

**MINISTRY OF HEALTH OF UKRAINE**  
**POLTAVA STATE MEDICAL UNIVERSITY**  
**Department general surgery with care of the patient**

“APPROVED”  
on the meeting of the chair  
of the general surgery with care of the patient  
head of the chair  
professor \_\_\_\_\_ Ligonenko O.V.  
“\_” \_\_\_\_\_ 2021

**METHODICAL INSTRUCTIONS**  
**FOR INDEPENDENT WORK OF THE STUDENT**  
**IN TIME FOR PREPARATION TO THE PRACTICAL STUDY**  
**(auditorium work)**

<b>Study discipline</b>	<b>Care of the patients (practice)</b>
<i>Module №2</i>	<b>CARE FOR SURGICAL PATIENTS</b>
<b>Lesson theme №1</b>	Introduction in the surgery. Hygiene in the surgical hospital. Work of the middle personnel in the surgical department conditions.
<b>Course</b>	<b>II</b>
<b>Faculty</b>	<b>Medical, Foreign students training faculty</b>

Poltava 2021

<i>Module №2</i>	<b>CARE FOR SURGICAL PATIENTS</b>
<b>Lesson theme №1</b>	<b>Introduction to surgery. Hygiene in surgical hospital. Work of middle personnel in the surgical department conditions.</b>

### 1. Actuality of theme:

The surgical method of treatment is occupied by a considerable place in clinical medicine: about 25% all pathology is made by surgical illnesses. The doctor of any speciality must be able to give the first medical aid at traumatic damages, bleeding, clinical death, to execute injections, punctures, transfusion of components of blood and other.

At the heart of the surgical service is surgery. In operation, the slightest error in aseptic and underestimating the importance of antisepsis lead to an increase in the frequency of septic complications and mortality.

Proper preparation of the patient for surgery, the organization of the operating unit, the attentive care in the postoperative period is the key to successful treatment of the patient. In these phases the active and direct participation in the treatment takes the nursing staff.

### 2. Educational aims:

- Have an understanding of the basic stages of surgery, surgical Russian school
- To be familiar with the organization of surgical care in Ukraine.
- Learn the rules of behavior in the surgical clinic. Surgical deontology.
- To be familiar with the structure of the surgical clinic.
- Understand the concept of hygiene in the surgical hospital in order to prevent the spread of hospital infections.
- Learn the basic principles of body hygiene, clothing, medical staff, laundry hygiene and clothing of patients.
- Understand the duties of guard and senior nurse. Post of a nurse. Medical records.
- Be able to perform basic medical procedures: thermometry, injections.

### 3. Basic knowledge, skills necessary for studying the topic (inter-disciplinary integration)

The names of the preceding disciplines	Acquired skills
1. Normal anatomy	conduct an anthropometric study of the patient, a preliminary diagnosis
2. Propedeutics Internal Medicine	Inspect patients, palpation, percussion, auscultation
3. Biochemistry	Be able to interpret common blood and urine biochemical analyzes
4. Pathophysiology	To be able to assess the patient's general condition

### The student must have an idea:

- the general reaction to inflammation;
- modern classification of pyogenic infection;
- modern classification of pyogenic infection;
- the non-specific resistance of the organism;
- on general provisions and principles of purulent surgery;
- about the anatomical and physiological characteristics of the region where the disease process.

### The student should know:

- The life and work of leading Russian scientists and surgeons: N.I. Pirogov, V.O. Karavaeva, N.V. Sklifosofskiy, M.M. Volkovicha, N.M. Amosova, A.A. Shalimova.

- The structure and organization of the surgical departments.
- Characteristics of the concept of sanitary-hygienic and antiepidemic regimes in the surgical departments.
- Matter and the main provisions of Decree № 720.
- Hygiene requirements for nursing clothes.
- Hygienic requirements for the clothing of patients.
- Hygienic requirements for bedding patients.
- Hygienic requirements for a change of clothes, in the care of the sick and seriously ill patients.
- The principles of making diagnosis of in-hospital infection, prevention of its spread.

**The student should be able to:**

- Conduct a wet cleaning in the surgical department with the use of antiseptics.
- Conduct a replacement underwear for patients with common and bed rest.
- Conduct a change of bed linen and patients with a total bed rest.

