1. CS. Select the correct definition of local anesthesia.
   a) Temporary loss of consciousness
   b) Complete irreversible loss of sensation in the region of administration of anesthetic
   c) Temporary loss of sensation in the region of administration of anesthetic
   d) Total inhibition of autonomic nervous system
   e) Partial inhibition of the central nervous system with loss of sensation in some areas of the body

2. CM. Select the stages of local anesthesia.
   a) Administration of anesthetic substance
   b) Period of expectation
   c) Complete anesthesia
   d) Muscular relaxation
   e) Recovery of sensation

3. CS. What is an action of the local anesthesia upon the central nervous system?
   a) No action
   b) Complete loss of consciousness
   c) Excitation of the central nervous system
   d) Inhibition of the central nervous system
   e) Partial loss of consciousness

4. CM. Select surgical interventions that may be performed under local anesthesia.
   a) Surgery for purulent tenosynovitis (tendinous felon)
   b) Laparoscopic cholecystectomy
   c) Inguinal hernia repair
   d) Splenectomy
   e) Excision of benign tumor (lipoma) of the superficial soft tissues

5. CM. To the superficial local anesthesia refer:
   a) Anesthesia by application
   b) Anesthesia by spraying
   c) Anesthesia by instillation
   d) Regional anesthesia
   e) Tumescent anesthesia

6. CM. Superficial local anesthesia is more frequently used in:
   a) Gynecology
   b) Ophthalmology
   c) Urology
   d) Orthopedics
   e) Neurosurgery

7. CM. Advantages of local anesthesia comparing with general anesthesia are:
   a) Surgery under local anesthesia may be performed in out-patient conditions (without hospitalization)
b) Close postoperative monitoring of the patient is not required

c) Local anesthesia can be used if contraindications to general anesthesia exist

d) Patients don’t require the prolonged preoperative preparation for anesthesia

e) Local anesthesia is not associated with risk of allergic reactions

8. CM. What substances are used for local tumescent anesthesia?
   a) 0.25-0.5% solution of novocaine
   b) 2%-5% solution of novocaine
   c) 1-5% solution of cocaine
   d) 0.5% solution of dicaine
   e) 0.25-0.5% solution of lidocaine

9. CM. Technique of local anesthesia by Vishnevsky’s method includes:
   a) Infiltration of tissues, layer by layer, with low concentration solution (0.25%) of novocaine
   b) Infiltration of tissues, layer by layer, with 1-2% solution of novocaine
   c) Perineural or endoneural administration of novocaine solution
   d) Hydraulic preparation of tissue due to tumescent infiltration
   e) Alternated use of syringe with anesthetic and scalpel

10. CS. What substances are used for loco-regional (conductive) anesthesia?
    a) 0.25-0.5% solution of novocaine
    b) 1-2% solution of novocaine
    c) 10% solution of lidocaine
    d) 1-5% solution of cocaine
    e) 0.5% solution of dicaine

11. CM. What local anesthetics refer to the etheric type group?
    a) Novocaine
    b) Cocaine
    c) Dicaine
    d) Lidocaine
    e) Trimecaine

12. CM. Select the local anesthetics that can be administrated without previous skin test for allergy.
    a) Novocaine
    b) Cocaine
    c) Lidocaine
    d) Trimecaine
    e) Ketamine

13. CM. Specify the contraindications for local anesthesia.
    a) Known allergy to local anesthetic
    b) Psychiatric disorders
    c) Refuse of patient from this type of anesthesia
    d) Severe nervous excitation
e) Severe concomitant somatic diseases

14. CM. What local anesthetics refer to the amide type group?
a) Novocaine
b) **Trimecaine**
c) Cocaine
d) **Lidocaine**
e) Dicaine

15. CS. Epidural anesthesia represent a variant of:
a) **Tumescent anesthesia**
b) **Regional anesthesia**
c) Superficial anesthesia
d) Vishnevsky’s anesthesia
e) **Intraoseous anesthesia**

16. CM. What types of local anesthesia refers to the regional anesthesia?
a) **Spinal anesthesia**
b) Oberst-Lukashevich’s anesthesia
c) **Epidural anesthesia**
d) Vishnevsky’s anesthesia
e) Anesthesia by application

17. CM. Select the correct statements regarding regional anesthesia.
   a) Anesthetic substance is administrated into the nerve or perineural space
   b) Anesthetic substance comes in the direct contact with nerve receptors
   c) Technique requires exact information regarding the course of nervous trunk
   d) Localization of nervous trunks close to the big vessels increases the risk of bleeding
   e) Endoneural administration of novocaine results in complete anesthesia after several minutes

18. CM. The synonyms of spinal anesthesia are:
a) Epidural
b) Peridural
c) **Subdural**
d) Rahidian
    e) Sacral

19. CM. Select the typical complications of spinal anesthesia.
a) Multiple vomiting
b) **Involuntary urination**
c) **Involuntary defecation**
d) Hypotension
e) Prolonged hypertension

20. CS. During spinal anesthesia the puncture usually performed:
a) At the level of cervical spine
b) At the level of thoracic spine
c) At the level of lumbar spine
d) At the level of sacral spine
e) At all levels mentioned above

21. CS. For prevention of spinal cord injury puncture during spinal anesthesia should be performed at the level of:
   a) XII thoracic intervertebral space
   b) I lombar intervertebral space
   c) II lombar intervertebral space
   d) III lombar intervertebral space
   e) IV lombar intervertebral space

22. CS. Select the correct order of sensation loss during the spinal anesthesia.
   a) Pain, thermal, tactile
   b) Tactile, thermal, pain
   c) Thermal, tactile, pain
   d) Pain, tactile, thermal
   e) All are loosed at the same time

23. CS. During the spinal anesthesia the main volume of anesthetic substance is introduced in:
   a) Epidural space
   b) Subdural space
   c) Spinal cord
   d) Intervertebral space
   e) Subcutaneous tissue

24. CM. Specify the causes of hypotension during spinal anesthesia.
   a) Contact of anesthetic with brain stem
   b) Cardio-toxicity of anesthetic solution
   c) Muscular relaxation
   d) Blocking of sympathetic part of autonomic nervous system
   e) Peripheral vascular dilatation

25. CM. Select surgical interventions that may be performed under spinal anesthesia.
   a) Lower limb amputation
   b) Surgery for phlegmon of hand
   c) Gastric resection
   d) Surgery for varicose veins disease
   e) Surgery for hemorrhoid disease

26. CM. Specify the contraindications for spinal anesthesia:
   a) Traumatic shock
   b) Arterial hypertension
   c) Skin infection in the lumbar region
   d) Spinal column deformation
27. CS. Specify the most frequent complication of spinal anesthesia.
   a) Meningitis
   b) **Hypotension**
   c) Cardiac arrest
   d) Respiratory arrest
   e) Paralysis of lower limbs

28. CM. Specify late complications characteristic for spinal anesthesia.
   a) **Headache**
   b) Meningial irritation
   c) Hypotension
   d) Purulent meningitis
   e) Respiratory arrest

29. CS. Specify the disadvantage of spinal anesthesia.
   a) Inefficient anesthesia
   b) Rate of complications is higher than in epidural anesthesia
   c) Requires complex contemporary technical support
   d) Technique of anesthesia is extremely difficult
   e) All mentioned above

30. CM. Specify the correct statements regarding epidural anesthesia.
   a) **This type of anesthesia refers to loco-regional anesthesia**
   b) Rate of complications is lower than in spinal anesthesia
   c) Anesthetic substance is mixed with cerebrospinal fluid
   d) **This type of anesthesia may be used during lower limbs surgery**
   e) The contraindications for this type of anesthesia are similar with spinal anesthesia

31. CM. Epidural anesthesia can be used for:
   a) Prolonged postoperative analgesia
   b) Surgical hemostasis of massive obstetrical bleeding
   c) **Lower limb surgery**
   d) Upper limb surgery
   e) Surgical intervention at the patients with arterial hypotension

32. CS. What is antisepsis?
   a) This is a complex of measures used for sterilization of air in the operating room
   b) **This is a complex of measures used for destruction of microorganisms in the wound**
   c) This is a complex of measures used for preventing entering of microorganisms into the wound
   d) This is a complex of measures used for sterilization of surgical instruments
   e) This is a complex of measures used for destruction of microorganisms by physical methods

33. CM. Specify historical periods in development of antisepsis.
34. CS. Who is the founder of modern antisepsis?
   a) Ernest Bergmann
   b) Kurt Schimmelbuch
   c) Hippocrates
   d) Louis Pasteur
   e) Joseph Lister

35. CS. Which antiseptic was used by Joseph Lister to destroy microorganisms in the wound?
   a) Chloramine
   b) Ethyl alcohol 96%
   c) Carbolic acid
   d) Corrosive sublimate
   e) Furacilin

36. CM. Why namely Joseph Lister is entered into the history of surgery, as the founder of antisepsis?
   a) Basing on discovery of Louis Pasteur he made a conclusion, that the cause of purulent complications in surgery were bacteria
   b) For the first time he elaborated a system of measures to fight with infection in surgery
   c) He discovered a microorganisms and established their relationship with infectious surgical diseases
   d) He synthesized penicillin and first applied it in the surgery
   e) For the first time he developed a method to sterilize dressing material and operating field in the autoclave

37. CM. Specify current types of antisepsis.
   a) Mechanical antisepsis
   b) Endogenous antisepsis
   c) Biological antisepsis
   d) Preventive antisepsis
   e) Antimicrobial antisepsis

38. CM. Specify the existing types of antisepsis.
   a) Exogenous antisepsis
   b) Aerogenic antisepsis
   c) Physiological antisepsis
   d) Physical antisepsis
   e) Chemical antisepsis

39. CS. What type of antisepsis is most frequently used in surgery?
a) Physical antisepsis
b) Biological antisepsis
c) Mechanical antisepsis
d) Combined antisepsis
e) Chemical antisepsis

40. CS. Purulent wound is drained by gauze dressing imbibed with Betadine. What type of antisepsis was used?
a) Chemical antisepsis
b) Combined antisepsis
c) Mechanical antisepsis
d) Physical antisepsis
e) Biological antisepsis

41. CS. To what type of antisepsis is referred wound irrigation through the drain with a Dioxidine solution?
a) To chemical antisepsis
b) To physical antisepsis
c) To mechanical antisepsis
d) To biological antisepsis
e) To combined antisepsis

42. CS. How is performed the wound toilet?
a) Wound is dissected, edges and bottom of wound are excised within the limits of healthy tissues
b) Wound is treated by water jet under high pressure, washing off foreign bodies, pus and microorganisms
c) Skin around the wound is processed with an antiseptic, purulent exudation, infected clots, necrotized tissue are removed using a forceps (pincett) with a gauze globule
d) A permanent lavage of wound is produced: solution of an antiseptic is introduced through one tube, and flows out through another
e) Wound is closed with gauze dressing, imbibed with solution of hydrogen peroxide

43. CM. Which of these surgical measures are related to mechanical antisepsis?
a) Puncture and evacuation of pus in the sinus abscess
b) Tamponade of wound with gauze dressing
c) Installation of the active drainage
d) Primary surgical processing of wound
e) Drainage of the postinjectional abscess

44. CS. To mechanical antisepsis refers:
a) Irrigation of wound with a Dioxidine solution
b) Tamponade of wound with gauze dressing
c) Excision of necrotic tissue
d) Administration of interferon
e) Applying of a sterile bandage to the wound
45. CS. Edges and bottom of the infected wound were excised. What type of antisepsis was used?
   a) Chemical
   b) Physical
   c) Biological
   d) Mechanical
   e) Combined

46. CM. What surgical measures are related to the mechanical antisepsis?
   a) Secondary surgical processing of wound
   b) Packing of wound with a sterile gauze
   c) Drainage of purulent collections
   d) Primary surgical processing of wound
   e) Lavage of wound

47. CM. To the methods of physical antisepsis in treatment of wounds refers:
   a) Use of hypertonic saline solution
   b) Drainage of wound
   c) Primary surgical processing of wound
   d) Use of hydrogen peroxide solution
   e) Use of gauze dressing

48. CM. To the methods of physical antisepsis refers:
   a) Irradiation of infected wound with high-energy (surgical) laser
   b) Ultrasound cavitation of purulent wound
   c) Chemotherapy of purulent focus
   d) Radiotherapy of purulent focus
   e) Exploration of purulent wound with probe

49. CS. What is common in the principles of action of a hygroscopic dressing material and a hypertonic saline solution?
   a) Drying the wound, which creates unfavorable conditions for bacterial multiplication
   b) Bactericidal effect on microorganisms in the wound
   c) Remove mechanically foreign bodies, pus and bacteria from wound
   d) Improve wound flow-out
   e) Improve oxygenation of wound tissue

50. CM. What are the methods of wounds drainage?
   a) Flow-irrigative drainage
   b) Passive drainage
   c) Fractional drainage
   d) Active drainage
   e) Permanent drainage

51. CS. An active drainage of a purulent focus involves:
   a) Creation of a negative pressure at the outer end of drainage tube
b) Creation of a positive pressure at the outer end of drainage tube

c) Introduction of sorbents into the wound, which actively absorb toxins

d) Drainage is installed in the lower part of the wound

e) Continuous flow irrigation of pathological focus

52. CM. A flow-irrigative drainage of purulent focus involves:
   a) Drainage is installed in the lower part of the wound
   b) Installing of two drainage tubes into the wound
   c) Creation of a negative pressure at the outer end of drainage tube
   d) Continuous flow irrigation of pathological focus with antiseptics
   e) Periodical aspiration of contents from pathological focus through the drain

53. CM. Specify the additional methods of physical antisepsis.
   a) Ultrasound cavitation
   b) Use of bacteriophage
   c) Wound processing with water jet
   d) Active drainage
   e) High-energy surgical laser

54. CM. What are characteristics for the method of wound treatment into isolator with abacterial environment?
   a) Formation of scab, under which occurs cleaning and healing of wound
   b) It leads to vaporization of tissue structures
   c) Jet of air under high pressure removes foreign bodies, pus and microorganisms
   d) Drying of wound occurs
   e) Installation for treatment consists of a compressor, a bacterial filter and an isolator

55. CS. Effect of cavitation, having a devastating effect on the microorganisms in the wound, caused by the action of:
   a) High-energy surgical laser
   b) Carbon-containing substances (sorbents)
   c) Ultrasound
   d) Ultra-violet rays
   c) Isolator with abacterial environment

56. CM. To chemical antisepsis refers administration of:
   a) Toxoids (anatoxins)
   b) Antibiotics
   c) Dyes
   d) Analgesics
   e) Oxidants

57. CM. What is represented a chemical antiseptic Cidex?
   a) It is used for processing of a surgeon’s hands and an operating field
   b) Belongs to a group of heavy metal salts
   c) Belongs to a group of aldehydes
d) It is used for lavage of the abdominal cavity in peritonitis

e) It is used for sterilization of flexible endoscopes and instruments from plastic mass

58. CM. Specify the chemical antiseptics from the group of haloids.
   a) Iodopirone
   b) Lysoform
   c) Solution of Chloramine
   d) Alcoholic solution of Iodine
   e) Betadine

59. CS. At what kind of infection is particularly effective local use of boric acid?
   a) At a specific tuberculous infection
   b) At Staphylococcal infection
   c) At Gram-negative infections caused by Escherichia coli
   d) At Pseudomonas aeruginosa infection
   e) At anaerobic non-clostridial infections

60. CS. Which antiseptic agent at local application has both bactericidal effect and mechanical action, cleaning the wound of pus and foreign bodies?
   a) A solution of Furacilin
   b) A Manganese crystals solution
   c) A solution of Dioxidine
   d) A solution of hydrogen peroxide
   e) A solution of ethyl alcohol

61. CM. Specify the correct concepts that characterize metronidazole.
   a) It is a broad-spectrum antibiotic
   b) It is effective against protozoa and anaerobic bacteria
   c) Applied locally into purulent wounds and cavities
   d) Administered intravenously and orally
   e) It is a chemical antiseptic

62. CM. Specify the antibiotics which are used in surgery.
   a) Ceftriaxone
   b) Biseptol
   c) Gentamicin
   d) Metronidazole
   e) Ampioks

63. CM. Specify the principles of rational antibiotic therapy.
   a) An enteral way of antibiotics administration is preferable
   b) It is necessary to determine the sensitivity of microorganisms to antibiotics
   c) It is preferred to administrate the antibiotics with different spectrum of action
   d) Antibiotics should be administered in minimal therapeutic dosage
   e) Antibiotics should be used by strict indications
64. CS. If prolonged antibiotic therapy is required, in order to avoid resistance of microorganisms to antibiotics, they should be replaced every:
   a) 1-2 days
   b) 5-7 days
   c) 10-12 days
   d) 14-21 days
   e) One month

65. CM. What complications may occur during antibiotic therapy?
   a) Hormonal disorders
   b) Dysbacteriosis
   c) Allergic reactions
   d) Formation of resistant strains of microorganisms
   e) Toxic effects on inner organs

66. CM. Which of the following methods relate to biological antisepsis?
   a) Local application of bacteriophages
   b) Processing of wounds with a solution of hydrogen peroxide
   c) Wound drainage
   d) Enteral administration of sulfonamides
   e) Intramuscular administration of antibiotics

67. CS. What are the effects of curative serums in patients with surgical infections?
   a) Introduction of antibodies to the infectious agent for passive immunization of patients
   b) Stimulate the mechanisms of nonspecific resistance of human body to infection
   c) Contain viruses, which can reproduce in bacterial cells and destroy them
   d) Introduction of minimal quantity of microorganisms for stimulation of host own antibodies release
   e) Stimulate a nonspecific immunity

68. CS. What is the action of bacteriophages in patients with surgical infections?
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   c) Contain viruses, which can reproduce in bacterial cells and destroy them
   d) Introduction of minimal quantity of microorganisms for stimulation of host own antibodies release
   e) Stimulate a nonspecific immunity

69. CM. What medications are related to biological antiseptics of direct action?
   a) Tetanus toxoid (anatoxin)
   b) Antigangrenous serum
   c) T-activin
   d) Antistaphylococcal gamma-globulin
   e) Combined bacteriophage

70. CM. What medications are related to biological antiseptics of indirect action?
a) Tetanus toxoid (anatoxin)
b) Antigangrenous serum
c) T-activin
d) Antistaphylococcal gamma-globulin
e) Combined bacteriophage

71. CM. The actions of proteolytic enzymes in the infected wound are following:
   a) Anti-inflammatory
   b) Destroying of microorganisms
   c) Local analgesic effect
   d) Wound cleaning from necrotic tissue and fibrin
   e) Anti-edematous

72. CS. What is asepsis?
   a) A complex of measures, directed to sterilize the air in the operating room
   b) A complex of measures, directed to destruction of microorganisms in the wound
   c) A complex of measures, directed to preventing entering of microorganisms into the wound
   d) A complex of measures, directed to sterilize the surgical instruments
   e) A complex of measures, directed to destruction of microorganisms by physical methods

73. CM. Who from the scientists was a founder of asepsis?
   a) Ernest Bergmann
   b) Kurt Schimmelbuch
   c) Hippocrate
   d) Louis Pasteur
   e) Karl Landsteiner

74. CM. Endogenous infection can cause suppuration of postoperative wounds, penetrating to the human body in the following ways:
   a) Contact spread
   b) Lymphogenous
   c) Airborne spread
   d) Hematogenous
   e) Contamination by implantation

75. CM. Which of the possible sources of infection belong to endogenous?
   a) Air from operating room
   b) Surgical instruments
   c) Furunculosis in a patient, which will be operated for an uncomplicated inguinal hernia
   d) Chronic pyelonephritis in a patient, which will be operated for an uncomplicated inguinal hernia
   e) Suture material

76. CM. Specify the possible sources of endogenous infection.
a) Synthetic arterial prostheses  
b) Chronic sinusitis, existing in a patient  
c) Conditionally pathogenic flora of the colon  
d) Surgeon's hands  
e) Suture material

77. CM. Specify the possible sources of exogenous infection in a patient, who is preparing for surgery for uncomplicated inguinal hernia?
   a) Visitors who have come to the patient
   b) Chronic tonsillitis, existing in a patient
   c) Chronic caries in a patient
   d) Respiratory infection, existing in a surgeon
   e) Surgical instruments used for surgery

78. CS. During the day in one operating room is planned to perform five surgical interventions. What kind of procedure should be carried out on first of all?
   a) Gastric resection for peptic ulcer disease
   b) Phlebectomy for varicose veins of the lower extremity
   c) Repeated surgical debridement for phlegmon of the soft tissues
   d) Cholecystectomy in cholelithiasis
   e) Resection of sigmoid colon for malignant tumor

79. CM. Specify the necessary actions of surgeon during preparation for surgery.
   a) Decontamination and limiting of the operative field with a sterile drapes
   b) Sterilization of suture material
   c) Decontamination of hands
   d) Use of surgical gloves
   e) Putting on a mask

80. CM. Which areas of sterility are divided in the operating bloc (department)?
   a) Area of limited regime
   b) Area of absolute sterility
   c) Area of non-sterile regime 
   d) Area of relative sterility
   e) Area of general hospital regime

81. CS. “Red line” in the operating bloc (department) is situated between:
   a) An area of limited regime and area of relative sterility
   b) An area of relative sterility and area of absolute sterility
   c) An area of absolute sterility and area of general hospital regime
   d) An area of general hospital regime and area of limited regime
   e) An area of general hospital regime and area of relative sterility

82. CS. How often in the operating room is performed a general cleaning?
   a) Daily
   b) Once in two days
c) Once in three days  
d) Once a week  
e) Once a month

83. CM. What are the methods of prevention of airborne infection in the operating room?  
a) Irradiation of air with ultraviolet rays  
b) Decontamination of the operative field  
c) Simple ventilation of room with air  
d) Using of air bacterial filters  
e) Wearing of surgical masks

84. CM. What distinguishes ideal (super sterile) operating room from the usual operating room?  
a) Laminar (straight) movement of air  
b) Air is supplied into the operating room through a bacterial filter  
c) The operating room is divided into four areas of sterility  
d) Strict respect of the aseptic rules  
e) Access to the operating room is limited

85. CM. What is the source of contact infection in surgery?  
a) Surgeon's hands  
b) Surface of the operating table  
c) Surgical dressings and linens  
d) Surgical instruments  
e) Suture material

86. CM. What physical methods of sterilization are used in the modern asepsis?  
a) Sterilization by dry heat  
b) Hot steam sterilization under pressure (autoclaving)  
c) Sterilization by radiation  
d) Sterilization by gas  
e) Sterilization with antiseptic solutions

87. CM. What chemical methods of sterilization are used in the modern asepsis?  
a) Sterilization by dry heat  
b) Hot steam sterilization under pressure (autoclaving)  
c) Sterilization by radiation  
d) Sterilization with antiseptic solutions  
e) Sterilization by gas

88. CS. Metallic surgical instruments are usually sterilized by:  
a) Hot steam under pressure (autoclaving)  
b) Dry heat  
c) Boiling  
d) Ionizing radiation  
e) Placement in a 6% hydrogen peroxide solution
89. CS. Sterilization of metallic surgical instruments by a dry heat is performed in the following regime (time + temperature):
   a) 1 hour at 120°C
   b) 1 hour at 130°C
   c) 1 hour at 150°C
   d) 1 hour at 180°C
   e) 1 hour at 200°C

90. CS. What is used for sterilization of the optical instruments (laparoscope, fiber optic gastroscope, colonoscope)?
   a) Betadine
   b) Hot steam under pressure
   c) Corrosive sublimate
   d) Cidex
   e) Dry heat

91. CS. Before sterilization a surgical linens and bandages are loaded into:
   a) Electric oven
   b) Plastic bags
   c) Metallic boxes
   d) Autoclave
   e) Cloth bags

92. CS. Who opens a sterile Schimmelbuch box in the operating room?
   a) Unscrubbed nurse
   b) Operating nurse
   c) Surgeon’s assistants
   d) Surgeon
   e) Anesthesiologist

93. CS. In the closed position the Schimmelbuch box keeps contents sterile during:
   a) 6 hours
   b) 12 hours
   c) 24 hours
   d) 48 hours
   e) 72 hours

94. CM. If the side holes of Schimmelbuch container are open, it can mean the following:
   a) Content of box is sterile
   b) Content of box is not sterile
   c) Box is in under preparation to sterilization
   d) Box is in the process of transportation after autoclaving
   e) Sterility of box’s content is under control

95. CS. How are decontaminated surgeon's hands before surgery?
a) With an alcohol solution 96° - 1 time
b) With an alcohol solution 96° - 2 times
c) With an alcohol solution 70° - 3 times
d) With an alcohol solution 70° - 4 times
e) With an alcohol solution 40° - 5 times

96. CS. Which antiseptic can achieve complete sterilization of the surgeon’s hands prior to surgery?
   a) Chlorhexidine
   b) Alcohol solution 70°
   c) Cerigel
   d) Pervomur
   e) None of these

97. CM. Decontamination of the operating field with antiseptic solutions should be repeated on the following stages of surgery:
   a) Before suturing of the skin
   b) Before making a skin incision
   c) Before the dissection of the wall of a hollow organ
   d) Before limitation of operation field with sterile drapes
   e) After suturing of the skin

98. CS. How is called the conventional method of decontamination of the surgical field?
   a) Spasokukotskii-Kochergin
   b) Grossih-Filonchikov
   c) Furbringer
   d) Oberst-Lukashevici
   e) Bergmann-Schimmelbuch

99. CM. Specify the sources of contamination by implantation of infected materials in surgery.
   a) Surgical gloves
   b) Suture material
   c) Surgeon’s hands
   d) Surface of operating table
   e) Synthetic mesh for hernia repair

100. CS. The most secure method of sterilization of suture material is:
     a) Boiling
     b) Autoclaving
     c) Placing in alcohol 96°
     d) Irradiation with ultraviolet rays
     e) Ionizing radiation

101. CM. What characterizes the direct method of sterility control?
     a) Is the most rapid
b) **Is the most accurate**
c) **Must be performed once every 7-10 days**
d) **Is performed using antipyrine**
e) **Must be performed daily**

102. CS. What method of sterility control of surgical instruments and dressing material is the most accurate?
   a) Method of Mikulicz
   b) Melting of ascorbic acid
   c) Melting of antipyrine
   d) **Bacteriological study**
   e) Data of thermometry

103. CM. What true characterizes the indirect method of sterility control?
   a) **Is the most accurate**
   b) Indicates the presence or absence of microorganisms
   c) **Is used for control of quality of only thermal**
   d) Allows to determine the degree of bacterial contamination
   e) **Is used in every sterilization**

104. CS. What is a nosocomial infection?
   a) **Infection acquired during or as a result of hospitalization and treatment**
   b) Specific infections (tuberculosis, actinomycosis, syphilis)
   c) A collective term meaning infectious disease, which led to hospitalization
   d) Purulent surgical diseases of soft tissues with a typical localization
   e) Inflammatory diseases of the upper respiratory tract as a source of endogenous infection

105. CS. What is the blood group?
   a) A complex of leukocyte’s antigens
   b) A complex of immunoglobulins
   c) **A complex of erythrocyte’s antigens**
   d) A complex of platelet’s antigens
   e) Antigens of transplantation

106. CS. During the determination of blood group by serum-test, agglutination with all standard serums (group I, group II and group III) was obtained. Indicate the correct blood group.
   a) 0(I)
   b) A(II)
   c) B(III)
   d) **AB(IV)**
   e) Error in blood group determination

107. CS. During the determination of blood group by erythrocyte -test, agglutination with standard erythrocytes of I, II and III blood groups was obtained. Indicate the correct blood.
108. CS. During the determination of blood group with monoclonal antibodies (Tsoliclon-test), agglutinations with Tsoliclon Anti-A and Tsoliclon Anti-B was obtained. Indicate the correct blood group.

a) 0(I)
b) A(II)
c) B(III)
d) AB(IV)
e) Error in blood group determination

109. CS. During the determination of blood group by serum-test, no agglutination was obtained with all standard serums (group I, group II and group III). Indicate the correct blood group.

a) 0(I)
b) A(II)
c) B(III)
d) AB(IV)
e) Error in blood group determination

110. CS. During the determination of blood group with monoclonal antibodies (Tsoliclon-test), no agglutination was obtained with Tsoliclon Anti-A and Tsoliclon Anti-B. Indicate the correct blood group.

a) 0(I)
b) A(II)
c) B(III)
d) AB(IV)
e) Error in blood group determination

111. CS. During the determination of blood group by erythrocyte-test, no agglutination was obtained with standard erythrocytes of I, II and III blood groups. Indicate the correct blood group.

a) 0(I)
b) A(II)
c) B(III)
d) AB(IV)
e) Error in blood group determination

112. CS. During the determination of blood group by erythrocyte-test, agglutination with standard erythrocytes of III blood group was obtained, and no agglutination with standard erythrocytes of I and II blood groups was registered. Indicate the correct blood group.

