MINISTRY OF HEATH OF UKRAINE

POLTAVA STATE MEDICAL UNIVERSITY

Department general surgery

METHODICAL INSTRUCTIONS

FOR INDEPENDENT WORK OF THE STUDENT

IN TIME FOR PREPARATION TO THE PRACTICAL STUDY

(auditorium work)

Study discipline	**Care of the patients (practice)**
Module №2	**CARE FOR SURGICAL PATIENTS**
Lesson theme №3	Antiseptic. Care of the patients with purulent pathology.
Course	**II**
Faculty	International Faculty

Poltava

Module №2	**CARE FOR SURGICAL PATIENTS**
Lesson theme №3	**Antiseptic. Care of the patients with purulent pathology**

1. **Actuality of theme:**

Antiseptic belongs to a powerful and quite common methods of prevention and treatment of local infections and sepsis. Antiseptics are used to kill microorganisms in the outer shells of the macroorganism (skin, mucous membranes, cavities, wounds). Disinfectants are used to kill microorganisms in the environment (processing tools, patient-care items, dishes, etc.). For the prevention and treatment of infectious diseases and local concomitant pyosepticemia with ancient times used antiseptics. Modern surgeon is hard to imagine a time when many patients were dying from the infection. Yet M.I.Pirogov noted that most of the wounded died not so much damage, but on nosocomial infection. In the past, on the basis of empirical evidence, and eventually, based on research by surgeons used different means for the prevention and treatment of surgical site infection. The extent of their use with time I.F.Zemelveysa, J. Lister M.I.Pirogova, D.K.Zabolotnogo began to grow. In the first half of the twentieth century, antiseptics are among the most common means of prevention and treatment of infectious diseases.

Antiseptic is extremely important for the surgery. Development of antiseptics as a method opened a new era in surgery, provided an opportunity for the development of new surgical areas - cardiac surgery, microsurgery, organ transplantation, etc.

2. **Educational aims:**

1. To have an imagination about the history of antiseptics.

2. Know the classification of the different mechanisms of action and methods of modern antiseptics.

3. Learn the classification of antibiotics, the mechanism of their action, the principles of application.

4. Know the organization of work in contaminated bandaging room, methods of disposing of used bandages.

5. To be able to choose an antiseptic depending on the variety of purulent-septic surgical pathology.

6. Be able to prepare and apply antiseptic chemicals.

7. To be able to organize the care and treatment of stay in the patient with an anaerobic infection.

8. Analyze the main factors that contribute to the development of purulent diseases, prevention and diagnosis of postoperative complications.

9. Explain the essence of antiseptics, its general provisions and sources of contamination. Types of modern antiseptics. Classify antiseptics groups, subgroups.

10. Determine the source of infection and ways of its transmission;

11. Offer, familiarize yourself with development of the general reaction to inflammation. Have the idea of non-specific resistance of the organism.

12. Classify modern purulent infection and related chemical and biological agents antiseptics, as well as learn their mechanism of action and methods of application.

13. To interpret:

- General provisions and principles of purulent surgery;
- The concept of intrahospital infection and its spread in surgical hospitals;
- Post-mortem changes in tissue pathology in purulent;
- Features of clinical symptoms in a variety of forms of purulent infection;

14. Draw diagrams of the individual pathological conditions, their drainage and graphics dynamics of vital signs

15. Explain the place and the task facing the functional unit of the surgical department - purulent bandaging.

16. Lern apparatus, equipment, hold and work purulent bandaging. To organize different types of cleaning in the process.

17. Master the transportation of patients from ward to purulent dressing room, shifting with gurney to the operating table.

18. Learn the technique of making napkins, tampons, paper bag, and prepare operational, linen and bandage material for sterilization.

19. Familiar with basic surgical instruments and their assignments (forceps, clamps, scissors, probes, different types of drainage and so on.).

20. Learn the technique of collection of material for culture and sensitivity of microorganisms to antibiotics; learn to wash purulent wounds antiseptics.

21. Master the basic techniques of patient care in purulent bandaging.

22. Compile and analyze the actions of the medical staff of the surgical department with suspected or the diagnosis of anaerobic infections.

23. Ensure proper disposal of dressings contaminated with purulent discharge.

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

The names of the preceding disciplines	Acquired skills
1. Latin	Possess the skills of writing prescriptions.
2. Microbiology	Apply the necessary preparation, based on the characteristics of the structure of viruses, bacteria and protozoa. Determine the resistance of vegetative flora to the temperature of radiant energy, chemicals, To possess elements of bacteriological research. Sterility control.
3. Biochemistry	Be able to interpret blood tests, urine tests, level of the sugar of blood and urine.
4. Pharmacology	Define the concept of antisepsis and disinfection. Know the dose of antiseptics, to be able to write prescriptions. Compare pharmacological action of the necessary antiseptics
5. Pathological anatomy	Violation of trophic tissue. Compare features of pathological changes in the skin.

