

**MINISTRY OF HEALTH OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY**

Faculty : International

Department of Surgery No. 3

CONFIRMED by

Acting vice-rector for scientific and pedagogical work

Svitlana KOTIUZHYNKA

September 1, 2022



RECOMMENDATIONS

For practical classes

Faculty : International , Year 5

**Discipline “POLYCLINIC MEDICAL PRACTICE “SURGERY.
(THORACIC, CARDIAC, ENDOCRINE SURGERY)**

Recommendations are approved at the meeting of the Department of Surgery No. 3
Minutes No. 1 dated August 28, 2022.

The head of the department, professor

Volodimir BONDAR

Authors:

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Practical class №1

Theme: **Wounds. Definition. Classification. wound process. Treatment.**

Goal:

know:

Definition of a wound, its structure, classification of wounds, characteristics of different types of wounds. Pathophysiological and pathomorphological aspects of injury. Elements of first aid in case of injury. Conditions conducive to the development of an infectious process in a contaminated wound. Prevention of the development of an infectious process in an accidental contaminated wound (primary surgical treatment). Clean postoperative wound, its features. Healing of a clean wound by primary intention (stages of the wound process in a clean wound). Primary surgical suture and their varieties. Treatment of a clean wound in the postoperative period

Basic concepts: wounds, classification, primary surgical suture and their varieties, stages of the wound process. Surgical strategy

Plan:

1. Organizational activities (greeting, checking those present, reporting on the topic, objectives of the lesson, motivating applicants for higher education to study the topic).
2. Control of the reference level of knowledge - frontal interrogation:
 - requirements for the theoretical readiness of students to perform practical classes;
 - questions to test basic knowledge on the topic of the lesson.
1. Definition and classification of wounds.
2. Clinical signs of the wound, components of the wound.
3. Complications of wounds (early and late).
4. Morphology and pathomorphology of the wound process.
5. Types of wound healing.
6. Phases of the wound process and their properties.
7. Treatment of fresh wounds.
8. Primary debridement, definition, purpose.
9. Types of sutures, indications and contraindications for their application.
10. Methods of local treatment of wounds.
11. General treatment of patients with wounds

1. Formation of professional skills (mastery of skills, determination of a treatment regimen, laboratory testing, etc.):

- Tasks (clinical situations):

1. When examining a patient with stab wounds of the right hand, there was a loss of sensitivity in the skin of the lateral half of the dorsum of the hand and proximal phalanges of II, III fingers, and partially I. What nerve is damaged?
 - A. Elbow
 - B. Median
 - C. Beam
 - D. Musculocutaneous
 - E. Lateral cutaneous of forearm

2. An ambulance doctor found in a 22-year-old patient S. with a stab wound to the soft tissues of the right shoulder with minor bleeding. A pressure bandage was applied and the patient was transported to the surgical department. Another doctor revealed a decrease in temperature and sensitivity of the skin of the hand, limitation of active movements in the fingers, disappearance of pulsation in the arteries of the forearm, soft tissue oedema increased in the wound area. What is the preliminary diagnosis?
 - A. Traumatic injury of the right brachial artery
 - B. Traumatic injury to the right brachial vein
 - C. Traumatic injury of the nerve trunks of the right shoulder
 - D. Incised wound of the soft tissues of the right shoulder
 - E. Traumatic injury of the saphenous veins of the right shoulder

3. A 21-year-old male got a deep cut wound in his right thigh. In the emergency room a surgeon on duty performed primary debridement of the wound and primary wound closure with a suture. Over 4 days, there appeared pain, redness, edema, purulent discharge from the wound gap, body temperature rose up to 39°C. What kind of wound complication can you think of and what actions should be taken?
 - A** Wound abscess, remove the sutures and drain the wound
 - B** Infiltration, apply a hot compress
 - C** Erysipelas, prescribe antibiotics
 - D** Tetanus, active-passive immunization against tetanus
 - E** Lymphangitis, apply a hot compress

—recommendations (instructions) for completing tasks (professional algorithms, indicative maps for the formation of practical skills);

A classification of wound closure and healing

- **By primary intention**
Wound edges opposed. Normal healing. Minimal scar
- **By secondary intention**
Wound left open. Heals by granulation, contraction and epithelialisation
Increased inflammation and proliferation
Poor scar
- **By tertiary intention (also called delayed primary intention)**
Wound initially left open
Edges later opposed when healing conditions favourable

Factors influencing healing of a wound

- Site of the wound
- Structures involved
- Mechanism of wounding
 - Incision
 - Crush
 - Crush avulsion
- Contamination (foreign bodies/bacteria)^a
- Loss of tissue
- Other local factors
 - Vascular insufficiency (arterial or venous)
 - Previous radiation
 - Pressure
- Systemic factors
 - Malnutrition or vitamin and mineral deficiencies
 - Disease (e.g. diabetes mellitus)
 - Medications (e.g. steroids)
 - Immune deficiencies [e.g. chemotherapy, acquired immunodeficiency syndrome (AIDS)]
 - Smoking

a. In explosions, the contamination may consist of tissue such as bone from another individual.

List of training practical tasks to be completed during the practical lesson:

- 1) Carry out an examination of patients with different types of wounds;
- 2) Master the technique of primary surgical treatment of a wound;
- 3) Master the technique of secondary surgical treatment of a wound;
- 4) Examine a patient with a purulent wound;
- 5) Master the technique of dressing a clean wound;
- 6) Master the technique of bandaging a purulent wound
- 7) Master the technique of suturing (primary);
- 8) Master the technique of applying secondary sutures;
- 9) Master the technique of removing sutures.

- *requirements for the results of the work, including the design;*

Criteria of ongoing assessment at the practical class

Score	Assessment criterion
«5»	The applicant is fluent in the material, actively participates in the discussion and solution of a situational Clinical problem, confidently demonstrates practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies, expresses his opinion on the topic of the lesson, and demonstrates Clinical thinking.
«4»	The applicant has a good command of the material, participates in the discussion and solution of a situational Clinical problem, demonstrates practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies with some errors, expresses his opinion on the topic of the lesson, and demonstrates Clinical thinking.
«3»	The applicant does not have enough knowledge of the material, hesitantly participates in

	the discussion and solution of a situational Clinical problem, demonstrates practical skills when examining a sick child and interpreting Clinical , laboratory and instrumental data with significant errors.
«2»	The applicant does not own the material, does not participate in the discussion and solution of a situational Clinical problem, does not demonstrate practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies.

- *Control materials for the final stage of the lesson: tasks, assignments, tests.*

4. A 35-year-old woman undergoes an elective laparoscopic cholecystectomy for symptomatic cholelithiasis. Which of the following wound classes best describes her procedure?

- a. Class I, Clean
- b. Class II, Clean/contaminated
- c. Class III, Contaminated
- d. Class IV, Dirty
- e. None of the above

5. A 60-year-old diabetic man undergoes incision and drainage of an infected boil on his back. The wound is left open and packed daily. Week by week, the wound grows smaller and eventually heals. Which of the following terms describes the method of wound closure by the patient?

- a. Primary intention
- b. Secondary intention
- c. Tertiary intention
- d. Delayed primary closure
- e. Delayed secondary closure

6. During a bar brawl, a 19-year-old man sustains a 4-in laceration on his left arm from glass and presents to the emergency room the following morning, 10 hours later. He is neuro-vascularly intact and the wound is deep, extending down to fascia. Which of the following is the most appropriate management of the wound?