a) 0(I)
113. CS. During the determination of blood group by serum-test, agglutination with standard serums of group II and group III was obtained and no agglutination with serum of group I was registered. Indicate the correct blood group.

a) 0(I)  
b) A(II)  
c) B(III)  
d) AB(IV)  
e) Error in blood group determination

114. CS. During the determination of blood group by serum-test, agglutination with standard serum of group I and group II was obtained and no agglutination with serum of group III was registered. Indicate the correct blood group.

a) 0(I)  
b) A(II)  
c) B(III)  
d) AB(IV)  
e) Error in blood group determination

115. CS. During the determination of blood group with monoclonal antibodies (Tsoliclon-test), agglutination was obtained with Tsoliclon Anti-A and no agglutination was registered with Tsoliclon Anti-B. Indicate the correct blood group.

a) 0(I)  
b) A(II)  
c) B(III)  
d) AB(IV)  
e) Error in blood group determination

116. CS. During the determination of blood group with monoclonal antibodies (Tsoliclon-test), agglutination was obtained with Tsoliclon Anti-B and no agglutination was registered with Tsoliclon Anti-A. Indicate the correct blood group.

a) 0(I)  
b) A(II)  
c) B(III)  
d) AB(IV)  
e) Error in blood group determination

117. CS. During the determination of blood group by erythrocyte-test, agglutination with standard erythrocytes of II and III blood groups was obtained, and no agglutination with standard erythrocytes of I blood group was registered. Indicate the correct blood group.

a) 0(I)  
b) A(II)
c) B(III)
d) AB(IV)
e) Error in blood group determination

118. CS. During the determination of blood group by erythrocyte-test, agglutination with standard erythrocytes of II blood group was obtained, and no agglutination with standard erythrocytes of I and III blood groups was registered. Indicate the correct blood group.
   a) 0(I)
b) A(II)
c) B(III)
d) AB(IV)
e) Error in blood group determination

119. CS. What method of Rh-factor determination is used only in laboratory?
   a) Anti-Rh serum test
   b) Test with monoclonal reagent-D
   c) Reaction of conglutination in gelatin
   d) Indirect anti-globulin test (Coombs test)
   e) Test for individual compatibly by Rh-factor

120. CS. Specify the methods of blood transfusion.
   a) Direct, indirect
   b) Intravenous, intraarterial
   c) Transfusion of cadaveric blood, “exsanguinotransfusion”
   d) Reinfusion of blood
   e) All mentioned above

121. CS. Reinfusion of blood collected from abdominal cavity is absolute contraindicated in case of:
   a) Injury of diaphragm
   b) Injury of spleen
   c) Injury of abdominal hollow organs
   d) Injury of large blood vessels
   e) Poor general status of patient

122. CS. What types of transfusion are not considered the kinds of blood transfusion?
   a) Autohemotransfusion
   b) Transfusion of blood irradiated by laser
   c) Transfusion of blood irradiated by ultraviolet
   d) Reinfusion of blood
   e) Intravenous blood transfusion

123. CS. What types of transfusion are not considered the ways of blood transfusion?
   a) Intravenous blood transfusion
   b) Intraarterial blood transfusion
   c) Autohemotransfusion
d) Intracardiac blood transfusion
e) Intraosseous blood transfusion

124. CS. The most frequent way of blood transfusion is:
a) Intravenous way
b) Intraarterial way
c) Intraosseous way
d) Intraaortic way
e) Intracardiac way

125. CM. Specify the relative indications for blood transfusion.
a) Acute hemorrhage
b) Traumatic shock, hypovolemia
c) Severe posthemorrhagic anemia
d) Sepsis
e) Anemia with unspecified etiology

126. CS. Specify the absolute indications for blood transfusion.
a) Septic intoxication
b) Burn-disease
c) Hemophilia and other disturbances of coagulation
d) Preparing of a patient with malnutrition for major surgery
e) Severe posthemorrhagic anemia

127. CS. What pathological condition is not considered as a contraindication for blood transfusion?
a) Acute heart failure
b) Traumatic shock
c) Septic endocarditis
d) Severe arterial hypertension
e) Stroke (brain infarction)

128. CS. Specify the medicine that not refers to the blood components.
a) Thrombin
b) Fibrinogen
c) Haemostatic sponge
d) Platelets concentrate
e) Gama-globulin

129. CM. Select the blood products with immune action.
a) Antihemophilic serum
b) Antistaphylococcal serum
c) Fresh frozen plasma
d) Antistaphylococcal immunoglobulin
e) WBC (white blood cells) concentrate

130. CS. Specify the medicine that not refers to the blood components?
a) Gama-globulin
b) RBC (red blood cells) concentrate
c) Platelets concentrate
d) WBC (white blood cells) concentrate
e) Fresh frozen plasma

131. CM. Select the blood substitutes with a hemodynamic action?
   a) Polyglucin
   b) Reopolyglucin
   c) 20% solution of glucose
   d) Solution of sodium bicarbonate
   e) Lipofundin

132. CS. Select the blood substitutes that are used for detoxification.
   a) Polyglucin
   b) Gelatinol
   c) Hemodez
   d) 20% solution of glucose
   e) Lipofundin

133. CM. Select the blood substitutes that are used for intravenous nutrition.
   a) Concentrated solutions of carbohydrates
   b) Solutions of amino acids
   c) Isotonic saline solution
   d) Lipid emulsions
   e) Dextran solutions

134. CM. Specify the contraindications for intravenous administration of amino acids.
   a) Sepsis
   b) Disturbances of coagulation
   c) Hypersplenism
   d) Acute renal failure
   e) Hepatic encephalopathy

135. CS. Indicate the main effect of polyglucose infusion.
   a) Anti-shock (increase of circulatory blood volume)
   b) Disaggregation of blood cells
   c) Antithrombotic
   d) Diuretic
   e) Detoxification

136. CS. Indicate the blood substitute that can realize the transport of oxygen to the tissues.
   a) Dextran solutions
   b) RBC (red blood cells) concentrate
   c) Ferro-containing antianemic medicines
   d) Solution of glucose
137. CS. What temperature is required for RBC (red blood cells) concentrate preservation?
   a) 0°C
   b) -2-4°C
   c) +4+6°C
   d) +8+10°C
   e) 0+1°C

138. CS. What test should be done prior of transfusion of plasma?
   a) No tests required
   b) Test for compatibility by AB0 system
   c) Test for compatibility by Rh-factor
   d) Biological test
   e) Skin-test with plasma

139. CS. What test is not performed during the blood transfusion?
   a) Visual inspection of blood quality
   b) Blood group determination
   c) Test for compatibility by AB0 system and Rh-factor
   d) Test for individual compatibility by HLA system (human leukocyte antigens)
   e) Biological test

140. CS. Select the correct method of blood transfusion for biological test?
   a) Bolus transfusion of 25 ml of blood, repeated twice with interval of 3-5 minutes
   b) Bolus transfusion of 25 ml of blood, repeated thrice with interval of 3-5 minutes
   c) Slow transfusion of blood during 15 minutes, followed by 3-5 minutes of expectation
   d) Single bolus transfusion of 25 ml of blood
   e) Biological test is performed only in case of plasma transfusion

141. CM. Quality control of blood before transfusion include the following steps:
   a) Bacteriology (culture) of blood for transfusion
   b) Check of information from label of the container (group, Rh, component type, date)
   c) Determination of Rh-factor of blood from container
   d) Visual inspection of blood quality in transparent container
   e) Check of container integrity

142. CS. Test for individual compatibility according to AB0 system, performed before blood transfusion, is based on agglutination between:
   a) Erythrocyte’s antigens of recipient and plasma antibodies of donor
   b) Erythrocyte’s antigens of donor and plasma antibodies of recipient
   c) Erythrocyte’s antigens of donor and plasma antibodies of recipient, at the temperature of 38-40°C
   d) Erythrocyte’s antigens of recipient and plasma antibodies of donor, at the temperature of 38-40°C
   e) Erythrocyte’s antigens of recipient and leukocyte’s antigens of donor

137. Emulsion of fluorine-carbonates

   CS. What temperature is required for RBC (red blood cells) concentrate preservation?
   - 0°C
   - -2-4°C
   - +4+6°C
   - +8+10°C
   - 0+1°C

   CS. What test should be done prior of transfusion of plasma?
   - No tests required
   - Test for compatibility by AB0 system
   - Test for compatibility by Rh-factor
   - Biological test
   - Skin-test with plasma

   CS. What test is not performed during the blood transfusion?
   - Visual inspection of blood quality
   - Blood group determination
   - Test for compatibility by AB0 system and Rh-factor
   - Test for individual compatibility by HLA system (human leukocyte antigens)
   - Biological test

   CS. Select the correct method of blood transfusion for biological test?
   - Bolus transfusion of 25 ml of blood, repeated twice with interval of 3-5 minutes
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   - Single bolus transfusion of 25 ml of blood
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   - Visual inspection of blood quality in transparent container
   - Check of container integrity

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   - Erythrocyte’s antigens of recipient and plasma antibodies of donor
   - Erythrocyte’s antigens of donor and plasma antibodies of recipient
   - Erythrocyte’s antigens of donor and plasma antibodies of recipient, at the temperature of 38-40°C
   - Erythrocyte’s antigens of recipient and plasma antibodies of donor, at the temperature of 38-40°C
   - Erythrocyte’s antigens of recipient and leukocyte’s antigens of donor
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   a) Erythrocyte’s antigens of recipient and plasma antibodies of donor
   b) Erythrocyte’s antigens of donor and plasma antibodies of recipient
   c) Erythrocyte’s antigens of donor and plasma antibodies of recipient, at the temperature of 38-40°C
   d) Erythrocyte’s antigens of recipient and plasma antibodies of donor, at the temperature of 38-40°C
   e) Erythrocyte’s antigens of recipient and anti-Rh serum

144. CS. Indicate the rarest complication of blood transfusion.
   a) Febrile reaction
   b) Pulmonary edema
   c) Viral hepatitis B
   d) Viral hepatitis C
   e) Hemolytic shock

145. CM. What periods do not refer to the hemolytic shock evolution?
   a) Period of shock
   b) Period of acute renal failure
   c) Period of septic toxemia
   d) Period of urine output recovery
   e) Period of hemodynamic stabilization

146. CS. What complication of blood transfusion does not refer to the mechanical?
   a) Acute heart dilatation
   b) Air embolism
   c) Thrombosis and thromboembolism
   d) Limb ischemia related to the intra-arterial transfusion
   e) Hemolytic shock

147. CM. What complications of blood transfusion do not refer to the infectious?
   a) Syphilis
   b) Viral hepatitis B,C,D
   c) HIV infection
   d) Hemolytic shock
   e) Acute heart dilatation

148. CM. Specify the contraindications for intravenous administration of lipid emulsions.
   a) Malnutrition
   b) Shock
   c) Severe liver diseases
   d) Morbid obesity
   e) Disorders of blood coagulation

149. CS. Administration of polyglucin is contraindicated in case of:
   a) Hemothorax
b) Arterial hypertension
c) Thrombocytopenia
d) Insufficiency of V, VI and VII factors of coagulation
e) Burn shock

150. CS. What is understood under the term a “symptom”?
   a) Complex of signs that characterize the pathological process
   b) A single sign of a pathological process
   c) Nosologic unit (disease)
   d) A group of similar pathological conditions
   e) Morphological changes characteristic for certain disease

151. CM. Specify what refers to the symptoms.
   a) Obesity
   b) Pain
   c) Vomiting
   d) Pneumothorax
   e) Dyspnea

152. CM. Specify what refers to the symptoms.
   a) Fever
   b) Gangrene
   c) Nausea
   d) Tachycardia
   e) Hemothorax

153. CS. What is understood under the term a “syndrome”?
   a) Morphological changes characteristic for certain disease
   b) A single sign of a pathological process
   c) The complex of symptoms which have a common origin and characteristic for a certain pathological process
   d) The sequence of appearance of pathological signs
   e) Pathology of several organs

154. CM. Specify examples of pathological syndromes.
   a) Systemic inflammatory response
   b) Fever in purulent arthritis
   c) Chronic arterial insufficiency of lower extremities
   d) Tympanitis
   e) Intestinal obstruction

155. CM. Specify examples of pathological syndromes.
   a) Chronic venous insufficiency
   b) Acute lower limb ischemia
   c) Absent pulsation of the femoral artery
   d) Swelling
e) Respiratory failure

156. CM. What parts of the clinical history of disease include subjective information?
   a) Complaints of the patient
   b) History of present illness
   c) History of life
   d) Local status
   e) Results of instrumental studies

157. CS. What parts of the clinical history of disease include objective information?
   a) Complaints of the patient
   b) History of present illness
   c) History of life
   d) Allergological anamnesis
   e) Data of physical examination

158. CS. Percussion in surgical patients can determine:
   a) Presence of tumor
   b) Presence of a foreign body in the tissues
   c) An accumulation of fluid or air in the cavities
   d) Presence of inflammatory process
   e) The mobility of organ

159. CM. Auscultation in surgical patients can determine:
   a) Presence of cardiac and vascular sounds
   b) Presence of intestinal peristalsis
   c) The character of respiratory sounds
   d) Presence of tumor
   e) Presence of inflammatory process

160. CM. Specify the data from a history of disease relating to description of the local status.
   a) On admission patient complained of abdominal pain
   b) In lower third of the left leg is determined hyperpigmentation of the skin and ulcerative defect
   c) The heart rate is 70 beats per minute
   d) In the right inguinal region is determined a painless mass with elastic consistency, which can be reduced into the abdominal cavity
   e) According to patient, abdominal pain appeared about 18 hours ago

161. CM. Based on what data is established the preliminary diagnosis?
   a) Complaints of the patient
   b) Data of physical examination
   c) Results of laboratory tests
   d) Results of instrumental studies
   e) Results of histomorphological study
162. CM. Based on what data is established the clinical diagnosis?
   a) Subjective data of patients
   b) Data of physical examination
   c) Results of laboratory tests
   d) Results of instrumental studies
   e) Results of histomorphological study

163. CM. Which components include a final (definitive) diagnosis?
   a) Diagnosis of basic disease
   b) Diagnosis of concomitant illnesses
   c) Complications of basic disease
   d) Preliminary diagnosis
   e) Differential diagnosis

164. CM. Specify the characteristic features of torticollis?
   a) The patient's face turned to the healthy side
   b) The patient's face turned to the affected side
   c) The patient's head tilted to the healthy side
   d) The patient's head tilted to the affected side
   e) Cicatricial shortening of the sternocleidomastoid muscle

165. CS. Diagnosis of torticollis is established on the basis of:
   a) Physical examination of a patient
   b) Laboratory tests
   c) X-ray examination and tomography
   d) Biochemical analysis
   e) Invasive instrumental studies

166. CM. Specify characteristic features of inflammatory lesions of the cervical lymph nodes.
   a) Lymph nodes are mobile
   b) Lymph nodes are fixed to the surrounding tissues
   c) Lymph nodes are painless to palpation
   d) Lymph nodes are painful on palpation
   e) Lymph nodes have a “stony” density

167. CM. Specify characteristic features of metastatic tumor lesions of the cervical lymph nodes.
   a) Hyperemia of skin over the lymph nodes
   b) Lymph nodes are fixed to the surrounding tissues
   c) Lymph nodes are painless to palpation
   d) Lymph nodes are painful on palpation
   e) Lymph nodes have irregular contours

168. CM. Specify the rules of palpation of thyroid gland.
a) Physician palpates gland situated behind the patient
b) Physician palpates gland situated in front of patient
c) Physician palpates gland with one hand
d) Physician palpates gland with two hands
e) Physician palpates gland during swallowing

169. CM. Specify the most common benign tumors of the head.
   a) Melanoma
   b) Atheroma
   c) Papilloma
   d) Adenocarcinoma
   e) Hematoma

170. CM. Specify the surgical instruments, designed for dissection of tissues.
   a) Retractor Finochietto
   b) Scissors
   c) Wire saw Gigli
   d) Scalpel
   e) Retractor Farabeuf

171. CM. Specify the surgical instruments, designed for hemostasis.
   a) Kocher forceps
   b) Anatomical forceps (pincettes)
   c) Needle holder
   d) Pean forceps
   e) Surgical forceps (pincettes)

172. CM. Specify the surgical instruments, designed for grasping of tissues.
   a) Kocher forceps
   b) Anatomical forceps (pincettes)
   c) Needle holder
   d) Pean forceps
   e) Surgical forceps (pincettes)

173. CS. Specify the surgical instruments, designed for exploration.
   a) Kocher forceps
   b) Anatomical forceps (pincettes)
   c) Retractor Finochietto
   d) Probe
   e) Rectal dilator

174. CM. Round surgical needles are used for suturing of:
   a) Vessels
   b) Intestine
   c) Skin
   d) Periosteum
175. CM. Triangular (cutting) surgical needles are used for suturing of:
   a) Fascia
   b) Periosteum
   c) Intestine
   d) Vessels
   e) Skin

176. CM. What curvature may have the surgical needle?
   a) 1/4 of circle
   b) 1/3 of circle
   c) 4/6 of circle
   d) 3/8 of circle
   e) 1/2 of circle

177. CM. What are the requirements for the suture materials used in surgery?
   a) Absence of carcinogenic activity
   b) Resistance to infection
   c) Possibility of long-term use
   d) Simplicity of sterilization
   e) Safety of knot

178. CM. Specify the biological suture material used in surgery.
   a) Metallic thread
   b) Kapron
   c) Lavsan
   d) Catgut
   e) Silk

179. CM. Specify the synthetic absorbable suture material used in surgery.
   a) Dexon
   b) Kapron
   c) Polypropylene
   d) Catgut
   e) Vycril

180. CM. Specify the synthetic non-absorbable suture material used in surgery.
   a) Dexon
   b) Kapron
   c) Polypropylene
   d) Catgut
   e) Vycril

181. CM. Specify the types of interrupted suture, which are used for closure of skin wounds in surgery.
182. CM. Specify the types of continuous suture, which are used for closure of skin wounds in surgery.
   a) Intracutaneous suture
   b) Simple running suture
   c) Blair-Donatti suture
   d) Suture in “U”
   e) Simple suture

183. CM. Specify which of the listed conditions are related to surgical infection.
   a) Acute pneumonia
   b) Acute hydradenitis
   c) Liver abscess
   d) Postoperative wound suppuration
   e) Chronic pyelonephritis

184. CM. Specify the factors, combination of which lead to the development of surgical infection.
   a) Presence of virulent pathogenic microorganisms
   b) Venous congestion of tissues
   c) Response of human body to infection
   d) Transient bacteremia
   e) Presence of the penetration route for infection

185. CM. Specify the possible sources of surgical infection.
   a) Exogenous
   b) Implantation
   c) Contact
   d) Endogenous
   e) Airborne

186. CS. Specify a mechanism of skin hyperemia in the purulent surgical infection of soft tissues.
   a) Local acceleration of catabolic reactions, accompanied by release of the energy
   b) Vasodilation as a result of histamine effect and acidosis in the focus of inflammation
   c) Increased vascular permeability in the focus of inflammation and extravasation of fluid
   d) Action of serotonin and histamine on nerve endings in the focus of inflammation and their compression by tissue edema
   e) Blood imbibition of soft tissues
187. CS. Specify a mechanism of skin hyperthermia in the purulent surgical infection of soft tissues.
   a) Local acceleration of catabolic reactions, accompanied by release of the energy
   b) Vasodilation as a result of histamine effect and acidosis in the focus of inflammation
   c) Increased vascular permeability in the focus of inflammation and extravasation of fluid
   d) Action of serotonin and histamine on nerve endings in the focus of inflammation and their compression by tissue edema
   e) Blood imbibition of soft tissues

188. CS. Specify a mechanism of pain in the purulent surgical infection of soft tissues.
   a) Local acceleration of catabolic reactions, accompanied by release of the energy
   b) Vasodilation as a result of histamine effect and acidosis in the focus of inflammation
   c) Increased vascular permeability in the focus of inflammation and extravasation of fluid
   d) Action of serotonin and histamine on nerve endings in the focus of inflammation and their compression by tissue edema
   e) Blood imbibition of soft tissues

189. CS. Specify a mechanism of edema in the purulent surgical infection of soft tissues.
   a) Local acceleration of catabolic reactions, accompanied by release of the energy
   b) Vasodilation as a result of histamine effect and acidosis in the focus of inflammation
   c) Increased vascular permeability in the focus of inflammation and extravasation of fluid
   d) Action of serotonin and histamine on nerve endings in the focus of inflammation and their compression by tissue edema
   e) Blood imbibition of soft tissues

190. CS. Specify a cause of the limb function disturbance in acute purulent surgical infection.
   a) Purulent-necrotic destruction of the ligaments and joints
   b) Plegia due to toxic neuritis
   c) Severe pain syndrome
   d) Severe disorders of arterial blood supply
   e) Distal venous thrombosis

191. CM. Specify a nonspecific protective reactions and mechanisms in surgical infection.
   a) Protective role of the intact skin
   b) Presence of saprophytic microflora of the skin
   c) Reaction of inflammation
   d) Release of antibodies to infectious agents
   e) Phagocytosis

192. CS. A pulsating pain in the surgical soft tissue infection is characteristic for the:
   a) Phase of infiltration
   b) Phase of wound contraction
   c) Phase of resorption of the inflammatory exudate
   d) Phase of abscess formation
   e) Phase of spontaneous blow of abscess through the skin
193. CS. What does suggest the symptom of fluctuations in the surgical soft tissue infection?
   a) Formation of the cavity filled with pus
   b) Presence of inflammatory process in the phase of infiltration
   c) Presence of gas in the tissues
   d) Anaerobic non-clostridial nature of infection
   e) Involvement in the pathological process of deeper lying organs

194. CM. Specify the typical changes in blood analysis during acute surgical infection.
   a) Leukocytosis
   b) Leukopenia
   c) Shift of leukocyte formula to the left
   d) Increased erythrocyte sedimentation rate
   e) Eosinophilia

195. CM. Specify the local complications of inflammatory processes, with their location on the soft tissues of extremities.
   a) Lymphangitis
   b) Lymphadenitis
   c) Bacterial pneumonia
   d) Sepsis
   e) Thrombophlebitis

196. CM. Specify the paraclinical methods used for the diagnosis of acute surgical infection of soft tissues:
   a) General blood analysis
   b) Urinalysis
   c) Ultrasound scan of soft tissues
   d) Fine needle aspiration
   e) Biopsy

197. CM. Indicate areas of the body, on which do not form furuncles.
   a) Nasolabial triangle
   b) Back of neck
   c) Palmar surface of hand
   d) Anterior abdominal wall
   e) Arch of foot

198. CS. In case of furuncle a purulent inflammation develops in:
   a) Subcutaneous adipose tissue
   b) Sebaceous gland
   c) Skin
   d) Hair follicle
   e) Sweat gland
199. CM. Specify the phases of furuncle evolution.
   a) **Phase of infiltration**
   b) Phase of necrosis
   c) **Phase of abscess formation**
   d) Phase of blow
   e) Phase of rejection of the necrotic tissue (core)

200. CM. In which cases are required hospitalizations of patients with furuncle?
   a) With furuncle of hip in a child 7 years
   b) With furuncle in phase of abscess formation in a patient with severe diabetes
   c) With the localization of furuncle on the foot and inability to support the limb
   d) With the localization of furuncle in the nasolabial triangle
   e) With history of furuncle disease

201. CS. Which symptom is reliably indicates, that the furuncle in a phase of abscess formation?
   a) **Symptom of fluctuation**
   b) Hyperthermia of skin
   c) Hyperemia of skin
   d) Pain in the focus of inflammation
   e) Tachycardia

202. CS. A purulent inflammation of sweat glands is called:
   a) Carbuncle
   b) Hydrosalpinx
   c) Furuncle
   d) Hydradenitis
   e) Axillary streptococcal dermatitis

203. CS. In case of hydradenitis a purulent inflammation develops in:
   a) Subcutaneous adipose tissue
   b) **Sweat glands**
   c) Hair follicle
   d) Lymph node
   e) Sebaceous gland

204. CM. The typical localization of hydradenitis is:
   a) Anterior abdominal wall
   b) Skin fold of the breast
   c) **Axilla**
   d) Popliteal fossa
   e) Inguinal skin fold

205. CM. Hydradenitis is characterized by the following features:
   a) In the center of inflammatory infiltrate is located the hair follicle
   b) The typical localization is the occipital region and the back of the neck
c) Most often located in the axillary area
d) Purulent inflammation begins from the sebaceous gland
e) Tendency to recurrence

206. CM. Which of the statements relating to the abscess are correct?
   a) Body temperature in this disease usually remains normal
   b) Cavity of an abscess is formed in the center of the inflammatory infiltrate
   c) Surgical opening and drainage of the abscess does not improve the condition of patient
   d) Clinical examination reveals a symptom of fluctuation
   e) An increased temperature, usually is accompanied by fever

207. CM. Which of the statements relating to the phlegmon are correct?
   a) Suppurative process spreads along fascial and adipose spaces
   b) An accumulation of pus is limited by pyogenic capsule
   c) Symptoms of intoxication are usually not expressed
   d) Condition of patients remains satisfactory
   e) Patients require hospitalization and emergency surgery under general or regional anesthesia

208. CM. What is included in the surgical processing of purulent focus?
   a) A wide opening of the purulent cavity
   b) Introduction of broad-spectrum antibiotics in the purulent cavity
   c) Removal of necrotic tissues
   d) Placement of the primary sutures
   e) Drainage of the purulent cavity

209. CM. Carbuncle is characterized by the following features:
   a) Usually develops in the occipital and interscapular areas
   b) General condition of patient usually remains satisfactory
   c) Skin over the focus of inflammation is not altered
   d) Symptom of “sieve (mesh)”
   e) Symptom of fluctuation is not typical

210. CM. The direct indications for surgery in cases of suspected abscess of the soft tissues are:
   a) Severe pain in the focus of inflammation
   b) Significant skin hyperemia and edema
   c) Positive symptom of fluctuations
   d) Increased erythrocyte sedimentation rate in the general analysis of blood
   e) Obtaining of pus during the fine needle aspiration of the inflammatory focus

211. CS. Specify the optimal method of anesthesia for surgical processing of the gluteal postinjection abscess.
   a) General anesthesia with myorelaxation
   b) Local anesthesia
c) Loco-regional anesthesia

d) General intravenous anesthesia without myorelaxation

e) Anesthesia by spraying with aether chloratus

212. CS. A typical causative microbial agent of erysipelas is a:
a) \textit{Streptococcus pyogenes}
b) Staphylococcus aureus
c) Escherichia coli
d) Pneumococcus
e) Pseudomonas aeruginosa

213. CM. Specify the clinical forms of erysipelas.
a) Phlegmonous form
b) Abscess formation form
c) Bullous form
d) Necrotic form
e) Erythematous form

214. CM. Specify the clinical symptoms characteristic for the erythematous form of erysipelas.
a) Formation of blisters on the skin filled with serous fluid
b) Hyperemia of the skin in the form of “tongues of flame”
c) Formation of areas of skin necrosis
d) Hyperemia of the skin in the form of “geographical map”
e) Positive symptom of fluctuations

215. CM. What forms of erysipelas is require a surgical treatment?
a) Phlegmonous form
b) Bullous form
c) Necrotic form
d) Abscess formation form
e) Erythematous form

216. CM. Specify the components of a complex treatment of surgical infection?
a) Rational antibiotic therapy
b) Disintoxication therapy
c) Transfusion of whole blood to stimulate the immune system
d) Surgical processing of purulent focus
e) Administration of cytostatics

217. CS. Mastitis most often develops:
a) In pubertal period
b) In the third trimester of pregnancy
c) In the period of lactation
d) In postmenopausal period
e) In the first trimester of pregnancy
218. CM. Depending on the location the following forms of the breast abscess are distinguished:
   a) **Intramammary abscess**
   b) Epifascial abscess
   c) **Subareolar abscess**
   d) Subpectoral abscess
   e) **Retromammary abscess**

219. CM. Specify the typical symptoms of acute mastitis.
   a) Increased body temperature
   b) Nipple retraction on the side of inflammation
   c) **Pain and bloating in the mammary gland**
   d) Skin in the form of "orange peel"
   e) Serous and hemorrhagic discharge from the nipple

220. CM. Which of the following statements are correct?
   a) Mastitis is a multiple times recurrent disease
   b) **In case of mastitis bacteria penetrates through the fissures of nipples**
   c) An important role in the development of mastitis plays galactostasia
   d) A typical causative agent of mastitis is a streptococcus
   e) All forms of mastitis need urgent surgical treatment