The student must have an idea:

- About the general reaction to inflammation;
- About the modern classification of pyogenic infection;
- About the non-specific resistance of the organism;
- About the general provisions and principles of purulent surgery;
- About the anatomical and physiological characteristics of the areas where localized pathological process.

The student should know:

- The source of contamination;
- The penetration and spread of infection in the patient’s organism;
- The concept of intrahospital infection;
- The spread of intrahospital infection in surgical hospitals;
- The basics of bacteriology;
- The basis of antiseptics, its types and methods of implementation;
- Pathological changes in tissues in purulent pathology;
- Different kinds of bandages;
- Types of drains;
- Know the basic classes of antiseptics, medicines and their use.

The student should be able to:

- Ensure the hygiene of the body, underwear and bed linen;
- To provide the patient functionally advantageous position in bed;
- Correct gentle transportation of patients in purulent bandaging room;
- To carry out the basic techniques of physical antiseptics;
- To carry out the basic techniques of mechanical antiseptics;
- To carry out prevention of bedsores;

The mastery of the practical skills by students:

- Adjust lighting field bandaging;

- Learn basic surgical instruments and their purpose (forceps, clamps, scissors, probes, drains, and more.

- Learn to clean purulent wounds with antiseptic solutions;

- Learn the technique of collection of material on the sensitivity of microorganisms to antibiotics;

- To master certain techniques for bandaging patients (keep tweezers, use the clip and so on);

- To carry out revision the wound probe;

- Master the classical techniques of bandaging a patient with purulent pathology, observing aseptic and antiseptic.

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
Disinfectants	Used to kill microorganisms in the environment (processing tools, facilities, cookware, etc.)
Antiseptics	They are used to kill microorganisms in the outer shells of the macroorganism (skin, mucous membranes, emptiness, wound)
Contamination	The penetration of microbes in the human body (microbial contamination).
Aseptic	Complex of means and organizational methods aimed at preventing the entry of microorganisms into the wound
Antiseptic	Complex of means and organizational methods aimed at combating the existing infection in the wound.
Bandaging room	The room, that Health Standards has a floor and walls covered with tiles, tables covered with oil paints, suitable for washing and sanitizing.
Bedsore	Necrosis of skin and subcutaneous fat tissue or mucous membranes with ulceration
Bandaging material	Manufacture with absorbent fabric of different products that are used in surgical practice for drying wounds, stop bleeding, removal of the wound site, to impose and consolidate the bandage.

4.2. Theoretical questions for the class:

1. The history of antiseptics like method.
2. The concept of antisepsis. Methods of modern antiseptics, who their founders.
3. Principles of mechanical antiseptics.
4. Means of physical antiseptics and their mechanism of action.
5. Classification of chemical antiseptics.
6. Biological antiseptics, what is the mechanism of their action.
7. Classification of antibiotics and basic principles of their application.
8. The organization of care for patients with surgical infection. Disposal bandaging material after use.
9. The organization of care and the stay in the department of patients with anaerobic infections.
10. What are the factors of personal hygiene contribute to the spread of infection of medical staff in the department
11. The concept of carrier and linking them with administrative and medical problems.
12. How to avoid getting infected material for dressings and cleaning offices.
13. What does the term nursing care.
14. What are some methods of research and surveys of medical staff to identify infected or carriers of infection.
15. Nosocomial infection, the concept and its causes.
16. Biological antiseptic and its types.
17. Chemical antiseptic: antiseptics - halogens, oxidants, acids and lug, preparations of heavy metals, phenols, colorants, and other nitrofuran derivatives.
18. Principles of antibiotic therapy.
19. The practical importance of antiseptics in the daily activities of a doctor.
20. Historical stages of formation and development of antisepsis.

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

1. Transporting patients to the dressing;
2. Laying the patient on the bandaging table according to the zone of the bandaging;
3. Treatment of hands to perform the ligation;
4. To be able to put on a sterile gown;
5. Prepare a kit for washing the wound and drainage;
6. Prepare a kit for performing ligation;
7. Technique of the bandages (bandages previous removal, removal of dead tissues and pus film processing operation field, etc.);
8. Applying of a bandage;
9. Specimen collection for bacteriological control;
10. Technique of making balls, napkins, etc.;
11. Different types of cleaning in contaminated bandaging room.
12. Disposal of dressing.
13. Simulate the actions of the medical staff is suspected or the diagnosis of anaerobic infection in a patient.