- a. Closure of the skin only and administration of oral antibiotics for 1 week
- b. Closure of the skin and subcutaneous tissue and administration of oral antibiotics for 1 week
- c. A single dose of intravenous antibiotics and closure of the skin only
- d. A single dose of intravenous antibiotics and closure of the skin and subcutaneous tissue
- e. Local wound care without wound closure or antibiotics

7. A 67-year-old man presents to his primary care physician with a 1-cm skin lesion on his left forearm. On examination, it has a waxy appearance with rolled, pearly borders surrounding a central ulcer. Which of the following is the most appropriate management of this patient?

- a. Mohs surgery
- b. Curettage of the lesion
- c. Electrodesiccation of the lesion
- d. Laser vaporization of the lesion
- e. Surgical excision

8. While you are on duty in the emergency room, a 12-year-old boy arrives with pain and inflammation over the ball of his left foot and red streaks extending up the inner aspect of his leg. He remembers removing a wood splinter from the sole of his foot on the previous day. The most likely infecting organism is

- a. Clostridium perfringens
- b. Clostridium tetani
- c. Staphylococcus
- d. Escherichia coli
- e. Streptococcus

4. Summing up:

5. Recommended literature.

- Basic

1. SABISTON: TEXTBOOK OF SURGERY: THE BIOLOGICAL BASIS OF MODERN SURGICAL PRACTICE, TWENTY FIRST EDITION Copyright © 2020
2. Gozie Offiah, Arnold Hill/RCSI Handbook of Clinical Surgery for Finals. 4th ed. 2020
3. Березницький Я. С. (за ред.) General Surgery=Загальна хірургія. — 2-ге вид. Підручник для ВМНЗ III—IV р.а.: Рекомендовано ДУ“Центр.метод.каб.з вищої мед.освіти МОЗ України”: 2020/ 328 с.
4. General Surgery=Загальна хірургія: Підручник для мед. ун -тів., інст., акад. Затверджено МОН / За ред. С.Д. Хіміча, М.Д. Желіби. — К., 2019. — 536 с.

Additional:

1. Цигикало О. В. Clinical Anatomy and Operative Surgery=Клінічна анатомія і оперативна хірургія.. Підручник для ВМНЗ IV р.а.: Рекомендовано МОЗ: 2020/ 528 с.
2. Березницький Я. С. (за ред.) General Surgery=Загальна хірургія. — 2-ге вид. Підручник для ВМНЗ III—IV р.а.: Рекомендовано ДУ“Центр.метод.каб.з вищої мед.освіти МОЗ України”: 2020/ 328 с.

6. Electronic information resources

1. <http://moz.gov.ua> – Міністерство охорони здоров'я України
2. www.ama-assn.org – Американська медична асоціація / American Medical Association
3. www.who.int – Всесвітня організація охорони здоров'я
4. www.dec.gov.ua/mtd/home/ - Державний експертний центр МОЗ України
5. <http://bma.org.uk> – Британська медична асоціація
6. www.gmc-uk.org - General Medical Council (GMC)
7. www.bundesaerztekammer.de – Німецька медична асоціація
8. <http://medforum.in.ua/partners-> Асоціація хірургів України
9. <http://endoscopy.com.ua/> - Асоціація ендоскопічних хірургів України

10. <http://thoracic-surgery.com.ua/> - Асоціація торакальних хірургів України
11. <https://youcontrol.com.ua/> - Асоціація судинних хірургів України

Practical class №2

Theme: **Burns, electrical trauma, radiation injuries, frostbite.**

Goal:

Know:

- burns: etiological factors, pathogenesis, classification (severity, depth and area of the burn), prognosis of burns;
- local and general manifestations of burn injury;
- the concept of burn disease, its pathogenesis, the clinical course;
- pathogenesis of burn shock;
- principles of first aid for burns;
- principles of treatment of burn disease;
- principles of burn wound treatment;
- principles of surgical treatment of burns;
- etiology, pathogenesis, systematization of chemical, electrical and radiation injuries;
- the clinical picture for types of burns, depending on their etiology (chemical, electrical, radiation);
- first aid for certain types of burns (chemical, electrical, radiation);
- local and general clinical signs of electrical injury;
- the procedure for first aid in case of electrical injury.
- features of radiation illness; – etiological features, pathogenesis;
- clinical course and severity of frostbite;
- principles of first aid and management for frostbite;

- **Basic concepts:** thermal burns, burn disease, chemical burns, electrical burns, frostbite, pathogenesis, diagnostic methods, differential diagnosis, treatment.

Plan:

1. Organizational activities (greeting, checking those present, reporting on the topic, objectives of the lesson, motivating applicants for higher education to study the topic).

2. Control of the reference level of knowledge - frontal interrogation:

- Requirements for the theoretical readiness of students to perform practical classes;
- Questions to test basic knowledge on the topic of the lesson.

1. Thermal burn - determination of its depth, area, prognosis, severity.
2. Local and general signs of burns, pathogenesis of burn injury.
3. Burn disease, pathogenesis, clinical course, principles of treatment. First aid for thermal burns.
4. Principles of treatment of victims with burns, treatment of a burn wound.
5. Clinical picture, first aid and principles of treatment for certain types of burns - chemical, electrical, radiation.

6. Frostbite - pathogenesis, degree of damage, clinical picture, first aid, principles of treatment.. Freezing.

3. Formation of professional skills (mastery of skills, determination of a treatment regimen, laboratory testing, etc.):

- Tasks (clinical situations):

1. A patient with frostbite of both feet was delivered to the admission ward. What actions should be taken?
 - A* To apply a bandage, to introduce vasodilating medications
 - B* To administer cardiac medications
 - C* To put feet into hot water
 - D* To rub feet with snow
 - E* To apply an alcohol compress

2. A 3-year-old boy is brought to the emergency room after spilling bleach onto his lower extremities. He is diagnosed with a chemical burn and all involved clothing are removed. In addition to resuscitation, which of the following is the most appropriate initial management of this patient?
 - a. Treatment of the burn wound with antimicrobial agents.
 - b. Neutralize the burn wound with weak acids.
 - c. Lavage of the burn wound with large volumes of water.
 - d. Wound debridement in the operating room.
 - e. Treatment of the burn wound with calcium gluconate gel.

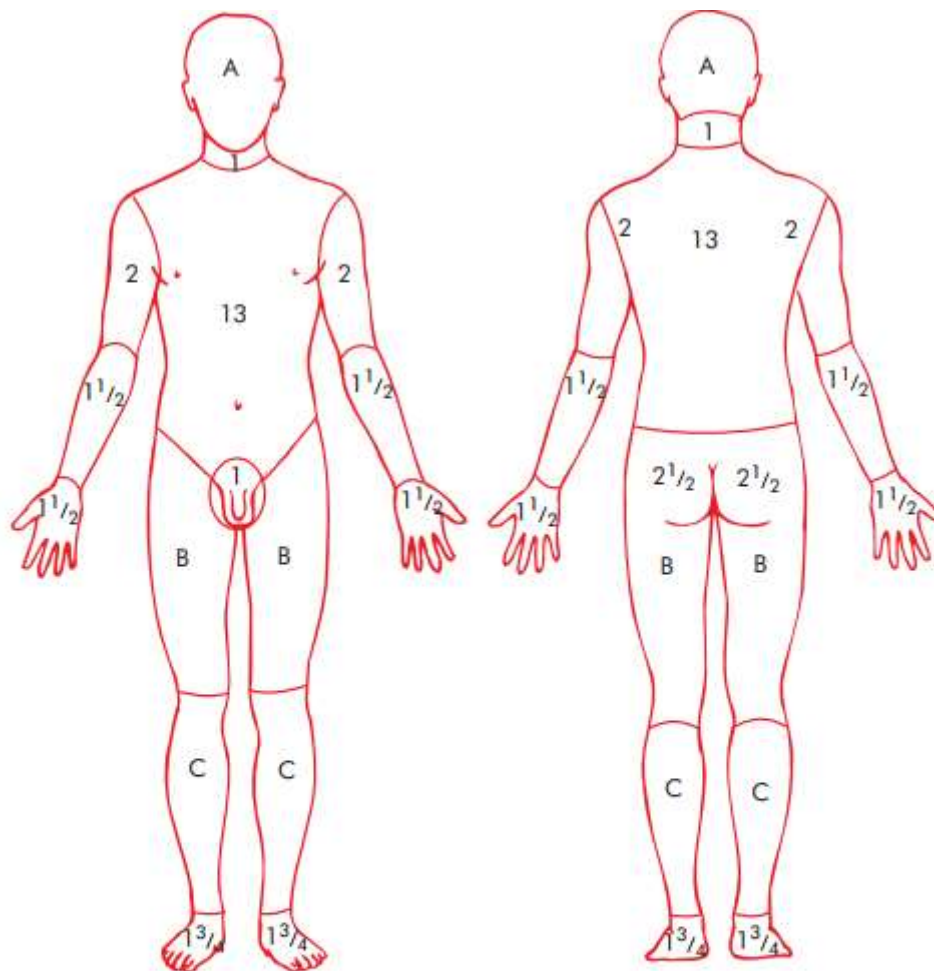
3. Following a weekend of snowmobiling, a 42-year-old man comes to the emergency department with pain, numbness, and discoloration of his right forefoot. You diagnose frostbite. Which of the following is the proper initial treatment?
 - a. Debridement of the affected part followed by silver sulfadiazine dressings
 - b. Administration of corticosteroids
 - c. Administration of vasodilators
 - d. Immersion of the affected part in water at 40°C-44°C (104°F-111.2°F)
 - e. Rewarming of the affected part at room temperature