221. CS. Paraproctitis is a:
   a) Acute inflammation of the rectal mucosa
   b) Thrombosis of the hemorrhoidal node
   c) **Bleeding from the rectum**
   d) Bacterial infection of skin in the perianal region
   e) Purulent inflammation of the perirectal adipose tissue

222. CM. Specify the forms of paraproctitis.
   a) Bullous
   b) **Subcutaneous**
   c) Phlegmonous
   d) Submucous
   e) Pelviorectal

223. CS. On what basis bleeding are classified into “per diabrosis”, “per rexin” and “per diapedesis”?
   a) In accordance to the anatomical principles
   b) **In accordance to the mechanism of occurring**
   c) In accordance to the external environment
   d) In accordance to the evaluation
   e) In accordance to the time of occurring

224. CS. In which kind of bleeding there is a risk of air embolism?
a) In arterial
b) In venous
c) In capillary
d) In parenchymatous
e) In all mentioned above

225. CM. Which of these bleeding refers to the internal?
a) Bleeding from gastric ulcer
b) Intramuscular hematoma
c) Bleeding from the cutting leg wound
d) Pulmonary bleeding
e) Bleeding into the joint cavity

226. CM. Which of these bleeding refers to the internal intracavitary?
a) Bleeding from gastric ulcer
b) Pulmonary bleeding
c) Intramuscular hematoma
d) Hemorthorax
e) Bleeding into the joint cavity

227. CM. Which of these bleeding refers to the internal intracavitary?
a) Bleeding from gastric ulcer
b) Bleeding into the pleural cavity
c) Uterine bleeding
d) Bleeding into the joint cavity
e) Cardiac tamponade

228. CM. Which of these bleeding refers to the internal intraluminal?
a) Bleeding into the pleural cavity
b) Cardiac tamponade
c) Pulmonary bleeding
d) Hemobilia
e) Bleeding from duodenal ulcer

229. CM. Which of these parameters are used for calculation of the circulating blood volume according to Moore formula?
a) Patient’s height
b) Normal hematocrit
c) Patient’s weight
d) Patient’s hematocrit
e) Empiric coefficient

230. CM. Specify the possible causes of bleeding.
a) Trauma
b) Destruction of vessel wall in a purulent process
c) Disturbances of permeability of the vascular wall
d) Myocardial infarction
e) Anaerobic clostridial gangrene

231. CM. Specify causes of late secondary hemorrhage.
a) Rupture of the vessel
b) Inflammatory process
c) Sliding of knot from the vessel
d) Increased permeability of the vascular wall
e) Erosion of the vascular wall

232. CS. Specify the deficit in circulating blood volume, corresponding to the II grade of hemorrhage severity.
a) < 10-15%
b) 15-20%
c) 20-30%
d) 30-40%
e) > 40%

233. CS. When the primary bleeding develops?
a) In the first hours after the damage of vessel
b) At the time of injury
c) During the suppuration of wound
d) During transportation of patient to a hospital, due to sliding of knot from the vessel
e) During transportation of patient to a hospital, because of ejection of thrombus from the vascular lumen

234. CS. When the early secondary bleeding develops?
a) In the first days after injury, due to sliding of knot from the vessel or ejection of thrombus from the vascular lumen
b) At the time of injury
c) During the suppuration of wound
d) 14 days after injury
e) 21 days after injury

235. CS. When the late secondary bleeding develops?
a) In the first days after injury
b) At the time of injury
c) During the suppuration of wound
d) During transportation of patient to a hospital, due to sliding of knot from the vessel
e) During transportation of patient to a hospital, because of ejection of thrombus from the vascular lumen

236. CM. Specify the causes of early secondary bleeding.
a) Ejection of thrombus from the vascular lumen
b) Damage of vessel
c) Sliding of knot from the vessel
d) Inflammatory process
e) Increased permeability of vessel wall

237. CS. What means the term “per rexin”?
   a) Increased permeability of vessel wall
   b) Damage of vessel
   c) Erosion of vessel
   d) Coagulation disorders
   e) Air embolism

238. CS. What means the term “per diabrosis”?
   a) Sliding of knot from the vessel
   b) Increased permeability of vessel wall
   c) Erosion of vessel
   d) Coagulation disorders
   e) Damage of vessel

239. CS. What means the term “per diapedesis”?
   a) Erosion of vessel
   b) Increased permeability of vessel wall
   c) Damage of vessel
   d) Coagulation disorders
   e) Air embolism

240. CM. Specify the consequences of bleeding?
   a) Hypostatic pneumonia
   b) Blood concentration
   c) Decreasing of circulating blood volume
   d) Acute anemia
   e) Hemophilia

241. CM. Specify the compensatory reaction of organism in the initial phase of hemorrhage.
   a) Primary venous spasm
   b) Release of blood from the depot
   c) Tachycardia
   d) Blood dilution (hemodilution)
   e) Thrombosis of the damaged vessel

242. CM. Specify the reaction of organism to hemorrhage, which refers to the phase of compensation.
   a) Blood dilution (hemodilution)
   b) Centralization of the blood circulation
   c) Decentralization of the blood circulation
   d) Hyperventilation
   e) Inclusion of renal compensation mechanism
243. CM. Specify the pathological phenomena of organism, which develop in the terminal phase of hemorrhage.
   a) **Acidosis**
   b) Centralization of the blood circulation
   c) **Toxemia**
   d) **Decentralization of the blood circulation**
   e) Blood dilution (hemodilution)

244. CM. What is the role of hemodilution in hemorrhage?
   a) **Compensation of hypovolemia**
   b) Hemostasis
   c) **Improvement of blood rheological properties**
   d) **Improvement of the oxygen-transport function of erythrocytes**
   e) **Release of erythrocytes from the depot**

245. CM. Specify the consequences of reducing circulating blood volume in hemorrhage.
   a) Reducing of coagulation time
   b) **Blood hypotension**
   c) **Hypoxemia**
   d) Blood hypertension
   e) **Tissues hypoxia**

246. CM. Which of these symptoms of bleeding related to the local?
   a) **Melena**
   b) Dizziness
   c) **Hematemesis**
   d) Hemoptysis
   e) Hypotension

247. CM. Specify the local symptoms of gastrointestinal bleeding?
   a) **Hematemesis**
   b) Epistaxis
   c) Hemoperitoneum
   d) Hemoptysis
   e) Melena

248. CS. What clinical symptom appears first in case of massive bleeding?
   a) Syncope
   b) Noises in ears
   c) **Tachycardia**
   d) Hypotension
   e) Dizziness

249. CS. For what type of hemorrhage is typical jet character of blood leakage?
   a) **Arterial**
b) Venous
c) Capillary
d) Parenchymatous
e) For all mentioned above

250. CS. For what type of hemorrhage is characteristic melena?
   a) Gastrointestinal
   b) Uterine
   c) Renal
   d) Pulmonary
   e) Intraperitoneal

251. CS. What is called a hemoperitoneum?
   a) An accumulation of air in the abdominal cavity
   b) An accumulation of blood in the retroperitoneal space
   c) An accumulation of blood in the cavity of an abdominal organ
   d) An accumulation of blood in the abdominal cavity
   e) An accumulation of blood in the pericardium

252. CS. What is called haemoptysis?
   a) Elimination of blood with stool
   b) “Coffee-grounds” vomiting
   c) Elimination of blood with sputum from respiratory tract
   d) Epistaxis
   e) Elimination of blood with urine

253. CS. Which of these symptoms are characteristic for epistaxis?
   a) Elimination of blood from the rectum
   b) Elimination of blood from the urinary tract
   c) Elimination of blood from the ears
   d) Elimination of blood from the nose
   e) Elimination of blood from the uterus

254. CS. A “coffee-grounds” vomiting is characteristic for:
   a) Intestinal obstruction
   b) Acute pancreatitis
   c) Gastroduodenal hemorrhage
   d) Injury of spleen
   e) Bacterial pulmonary destruction

255. CM. Specify the general symptoms of hemorrhage.
   a) Tachycardia
   b) Melena
   c) Paleness
   d) Blood vomiting
   e) Hypotension
256. CM. Which of these symptoms indicate intestinal bleeding?
   a) Stool with unchanged blood
   b) Blood vomiting
   c) Stool with streaks of blood
   d) Hematuria
   e) “Coffee-grounds” vomiting

257. CM. Which laboratory parameters reflect the severity of blood loss?
   a) Red blood cells
   b) Leukocytes
   c) Hemoglobin
   d) Hematocrit
   e) Serum protein

258. CS. A Moore’s formula is used for:
   a) Determination of burn surface
   b) Prognosis of burn disease
   c) Determination of nutritional status
   d) Determination of circulating blood volume
   e) Assessment of degree of operational risk

259. CS. Specify the normal hematocrit values.
   a) 5-10%
   b) 11-19%
   c) 20-34%
   d) 35-50%
   e) 51-70%

260. CS. What instrumental method can confirm the diagnosis of hemothorax?
   a) Bronchoscopy
   b) Laparoscopy
   c) Thoracocentesis
   d) Laparocentesis
   e) Electrocardiography (ECG)

261. CS. What instrumental method is indicated to confirm the diagnosis of gastric bleeding?
   a) Laparocentesis
   b) Fibrogastrroduodenoscopy
   c) Colonoscopy
   d) Bronchoscopy
   e) Ultrasound scan

262. CM. What diagnostic methods are indicated to confirm intra-articular hemorrhage?
   a) Arthroscopy
b) Laparoscopy  
c) Laparocentesis  
d) Puncture of joint  
e) X-ray of joint

263. CS. In case of subclavian vein injury there is a risk of:  
a) Thrombosis of axillary artery  
b) Air embolism  
c) Development of disseminated intravascular coagulation  
d) Acute arterial insufficiency  
e) Development of dry gangrene

264. CM. What method can confirm the intraperitoneal hemorrhage?  
a) Bronchoscopy  
b) Colonoscopy  
c) Laparocentesis  
d) X-ray  
e) Laparoscopy

265. CM. Specify the possible causes of hemoperitoneum.  
a) Injury of liver  
b) Hemorrhage from peptic gastric ulcer  
c) Spleen injury  
d) Bleeding from esophageal varices in liver cirrhosis  
e) Ruptured ectopic pregnancy

266. CM. Which of these mechanisms refer to secondary spontaneous (physiological) hemostasis?  
a) Conversion of plasminogen to plasmin  
b) Fibrinolysis  
c) Formation of fibrin clot  
d) Release of serotonin, histamine and kinins by platelets  
e) Adhesion of platelets

267. CM. Which from these mechanisms refer to the primary physiological hemostasis?  
a) Release of thrombin, collagen and prostaglandin E2 from the damaged tissue  
b) Formation of red clot  
c) Vasoconstriction of the damaged vessel  
d) Release of tissue and platelet thromboplastin  
e) Adhesion and aggregation of the platelets

268. CM. What methods of hemostasis refer to temporary?  
a) Application of compressive bandage  
b) Elevated position of extremity  
c) Maximal flexion of extremity in the joint  
d) Vessel ligation
e) Suturing of defect in the vessel wall

269. CM. What methods of hemostasis refer to temporary?
   a) Vessel ligation in the wound
   b) Digital compression of vessel
   c) Application of tourniquet
   d) Application of compressive bandage
   e) Maximal flexion of extremity in the joint

270. CM. What methods of hemostasis refer to temporary?
   a) Embolization of damaged vessel
   b) Application of hemostatic forceps
   c) Vessels ligation
   d) Suturing of vessel
   e) Application of compressive bandage

271. CM. What methods of hemostasis refer to definitive?
   a) Application of hemostatic forceps
   b) Grafting of injured vessel
   c) Closure of defect in vessel wall by placement of vascular suture
   d) Application of tourniquet
   e) Endovascular embolization of artery

272. CM. What methods of hemostasis refer to definitive?
   a) Application of tourniquet
   b) Elevated position of extremity
   c) Endovascular embolization of artery
   d) Endoscopic clamping of bleeding vessel
   e) Endolymphatic administration of adrenalin

273. CM. What methods of hemostasis refer to definitive?
   a) Application of tourniquet
   b) Digital compression of vessel
   c) Removing of damaged organ
   d) Resection of a part of damaged organ
   e) Closure of defect in vessel wall by placement of vascular suture

274. CS. What method of temporary hemostasis is the optimal during the emergency surgery for rupture of abdominal aortic aneurysm?
   a) Application of tourniquet
   b) Placement of haemostatic suture in the wound
   c) Administration of haemostatic drugs
   d) Clamping of aorta above the aneurysm
   e) Clamping of aorta below the aneurysm
275. CS. For temporary hemostasis tourniquet on a limb should be applied for a period no more than:
   a) One hour
   b) Two hours
   c) Three hours
   d) Four hours
   e) 45 min

276. CS. What of these hemorrhages require for hemostasis remote vessel ligation or vessel embolization?
   a) Arterial bleeding from fresh cutting hip wound
   b) Arterial bleeding from purulent wound
   c) Bleeding from duodenal ulcer
   d) Bleeding in patient with hemophilia
   e) Bleeding hemorrhoids

277. CS. Which of these definitive hemostatic methods are used in late secondary hemorrhage?
   a) Ligation of vessel in the wound
   b) Vascular anastomosis
   c) Remote vessel ligation
   d) Elevate position of limb
   e) Compressive bandage

278. CM. Which of these factors participate in primary spontaneous hemostasis?
   a) Tissue thromboplastin
   b) Vascular factor
   c) Platelet factor
   d) Plasmatic factors
   e) Arterial hypertension

279. CS. Indicate the result of primary spontaneous hemostasis?
   a) Formation of platelet clot
   b) Fibrinolysis
   c) Formation of fibrin clot
   d) Clot retraction
   e) Formation of red thrombus

280. CM. What medications have a hemostatic effect?
   a) Calcium chloride
   b) Vikasol
   c) Heparin
   d) Aspirin
   e) Etamzilat

281. CM. How can be increased the vascular spasm in case of bleeding from the wound?
a) By local application of adrenaline solution
b) By placement on the wound of an ice bag
c) By placement on the wound of a heating pad
d) By massage of wound
e) By administration of antibiotics

282. CM. Which of these hemostatic agents are chemical substances?
   a) Thrombin
   b) Fibrinogen
   c) Aminocapronic acid
   d) Cryoprecipitate
   e) Calcium chloride

283. CM. Which of these methods refer to chemical hemostasis?
   a) Local application of adrenaline solution
   b) Administration of vitamins
   c) Use of haemostatic sponge
   d) Administration of thrombin
   e) Intravenous administration of calcium chloride

284. CM. Which of these methods refer to biological hemostasis?
   a) Intravenous administration of calcium chloride
   b) Administration of aminocapronic acid
   c) Transfusion of fresh frozen plasma
   d) Diathermocoagulation
   e) Local application of thrombin

285. CS. Select the mechanical methods of hemostasis.
   a) Bed rest
   b) Application of ice bag
   c) Suturing of bleeding vessel
   d) Electrocoagulation of vessel
   e) Laser photocoagulation of the vessel

286. CM. Select the physical methods of hemostasis.
   a) Ligation of vessel
   b) Clamping of vessel
   c) Applying of compressive bandage
   d) Application of ice bag
   e) Electrocoagulation of vessel

287. CS. Where should be applied a haemostatic tourniquet in case of arterial bleeding from the wound of a shin?
   a) In the lower third of shin
   b) In the middle third of shin
   c) In the upper third of shin
d) In the middle third of femur 
e) On the level of knee joint 

288. CS. Where should be applied a haemostatic tourniquet in case of arterial bleeding from the wound of a hand? 
a) In the distal third of forearm 
b) In the middle third of forearm 
c) In the proximal third of forearm 
d) In the middle third of shoulder 
e) On the level of elbow joint 

289. CM. Specify the possible complications of hemostatic tourniquet application on a limb for longer than two hours? 
a) Development of paresis (plegia) of limb 
b) Acceleration of metabolic processes distal to the tourniquet 
c) Limb gangrene 
d) Thromboembolism of extremity 
e) Gas embolism of extremity 

290. CM. What methods of definitive hemostasis are indicated for injury of a common femoral artery? 
a) Application of tourniquet 
b) Application of compressive bandage 
c) Vascular anastomosis 
d) Ligation of iliac artery 
e) Implantation of vascular prostheses 

291. CS. The first factor of blood coagulation is: 
a) Prothrombin 
b) Thromboplastin 
c) Fibrinogen 
d) Calcium ions 
e) Factor Hageman 

292. CS. The second factor of blood coagulation is: 
a) Accelerin 
b) Proconvertin 
c) Factor Christmas 
d) Prothrombin 
e) Fibrinogen 

293. CS. Disseminated intravascular coagulation is accompanied by the following phenomena: 
a) Inflammatory 
b) Regenerative 
c) Proliferative
294. CM. Specify the phases of disseminated intravascular coagulation syndrome.
   a) Prereactive phase
   b) Reactive phase
   c) Phase of hypercoagulation
   d) Phase of hypocoagulation
   e) Phase of normal coagulation

295. CS. Specify a clinical symptom of the first phase of disseminated intravascular coagulation.
   a) Multiple hemorrhages (at least three different sources)
   b) Severe jaundice
   c) Multiple vascular thrombosis
   d) Hectic fever
   e) Hepatomegaly

296. CS. Specify a clinical symptom of the second phase of disseminated intravascular coagulation.
   a) Multiple hemorrhages (at least three different sources)
   b) Severe jaundice
   c) Multiple vascular thrombosis
   d) Hectic fever
   e) Hepatomegaly

297. CM. Specify clinical forms of disseminated intravascular coagulation syndrome.
   a) Atypical form
   b) Acute form
   c) Subacute form
   d) Chronic form
   e) Asymptomatic form

298. CM. Specify three components of the complex treatment of patients with the disseminated intravascular coagulation syndrome.
   a) Treatment of the diseases, which lead to development of disseminated intravascular coagulation
   b) Massive antibiotic therapy
   c) Correction of clotting factors deficiency
   d) Administration of heparin
   e) Administration of immune serums

299. CM. What effects of heparin cause its administration in patients with disseminated intravascular coagulation?
   a) Inhibition of thrombin formation
   b) Stimulation of thrombin formation
c) Inhibition of X coagulation factor  
d) Activation of X coagulation factor  
e) Inhibition of fibrinolysis

300. CM. Which of these factors directly cause tissue necrosis?
   a) Mechanical lesion  
b) Arterial embolism  
c) Burning injury  
d) Compression of arterial vessel  
e) Electrical injury

301. CM. Which of the following factors cause tissue necrosis indirectly?
   a) Mechanical lesion  
b) Arterial embolism  
c) Burning injury  
d) Strangulated hernia  
e) Electrical injury

302. CM. What characterizes the gangrene?
   a) Develops only in organs, that have contact with the external environment  
b) Develops only in organs, that have not contact with the external environment  
c) The organ or anatomical region is affected entirely  
d) Develops after prolonged compression of soft tissue between the hard surfaces (bones and bed)  
e) Affects only part of the organ, which receives blood supply from a certain arterial branch

303. CM. Which of the following factors do not influence the development of “circulatory” necrosis?
   a) Insufficient flow of arterial blood  
b) Impairment of pulmonary gas exchange  
c) Disruption of venous blood outflow  
d) Impairment of transcapillary metabolism at the level of the microcirculation  
e) Disturbances of innervation

304. CM. Specify the components of Virchow's triad, which represents the pathogenetic mechanism of vascular thrombosis.
   a) Endothelial damage  
b) Stasis of blood  
c) Atrial fibrillation with a rupture of thrombus from the cavity of the heart  
d) Hypercoagulation  
e) Prolonged consumption of the indirect anticoagulants

305. CS. Specify the typical localization of trophic ulcers within the syndrome of chronic ischemia.
   a) Middle third of shin
b) External surface of the lower third of shin
c) Distal phalanx of the digits of foot, heel area
d) Medial surface of the lower third of shin
e) Popliteal fossa

306. CM. Dry gangrene is characterized by the following features:
a) Usually develops in acute ischemia
b) Usually develops in chronic ischemia
c) Develops after bacterial contamination
d) There is a line of demarcation
e) The demarcation line is absent

307. CM. Moist gangrene is characterized by the following features:
a) Usually develops in acute ischemia
b) Usually develops in chronic ischemia
c) Develops after bacterial contamination
d) There is a line of demarcation
e) The demarcation line is absent

308. CS. Which of the following is necrosis?
a) Infarction
b) Bedsores
c) Trophic ulcer
d) Gangrene
e) All of the above

309. CM. Specify the organs, in which can develop gangrene.
a) Spleen
b) Lung
c) Pancreas
d) Intestine
e) Lower limbs

310. CM. Specify the organs, in which the development of necrosis is called infarction.
a) Heart
b) Bones
c) Kidney
d) Lower limbs
e) Spleen

311. CM. Specify the common causes of trophic ulcers development.
a) Acute venous thrombosis
b) Chronic ischemia
c) Arterial aneurysm
d) Chronic venous insufficiency
e) Acute ischemia
312. CS. Which of these fistulas are congenital?
   a) Purulent fistula in chronic osteomyelitis  
   b) Suture sinus  
   c) Gastrostomy  
   d) Urachal fistula  
   e) Colostomy

313. CM. Which of these fistulas are acquired?
   a) Purulent fistula in chronic osteomyelitis  
   b) Suture sinus  
   c) Tracheostome  
   d) Urachal fistula  
   e) Colostomy

314. CM. Specify the external fistulas.
   a) Perianal fistula  
   b) Cholecystoenterostomy  
   c) Colostomy  
   d) Gastrostomy  
   e) Gastroenterostomy

315. CM. Depending on the nature of tissue lining the fistulous channel, are distinguished
   the following types of fistulas:
   a) Epithelial  
   b) Muscular  
   c) Mucosal  
   d) Granulation  
   e) Ossified

316. CS. Surgically created artificial communication between the two hollow organs is called:
   a) Perforation  
   b) Ostomy  
   c) Anastomosis  
   d) Cyst  
   e) Penetration

317. CS. Artificially created communication between the hollow organ and the external
   environment is called:
   a) Cyst  
   b) Ostomy  
   c) Perforation  
   d) Fistula  
   e) Anastomosis
318. CS. Pathological communication between the two hollow organs is called:
   a) Fistula
   b) Anastomosis
   c) Ostomy
   d) Cyst
   e) Perforation

319. CS. Pathological communication between the hollow organ and the external environment is called:
   a) Perforation
   b) Ostomy
   c) Anastomosis
   d) Fistula
   e) Cyst

320. CM. Specify the typical location of bedsores?
   a) Elbows
   b) Lumbar region
   c) Sacral region
   d) Heels
   e) Scapular region

321. CM. Specify the phase of bedsores development?
   a) Prereactive phase
   b) Phase of circulatory disorders
   c) Phase of necrotic lesions
   d) Phase of regeneration
   e) Reactive phase

410. CS. Preoperative period in all types of surgical pathology starts:
   a) With admission of the patient to the hospital and registering of a clinical case history
   b) With appearance of first signs of surgical disease
   c) When a surgical disease was diagnosed and decision to operate was made
   d) At the moment of transportation of patient to the operating room and preparation for anesthesia
   e) When skin scrub in surgical site and limitation with sterile drapes are performed

411. CM. To the main goals of the preoperative period refers:
   a) Prevention of venous thromboembolism
   b) Patient blood group typing and preparation for blood transfusion
   c) Reduction of surgical risk
   d) High-dose antibacterial therapy
   e) Increasing of curative effectiveness of surgery

412. CM. Preoperative period includes the following stages:
   a) Stage of preparation
   b) In-patient stage
c) Stage of recovery
d) Diagnostic stage
e) Out-patient stage

413. CS. Shtanghe’s and Ghence's tests can be used in the preoperative period for estimation of:
   a) Grade of compensation of cardio-respiratory function
   b) Hepatic function
   c) Grade of emergency of surgical intervention
   d) State of nutrition of surgical patient
   e) Risk of per-operative venous thromboembolism

414. CM. Specify the routine diagnostic tests performed before any surgical intervention.
   a) Full blood count
   b) Tests for HIV-infection and hepatitis B, C, D
   c) Urinalysis
   d) Electrocardiography
   e) Abdominal ultrasound

415. CM. During the physical examination of a patient, admitted to the surgical department for elective surgery, surgeon finds the heart bruits and abnormal cardiac rhythm. What actions should be performed in such a case?
   a) Immediate discharge of patient from the hospital for complex cardiac evaluation in out-patient conditions
   b) Immediate transfer of the patient to the department of cardiology for treatment
   c) Realization of planned surgical intervention
   d) Refer patient to cardiologist (internal medicine physician) for consultation
   e) Review of current ECG results and previous cardiac tests

416. CS. The most often used system for stratification of surgical risk is:
   a) Glasgow score
   b) POSSUM system
   c) Allgower index
   d) ASA system
   e) Moore formula

417. CS. Select the situation that serves as an absolute indication for surgery.
   a) Presence of a pathology with danger for patient life, which may be treated either medically or surgically with similar results
   b) Presence of a pathology with danger for patient life, which may be treated only surgically
   c) Presence of malignant tumor
   d) Presence of a pathology with no danger for patient life and functional capacity, which may be treated only surgically
   e) Traumatic injuries

418. CM. Specify diagnostics which serve as absolute indications for surgery.
a) Ateroma of occipital region  
b) Uncomplicated varicose veins of lower limb  
c) Gastric cancer without metastases and surrounding tissue invasion  
d) Acute appendicitis  
e) Strangulated inguinal hernia

419. CM. Specify diagnostics which serve as relative indications for surgery.  
a) Slash wound with injury of femoral artery  
b) Lipoma of lumbar region  
c) Duodenal ulcer with multiple exacerbations  
d) Acute intestinal obstruction  
e) Strangulated inguinal hernia

420. CS. What diseases or pathological conditions may serve as an contraindication for surgery in case of severe active intraperitoneal bleeding?  
a) Hypovolemic shock  
b) Acute myocardial infarction  
c) Septic shock  
d) Acute cerebral circulatory impairment (stroke)  
e) Nothing from mentioned above

421. CM. What information should be provided to the patient during the preparation for surgery?  
a) Diagnosis  
b) Technical aspects of planned surgical intervention (type of anastomosis, type of suture)  
c) Possibilities of non-surgical treatment (if any exist)  
d) Results of similar intervention in other patients, currently hospitalized in the department  
e) Possible surgery related complications

422. CM. Informed consent for surgery should be signed by:  
a) Patient  
b) Anesthesiologist  
c) Operating surgeon  
d) Nurse  
e) Director of Hospital

423. CM. Specify the situations when life-saving emergency surgery may be performed without informed consent for surgery signed by patient.  
a) Patient with normal mental state categorically refuse surgery  
b) Patient is unconscious  
c) Patient with disturbed mental state, confirmed by psychiatrist  
d) Relatives of patient are agree with proposed surgical intervention  
e) Patient refuse surgery due to religious convictions

424. CM. What factors do not increase the risk of postoperative venous thromboembolism?
a) Obesity
b) Early postoperative ambulation
c) Malignancy
d) Traumatic and prolonged surgical interventions
e) Young age

425. CM. Specify the correct statements regarding to the postoperative pulmonary artery embolism (PE).

a) More frequently, the source of PE is superior cava vein and its branches
b) Usually thrombus formation starts „in-situ” – directly in the pulmonary artery
c) PE may develops either in early and late postoperative period
d) More frequently PE develops in case of free-floating type of deep vein thrombosis
e) PE never results in sudden death of patient

426. CM. Indicate measures used for prevention of postoperative venous thromboembolism.

a) Administration of direct anticoagulants (heparins) in the pre- and postoperative periods
b) Refuse from antibacterial treatment
c) Strict bed-rest after surgery
d) Massive blood transfusion
e) Elastic compression of lower limbs

427. CS. Select the correct regime of administration of antibiotics with aim to prevent the postoperative surgical site infection.

a) One large-spectrum antibiotic, orally, 7 days before surgery
b) One narrow-spectrum antibiotic, intramuscular, 2-3 days after surgery
c) One large-spectrum antibiotic, single intravenous injection of maximal therapeutic dose, immediately before surgery
d) One large-spectrum antibiotic, single intramuscular injection of minimal therapeutic dose, immediately before surgery
e) Two or more large-spectrum antibiotics, intravenous, 5-7 days before surgery

428. CM. Preparation of digestive tract for elective abdominal surgery includes:

a) Nothing by mouth (NPO - Nothing Per Orem) diet during several days before surgery
b) NPO diet during 12 hours before surgery
c) Rigorous gastric lavage through gastric tube
d) Cleaning enemas
e) Siphon enemas

429. CM. Select the examples of the special preoperative care.

a) Depilation of surgical site
b) Sedative medication
c) Skin marking of varicose veins
d) Placement of central venous access line
e) Preoperative wearing of hernia-bandage for huge ventral hernia
430. CS. Preoperative conclusion must be written by:
   a) Anesthesiologist
   b) Operating surgeon
   c) Surgical nurse
   d) Family physician
   e) Any health-worker

431. CM. Preoperative conclusion must include the following data:
   a) Argumentation of main diagnosis and indications for surgery
   b) Short description of past history (anamnesis vitæ)
   c) Allergy to food and medications
   d) Planned volume of intervention and type of anesthesia
   e) Grade of risk

432. CS. Trendelenburg’s position of a patient on the operating table is used for:
   a) Surgery on the diaphragm
   b) Liver and biliary surgery
   c) ENT (ear-nose-throat) surgery
   d) Pelvic (gynecological) surgery
   e) Lower limbs arterial surgery

433. CM. “Anti-Trendelenburg’s position” of a patient on the operating table is used for:
   a) Surgery on the diaphragm
   b) Liver and biliary surgery
   c) ENT (ear-nose-throat) surgery
   d) Pelvic (gynecological) surgery
   e) Lower limbs arterial surgery

434. CM. Select the steps of surgical intervention.
   a) Patient skin scrub and limitation with sterile drapes
   b) Induction in anesthesia
   c) Surgical access
   d) Surgical procedure
   e) Recovery from anesthesia

435. CM. Last step of surgical intervention includes:
   a) Check of hemostasis stability
   b) Check for foreign bodies
   c) Check of hemodynamic parameters
   d) Drainages placement
   e) Surgical wound closure

436. CM. Emergency surgery is performed in case of:
   a) Uncomplicated inguinal hernia
   b) Acute appendicitis
   c) Heart tamponade
   d) Chronic cholecystitis
437. CM. Elective surgery is performed in case of:
   a) Mechanical asphyxia airway obstruction
   b) Acute intestinal obstruction
   c) Varicose veins of lower limbs
   d) Strangulated umbilical hernia
   e) Simple (uncomplicated) inguinal hernia

438. CS. In a patient with advanced unresectable cancer of esophagus, an external artificial fistula of the stomach (gastrostomy) was created surgically with aim of enteral feeding. How this type of surgery is classified?
   a) Diagnostic surgery
   b) Combined surgery
   c) Radical surgery
   d) Palliative surgery
   e) Simultaneous surgery

439. CS. In a patient with inguinal hernia, resection of hernia sac, repair of inguinal channel and implantation of synthetic mesh were performed. How this type of surgery is classified?
   a) Diagnostic surgery
   b) Combined surgery
   c) Radical surgery
   d) Palliative surgery
   e) Simultaneous surgery

440. CM. To the diagnostic surgical interventions refers:
   a) Re-implantation
   b) Amputation
   c) Biopsy
   d) Laparoscopy, thoracoscopy
   e) Transplantation

441. CS. Two hours after stomach resection patient was transported back to the operating room due to abundant leakage of blood from the intraperitoneal tubes. Abdominal cavity was reopened for realization of hemostasis. What is a correct name of surgical intervention?
   a) Control laparotomy
   b) Relaparotomy
   c) Bilaparotomy
   d) Secondary laparotomy
   e) Multiple laparotomy

442. CM. What interventions refer to simultaneous surgery?
   a) Gastric resection for peptic ulcer and cholecystectomy for gallstone disease were performed during the same surgical intervention
b) Resection of sigmoid colon with application of colostomy was followed by reconstruction of digestive tract integrity 6 months later

Resection of sigmoid colon with application of colostomy was followed by reconstruction of digestive tract integrity 6 months later.

