1. **Asepsis and antisepsis**

1. Classic and modern methods of hands washing before operation. Processing of operative field.

2. Conception of disinfection of surgical tools and other medical products using in surgery (metods, drugs).

3. Kinds of modern antiseptics. Conception of bactericidal and bacteriostatic drug (antiseptic) action.

4. Bandaging material, surgical cloth and operating textile. Its sterilization.

5. Lister’s antiseptic. Its advantages and disadvantages. Lister’s predecessors.

6. Contact infection. Sterilization metods of medical products. Steam sterilizer: equipment, mode of operation.

7. Conception of disinfection and sterilization. Chemical methods of disinfection and sterilization.

8. Conception of respiratory infection and implantation infection in surgery. Prevention of these types of infection.

9. Basic antiseptic drugs, its description. Methods of its applying.

**2. Anesthesia.**

1. Spinal anesthesia. Techniques. Indications and contraindications. Complications.

2. Intravenous narcosis. Techniques. Indications and contraindications. Complications.

3. Epidural anesthesia. Techniques. Indications and contraindications. Complications.

4. Narcosis (definition). Inhalation narcosis. Techniques. Instruments and apparatus. Complications.

5. Mask narcosis. Endotracheal narcosis. Techniques. Indications and contraindications.

6. General anesthesia. Action mechanism of anesthetic drugs (theories of narcosis).

7. Local anesthesia by Wishnevsky. Techniques. . Its advantages and disadvantages.

Block regional anesthesia. Techniques.

8. Local anesthesia, its kinds. Drugs for local anesthesia Indications and contraindications. Complications.

9. Methods of artificial respiration. Equipment, tools.

10. Intravenous and intraosseous anesthesia. Indications. Techniques.

11. Clinical picture of narcosis. Health monitoring during narcosis.

**3. Non operative technique**

1.Transport immobilization. Types of transport splints. Rules of applying. Curative immobilization, general idea about hard bandages.

2. Drainage of wounds and body cavities. Indications. Types of drainages, passive and active drainage.

**4. General health disorders**

1. General activity of doctor and succession of actions for blood transfusion.

2. Rh-factor and its identification. Explanation of Rh detection for blood transfusion.

3.Errors when blood typing. Causes and its prevention.

4. Concepts of isohemagglutination and blood groups. Explanation of blood group identification for blood transfusion.

5.Posttransfusion complications. Causes. Posttransfusion shock, causes, symptoms, treatment, prevention.

6.Tests for individual compatibility between donor and recipient blood.

7. Blood transfusion medicines, components of blood for transfusion. Its application.

8. Blood substitutes. Classification. Indications for infusion. Complications.

9. Technique of blood transfusion: intravenous, intraosseous. Venipuncture, venisection.

10.Methods of blood transfusion: direct, indirect, autohemotransfusion, reinfusion.

9. Shock. Kinds of shock. Traumatic shock: etiology, pathogenesis, symptoms, treatment.

10.General health disorders. Terminal states. Concepts of resuscitation.

11.Consepts of bleeding. Classification (according types of vessels, localization, source of bleeding, intensity, time of beginning).

12. Methods of definitive hemostasis.

13. Methods of temporary hemostasis.

14. Clinical picture of bleeding. General symptoms. Local symptoms depend of type of bleeding.

15. Emergency actions in case of cardiac and respiratory arrest. Technique of resuscitation.

**5. Trauma**

1. Frostbites. Pathogenesis. Classification. Symptoms. First aid. Treatment.

2. Wounds. Definition. Classification. Features of gunshot wounds.

3.Dislocations. Definition. Classification. First aid. Тrеatment.

4. Fracures. First aid. methods of conservative and operative treatment.

5.Stages of wound process. Its morphological and clinical description. Bacteriological control. Cytologic study.

6.Types of wound healing. Stages of wound process.

7.Primary surgical debridement of wounds. Technique. Types of wound sutures.

8. Trauma and traumatism (definitions). Classification of traumas. Kinds of mechanical injures.

9. Methods of burn area determination.

10. Closed injures of soft tissues. Definition. Symptoms. First aid. Тrеatment

11.General principles of management in case of fractures. Methods of conservative treatment.