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

Purulent-septic processes are common and serious complications of open injuries. The reason for the development of microbial contamination of the wound - contamination.

Pathogenic micro-organisms enter the wound and the body of exogenous and endogenous pathways. Exogenously to the environment, endogenously - from foci of infection in the body.

The spread of infections in the body: respiratory droplets, contact, implantation and infusion.

Factors that contribute to the development of purulent pathology:

• Age: festering more common in the elderly, weight: Obesity is caused by excess fatty tissue, which is more prone to traumatic injury and infection through the blood supply to the relatively worse.

• Malnutrition: shortage of plastic materials (proteins) reduces reparative processes in the wound.

• Dehydration body leads to disruption of electrolyte balance, oksigination blood, intracellular metabolism, and more.

• immunodeficiency promotes infection of any origin. Chronic diseases: diabetes contributes to slowing down the progress of wound healing

Antiseptic - a system of measures aimed at combating microbes that enter the wound, which helps reduce the risk of infection (prevention) or to limit the likelihood of its spread (therapy).

Types of modern antiseptics: mechanical, physical, chemical, biological, and mixed.

Methods of mechanical antiseptics: surgical treatment of wounds (primary and secondary) wound bandaging: a toilet, washing, bandages replacement, removal of foreign bodies, opening and emptying of the abscesses, the processing of pulse-jet with antiseptics. Methods of physical antisepsis: the use of the phenomenon of water absorption and capillarity (graduates gauze, gauze bandages, etc.), the use of the phenomenon of connecting vessels and vacuum (tubular drainage, etc.), the application of the phenomenon of reactive hyperemia, physiotherapy effect: the current Ultra High Frequency (UHF), ultraviolet irradiation; ultrasound, electrophoresis, laser light, iontophoresis, anti-inflammatory radiotherapy, the impact of ultra-high frequency (UHF, EHF).

Groups of substances for chemical preservatives: halogens, acids, oxidants, heavy metals, alcohols, dyes, derivatives - nitrofurans, sulfonamides, derivatives, quinoxaline, combined antiseptics (pervomur and others). Know one or two main representative, which are used in a given period.

Biological antiseptic include: antibiotics (have bactericidal and bacteriostatic action) - a group of penicillin, cephalosporins, tetracyclines, aminoglycosides, macrolides, bring two or three representatives from each group, as an example. Immune preparations: immune serum immunoglobulins, bacteriophages, vaccines, toxoids. Non-specific stimulators of the mechanisms of resistance (resistance) of the body: plant and animal stimulants.

Classification of antibiotics for the mechanism of action and chemical nature

• Bacterial cell wall synthesis inhibitors: beta-lactam antibiotics - penicillin (beznzilpenitsilina sodium, potassium salts and novocaine, bicillin-1, -3, -5, fenoksimetilpenitsilin, ampischilin, kabenitsilin, kabetsilin) and cephalosporins (cephalosporins, cefazolin cephalexin) vancomycin.

• Inhibitors of protein synthesis at the ribosome: aminoglikozidy (streptomycin, neomycin, monomitsin, kanamycin, gentamycin, sizomitsin, amikacin), tetracyclines (tetracycline, oxytetracycline,

chlortetracycline, morfotsiklin, methacycline, doxycycline), nitrobenzene (chloramphenicol), steroids (fuzidin-sodium), macrolides (eritromitsin, oleandomycin) pyranoside (lincomycin).

• The nucleic acid synthesis inhibitors: rifamycins (rifamycin SV, rifampicin).

• Antibiotics that excite molecular organization and function of cell membranes: Polyene (Nystatin, levorin), cyclic decapeptide (gramicidin, polymyxin B sulfate).

Principles of antibiotic therapy:

• Include of indications of chemotherapeutic drug action
• Consideration of possible contraindications
• Early administration
• Creating a permanent bacteriostatic or bactericidal concentration
• The principle of loop

The basic principles of antibiotic therapy:

Etiotropic, if the infection and its antibiotic sensitivity is unknown - used broad-spectrum antibiotics, priority is given alone;

before using the i /m or i/v - Implementation and evaluation of skin test;

one drug is not more than 7-10 days in efficiency.

- Replacement of antibiotic in its clinical failure or when evaluating antibiogram after receiving it.
- Concomitant antimitotic prophylaxis or therapy (drugs fluconazole, nystatin, etc.).

Bandaging room - a functional unit in the structure of the surgery department, where infected wounds of the patients are bandaging.

The room: a room that is on the health standards should have a floor covered with tiles, ceiling - painted in oils suitable for washing and sanitizing; walls - lined with tiles.