—recommendations (instructions) for completing tasks (professional algorithms, indicative maps for the formation of practical skills);

Table Causes of burns and their likely depth

Cause of burn	Probable depth of burn
Scald	Superficial, but with deep dermal patches in the absence of good first aid. Will be deep in a young infant
Fat burns	Deep dermal
Flame burns	Mixed deep dermal and full thickness
Alkali burns including cement	Often deep dermal or full thickness
Acid burns	Weak concentrations superficial, strong concentrations deep dermal
Electrical contact burn	Full thickness

Assessing depth from the history



Relative percentage of area affected by growth

Age in years	0	1	5	10	15	Adult
A Head	9	8	6	5	4	3
B Thigh	2	3	4	4	4	4
C leg	2	2	3	3	3	3

Figure The Lund and Browder chart.

List of educational practical tasks that must be completed in a practical lesson:

- master the technique of cardiopulmonary resuscitation;
- master the methodology for determining the signs of clinical death;
- master the technique of restoring the patency of the upper respiratory tract through the triple intake of Safar;
- master the methods of determining the area of the burn;
- master the technique of bandaging, immobilization of victims with burn injuries;
- master the technique of first aid for chemical burns;
- master the technique of first aid for frostbite;
- master the technique of first aid in case of electrical injury.

- *requirements for the results of the work, including the design;*

Criteria of ongoing assessment at the practical class

Score	Assessment criterion
«5»	The applicant is fluent in the material, actively participates in the discussion and solution of a situational Clinical problem, confidently demonstrates practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies, expresses his opinion on the topic of the lesson, and demonstrates Clinical thinking.
«4»	The applicant has a good command of the material, participates in the discussion and solution of a situational Clinical problem, demonstrates practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies with some errors, expresses his opinion on the topic of the lesson, and demonstrates Clinical thinking.
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«2»	The applicant does not own the material, does not participate in the discussion and solution of a situational Clinical problem, does not demonstrate practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies.

- *Control materials for the final stage of the lesson: tasks, assignments, tests.*

4. A 25-year-old man is brought to the emergency room after sustaining burns during a fire in his apartment. He has blistering and erythema of his face, left upper extremity, and chest. He also has circumferential frank charring of his right upper extremity with decreased capillary refill. He is agitated, hypotensive, and tachycardic. Which of the following is the most appropriate initial management of his wounds?

- Topical antibiotics should be applied to the burn wounds.
- Excision of facial and hand burns.
- Escharotomy of the right upper extremity.
- Excision of all third-degree burns.
- Split-thickness skin grafts over the areas of third-degree burns.

5. A 24-year-old firefighter sustains 30% total body surface area (TBSA) burns to his torso, face, and extremities. His wounds are treated topically with silver nitrate. Which of the following complications is associated with use of this agent?

- a. Hypernatremia
- b. Metabolic acidosis
- c. Hyperchloremia
- d. Neutropenia
- e. Hyponatremia

6. A 12-year-old boy is in a motor vehicle collision in which the car caught fire. He sustains significant inhalation injury and a circumferential burn without fractures or other soft tissue trauma to his left lower extremity during extrication from the burning vehicle. He is intubated and aggressively resuscitated in the intensive care unit. Which of the following is the most appropriate method of assessing for compartment syndrome of the left lower extremity?

- a. X-ray of the left lower extremity
- b. Doppler signals of the left lower extremity
- c. Computed tomography (CT) scan of the left lower extremity
- d. Magnetic resonance imaging (MRI) of the left lower extremity
- e. Left lower extremity angiogram

7. A 65-year-old man sustains a 50% TBSA burn while burning trash in the backyard. The patient is resuscitated with lactated Ringer (LR) solution using the Parkland formula and a weight of 80 kg. What is the rate of LR given in the first 8 hours?

- a. 100 mL/h
- b. 500 mL/h
- c. 1000 mL/h
- d. 5000 mL/h
- e. 10,000 mL/h

4. Summing up:

5. Recommended literature.

- Basic
- 2. SABISTON: TEXTBOOK OF SURGERY: THE BIOLOGICAL BASIS OF MODERN SURGICAL PRACTICE, TWENTY FIRST EDITION
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6. Electronic information resources

12. <http://moz.gov.ua> – Міністерство охорони здоров'я України
13. www.ama-assn.org – Американська медична асоціація / American Medical Association
14. www.who.int – Всесвітня організація охорони здоров'я
15. www.dec.gov.ua/mtd/home/ - Державний експертний центр МОЗ України
16. <http://bma.org.uk> – Британська медична асоціація
17. www.gmc-uk.org - General Medical Council (GMC)
18. www.bundesaerztekammer.de – Німецька медична асоціація
19. <http://medforum.in.ua/partners-> Асоціація хірургів України
20. <http://endoscopy.com.ua/> - Асоціація ендоскопічних хірургів України
21. <http://thoracic-surgery.com.ua/> - Асоціація торакальних хірургів України
22. <https://youcontrol.com.ua/> - Асоціація судинних хірургів України

Practical class №3

Theme: **Acute purulent diseases of soft tissues.**

Goal:

To Know:

- basics of antiseptics and antisepsis;
- definition of the concept of furuncle, carbuncle, abscess, phlegmon;
- etiology and pathogenesis of the above diseases;
- possible general and local complications;
- the main stages of surgical intervention;
- features of surgical tactics for furuncle, carbuncle, abscess, phlegmon
- different types of dressings that can be used;
- principles of care for patients with purulent diseases of soft tissues.

Basic concepts: furuncle, carbuncle, hydradenitis, abscess, phlegmon, erysipelas, lymphangitis, lymphadenitis, paraproctitis.

1. Plan:

1. Organizational activities (greeting, checking those present, reporting on the topic, objectives of the lesson, motivating applicants for higher education to study the topic).
2. Control of the reference level of knowledge - frontal interrogation:
 - Requirements for the theoretical readiness of students to perform practical classes;
 - Questions to test basic knowledge on the topic of the lesson

1. General classification of purulent diseases of soft tissues and skin

2. Features of the anatomical structure of the skin
3. The main clinical signs of purulent diseases
4. Definition, diagnosis, presentation, treatment of purulent diseases of soft tissues and skin.
5. Purulent processes in cellular spaces.
- 6 Tactics of the surgeon at different stages of development of purulent tissue disease.
7. Indications for surgery
8. Primary surgical treatment as a means of preventing purulent complications
9. Methods of surgical interventions depending on the localization of purulent inflammation.