Gastric resection was combined with transection of vagus nerve, both interventions being performed for peptic ulcer disease.

Laparoscopic treatment of gastro-esophageal reflux disease was associated with cholecystectomy for gallstone disease both performed during the same surgical intervention.

Bilateral removing of varicose veins of lower limbs.

443. CM. What interventions refer to combined surgery?

a) Resection of sigmoid colon with application of colostomy was followed by reconstruction of digestive tract integrity 6 months later.

Femoral-popliteal bypass for atherosclerosis and lower limb ischemia was associated with transection of lumbar sympathetic chain (sympathectomy) during the same surgical intervention.

Bilateral removing of varicose veins of lower limbs.

Gastric resection was combined with transection of vagus nerve, both interventions being performed for peptic ulcer disease.

Gastric resection for peptic ulcer and cholecystectomy for gallstone disease were performed during the same surgical intervention.

444. CM. Specify local complications that can develop during surgical procedures in general surgery.

a) Acute cardiac failure
b) Hemorrhage
c) Surgical wound abscess
d) Injury of surrounding organs
e) Disseminated intravascular coagulation syndrome

445. CM. Indicate the physiological stages of the postoperative period.

a) Anabolic
b) Reactive
c) Pre-reactive
d) Catabolic
e) Transitory

446. CM. Catabolic stage of the postoperative period is characterized by:

a) Activation of sympathetic system
b) Activation of parasympathetic system
c) Disintegration of proteins
d) Tissue acidosis
e) Synthesis of proteins

447. CS. Duration of early postoperative period is:

a) 8-12 hours
b) 12-24 hours
c) 3-5 days
d) Until 14 days
e) Until one month

448. CM. Specify the complications characteristic for early postoperative period.
a) Development of incisional hernia
b) Stenosis of intestinal anastomosis
c) Hemorrhage
d) Suture sinus
e) Shock (hypovolemic, toxic, cardiac)

449. CM. Specify the complications characteristic for late postoperative period.
a) Late secondary hemorrhage
b) Acute cardiovascular insufficiency
c) Development of incisional hernia
d) Recurrence of disease
e) Surgical site infection

450. CM. Gastric resection for peptic ulcer and cholecystectomy for gallstone disease were performed during the same surgical intervention. How this type of surgery may be classified according to the various principles?
a) Simultaneous surgery
b) Multiple stage surgery
c) Combined surgery
d) Absolutely clean surgery
e) Clean surgery

451. CM. Femoral-popliteal bypass for atherosclerosis and lower limb ischemia was associated with transection of lumbar sympathetic chain (sympathectomy) during the same surgical intervention. How this type of surgery may be classified according to the various principles?
a) Simultaneous surgery
b) Multiple stage surgery
c) Combined surgery
d) Absolutely clean surgery
e) Clean surgery

364. CM. The term “osteomyelitis” means:
a) Purulent inflammation of the bone marrow
b) Inflammation of the compact substance of bone
c) Inflammation of the periosteum
d) Inflammation of the synovial bursa
e) Inflammation of the bone marrow and adjacent joint

365. CM. Which bones are most often affected with an acute hematogenous osteomyelitis?
a) Ulna
b) Fibula
c) Femur
d) Tibia
e) Radius

366. CS. In children aged 2-3 years an acute hematogenous osteomyelitis most often affects:
a) Metaphysis of bone
b) Diaphysis of bone
c) Epiphysis of bone
d) Diaphysis and metaphysis of bone
e) All sections of bone

367. CS. In children older than 3 years an acute hematogenous osteomyelitis most often affects:
a) Diaphysis of the femur
b) Metaphysis of the femur
c) Epiphysis of the femur
d) Epiphysis and diaphysis of the femur
e) All sections of the femur

368. CS. In children the most frequently is observed the following form of osteomyelitis:
a) Acute non-hematogenous osteomyelitis
b) Postoperative osteomyelitis
c) Brodie abscess
d) Acute hematogenous osteomyelitis
e) Sclerozing osteomyelitis of Garre

369. CM. Specify the factors that predispose to the development of acute hematogenous osteomyelitis.
a) Closed injuries of limbs
b) The presence of chronic foci of infection in the body
c) Increased virulence of microorganisms
d) Avitaminosis (vitamin deficiency) and malnutrition
e) All mentioned factors

370. CM. In the first 3-5 days of illness, the most important symptoms of acute hematogenous osteomyelitis are:
a) General symptoms of intoxication
b) Pathology on X-ray examination
c) Local symptoms of purulent inflammation
d) Anemia
e) Severe leukocytosis (15-30 x 10⁹/L)

371. CS. At what form of osteomyelitis the most frequently develop metastatic abscesses?
a) In toxic form of acute hematogenous osteomyelitis
b) In local form of acute hematogenous osteomyelitis
c) In Brodie’s abscess 
d) In septic form of acute hematogenous osteomyelitis 
e) In albuminous osteomyelitis Olier

372. CM. What symptoms of inflammation appear in acute hematogenous osteomyelitis first of all? 
   a) Tumor 
   b) Dolor 
   c) Calor 
   d) Rubor 
   e) Functio laesa

373. CM. What of these affirmations relate to acute hematogenous osteomyelitis? 
   a) More common in childhood 
   b) Is developed in open fractures of limbs 
   c) Can develop after surgical repositioning of the fracture and osteosynthesis 
   d) Sometimes occurs with the formation of multiple metastatic abscesses in the bones and inner organs 
   e) The first radiographic signs of illness appear in 10-14 days from the onset of disease

374. CS. At what clinical form of acute hematogenous osteomyelitis, the patient's death can occur within the first 2-3 days of onset? 
   a) In toxic form 
   b) In local form 
   c) In septic form 
   d) In purulent form 
   e) In all forms

375. CM. Specify the symptoms, based on which the early diagnosis of acute hematogenous osteomyelitis is established? 
   a) Acute onset of disease with a pain in limb 
   b) Severe intoxication at 3rd - 4th day of disease 
   c) Detachment of periosteum from the bone on radiogram 
   d) Increase of body temperature up to 39-40°C 
   e) Edema, redness, and fluctuation in the affected region

376. CM. Which of the symptoms are observed in acute hematogenous osteomyelitis? 
   a) Edema of the affected limb segment 
   b) Hyperemia of skin over the focus of inflammation 
   c) Disturbances of limb function 
   d) Absence of pulse on peripheral arteries 
   e) Pathological fracture of the limb with the formation of a false joint

377. CS. Appearance of fluctuation in acute hematogenous osteomyelitis suggests: 
   a) Development of concomitant thrombophlebitis 
   b) Development of intramuscular or subcutaneous phlegmon
c) Development of pathological fracture

d) Appearance of osteomyelitic external fistula

e) Development of bullous form of erysipelas

378. CM. Specify the possible complications of osteomyelitis.

a) **Sepsis**

b) Gas gangrene

c) Primary purulent arthritis

d) **Amyloidosis of the inner organs**

e) Secondary purulent arthritis

379. CS. The first radiological signs of acute hematogenous osteomyelitis appear on the:

a) **2-3 days from the onset of disease**

b) **4-6 days from the onset of disease**

c) **7-9 days from the onset of disease**

d) **10-14 days from the onset of disease**

e) **15-21 days from the onset of disease**

380. CM. Specify the radiographic signs, characteristic for acute osteomyelitis.

a) **Detachment of the periosteum**

b) Appearance of “sequester box”

c) **Thickening of the periosteum**

d) Pathological fracture

e) **Lysis of bone tissue**

381. CM. Specify the radiographic signs, characteristic for chronic osteomyelitis.

a) Narrowing of joint space

b) **Appearance of “sequester box”**

c) **Formation of sequesters**

d) Detachment of the periosteum

e) **Pathological fracture**

382. CM. Specify the operations that are performed for chronic osteomyelitis.

a) Long longitudinal incisions

b) **Sequestrectomy**

c) **Plastic operations, aimed at the elimination of bone and tissue defects**

d) Amputation

e) Osteoperforation

383. CM. Specify the operations that are performed for acute osteomyelitis.

a) Disarticulation of limb

b) **Opening and drainage of the soft tissues phlegmon**

c) **Osteoperforation**

d) Amputation

e) Sequestrectomy
384. CM. A complex treatment of acute hematogenous osteomyelitis include:
   a) **Immobilization of the affected limb**
   b) **Antibacterial therapy**
   c) **Detoxication therapy**
   d) **Hormone therapy**
   e) **Surgical treatment**

385. CS. The absence of movements in joint is called:
   a) Osteoarthritis
   b) Arthrosis
   c) Rigidity
   d) Ankylosis
   e) Scoliosis

386. CM. At presence of positive symptom of fluctuation in the joint region and the general symptoms of intoxication should be perform:
   a) **Arthrocentesis, aspiration of exudate and intra-articular introduction of antibiotic**
   b) Amputation of the limb
   c) Resection of the articular surfaces with formation of ankylosis
   d) **Immobilization of limb**
   e) **Systemic administration of antibiotics**

387. CM. Specify the clinical symptoms of bursitis.
   a) **Edema of tissues in the region of joint capsule**
   b) Pain in the joint
   c) Local hyperthermia
   d) Hyperemia of the skin
   e) Severe limitation of joint mobility

388. CM. A conservative treatment of bursitis includes:
   a) **Immobilization of limb**
   b) Removal of periarthric bursa
   c) **Administration of anti-inflammatory medicaments**
   d) Needle aspiration and drainage of periarthric bursa
   e) **Local hypothermia (ice)**

389. CM. At serous bursitis of the elbow joint should be perform:
   a) **Immobilization of limb**
   b) Opening and drainage of periarthric bursa
   c) Removal of periarthric bursa
   d) **Administration of anti-inflammatory medicaments**
   e) **Needle punction of periarthric bursa with aspiration of exudate and introduction of antibiotic**

390. CS. According to what principle fractures are divided into open and closed?
391. CM. Depending on features of the fracture line, the bone fractures are classified into:
   a) Impacted
   b) Incomplete
   c) Closed
   d) Comminuted
   e) Diaphyseal

392. CM. Depending on features of the fracture line, the bone fractures are classified into:
   a) Open
   b) Transverse
   c) Pathological
   d) Metaphyseal
   e) Oblique

393. CM. The relative symptoms of bone fractures include:
   a) Local pain and tenderness
   b) Disturbance of limb function
   c) False or unnatural motion
   d) Bony crepitus
   e) Deformation of extremity segment

394. CM. The absolute symptoms of bone fractures include:
   a) False or unnatural motion
   b) Pain in the region of injury
   c) Deformation of extremity segment
   d) Disturbance of limb function
   e) Bony crepitus

395. CM. Pathological fracture may be caused by:
   a) Bone tumor
   b) Bone form of gas gangrene
   c) Chronic osteomyelitis
   d) Osteoporosis
   e) Purulent arthritis

396. CS. At what type of fracture the probability of bacterial contamination is highest?
   a) Intrauterine
   b) Comminuted
   c) Open
   d) Closed
397. CM. In the formation of callus in fractures take part:
   a) Cells of endoosseous
   b) Cells of Haversian canals
   c) Cells of periosteum
   d) Cells of adipose tissue around the fracture
   e) Cells of connective tissue around the fracture

398. CS. The formation of primary callus on average takes:
   a) 2-4 weeks
   b) 4-6 weeks
   c) 6-8 weeks
   d) 8-10 weeks
   e) 10-12 weeks

399. CS. The greatest regenerative capacity in formation of callus have:
   a) Cells of endoosseous
   b) Cells of Haversian canals
   c) Cells of connective tissue around the fracture
   d) Cells of cambial layer of periosteum
   e) All mentioned above

400. CM. Which fractures are considered the complicated:
   a) “Greenstick” fracture
   b) Fracture, combined with injury of the major artery
   c) Fracture, which developed due to bone tumor
   d) Fracture, combined with nerve injury (paresis, paralysis)
   e) Fracture, which developed due to chronic osteomyelitis

401. CM. Specify the possible local complications of fractures.
   a) Traumatic shock
   b) Abnormal consolidation of bone fragments
   c) Damage of vessels and nerves
   d) Fat embolism
   e) Posttraumatic (non-hematogenous) osteomyelitis

402. CS. Specify the most common complication of open fractures.
   a) Fat embolism
   b) Shortening of the damaged limb
   c) Paralysis of limb
   d) Osteomyelitis
   e) Amyloidosis

403. CM. Specify the possible general complications of fractures.
   a) Traumatic shock
b) Disseminated intravascular coagulation

c) Acute anemia

d) Formation of pathological bone callus

e) Paralysis of limb

404. CM. First medical care for fractures include:
   a) **Administration of analgesics**
   b) **Transport immobilization with special (medical) or improvised devices**
   c) **In open fractures – hemostasis, application of aseptic bandage on the wound**
   d) Reduction of bone fragments in open fractures (perforation of skin by the bone fragment)
   e) Elimination of displacement of bone fragments and limb deformities

405. CM. In order to transport immobilization in fractures are used:
   a) **Improvised splints from different materials**
   b) **Cramer’s splint**
   c) **Beller’s splint**
   d) **Pneumatic splint**
   e) **Dieterich’s splint**

406. CS. The Dieterich’s splint is used for:
   a) Transport immobilization of the upper limbs
   b) **Transport immobilization of the lower extremities**
   c) Treatment of fractures of the upper extremity
   d) Treatment of fractures of the lower extremity
   e) Treatment of spinal fractures

407. CM. First medical care in open fractures did not include:
   a) Performing of temporary hemostasis
   b) Administration of analgesics
   c) **Reposition of bone fragments**
   d) Transport immobilization
   e) Placement of primary sutures on the wound

408. CM. Specify the possible causes of the delay in formation of callus.
   a) **Incomplete reposition of bone fragments**
   b) **Partial or total interposition of soft tissues between the bone fragments**
   c) **Inadequate immobilization**
   d) Diabetes mellitus in patient
   e) Intramedullary osteosynthesis

409. CM. A prolonged immobilization of limb in fractures can lead to:
   a) False joint
   b) Hemarthrosis
   c) Epiphysiolysis
   d) **Contractures of limb**
e) **Muscular atrophy**

410. **CM.** The penetration of pathogenic organisms in the soft tissues of hands most often occurs:
   a) By hematogenous route
   b) Through the callus, cracks of the skin
   c) By lymphogenous route
   d) With small foreign bodies (splinters, pieces of metal)
   e) From infected bones of the phalanges and wrist

411. **CM.** Tendinous felon of which fingers of hand can lead to the spread of infection into the space of Pirogov-Parona?
   a) Of first
   b) Of second
   c) Of third
   d) Of fourth
   e) Of fifth

412. **CS.** Necrosis of the tendon in purulent tenosynovitis is caused by:
   a) Direct damaging effect bacterial enzymes
   b) Restriction of active movements
   c) Compression by exudates and thrombosis of blood vessels, which supply the tendon
   d) Autoimmune reactions
   e) Development of disseminated intravascular coagulation

413. **CM.** Specify the superficial forms of panaritium.
   a) Subcutaneous
   b) Tendinous
   c) Pandaktilit
   d) Paronychia
   e) Cutaneous

414. **CM.** Specify the deep forms of panaritium.
   a) Tendinous
   b) Osseous (bony)
   c) Articular
   d) Subungual
   e) Pandaktilit

415. **CS.** Indication for early surgical treatment of panaritium serves:
   a) A body temperature above 37.5°C
   b) Appearance of fluctuation
   c) Appearance of axillary lymphadenitis
   d) Severe edema of the whole finger
   e) The first sleepless night because of pain in the finger
416. CS. What form of panaritium is most likely, if on the palmar surface of thumb is determined a small bubble filled with a purulent contents?
   a) Cutaneous
   b) Subcutaneous
   c) Tendinous
   d) Subungual
   e) Pandaktilit

417. CS. Specify the optimal method of anesthesia for the treatment of cutaneous panaritium.
   a) A local infiltrative
   b) A locoregional
   c) A general intravenous
   d) A general inhalational
   e) Anesthesia does not perform

418. CS. Specify the most frequently used method of anesthesia for the treatment of subcutaneous form of panaritium.
   a) A local infiltrative
   b) A locoregional of Oberst-Lukashevich
   c) A general intravenous with myorelaxation
   d) A general inhalational with myorelaxation
   e) Anesthesia does not perform

419. CS. The term “pandaktilit” refers to:
   a) Purulent inflammation of all fingers of hand
   b) Purulent inflammation of all digits of foot
   c) Purulent inflammation of all tissues of one finger of hand
   d) Purulent inflammation of all tissues of one digit of foot
   e) Fusion of all fingers of hand or foot

420. CS. A forced amputation of the finger most often is necessary for:
   a) Panaritium in the form of cuff links (like a hourglass)
   b) Tendinous panaritium
   c) Articular panaritium
   d) Osseous (bony) panaritium
   e) Pandaktilit

421. CM. Specify the correct affirmations regarding the “forbidden zone” of hand.
   a) “Forbidden zone” is located on the palmar surface of thenar
   b) “Forbidden zone” is located on the palmar surface of hypothenar
   c) “Forbidden zone” is located on the dorsal surface of hand
   d) In “forbidden zone” pass the motor branches of median nerve
   e) In “forbidden zone” pass the sensory branches of radial nerve

422. CS. What kind of incisions are performed for tendinous panaritium?
a) Semilunar incision, on the distal phalanx
b) Longitudinal incisions, on both lateral surfaces of the distal phalanx
c) Longitudinal incisions, on both lateral surfaces of the middle and proximal phalanxes
d) Longitudinal incision, on the midline line of the finger palmar surface to entire length of the tendon sheath
e) Multiple transverse incisions at all phalanxes

423. CS. In surgical treatment of panaritium for the drainage of wounds is most frequently used:
a) Active drainage tube
b) Strips of rubber glove
c) Gauze turunda
d) Washing tubular drainage
e) Drainage in form of a “cigar”

424. CM. Presence of bone sequesters in inflammation of hand fingers is observed in:
a) Tendinous panaritium
b) Commissural phlegmon
c) Paronychia
d) Osseous (bony) panaritium
e) Pandaktilit

425. CS. Through drainage by small incisions on the palmar and dorsal surfaces of hand in the areas of interdigital folds is used for treatment of:
a) Phlegmon of thenar
b) Subcutaneous phlegmon of the dorsal surface of hand
c) U-shaped phlegmon of hand
d) Commissural phlegmon of hand
e) Phlegmon of hypothenar

426. CM. Edema of the dorsal surface of hand in phlegmon of the palmar surface:
a) Is noted extremely rare
b) Is due exceptionally to rupture of pus on the dorsal surface of hand
c) Is noted in most cases
d) Is due to features of lymph drainage
e) Appears early as a result of friable structure of the subcutaneous tissue

427. CS. Clapp incision is used in the treatment of:
a) Cutaneous panaritium
b) Tendinous panaritium
c) Paronychia
d) Subungual panaritium
e) Osseous (bony) panaritium

428. CS. Why the weight deficit is dangerous in surgical patients?
a) In these patients can not be performed the surgical interventions of large volume
b) Weight deficit does not represent any danger in surgical patients  
c) In these patients is unacceptable additional weight loss associated with surgery  
d) Postoperative complications and mortality are significantly increased in these patients  
e) Weight deficit is a favorable factor, because facilitates the technical aspects of surgical operation  

429. CM. What are the main causes of malnutrition in surgical patients? 
a) Interruption of normal food intake during the preoperative diagnostic tests  
b) A pathological process itself, that affects the patient  
c) Administration of antibiotics, which reduce nutrient absorption  
d) Depressed state and loss of appetite in patients, who are awaiting surgery  
e) Restriction of food intake after majority of the surgical procedures  

430. CM. What signs of malnutrition may be detected at inspection of the patient’s skin? 
a) Decreasing of elasticity  
b) Bullae, filled with transparent fluid  
c) Rash  
d) Hyperemia  
e) Malignant melanoma  

431. CM. What signs of malnutrition may be detected on examination of the patient’s extremities? 
a) Decreased arterial pulse  
b) Reducing of muscle size and strength  
c) Symmetrical pedal edema  
d) Hyperemia  
e) Tenderness on palpation  

432. CS. What signs of malnutrition may be detected at inspection of the patient’s nails? 
a) Ingrown nail  
b) Frailty and deformities  
c) "Hour glasses" type  
d) Loss of nails  
e) Paronychia  

433. CM. What signs of malnutrition may be detected on examination of the patient’s eyes? 
a) Exophthalmos  
b) Subcorneal hematoma  
c) Keratoconjunctivitis  
d) Impairment of vision  
e) Cataracts  

434. CS. What signs of malnutrition may be detected at inspection of the patient’s tongue? 
a) “Geographic” tongue  
b) Leukoplakia of the tongue  
c) Dry tongue with a dirty coating  
d) Fissures on the surface of tongue
e) Brightly red tongue, with prominent papillas (glossitis)

435. CS. Which from laboratory parameters is most closely correlates with the body protein deficiency?
   a) Serum albumin
   b) Serum prothrombin
   c) Serum globulin
   d) Blood protein
   e) Lymphocyte count in blood

436. CM. What methods of the nutritional status assessment are related to anthropometrics?
   a) Total (absolute) lymphocyte count in blood
   b) Evaluation of dietary history
   c) Correlation between the thickness of the triceps skin fold and the mid-arm muscle circumference
   d) Calculation of body weight deficit
   e) Calculation of body mass index

437. CM. For estimation of body weight loss the following indicators can be used:
   a) Insufficient body weight
   b) Usual body weight
   c) Actual body weight
   d) Desirable body weight
   e) Ideal body weight

438. CS. The calculation of the body mass index is done using following formula:
   a) % lymphocytes x WBC / 100
   b) Weight (kg) / height (m²)
   c) Actual weight (100) / ideal weight
   d) 48.1 kg for height 152 cm plus 1.1 kg for every 1 cm over 152 cm
   e) Weight (g) / height (cm²)

439. CS. What values of the body mass index are corresponding to normal weight?
   a) 18.5-24.9
   b) 25.0-29.9
   c) 30.0-34.9
   d) 35.0-39.9
   e) 40 and more

440. CS. What values of the body mass index are corresponding to morbid obesity?
   a) 18.5-24.9
   b) 25.0-29.9
   c) 30.0-34.9
   d) 35.0-39.9
   e) 40 and more
441. CS. Calculation of correlation between the thickness of the triceps skin fold and the mid-arm muscle circumference is used to estimate:
   a) Reserves of trace elements in the body
   b) Reserves of protein in the body
   c) Reserves of carbohydrates in the body
   d) Reserves of fat in the body
   e) Reserves of vitamins in the body

442. CS. For what patients the enteral feeding is indicated?
   a) Who have functional digestive tract, but unable sustain an adequate oral intake
   b) Who have upper entero-cutaneous fistulas
   c) Who have intestinal obstruction
   d) Who have upper gastrointestinal bleeding
   e) Who have severe diarrhea

443. CM. For what patients the enteral feeding is contraindicated?
   a) Who have gastrointestinal bleeding
   b) Who have severe diarrhea
   c) Who have functional digestive tract, but unable sustain an adequate oral intake
   d) Who have upper entero-cutaneous fistulas
   e) Who have intestinal obstruction

444. CS. Energy value of the standard solutions for enteral feeding is:
   a) 5 kcal/mL
   b) 10 kcal/mL
   c) 0.5 kcal/mL
   d) 3 kcal/mL
   e) 1 kcal/mL

445. CM. What enteral feeding solutions (formulas) are available?
   a) Modular formulas
   b) Caloric enteral diets
   c) Standard enteral diets
   d) Blenderized tube feeding enteral diets
   e) Chemically defined formulas (elemental diets)

446. CS. What enteral feeding solutions are prepared from conventional food that can be mixed?
   a) Blenderized tube feeding enteral diets
   b) Modular formulas
   c) Standard enteral diets
   d) Caloric enteral diets
   e) Chemically defined formulas (elemental diets)

447. CS. What enteral feeding solutions are prepared for administration in specific clinical situations (pulmonary, renal or hepatic failure, immune dysfunction)?
   a) Chemically defined formulas (elemental diets)
b) Blenderized tube feeding enteral diets  
c) Standard enteral diets  
d) Caloric enteral diets  
e) Modular formulas  

448. CS. What enteral feeding solutions contain protein in the form of free amino acids?  
a) Caloric enteral diets  
b) Chemically defined formulas (elemental diets)  
c) Standard enteral diets  
d) Blenderized tube feeding enteral diets  
e) Modular formulas  

449. CM. What protocols of enteral feeding are used?  
a) Continuous infusion  
b) Partial feeding  
c) Bolus (fractional) feeding  
d) Mechanical feeding  
e) Total feeding  

450. CM. What complications are characteristics for enteral nutrition?  
a) Metabolic  
b) Diarrhea  
c) Mechanical  
d) Infectious  
e) Tracheobronchial aspiration  

451. CS. To which group of enteral nutrition complications refers hyperglycemia?  
a) Mechanical  
b) Laboratory  
c) Chemical  
d) Infectious  
e) Metabolic  

452. CM. For what patients the parenteral nutrition is indicated?  
a) After a massive bowel resection  
b) With diabetes  
c) In early postoperative period after partial gastrectomy  
d) In early postoperative period after hemorrhoidectomy  
e) In neurological coma  

453. CM. What are the types of parenteral nutrition?  
a) Continuous  
b) Partial  
c) Bolus (fractional)  
d) Mechanical  
e) Total
454. CS. How should be administered solutions for parenteral nutrition?
   a) Via nasogastric tube
   b) Via gastrostomy
   c) Intravenous
   d) Intra-arterial
   e) Intramuscular

