34. Postoperative period and complications.
35. Wound management
36. Hemostasis
37. Tissue incisions and suturing.
38. Operations of the head, chest and limbs.
39. Operations of thorax
40. Abdominal operations.
41. Bandages, Dressings and Casts.
42. Desmurgy. Bandages of Head, Neck and thorax
43. Desmurgy. Bandages of extremities
44. Types of surgical instruments.
45. Specific instruments - staplers, laparoscopic instruments.

**WEEK PROGRAM PRACTICAL CLASSES
PROPEDEUTICS OF SURGICAL DISEASES
FIRST SEMESTER**

EXERCISE № 1 - 2 hours. Introduction to the clinical base. Anamnesis.

1. Introduction to the clinical base:
 - Inpatient - sectors / preoperative, postoperative / ICU / and coloproctology with septic /
 - Contingent of patients - planned - emergency, aseptic - septic, severely - slightly ill
 - Reception-consulting office - planned and urgent procedures
2. Anamnesis - types, sequence and methodology of taking a surgical anamnesis

EXERCISE № 2 - 2 hours. General physical examination of the patient.

1. General status - sex, age, height, weight, physique, nutrition, turgor, face, temperature, consciousness
2. Physical methods of examination - inspection, palpation, percussion, auscultation.

EXERCISE № 3 - 2 hours. Local physical examination of the patient.

1. Local surgical status - description of the surgical finding
2. Abnormal findings. Special tests.

EXERCISE № 4 - 2 hours. Asepsis and types of sterilization

1. Preparation and sterilization of surgical gowns & sheets, dressings, consumables, instruments.
2. Types of sterilizers and function modes
3. Rules for working in an aseptic environment.

EXERCISE № 5 - 2 hours. Antisepsis

1. Types of antiseptics. Mechanisms of action.
2. Principles and application of antisepsis in the operating room and for the surgical team

EXERCISE № 6 - 2 hours. Examination of skin and soft tissues

1. Examination of the skin - color, scars, rashes, swelling

2. Examination of mucous membranes - color, surface

EXERCISE № 7 - 2 hours. Examination of the arterial system

1. Acute and chronic arterial insufficiency
2. Examination of pulse - examination, palpation, auscultation
3. Non-invasive and invasive arterial diagnostic procedures.

EXERCISE № 8 - 2 hours. Examination of the venous and lymphatic system

1. Varicose veins, thrombophlebitis and chronic venous insufficiency
2. Local examination of the lower extremities - examination, palpation, static and dynamic examination of varicose veins and CVI.
3. Vascular Doppler and phlebography.
4. Examination of the lymphatic system - lymph node regions - examination, palpation, puncture.

EXERCISE № 9 - 2 hours. Examination of the head and neck

1. Boundaries, areas, shape, anatomical points and lines of the face and hairy part of the head.
2. Examination of cervical adenopathy - groups of lymph nodes
3. Examination of the parotid and thyroid glands, cysts, fistulas

EXERCISE № 10 - 2 hours Examination of the mammary gland

1. Lymph pools and nodes of the mammary gland
2. Examination of a breast tumor - examination, palpation, criteria - location, size, shape, surface, consistency, soreness, mobility
3. Modern imaging tests

EXERCISE № 11 - 2 hours. Examination of the thorax

1. Physical examination - boundaries, areas and lines
2. Examination for chest contusion and rib fracture
3. Imaging and invasive examinations of the chest

EXERCISE № 12 - 2 hours Examination of the lungs and mediastinum

1. Physical examination of the lungs - pathological phenomena in percussion and auscultation
2. Imaging and endoscopic examinations of the respiratory system and mediastinum

EXERCISE № 13 - 2 hours. Abdominal examination. Inspection. Borders and areas.

1. Examination of the abdomen - boundaries, areas
2. Examination of the abdomen - examination - static and dynamic examination

EXERCISE № 14 - 2 hours. Abdominal examination. Palpation.

1. Examination of the abdomen - palpation - types, superficial and deep, technique.
2. Principles and sequence of the abdominal palpation

EXERCISE № 15 - 2 hours. Abdominal examination. Percussion and auscultation.

1. Percussion of the abdomen - technique, sequence
2. Physiological and pathological auscultation phenomenas
3. Abdominal auscultation - physiological and pathological intestinal peristalsis

EXERCISE № 16 - 2 hours. Examination of abdominal organs.