3. Formation of professional skills (mastery of skills, determination of a treatment regimen, laboratory testing, etc.):

- Tasks (clinical situations):

1. Patient T., 42 years old, was examined by a surgeon. Diagnosis of furuncle of the right forearm, purulent-necrotic stage was established. The furuncle was opened. What drug should be bandaged in the hydration phase?

- A. Hypertonic saline
- B. Vishnevsky's ointment
- C. Ichthyol ointment
- D. Ointment with chloramine
- E. Ointment with dimexide

2. During the microscopic examination of punctate from the focus of inflammation in a patient with a skin abscess, a large number of different blood cells were revealed. Which of these cells are the first to enter from the vessels into the tissues during inflammation?

- A. Lymphocytes
- B. Monocytes
- C. Basophils
- D. Eosinophils
- E. Neutrophils

3. In the sowing of pus from a boil, spherical microbes were found, arranged in the form of a bunch of grapes. What morphological form of microbes was found?

- A. Staphylococci
- B. Diplococci
- C. Micrococci
- D. Streptococci
- E. Tetrads

4. A 34-year-old patient applied for a carbuncle on his face. On examination, a loose, painless edema of the subcutaneous fat tissue was found, in the center of the carbuncle a black scab was revealed, along the periphery was a vesicular rash. During a microbiological study, immobile streptobacilli were found capable of forming capsules. What microorganisms are the causative agents of this disease?

- A. Bacillus anthracis
- B. Staphylococcus aureus
- C. Bacillus anthracoides
- D. Bacillus subtilis
- E. Bacillus megaterium

5. Patient P., 25-year-old, was hospitalized in the surgical department with complaints of pain in the right buttock, temperature up to 39°C. From the anamnesis it is known that 9 days ago, for the purpose of pain relief, an intramuscular injection of analgin was performed in the area of the right buttock. Objectively, in the upper outer quadrant of the right buttock, a painful infiltrate 5x4 cm is determined, the skin above it is hyperemic, hot to the touch. Set the correct diagnosis.

- A. Hematoma of the right buttock
- B. Post-injection abscess of the right buttock
- C. Erysipelas of the right buttock
- D. Carbuncle of the right buttock
- E. Abscessing furuncle of the right buttock

—recommendations (instructions) for completing tasks (professional algorithms, indicative maps for the formation of practical skills);

Orienting map for independent work on the topic of the lesson.

№	Main tasks (to learn)	Directions (to name)
1.	Anatomical and physiological structure of the skin.	- the structure of the skin. - functions of the skin.
2.	Clinical signs of purulent diseases of the skin and subcutaneous tissue.	- clinical picture: a) purulent diseases of the skin and subcutaneous tissue; b) features of the presentation for furuncle, carbuncle. c) features of the presentation with hydradenitis, abscess, phlegmon. d) features of the presentation with lymphangitis, lymphadenitis, paraproctitis.
3.	Method of examination of patients with purulent diseases of the skin and subcutaneous tissue.	- laboratory research; - puncture of the infiltrate; - Ultrasound of the infiltrate; - Radiological examination; - CT
4.	Features of the treatment of patients with purulent diseases of the skin and subcutaneous tissue.	- antibiotic therapy; - features of the treatment of patients with purulent diseases of the skin and subcutaneous tissue of the face, neck, limbs, hands and fingers;
5.	Methods for opening and draining purulent cavities.	- features of the opening of infective focus in purulent diseases of the skin and subcutaneous tissue of the face, neck, limbs, hands and fingers;
6.	Prevention of inflammatory diseases of soft tissues.	- injury; - damage to the skin;

List of educational practical tasks that must be completed in a practical lesson:

1. Inspection of the locus morbi.
2. Palpation.
3. Analysis of laboratory and instrumental studies.

4. Surgical treatment of purulent diseases of soft tissues and skin (openings, incisions and drainage).

- *requirements for the results of the work, including the design;*

Criteria of ongoing assessment at the practical class

Score	Assessment criterion
«5»	The applicant is fluent in the material, actively participates in the discussion and solution of a situational Clinical problem, confidently demonstrates practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies, expresses his opinion on the topic of the lesson, and demonstrates Clinical thinking.
«4»	The applicant has a good command of the material, participates in the discussion and solution of a situational Clinical problem, demonstrates practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies with some errors, expresses his opinion on the topic of the lesson, and demonstrates Clinical thinking.
«3»	The applicant does not have enough knowledge of the material, hesitantly participates in the discussion and solution of a situational Clinical problem, demonstrates practical skills when examining a sick child and interpreting Clinical , laboratory and instrumental data with significant errors.
«2»	The applicant does not own the material, does not participate in the discussion and solution of a situational Clinical problem, does not demonstrate practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies.

- *Control materials for the final stage of the lesson: tasks, assignments, tests.*

6. In a patient 10 days after an intramuscular injection, a painful inflammatory mass in the area of the upper outer quadrant of the right buttock was developed, body temperature increased to 38°C in the evening during the last 3 days. Establish the most likely diagnosis.

- A. Buttock hematoma
- B. Erysipelas
- C. Purulent swelling
- D. Post-injection abscess of the buttock
- E. None of the listed diseases

7. Patient Yu., aged 43, has been suffering from diabetes mellitus, type II, severe for 10 years. He complains of pain, the appearance of a tumor-like formation in the interscapular area up to 5 cm in diameter with symptoms of severe hyperemia, edema. In the center of formation 5 purulent tops in diameter up to 0.2-0.3 cm are detected. On palpation a sharp pain develops. What disease does this patient have?

- A. Abscess
- B. Carbuncle
- C. Phlegmone
- D. Furuncle
- E. Lymphangitis

8. A 35-year-old patient complains of high body temperature, pain in the upper outer quadrant of the right buttock that appeared after the injection. He is sick for 3 days. At the injection site, skin hyperemia, painful infiltrate with softening in the center is revealed. A diagnosis of post-injection abscess of the right buttock was established. Further tactics of the surgeon?

- A. Hospitalization of the patient, prescription of antibiotics, UHF

- B. Abscess puncture, removal of pus, followed by the introduction of antiseptics.
- C. Opening the abscess, sanitizing and draining the cavity
- D. Low-intensity laser irradiation for 10-15 minutes. on the right buttock
- E. Antipyretics, massage and dry heat on the right buttock

9. During the day, the patient complains of presence of purulent discharge from a wound on the back of the neck, fever up to 38.8 ° C, general weakness. According to his words, there was no injury. On examination, the patient's condition of moderate severity, skin around the wound is red with a bluish tint, at the top there was a necrosis area up to 2 cm in the form of "cells", on palpation pain is expressed with the of yellow-green pus leakage. What is the preliminary diagnosis?

- A. Neck carbuncle
- B. Neck phlegmon
- C. Neck furuncle
- D. Neck abscess
- E. Neck infiltrate

10. Patient P, 63 years old, has a sharply painful infiltrate 5x6 cm in size on the back of the neck. The skin above it is blue-purple in color with numerous necrotic cells, from which pus is released. In the blood, leukocytosis up to 18.3x10⁹, glycemia 10,0mmol / l, acetone (++) in the urine. Carbuncle was diagnosed. What concomitant pathology does the patient have?