455. CM. What complications of total parenteral nutrition are distinguished?
   a) Mechanical
   b) Chemical
   c) Combined
   d) Metabolic
   e) Infectious

456. CM. What complications are typical for morbid obesity?
   a) Systemic hypertension
   b) Type II diabetes
   c) Osteomyelitis
   d) Joint diseases
   e) Cholelithiasis

457. CM. What complications are characteristics for morbid obesity?
   a) Fat induced liver diseases
   b) Thromboembolic disorders
   c) Psychosocial problems
   d) Endocrine dysfunction
   e) Peptic ulcer disease

458. CS. What is the common principle of gastroplasty in surgical treatment of morbid obesity?
   a) To create an anastomosis of proximal jejunum to terminal ileum
   b) Endoscopic installing of a special balloon into the stomach in order to decrease its volume
   c) Administration of special reducing diets
   d) To create a small (30-50 mL) proximal pouch across the proximal stomach and a small (1 cm) channel for the passage of food
   e) To create an oesophago-intestinal anastomosis with excluding of the stomach from the passage of food

459. CM. The local manifestations of wounds are following:
   a) Bleeding
   b) Pain
   c) Damage of inner organs
   d) Dehiscence
   e) Shock
460. CS. Why damage of the liver in blunt abdominal trauma should be considered as rupture, rather than wound?
   a) Because there is no pain
   b) **Because there is no breakup of cover tissues**
   c) Because there is no acute anemia and shock
   d) Because there is no functional disturbance of damaged organ
   e) Because there is no bleeding

461. CS. What is the main clinical symptom, which distinguish wound from contusion?
   a) Presence of bleeding
   b) Occurs due to external mechanical impact
   c) Pain at the site of injury
   d) Functional disturbances of damaged organ
   e) **Defect of cover tissues**

462. CM. What causes a pain in the wound?
   a) **By direct irritation of the nerve endings**
   b) By ischemia of damaged zone with thrombosis of small blood vessels
   c) By palsy of nerve endings due to development of tissue acidosis
   d) By compression of the nerve endings due to edema
   e) By rapid development of local inflammatory reaction

463. CM. Severity of pain in wound depends on the following factors:
   a) **Duration of injure**
   b) Intensity of bleeding
   c) **Number of nerve endings in the tissues of damaged zone**
   d) Acuteness of traumatic agent
   e) Power of immune response

464. CM. Intensity of bleeding from a wound is determined by:
   a) **Status of systemic hemodynamics**
   b) Speed of damage
   c) Depth of wound
   d) **Status of coagulation system**
   e) Diameter and type (arterial or venous) of damaged vessel

465. CM. What factors are caused the degree of wound edges dehiscence?
   a) Time passed since injury
   b) Speed of damage
   c) Grade of contamination of traumatic agent
   d) **Relationship between direction of wound and the lines of Langer**
   e) **Size and depth of the wound**

466. CM. What factors are caused the general clinical manifestations of the wounds?
   a) Degree of wound edges dehiscence
   b) Acuteness of traumatic agent
c) Development of inflammatory processes
d) Direct injury of nerve endings
e) Anemia and shock

467. CM. What wounds are considered to be intentional?
a) Criminal  
b) Battle  
c) Accidental  
d) Industrial  
e) Surgical

468. CM. What wounds are distinguished depending on the nature of traumatic agent?
a) Chopped  
b) Lacerated  
c) Cut  
d) Gunshot  
e) Accidental

469. CS. What kind of damage does not refer to classification of wounds by the nature of traumatic agent?
a) Industrial wound  
b) Stub wound  
c) Lacerated wound  
d) Bite wound  
e) Contusioned wound

470. CS. To what type of wounds according to the nature of traumatic agent should be attributed a surgical incision?
a) Industrial wound  
b) Stub wound  
c) Compound wound  
d) Cut wound  
e) Accidental wound

471. CM. Specify the clinical features of stab wounds.
a) Dehiscence of wound borders is significant  
b) High risk of injury of inner structures  
c) Dehiscence of wound borders is not significant  
d) External bleeding is not major  
e) Occurs in animal bites

472. CS. What is the mechanism of contusioned wound?
a) Formed by action of a massive sharp object  
b) Formed by action of a massive blunt object  
c) Formed by gunshot injury  
d) Formed due to bites of a large animals
e) Formed by action of a pointed object

473. CS. Specify the type of wounds, which is the most contaminated.
   a) Chopped wound
   b) Stab wound
   c) Contusioned wound
   d) Cut wound
   e) Bite wound

474. CM. Specify clinical features of the bite wounds.
   a) Danger of rabies development
   b) High risk of development of banal or anaerobe infection
   c) Danger of inner organs damage
   d) Presence of three zones of tissue alteration
   e) Small zone of tissue alteration

475. CM. According to classification by grade of contamination, wounds are divided into:
   a) Contaminated
   b) Aseptic
   c) Necrotic
   d) Putrid
   e) Purulent

476. CS. Which wound is considered as a contaminated?
   a) A surgical wound, if during the operation is opened bowel lumen
   b) Every accidental wound
   c) A wound, in which concentration of microorganisms more than $10^3 (1.000)$ on 1 gram of tissue
   d) A wound, in which the purulent process is already developed
   e) A wound, in which concentration of microorganisms more than $10^6 (100.000)$ on 1 gram of tissue

477. CS. It is known that purulent process in the wound develops when the concentration of microorganisms more than:
   a) $10^5 (100.000)$ of microorganisms on 1 gram of tissue
   b) $10^4 (10.000)$ of microorganisms on 1 gram of tissue
   c) $10^3 (1.000)$ of microorganisms on 1 gram of tissue
   d) $10^2 (100)$ of microorganisms on 1 gram of tissue
   e) $10^1 (10)$ of microorganisms on 1 gram of tissue

478. CM. What factors contribute to the development of infection in the wound?
   a) Presence in wound of blood clots and devitalized tissues
   b) Decreasing of human response to infection (anemia, shock, immunosuppression, diabetes)
   c) Ischemia of damaged zone
   d) High grade of bacterial contamination
e) Significant dehiscence of wound borders

479. CM. What wounds of the abdomen should be considered as penetrating?
   a) Wounds, associated with injury of skin, subcutaneous adipose tissues, aponeurosis, parietal peritoneum, and bowel
   b) Wounds, associated with injury of skin and subcutaneous adipose tissues
   c) Wounds, associated with injury of skin, subcutaneous adipose tissues, and aponeurosis
   d) Wounds, associated with injury of skin, subcutaneous adipose tissues, aponeurosis, and muscles of the anterior abdominal wall
   e) Wounds, associated with injury of skin, subcutaneous adipose tissues, aponeurosis, muscles of the anterior abdominal wall, and parietal peritoneum

480. CM. What zones of tissue alteration are distinguished in gunshot wounds?
   a) Zone of primary traumatic necrosis
   b) Zone of traumatic edema
   c) Wound channel
   d) Zone of molecular concussion
   e) Zone of tertiary necrosis

481. CS. What characterizes a zone of molecular concussion in gunshot wounds?
   a) By traumatic necrosis arising due to direct action of the projectile kinetic energy
   b) By penetration and rapid development of infection in the wound channel
   c) By heterogeneous tissue edema along the wound channel
   d) By affected tissue metabolisms and damaged cellular structures
   e) By complicated anatomical character of gunshot wound channel

482. CM. What features differentiate the gunshot wound?
   a) Presence of three zones of tissue alteration
   b) Heals by primary wound healing
   c) Complicated anatomical character of wound channel
   d) High grade of contamination
   e) Primary surgical processing of wound is finished by placement of sutures

483. CM. What characterizes the composite (through-out) gunshot wound?
   a) Has only incoming hole
   b) Only part of kinetic energy of bullet passes into energy of tissue destruction
   c) Has an incoming and outcoming holes
   d) Whole kinetic energy of bullet passes into energy of tissue destruction
   e) Only superficial tissues are damaged with no penetration inside of body

484. CM. What characterizes the blind gunshot wound?
   a) Only superficial tissues are damaged with no penetration inside of body
   b) Has only incoming hole
   c) Has an incoming and outcoming holes
   d) Whole kinetic energy of bullet passes into energy of tissue destruction
e) Only part of kinetic energy of bullet passes into energy of tissue destruction

485. CM. What characterizes the tangential gunshot wound?
   a) Only superficial tissues are damaged with no penetration inside of body
   b) Has only incoming hole
   c) Has an incoming and outcoming holes
   d) Whole kinetic energy of bullet passes into energy of tissue destruction
   e) Does not associated with damage of inner organs and structures

486. CM. The following phases of wound healing process are distinguished:
   a) Secondary wound healing
   b) Epithelization and reorganization of scar
   c) Proliferation
   d) Primary wound healing
   e) Inflammation

487. CS. What phase of wound healing process includes the period of angiogenesis and the period of wound cleaning?
   a) A phase of secondary wound healing
   b) A phase of epithelization and reorganization of scar
   c) A phase of proliferation
   d) A phase of primary wound healing
   e) A phase of inflammation

488. CS. What is the approximate duration of first phase of wound healing process (phase of inflammation)?
   a) 6-14 days
   b) 1-2 days
   c) Over 1 month
   d) 1-5 days
   e) 14-21 days

489. CS. Which from the following phenomenon does not refer to the first phase of wound healing process (phase of inflammation)?
   a) Short-term vasoconstriction, which subsequently replace with prolonged vasodilatation
   b) Thrombosis of capillaries and small veins
   c) Tissue acidosis
   d) Proliferation of granulation tissue
   e) Migration of liquid in extracellular space and tissue edema

490. CM. What cells possess a main role in the first phase of wound healing process (phase of inflammation)?
   a) Lymphocytes
   b) Fibroblasts
   c) Macrophages
d) Neutrophils  
e) Erythrocytes

491. CS. What role has polymorphonuclear neutrophils in the first phase of wound healing process (phase of inflammation)?  
a) Phagocytosis of microorganisms and necrotic masses  
b) Realization of immune response  
c) Release of proteolytic enzymes  
d) Synthesis of collagen  
e) Release of prostaglandins and interleukins

492. CS. What role has macrophages in the first phase of wound healing process (phase of inflammation)?  
a) Realization of immune response  
b) Cross-linking of collagen  
c) Release of proteolytic enzymes and phagocytosis of necrotic tissues  
d) Synthesis of collagen  
e) Release of prostaglandins and interleukins

493. CS. What role has lymphocytes in the first phase of wound healing process (phase of inflammation)?  
a) Phagocytosis of microorganisms and necrotic masses  
b) Realization of immune response  
c) Release of proteolytic enzymes  
d) Synthesis of collagen  
e) Release of prostaglandins and interleukins

494. CM. Which from the following phenomenon refer to the second phase of wound healing process (phase of proliferation)?  
a) Recanalization and proliferation of blood vessels  
b) Thrombosis of capillaries and small veins  
c) Tissue acidosis  
d) Proliferation of granulation tissue  
e) Synthesis of collagen

495. CS. What cells possess a main role in the second phase of wound healing process (phase of proliferation)?  
a) Lymphocytes  
b) Fibroblasts  
c) Macrophages  
d) Neutrophils  
e) Platelets

496. CS. What is granulation tissue?  
a) Epithelial tissue, which covers wound defect  
b) Firm scar tissue
c) Necrotic tissue with high contents of microorganisms

d) Gentle connective tissue with newly formed capillaries

e) Dense clot in the wound, which is formed as a result of adhesion and aggregation of platelets and thrombosis of capillaries and small veins

497. CM. What physiological functions have a granulation tissue?

a) Wound protection from subsequent bacterial contamination

b) Hemostasis

c) Contributes to restore the integrity of skin

d) Replacement of tissue defect

e) Sequestration and rejection of necrotic masses

498. CM. What characterizes the third phase of wound healing process (phase of epithelization and reorganization of scar)?

a) Tissue acidosis

b) Decreasing of fibroblasts activity

c) Phenomenon of wound contraction

d) Cross-linking of collagen

e) Infiltration of tissues with leukocytes

499. CS. Wound epithelization begins:

a) From the middle of wound

b) From the depth of wound

c) From the edges of wound

d) From the area of wound with the best blood supply

e) Simultaneously from the entire surface of wound

500. CM. Types of wound healing include:

a) Healing under scab

b) Primary deferred wound healing

c) Secondary wound healing

d) Primary wound healing

e) Early secondary wound healing

501. CS. Uncomplicated healing of the surgical wound occurs:

a) By healing under scab

b) By secondary wound healing

c) By primary wound healing

d) By early secondary wound healing

e) By primary deferred wound healing

502. CS. Which of these wounds do not heal by secondary healing?

a) Surgical aseptic sutured wound

b) Gunshot wound

c) Bite wound

d) Purulent wound

e) Contusioned wound
503. CS. How, as usual, heal superficial wounds?
   a) By secondary wound healing
   b) By primary deferred wound healing
   c) By healing under scab.
   d) By primary wound healing
   e) By early secondary wound healing

504. CM. What complications occur in the first phase of wound healing process (phase of inflammation)?
   a) Traumatic shock
   b) Eventration
   c) Dehiscence of wound borders
   d) Formation of keloid scar
   e) Bleeding

505. CS. To local complication of wounds refers:
   a) Hemorrhagic shock
   b) Traumatic shock
   c) Sepsis
   d) Suppuration of wound
   e) Syndrome of intoxication

506. CM. What complications occur in the third phase of wound healing process (phase of epithelization and reorganization of scar)?
   a) Hemothorax
   b) Eventration
   c) Wound cachexy
   d) Wound sepsis
   e) Keloid scar

507. CM. What refers to the measures of first medical aid for wounds?
   a) Immobilization of injured extremity
   b) Primary surgical processing of the wound
   c) Application of aseptic bandage on the wound
   d) Administration of antibiotics
   e) Application of hemostatic tourniquet

508. CM. In case of cut wound of lower third of the calf with an external arterial bleeding
      first medical care should include:
   a) Application of aseptic bandage
   b) Transport immobilization
   c) Administration of analgesics
   d) Application of hemostatic tourniquet in the middle third of calf
   e) Application of hemostatic tourniquet on the hip
509. CM. How can be prevented secondary wound contamination during the first medical care?
   a) Administration of antibiotics  
b) Application of aseptic bandage  
c) Processing with antiseptic skin surrounding the wound  
d) Drainage of wound by gauze, imbibed with hypertonic saline solution  
e) Washing of wound  

510. CS. In the treatment of surgical wounds a pain is eliminated with:
   a) Sterilization of surgical field  
b) Suturing of wound  
c) Wound drainage  
d) Administration of antibiotics  
e) Anesthesia  

511. CS. In the treatment of surgical wounds a dehiscence of borders is eliminated by:
   a) Incision making along the lines of Langer  
b) Use a sharp scalpel and scissors  
c) Suturing of wound  
d) Use of retractors  
e) Very fast performing the operation  

512. CM. A primary surgical processing of contaminated wound include:
   a) Radiation of wound with ultra-violet rays  
b) Drainage of wound  
c) Excision of necrotic tissues  
d) Removal of foreign bodies from the wound  
e) Exploration of wound channel  

513. CM. What are the options for the completion of primary surgical processing of contaminated wound?
   a) Closure of the wound with free perforated skin graft  
b) Wound is left opened  
c) Placement of sutures on the wound  
d) Placement of sutures with drainage of the wound  
e) Closure of the wound with full-thickening skin graft on vascular pedicle, using microsurgical technique  

514. CM. What disadvantages are characteristics for secondary wound healing?
   a) Loss of fluid, protein and electrolytes  
b) Formation of deforming scar  
c) Inhibition of granulating tissue growth  
d) Frequent adherence of anaerobic infection  
e) Long process of healing  

515. CS. Primary sutures on the wound are placed:
a) Before formation of scar tissue
b) After formation of scar tissue
c) After development of granulating tissue
d) After cleaning of wound from necrotic tissues
e) Before development of granulating tissue

516. CS. Early secondary sutures on the wound are placed:
a) Before development of granulating tissue
b) After primary surgical processing of wound
c) After development of granulating tissue, but before formation of scar tissue
d) After excision of granulating tissue, which is developed in the wound
e) After formation of scar tissue and phenomenon of wound contraction

517. CS. Late secondary sutures on the wound are placed:
a) Before development of granulating tissue
b) After primary surgical processing of wound
c) After development of granulating tissue, but before formation of scar tissue
d) After secondary surgical processing of wound
e) After formation of scar tissue and phenomenon of wound contraction

518. CM. What surgical instruments are necessary for placement of early secondary sutures on the wound?
a) Forceps (pincette)
b) Needle holder and needle
c) Scalpel
d) Suture material (thread)
e) Wound retractor

519. CM. What surgical instruments are necessary for placement of late secondary sutures on the wound?
a) Forceps (pincette)
b) Needle holder and needle
c) Scalpel
d) Wound retractor
e) Suture material (thread)

520. CS. What type of suture is applied after primary surgical processing of the gunshot wound?
a) Primary suture
b) Primary deferred suture
c) Early secondary suture
d) Late secondary suture
e) Sutures are not placed

521. CM. Specify principles of surgical processing of the purulent wounds.
a) Primary sutures to the wound are not placed
b) Placement of primary sutures to the wound
c) **Excision of devitalized tissues**
d) **Excision of granulating tissue**
e) **Drainage of wound by gauze tampons**

522. CM. Specify additional physical methods of the purulent wound cleaning.
a) **Pulsatile jet with antiseptics**
b) **Use of surgical laser**
c) **Ultrasound cavitations**
d) **Treatment in controlled abacterial environment**
e) **Secondary surgical processing of wound**

523. CS. What is the purpose of local application of bandages with a hypertonic saline solution (10% solution of NaCl) in the first phase of wound healing process?
a) Causes lysis of necrotic tissue
b) **Acceleration of wound exudates outflow**
c) Protection of granulating tissue from damage
d) Stimulation of regeneration
e) Antimicrobial action

524. CM. What the advantages for the treatment of septic of wounds has a local application of hydrophilic water-soluble ointments on polyethyleneglycol basis (Levosin, Levomikol)?
a) **Their therapeutic effect lasts 20-24 hours, therefore only one dressing per day is enough.**
b) Cause lysis of necrotic tissue and accelerate the wound healing
c) **Contain in their composition antibiotics, easily passing into the wound**
d) Their osmotic activity lasts for 4-8 hours
e) **Their osmotic activity is 10-15 times higher, than that of hypertonic saline solution**

525. CS. For the early lysis and removal of necrotic tissue from the wound is used:
a) Antibiotics
b) Solution of hydrogen peroxide
c) Water-soluble ointments (Levosin, Levomikol)
d) **Proteolytic enzymes**
e) Boric acid

526. CM. What purpose has a local application of ointments in the second phase of wound healing process?
a) **To protect a granulating tissue from damage**
b) **To stimulate growth of granulating tissue**
c) To activate lysis of necrotic tissues
d) To improve outflow of exudates from the wound
e) To decrease a local pain

527. CS. For local treatment of wounds with the already formed granulating tissue is commonly used:
a) Dressing with hypertonic saline solution  
b) **Dressing with ointments.**  
c) Dressing with antibiotics  
d) Proteolytic enzymes  
e) Dressing with hydrogen peroxide solution

528. CM. In the appearance of signs of wound suppuration is necessary:  
a) Application of ice on the wound  
b) **Removal of sutures from the wound.**  
c) **Exploration of wound**  
d) **Drainage of the wound by gauze tampon, imbibed with hypertonic saline solution.**  
e) Placement of additional sutures on the wound

529. CM. To acquired deformities of the chest refer:  
a) Emphysematous chest  
b) Paralytic chest  
c) “Boat” chest  
d) “Bird chest” (pectus carinatum)  
e) Pectus excavatum

530. CM. To congenital deformities of the chest refer:  
a) “Bird chest” (pectus carinatum)  
b) Pectus excavatum  
c) Emphysematous chest  
d) Poland’s syndrome  
e) Paralytic chest

531. CS. The most common congenital deformity of the chest wall is:  
a) “Bird chest” (pectus carinatum)  
b) “Boat” chest  
c) **Pectus excavatum**  
d) Poland’s syndrome  
e) Sternal fissure

532. CS. In pectus excavatum the depression is centered most often at the:  
a) Xiphisternal junction  
b) Upper third of the sternum  
c) Manubrium of the sternum  
d) Xiphoid process of the sternum  
e) Middle third of the sternum

533. CM. What are the complaints of the patient with pectus excavatum?  
a) Cosmetic deformity  
b) **Chest pain**  
c) Cough  
d) Dyspnea
e) **Arrhythmias**

534. CS. Severity of symptoms in patients with pectus excavatum is determined by:
   a) The distance between the sternum and xiphoid process
   b) The angle between the sternum and xiphoid process
   c) The level of asymmetry with a relatively large depression of the costal cartilages on the right and turn of sternum to the right
   d) The distance between the sternum and the spine
   e) The length of depression in centimeters

535. CS. On side inspection of patient with “bird chest” (pectus carinatum) the deformity usually is maximal:
   a) Above the nipple level
   b) Below the nipple level
   c) At the level of manubrium of the sternum
   d) At the level of the second rib
   e) At the level of the xiphisternal junction

536. CS. What are the complaints of the patient with “bird chest” (pectus carinatum)?
   a) Dyspnea
   b) Chest pain
   c) Disturbances of feeding
   d) **Cosmetic deformity**
   e) Fatigue

537. CM. What forms of the sternal fissure are distinguished?
   a) **Superior sternal cleft**
   b) Middle sternal cleft
   c) Inferior sternal cleft
   d) **Complete sternal cleft**
   e) Marginal sternal cleft

538. CS. In superior sternal fissure:
   a) Determine the total cleft of sternum along its entire length, with a large divergence of the edges in the upper third
   b) The cleft is V-shaped and extends down to the level of the xiphisternal junction
   c) The cleft is U-shaped and affects only manubrium of the sternum
   d) The cleft is U- or V-shaped and extends down to the level of the fourth rib
   e) Determine the deformity and depression of the sternocostal cartilages

539. CM. What is the Poland’s syndrome?
   a) Bilateral absence or hypoplasia of the major and minor pectoralis muscles
   b) Unilateral absence or hypoplasia of the major and minor pectoralis muscles
   c) **Unilateral hypoplasia of soft fat tissue**
   d) Unilateral partial absence of the costal cartilages
   e) Unilateral hypoplasia of the breast and nipple
540. **CS. What is the Poland’s syndrome?**
   a) Congenital V-shaped defect of the sternum, which extends down to the level of the fourth rib
   b) Congenital protrusion asymmetric deformities of the sternum and costal cartilages
   c) **Congenital unilateral hypoplasia of the pectoralis muscles, soft fat tissue and breast**
   d) Acquired depression into the superior and medium part of sternum, caused by syringomielia
   e) Congenital posterior deviation of the body of sternum with depression and asymmetry of the chest

541. **CS. What characterizes the Poland’s syndrome?**
   a) Congenital unilateral absence of the ribs and pectoralis muscles
   b) Congenital bilateral hypoplasia of the pectoralis muscles, soft fat tissue and breast
   c) Congenital unilateral atrophy of the chest muscles and asymmetry of clavicles and scapulas
   d) Congenital bilateral absence of the breast and nipple in women
   e) **Congenital unilateral hypoplasia of the pectoralis muscles, soft fat tissue and breast**

542. **CM. What characterizes the “barrel” chest?**
   a) Narrowing of the intercostals spaces
   b) **In inspiratory contraction assist neck muscles**
   c) Is observed in patients with malnutrition
   d) Extension of the intercostals spaces
   e) Is observed in persons with obesity

543. **CM. What characterizes the paralytic chest?**
   a) Is observed in persons with obesity
   b) **Is observed in patients with lung tuberculosis**
   c) Is observed in patients with malnutrition
   d) **Clavicles and scapulas are situated asymmetrically**
   e) The atrophy of chest muscles is noted

544. **CS. Emphysematous chest is also called:**
   a) **Barrel chest**
   b) Cylindrical chest
   c) Bird chest
   d) Boat chest
   e) Funnel-shaped chest

545. **CS. How is performed the inspection of patient to determine the lordosis and kyphosis of spine?**
   a) Position of the patient – standing, a doctor – from behind
   b) **Position of the patient – standing, a doctor – from side**
   c) Position of the patient – standing inclined forward, a doctor – from behind
   d) Position of the patient – lying on abdomen, a doctor – from the right side
e) Position of the patient – lying on the side, a doctor – from the right side

546. CS. Concavity (anterior direction) of spine is named:
   a) Kyphosis
   b) **Lordosis**
   c) Kyphoscoliosis
   d) Scoliosis
   e) Gibbus

547. CS. Convexity (posterior direction) of spine is named:
   a) Kyphosis
   b) Lordosis
   c) Kyphoscoliosis
   d) Scoliosis
   e) Ankylosis

548. CM. Specify the physiological curvature of the spine.
   a) Cervical kyphosis
   b) Thoracic lordosis
   c) **Lumbar lordosis**
   d) Thoracic kiphosis
   e) Cervical lordosis

549. CS. Flattering of the spinal curvature (dorsum platum) is often caused by:
   a) Increasing of the abdomen during pregnancy or obesity, as a compensatory measure
   b) Osteoporosis, develops with age
   c) Protrusion of one or more vertebrae in their tuberculous lesions
   d) Rotation of the vertebrae relative to each other
   e) Muscle spasm in spinal disc herniation

550. CS. Lumbar hyperlordosis of the spine is caused by:
   a) Osteoporosis, develops with age
   b) **Increasing of the abdomen during pregnancy or obesity, as a compensatory measure**
   c) Muscle spasm in spinal disc herniation
   d) Rotation of the vertebrae relative to each other
   e) Protrusion of one or more vertebrae in their tuberculous lesions

551. CS. Thoracic hyperkyphosis of the spine is caused by:
   a) Rotation of the vertebrae relative to each other
   b) Protrusion of one or more vertebrae in their tuberculous lesions
   c) Muscle spasm in spinal disc herniation
   d) **Osteoporosis, develops with age particularly in women**
   e) Increasing of the abdomen during pregnancy or obesity, as a compensatory measure

552. CS. What is the gibbus?
   a) **Protrusion of one or more vertebrae**
b) Rotation of the vertebrae relative to each other

c) Flattening of the normal line of the spine due to herniated disc

d) Accentuation of the thoracic spine convexity due to osteoporosis

e) Accentuation of the normal lumbar lordosis

553. CM. What are the main causes of the gibbus?
   a) Muscle spasm in spinal disc herniation
   b) Vertebral body fractures
   c) Metastatic lesions of vertebrae
   d) Tuberculosis of the spine (spondylitis)
   e) Osteoporosis of spine

554. CM. Specify correct landmarks, which are identified viewing the patient with diseases of the spine from behind.
   a) On the level of lower margins of scapula is situated the spinous process of 7th cervical vertebra
   b) On the level of upper margins of scapula is situated the spinous process of 7th cervical vertebra
   c) A line drawn between the iliac crests crosses the spinal process of 2nd lombar vertebra
   d) A line drawn between the iliac crests crosses the spinal process of 4th lombar vertebra
   e) On the level of upper margins of scapula is situated the spinous process of 3rd thoracic vertebra

555. CS. How is called the lateral twist of spine?
   a) Ankylosis
   b) Scoliosis
   c) Kyphosis
   d) Lordosis
   e) Kyphoscoliosis

556. CM. How is performed the inspection of patient to determine the scoliosis?
   a) Position of the patient – standing, a doctor – from behind
   b) Position of the patient – standing, a doctor – from side
   c) Position of the patient – standing inclined forward, a doctor – from behind
   d) Position of the patient – lying on abdomen, a doctor – from the right side
   e) Position of the patient – lying on the side, a doctor – from the right side

557. CM. Which is characteristic for the lateral tilt of the spine as a result of muscle spasm?
   a) A vertical line dropped from the spinous process of 1st thoracic vertebra passes through the gluteal cleft
   b) A vertical line dropped from the spinous process of 1st thoracic vertebra falls to one side of the gluteal cleft
   c) Appears in herniated disc of spine
   d) Appears in shortening of one of the lower extremities
e) Usually occurs in children

558. CS. What are the causes of structural scoliosis?
   a) Shortening of one of the lower extremities
   b) Compression fracture of the spine
   c) Lack of vitamin D in childhood
   d) Spinal disc herniation
   e) Intercostal neuralgia

559. CS. What is the most common cause of functional scoliosis?
   a) Tuberculosis of the spine
   b) Lack of vitamin D in childhood
   c) Shortening of one of the lower extremities
   d) Metastatic lesion of spine
   e) Spinal disc herniation

560. CM. For structural scoliosis is characteristic:
   a) Rotation of the vertebrae with deformity of the chest
   b) With patient forward flexion scoliosis disappears
   c) Scoliosis is seen better when the patient flexes forward
   d) Is a compensatory measure in shortening of one of the lower limbs
   e) If to compensate short leg with orthopedic shoes – scoliosis disappears

561. CM. For functional scoliosis is characteristic:
   a) Rotation of the vertebrae with deformity of the chest
   b) With patient forward flexion scoliosis disappears
   c) Scoliosis is seen better when the patient flexes forward
   d) Is a compensatory measure in shortening of one of the lower limbs
   e) If to compensate short leg with orthopedic shoes – scoliosis disappears

562. CS. Palpation of the spine is performed:
   a) With a palm
   b) With a thumb
   c) With a index finger
   d) With all fingers of the hand, tight together
   e) With a fist

563. CM. Specify some risk factors for breast cancer in women.
   a) Late menopause
   b) Absence of pregnancy
   c) Gynecological dysfunction or pathology
   d) Increasing age
   e) Presence a tumor on patient’s mother or sisters

564. CM. Congenital anomalies of the breast are:
   a) Amastia
b) Atelia

c) Polymastia

d) Gynecomastia

e) Mastopathy

565. CM. What diseases refer to the anomalies of the breast?

a) Reclus disease

b) Polytelia, atelia

c) Polymastia, amastia

d) Macromastia (giant breast)

e) Aberrant breast

566. CM. What is true characterized polytelia?

a) Most often is situated in axillae

b) Increases during lactation

c) Glandular tissue is absent

d) Located along the “milk line”

e) Presence of one or more extra breasts with small nipple and areola

567. CM. What is characteristic for aberrant breast?

a) Most often is situated in axillae

b) Increases during lactation

c) Glandular tissue is absent

d) Consists from functional glandular tissue

e) Located along the “milk line”

568. CM. Inspection of the breast is performed in following positions of patient:

a) Lying on back, with raised arms

b) Lateral to doctor, with her arms at her sides

c) Face to doctor, with pressed hands against her hips

d) Face to doctor, with her arms at her sides

e) Face to doctor, with raised arms

569. CS. When better to perform prophylactic physical examination of the breast?

a) Just before menses

b) 1-2 week after menses

c) Immediately after menses

d) 1 week before menses

e) It does not important

570. CS. The correct sequence in examination of the breast is following:

a) First, examine the patient in sitting position with her arms raised over her head, then – with her arms at her sides, and then – with her hands pressed against her hips

b) First, examine the patient in sitting position with her hands pressed against her hips, then – with her arms raised over her head, and then – with her arms at her sides
c) First, examine the patient in sitting position with her arms at her sides, then – with her arms raised over her head, and then – with her hands pressed against her hips.

d) First, examine the patient in sitting position with her hands pressed against her hips, then – with her arms raised over her head, and then – with her arms at her sides.

e) First, examine the patient in lying position with her arms at her sides, then – with her arms raised over her head, and then – with her hands pressed against her hips.