**The mastery of the practical skills by students:**

- Wet cleaning in the surgical department with the use of antiseptics.
- Replacement of underwear and patients with a total bed rest.
- Bed linen and patients with a total bed rest.
- Thermometry.
- Subcutaneous injection.
- Intramuscular injections.
- Intravenous injections.

**4. Task for self-study in preparation for the lesson.**

**4.1. The list of basic terms, parameters, characteristics, which the student must learn in preparation for the class:**

Term	Definition
Medical aid	Range of diagnostic and therapeutic measures aimed at making the diagnosis, elimination or reduction of symptoms and signs of the disease or condition about which the patient is asked to normalize his life, improvement or restoration of health
Surgical care	Diseases that require surgical treatment with surgery.
Surgery	A branch of medicine that studies the diseases and injuries of all parts and organs of the human body, and develops and applies special treatment.
Hygiene of the surgical hospitals	Section of Hygiene, which is developing a hygienic standards and requirements for the location, planning, sanitary improvement of surgical hospital.
Medical deontology	The science that studies the specific medical ethics, rules and norms of interaction with colleagues physician and patient

**4.2. Theoretical questions for the class:**

1. Main stages of surgery.
2. What domestic surgical school you know?;
3. How to organize surgical care in Ukraine?
4. What rules of behavior in the surgical clinic do you know?
5. The concept of surgical deontology.
6. The structure of the surgical clinic.
7. The concept of hygiene in the surgical hospital in order to prevent the spread of nosocomial infections.
8. What are the basic principles of body hygiene, clothing, medical staff, laundry hygiene and clothing of patients do you know?
9. Duties of the guard and a senior nurse.
10. What is the nurse's office?
11. What are the main types of medical records do you know?

12. Thermometry technique.
13. Tech intramuscular injection.
14. Tech subcutaneous injection.
15. Tech intravenous injection

#### **4.3. Practical activities (tasks) that are used in class:**

1. Wet cleaning in the surgical department with the use of antiseptics.
2. Replacing underwear patients with common and bed rest.
3. Bed linen patients with a total bed rest.
4. Thermometry technique
5. Tech intramuscular injection.
6. Tech subcutaneous injection.
7. Tech intravenous injection.

#### **5. The content of the topic.**

Surgery - the medical specialty that studies the diseases and injuries of all areas and organs of the human body, and develops and applies special treatment.

Literally translated, "surgery" means "needlework" (from the Greek. *Cheir* - hand *ergon* - action). Surgery began to develop much earlier than other parts of medicine - from almost dawn of humanity. Constant companions of man were hunting, war, and were forced to learn to stop the bleeding in the wound, remove arrows stuck in the body, etc. However, as a science, it was formed only in the XIX century.

The well-known name of the physician Hippocrates of ancient Greece (about 460-370. BCE), who believes the father of scientific medicine and surgery. His principles «Ubi pus ibi evacua» («Seeing the pus - Let out») is a main in the treatment of inflammatory diseases. Great contribution to the development of surgery has made Abu Ali Ibn Sina, known as Avicenna (980-1037). Known for his work "The Canon of Medicine" remains a handbook for doctors to almost XVII century.

In the late Middle Ages there were universities in Italy (Bologna), France (Paris), the medical faculties which surgery was expelled from teaching. However, the prohibition set forth surgery could not stop her existence, because patients needed help people who know how to treat wounds, fractures, dislocations, stop bleeding, etc.

Opening William Harvey (1578-1657) of the circulatory system, based on their own and previous studies on the anatomy of the heart and blood vessels (including studies of Vesalius), was of great importance in the development of medicine and surgery. He opened two circulation and proved that circulates in the vessels of the lungs than air, as was the custom then take the blood.

Official recognition of surgery as science was in 1719, when the Italian surgeon Lafranshi was invited for a medical degree at the Sorbonne lectures in surgery.

The first educational institution in Ukraine was the Kievo-Mohylyanska Academy (1622), where preparations were theologians, medical professionals and others.

In 1755 was opened the Moscow University Medical School and the "clinic at the faculty."