- A. Diabetes mellitus
- B. Gastric ulcer
- C. Chronic renal failure
- D. Hypertension
- E. Thyrotoxicosis

5. Summing up:

6. Recommended literature.

-Basic

1. SABISTON: TEXTBOOK OF SURGERY: THE BIOLOGICAL BASIS OF MODERN SURGICAL PRACTICE, TWENTY FIRST EDITION Copyright © 2020
2. Gozie Offiah, Arnold Hill//RCSI Handbook of Clinical Surgery for Finals. 4th ed. 2020
3. Березницький Я. С. (за ред.)General Surgery=Загальна хірургія. — 2-ге вид. Підручник для ВМНЗ ІІ—ІV р.а.: Рекомендовано ДУ“Центр.метод.каб.з вищої мед.освіти МОЗ України”: 2020/ 328 с.
4. General Surgery=Загальна хірургія: Підручник для мед. ун -тів., інст., акад. Затверджено МОН / За ред. С.Д. Хіміча, М.Д. Желіби. — К., 2019. — 536 с.

-Additional:

1. Цигикало О. В. Clinical Anatomy and Operative Surgery=Клінічна анатомія і оперативна хірургія.. Підручник для ВМНЗ ІV р.а.: Рекомендовано МОЗ: 2020/ 528 с.

2. Березницький Я. С. (за ред.) General Surgery=Загальна хірургія. — 2-ге вид. Підручник для ВМНЗ III—IV р.а.: Рекомендовано ДУ“Центр.метод.каб.з вищої мед.освіти МОЗ України”: 2020/ 328 с.

6. Electronic information resources

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2. www.ama-assn.org – Американська медична асоціація / American Medical Association
3. www.who.int – Всесвітня організація охорони здоров'я
4. www.dec.gov.ua/mtd/home/ - Державний експертний центр МОЗ України
5. <http://bma.org.uk> – Британська медична асоціація
6. www.gmc-uk.org - General Medical Council (GMC)
7. www.bundesaerztekammer.de – Німецька медична асоціація
8. <http://medforum.in.ua/partners-> Асоціація хірургів України
9. <http://endoscopy.com.ua/> - Асоціація ендоскопічних хірургів України
10. <http://thoracic-surgery.com.ua/> - Асоціація торакальних хірургів України
11. <https://youcontrol.com.ua/> - Асоціація судинних хірургів України

Practical class №4

Theme: Necrosis. Gangrene. Ulcers. Fistulas.

Goal:

To Know:

- Determine the etiological factors for the occurrence of necrosis, gangrene and ulcers.
- Interpret clinical signs and results of laboratory and instrumental research methods in patients with necrosis of different localization.
- Assess the severity of the condition of patients with gangrene of the lower limb.
- Make up an algorithm for treatment tactics and features of patient care various types of gangrene and ulcers of the lower extremities.
- Choose instruments for limb amputation.
- Classify fistulas in the human body.

Basic concepts: Necrosis. Gangrene. Ulcers. Fistulas.

3. Plan:

1. Organizational activities (greeting, checking those present, reporting on the topic, objectives of the lesson, motivating applicants for higher education to study the topic).

4. Control of the reference level of knowledge - frontal interrogation:

- Requirements for the theoretical readiness of students to perform practical classes;
- Questions to test basic knowledge on the topic of the lesson

1. Definition of the concept of necrosis, gangrene. Participation of physical, chemical and biological factors in their development.

2. Classification of necrosis and gangrene.
3. Dry gangrene, conditions of development, clinical picture, principles of treatment.
4. Wet gangrene, conditions of development, clinical picture, principles of treatment.
5. The main types of operations for necrosis: necrotomy, necrectomy, amputation.

Indications.

6. Bedsores. Prevention Treatment.
7. Definition of the concept of ulcer. Difference between ulcers and wounds.
8. Classification of ulcers.
9. Pathogenetic approach to the treatment of ulcers.
10. Definition of the concept of fistula.
11. Classification of fistulas.
12. Principles and methods for diagnosing fistulas.
13. Conservative treatment of fistulas.
14. Principles of surgical treatment of fistulas.

3. **Formation of professional skills** (mastery of skills, determination of a treatment regimen, laboratory testing, etc.):

- Tasks (clinical situations):

1. Patient K., 67 years old, applied to the emergency department with complaints of intense pain in the region of the right lower leg and foot of a constant nature, general weakness, dizziness, thirst. From the anamnesis he fell ill acutely for 2 days back, when during physical exertion there was a sharp pain in the right leg. Over time, the patient's condition deteriorated significantly. Objectively: body temperature - 38.2⁰ C, pulse 110 in 1 min., BP 90/60 mm Hg. Right foot and lower leg cold to touch, edematous, marbled, toes are dark purple, on the back of the foot there is a large blister with dark hemorrhagic contents. There are no pain and tactile sensitivity to the middle third of the lower leg. Active and passive finger movements are not possible. Establish a diagnosis?

- A. Embolism of the femoral artery, limb ischemia in the stage of functional changes
- B. Embolism of the femoral artery, limb ischemia in the necrotic stage, dry gangrene of the right foot
- C. Embolism of the femoral artery, limb ischemia in the necrotic stage, wet gangrene of the right foot
- D. Chronic disorders of the arterial circulation of the limb in the stage exacerbation
- E. Embolism of the femoral artery, limb ischemia in the stage of organic changes

2. Patient N., 57 years old, turned to the surgeon with complaints of pain in the muscles of the leg during a short walk, requiring a stop of movement, cold feet and shin, rapid freezing of the feet, impoverishment of the hairline and decrease in muscle mass in the lower extremities. He considers himself unhealthy for 3 years. Objectively: the feet and lower thirds of the legs are pale blue, cold to the touch, pain sensitivity is reduced. Pulsation is defined only on the femoral arteries. Specify the nature of the leading pathology in the patient?

- A. Post-thrombophlebitic syndrome
- B. Diabetic angiopathy
- C. Varicose disease of the lower extremities
- D. Obliterating atherosclerosis
- E. Obliterating endarteritis

3. Patient V., 60 years old, was hospitalized to the surgical department with complaints of pain, swelling, redness of the skin in the area of the right foot, blackening of the first toe.

Suffering from type II diabetes mellitus for 10 years, last year she did not control her blood sugar level. In the course of complex conservative therapy, it was possible to eliminate edema and hyperemia of the foot. A clear demarcation line of the necrosis zone appeared. The pulsation in the arteries of the limb is preserved. A decrease in the level of pain sensitivity in the distal part is determined in both feet. Specify treatment?

- A. Distal foot amputation
- B. Amputation of a limb at the level of the lower third of the thigh
- C. Continue conservative therapy until self-amputation and finger
- D. Amputation of the toe with resection of the head and metatarsal bone
- E. Amputation of the limb at the level of the middle third of the lower leg

4. Patient B., 68 years old, was hospitalized to the surgical department with complaints of constant intense pain in the right foot and lower leg, due to which he hardly sleeps. Tries to constantly keep the leg lowered to the floor. The first toe is blackened, the remaining toes and the distal third of the foot are blue-purple, proximal to the lower third of the thigh, the skin is pale and cold. There is swelling of the foot and lower leg, contracture in the knee joint, impaired sensitivity to the middle of the lower leg. Conservative treatment, including prostaglandin E preparations and prolonged epidural anesthesia, did not give the desired effect. Specify the treatment?

- A. Amputation of the limb at the level of the middle third of the thigh
- B. Distal foot amputation
- C. Amputation of the 1st toe
- D. Performing aortography followed by replacement of the affected vessel
- E. Amputation of the limb at the level of the middle third of the lower leg

5. Patient K., 56 years old, consulted a surgeon for varicose disease of the lower extremities. Objectively: on the left lower leg and thigh, there are multiple compacted varicose saphenous veins. The foot and lower leg are edematous, the skin of the lower third of the lower leg is blue-brown in color and thickened. On the medial surface, above the bone, there is an ulcer 4x5 cm in size, covered with necrotic tissues. Functional tests and dopplerography indicate insufficiency of the valves of the saphenous and communicating veins. Passability of deep veins is severed. Determine further radical tactics of ulcer treatment?