571. CM. What signs can be noted during visual inspection of the breast?
   a) König’s sign
   b) “Orange peel” sign
   c) Rashes or ulceration of areola and nipple
   d) Skin dimpling and nipple retraction
   e) Skin color

572. CM. On inspection of the breast that is affected by inflammatory process, is noted:
   a) Increased volume of the breast
   b) Redness (hyperemia) of the skin
   c) Cyanosis of the skin
   d) Tuberosity of the skin
   e) Retraction of nipple

573. CS. A unilateral nipple retraction is usually a sign of:
   a) Adenocarcinoma of the breast
   b) Congenital abnormality
   c) Acute mastitis
   d) Fibroadenoma (benign tumor) of the breast
   e) Intraductal papilloma

574. CM. For adenocarcinoma of the breast are characteristics:
   a) “Orange peel” sign
   b) Bloody discharge from the nipple
   c) Fluctuations
   d) Skin dimpling and nipple retraction
   e) Serous discharge from the nipple

575. CS. What should be suspected if the areola and nipple are covered with an erosions and crusts?
   a) Poland’s syndrome
   b) Paget’s disease
   c) Acute lactational mastitis
   d) Reclus disease
   e) Nonpuerperal galactorrhea

576. CS. Postpartum mastitis is also called:
   a) Maternal
   b) Nonpuerperal
c) Lactational  
d) Primary  
e) Secondary  

577. CS. Palpation of the breast is done in lying position of patient with her arm rested over her head with all fingers flat on the breast; compress the tissue gently in a rotary motion against the chest wall. This technique is called:  
a) First moment of König’s sign  
b) Second moment of König’s sign  
c) Method of Velpeau  
d) Third moment of König’s sign  
e) Fourth moment of König’s sign  

578. CM. Palpation of the breast by method of Velpeau is performed according to following rules:  
a) Patient sits or stands with her arms down at her sides  
b) Palpation is performed with all fingers flat on the breast  
c) Patient in lying position with her arm rested over her head  
d) The breast tissue is compressed between two hands, which facilitates the identification of masses  
e) Palpation is performed compressing the tissue in a rotary motion against the chest wall  

579. CM. What are the purposes of palpation of the breast?  
a) To identify “orange peel” sign  
b) To establish tenderness  
c) To estimate the consistency of tissue  
d) To detect a mass  
e) To detect hyperemia of the skin  

580. CM. What are the purposes of palpation of the breast?  
a) To identify the size and symmetry of the breasts  
b) To identify “orange peel” sign  
c) To estimate the consistency of tissue  
d) To establish changes of the breast contour  
e) To detect a subareolar nodules  

581. CS. What pathological symptom can be established both at inspection and palpation of the breast?  
a) Mobility of mass  
b) Eczema-like lesion of areola  
c) Skin dimpling  
d) Flattering of the breast contour  
e) Impairment of the normal consistency of tissue  

582. CM. Specify the synonyms of term “mastopathy”.  

a) Cyst disease
b) Mastodynia
c) Schimmelbuch disease
d) Reclus disease
e) Paget’s disease

583. CM. The clinical picture of mastopathy includes the following symptoms:
   a) More often located in the lateral regions of the breast
   b) Palpation reveals a nodular consistency of the breast
   c) Pain in the breast has a periodical character and increases until 5-7 days before menses
   d) Pain in the breast has a permanent character, disappearing only during menses
   e) Palpation reveals a multiple fluid collections, poor delimited with each other

584. CS. In case of mastopathy in mammary gland is occurred:
   a) Formation of scar tissue and deformation of the breast contour
   b) Inflammatory tissue reaction, which has a continuous and progressive character
   c) Increased lactic secretion, which is stagnated in the milk ducts
   d) Growth of firm connective tissue in the form of streaks
   e) Appearance of cysts filled with transparent fluid

585. CS. What is the symptom of mastopathy, when palpable mass in upper right position disappears in repeated palpation in lying position?
   a) Velpeau sign
   b) König sign
c) Paget sign
d) Schimmelbuch sign
e) Reclus sign

586. CS. How are called the sectors, in which mammary gland is divided conventionally?
   a) Regions
   b) Segments
c) Zones
d) Quadrants
e) Departments

587. CM. Which characteristics are obligatory in description of the palpable breast mass?
   a) Unusually prominent skin pores
   b) **Shape**
c) Tenderness
d) **Number of nodules (masses)**
e) Delimitation in relationship to surrounding tissues

588. CM. Which characteristics are obligatory in description of the palpable breast mass?
   a) Location
   b) Consistency
c) **Mobility**
d) Defect of filling
e) Size in centimeters

589. CS. Tumor of the breast is attached to the ribs and intercostals muscles, if on palpation:
a) Mass is mobile with respect to surrounding tissues, but is fixed in relation to skin
b) Mobile mass becomes fixed when the patient presses her hand against her hip
c) Mass is mobile on palpation in lying and upright position of patient
d) Mass remains immobile even with relaxed pectoralis muscles
e) Become more evident the signs of skin retraction

590. CS. Tumor of the breast is attached to the pectoral fascia, if on palpation:
a) Mass is mobile with respect to surrounding tissues, but is fixed in relation to skin
b) Mobile mass becomes fixed when the patient presses her hand against her hip
c) Mass is mobile on palpation in lying and upright position of patient
d) Mass remains immobile even with relaxed pectoralis muscles
e) Become more evident the signs of skin retraction

591. CS. Sometimes palpation of the breast may detect a mass with its usual subareolar location, which is called:
a) Benign fibroadenoma
b) Adenocarcinoma
c) Fibro-cystic mastopathy
d) Paget’s disease
e) **Intraductal papilloma**

592. CM. A nonpuerperal galactorrhea is characterized by the following features:
a) Associated with hormonal disorders
b) Cystic extension of the milk ducts with surrounding inflammatory reaction
c) Milky discharge from the nipple, persisting for long periods after normal lactation
d) Represents a malignant process
e) Milky discharge from the nipple unrelated to a prior pregnancy or lactation

593. CM. With the presence of bloody discharge from the nipples should be suspected:
a) Gangrenous form of mastitis
b) **Intraductal papilloma**
c) Malignant tumor
d) Benign fibroadenoma
e) Fibro-cystic mastopathy

594. CS. The central axillary lymph nodes are located:
a) Along the lateral border of the scapula and is felt deep in the posterior axillary fold
b) Along and posteriorly the border of the pectoralis major muscle
c) In infraclavicular region from the same side
d) Along the upper humerus
e) In the axillae and midway between the anterior and posterior axillary folds

595. CM. Rules of the breast self examination are the following:
   a) For women in menopause should be performed monthly.
   b) Should include a systematic description of masses and nodules
   c) In women of childbearing age is best done immediately after menstruation
   d) Should include observation in a mirror
   e) Should include palpation in both upright and supine positions

596. CS. A pathological enlargement of the breast in men is called:
   a) Mastopathy
   b) Macromastia (giant breast)
   c) Asymmetry of the breast
   d) Gynecomastia
   e) Fibroadenomathosis of the breast

597. CS. What is gynecomastia?
   a) Reduction of the breast in men
   b) Enlargement of the breast in men
   c) Absence of the breast in men
   d) Presence of the additional breast in men
   e) Presence of additional nipple and areola in men

598. CM. The main causes of gynecomastia are following:
   a) Klinefelter syndrome
   b) Obesity
   c) Pharmacologic
   d) Idiopathic
   e) Liver failure

599. CS. The method of choice for treatment of idiopathic gynecomastia is:
   a) Diet therapy (correction of obesity)
   b) Radiation therapy
   c) Chemotherapy
   d) Hormone therapy
   e) Surgical removal

600. CM. Breast cancer in men:
   a) Is a genetically conditioned disease
   b) Develops from rudimentary ductal elements
   c) Develops in the presence of hormonal disorders
   d) Develops from the glandular tissue
   e) Develops because of liver failure

601. CM. Symptoms of breast cancer in men are following:
   a) Fluctuation
b) Retraction of the nipple and skin

c) History of surgery for gynecomastia

d) Tumor of the areola or nipple

e) Discharge from the nipple ulceration

602. CS. The term “acute abdomen” is:

a) Symptom

b) Final diagnosis

c) Syndrome

d) Postoperative diagnosis

e) All of the above are correct

603. CM. The diagnosis of “acute abdomen” is:

a) An indication for urgent surgery

b) An indication for admission in therapeutic department

c) An indication for consultation of surgeon

d) A reason for use of additional diagnostic measures

e) A reason for discharge of patients from hospital

604. CS. What description is not true?

a) “Acute abdomen” - a general term, meaning that patient has a severe abdominal pain

b) “Acute abdomen” - is a syndrome and at the same time - a preliminary diagnosis

c) “Acute abdomen” means the need for prompt diagnosis

d) “Acute abdomen” means the invariable need for surgery

e) “Acute abdomen” means the need for early treatment

605. CM. Which from the disease, given rise to the symptoms of “acute abdomen” have an inflammatory nature?

a) Acute appendicitis

b) Strangulated hernia

c) Acute pancreatitis

d) Ruptured tubal gestation

e) Perforated ulcer

606. CM. Which from the disease, causing the clinical picture of “acute abdomen”, not related to inflammatory?

a) Acute cholecystitis

b) Strangulated hernia

c) Acute pancreatitis

d) Thrombosis of mesenterial vessels

e) Acute appendicitis

607. CM. What diseases are accompanied by perforation of a hollow organ into the peritoneal cavity?

a) Spontaneous rupture of abdominal esophagus

b) Duodenal perforated ulcer
c) Thrombosis of mesenterial vessels  
d) Ruptured tubal gestation  
e) Penetrated injury of small bowel

608. CM. Which from these conditions do not refer to perforation of hollow organ into the peritoneal cavity?
   a) Pathological communication between the stomach and colon  
   b) Pathological communication between the stomach and abdominal cavity  
   c) Pathological communication between the duodenum and retroperitoneal space  
   d) Pathological communication between the urinary bladder and abdominal cavity  
   e) Bleeding from gastric ulcer

609. CM. Which from the disease, causing the clinical picture of “acute abdomen”, are related to the syndrome of “acute intestinal obstruction”?
   a) Small bowel obstruction due to adhesions  
   b) Strangulated hernia  
   c) Intussusception  
   d) Pyloroduodenal stenosis due to peptic ulcer  
   e) Volvulus of sigmoid colon

610. CM. Which diseases are accompanied by intraperitoneal hemorrhage?
   a) Gastric ulcer bleeding  
   b) Ruptured aortic aneurysm  
   c) Ruptured tubal gestation  
   d) Uterine bleeding  
   e) Traumatic rupture of spleen

611. CM. Which diseases are not accompanied by intraperitoneal hemorrhage?
   a) Gastric ulcer bleeding  
   b) Ruptured aortic aneurysm  
   c) Ruptured tubal gestation  
   d) Uterine bleeding  
   e) Traumatic rupture of spleen

612. CM. Which extraabdominal diseases can cause a clinical picture of “acute abdomen”?
   a) Coarctation of aorta  
   b) Pneumonia  
   c) Systemic vasculitis  
   d) Non-compensated diabetes mellitus  
   e) Alimentary tract infections

613. CS. Which from diseases usually develops in children?
   a) Perforated ulcer  
   b) Cancerous large bowel obstruction  
   c) Acute pancreatitis  
   d) Ruptured tubal gestation
614. CS. Which from diseases is typical for patients older than 60 years?
   a) Cancerous large bowel obstruction
   b) Ruptured tubal gestation
   c) Acute pancreatitis
   d) Intussusception
   e) Perforated ulcer

615. CM. Which diseases are characteristic for patients of middle age?
   a) Acute pancreatitis
   b) Cancerous large bowel obstruction
   c) Perforated ulcer
   d) Ruptured tubal gestation
   e) Intussusception

616. CS. Which diseases are characteristic for patients of middle age?
   a) Acute appendicitis, acute cholecystitis, intussusception
   b) Cancerous large bowel obstruction, acute appendicitis, adnexitis
   c) Strangulated hemia, perforated ulcer, cancerous large bowel obstruction
   d) Ruptured Graafian follicle, intussusception, ruptured tubal gestation
   e) Perforated ulcer, acute pancreatitis, ruptured tubal gestation

617. CS. In visceral pain an irritation from the gastrointestinal organs is distributed by:
   a) Parasympathetic nerve fibers
   b) Perilymphatic nerve plexus
   c) Parasympathetic and sympathetic nerve fibers
   d) Perivenous nerve plexus
   e) Celiac nerve fibers

618. CS. In somatic pain an irritation from the gastrointestinal organs is distributed by:
   a) Parasympathetic and sympathetic nerve fibers
   b) Parasympathetic nerve fibers
   c) Perivenous nerve plexus
   d) Perilymphatic nerve plexus
   e) Sympathetic nerve fibers

619. CM. What characterizes the visceral pain in “acute abdomen”?
   a) Is the result of distention or spasm of organ
   b) Is arising from the parietal peritoneum
   c) Has a diffuse character
   d) Can be accurately localized by patient
   e) Can not be accurately localized by patient

620. CM. What is the character of visceral pain in “acute abdomen”?
   a) Is diffuse
b) Felt by patients in the form of compression, cramps and colic

c) Is intensive and continuous
d) Is strictly limited and localized
e) Increases with movements

621. CM. What characterizes the somatic pain in “acute abdomen”?
   a) Has an intensive and continuous character
   b) Is arising from the parietal peritoneum
   c) Is arising from the gastrointestinal organs
   d) Is the result of distention or spasm of organ
   e) Is strictly limited and localized

622. CM. What is the character of somatic pain in “acute abdomen”?
   a) Increases with movements
   b) Felt by patients in the form of pressure, cramps and colic
   c) Is strictly limited and localized
   d) Is diffuse
   e) Is intensive and continuous

623. CM. In which cases the abdominal pain has a visceral nature?
   a) Blumberg symptom
   b) Kocher’s symptom
   c) Acute cholecystitis with local peritonitis
   d) Renal colic
   e) Biliary colic

624. CS. For descriptive purposes the abdomen is divided into:
   a) 2 parts, 6 regions
   b) 3 parts, 9 regions
   c) 3 parts, 6 regions
   d) 2 parts, 9 regions
   e) 3 parts, 3 regions

625. CM. Epigastric part of abdomen includes:
   a) Epigastric region itself
   b) Right hypochondrium
   c) Left hypochondrium
   d) Periumbilical region
   e) Right iliac region

626. CM. Mezogastric part of abdomen includes:
   a) Suprapubic region
   b) Right flank
   c) Left flank
   d) Periumbilical region
   e) Iliac region
627. CM. Hypogastric part of abdomen includes:
   a) Epigastric region itself
   b) Suprapubic region
   c) Periumbilical region
   d) Left iliac region
   e) Right iliac region

628. CM. In which abdominal disease patients may indicate the exact time of onset up to a minute?
   a) Acute appendicitis
   b) Bowel obstruction
   c) Perforated ulcer
   d) Ruptured tubal gestation
   e) Acute adnexitis

629. CM. For which diseases are characteristic a gradual increase in the intensity of abdominal pain?
   a) Rupture of the abdominal aortic aneurysm
   b) Acute appendicitis
   c) Perforated ulcer
   d) Cancerous intestinal obstruction
   e) Acute adnexitis

630. CS. The beginning of what diseases is usually developed after weightlifting or abrupt change of body position?
   a) Rupture of the abdominal aortic aneurysm
   b) Cancerous intestinal obstruction
   c) Perforated ulcer
   d) Strangulated hernia
   e) Ruptured spleen

631. CM. What variants of pain are typical for acute abdominal surgical diseases?
   a) “Knife-like” pain
   b) Constant and progressive pain
   c) Nighttime pain
   d) Gripping pain
   e) Episodic pain

632. CS. What disease is accompanied by a “knife-like” pain in the abdomen?
   a) Invasion of parenchymatous organ tumor into the surrounding tissue
   b) Perforated gastric ulcer
   c) Thrombosis of mesenterial arteries
   d) Necrotic process in the abdominal cavity
   e) Severe alimentary tract infection
633. CM. Where initially is localized abdominal pain caused by disorders of the small intestine?
   a) In epigastric area
   b) In the right hypochondrium
   c) In suprapubic region
   d) In periumbilical area
   e) In inguinal zone

634. CS. Shifting of pain from the epigastrium in the right iliac fossa suggests:
   a) Acute adnexitis
   b) Intestinal obstruction
   c) Acute appendicitis
   d) Strangulated hernia
   e) Acute cholecystitis

635. CS. An abdominal cramps are typical for:
   a) Pyelonephritis
   b) Acute appendicitis
   c) Acute pancreatitis
   d) Intestinal obstruction
   e) Acute adnexitis

636. CS. “Knife-like” pain in the abdomen is characteristic for:
   a) Acute appendicitis
   b) Dissecting abdominal aortic aneurysm
   c) Intestinal obstruction
   d) Acute cholecystitis
   e) Perforated ulcer

637. CS. Radiation of pain in the inferior angle of right scapula is characteristic for:
   a) Traumatic rupture of spleen
   b) Dissecting aortic abdominal aneurysm
   c) Intestinal obstruction
   d) Acute cholecystitis
   e) Perforated ulcer

638. CM. Radiation of pain to the top of shoulder on the side of lesion occurs at:
   a) Traumatic rupture of spleen
   b) Acute cholecystitis
   c) Dissecting abdominal aortic aneurysm
   d) Perforated ulcer
   e) Ruptured pyosalpinx

639. CS. “Like a belt” radiation of abdominal pain is characteristic for:
   a) Perforated ulcer
   b) Dissecting abdominal aortic aneurysm
c) Intestinal obstruction  
d) Acute cholecystitis  
e) Acute pancreatitis

640. CS. At which pathology pain intensity is so high that the patient does not find a place (restlessness)?  
  a) Perforated ulcer  
  b) Renal colic  
  c) Acute appendicitis  
  d) Intestinal obstruction  
  e) Ruptured tubal gestation

641. CM. Vomiting in patients with an “acute abdomen” is caused by:  
  a) Severe irritation of the nerves of the peritoneum and mesentery  
  b) Syndrome of increased intracranial pressure  
  c) Mechanical obstruction of intestine  
  d) Reflex mechanisms - in obstruction of an involuntary muscular tubes (biliary ducts, the ureter, the intestine, or the vermiform appendix)  
  e) External factors

642. CS. What is the character of vomiting in acute appendicitis?  
  a) Frequent and copious vomiting  
  b) Single reflex vomiting  
  c) “Feculent” vomit  
  d) Copious, with stagnant gastric contents  
  e) “Coffee grounds” contents

643. CM. In which acute abdominal surgical diseases vomiting is absent?  
  a) Acute appendicitis  
  b) Acute cholecystitis  
  c) Ruptured tubal gestation  
  d) Small bowel obstruction  
  e) Perforated gastric and duodenal ulcer

644. CM. In which acute abdominal surgical diseases vomiting is not characteristic?  
  a) Spleen rupture  
  b) Large bowel obstruction  
  c) Small bowel obstruction  
  d) Acute pancreatitis  
  e) Acute appendicitis

645. CM. Frequent and bilious vomiting is typical for:  
  a) Acute cholecystitis  
  b) Large bowel obstruction  
  c) Biliary colic  
  d) Ruptured tubal gestation
646. CS. On what illness occurs “feculent” vomit?
a) Large bowel obstruction
b) Small bowel obstruction
c) Bleeding from colon polyps
d) Acute pancreatitis
e) Pyloroduodenal stenosis due to peptic ulcer

647. CS. The absence of the passage of stool and gas is an early symptom for:
a) Large bowel obstruction
b) Small bowel obstruction
c) Advanced peritonitis
d) Acute pancreatitis
e) Ruptured tubal gestation

648. CS. Thirst in patients with “acute abdomen” is a sign of:
a) Acute anemia
b) Hypotension
c) Dysbacteriosis
d) Portal hypertension
e) Dehydration

649. CM. “Hippocratic face” in a patient with advanced peritonitis is characterized by a combination of the following symptoms:
a) Gray color of skin
b) Sunken orbits
c) Pale-cyanotic color of skin
d) Accentuated features of his face
e) Skin covered with cold sweat

650. CS. Which combination of symptoms characterizes the “Hippocratic face” in a patient with advanced peritonitis?
a) Pale color of skin, cold sweat, superficial respiration
b) Cyanotic color of skin, grimace of pain on his face, dry lips
c) Jaundice, cold sweat, edema of the face
d) Gray color of skin, restlessness, grimace of pain on his face
e) Gray color of skin, sunken orbits, accentuated features of his face

651. CS. For which diseases is characteristic the “tilting doll” symptom?
a) Ruptured spleen or liver
b) Advanced peritonitis
c) Acute pancreatitis
d) Acute intestinal strangulation
e) Ruptured tubal gestation
652. CS. When the "tilting doll" symptom is positive?
   a) Patient lies on his back, attempts to turn over a patient on his side are associated by severe pain and patient just holds previous position
   b) Patient lies on his side, attempts to turn over a patient on his back are associated by severe pain and patient just holds previous position
   c) Patient prefers to sit or stand, trying to put the patient on his back are associated by severe pain, and patient just holds previous position
   d) Patient lies on his back, the appearance of cramping abdominal pain forces patient to turn on his side
   e) Patient lies on his side, the appearance of cramping abdominal pain forces patient to turn on his back

653. CM. Symmetric distension of the abdomen usually occurs at:
   a) Large abdominal tumor
   b) Obesity
   c) Intestinal obstruction
   d) Ascites
   e) Uniform intestinal distension by gas

654. CS. Asymmetric distension of the abdomen usually occurs at:
   a) Inflammatory diseases of abdominal cavity
   b) Obesity
   c) Intestinal obstruction
   d) Ascites
   e) Alimentary tract infections

655. CS. What should be the patient's position for abdominal palpation?
   a) Lying on his side, with his arms – relaxed down along the sides of the body, and legs – extended
   b) Lying on his back, with his arms – raised above the head, and knees – slight flexed
   c) Lying on his back, with his arms – raised above the head, and legs – extended
   d) Lying on his back, with his arms – relaxed down along the sides of the body, and legs – extended
   e) Lying on his back, with his arms – relaxed down along the sides of the body, and knees – slight flexed

656. CM. What purposes have the superficial palpation of the abdomen?
   a) To determine the peritoneal signs
   b) To determine free fluid in the abdomen
   c) To determine the lower border of liver
   d) To determine the muscular rigidity
   e) To determine a site of maximum pain

657. CS. What can be determined during the superficial palpation of the abdomen?
   a) Free fluid in the abdomen and the peritoneal signs
   b) Site of maximum pain and the muscular rigidity
c) Site of maximum pain and a size of the hernial ring
d) Site of maximum pain and the peritoneal signs
e) Presence of mass and the peritoneal signs

658. CS. Palpation of the abdomen begins with:
a) Superficial palpation
b) Deep palpation
c) Determination of Blumberg’s symptom
d) Determination of muscular rigidity
  e) Detection of hernias

659. CS. From which area should begin superficial palpation of the abdomen?
a) From the left hypochondrium
b) From the right iliac fossa
c) From the epigastric area
d) From the part farthest removed from the point of maximum pain
e) From the part of maximum pain

660. CS. A muscular resistance in patients with “acute abdomen” develops due to:
a) Hydro-electrolyte imbalances
b) Status of psycho-emotional excitation
c) Irritation of parietal peritoneum
d) Irritation of parietal pleura
e) Effects of bacterial toxins on the central nervous system

661. CS. At which condition muscular resistance of the anterior abdominal wall is not characteristic?
  a) Perforated ulcer
  b) Intestinal obstruction by tumor
  c) Acute appendicitis
d) Traumatic rupture of hollow organ
e) Acute cholecystitis

662. CS. At which pathology muscular tenderness of the anterior abdominal wall is so firm, continuous and extend, that is defined as the "board-like" abdomen?
  a) Cancerous large bowel obstruction
  b) Perforated ulcer
c) Thrombosis of mesenterial vessels
d) Ruptured abdominal aortic aneurysm
e) Ruptured tubal gestation

663. CM. In which clinical situations the muscular resistance may be very slight even in the presence of serious peritonitis?
  a) In patients with severe neuro-psychiatric diseases
  b) In obese patients with fat and flabby abdominal wall
c) In patients with traumatic or hemorrhagic shock
d) In patients with severe alcohol or narcotic toxemia

e) In elderly patients

664. CS. How is determined the positive Blumberg’s symptom in case of peritonitis?

a) Percussion in studied area causes severe pain
b) Flexion of extended leg in the hip joint causes severe pain
c) Gently palpation of studied area is determined muscular resistance, which is accompanied by severe pain
d) Fingers are pressed gently and deeply into the abdominal wall over the studied area and then the pressure is suddenly withdraw, that causes severe pain
e) Fingers are pressed deeply into the abdominal wall over the studied area, that causes severe pain

665. CM. Select two correct versions of the determination of psoas-symptom, which is revealed in a retroperitoneal inflammation?

a) Percussion in lumbar region causes severe pain
b) Bimanual palpation of the lumbar region from the affected side causes severe pain
c) Flexion of extended leg in the hip joint causes severe pain
d) Patient is placed on his affected side and extension of the leg in the hip joint causes severe pain
e) Bimanual palpation of the lumbar region from the affected side causes an involuntary flexion of leg

666. CM. At which diseases of the abdominal cavity on abdominal percussion can detect diffuse dullness?

a) Acute cholecystitis
b) Acute diverticulitis
c) Acute appendicitis
d) Liver cirrhosis with ascites
e) Severe advanced peritonitis

667. CM. At which acute surgical diseases of abdominal organs can be detected a disappearance of liver dullness?

a) Large bowel obstruction
b) Acute cholecystitis with empyema of the gallbladder
c) Traumatic rupture of the liver
d) Ruptured tubal gestation
e) Perforated ulcer

668. CS. The presence of free fluid in the abdominal cavity is determined clinically by:

a) Abdominal auscultation
b) Abdominal palpation
c) Abdominal percussion
d) X-ray examination
e) Ultrasonography
669. CM. “Plash sound” on auscultation and percussion of the abdomen appears as a result of:
   a) Presence of free fluid in the abdominal cavity
   b) Decompensated stenosis of the pyloric part of the stomach
   c) Hemoperitoneum
   d) Intestinal obstruction
   e) Presence of free air in the abdominal cavity