1. Projection of internal organs, peritoneal relations.

2. Painful points of various diseased abdominal organs.
3. Imaging, endoscopic and laparoscopic examinations and manipulations of the abdominal organs.
4. Diagnostic laparotomy - indications.

EXERCISE № 17 - 2 hours. Upper endoscopy.

1. Placement of a nasogastric tube and gastric lavage - indications, technique.
2. Placement and fixation of a nasogastric tube for prolonged gastric aspiration - indications, technique.
3. Indications and technique of placing Sengstaken – Blakemore tube
4. Fibrogastroscopy - preparation, basic indications and technique.

EXERCISE № 18 - 2 hours. Examination of the inguinal-femoral region.

1. Hernias - inguinal and femoral - elements - hernial sac, cervical neck, hernial contents.
2. Determining the size, shape and consistency of the hernia sac.
3. Determining the size of the hernial opening, reponibility of the hernial contents.
4. Complications of hernias.
5. Differential diagnosis of diseases in the inguinofemoral area - hernias, adenopathies, vascular diseases, etc.

EXERCISE № 19 - 2 hours. Examination of the perineum and anus.

1. Preparation of the patient for examination, position of the patient, examination, palpation.
2. Digital rectal exam - technique.
3. The most common manifestations and symptoms of anorectal diseases.

EXERCISE № 20 - 2 hours. Examinations and manipulations of the colon and rectum.

1. Anoscopy, rectomanoscopy, fibrocolonoscopy and biopsy. Irigography. Endorectal ultrasound.
2. Indications and technique of placing a gas pipe.
3. Enemas - types, indications, technique.

EXERCISE № 21 - 2 hours Physical examination of urological patient

1. Examination of the kidneys - palpation technique, costovertebral tenderness.
2. Examination of the bladder - palpation and percussion in urinary retention.
3. Examination of the external genitalia in men.
4. The most common subjective symptoms and clinical signs of urinary system diseases

EXERCISE № 22 - 2 hours. Urological instrumental examinations and manipulations.

1. Catheterization of the bladder - indications, technique, types of catheters.
2. Endoscopy of urinary system
A / Cystoscopy - indications, technique; cystoscopic finding and manipulations
B / Other endoscopic examinations.
3. Ultrasound and radiological methods of urinary system.
4. Kidney biopsy, bladder and prostate biopsy

EXERCISE № 23 - 2 hours. Examination of a patient with hemorrhage.

1. Determining the type of bleeding / capillary, venous, arterial /, the intensity of bleeding and the degree of blood loss.
2. Emergency measures in a patient with acute bleeding.
3. Types of artificial hemostasis - temporary hemostasis.

4. Basic principles, ways and techniques of temporary hemostasis - direct and indirect methods.

EXERCISE № 24 - 2 hours. Soft tissue and wound infection examination.

1. Main symptoms of the local inflammatory process. Types of abscesses.
2. Clinical features of the local examination of abscesses of the palm, fingers and feet.
3. Taking wound secretions for microbiological analysis, antibiogram.
4. Basic treatment principles of purulent processes of soft tissues

EXERCISE № 25 - 2 hours Oncological patient examination. Local tumor examination.

1. Basic criteria in the clinical examination of a patient with a tumor.
A / symptoms - duration of growth, pain, consumptive syndrome.
B / clinical signs - common - cachexia, anemia, jaundice.
- local - size, shape, surface, boundaries, mobility, consistency, soreness.
- regional adenopathy, metastases.
C / secondary changes - inflammatory, obstructive, bleeding, etc.

EXERCISE № 26 - 2 hours. Paraclinical and histological verification of tumors. Staging.

1. Basic paraclinical examinations - blood and urine, imaging examinations, endoscopic examinations
2. TNM - classification of tumors. Grading (G) and staging. Types of biopsies.
3. Types of tumors, according to tissue origin. Histological features.

EXERCISE № 27 - 2 hours Dressings

1. Principles of wound healing
2. Dressings for accidental, operative and septic wounds

EXERCISE № 28 - 2 hours. Examination of a patient with ulcer and fistula.

1. Examination of a patient with fistula - types, examination technique
2. Examination of a patient with an ulcer - types of ulcers - trophic, varicose

EXERCISE № 29 - 2 hours. Determination of blood groups.

1. Types of blood groups and principles of examination with test serums
2. Preparation and technique of blood group examination.
3. Identifying the results and determining the patient's blood type

EXERCISE № 30 - 2 hours. Examination of a traumatic patient.