For a century, since the middle of the XIX century., In the development of surgery took a sharp jump. This contributed to the opening of the XIX - early XX century., Which were the foundation for further development of surgery: the discovery of narcosis, the introduction of narcosis and local anesthesia in surgery, the development and introduction of aseptic techniques in surgical practice, methods of stopping bleeding and restoring blood loss; completion of the formation of modern anatomy of topographic anatomy and improvements in surgical techniques.

Leading light of domestic and foreign Surgery deservedly regarded NI Pirogov (1810-1881). At age 18, he graduated from the Medical Faculty of the University of Moscow. Starting in 26 years professorship at the University of Dorpat, NI Pirogov paid much attention to anatomy, has created an application (topographical) anatomy. He was a virtuoso surgical technique thanks, he said, knowledge of anatomy and surgery.

Pirogov contribution to the surgical science is enormous. It is widely introduced ether anesthesia (performed 10,000 operations wounded), has developed its new methods - rectal and endotracheal. Him developed the basic principles of military surgery: the approach of medical care to the battlefield, triage, consistency in the provision of assistance to the stages of evacuation, the creation of mobile hospitals. These principles were based reading medical care during the period of the Great Patriotic War of 1941-1945. He is the classical description of traumatic shock.

After NI Pirogov development of national surgery is largely associated with the name of NV Sklifosofskiy (1836-1904). He worked in Kiev, St. Petersburg and Moscow. NV Sklifosovskiy one of the first in Russian who began to develop the antiseptic method. He developed bone surgery on comparing and fixation of bone known as the "Russian castle."

Academician of the National Academy of Sciences and Academy of Medical Sciences of Ukraine, NM Amoz (1913-2003) - the founder of the Kiev Institute of Cardiovascular Surgery, which bears his name today. His main scientific and practical activities were thoracic surgery and bio-cybernetics, he developed the physiology of the heart, heart-lung, surgical treatment of diseases of the lungs, heart, modeling the processes of thinking and mentality.

Academician of the National Academy of Sciences and Academy of Medical Sciences of Ukraine AA Shalimov (1918-2006) - the founder of modern surgical school in Ukraine. In 1972, he founded the Kiev Institute of Clinical and Experimental Surgery (now the Institute of Surgery and Transplantation. Shalimova AA Academy of Medical Sciences). From 1980 to 2004 he worked as chief surgeon of the Ministry of Health. His research effort has been devoted to the development of different areas of surgery: reconstructive and regenerative treatment of pathology of the esophagus, stomach, small and large intestines, liver, bile ducts; correction of pancreatic diseases, cardiac surgery, vascular surgery, endovascular surgery, cryosurgery, etc.

The success of surgical treatment is determined by the overall operation of outpatient surgical wards and surgical hospitals. Very important in this case the continuity of work: Prestationary examination of patients, their follow-up care after discharge from the hospital, etc.

A special place in the structure of medical institutions occupy the hospitals. Department of Surgery Medical University, Department of scientific research institutes are working on the basis of major surgical hospitals, and provide a lot of help, not only in practice, but most importantly - in the organization of surgical work, scientific research, application of scientific advances in the practice of surgery.

*Hygiene of the Surgical Hospitals* - hygiene section, which develops hygiene standards and requirements for the location, planning, sanitary improvement. Sanitary-hygienic and anti mode of hospitals established to ensure optimal conditions of stay of patients in hospital, the effective conduct of therapeutic measures to ensure favorable conditions of medical personnel, prevention and neutralization of nosocomial infection.

Patients in the surgical facilities are divided into "pure" and "septic", in connection with which distinguish pure and contaminated surgery.

Clean surgery treats patients without purulent and inflammatory diseases. Contaminated surgery provides care to patients in whom the cause of the disease is an infection. Given the possibility of transferring infection from "septic" patients to "pure" patients with purulent diseases segregated in special wards or purulent surgery.

Surgical department consists of wards for patients, operating unit, dressings, manipulation office and ancillary facilities (a toilet, bathroom, dining room, pantry, laundry room, staff, etc.).

Hygienic regime provides compliance spaciousness of hospital wards, ensuring optimum climate, chemical and bacteriological composition of air, ventilation mode and lighting facilities, supply of safe drinking water, timely and complete removal and decontamination of waste, providing patients with a rational and balanced meals, cleaning, laundry and linen replacement, personal hygiene, etc.