670. CS. Peristalsis of an intestine should be heard:
   a) In mezogastric paraumbilical area
   b) In epigastric area and in the flanks of abdomen
   c) In the point, located just above the umbilicus on the left
   d) In the right and left iliac regions
   e) All of answers are correct

671. CS. Aortic bruits in abdominal aortic aneurysm should be heard in:
   a) Inguinal areas
   b) Epigastric region
   c) On the median line, extending from epigastric area to suprapubic zone
   d) Right and left iliac regions
   e) Point, located just above the umbilicus on the left

672. CS. At what condition by auscultation may be determined loud borborygmi (peristalsis)?
   a) Local peritonitis
   b) Advanced peritonitis
   c) Thrombosis of mesenterial vessels
   d) Intestinal obstruction
   e) Intraperitoneal hemorrhage

673. CS. At what disease the intestinal peristalsis on auscultation is absent?
   a) Local peritonitis
   b) Advanced peritonitis
   c) Rupture of abdominal aortic aneurysm
   d) Intestinal obstruction
   e) Decompensated liver cirrhosis with tense ascites

674. CM. What are the most likely causes of the disease in patient who had onset of pain in the abdomen accompanied by a temperature of 40-41°C?
   a) Advanced peritonitis
   b) Lung pathology
   c) Gastrointestinal bleeding
   d) Massive intraperitoneal hemorrhage
   e) Kidney disease
675. CS. What temperature is usually observed in patients with acute appendicitis at the time of addressing for medical aid?
   a) Subnormal (35-36˚C)
   b) Normal (36.4-36.6˚C)
   c) Subfebrile (37.3-37.5˚C)
   d) Febrile (38˚C)
   e) Hectic with chills (40-41˚C)

676. CS. The term “limb ischemia” signifies:
   a) Increased arterial in-flow in extremity
   b) Pathologic communication between artery and vein
   c) Decreased arterial in-flow in extremity
   d) Disturbed venous out-flow in extremity
   e) Inflammation of sciatic nerve

677. CM. Syndrome of “limb ischemia” is classified in:
   a) Acute ischemia
   b) Subacute ischemia
   c) Chronic ischemia
   d) Recurrent ischemia
   e) Transitory ischemia

678. CM. Select the possible causes for development of acute limb ischemia.
   a) Arterial trauma
   b) Occlusion of the vessel lumen with an atherosclerotic plaque
   c) Arterial embolism
   d) Arterial thrombosis
   e) Thrombophlebitis

679. CS. Specify the most frequent cause for development of chronic limb ischemia.
   a) Atherosclerosis
   b) Thrombangitis obliterans (Buerger’s disease)
   c) Nonspecific aortoarteritis (Takayasu’s disease)
   d) Arterial malformation
   e) Aneurysm of peripheral artery

680. CS. The term “arterial aneurysm” signifies:
   a) Disturbed auto-regulation of vascular tone
   b) Vascular kinks and coils
   c) Arterial narrowing
   d) Arterial dilatation by less than 50%
   e) Arterial dilatation by more than 50%

681. CM. According to cause of development arterial aneurysms are divided in:
   a) Primary
   b) Secondary
c) True
d) False
e) Combined

682. CM. Specify the typical complications of arterial aneurysms.
a) Acute limb ischemia
b) Chronic venous insufficiency
c) Abscess formation
d) Rupture and bleeding
e) Recurrent pulmonary embolism

683. CM. Indicate diseases that are manifested by syndrome of chronic venous insufficiency.
a) Phlegmasia cerulea dolens
b) Varicose veins of lower limbs
c) Acute deep vein thrombosis
d) Atherosclerosis of peripheral arteries
e) Postthrombotic disease

684. CM. Specify the pathogenic mechanisms of chronic venous insufficiency of the lower limbs.
a) Total or partial occlusion of deep veins
b) Trauma or surgical excision of superficial veins
c) Venous valves incompetence and venous reflux
d) Hemoconcentration
e) Thrombocytosis

685. CS. Limb lymphedema is classified in:
a) Primary and secondary
b) Erytematous and bullous
c) True and false
d) External and internal
e) Superficial and deep

686. CS. Patient complains to the repeated leg pain that develops during walking of some distance. Pain is severe enough to force the patient to stop walking and disappear after a short rest. What symptom described?
a) Blumberg symptom
b) Symptom of “duck walking”
c) Symptom of intermittent claudication
d) Symptom of calf muscles weakness
e) Symptom of radiculopathy

687. CS. Patient complains to the repeated leg pain that develops during walking of some distance. Pain is severe enough to force the patient to stop walking and disappear after a short rest. What syndrome should be suspected?
a) Syndrome of acute ischemia
b) Syndrome of chronic ischemia  
c) Acute venous thrombosis  
d) Chronic venous insufficiency  
e) Lymphedema

688. CM. Indicate the typical position of the patient with critical lower limb ischemia:
a) Recumbent position in the bed with one elevated limb  
b) Recumbent position in the bed with one limb lowered down on the floor  
c) Lateral position in the bed with both limbs bended to the abdomen  
d) Recumbent position in the bed with face down  
e) Sitting position in the chair

689. CM. Indicate the characteristics of a rest pain caused by chronic lower limb ischemia:
a) Pain increase in sitting position of the patient  
b) Pain awakes the patient during the nighttime  
c) Pain is resistant to analgesics  
d) Pain appears periodically  
e) Pain decrease in sitting position of the patient

690. CS. Sensorial disorders (paresthesia, hypo- or anesthesia) and motor deficit (paresis, paralysis) are characteristic for:
a) Syndrome of acute ischemia  
b) Syndrome of chronic ischemia  
c) Acute venous thrombosis  
d) Chronic venous insufficiency  
e) Lymphedema

691. CS. Symptom of “heavy legs” which develops at the end of working day and disappear after night rest is characteristic for:
a) Syndrome of acute ischemia  
b) Syndrome of chronic ischemia  
c) Acute venous thrombosis  
d) Chronic venous insufficiency  
e) Arterial aneurysm

692. CM. What data from patient’s history of life are important for diagnosis of limb ischemia?
a) Heavy smoking  
b) Atrial fibrillation  
c) Heavy work in upright position  
d) Erysipelas in the past  
e) Deep wounds localized near the big arteries

693. CS. The correct position of the patient for examination of lower limb varicose veins is:
a) Dorsal (face up) recumbent position  
b) Ventral (face down) recumbent position  
c) Lateral recumbent position
d) Sitting position  
e) Upright position

694. CM. What is characteristic for edema caused by acute limb ischemia?
   a) Edema develops immediately from the onset of disease  
   b) Edema decrease in recumbent position  
   c) **Edema involves the foot and shin only**  
   d) Edema involves whole extremity  
   e) Edema develops in the final stage of disease

695. CM. What is characteristic for edema caused by proximal (ilio-femoral) deep vein thrombosis of lower limb?
   a) Edema develops immediately from the onset of disease  
   b) Edema decrease in sitting position  
   c) Edema involves the foot and shin only  
   d) **Edema involves whole extremity**  
   e) Edema develops in the final stage of disease

696. CM. What is characteristic for edema caused by chronic venous insufficiency of lower limb?
   a) Edema develops suddenly  
   b) **Edema develops gradually**  
   c) Edema involves the hip  
   d) Edema decreases in the recumbent position  
   e) Edema is associated with severe pain

697. CM. Bürger-Ratschow symptom in case of chronic ischemia consist in:
   a) Foot hyperemia after elevation of extremity  
   b) **Foot paleness after elevation of extremity**  
   c) Foot hyperemia after lowering down of extremity  
   d) Foot paleness after lowering down of extremity  
   e) Diminished pulsation of foot arteries

698. CS. The “phlegmasia cerulea dolens” is:
   a) A synonym of severe chronic limb ischemia  
   b) A typical symptom of arterial embolism  
   c) A complication of varicose veins  
   d) **A most severe form of deep veins thrombosis**  
   e) A final stage of lymphedema

699. CM. Specify clinical signs, which are characteristic for the final stage of acute limb ischemia:
   a) Significant dilatation of subcutaneous veins  
   b) Severe hip edema and foot hyperemia  
   c) **Evident paleness and hypothermia of the foot**  
   d) Moderate calf edema  
   e) Foot paralysis and flexion knee contracture
700. CM. Thrombosis of superficial varicose veins of lower limbs (varicothrombophlebitis) is characterized by:
   a) Severe edema of hip and shin
   b) Localized skin hyperemia above the vein with thrombosis
   c) Veins filled with thrombus does not collapse after limb elevation
   d) Severe pain in the foot and shin
   e) Positive Homans symptom

701. CM. Syndrome of chronic venous insufficiency of lower limbs is characterized by:
   a) Calf muscles atrophy
   b) Skin hyperpigmentation in lower third of the shin
   c) Absence of pulse on limb arteries
   d) Edema of ankle (paramalleolar) region
   e) Tendency to develop shin eczema

702. CM. What symptoms are not characteristic for the syndrome of chronic venous insufficiency of lower limb?
   a) Development of ulcer on the medial surface of lower third of the shin
   b) Development of small, very painful foot ulcers
   c) Lipodermatosclerosis of the shin
   d) Phenomenon of “white skin atrophy”
   e) Severe pain in the affected extremity during the nighttime

703. CM. Palpation of pulse on the brachial artery may be performed in the:
   a) Axillary region, along the anterior line of hair-growth
   b) Sulcus brahi medialis (medial brachial intermuscular depression)
   c) Cubital region, medial of the biceps tendon
   d) Lateral region of supraclavicular fossa
   e) In the deepness of deltoid muscle

704. CS. Palpation of pulse on the femoral artery is performed in the:
   a) Point between the superior and middle thirds of line which joins the navel (umbilicus) and spina iliaca anterior superior
   b) Region of Hunter channel
   c) Point, localized 5 cm up to the superior edge of patella
   d) Point, localized between the external and middle thirds of the inguinal ligament
   e) Point, localized between the internal and middle thirds of the inguinal ligament

705. CM. Palpation of pulse on the popliteal artery is performed:
   a) In the inferior third of the hip
   b) In the superior third of the shin
   c) Deep in the popliteal fossa
   d) With one hand
   e) With both hands

706. CM. In arteriovenous fistula the following symptoms can be determined by palpation:
a) Homans symptom
b) Dobrovolskaia symptom
c) Systolic-diastolic quiver ("cat's purr")
d) Trendelenburg symptom
e) Büerger-Ratschow symptom

707. CS. The Dobrovolskaia symptom is considered positive if:
a) Acute pain develops in the extremity during testing
b) Frequency of respiration increase during testing
c) Heart rate decrease during testing
d) Heart rate increase during testing
e) Severe edema develops during testing

708. CS. The group of symptoms known as “6Р” is characteristic for:
a) Acute limb ischemia
b) Chronic limb ischemia
c) Arterial aneurysm
d) Acute vein thrombosis
e) Chronic venous insufficiency

709. CM. Indicate the signs that are not refer to the “6Р” group of symptoms.
a) Paresthesia
b) Pallor
c) Polyuria
d) Poikilocytosis
e) Pain

710. CS. The main danger related to the thrombosis of great saphenous vein is:
a) Inevitable development of the postthrombotic syndrome
b) Risk of pulmonary embolism
c) Need to remove the whole length of affected vein
d) Major risk of septic complications development
e) Possible gangrene development

711. CM. Specify symptoms characteristic for deep vein thrombosis of lower limbs.
a) Dobrovolskaia symptom
b) Mozes symptom
c) Kocher symptom
d) Büerger-Ratschow symptom
e) Homans symptom

712. CS. Acute pain in the calf muscles during passive dorsal flexion of the foot is considered in vascular semiology as a positive symptom of:
a) Dobrovolskaia
b) Homans
c) Kocher
d) Büerger-Ratschow
713. CM. What tests are used for clinical demonstration of the venous reflux in the great saphenous vein in patients with varicose veins disease?
   a) Hackenbruch test
   b) Trendelenburg test
   c) Velpaux test
   d) Homans test
   e) Dobrovolskaia test

714. CM. Systolic bruit above the big arteries indicates:
   a) Arterial hypertension
   b) Acute arterial thrombosis
   c) Arterial stenosis
   d) Arterial occlusion
   e) Arterial aneurysm

715. CM. Auscultation of what arteries are useless in case of chronic ischemia of lower limbs?
   a) Subclavian artery
   b) Brachial artery
   c) Iliac artery
   d) Femoral artery
   e) Posterior tibial artery

716. CM. Specify the correct descriptions, relating to traumatic injuries.
   a) It is the leading cause of death among people between 1 and 50 years of age
   b) Get the first place in mortality structure
   c) It is the leading cause of death among people of all ages
   d) Get the second place in mortality structure
   e) Men are affected by trauma two folds more often, than women

717. CS. About half of all deaths occur within seconds or minutes of injury and are related to:
   a) Infectious complications
   b) Lacerations of the aorta, heart, and brain
   c) Persistent hemorrhage
   d) Multiple organ failure
   e) Development of traumatic disease

718. CS. The “golden hour” in patients with severe trauma is called:
   a) First hour after admission of patient
   b) First hour after surgery
   c) First hour after trauma
   d) First hour after correction of shock and stabilization of hemodynamics
   e) First hour after stop of hemorrhage
719. CM. During the first “golden hour” after severe injury by early treatment can be prevented many of deaths, related to:
   a) Injuries of the central nervous system
   b) Injuries of extremities and pelvis bones
   c) Multiple organ failure
   d) Persistent hemorrhage
   e) Infectious complications

720. CM. Which factors have a main role in biomechanics of the blunt trauma?
   a) Combined (mechanical and thermal) action of etiological agent
   b) Compression of tissues during impact
   c) Separation of tissues along the path of the penetrating object
   d) Massive external bleeding
   e) Changes in speed motion of the body (acceleration or deceleration)

721. CS. The term “katatraumas” means:
   a) Industrial injury
   b) Car crash accident
   c) Injury as a result of fall from altitude
   d) Sportive injury
   e) Injury as a result of medical manipulation

722. CS. The term iatrogenic injury means:
   a) Industrial injury
   b) Car crash accident
   c) Injury as a result of fall from altitude
   d) Sportive injury
   e) Injury as a result of medical manipulation

723. CM. In accordance to character of the damage agent trauma is divided in to:
   a) Water
   b) Psychic
   c) Electrical
   d) Mechanical
   e) Chemical

724. CS. What trauma is classified as multiple?
   a) Injuries of two and more organs from one anatomical system
   b) Injuries caused by action of two or more etiological factors
   c) Two or more injuries of one organ
   d) Simultaneous injuries of organs from different anatomical systems
   e) Injury of only one organ

725. CS. What trauma is classified as associated (polytrauma)?
   a) Injuries of two and more organs from one anatomical system
b) Injury of only one organ
c) Two or more injuries of one organ
d) Simultaneous injuries of organs from different anatomical systems
e) Injuries caused by action of two or more etiological factors

726. CM. Which from the indicated injuries are related to isolated trauma?
a) Solitary injury of one organ
b) Multiple injuries of one organ
c) Solitary injuries of two organs from one anatomical system
d) Injuries of one isolated organs in different anatomical systems (lung, spleen, fractured tibia)
e) Solitary injuries of two organs from different anatomical systems

727. CM. Which from the indicated injuries are related to associated trauma (polytrauma)?
a) Wound of the stomach, liver and spleen
b) Fracture of hip and burns with the flame of lower extremities
c) Rupture of spleen and ribs fractures
d) Fracture of ribs, lung injury and pneumothorax
e) Hip fracture, concussion of brain and liver injury

728. CM. Which from the indicated injuries are related to multiple trauma?
a) Wound of the stomach, liver and spleen
b) Fracture of hip and burns with the flame of lower extremities
c) Rupture of spleen and ribs fractures
d) Fracture of ribs, lung injury and pneumothorax
e) Hip fracture, concussion of brain and liver injury

729. CS. To multiple trauma relates:
a) Injuries of two and more organs from one anatomical system
b) Injuries of two and more organs from different anatomical systems
c) Multiple injuries of one organ in one anatomical system
d) Injuries caused by action of two or more traumatic factors
e) All mentioned above

730. CM. What periods are distinguished within the traumatic disease?
a) Period of traumatic shock
b) Period of hemodynamics stabilization
c) Period of early manifestations
d) Period of late disturbances
e) Period of convalescence

731. CM. What characterizes the period of traumatic shock in the course of traumatic disease?
a) Development of dystrophic and sclerotic processes in the inner organs
b) Caused by direct tissue damage and acute blood loss
c) Caused by massive resorption into the blood stream of tissue and bacterial toxins
d) Lasts from several hours to 2 days  
e) Development of acute cardiovascular failure

732. CM. What characterizes the period of early manifestations in the course of traumatic disease?  
   a) Caused by massive resorption into the blood stream of tissue and bacterial toxins  
   b) Caused by direct tissue damage and acute blood loss  
   c) Lasts from several hours to 2 days  
   d) Lasts from 2 to 10 days  
   e) High fever over 38°C

733. CM. What characterizes the period of late disturbances in the course of traumatic disease?  
   a) Development of dystrophic and sclerotic processes in the inner organs  
   b) Caused by direct tissue damage and acute blood loss  
   c) Caused by massive resorption into the blood stream of tissue and bacterial toxins  
   d) Development of contractures and ankylosis  
   e) Development of acute cardiovascular failure

734. CS. Length of convalescence period in traumatic disease is:  
   a) Up to 2 days  
   b) From 2 to 10 days  
   c) From 2 to 3 weeks  
   d) From 1 to 3 months  
   e) From a few months to several years

735. CM. Mechanisms of primary brain injury after trauma include:  
   a) Damage to vessels  
   b) Increased intracranial pressure  
   c) Hypoxia  
   d) Disruption of brain structures  
   e) Altered cellular biochemical processes

736. CM. Mechanisms of secondary brain injury after trauma include:  
   a) Damage to vessels  
   b) Increased intracranial pressure  
   c) Hypoxia  
   d) Disruption of brain structures  
   e) Altered cellular biochemical processes

737. CM. What local symptoms may indicate severe head trauma (eg, fractures of the skull base)?  
   a) Significant bleeding from head wound  
   b) Periorbital ecchymosis (“raccoon’s sign”)  
   c) Otorrhea  
   d) Ecchymosis over the mastoid process
e) Rhinorrhea

738. CM. Which of the signs are related to general neurological symptoms after head trauma?
   a) Hyperthermia
   b) Hemiparesis
   c) Anisocoria
   d) Headache and dizziness
   e) Nausea and vomiting

739. CM. Which of the signs are related to focal neurological symptoms after head trauma?
   a) Hyperthermia
   b) Hemiparesis
   c) Anisocoria
   d) Headache and dizziness
   e) Nausea and vomiting

740. CS. Glasgow scale is used to determine:
   a) Grade of obesity
   b) Operating risk
   c) Level of consciousness
   d) Severity of blood loss
   e) Prognosis of burns disease

741. CM. Which parameters are used in Glasgow scale to determine the level of consciousness in head trauma?
   a) Eye opening
   b) Papillary’s light reflex
   c) Verbal response
   d) Motor response
   e) Skin sensitivity

742. CM. Which from the head injuries cause only general neurological symptoms?
   a) Skull fractures
   b) Cerebral contusion
   c) Diffuse axonal injury
   d) Brain concussion
   e) Cerebral compression by hematoma

743. CM. Which from the head injuries cause both general and focal neurological symptoms?
   a) Skull fractures
   b) Cerebral contusion
   c) Diffuse axonal injury
   d) Brain concussion
   e) Cerebral compression by hematoma
744. CM. Which type of hematoma in head injury does not lead to cerebral compression?
   a) Epidural hematoma
   b) Subdural hematoma
   c) Subfascial hematoma
   d) Intracerebral hematoma
   e) Subcutaneous hematoma

745. CM. Skull fractures are divided into:
   a) “Green stick” fractures
   b) Basal skull fractures
   c) Linear fractures
   d) Open fractures
   e) Depressed fractures

746. CS. Which of the symptoms does not occur in brain concussion?
   a) Bradicardia
   b) Loss of consciousness
   c) Headache
   d) Retrograde amnesia
   e) Anisocoria

747. CM. Which of the following symptoms suggest a cerebral compression by posttraumatic hematoma?
   a) Anisocoria
   b) Hemiparesis
   c) Retrograde amnesia
   d) Oliguria
   e) Sleepiness

748. CM. What determine the neurological symptoms in intracranial hematomas?
   a) Status of central hemodynamics
   b) Quality of infusion therapy
   c) Localization of hematoma
   d) Status of blood coagulation
   e) Size of hematoma

749. CS. What is the main method of treatment for intracerebral hematomas?
   a) Haemostatic therapy
   b) Infusion therapy (prevention of cerebral edema)
   c) Anticonvulsants
   d) Surgical (craniotomy, trepanation)
   e) Endovascular intervention (embolization of the bleeding vessel)

750. CS. Subcutaneous emphysema in case of the chest injury suggests:
   a) About hemothorax
   b) About pneumothorax
c) About hydrothorax
d) About pyothorax
e) About rib fractures

751. CM. What symptoms are always determined in rib fractures?
a) Local tenderness on palpation
b) Subcutaneous hematoma
c) Subcutaneous emphysema
d) Pathological mobility and crepitus of the rib fragments
e) Asymmetry of the chest

752. CM. The combination of which signs allows to determine clinically the rib fractured?
a) Crepitus of the fragments
b) Localized pain
c) Deformity
d) Subcutaneous emphysema
e) Diminished breath sounds on the affected side

753. CM. What are the clinical manifestations of floating rib fractures (flail chest)?
a) Abnormal instability of the segment
b) Unilateral impairment of the chest wall excursion on the side of injury
c) "Paradoxal" respiration
d) Crepitus
e) Presence of a large chest wall defect

754. CM. What symptoms are characterized of flail chest?
a) The line of fracture is localized in the lower part of the rib cage
b) Unilateral impairment of the chest wall excursion on the side of injury
c) With inspiration the chest wall segment moves outwardly, and inwardly – with expiration
d) Segment of the chest wall does not have bony continuity to the rest of the rib cage
e) With inspiration the chest wall segment moves inwardly, and outwardly – with expiration

755. CM. Specify the correct descriptions, relating to the sternal fractures.
a) Sternal fractures are usually transverse
b) Occur after a significant blow to the anterior chest
c) Are associated with collapsed lung and displaced mediastinum to the opposite side
d) Posterior displacement of the fractured sternum can impinge on the heart
e) Specific symptoms include severe chest or back pain, upper extremity hypertension, and asymmetry of pulses in the upper and lower extremities

756. CS. What does suggest the tympanic sound on percussion of chest in case injury?
a) About hemothorax
b) About pneumothorax
c) About hydrothorax
d) About pyothorax  
e) About rib fractures

757. CS. Dullness on percussion of the chest in case of trauma suggests:
   a) Hemothorax  
b) Cardiac contusion  
c) Pneumothorax  
d) Rib fractures  
e) Sternal fractures

758. CM. Specify the symptoms of simple (closed) pneumothorax.
   a) Dullness on percussion of the chest on the affected side  
b) Decreased breath excursion of the affected hemithorax  
c) Hyperresonance on percussion of the chest on the affected side  
d) Dyspnea  
e) Breath sounds decreased or absent on the side of injury

759. CS. “Valve” pneumothorax is also called:
   a) Simple pneumothorax  
b) Open pneumothorax  
c) Closed pneumothorax  
d) Tension pneumothorax  
e) Complicated pneumothorax

760. CM. What characterizes the tension pneumothorax?
   a) Affected lung is completely collapsed, and mediastinum is displaced to the opposite side  
b) Intrathoracic and ambient pressures are equilibrated, leading to collapse of the lung  
c) Extensive interstitial hemorrhage and fill with blood and plasma of the alveoli, which leads to their collapse  
d) Incoming into the pleural cavity air can not exit out and progressively accumulates  
e) Decreasing of venous return and compromising ventilation of the other lung

761. CM. What symptoms are helpful to differentiate tension (valve) pneumothorax from a closed (simple) pneumothorax?
   a) Distended neck veins and cyanosis  
b) Hyperresonance on percussion of the chest on the affected side  
c) Dullness on percussion of the chest on the affected side  
d) The complete collapse of lung and displacement of mediastinum to the opposite side  
e) Dyspnea

762. CS. What emergency curative measure is indicated in a tension pneumothorax?
   a) Application of occlusive dressing  
b) Decompression of pleural cavity with large-bore needle  
c) Thoracotomy with suturing of defect in the lung  
d) Fixation of rib fragments using intraosseous or extrafocal osteosynthesis
e) Bronchoscopy with occlusion of the appropriate bronchus

763. CM. What characterizes an open pneumothorax?
   a) Intrathoracic and ambient pressures are equilibrated, leading to collapse of the lung
   b) Incoming into the pleural cavity air can not exit out and progressively accumulates
   c) Affected lung is completely collapsed, and mediastinum and trachea are displaced to the opposite side
   d) Presence of a large chest wall defect
   e) Usually is caused by shotgun wound

764. CM. Based on what signs the open pneumothorax is diagnosed?
   a) With every breath is hearing the flow of air through the chest wound
   b) Distension of the neck veins
   c) Large defect in the chest is determined
   d) Affected lung is completely collapsed, and mediastinum and trachea are displaced to the opposite side
   e) Dullness on percussion of the chest on the affected side

765. CM. What clinical symptoms are similar in hemothorax and pneumothorax?
   a) Shock
   b) Hyperresonance on percussion of the chest on the affected side
   c) Dyspnea
   d) Dullness on percussion of the chest on the affected side
   e) Breath sounds decreased on the side of injury

766. CM. Which clinical signs of hemothorax did not occur in pneumothorax?
   a) Shock
   b) Hyperresonance on percussion of the chest on the affected side
   c) Presence of dyspnea
   d) Dullness on percussion of the chest on the affected side
   e) Breath sounds decreased on the side of injury

767. CM. A possible urgent surgical maneuvers in hemothorax include:
   a) Thoracotomy
   b) Application of hermetic impermeable rubber dressing
   c) Angiography with embolization of a bleeding vessel
   d) Tube thoracostomy
   e) Fixation of rib fragments using intraosseous or extrafocal osteosynthesis

768. CM. Which symptoms are characteristic for injuries of trachea and major bronchi?
   a) Hemorrhagic shock
   b) Pneumothorax
   c) Hemoptysis
   d) Pneumomediastinum (presence of air into the mediastinum)
   e) Dullness on percussion over both pleural cavities
769. CM. What characterizes the cardiac tamponade?
   a) Leads to restriction of cardiac and impairs venous return
   b) Rupture of diaphragm with displacement of abdominal organs into the pleural cavity, which is accompanied by compression of the heart
   c) Most often develops after penetrating injuries of central area of the chest
   d) Accumulation of blood into the pericardial sac
   e) Pleural cavity is filled with clots, which leads to compression of the mediastinum

770. CM. List the symptoms that constitute triad of Beck in cardiac tamponade.
   a) Decline in arterial pressure
   b) Tahicardia
   c) Jugular venous distention
   d) "Paradoxal" respiration
   e) Muffled heart tones

771. CS. Specify the triad of Beck in cardiac tamponade.
   a) Hypotension, diffuse enlargement of heart borders, blood on pericardial aspiration
   b) Muffled heart tones, hypotension, jugular venous distention
   c) High central venous pressure, diffuse enlargement of heart borders, blood on pericardial aspiration
   d) Jugular venous distention, diffuse enlargement of heart borders, blood on pericardial aspiration
   e) Muffled heart tones, hypotension, presence of wound in central area of the chest

772. CM. A combination of which three symptoms are combined into a triad of Beck in traumatic cardiac tamponade?
   a) Muffled heart tones
   b) Reduced cardiac output
   c) Extension of topographical borders of the heart
   d) Decline in arterial pressure
   e) Jugular venous distention

773. CM. Symptoms of the traumatic aortic rupture include:
   a) Intolerable headache
   b) Severe chest or back pain
   c) Upper extremity hypertension
   d) Asymmetry of pulses in the upper and lower extremities
   e) Anuria

774. CM. Esophageal injuries reveal the following symptoms:
   a) Chest pain
   b) Subcutaneous emphysema
   c) Dysphagia
   d) Asymmetry of pulses in the upper and lower extremities
   e) Painful cough
775. CS. When the abdominal wound is considered to be penetrating?
   a) When is damaged skin
   b) When are damaged skin, subcutaneous tissue, aponeurosis and muscles of abdominal wall
   c) When is damaged an abdominal organ
   d) When is damaged a parietal peritoneum
   e) When is damaged a visceral peritoneum