Methods of transportation - walking independently, on a wheelchair, stretcher.

Equipping of the bandaging room: bandage table, surgical instruments, Bix, a small table for solutions, illuminated lamp, dishes used for dressings, utensils for soaking drains and trays used for gloves, utensils used for soaking instruments, bags for clean linen bags used for laundry, sterilizing lamp for UVA, gowns for the nurse and surgeon, a set of rubber gloves, air conditioning and more.

The volume of surgical interventions and manipulations that are performed in bandaging room: removal of stitches, removal of drains, irrigation drains, establishment of drainage, wound revision, if necessary, the imposition of secondary stitches and stuff.

Disposal of dressing material and cleaning of purulent bandaging:

- Used bandage collected and soaked in a special container in a solution of 0.2% hlorantainu, and then disposed of in special furnaces outside the hospital.
- At least three times a day is dry cleaning facilities and equipments.
- Once a week there is a general cleaning.

Employees work in lab coats, masks, caps, in surgical gloves, aprons, and if necessary, use safety glasses.

Every two hours, according to the schedule held ultraviolet irradiation

In a prominent place to hang a list of patients who have suffered hepatitis, and are currently in the hospital.

Widely used cleaning solutions and disinfectants, hand, skin (including hands of the surgeon and the surgical field), and tools of the company "Bode Chemie GmbH" (Hamburg, Germany).

- Sterilium number P-1108 - for hygienic and surgical hand rub: bactericidal, fungicidal, tuberkolotsidny; inactivates viruses, hepatitis B, herpes, and more. The action was prolonged to 3 hours.
- G Kutasept number P-1107 - similar to the previous tool. The residual effect of up to 5 hours.
- Baktolin Beyzik number P-1915 - emulsion with disinfectant properties for

treatment of hands of medical staff. It does not cause allergic reactions.

- Bodefen - disinfectant for instruments.
- Batsillol plus - a means of disinfection of surfaces and materials.

Actions of the medical personnel of the surgical department with suspected or establishing the diagnosis of anaerobic infections in patients:

- The patient is placed in a separate ward;
- Fixed a private nurse, doctor;
- In front of the ward lay mat soaked with a solution of 6% hydrogen peroxide;

- For the patient is allocated a separate vessel, dishes, Bix with tools and bandages (labeled and used only for the patient). Decontamination of conduct in the House of 6% hydrogen peroxide - 60 minutes. Dishes are heated in a 2% solution of soda ash - 90 min. Bed linen before washing disinfect 6% hydrogen peroxide - 60 min.

- Double-time in the ward do cleaning 66% hydrogen peroxide and 0.5% detergent (any).

- In front of the ward medical staff wears disposable gown, hat, shoe covers, face mask, gloves (all clothes after disinfection of 6% peroxide - 60 min., Burn).

- All bandagings and manipulation of the patient is carried out in the ward, instruments and bandage disinfected at 6% hydrogen peroxide - 60 min. Prohibits the transfer of the patient by the department.

- After patient discharge in the House held a final disinfection (all items in the House: walls, floor, window, ceiling handle 6% hydrogen peroxide + 0.5% detergent). Include a germicidal lamp for two hours. Mattress, pillow, blanket gather in tseratovy bag and send to dezkamernu treatment.

The organization of care for the patients with anaerobic infection

A sick on anaerobic infection poses to the surrounding other patients and caregivers greater danger. Anaerobic infection is characterized by a high level of infectiousness, and if you do not apply preventive measures can affect other patients. The main pathway of anaerobic infections a pin so ahead of the need to isolate the patient in a separate chamber and share disinfection and sterilization means care utensils, tools, etc., which contact from patient data.

1. In the emergency room the patient is sanitization.
2. To wash the patient apply cute in small packages.
3. Before hospitalization bed, bedside table, floor, bedpan treated with 6% hydrogen peroxide with 0.5% solution of SMZ.
4. Cleaning Chamber performed 2 times a day using 6% hydrogen peroxide solution with 0.5% sodium SMZ.
5. Means for cleaning labeled and autoclaved for 1st mode.
6. Dishes of the patient free from food residues, soaked in a 2% solution of soda and is boiled for 1.5 hours.
7. Medical personnel at the entrance to the House of dresses in special robes and Bahili, during examination of the patient and the dressings are oilcloth aprons that obdelyvayutsya 6% solution of hydrogen peroxide.
8. The dressing is collected in a specially designed dressing box, autoclaved and destroy.
9. Undergarments and bedding were collected in plastic bags or cotton, soaked in a 2% solution of soda or detergent, and then refluxed for 1.5 hours.
10. Mattress, pillow, blanket and pajamas are subjected to disinfection chamber in the mode for micro-organisms that form spores.
11. Used instruments is immersed in a solution of 6% hydrogen peroxide 0.5% SMZ for 1 hour, then carried before-sterilization preparation and sterilization.