Anti-epidemic conditions of the surgical department aims to prevent the occurrence and spread of nosocomial infections. The main provisions of anti-epidemic regime governed by the Order № 720 (31.07.1978).

Every employee who takes a job, runs a complete physical examination, a short review of the carrying out basic sanitary and anti-epidemic measures. In identifying open inflammation or signs of sickness staff excluded from work until they are cured, the detection of bacteria - organize sanitation. In case of hospital-acquired infections spend an extraordinary medical examination of all staff offices and bacteriological tests on the carrier. Patients diagnosed with nosocomial infection isolated in separate wards and release them to a separate staff and home care.

Monitoring of compliance with anti-epidemic regime in medical institutions is carried out in accordance with the orders of the Ministry of Health number 720, which provides for mandatory bacteriological control of air condition, surfaces, the quality of sterilization and disinfection.

## **6. Materials for self-control.**

### **6.1. The tasks for self-control.**

#### **Questions:**

1. The life and work of leading Russian scientists and surgeons: N.I. Pirogova, V.O. Karavaeva, N.V. Sklifosofskiy, N.N. Volkovicha, N.M. Amosova, A.A. Shalimova.
2. The structure and organization of the surgical department.
3. Characterization of concepts hygienic and anti regimes in surgical wards.
4. The essence and the basic provisions of Decree number 720.
5. Hygienic requirements for nursing clothes.
6. Hygienic requirements for garments patients.
7. Hygienic requirements for bedding patients.
8. Hygienic requirements for a change of clothes, in the care of the sick and seriously ill patients.
9. Principles of diagnosis of nosocomial infections, prevention of its spread.
10. Wet cleaning in the surgical department with the use of antiseptics.
11. Replacing underwear patients with common and bed rest.
12. Bed linen and patients with a total bed rest

#### **Tasks:**

1. Spend a wet cleaning in the surgical department with the use of antiseptics.
2. Replace patient's underwear with a total bed rest.
3. Spend a change of bed linen and patients with a total bed rest.

### **6.2. Situational tasks:**

1. Content what products it is advisable to increase in the human diet with reduced gastric secretion?

- A. Sweet
- B. Bouillon
- S. Salt
- D. Milk
- E. Sala

2. When administered 100 ml of 25% (saturated) solution of magnesium sulfate, there are many rare bowel movements. Why?

- A hindrance to the work of the intestine
- B. stimulates the secretion of gastric juice
- C. increases the osmotic pressure in the gut
- D. Stimulates the release of hormones duodenum
- E. Reduced osmotic pressure in the gut

3. During surgery on the lungs of the patient appeared cardiac arrest. Regular reduction of it was restored only after 10 minutes. Which organs of profound changes have taken place as a result of hypoxia?
- A. spleen
  - B in the heart of
  - C. Liver
  - D. In kidneys
  - E. In the cortex of the main brain
4. The laboratory conducts research about the diagnosis of tetanus. What method of sterilization must destroy pathogens isolated culture of tetanus?
- A. Autoclaving
  - B. Boiling
  - S. Tindalization
  - D. Dry heat
  - E. Pasteurization
5. In the surgical hospital, the cases of postoperative septic complications of staphylococcal nature. How to determine the source of a staph infection in the hospital?
- A. Definition of sensitive to the antibiotics
  - B. Definition of blood toxins
  - C. Definition of enzymes aggression
  - D. Definition of biovars
  - E. Definition of fagovars
6. The patient after prolonged use of antibiotics developed intestinal dysbiosis. What drugs should be assigned to the restoration of normal microflora?
- A. Sulfanilamide
  - B. Eubiotics (probiotics)
  - C. Interferon
  - D. antifungal
  - E. Nitrofurans
7. In determining the number of microbial air ward turned out that it is 1500 cfu / g What groups of organisms considered in this?
- A. Bacteria and viruses - pathogens of respiratory infections
  - B. All of the bacteria that have grown in a nutrient medium
  - S. Staphylococcus and hemolytic streptococcus
  - D. Causative agents of hospital infections
  - E. All of the pathogenic and opportunistic bacteria
8. The hospital decided to conduct quality control instrument sterilization in an autoclave using biological methods. What bacteria should be used as test organisms?
- A. Disputes
  - B. Capsule
  - C. Acid-resistant S.
  - D. Pathogens
  - E. Thermophilic
9. For the treatment of the surgical field applied to the patient a drug that is chemically dihalorcontent of biguanide. The most active local antiseptic, reveals a rapid and strong bactericidal activity against gram-

positive and gram-negative bacteria. Which is a drug?