1. Assessment of the approach in a patient with severe trauma.
2. Priorities in a patient with severe trauma - basic vital functions - breathing and circulation; spinal cord protection.
3. Initial assessment in a patient with severe trauma - history, general examination, imaging and other tests.
4. Peculiarities of the systematic examination of a traumatic patient - head and neck, chest, abdomen and limbs.

WEEK PROGRAM PRACTICAL CLASSES
PROPEDEUTICS OF SURGICAL DISEASES
SECOND SEMESTER

EXERCISE № 31 - 2 hours. Examination of a patient with thermal trauma.

1. Evaluation of a patient with burns – phases of the disease.
2. Methods for determining the percentage, stage and degree of combustion.
3. Basic treatment principles for a patient in thermal shock.
4. Surgical treatment of burns.

EXERCISE № 32 - 2 hours. Basic surgical manipulations - injections, inf. systems, enema

1. Types of injections - preparation and technique
2. Preparation and inclusion of infusion system - venipuncture, inclusion of system, dosing of the infusion
3. Types of enemas and indications

EXERCISE № 33 - 2 hours. Preoperative assessment and preparation.

1. Preoperative examinations - paraclinical minimum; extended outpatient and inpatient preoperative examinations.
2. Preoperative assessment of the patient according to the type and volume of the operation.
3. Suitability of the patient for surgery - anesthesiological and operative risk; groups of patients at high risk for perioperative complications.
4. General and specific preparation of the patient for surgery.

EXERCISE № 34 - 2 hours. Postoperative period and complications. SSI.

1. Types of postoperative complications.
A / anesthesiological - systemic - respiratory, cardiac, renal.
B / operative - early and late - bleeding and infection.
2. Diagnosis and behavior of the most common postoperative problems; pain, fever, tachycardia, dyspnea and tachypnea, collapse, nausea and vomiting, oliguria, jaundice, changes in consciousness. Surgical site infections.
3. Postoperative complications of the digestive tract: prolonged postoperative intestinal paresis, ileus, insufficiency of the anastomosis, abscess, peritonitis, fistula, acute intestinal ischemia, constipation, etc.

EXERCISE № 35 - 2 hours Wound management

1. Dressings for aseptic wounds, suture removal - terms and methods
2. Dressings for septic wounds - local application of antiseptics and antibiotics. Principles.

EXERCISE № 36 - 2 hours. Hemostasis.

1. Hemostasis - types - spontaneous and arterial; provisional and definitive
2. Methods for temporary and definitive hemostasis

EXERCISE № 37 - 2 hours. Tissue incisions and suturing.

1. Sequence in tissue separation, technique, instruments
2. Tissue suturing - sequence, methods, instruments

EXERCISE № 38 - 2 hours. Operations of head, neck and extremities.

1. Operations of the soft tissues of the head and face - plastic, reconstructive, aesthetic
2. Skull operations - punctures, trepanations

3. Operations of the limbs - fingers and palms - incisions of abscesses. Types of amputation
5. Operations of neck soft tissues.

EXERCISE № 39 - 2 hours. Operations of thorax.

1. Chest operations – types of thoracotomy, indications. Conventional approach. VATS.
2. Chest tube placement. Technique and indications
3. Operations of cardiovascular system, esophagus, mediastinum

EXERCISE № 40 - 2 hours. Abdominal operations.

1. Abdominal wall operations.
2. Operations of the peritoneum and abdominal organs - types of access.
3. Operations of the retroperitoneal space, urological operations.
4. Combined operations of the thoracic and abdominal cavities.

EXERCISE № 41 - 2 hours. Bandages, Dressings and Casts.

1. Types of bandages. Technique and basic principles.
2. Gypsum bandages & casts - preparation, general principles of technique and types of gypsum bandages / gypsum slings, circular gypsum bandages /.
3. Adhesive and plaster bandages.

EXERCISE № 42 - 2 hours. Bandages of head, neck and thorax.

1. Bandages - types, materials. Methods and rules of bandaging.
2. Bandages of the head – Hippocratic cap, Monoculus, Binoculus, Capistrum
2. Bandages of the chest - Suspensorium mame, Desault, Velpeau

EXERCISE № 43 - 2 hours. Desmurgy. Bandages of extremities

1. Bandages of the upper limb - spica, testudo, dolabra, involution.
2. Bandages of the lower limb - hip area, thigh, knee, lower leg, foot and toes.