Disposal bandaging material contaminated with purulent secretions.

Bandaging material, which was in contact with the patient, which is the case of purulent-necrotic process, disinfected (used in soaking different chemical antiseptic agents), the latter depends on the mode used for the funds. After disinfection, waste bandages attributed to the trash.

6. Materials for self-control

6.1. The tasks for self-control.

1. To give a general description of the main historical stages of formation and development of aseptic and antiseptic.
2. Give the definition of an antiseptic.
3. Pathways to exogenous and endogenous infection in surgical patients.
4. The functional structure of a purulent dressing.
5. Purulent dressing, general features of the organization of its work.
6. What diseases can develop in a patient for the use of contaminated instruments.
7. The volume of surgical care in contaminated pervyazochnoy.
8. Sanitary hygiene standards purulent dressing.
9. Types of drains (tubes, of rubber mittens, combined and so on.)
10. Calculate the dishes in which the soaked material and tools used during dressings.

Task:

1. Count the types of cleaning in contaminated the bandaging room.

2. Draw a layout of the main structural units of purulent bandaging room (bandaging table, sterile table, etc.).

3. What are the parameters of the external operating environment purulent dressing (humidity, air velocity, temperature, etc.).

Using textbooks and study guides, fill in the following table:

Table number 1. Fill in the table "antimicrobial spectrum and the use of antiseptics and disinfectants"

	alcoholic solution of iodine	hydrogen peroxide	potassium permanganate	brilliant green	silver nitrate
Antimicrobial spectrum					
Indications for use					

6.2. Situational tasks:

1. To analyze the situation of possible ways of infection in the wound and outline the methods of implementation of antisepsis.

2. Is it possible to perform ligation in a clean bandaging room in in the presence of signs of purulent wound.

3. Simulate methods that provide warning of infection in Department of Surgery.

4. Familiar with the methods of eliminating the sources of infection in the hospital.

5. Drug from the group of nitrofurans, effective against most Gram-negative (Escherichia coli, Salmonella, shigely, Proteus, etc.) and some Gram-positive (streptococci, staphylococci) bacteria, also owns antitrihomonade and antilamliotic activity.

A) Determine the drug.

B) Specify the indication for its use

6. In a patient with a contaminated wound to cleanse it from dirt and pus was applied drug that has a cleansing and antiseptic effect. When applied topically, the drug activates the clotting of blood, and therefore can also be used to stop capillary bleeding.

A) Determine the drug.

B) Specify the application in medical practice.

7. In the traumatological department received a patient with an infected wound. Select from the group consisting of halogen antiseptics for the treatment of the surgical field and the edges of the wound.

A) Determine the drug.

B) Specify the indication for its use

Test tasks in the volume "Step1" and "Step2".

Test № 1. for the development of infection in the wound necessary that the total number of microbes in tissue exceeded 1g "critical level", which is:

A. 105-107;

B. 104-106;

S. 105;

D. 105-106;

E. 103-104.

Test № 2. The main causative agents of nosocomial infections is:

A Streptococcus, Proteus, Staphylococcus;

B. Pseudomonas aeruginosa, Streptococcus pneumoniae;

C. Proteus, Staphylococcus, Pseudomonas shelf;

D. Pseudomonas aeruginosa, Klebsiella, E. coli;

E. Diplococcus, fuzobakterials.

Test № 3. What is the most effective antiseptic to inhibit the growth of Pseudomonas aeruginosa:
A. Iodine;
B. A solution of 3% boric acid;
C. Preparations of silver;
D. Furatsilinom 1: 5000
E. Levomikol.

Test № 4. When stained by Gram classic pathogens klostradial anaerobic infections appear:
A. Gram-positive coccus;
B. Gram-negative coccus;
C. Gram-positive rods;
D. Gram-negative bacilli;
E. spirochetes.

Test № 5. What non-clostridial anaerobic organisms cause an infection in the wound?
A. Bacteroides, fuzobakterii;
B. Proteus;
C streptococci;
D. staphylococci;
E. Bifidobacteria.

Test № 6. Under what wounds are seen mostly infectious complications?
A. incised wounds;
B. Puncture wounds;
C. Gunshot wounds;
D. Stab wounds;
E. torn-pocketed wounds.

Test № 7. Patient K. 75 years 10 hours ago underwent surgery for an abscess right thigh. Can not move independently. How can it be transported to a purulent bandaging room:
A. Self;
B. Wheelchair access;
S. Stretcher;
D. Wheelchair accessible;
E. independently by nurses.