12. Examination of patients with trauma. Features of anamnesis. Visual inspection, palpation. Measuring of limbs length and joint motions.

13.Thermal burns. Classification. Clinical presentation. Тrеatment.

14. Surgery of fractures. Indication for operation. Kinds of osteosynthesis.

15. Fracture healing. Bone callus, its structure. Requirements for good fracture healing.

16. Closed injures of brain. Classification. Clinical presentation. Treatment.

17. Concepts of burns. Thermal and chemical burns, its kinds. Electrical burns.

18. Closed injures of chest and abdomen. Clfssification. Clinical presentation. Principles of treatment.

**6. Suppurative inflammatory processes**

1.Concept of surgical infection. Classification. Acute purulent infection. Microbes. Etiology, pathogenesis. General and local symptoms.

2.Principles of acute purulent infection managing. General treatment. V

3.Concept of surgical tuberculosis. Bone tuberculosis. Stages of process. Symptoms. Treatment.

4.Principles of purulent wound managing. Active surgical method.

5. Abscess and phlegmon. Clinical presentation. Treatment.

6.Fistulas. Etiology. Classification. Symptoms. Treatment.

7. Principles of local treatment of acute purulent infection.

8. Acute purulent diseases of glands (parotitis, mastitis). Clinical presentation. Treatment.

9. Panaritium (whitlow). Classification. Clinical presentation. Treatment.

10. Sepsis. Classification. Surgical sepsis, its kinds. Etiology, pathogenesis. Symptoms. Treatment.

11. Purulent diseases of skin (furuncle, carbuncle, hydradenitis, erysipelas). Clinical presentation. Treatment.

12. Hematogenous osteomyelitis. Classification. Diagnostic. Clinical presentation. Treatment.

13. Purulent arthritis. purulent bursitis. Clinical presentation. Treatment.

14. Peritonitis. Classification. Diagnostic. Clinical presentation. Treatment.

15. Purulent pleurisy. Etiology. Diagnostic. Clinical presentation. Treatment.

**7. Regional blood supply disorders**

1. Thrombophlebitis of lower limbs. Classification. Diagnostic. Clinical presentation. Treatment. Late complications.

2. Necroses. Etiology. Kinds of necroses. General principles of treatment.

3. Clinical presentation of surgical arteries and veins diseases.

4. Trophic ulcers. Etiology. Classification. Symptoms. Treatment.

5. Atherosclerosis obliterans. Symptoms. Diagnostic. treatment.

**8. Oncology**

1.Classification of malignant tumors according of stage of process.

2.Precursors of cancer (pre-cancerous conditions). Facultative and obligate precancer. Early recognition of cancer.

3.Tumors (definition). Etiology and pathogenesis of tumors.

4.Benign and malignant tumors. Differences of two types tumors. Classification of tumors depend on tissues.

5.Features of oncological patients examination. General syndromes of tumors. Methods of diagnostics.

6.Principles of oncological treatment (benign and malignant tumors).

**9. Stages of surgical patients treatment**

1.Preoperative preparation of patients. Features for emergency cases. General and special preoperative preparation.

2.Preoperative period. Its main tasks. Actions of a doctor during preoperative preparation.

3.Structure of surgical department. Main premises, its functions. Operational unit, its disposition, zones, kinds of cleaning.

4.Wound postoperative complications. Diagnostic, prevention, treatment.

5.Concept of surgical operation. Classification. Endoscopic operations.

6.Complications of early postoperative period. Prevention. Treatment.

7.First aid. Its types. General medical manipulations (events) on stage of first aid.

9. Postoperative period. Classification. General principles of treatment on postoperative period.

**10. Examination**

1.Principles of surgical patients examination. Physical examination and additional methods. Modern diagnostic methods.

3. Subjective examination. Description of complaints.

4. Description of pain syndrome. Visual, analogue and verbal scales of pain intensity.

5.Plan of examination of surgical patients. Features of examination of emergency patients.

6. Objective examination of surgical patients.

**11. Plastic surgery**

1. General concepts of transplantology and extremity replantation.

2. Concepts of autoplasty, alloplasty, xenoplasty and endoprosthesis replacement.

4.Methods of skin grafting. Pedicle flaps. Indian and Italian methods. Filatov-Gillies tubed pedicle flap.