EXERCISE № 44 - 2 hours. Conventional surgical instruments.

1. Tools for tissue separation - scalpel, scissors, amputation knife, osteotomes, electric knife, ultrasonic scalpel, etc.
2. Retractors - types, technique of placement and handling.
3. Grasping instruments
 - Hemostatic instruments - terrier, cocher, pean
 - Clamps - regular, soft
 - Forceps - surgical, anatomical
 - Needle holders
4. Miscellaneous - probes, dissectors, etc.

EXERCISE № 45 - 2 hours. Specific instruments – Staplers and instruments for mini-invasive surgery

1. Mechanical staplers - circular, linear
2. Instruments for minimally invasive surgery - gaspers, dissectors, coagulators, aspirators-
insufflators

CONSPECTUS
PROPEDEUTICS OF SURGICAL DISEASES

Since 2000, after the completion of the TEMPUS Project SEP 12480-97 "Restructuring of surgery curricula and their harmonization with European requirements" together with the Universities of Medicine in Brussels, Belgium and Maastricht, the Netherlands, the oral exam and syllabi were replaced by a test and written exam on a thematic program.

**CONSPECTUS
PROPEDEUTICS OF SURGICAL DISEASES
III-rd year Medical students**

Prepared by: prof. Yonkov
Approved by: Prof. Stefanova
Protocol from the CC № /13.02.20

I. For the WRITTEN EXAM

1. History of Surgery. Surgery in Bulgaria.
2. Antiseptics. History. Antiseptic agents
3. Aseptics. History of Aseptics. An Operating room's structure and organization.
4. Basics of surgical treatment - organization and planning. Surgical instruments –types. Surgical Sutures and bandages.
5. Preoperative assessment of a surgical patient
6. Postoperative period. Postoperative complications – surgical, pulmonary, cardiovascular, gastrointestinal, renal, hepatic, hepatorenal syndrome
7. Preparation of the surgical team. Preparation of the operating field
8. Surgical operation. Types of operations.
9. Antibiotics in surgery. Indications and Complications.
10. Basic surgical manipulations in surgery. Puncture - types, indications, technique. Puncture of blood vessels and anatomical cavities.
11. Basic surgical manipulations - Puncture of abscess and hematoma. Tubes – types, indications and techniques.
12. Basic surgical procedures - Tomy. Stomy
13. Basic surgical procedures - Incision. Excision. Trepanation.
14. Basic surgical procedures - Anastomosis. Bypass
15. Basic surgical procedures - Resection. Ectomy. Amputation
16. Anesthesia – history. Definition. Types
17. Local anesthesia - types, agents, indications, technique, complications.
18. Shock – types, pathophysiology, basic principles of treatment
19. Clinical death – signs and symptoms. Principles of management
20. Congenital anomalies – teratogenic factors and prenatal diagnosis.
21. Congenital diseases - basic principles of surgical treatment.
22. Congenital anomalies of head and neck.
23. Congenital anomalies of the gastrointestinal tract.
24. Trauma. Definition. Types and Classification.
25. Blunt injuries. Bruises. Compressions. Crush syndrome. Traumatic decollement.
26. Blunt head injury. Commotion, Contusion, Cerebral compressions.