Test № 8. Surface disinfection cabinets with slatted bed in purulent bandaging room is carried out:
A solution of alcohol 70 °;
B. 0.2% hlorantaina;
C. 3% solution of iodine;
D. in pervomure;
E. 90 ° alcohol solution.

Test № 9. Decontamination of air in contaminated bandaging room is a germicidal lamp for:
A 30 min.;
B. 10 min.;
C. 60 min.;
D. 45 min.;
E. 90 minutes.

Test № 10. Decontamination of bandaging material with the blood is carried out:
A solution of alcohol 70 °;
B. 0.2% hloranataine for 1 hour and disposed of;

C. 3% solution of iodine;
D. in pervomure;
E. 90 ° alcohol solution.

II level of complexity tests

Test № 1. In the traumatological department received a patient with an infected wound. Detect therapeutic agent for the treatment of wounds:

A. Chlorgexidin bigluconate B. Lugol's solution C. Copper sulfate D. Iodinol E. Furatsilinom

Test № 2. Child, for the treatment of burn skin antiseptic solution designed forearm. Which of these drugs can be assigned?

A. Silver nitrate B. Etakridina lactate C. Ethanol D. Methylene blue E. potassium permanganate

Test № 3. In the patient at the site of surgical wounds appeared gipergranulyatsiya. What kind of drugs with a strong keratolytic action can be assigned?

A. Bismuth subnitrate B. Zinc oxide S. Silver nitrate D. hydrogen peroxide
E. salicylic acid

Test № 4. For the treatment of pyoderma doctor prescribed antiseptic to the group of dyes. What drugs can be used?

B. A solution of iodine Brilliant Green C. Methylene Blue D. potassium permanganate
E. gramicidin

Test № 5. In a patient with a contaminated wound attempt to remove the bandage for inspection and treatment of the wound causes severe pain, because it stuck to the surface of the wound. What is the concentration of the hydrogen peroxide solution is used to facilitate the removal of bandages and wound cleansing of dirt and pus?

A. Sol. Hydrogenii peroxydi diluta B. Sol. Hydrogenii peroxydi 5%
S. Sol. Hydrogenii peroxydi 3% D. Sol. Hydrogenii peroxydi 10%
E. Sol. Hydrogenii peroxydi 33%

Test № 6. For the treatment of the operative field were used antiseptics with halogen groups. Identify these drugs:

A. Eton B. Brilliant Green S. D. * ethyl alcohol solution of iodine
E. Chlorgexidin bigluconate

Test № 7. Specify antiseptics, which in large doses in the domestic reception can cause acute poisoning.

A. Hydrogen peroxide B. Ethanol C. Phenol D. mercury dichloride
E. potassium permanganate

Test № 8. Identify the drugs used in the solutions of different concentrations, own astringent, antiseptic and annoying:

A. Hydrogen peroxide B. Silver nitrate C. Formaldehyde D. Phenol E. potassium permanganate

Test № 9. Identify drugs: yellow, used as antiseptics - rinse, wash wounds and cavities:

A. Hydrogen peroxide B. Furatsilinom C. Formaldehyde D. ethanol
E. ethacridine lactate

Test № 10. Mechanism of action of antiseptics and disinfectants is to change the permeability of the cell membranes of microorganisms?

A group of metal B. Dyes C. Halogen D. Alcohols E. detergents

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

1. Nurse prescription by a doctor washed the wound with a solution of 3% hydrogen peroxide. In this case formed a strong foam. On the question of a patient of the mechanism of this phenomenon nurse could not give a full answer and asked for an explanation to the doctor. Determine the correct answer.

A. Formation of molecular oxygen in the enzymatic destruction of hydrogen peroxide

B. Formation of atomic oxygen in the interaction of hydrogen peroxide with body tissues

C. The reaction with hydrogen peroxide and recovering fibrinolizinom molecular oxygen

D. Aggressive action of hydrogen peroxide in the body tissue with the release of molecular oxygen

E. Inactivation of organic substances

2. The surgeon used a 70% solution of ethyl alcohol-based hand before surgery. What is the basic mechanism of the antiseptic action of the drug?

A. Dehydration of protoplasm proteins of microorganisms

B. The blockade of the sulfhydryl groups of enzyme systems of microorganisms

C. The oxidation of the organic components of the protoplasm of microorganisms

D. The interaction with the amino groups of proteins protoplasm microorganisms

E. The reaction with the hydroxyl groups of microorganisms enzyme

3. For disinfection of non-metallic tools in the surgical department used a formaldehyde solution. To which group of the chemical structure of the drug is given antiseptic?