- A. Employment of sclerotherapy
- B. Safenectomy with ligation of communicating veins in the ulcer area
- C. Application of zinc-gelatin dressings
- D. Ulcer closure with a free split skin section
- E. Ulcer closure with a skin flap on a vascular pedicle

—recommendations (instructions) for completing tasks (professional algorithms, indicative maps for the formation of practical skills);

Orienting map for independent work on the topic of the lesson.

№	Main tasks (to learn)	Directions (to name)
1.	Anatomical and physiological structure of the skin.	- the structure of the skin. - functions of the skin.
2.	Clinical signs of purulent diseases of the skin and subcutaneous tissue.	- clinical picture: a) purulent diseases of the skin and subcutaneous tissue;

		b) clinical features in necrosis and gangrene of soft tissues. c) clinical features of soft tissue ulcers. d) features of the clinic for fistulas.
3.	Method of examination of patients with purulent diseases of the skin and subcutaneous tissue.	- laboratory research; - puncture of the infiltrate; - Ultrasound of the infiltrate; - Radiological examination; - CT
4.	Features of the treatment of patients with purulent diseases of the skin and subcutaneous tissue.	- antibiotic therapy; - features of the treatment of patients with purulent diseases of the skin and subcutaneous tissue of the face, neck, limbs, hands and fingers;
5.	Methods for opening and draining purulent cavities.	- features of the opening of infective focus in purulent diseases of the skin and subcutaneous tissue of the face, neck, limbs, hands and toes;
6.	Prevention of inflammatory diseases of soft tissues.	- injury; - damage to the skin;

List of educational practical tasks that must be completed in a practical lesson:

1. Inspection of the locus morbi.
2. Palpation.
3. Analysis of laboratory and instrumental studies.
4. Surgical treatment of purulent diseases of soft tissues and skin (openings, incisions and drainage).

- *requirements for the results of the work, including the design;*

Criteria of ongoing assessment at the practical class

Score	Assessment criterion
«5»	The applicant is fluent in the material, actively participates in the discussion and solution of a situational Clinical problem, confidently demonstrates practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies, expresses his opinion on the topic of the lesson, and demonstrates Clinical thinking.
«4»	The applicant has a good command of the material, participates in the discussion and solution of a situational Clinical problem, demonstrates practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies with some errors, expresses his opinion on the topic of the lesson, and demonstrates Clinical thinking.
«3»	The applicant does not have enough knowledge of the material, hesitantly participates in the discussion and solution of a situational Clinical problem, demonstrates practical skills when examining a sick child and interpreting Clinical , laboratory and instrumental data with significant errors.
«2»	The applicant does not own the material, does not participate in the discussion and solution of a situational Clinical problem, does not demonstrate practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies.

- *Control materials for the final stage of the lesson: tasks, assignments, tests.*

6. A 70-year-old patient was hospitalized in the surgical department 28 hours after

feeling of sharp pain in the left foot and lower leg. Objectively: T - 38.2⁰ C, pulse 110 in 1 min., BP 90/60 mm Hg. Left foot and lower leg marble color, toes are dark purple, on the back of the foot there is a large blister with dark hemorrhagic contents. The skin is cold. There is no pain and tactile sensitivity to the middle third of the lower leg, the movements of the fingers in the ankle and knee joints are sharply limited. Pulsation is determined only on the femoral artery. Establish the diagnosis?

- A. Embolism of the femoral artery, wet gangrene of the foot
- B. Acute thrombophlebitis of the superficial veins of the left leg
- C. Diabetic angiopathy of the vessels of the left lower limb
- D. Atherosclerosis of the femoral artery with acute ischemia in the stage of functional violations
- E. Acute thrombophlebitis of deep veins of the left leg

7. A 70-year-old patient was hospitalized in the surgical department after 28 hours. acute onset of the disease with complaints of severe pain in the left foot and leg, their sharp cooling, lack of movement. Suffers from coronary heart disease, chronic circulatory failure IIA, obesity II. Marble-colored extremity, solitary blisters on the foot are detected. Pulsation is determined only on the femoral artery. Define treatment tactics?

- A. Emergency amputation of a limb at the level of the foot
- B. Urgent amputation of a limb at the level of the thigh after intensive preoperative preparation
- C. Emergency embolectomy
- D. Emergency shunting of the affected vessel segment
- E. Emergency amputation at the level of the upper third of the leg

8. In a 50-year-old patient after surgical treatment of an abscess in the postoperative area For ventral hernia at the bottom of the purulent cavity, a loop of intestine with a defect 0.4x0.5 cm in size was found. Up to 200 ml of semi-liquid small intestinal contents are released from the wound. After tamponade of the wound with gauze pads with Vishnevsky's liniment, the amount of secretions decreased significantly. Defecation is saved. The general condition of the patient is relatively satisfactory. What treatment should be applied?

- A. Filling a fistula with an adhesive composition
- B. Continuation of conservative treatment of the wound using mechanical obturator
- C. Urgent bowel resection with fistula
- D. Continue conservative measures until wound healing or formation fistula with subsequent determination of the scope of the operation
- E. Urgent stitching of a bowel defect

9. A 40-year-old patient complains of pain in the left leg, presence of a fistula, which is not heals for 5 months. Objectively: the left leg is swollen; on the inside the surface the fistula with a size of 0.3x0.3 cm with the release of pus is present. On the radiograph a destruction of the tibia with symptoms of osteosclerosis and the presence of sequester is revealed. Specify the cause of the fistula?

- A. Atherosclerosis
- B. Diabetes mellitus
- C. Varicose veins
- D. Chronic osteomyelitis
- E. Neurotrophic disorders¹⁸

10. Patient K., 67 years old, applied to the emergency department with complaints of intense pain in the region of the right lower leg and foot of a constant nature, general weakness, dizziness, thirst. From the anamnesis he fell ill acutely for 2 days back, when during physical

exertion there was a sharp pain in the right lower leg. Over time, the patient's condition deteriorated significantly. Objectively: body temperature is 38.2⁰ C, pulse rate is 110 per minute, blood pressure is 90/60 mm Hg. The right foot and lower leg are cold to touch, edematous, of marble color, the toes are dark purple, on the back of the foot there is a large blister with dark hemorrhagic contents. There is no pain and tactile sensitivity to the middle third of the lower leg. Active and passive toes movements are not possible. Pulsation is determined only on the femoral artery. Establish a diagnosis?

- A. Embolism of the femoral artery, limb ischemia in the necrotic stage, dry gangrene of the right foot
- B. Chronic violation of arterial circulation of the limb in the stage exacerbation
- C. Embolism of the femoral artery, limb ischemia in the necrotic stage, moist gangrene of the right foot
- D. Embolism of the femoral artery, limb ischemia in the stage of organic changes
- E. Embolism of the femoral artery, limb ischemia in the stage of functional changes

4. Summing up:

5. Recommended literature.

-Basic

1. SABISTON: TEXTBOOK OF SURGERY: THE BIOLOGICAL BASIS OF MODERN SURGICAL PRACTICE, TWENTY FIRST EDITION Copyright © 2020
2. Gozie Offiah, Arnold Hill//RCSI Handbook of Clinical Surgery for Finals. 4th ed. 2020
3. Березницький Я. С. (за ред.) General Surgery=Загальна хірургія. — 2-ге вид. Підручник для ВМНЗ III—IV р.а.: Рекомендовано ДУ“Центр.метод.каб.з вищої мед.освіти МОЗ України”: 2020/ 328 с.
4. General Surgery=Загальна хірургія: Підручник для мед. ун -тів., інст., акад. Затверджено МОН / За ред. С.Д. Хіміча, М.Д. Желіби. — К., 2019. — 536 с.