27. Blunt thoracic and abdominal injuries
28. Open trauma – Wounds
29. Contusion and lacero-contusion Wound.
30. Cut wounds. Bite wounds
31. Gunshot wounds. Puncture wounds
32. Primary and secondary wound healing. Suture of wounds. Types. Scars
33. Principles of wound treatment
34. Postoperative complications of wounds
35. Burns. Definition. Types. Classification. Principles of management- conservative and surgical.
36. Electrical Injuries – local and general. Chemical burns
37. Frost Injuries. Definition, types, stages, manifestation, treatment.
38. Hemorrhage – definition, classification, pathophysiology, clinical features, treatment.
39. Haemostasis - temporary and definitive. Spontaneous hemostasis. Blood Clotting Mechanism.
40. Blood transfusion – history, ABO and Rhesus system /Rh/. Blood groups
41. Blood transfusion – indications and contraindications. Errors and complications
42. Blood transfusion - indications and contraindications for blood transfusion. Blood products.
43. Transplantology. Definition. Terminology. Tissue transplantation.
44. Plastic and reconstructive surgery – Definition .
45. Tissue transplantation - Definition. Terminology. Organ transplantation - kidney, heart, liver, lungs, pancreas
46. Inflammation. Morphological changes. Pathophysiology of the inflammatory process. Local signs and symptoms.
47. Classification of surgical infections. Etiological agents. Acute pyogenic infection – abscess
48. Acute pyogenic infection – phlegmon. Chronic pyogenic infection.
49. Pyogenic skin infection – folliculitis, furuncle, carbuncle, hidradenitis.
50. Pyogenic lymphatic infection. Lymphangitis and lymphadenitis. Elephantiasis
51. General pyogenic infection /sepsis/ - classification, etiology, pathogenesis.
52. General pyogenic infection /sepsis/ - symptoms, diagnosis and treatment. Abdominal sepsis.
53. Anaerobic gas gangrene.
54. Tetanus – symptoms, treatment and prophylaxis.
55. Tuberculosis. Types of surgical tuberculosis. Actinomycosis.
56. Echinococcosis.
57. Acute arterial insufficiency – Embolism and thrombosis.
58. Chronic arterial insufficiency - Raynaud's syndrome and disease. Buerger's disease.
59. Obliterating atherosclerosis. Diabetic angiopathy.
60. Gangrenes. Types. Dry and wet gangrene.
61. Venous insufficiency. Varices – etiology, clinical features and complications.
62. Thrombophlebitis and Phlebothrombosis.
63. Aneurism – definition. Types. Clinical manifestation.
64. Ulcers and Fistulas. Etiology and classification.
65. Osteomyelitis. Etiology and types.
66. Surgical oncology - basics. Epidemiology of cancer. Biology of malignant transformation. Contemporary theories of carcinogenesis.
67. Neoplasm – definition, etiology, and pathogenesis. Genetic aspects.
68. Early diagnosis of malignant diseases- screening methods. Diagnostic tests

69. General principles for the management of neoplasms. Ablastic and antiplastic. Complex methods of treatment – radiotherapy, chemotherapy, hormonal therapy and immunotherapy.
70. Classification of neoplasms. Morphology and biology of tumors. Precancerosis. Paraneoplastic syndromes.
71. Clinical classification of malignant tumors. TNM – system. Basic apparatus and instrumental tests. Morphological diagnosis. Tumor markers.
72. Benign and malignant tumors of epithelial origin.
73. Benign and malignant tumors of connective tissues.
74. Heterogeneous tumors.
75. Surgical endoscopy – principles and indications. Fibrogastroscopy. Fibrocolonoscopy. Rectoromanoscopy.
76. Surgical endoscopy - principles. Laparoscopy - technique, indications, contraindications. Bronchoscopy. VATS..
77. Laparoscopic (mini-invasive) surgery - history, development, principles. Advantages and disadvantages. Instruments and equipment. Types of laparoscopic surgeries.
78. Laparocentesis. Thoracocentesis. Puncture biopsy.
79. Robot-assisted surgery. Telesurgery.

II. For the PRACTICAL EXAM

1. Anamnesis – patient history.
2. General physical examination of a patient.
3. Local physical examination - Inspection, Palpation, Percussion, Auscultation. Examination of acute inflammation.
4. Tumor examination.
5. Head and neck examination.
6. Chest examination.
7. Breast examination
8. Examination of the Abdomen.
9. Abdominal wall examination. Hernia.
10. Anorectal examination.
11. Urological patient examination.
12. Wound examination.
13. Temporary hemostasis.
14. Definitive hemostasis.
15. Blood transfusion - indications, technique, blood groups.
16. Bandages - head and chest.
17. Bandages - upper and lower limb.
18. Nasogastric tube – types and insertion. Sengstaken Blakemore tube.
19. Injections. Types and indications.
20. Enema. Types and indications.
21. Examination of abscess and phlegmon.
22. Aseptic and septic wound dressings.
23. Surgical instruments – types and applications.
24. Tissue incisions - skin, fascia, muscles, peritoneum.
25. Tissue suturing.
26. Primary surgical treatment of wound. Secondary wound closure.