A. Tools aliphatic B. Tools aromatic C. alcohols

D. Halogen compounds E. detergents

4. Prolonged use of mercuric oxide yellow caused side effects and requires the appointment of any antidote?

A. Unitiol B. Adrenaline C. Methenamine D. Atropine E. carbolite

5. Antiseptics own all the properties mentioned, except for:

A. Selective antimicrobial action of B. Universal antimicrobial action

C. Bactericidal action of D. High toxicity to humans

E. Efficiency topically

6. Choose a product for burns erosions, ulcers and excessive granulation:

A. Silver nitrate B. Ethacridine lactate C. Furatsilinom D. chloramine In

E. Chlorgexidine bigluconate

7. A group of students drove for the collection of medical plants for the city. During the hot day was over drinking water. The head of the group offered to get water out of the pond, because he had taken her pills for decontamination. Which is a drug in pill?

A. Pantotsid B. Chloramine C. Bleach D. Potassium permanganate E. gidroperit

8. On the chemical production in the toxicological department delivered a patient with mercury poisoning. What is the antidote to use in this situation?

A. Unitiol B. ALOKS C. Naloxone D. Activated charcoal E. acetylcysteine

9. The patient turned to the emergency room at the cuted festering wounds. Doctor to cleanse the wounds of purulent washed her 3% solution of hydrogen peroxide. In this case, the foam was formed. What has caused the lack of action of the drug?

A. Hereditary deficiency of catalase B. Low concentrations of hydrogen peroxide

C. Hereditary phosphate dehydrogenase deficiency of red blood cells

D. Shallow wound E. The presence of pus in the wound

10. In a patient for the treatment of burn skin was used drug, antiseptic properties which are provided free of oxygen, which breaks off in the presence of organic matter. Choose the right answer:

A. Potassium permanganate B. Furatsilinom C. Chlorhexidine D. boric acid

E. sodium bicarbonate

Tests and tasks to test the initial level of knowledge:

Which of these methods relates to the physical antiseptic?

1. Primary debridement
2. Ultrasonic debridement
3. Drainage of the wound swab

4. Washing wound hydrogen peroxide
5. The wound dressing of the ointment which contains proteolytic enzymes

By the paths of infection in the wound are:

1. transmission
2. extensive
3. intraoperative
4. implantation
5. contact

Sources of infection are:

1. ekstraperitoneal
2. ekstrakorporal
3. exogenous
4. ekstravazatnye
5. endogenous

The source of endogenous wound infections can be:

1. caries
2. Herbal tract endoscopy
3. postoperative scar
4. non-sterile bandages
5. Surgeon bacillicarriers

Exogenous source of wound infection can be:

1. Surgeon bacillicarriers
2. postoperative scar
3. chronic tonsillitis in a patient
4. carious teeth in a patient
5. surgical instruments in the bandaging room

What is the basis of mechanical antiseptics?

1. imposition of sterile bandages
2. removal of dead tissue in the wound with a scalpel
3. debridement low-energy laser
4. removal of foreign bodies from the wound
5. wound irrigation solution decamethoxin

Physical antiseptic - this application:

1. gauze drainage
2. local antibiotic
3. Ufa-Therapy
4. ointment "Iruksol"
5. diathermy

What tools are biological antiseptic?

1. biseptol
2. chlorgexidine bigluconate

3. cefazolin
4. dimeksid
5. himopsin

What facilities are biological antiseptic:

1. tamponade wound gasket
2. hemostatic tamponade wound tube
3. introduction into the wound terrilitina
4. intravenous poliglyukina
5. intravenous administration of hyperimmune plasma

By means of active immunization include:

1. anatoxin
2. gamma globulin
3. serum
4. polyglukin
5. vaccine

By means of passive immunization include:

1. anatoxin
2. antiserum
3. gamma globulin
4. zhelatinol
5. packed red blood cells

Oxidants include:

1. hydrogen peroxide
2. brilliant Green
3. potassium permanganate
4. dimeksid
5. Valium

What drug has bactericidal and surfactant action?

1. decamethoxin
2. rivanol
3. chloramine
4. ethonium
5. metronidazole

Which drug is the most effective in relation to the non-clostridial anaerobic surgical infections?

1. solution decamethoxin
2. solution chlorgexidin bigluconate
3. nitazol
4. metronidazole
5. cefazolin

What applies to sulfanilamides?

1. etazol sodium
2. dimeksid
3. biseptol
4. metronidazole
5. chlorgexidin bigluconate

What disinfectants are used in the care of patients with anaerobic infection?