-Additional:

1. Цигикало О. В. Clinical Anatomy and Operative Surgery=Клінічна анатомія і оперативна хірургія.. Підручник для ВМНЗ IV р.а.: Рекомендовано МОЗ: 2020/ 528 с.
2. Березницький Я. С. (за ред.) General Surgery=Загальна хірургія. — 2-ге вид. Підручник для ВМНЗ III—IV р.а.: Рекомендовано ДУ“Центр.метод.каб.з вищої мед.освіти МОЗ України”: 2020/ 328 с.

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2. www.ama-assn.org – Американська медична асоціація / American Medical Association
3. www.who.int – Всесвітня організація охорони здоров'я
4. www.dec.gov.ua/mtd/home/ - Державний експертний центр МОЗ України
5. <http://bma.org.uk> – Британська медична асоціація
6. www.gmc-uk.org - General Medical Council (GMC)
7. www.bundesärztekammer.de – Німецька медична асоціація
8. <http://medforum.in.ua/partners-> Асоціація хірургів України
9. <http://endoscopy.com.ua/> - Асоціація ендоскопічних хірургів України
10. <http://thoracic-surgery.com.ua/> - Асоціація торакальних хірургів України
11. <https://youcontrol.com.ua/> - Асоціація судинних хірургів України

Practical class №5

Theme: Acute anaerobic (clostridial and non-clostridial) infection.

Goal:

To Know:

- the relevance of studying anaerobic wound infection and tetanus, - determine the etiological factors of its occurrence.
- classification of individual forms of anaerobic clostridial and non-clostridial infections.
- to learn the clinical manifestations of anaerobic infection and tetanus,
- to make up an algorithm for treatment tactics and features of patient care with this pathology.
- to know the principles of preventing the occurrence of anaerobic clostridial and non-clostridial infection.

Basic concepts: clostridial and non-clostridial anaerobic infection. Gas gangrene.

5. Plan:

1. Organizational activities (greeting, checking those present, reporting on the topic, objectives of the lesson, motivating applicants for higher education to study the topic).

2. Control of the reference level of knowledge - frontal interrogation:

- Requirements for the theoretical readiness of students to perform practical classes;
- Questions to test basic knowledge on the topic of the lesson

1. Relevance of the problem.

2. Etiology.

3. Epidemiology.

4. Factors contributing to development.

5. Pathogenesis.

6. Classification on the spread, severity, course, phase of the disease.

7. Local and general clinical manifestations.

8. Features of surgical treatment.

9. Features of complex general treatment.

10. Prevention, significance and features of surgical treatment of the wound.

11. Features of patient care, anti-epidemic measures.

3. Formation of professional skills (mastery of skills, determination of a treatment regimen, laboratory testing, etc.):

- Tasks (clinical situations):

1. A 60-year-old man was hospitalized in the surgical department 6 hours after deep injury to the leg with a pitchfork on a livestock farm. General state the victim is satisfactory. T - 37.6 ° C. On the inner surface of the middle third of the leg there is a wound 1x1 cm with moderately edematous edges in hemorrhages, filled a clot of blood. What therapeutic measures will be decisive in the prevention of gas

infections?

- A. Preventive administration of broad-spectrum antibiotics tropic for anaerobes;
- B. Prophylactic administration of antibiotics tropic to anaerobes in combination with merotin (metronidazole);
- C. Adequate primary debridement without primary sutures;
- D. Radical secondary debridement;
- E. Introduction of antigangrenous serum.

2. A 70-year-old patient was hospitalized in the surgical department after 2 hours. Because of, as a buttock, she caught on deeply on the picket fence of the railway station. Objectively: general condition of moderate severity. T - 37.6 °C. On the borders of the outer squares of the left buttock there is a deep wound, 2x5 cm in size with torn and hemorrhage. Which of the options for surgical treatment of the wound should be used for prevention of anaerobic infection?

- A. Wide incision of the wound to the limit of healthy tissues;
- B. Small incision with cutting out all damaged tissue, especially fat, drainage;
- C. Wide incision, excision of all injured tissues, drainage to the bottom of the wound, leaving it open;
- D. Wide incision, excision of all damaged tissues, drainage, liquid sutures on the skin;
- E. Wide incision, cutting out injured tissue, leaving the wound open under the bandage.

3. A 60-year-old man, underwent primary surgical treatment because of stab wound of the left leg, received on livestock in an: the wound was sutured. After 4 days pain in wound area increased; severe headache, excitation turned into depression and nausea appeared. Objectively: the general condition is heavy, pay attention to the subicteric of the sclera, dry tongue, T - 39.5 °C, pulse 120 per minute, weak; blood pressure 100/70 mm Hg. The skin of the left leg is bluish with enhanced venous pattern, covered with purple-brown-yellow spots and single hemorrhagic vesicles. There are edema, tissue crepitus, weakening of the pulse in the arteries of the foot. Between the stitches on the wound a dirty color liquid with an unpleasant odor is seen. Determine the diagnosis and treatment tactics.

- A. Suppuration of the wound, purulent-putrefactive phlegmon, secondary surgical wound treatment;
- B. Gas gangrene, amputation of a limb in the upper third of the thigh;
- C. Anaerobic cellulitis, a wide dissection of the soft tissues of the lower leg is indicated;
- D. Subfascial gas-edematous form of anaerobic infection (myonecrosis), a wide dissection of soft tissues (lamp incisions) is indicated, excision affected muscles, leaving the wound open under a bandage;
- E. Epifascial anaerobic phlegmon, wide tissue dissection is indicated, cutting out dead tissue, especially fatty one.

4. In a 20-year-old poultry farm worker a conveyor mechanism caught in his right hand.. A comminuted fracture of the radius with a significant displacement and widespread hematoma of soft tissues was diagnosed. He refused from hospitalization. In the conditions of the emergency room, a plaster bandage was applied to him, injections of penicillin was prescribed. Five days later, the pain significantly increased, became arching in the injured arm. Severe headache, depression and nausea appeared. The patient was hospitalized. Objectively: T-39.0 °C, pulse 120 in 1 min., BP 80/60 mm Hg. Tachypnea, edema of shoulder is remarkable. The plaster bandage has been removed. The skin of the forearm with gray-yellow color, significantly edematous and warm. There is moderate crepitus of tissues, the pulsation of the radial artery is weakened, pain sensitivity is preserved. Leukocytes- 18×10^9 , hemoglobin 120 g/l. Establish the diagnosis.

- A. Post-traumatic purulent-putrefactive phlegmon;
- B. Post-traumatic thrombophlebitis;
- C. gas gangrene;
- D. Gas-edematous myonecrosis;
- E. Gas-edematous phlegmon (anaerobic cellulitis).

—recommendations (instructions) for completing tasks (professional algorithms, indicative maps for the formation of practical skills);

Orienting map for independent work on the topic of the lesson.