- A Valium
- B. Brilliant Green
- S. Urotropinum
- D. Phenasalum
- E. Unitiolum

10. In the hospital the patient was hospitalized 42 years with extensive crushed thigh injury. What types of antiseptics should be used in this patient?

- A. The mechanical
- B. Mixed
- C. Physical
- D. Chemical
- E. Biological

### **6.3. Tests for self-control (basic knowledge):**

1. What is the contribution of NI Pirogov in surgical science?

- a) first used ether anesthesia;
- b) is the founder of antiseptics;
- c) the creation of topographic anatomy;
- g) is the founder of aseptic technique;
- e) the development of the basic principles of military surgery.

2. What does the head nurse?

- a) preparation of the work of anesthetic equipment;
- b) the control of the ward nurses;
- c) the provision of assistance to the anesthetist;
- d) control of a doctor;
- d) to monitor the health and the economy as offices.

3. What does the ward nurse?

- a) the provision of pre-hospital emergency patient care;
- b) ensuring the economic department equipment;
- c) implementation of patient care;
- d) delivery of a washing dirty linen;
- e) the provision of assistance to the anesthetist.

4. What is the responsibility of the operating nurses?

- a) to ensure the sterility of all the materials that are used in operations;
- b) a change of underwear;
- c) implementation of measures to improve the skills of nursing staff;
- g) participation in the transaction;
- d) to monitor and care for the sick, who are in the room.

5. Patients in the surgical wards are divided into:

- a) clean;
- b) the relatively clean;
- c) septic;

- g) blue pus;
- d) sterile.

6. Nosocomial infections are divided into:

- a) the ward;
- b) operational;
- a) hospital;
- g) ambulatory;
- d) microbial.

7. Who organizes and monitors anti-epidemic measures?

- a) the head of the department;
- b) the head nurse;
- c) independent observers;
- d) patients;
- d) the relatives of patients.

8. What elements does not include hygiene health of the medical personnel?

- a) The personal hygiene of medical staff;
- b) professional clothing and hygiene in the workplace;
- c) a change of underwear patient;
- d) cleaning of the surrounding area;
- d) The hygiene of medical procedures.

9. What does the order number 720?

- a) mandatory bacteriological control of the air;
- b) increase the resistance of patients to adverse factors;
- c) identifying patients at pediculosis;
- d) identification of patients with purulent-inflammatory diseases;
- e) quality control of sterilization.

10. What to do with a patient linen contaminated with blood?

- a) does not change until the wound heals;
- b) The change in the net;
- a) Put the battery to dry out;
- d) include an oilcloth bag in the laundry room;
- e) to burn.

11. What do with patients in identifying their nosocomial infection?

- a) transferred to another department;
- b) isolated in separate rooms;
- c) The ligation is carried out first;
- g) discharged for outpatient treatment;
- e) provide a dedicated medical staff.

12. What does the medical examination of hospital staff?

- a) a digital rectal examination;
- b) veloergometry;
- c) the bacteriological examination of smears from the mucous membrane;

- g) fibrogastroscopy;
- e) chest X-rays.

13. What steps are carried out in the event of nosocomial infection?

- a) appointment of antibiotics in all patients;
- b) registration Filing 058-0;
- c) epidemiological study involving epidemiologists sanitary station;
- d) adding to the treatment of patients with red wine;
- e) the dismissal from work the head physician.

14. What of the following is not related to the prevention of infection by air?

- a) ultraviolet irradiation of air;
- b) the processing of the operative field;
- c) ventilation;
- d) spraying the air freshener;
- d) forced-air ventilation.

15. The general safety precautions medical personnel from infections include:

- a) increasing the body's resistance to infections;
- b) early detection of bacteria carriers among the medical staff;
- c) washing hands;
- d) the use of protective equipment;
- e) the implementation of vaccination.

### **Tests and tasks to check the source of knowledge**

Matron in the manipulation room for hygienic hand washing handed lump toilet cute. Is it true she did? What means is conducted hygienic hand washing?