LITERATURE

1. Schwartz's Principles of Surgery, 9 edition.
2. Short practice of surgery- Bailey & Love's

3. Essential Surgery: Problems, Diagnosis and Management
4. Fundamentals of Surgical Practice
5. Surgery – principles in general
6. Sabiston textbook of surgery – 20th edition

The exam is in 4 stages:

- I-st stage: Test – MCQ for 30 minutes. If passed successfully follows 2nd part:
II-nd stage: Written exam - one individual question
III-rd stage: Practical exam
IV-th stage: Oral exam

**CONSPECT FOR STATE EXAM OF MEDICAL STUDENTS
MEDICAL UNIVERSITY- PLOVDIV - 2019/2020**

Approved: Prof. Stefanova

Protocol from the CC № /13.02.20

I. GENERAL AND SPECIAL SURGERY.

1. Local and regional anaesthesia.
2. Wound Healing: Sanatio per Primam.
3. Wound Healing: Sanatio per Secundam. Sanatio sub crustam.
4. Thermal Trauma. Burns.
5. Thermal Trauma. Frost-bite.
6. Hemostasis.
7. Blood Transfusion. Complications.
8. Shok.
9. Surgical Infections. Necrotizing soft tissue infections.
10. Surgical Infections. Phlegmona. Abscess. Empyema.
11. Surgical Infections. Furunculus. Carbunculus.
12. Surgical Infections. Acute lymphangitis. Acute lymphadenitis.
13. Surgical Infections. Sepsis.
14. Femoropopliteal and Tibial acute occlusive Disease.
15. Femoropopliteal and Tibial chronic occlusive Disease.
16. Venous thromboembolism.
17. Blunt trauma. Penetrating trauma.
18. Osteomyelitis.
19. Panaritium.
20. Tetanus.
21. Cervical cysts and fistulas.
22. Thyrotoxicosis.
23. Non-toxic goitre. Hashimoto's disease. De Quervain's thyroiditis.
24. Carcinoma of the thyroid gland.
25. Benign breast tumors.
26. Acute mastitis.
27. Breast Cancer.
28. Chest Trauma. Rib Fractures. Flail Chest.

29. Chest Trauma. Traumatic Hemothorax.
30. Chest Trauma. Traumatic Pneumothorax.
31. Chest Trauma. Pulmonary Contusion. Tracheal Injury. Esophageal Injury. Cardiac tamponade.
32. Pleural Empyema.
33. Lung abscesses.
34. Lung Hydatid Disease.
35. Bronchiectatic disease.
36. Lung Cancer.
37. Esophageal Diverticula. Achalasia.
38. Esophageal Neoplasms.
39. Oesophageal perforation. Mallory-Weiss syndrome.
40. Acute Mediastinitis.
41. Mediastinal Tumors and Cysts.
42. Abdominal Wall Hernias. Groin Hernia.
43. Abdominal Wall Hernias. Femoral Hernia.
44. Abdominal Wall Hernias. Umbilical Hernia. Epigastral Hernia.
45. Abdominal Wall Hernias. Incisional Hernia.
46. Paraesophageal hiatal hernia. Sliding type of hiatal hernia.
47. Abdominal Trauma. Penetrating Injury.
48. Abdominal Blunt Trauma.
49. Peptic ulcer. Complications. Pyloric Stenosis. Penetration.
50. Peptic ulcer. Complications. Perforation.
51. Acute Gastro-intestinal bleeding.
52. Stomach cancer.
53. Calculous Biliary Disease
54. Acute cholecystitis.
55. Obstructive Jaundice.
56. Liver Hydatid Disease.
57. Acute Pancreatitis.
58. Acute appendicitis. History. Physical findings.
59. Appendicitis in the elderly. Appendicitis in pregnancy.
60. Ileus and Bowel Obstruction. Pathogenesis. Clinical presentation.
61. Ileus and Bowel Obstruction. Intussusception.
62. Ileus and Bowel Obstruction. Volvulus.
63. Ileus and Bowel Obstruction. Paralytic Ileus.
64. Ileus and Bowel Obstruction. Hernial obstruction.
65. Exocrine Pancreatic Cancer. Endocrine Pancreatic Tumors.
66. Liver Cancer.
67. Pancreatic Pseudocyst.
68. Mesenteric Thrombosis.
69. Acute generalized peritonitis.
70. Intra-abdominal abscesses.
71. Ulcerative Colitis
72. Diverticular disease of the colon.
73. Colorectal Cancer.
74. Anorectal Abscesses.
75. Fistula-in-Ano. Anal Fissure.
76. Hemorrhoids.