№	Main tasks (to learn)	Directions (to name)
1.	Anatomical and physiological structure of the skin.	- the structure of the skin. - functions of the skin.
2.	Clinical signs of purulent diseases of the skin and subcutaneous tissue.	- clinical picture: a) purulent diseases of the skin and subcutaneous tissue; b) clinical features of clostridial infection of soft tissues. c) clinical features in non-clostridial soft tissue infection
3.	Method of examination of patients with purulent diseases of the skin and subcutaneous tissue.	- laboratory research; - puncture of the infiltrate; - Ultrasound of the infiltrate; - Radiological examination; - CT
4.	Features of the treatment of patients with purulent diseases of the skin and subcutaneous tissue.	- antibiotic therapy; - features of the treatment of patients with clostridial and non-clostridial infections of soft tissues and subcutaneous tissue of the face, neck, limbs, hands and fingers;
5.	Methods for opening and draining purulent cavities.	- features of the opening of infective focus in purulent diseases of the skin and subcutaneous tissue of the face, neck, limbs, hands and toes;
6.	Prevention of inflammatory diseases of soft tissues.	- injury; - damage to the skin;

List of educational practical tasks that must be completed in a practical lesson:

1. Carry out an objective examination of patients (taking an anamnesis, general examination, examination of the main organs and systems: a) with purulent complications of wounds; b) phlegmon; c) wet gangrene;
2. Determination in each specific case of the type and stage of the wound process
3. Analysis of specific signs characteristic of acute non-specific and specific surgical diseases
4. Virtual treatment plan for cases to occur gas gangrene.
5. Performing elements of dressings for patients with a definition of what would be necessary with acute specific infection:
 - a) to know the bandages;

- b) washing the wound and drains;
 - c) applying a septic dressing;
 - c) bandages and adhesive bandages.
6. make up a plan of anti-epidemic measures for cases of acute specific infections.

- *requirements for the results of the work, including the design;*

Criteria of ongoing assessment at the practical class

Score	Assessment criterion
«5»	The applicant is fluent in the material, actively participates in the discussion and solution of a situational Clinical problem, confidently demonstrates practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies, expresses his opinion on the topic of the lesson, and demonstrates Clinical thinking.
«4»	The applicant has a good command of the material, participates in the discussion and solution of a situational Clinical problem, demonstrates practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies with some errors, expresses his opinion on the topic of the lesson, and demonstrates Clinical thinking.
«3»	The applicant does not have enough knowledge of the material, hesitantly participates in the discussion and solution of a situational Clinical problem, demonstrates practical skills when examining a sick child and interpreting Clinical , laboratory and instrumental data with significant errors.
«2»	The applicant does not own the material, does not participate in the discussion and solution of a situational Clinical problem, does not demonstrate practical skills when examining a sick child and interpreting data from Clinical , laboratory and instrumental studies.

- *Control materials for the final stage of the lesson: tasks, assignments, tests.*

5. A 40-year-old man got a stab wound on the inner surface of the middle third of the left leg. The next day, in the conditions of the polyclinic, he was underwent surgical treatment with suturing of the wound. Three days later, in the patient the arching pain in the wound intensified, general weakness and depression appeared.

Objectively: the general state is heavy, T-38.⁰ C, pulse 100 per 1 min, BP 90/60 mmHg, There is significant swelling in left tibia and partially lower third of the thigh, the skin of the lower leg is bluish with scattered spots of brownish-yellow color and single blisters with dark hemorrhagic contents. Dirty-brown discharge with an unpleasant odor penetrates through the seams of the wound, around tissue crepitation is detected. The pulse on the arteries of the foot is not determined, pain sensitivity in it distal part is absent. Leukocytes 18×10^9 , hemoglobin 80 g/l.

What complication develops in the patient?

- A. Gas gangrene;
- B. Gas phlegmon;
- C. Suppuration of the wound - purulent-putrefactive phlegmon;
- D. Anaerobic cellulitis;
- E. Epifascial anaerobic myonecrosis.

6. In a 40-year-old patient, after surgical treatment, phlegmon of the thigh returned to normal temperature, the wound cleared, covered with granulations. Suddenly, the state of the patient worsened, palpitations appeared, T - 39 ° C. The wound was covered with a gray-yellow fibrous plaque, soldered to the subordinate tissue, on which widespread areas have formed necrosis, the amount of secretions increased, which acquired a serous-hemorrhagic character. Diphtheria of the wound is suspected. What measures need to be taken?

- A. Start administration of antitoxic diphtheria serum;

- B. Start administration of antitoxic diphtheria serum and antibiotics;
- C. Isolate the patient, monitor her general condition and wound;
- D. Take a swab from the wound for bacterioscopy and culture for bacteriological research, call an infectious disease specialist for a consultation, isolate the patient;
- E. Perform surgical treatment of the wound, apply proteolytic agents for its treatment. enzymes, request an infectious disease consultation.

7. A 35-year-old patient complains of sore throat, difficulty swallowing, headache, temperature rise to 37.5⁰ C. 5 days ago, while working on a farm, she injured forearm. The therapist and otolaryngologist found no pathology. Forearm wound heals under the scab. He does not remember previous vaccinations. Tetanus in the prodromal period was suspected. Identifying what symptoms and investigations could help to confirm the diagnosis?

- A. Shchetkin-Bloomberg symptom.
- C. Kernig's symptom.
- C. Lauryn-Epstein sign.
- D. Fibroesophageal gastroscopy.
- E. Fluorography.

8. In a 50-year-old patient, a day after having a laceration of the hip a severe headache developed. Fear sensation, agitation, increased pain in the wound, trismus, dysphagia, stiffness of the muscles of the neck were appeared. Objectively: the general state of the patient is severe, T 39⁰C, RR - 30 per 1 min, pulse 120 per 1 min, BP - 110/90 mm Hg, Over 15-18 minutes after admission in surgery department, in the patient convulsions developed that lasted about 10 seconds. The diagnosis of tetanus was established:. Determine the clinical form of the disease.

- A. Lightning.
- B. Acute.
- C. Subacute.
- D. Chronic.
- E. Recurrent

4. Summing up:

5. Recommended literature.

-Basic

1. SABISTON: TEXTBOOK OF SURGERY: THE BIOLOGICAL BASIS OF MODERN SURGICAL PRACTICE, TWENTY FIRST EDITION Copyright © 2020
2. Gozie Offiah, Arnold Hill//RCSI Handbook of Clinical Surgery for Finals. 4th ed. 2020
3. Березницький Я. С. (за ред.) General Surgery=Загальна хірургія. — 2-ге вид. Підручник для ВМНЗ III—IV р.а.: Рекомендовано ДУ“Центр.метод.каб.з вищої мед.освіти МОЗ України”: 2020/ 328 с.
4. General Surgery=Загальна хірургія: Підручник для мед. ун -тів., інст., акад. Затверджено МОН / За ред. С.Д. Хімича, М.Д. Желіби. — К., 2019. — 536 с.

-Additional:

1. Цигикало О. В. Clinical Anatomy and Operative Surgery=Клінічна анатомія і оперативна хірургія.. Підручник для ВМНЗ IV р.а.: Рекомендовано МОЗ: 2020/ 528 с.
2. Березницький Я. С. (за ред.)General Surgery=Загальна хірургія. — 2-ге вид. Підручник для ВМНЗ III—IV р.а.: Рекомендовано ДУ“Центр.метод.каб.з вищої мед.освіти МОЗ України”: 2020/ 328 с.

6. Electronic information resources

1. <http://moz.gov.ua> – Міністерство охорони здоров'я України
2. www.ama-assn.org – Американська медична асоціація / American Medical Association
3. www.who.int – Всесвітня організація охорони здоров'я
4. www.dec.gov.ua/mtd/home/ - Державний експертний центр МОЗ України
5. <http://bma.org.uk> – Британська медична асоціація
6. www.gmc-uk.org - General Medical Council (GMC)
7. www.bundesaerztekammer.de – Німецька медична асоціація
8. <http://medforum.in.ua/partners-> Асоціація хірургів України
9. <http://endoscopy.com.ua/> - Асоціація ендоскопічних хірургів України
10. <http://thoracic-surgery.com.ua/> - Асоціація торакальних хірургів України
11. <https://youcontrol.com.ua/> - Асоціація судинних хірургів України