In healthy operating nurse bacteriological examination of the nasal mucosa revealed pathogenic organisms. What measures must be applied to prevent the development of nosocomial infection?

In the surgical department during the outbreak of the influenza epidemic came to visit a sick relative of his, and insists on a date. Can he afford it? What measures to prevent the spread of influenza virus should be held in the department?

A patient with a clean surgical wound appeared on the bandage when bandaging conducted in patients with purulent wounds. You can wrap it now? How should the nurse do in this case?

Surgeon recently held phoroentgenography 2 years ago. You can prevent it to work in a surgical ward?

The patient D., 46 years old, which is 10 hours ago underwent surgery for abscess of the right hip dirties bedding and underwear secretions from the wound. How should you handle this?

The nurse of the surgical department making change of bed linen in patients in the ward. Soiled underwear she put under the sink on the sheet. What mistake allowed the nurse?

The nurse of the surgical department changed the linen in patients in the ward, put it in a bag made of waterproof fabric. What should she do next with the collected dirty laundry?

The patient Z., '63, planned surgery for hemorrhoids combined. The patient has concomitant diagnosis - benign prostatic hyperplasia, which can cause acute urinary retention in the early postoperative period. What will be the prevention of nosocomial infections of the urinary tract.

The nurse is going to hold wet cleaning in the ward using a solution of chlorine bleach B. How did she make the necessary solution?

Patients in the surgical ward nurse replaced the underwear. How should be done cleaning house after this?

In a patient with a festering wound by pressing the wound is allocated a rare offensive discharge with gas bubbles, anaerobic infection is diagnosed. What features of the care of these patients? What to do with used bandages?

The nurse did cleaning in the wards of the surgical department by the wet way. What should she do with cleaning supplies?

During surgery for herniotomy, the surgeon accidentally opened the intestine. On the third day after the operation at the site of surgical wounds appeared allocation of intestinal contents. What are the prevention of nosocomial infections need to spend?

## **7. Literature:**

### **General:**

1. General Surgery. Textbook for students of higher medical educational establishments / [ Lihonenko O.V., Chorna I.O. , Zubaha A.B., Khimich S.D et all.]; Edited by Prof. S.D. Khimich, Prof. M.D. Zheliba Kyiv AUS Medicine Publishing, 2019.- 608 p.
2. General Surgery. Textbook for students of higher medical educational establishments / [ Lihonenko O.V., Chorna I.O. Khimich S.D et all.]; Edited by Prof. Ja.S.Bereznickij,M.P.Zacharash, M.P.Mishalov,. Vinnica: New book, 2019-344c
3. General Surgery / For Ed. S.P.Zhuchenko, M.D.Zheliby, S.D.Himicha - Kiev.: Health, 1999 - P. 81-101, 395.
4. Cherenko M.P., J.M. Vavryk General surgery in anesthesiology, intensive care, and the basics of patient care - Kiev.: Health, 1999. - S. 60-67.
5. Gostishchev V.K. General Surgery: Textbook. - 3rd ed., Rev. and add. - Moscow: GEOTAR-MED, 2004. - Pp. 26-31, 53-67.
6. "General surgery", S. Petrov - Moscow, "GEOTAR" 2005 - P. 17-34.
7. Surgery Vol.1. For Ed Bereznitsky Y.S. - Dnepropetrovsk, PBA "Dnepr-VAL». - 2006. - P.78-101.

### **Additional:**

1. Lecture notes.
2. Timofeev, N.S., N. Timofeev Aseptic and antiseptic. - 2nd ed., Rev. and add. - L: Medicine, 1989. - S. 3-17, 52-65, 202-203.
3. Antiseptics in the prevention and treatment of infections / For Ed. G.K. Pyro - Kiev.: Health, 1997. - S. 3-90.
4. "General Surgery", ed. S.P.Zhuchenka, M.D. Zhelibi, S.D.Himicha - Kiev, "Healthy" I ", 1999 p.15-19

**The distribution points that awarded to students:**

At mastering topic №1 substantial module №1 for the learning activities of students rated a 4-point (traditional) scale, which is then converted into points as follows:

<i>Rating</i>	<i>Points</i>
“5” (excellent)	5
“4” (well)	4
“3” (satisfactorily)	3
“2” (unsatisfactorily)	0

Guidelines prepared  
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