II. UROLOGY

A. GENERAL UROLOGY

1. Symptomatology in urology- classification.
2. Urinary symptoms- classification.
3. Changes of voided urine
4. Haematuria.
5. Retention of urine.
6. Incontinence of urine.
7. Physical examination of the genitourinary tract.
8. Radiology of the urinary tract.
9. Urologic laboratory investigations. Sperm parameters.
10. Instrumental investigations in urology.
11. Biopsy in urology.
12. Ultrasound in urology.
13. Renal function tests.
14. Acute renal failure.
15. Hydronephrosis. Pyonephrosis.
16. Chronic renal failure.
17. Catheterization of the urinary bladder. Suprapubic drainage of urine (Cystofix).
18. Overactive bladder.
19. Percutaneous Endourology. Ureterrenoscopy.
20. Urinary Obstructions. Stasis.
21. Bacterial and specific infections of the Genitourinary tract. Sexually transmitted diseases. Urosepsis.
22. Mechanism of normal micturation, Neural circuits controlling storage and expulsion of urine.
23. Urodynamic studies.
24. Urinary Obstruction. Stasis of urine.
25. Renal transplantation- general aspects.

B. SPECIAL UROLOGY

26. Congenital anomalies of the kidney.
27. Congenital anomalies of the ureter.
28. Congenital anomalies of the bladder.
29. Congenital anomalies of the urethra.
30. Congenital anomalies of the testis.
31. Congenital anomalies of the penis.
32. Trauma to the kidney.
33. Injury to the ureter.
34. Injury to the bladder.
35. Injury to the urethra.
36. Trauma to the scrotum.
37. Trauma to the penis.
38. Renal parenchymal neoplasms.
39. Wilm's tumor (nephroblastoma).
40. Urothelial carcinoma: cancers of the bladder, ureter, renal pelvis,
41. Benign prostatic hyperplasia(BPH).
42. Prostate cancer.
43. Germ cell tumors of the testis.
44. Tumors of the penis.
45. Inflammation of the epididymis and testis.
46. Torsion of the testis (torsion of spermatic cord).

47. Hydrocele. Varicocele.
48. Male infertility.
49. Nephrolithiasis- epidemiology, types of stones, specific risk factors for stone formation, pathophysiology.
50. Nephrolithiasis- clinical features, diagnosis, complications (classification), management (minimally invasive procedures).
51. Inflammation of the bladder- acute and chronic cystitis.
52. Inflammation of the prostate (prostatitis).
53. Disorders of ejaculation.
54. Male sexual dysfunction- physiology of penile erection (inervation of the penis, anatomy and hemodynamics of penile erection, mechanism of penile erection). Erectile dysfunction.
55. Male reproductive system- organs involved in the production of semen. Path of sperm transport.

ORTHOPEDICS.

1. Torticollis
2. Paralysis obstetrica
3. Congenital dysplasia of the hip joint
4. Congenital dysplasia of the hip joint in walking children
5. Coxa vara. Epyphysiolysis adolescentia. Coxa valga
6. Deformities and diseases of the knee joint (genu varum, genu valgum, chondrodystrophia patellae, luxatio patellae)
7. Rachitis deformities
8. Pes equinovarus
9. Scoliosis. Kyphosis. Lordosis
10. Diseases of the muscles and their insertions due to fatigue
11. Diseases of the tendons.
12. Periarthritis of the shoulder joint
13. Pes planovalgus
14. Pertes disease
15. Aseptic necroses
16. Osteochondritis dissecans of the knee joint
17. Bone tumors
18. Degenerative joint diseases (coxarthrosis and gonarthrosis)
19. Central paralysis. Peripheral paralysis
20. Fractures- in general
21. Pathological fractures
22. Spine fractures. Dislocation of the spine
23. Fractures of the pelvis
24. Pertrochanteric fractures
25. Fractures of the femoral neck
26. Supracondylar fracture of the femur
27. Patellar fractures
28. Intraarticular fractures of the knee joint
29. Dyaphisal fractures of the tibia and fibula
30. Fractures of the ankles
31. Fractures of the dyaphysis of the humerus
32. Shoulder fractures
33. Surgical neck fractures of the humerus
34. Supracondylar fracture of the humerus
35. Fracture of the elbow (olecranon)

36. Fractures of the forearm
37. Colles fracture
38. Traumatic dislocations of the hip joint
39. Dislocation of the shoulder joint
40. Dislocation of the elbow joint
41. Soft tissue injuries of the knee joint
42. Fractures of the carpal, metacarpal bones and phalangeal fractures

11/07/2022

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