1. Processing, soaking in pervomure
2. Machining soak in 6% hydrogen peroxide solution
3. Boiling in a 2% solution of sodium
4. Soak in a solution of 2% himopsina
5. Processing soaking in 70% ethanol solution.

By surfactant antiseptic chemical agents include:

1. hydrogen peroxide
2. Yodobak
3. green cute
4. formalin
5. sulfadimetoksinum

Mechanical antiseptics include:

1. Imposition of surgical sutures on the wound edges
2. Delete the contents of the wound
3. Wound solution decamethoxin
4. Excision of the edges, sides and bottom of accidental injury
5. Removal from the wound dispute anaerobic infections

Physical antiseptics include:

1. The establishment of a wound rubber bands pocket
2. Suction content wound with a vacuum device
3. Introduction to void wounds bacteriophage
4. Wound solution which comprises ceftriaxone
5. Removal from the wound purulent necrotic content with tweez

Chemical antiseptics are:

1. Treatment of the wound with a solution of potassium permanganate
2. Treatment of the wound with a solution of sodium etamzilata
3. Wound treatment solution with himopsina
4. Dressing the wound with ointment "Iruksol"
5. Dressing to the wound with a solution hlorgeksedin

Biological antiseptic include:

1. B / y administration of metronidazole
2. B / y injection of ceftriaxone
3. Imposition of the wound dressings with "Gelevinom"
4. Imposition of a wound dressing with ointment "Iruksol"
5. Imposition of the wound dressing of sterile

Situational tasks for initial level of knowledge

1. In the clinic patient appealed to burn right forearm II stage, the area burned 1%. The patient was conducted toilet of the burn surface with a solution of furatsilina 1:5000. What antiseptic should be applied for the topical treatment of this patient?

2. A patient diagnosed with the development of anaerobic infection in the wound. The condition of his rapidly deteriorating. What types of antiseptics should be applied to the treatment of this patient?

3. On examination, the patient revealed that the dressing on the wound pus-soaked blue-green in color with a characteristic "sweet" smell. What you need to apply an antiseptic to fight the infection?

4. After the treatment, the surgical field 5% alcoholic solution of iodine, a few hours after surgery, the patient appeared hyperemia and edema of the skin areas that have been treated, there were a rash on other parts of the body, runny nose, malaise. What do these symptoms? What mistake made the surgeon made?

5. Bandaging material, which was used in a patient with an anaerobic surgical infections, nurse threw in a container of 1% solution of bleach, after the end of the working day she brought it to the tank contents to the trash. Is it true enrolled nurse? If not, what she had to do with the above mentioned dressing?

6. After bandaging a patient with anaerobic surgical infections used tool was immersed in 0.2% sodium dezaktina at 1:00 with the purpose of disinfection. After that, he was held before-sterelisation training. Is it true did with the above mentioned instrument? If not, and what it should have been performed?

7. In purulent dressing the patient was performed surgery for purulent necrotic process in the area of the left hip. Surgeons in this patient suspected of the presence of anaerobic surgical infections. How should train staff dressing room for further work?

8. The surgeon performs the initial debridement of the right hand in a patient B., 33 years old, who was injured 2:00 ago during the woodwork. The surgeon removed a foreign body from a wound, blood clots, carved non-viable tissue. For what purpose did he? What type of antiseptics, he applied for the implementation of these actions?

9. The patient W, 44 years after the treatment of burn surface, was scheduled to introduce 1 ml of tetanus toxoid vnutremyshechno and 3,000 IU of tetanus toxoid method Bezredki. What method was used antiseptics in this case? What is the principle of action of tetanus toxoid and tetanus toxoid?

10. The victim of a random wound right leg were processed last, during which were used excision of necrotic tissue, the removal of the contents of the wound, wound treatment solutions of hydrogen peroxide and dekasana, formed on the wound surface was applied to aseptic bandage with ointment "Oflokain" which has a hydrophilic base hyperosmolar . What type of modern antiseptics was applied in this case?

11. At one stage in the treatment of infected wounds has been applied ointment "Iruksol" which contains in its structure klostridilpeptidazu. What method was used antiseptics in this case?

12. Nurse purulent dressing gathered dressing, which was removed from the patients during the day and put it in a waterproof bag, tied the bag and carried it to the trash. Is it true enrolled nurse?

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 Publiching, 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 awarted to studetnts:

At mastering topic № 3 for the learning activities of students rated a 4-point (traditional) scale, which is then converted into points as follows:

Rating	***Points***
“5” (excellent)	5
“4” (well)	4
“3” (satisfactorily)	3
“2” (unsatisfactorily)	0

Guidelines prepared
Associate Professor, Department of General Surgery
Chorna I.O._____