776. CS. What is the main purpose of examination of patients with abdominal trauma?
   a) To establish the general status of patient and the presence of comorbidities
   b) To establish the existence of intra-abdominal injuries
   c) To establish, whether the injury is blunt or penetrating
   d) To establish, what specific intra-abdominal organ is injured
   e) To establish the exact circumstances of injury

777. CM. Which clinical syndromes are distinguished in abdominal trauma with inner organs damage?
   a) Syndrome of intestinal obstruction
   b) Hemorrhagic syndrome
   c) Inflammatory syndrome
   d) Peritoneal syndrome
   e) Intoxication syndrome

778. CS. Who first performed a successful kidney transplant?
   a) Alexis Carrell
   b) Joseph Murray
   c) Theodor Billroth
   d) Serghei Iudin
   e) Joseph Lister

779. CM. What fundamental discoveries laid the development of transplantation?
   a) Discovery of asepsis and antisepsis
   b) Introduction of vascular anastomosis
   c) Invention of apparatus for artificial respiration
   d) Development of immunosuppressive drugs
   e) Discovery of histocompatibility laws

780. CM. What organs and tissues for transplantation are possible to take from a living donor?
   a) Heart
   b) Cornea
   c) Kidney
   d) Segment of small bowel
   e) Left lobe of liver
781. CM. What organs and tissues for transplantation are possible to take only from cadaver?
   a) Bone tissue
   b) Heart
   c) Left lobe of liver
   d) Cornea
   e) Segment of small bowel

782. CM. In what types of transplantation does not develop a reaction of rejection?
   a) Allogeneic
   b) Syngeneic
   c) Xenogeneic
   d) Autogenic
   e) Exogenous

783. CS. Which of these types of transplantation is called orthotopic?
   a) Kidney is transplanted from the Siamese twin of the patient
   b) Donor kidney is transplanted into the iliac region, forming vascular anastomoses with the iliac vessels
   c) To patient is transplanted a kidney from animal
   d) To patient is transplanted a kidney from his/her mother
   e) Donor kidney is transplanted into the bed, remaining after removing of the affected kidney

784. CS. Which of these variants of kidney transplantation refers to heterotopic?
   a) Kidney is transplanted from the Siamese twin of the patient
   b) Donor kidney is transplanted into the iliac region, forming vascular anastomoses with the iliac vessels
   c) To patient is transplanted a kidney from animal
   d) To patient is transplanted a kidney from his/her mother
   e) Donor kidney is transplanted into the bed, remaining after removing of the affected kidney

785. CS. Which of these variants of kidney transplantation refers to xenogeneic transplant?
   a) Kidney is transplanted from the Siamese twin of the patient
   b) Donor kidney is transplanted into the iliac region, forming vascular anastomoses with the iliac vessels
   c) To patient is transplanted a kidney from animal
   d) To patient is transplanted a kidney from his/her mother
   e) Donor kidney is transplanted into the bed, remaining after removing of the affected kidney

786. CS. Which of these variants of kidney transplantation refers to syngeneic transplant?
   a) Kidney is transplanted from the Siamese twin of the patient
   b) Donor kidney is transplanted into the iliac region, forming vascular anastomoses with the iliac vessels
c) To patient is transplanted a kidney from animal
d) To patient is transplanted a kidney from donor, selected on the basis of tissue compatibility
e) Donor kidney is transplanted into the bed, remaining after removing of the affected kidney

787. CS. Which of these variants of kidney transplantation refers to allogeneic transplant?
a) Kidney is transplanted from the Siamese twin of the patient
b) Donor kidney is transplanted into the iliac region, forming vascular anastomoses with the iliac vessels
c) To patient is transplanted a kidney from animal
d) To patient is transplanted a kidney from donor, selected on the basis of tissue compatibility
e) Donor kidney is transplanted into the bed, remaining after removing of the affected kidney

788. CM. Which antigens are responsible for rejection reaction of the transplanted organs and tissues in humans?
a) System of erythrocytes antigens ABO
b) Microbial antigens
c) System of human leukocyte antigens HLA
d) Minor histocompatibility antigens
e) Antigens contained in the medications

789. CM. Specify the types of rejection reaction of transplanted organ?
a) Hyperacute rejection
b) Subacute rejection
c) Acute rejection
d) Chronic rejection
e) Recurrent rejection

790. CM. Specify the causes of hyperacute transplant rejection.
a) Incompatibility according to ABO antigens
b) T-lymphocyte immune response
c) Presence at recipient of antibodies to the donor leucocyte antigen system
d) Non-immune factors
e) Violation of asepsis rules

791. CS. Specify the cause of acute transplant rejection.
a) Incompatibility according to ABO antigens
b) T-lymphocyte immune response
c) Presence at recipient of antibodies to the donor leucocyte antigen system
d) Non-immune factors
e) Violation of asepsis rules

792. CS. Specify the cause of chronic transplant rejection.
a) Incompatibility according to ABO antigens
b) T-lymphocyte immune response  
c) Presence at recipient of antibodies to the donor leucocyte antigen system  
d) Non-immune factors  
e) Violation of asepsis rules  

793. CS. What is the sepsis?  
a) Presence of bacteria in the bloodstream with purulent metastasis into the tissues and organs  
b) A microbial phenomenon characterized by a local inflammatory response to the presence of microorganisms  
c) Presence and active multiplication of bacteria in the bloodstream  
d) Presence of bacteria in the bloodstream  
e) An infectious process accompanied by an acute inflammatory reaction with systemic manifestations  

794. CS. What is the bacteremia?  
a) Presence of bacteria in the bloodstream  
b) Presence of bacteria in the bloodstream with purulent metastasis into the tissues and organs  
c) Presence and active multiplication of bacteria in the bloodstream  
d) A microbial phenomenon characterized by a local inflammatory response to the presence of microorganisms  
e) An infectious process accompanied by an acute inflammatory reaction with systemic manifestations  

795. CS. What is the septicemia?  
a) An infectious process accompanied by an acute inflammatory reaction with systemic manifestations  
b) A microbial phenomenon characterized by a local inflammatory response to the presence of microorganisms  
c) Presence and active multiplication of bacteria in the bloodstream  
d) Presence of bacteria in the bloodstream  
e) Presence of bacteria in the bloodstream with purulent metastasis into the tissues and organs  

796. CS. What is the septicopiemia?  
a) Presence and active multiplication of bacteria in the bloodstream  
b) An infectious process accompanied by an acute inflammatory reaction with systemic manifestations  
c) Presence of bacteria in the bloodstream with purulent metastasis into the tissues and organs  
d) A microbial phenomenon characterized by a local inflammatory response to the presence of microorganisms  
e) Presence of bacteria in the bloodstream  

797. CM. What is correctly characterizes the sepsis?
a) Clinical, sepsis is manifested in the same way although the casual microorganisms are different
b) Sepsis does not have an incubation period
c) Clinical manifestations of sepsis depend on the casual microorganisms
d) Sepsis represents an systemic process
e) Incubation period for sepsis is short (<24 hours)

798. CM. For diagnosis of systemic inflammatory response syndrome (SIRS) the following criteria are used:
   a) White blood cell (WBC) count
   b) Systolic blood pressure
   c) Temperature
   d) Respiratory rate
   e) Heart rate

799. CM. What confirms the presence of systemic inflammatory response syndrome (SIRS)?
   a) Heart rate < 90 beats/min
   b) Heart rate > 90 beats/min
   c) Temperature > 37.5°C
   d) Temperature > 38°C
   e) Temperature < 36°C

800. CM. What confirms the presence of systemic inflammatory response syndrome (SIRS)?
   a) White blood cell (WBC) count > 12,000/mm³
   b) White blood cell (WBC) count < 4,000/mm³
   c) Systolic blood pressure < 90 mm Hg
   d) Respiratory rate < 14 breaths/min
   e) Respiratory rate > 20 breaths/min

801. CS. What is definition of “severe sepsis”?
   a) Systemic inflammatory response syndrome (SIRS) associated with organ dysfunction
   b) Systemic inflammatory response syndrome (SIRS) to documented infection
   c) Sepsis associated with organ dysfunction
   d) Systemic inflammatory response syndrome (SIRS)
   e) Sepsis associated with hypotension persisting despite adequate fluid resuscitation

802. CM. Specify the reasons for increasing incidence of sepsis in the present.
   a) The increasing use of therapies that improve survival from underlying diseases but result in immunosuppression
   b) The use of invasive devices for monitoring and treatment of critically ill patients
   c) Increasing antibiotic resistance of bacteria
   d) Improving of diagnostic measures in sepsis
   e) Genetic factors impact on the risk of developing of sepsis or dying from infection
803. CM. Specify three cytokines, which have major importance in the pathogenesis of sepsis.
   a) Interleukin 6 (IL6)
   b) Platelet activating factor (PAF)
   c) Tumor necrosis factor-alpha (TNF-alpha)
   d) Interleukin 1 (IL1)
   e) Prostaglandin E (PGE)

804. CM. What are the generalized effects caused by cytokines in sepsis?
   a) Endothelial injury
   b) Neutrophil-endothelial cell adhesion
   c) Coagulopathy with capillary leak and microthrombi
   d) Release of blood from the depot
   e) Paralysis of the respiratory center and heart failure

805. CM. What are the main mechanisms of the multiple organ failure in sepsis?
   a) Intravascular coagulation and excessive fibrinolysis
   b) Blood flow bypass capillary exchange vessels (a distributive defect)
   c) Massive blood loss
   d) Excessive release of endogenous cytokines
   e) Translocation of intestinal bacteria and endotoxin to the portal and systemic circulations

806. CM. What classifications of sepsis are used?
   a) According to clinical evolution
   b) According to the type of bacteriological agent
   c) According to level of host immunosuppression
   d) According to localization of primary infectious focus
   e) According to severity of clinical manifestations

807. CS. In clinical practice most commonly observed:
   a) Urological sepsis
   b) Neonatal sepsis
   c) Abdominal sepsis
   d) Pulmonary sepsis
   e) Soft tissue sepsis (phlegmon, gangrene)

808. CM. On what is based the clinical diagnostics of severe sepsis?
   a) Identifying of signs of multiple organ failure
   b) Determination of serum cytokines level
   c) Evidence of positive blood, urine or other suspect body fluids culture
   d) Identifying of classical local signs of surgical infection
   e) Identifying of positive criteria of systemic inflammatory response syndrome (SIRS)

809. CS. Which of the following results of investigations is crucial to confirm the diagnosis of sepsis?
   a) Positive blood culture
b) Leukocytosis with a left shift

c) High level of serum cytokines (TNF)

d) Increased level of C-reactive protein

e) High contents of procalcitonin in the blood

810. CM. Specify the rules of antibiotic therapy administration in sepsis.

a) **Should be administrated broad-spectrum antibiotics**

b) **Antibiotics should be modified by culture results**

c) **Antibiotic therapy should begin immediately after diagnosis of sepsis**

d) Antibiotic therapy should begin only after obtaining the result of positive blood culture according to antibiotic sensitivity of isolated bacteria

e) **Initially, antibiotics are administrated empirically**

811. CM. Specify the terms – synonyms of soft tissue anaerobic clostridial infection.

a) Anaerobic cellulitis

b) Tetanus

c) Gas gangrene

d) Necrotizing fasciitis

e) Anaerobic myonecrosis

812. CS. The most frequent causative bacterial agent of gas gangrene is:

a) Clostridium hystoliticum

b) Clostridium oedomatiens

c) Clostridium tetani

d) **Clostridium perfringens**

e) Clostridium septicum

813. CM. Which biologic effects are caused by alpha exotoxin of Clostridium perfringens?

a) **Hemolysis or thrombosis**

b) **Myocardial suppression**

c) Impairment of intestinal barrier function

d) Endothelial injury

e) **Tissue necrosis**

814. CM. Specify the wounds with a high risk of gas gangrene development.

a) **With heavy soil contamination**

b) **With massive damage of muscles and bones**

c) **With profound and narrow wound channel (gunshot wound)**

d) **With ischemia of tissue caused by vessel injury, or a tourniquet placed for a long time**

e) Cut wounds, closed tightly with primary sutures

815. CM. Gas gangrene is classified in the following forms:

a) Posttraumatic

b) Endogenous

c) Spontaneous

d) Postoperative

e) Generalized
816. CS. Spontaneous gas gangrene most common develops in patients:
   a) Underwent recent surgery of the biliary tract
   b) With small bite wounds
   c) With occult malignancy
   d) Underwent recent surgery of the colon
   e) With open fractures

817. CM. Specify the typical clinical signs of soft tissue gas gangrene.
   a) Persistent rigidity in the muscle group close to the injury site
   b) Hemorrhagic bullae on skin
   c) Crepitus
   d) Hyperemia of affected area of skin, moderate edema
   e) Severe pain in extremity and sensation of compression

818. CS. What is Melnikov's test in gas gangrene?
   a) Crepitus defined on palpation
   b) Timpanitis with “metallic” sound on percussion
   c) Presence of hemorrhagic bullae on skin
   d) Sound of gas exit during evacuation of gauze dressing from wound channel
   e) A thread is placed loosely round the extremity, and it penetrates into skin in 20-30 min

819. CS. Crepitus defined on palpation in anaerobic clostridial infection of soft tissue is associated with:
   a) Penetration of air from the gastrointestinal tract into the wound in postoperative form of infection
   b) Friction of bone fragments in the wounds received in open fractures
   c) Production a lot of exotoxines
   d) Production of gas in tissue
   e) Penetration of air from the external environment through the wound channel

820. CM. Which imaging and laboratory studies are most informative for diagnosis of the gas gangrene?
   a) Clostridial species growth from the blood cultures
   b) Enzyme-linked immunosorbent assay (ELISA) of infected tissues
   c) Gram stain microscopy of the infected tissues
   d) Ultrasound scan of affected area
   e) Radiographic examination of affected area

821. CS. Identifying of gas layers in the soft tissues in gas gangrene during radiographic examination or CT scan is also called:
   a) Sign of “boiled meat"
   b) Krause's sign
   c) Melnikov's sign
   d) Sign of “champagne cork"
   e) Vishnevsky’s sign
822. CM. What are the histopathological findings in gas gangrene?
   a) Presence of large gram-positive bacilli without neutrophils
   b) Widespread myonecrosis
   c) Presence of necrotic and nonviable tissue with a large accumulation of neutrophils
   d) Areas of gas between the muscle fibers
   e) Purulent metastases in remote tissues and organs

823. CM. What is the aim of longitudinal incisions (fasciotomy) in gas gangrene of extremity?
   a) To simplify the excision of necrotized and visual devitalized tissues
   b) To accelerate the wound healing
   c) To decrease the compartment syndrome and tissue ischemia
   d) To improve the access of air to wound channel
   e) To prevent the multiplication of clostridia spores

824. CS. Which of these additional methods is optimal for treatment of gas gangrene?
   a) Hemofiltration
   b) Hyperbaric oxygen therapy
   c) Plasmapheresis
   d) Hemodialysis
   e) Hemosorbtion

825. CM. Specify the microorganisms responsible for anaerobic non-clostridial infection of soft tissue.
   a) Pseudomonas aeruginosa
   b) Bacteroides fragilis
   c) Clostridium perfringens
   d) Peptococcus
   e) Klebsiella

826. CM. What are the typical clinical signs of anaerobic non-clostridial infection of soft tissue?
   a) Slow evolution of pathological process
   b) Wide, rapid, and progressive spreading of pathological process
   c) Predominantly damage of muscles and conjunctive tissues
   d) Phlegmon with massive affection of subcutaneous adipose tissue
   e) Hyperemia of affected area of skin, moderate edema

827. CM. Specify methods, which may be helpful for diagnosis of anaerobic non-clostridial infection of soft tissue.
   a) Cultures and incubation of microorganisms under anaerobic conditions
   b) Gram stain of the infected tissues or exudates
   c) Biochemical tests for determination of the serum cytokines level
   d) Detection of toxins in infected tissues through enzyme-linked immunosorbent assay (ELISA)
   e) Gas-liquid chromatography of the infected tissues or exudates
828. CS. What is the most common source of infection in tetanus?
   a) Infected chronic ulcers
   b) Exposure via intravenous drug abuse
   c) Surgery on gastrointestinal tract organs
   d) Umbilical cord contamination during unsanitary delivery
   e) Infected lacerations or puncture wounds

829. CM. What is correctly characterizes tetanus?
   a) Although rare, the tetanus can not been eradicated
   b) Infection caused by anaerobic microorganisms with preferential affection of fat and conjunctive tissues
   c) Neonatal tetanus accounts for 50% of the tetanus-related deaths in developing countries
   d) The disease is not passed from one person to the next
   e) Mortality rate for severe tetanus may be as high as 60%

830. CS. Specify the correct classification of tetanus.
   a) Generalized, local, cephalic, neonatal
   b) Posttraumatic, postoperative, spontaneous
   c) Myositis, fasciitis, combined
   d) Fulminate, acute, subacute, chronic
   e) Wound, intravenous, postoperative, idiopathic

831. CS. What form of tetanus is less dangerous?
   a) Generalized
   b) Postinjection (after vaccine administration)
   c) Local
   d) Neonatal
   e) Cephalic

832. CM. Which symptoms are common for generalized tetanus?
   a) Opisthotonus
   b) Cranial nerve palsies
   c) Trismus
   d) Risus sardonicus
   e) Anizocoria

833. CS. What is the trismus, which occurs in tetanus?
   a) So called the “scornful” smile of tetanus, resulting from facial muscle involvement
   b) Generalized muscle rigidity
   c) Persistent rigidity in the muscle group close to injury site
   d) Inability to open mouth secondary to masseter muscle spasm
   e) Dysphagia and sore throat resulting from the spasm of diaphragm

834. CS. What characterizes the local tetanus?
   a) Inability to open mouth secondary to masseter muscle spasm
   b) Persistent rigidity in the muscle group close to injury site
c) Dysphagia and sore throat resulting from the spasm of diaphragm

d) So called the “scornful” smile of tetanus, resulting from facial muscle involvement

e) Apnea resulting from the spasm of intercostal muscles and diaphragm

835. CM. Specify the appropriate curative measures in patient with tetanus.
   a) Administration of vaccine (tetanus toxoid)
   b) Passive immunization with human tetanus immune globulin
   c) Administration of broad-spectrum antibiotics
   d) Surgical debridement of wound responsible for tetanus infection
   e) Administration of pharmacologic agents that treat muscle spasms

836. CM. Specify the measures for tetanus prevention.
   a) Administration of pharmacologic agents that treat muscle spasms
   b) Administration of tetanus toxoid in combination with diphtheria toxoid and pertussis vaccine (DTP) to children
   c) Revaccination is performed each 10 years
   d) Passive immunization with human tetanus immune globulin
   e) Administration of broad-spectrum antibiotics

837. CM. Specify the correct associations of terms.
   a) Diabetes mellitus type I or insulin-dependent
   b) Diabetes mellitus type I or insulin-independent
   c) Diabetes mellitus type II or insulin-dependent
   d) Diabetes mellitus type II or insulin-independent
   e) Diabetes mellitus type 0 or glucose-dependent

838. CM. Select the correct statements.
   a) Mortality among diabetics is 2 times higher than in non-diabetics
   b) Vascular complications are the main cause of death in diabetes mellitus
   c) Infection is a main cause of death in diabetes mellitus
   d) Surgical complications are more frequent in the type I diabetes mellitus
   e) Surgical complications are more frequent in the type II diabetes mellitus

839. CM. Specify clinical situations which correspond to diabetic foot syndrome definition provided by WHO.
   a) Diabetic neuropathy without foot ulcer, gangrene or infection
   b) Infected plantar wound in diabetic patient without neuro- and angiopathy
   c) Foot ulcer associated with diabetic neuropathy
   d) Toe gangrene associated with angiopathy in diabetic patient
   e) Foot ulcer in non-diabetic patient with atherosclerosis

840. CS. Foot ulcer develops in:
   a) Less than 1% of patients with diabetes mellitus
   b) Less than 5% of patients with diabetes mellitus
   c) 10-15% of patients with diabetes mellitus
   d) More than 50% of patients with diabetes mellitus
e) More than 50% of patients with diabetes mellitus

841. CS. Most frequently lower limb amputations are performed at:
   a) Patients with diabetes mellitus
   b) Patients with atherosclerosis
   c) Patients with acute haematogenous osteomyelitis
   d) Patients with vascular malformations
   e) Patients with deep vein thrombosis

842. CS. Specify the most frequent form of diabetic foot.
   a) Ischemic
   b) Osteoarthropathic
   c) Neuropathic
   d) Neuroischemic
   e) Osteomyelitic

843. CS. Specify the form of diabetic foot which most frequently results in major amputation.
   a) Ischemic
   b) Osteoarthropathic
   c) Neuropathic
   d) Neuroischemic
   e) Osteomyelitic

844. CM. Somatic diabetic neuropathy is responsible for:
   a) Plantar callus formation
   b) Plantar muscles weakness
   c) Osteoporosis
   d) Occlusion of lower limb arteries
   e) Hypo- and anesthesia of the foot

845. CM. Autonomic diabetic neuropathy is responsible for:
   a) Plantar callus formation
   b) Plantar muscles weakness
   c) Osteoporosis
   d) Decreased plantar sweating
   e) Hypo- and anesthesia of the foot

846. CM. Plantar callus formation results in:
   a) Spread of pressure out on more wide area
   b) Focusing of pressure (concentration in one point)
   c) Increased resistance of plantar skin to infection
   d) Decreased risk of ulcer development
   e) Increasing of plantar pressure at more than 10 times

847. CS. Critical pressure for ulcer development in diabetic foot syndrome is equal to:
848. CM. Screening for diabetic foot syndrome includes the following tests:
   a) Foot inspection for ulcers, gangrene, infection
   b) Determination of endogenous insulin level
   c) Palpation of plantar pulses
   d) Semmes – Weinstein test
   e) Duplex ultrasound of arteries of lower limbs

849. CM. Choose the rules which describe the correct technique of Semmes – Weinstein test.
   a) 10 g monofilament is used
   b) Bend monofilament for 1 second in each point
   c) Test one point at the dorsal surface of the foot and another one at the plantar
   d) Ask patient if he/she feel each touch during the test
   e) Absence of sensation only in one point is not an abnormality

850. CM. For neuropathic form of diabetic foot are characteristic:
   a) Presence of painless plantar ulcers with hyperkeratosis
   b) Presence of very painful necrosis at the toes
   c) Absence of foot pulses
   d) Warm and dry foot skin
   e) Evident foot deformation

851. CM. For ischemic form of diabetic foot are characteristic:
   a) Presence of painless plantar ulcers with hyperkeratosis
   b) Presence of very painful necrosis at the toes
   c) Absence of foot pulses
   d) Warm and dry foot skin
   e) Systolic bruit at the femoral artery

852. CM. The following methods are used for confirmation of circulatory disturb in ischemic form of diabetic foot:
   a) Determination of ankle-brachial index
   b) Semmes – Weinstein test
   c) Transcutaneous determination of $O_2$ pressure on the foot ($TcpO_2$)
   d) Determination of toe systolic pressure by photoplethysmography
   e) Foot X-ray

853. CS. Specify the value of transcutaneous oxygen pressure ($TcpO_2$) on the foot below that the spontaneous healing of wounds is impossible (critical ischemia):
   a) 30 mm Hg col
b) 50 mm Hg col  
c) 70 mm Hg col  
d) 80 mm Hg col  
e) 90 mm Hg col

854. CS. Specify the value of systolic toe pressure determined by photoplethysmography below that the spontaneous healing of wounds is impossible (critical ischemia):
   a) 30 mm Hg col  
b) 50 mm Hg col  
c) 70 mm Hg col  
d) 80 mm Hg col  
e) 90 mm Hg col

855. CS. Method of choice for diagnostic of osteomyelitis in diabetic foot syndrome is:
   a) Foot X-ray  
b) Bacteriologic study and culture of ulcer drainage  
c) Magnetic resonance imaging (MRI)  
d) Probing the ulcer or wound  
e) Photoplethysmography

856. CM. What effects have the elevated glucose blood level upon immune system of patient?
   a) Stimulation of leucocytes migration  
b) Suppression of chemotaxis  
c) Suppression of complement system  
d) Stimulation of monocytes function  
e) Suppression of phagocytosis

857. CS. What index most exactly reflects the grade of metabolic compensation in type II diabetes mellitus?
   a) Blood glucose level  
b) Hemoglobin  
c) Glycolysated hemoglobin  
d) Urine ketone bodies  
e) Hematocrit

858. CS. Choose the target level of HbA1C in patients with diabetic foot syndrome.
   a) 20-30%  
b) < 15%  
c) 50-75%  
d) < 7%  
e) > 13%

859. CS. If probe reach the bone during the probing of plantar diabetic ulcer this indicate to high probability of:
   a) Open foot fracture  
b) Soft tissue infection
c) Ischemic nature of ulcer
d) Metatarsal dislocation
e) Foot osteomyelitis

860. CM. Superficial infection of diabetic foot involves:
a) Skin
b) Adipose tissue
c) Muscles
d) Tendons
e) Bones

861. CM. Deep infection of diabetic foot involves:
a) Blood vessels
b) Nerves
c) Muscles
d) Tendons
e) Bones

862. CS. According to international classification, diabetic foot infection associated with SIRS is classified as:
a) Grade 0 infection
b) Grade 1 infection
c) Grade 2 infection
d) Grade 3 infection
e) Grade 4 infection

863. CS. According to Wagner classification, superficial full-thickness diabetic ulcer (not extending through the subcutis) is classified as:
a) Grade 1
b) Grade 2
c) Grade 3
d) Grade 4
e) Grade 5

864. CS. According to Wagner classification, ulcer with exposed tendon or bone without osteomyelitis or abscess is classified as:
a) Grade 1
b) Grade 2
c) Grade 3
d) Grade 4
e) Grade 5

865. CS. According to Wagner classification, deep ulcer with osteomyelitis or abscess formation is classified as:
a) Grade 1
b) Grade 2
c) Grade 3
866. CS. According to Wagner classification, localized gangrene of toes or the forefoot is classified as:
   a) Grade 1
   b) Grade 2
   c) Grade 3
   d) Grade 4
   e) Grade 5

867. CS. According to Wagner classification, foot with extensive gangrene is classified as:
   a) Grade 1
   b) Grade 2
   c) Grade 3
   d) Grade 4
   e) Grade 5

868. CS. According to Wagner classification, grade 0 diabetic foot means:
   a) Superficial full-thickness ulcer (not extending through the subcutis)
   b) Foot with extensive gangrene
   c) Deep ulcer with osteomyelitis / abscess formation
   d) Completely epithelialized ulcer
   e) Localized gangrene of toes or the forefoot

869. CS. According to Wagner classification, grade 1 diabetic foot means:
   a) Completely epithelialized ulcer
   b) Deep ulcer with osteomyelitis / abscess formation
   c) Superficial full-thickness ulcer (not extending through the subcutis)
   d) Foot with extensive gangrene
   e) Localized gangrene of toes or the forefoot

870. CS. According to Wagner classification, grade 2 diabetic foot means:
   a) Localized gangrene of toes or the forefoot
   b) Foot with extensive gangrene
   c) Deep ulcer with osteomyelitis / abscess formation
   d) Completely epithelialized ulcer
   e) Ulcer with exposed tendon or bone without osteomyelitis / abscess

871. CS. According to Wagner classification, grade 3 diabetic foot means:
   a) Deep ulcer with osteomyelitis / abscess formation
   b) Superficial full-thickness ulcer (not extending through the subcutis)
   c) Ulcer with exposed tendon or bone without osteomyelitis / abscess
   d) Completely epithelialized ulcer
   e) Localized gangrene of toes or the forefoot

872. CS. According to Wagner classification, grade 4 diabetic foot means:
a) Foot with extensive gangrene
b) Completely epithelialized ulcer
c) Deep ulcer with osteomyelitis / abscess formation
d) Ulcer with exposed tendon or bone without osteomyelitis / abscess
e) Localized gangrene of toes or the forefoot

873. CS. According to Wagner classification, grade 5 diabetic foot means:
a) Superficial full-thickness ulcer (not extending through the subcutis)
b) Foot with extensive gangrene
c) Deep ulcer with osteomyelitis / abscess formation
d) Completely epithelialized ulcer
e) Localized gangrene of toes or the forefoot

874. CM. Select the classifications of diabetic foot.
a) Wagner classification
b) Glasgow classification
c) University of Texas classification
d) SIRS classification
e) S(AD)SAD classification

875. CM. Choose the drugs which are used for treatment and prevention of vascular complications in diabetic foot syndrome:
a) Antispastic (papaverin, no-spa)
b) Antithrombotic (aspirin, clopidogrel, ticlid)
c) Group B vitamins
d) E1 prostanoids
e) Statine (Simvastatin, Atorvastatin)

876. CS. Duration of antibacterial treatment in case of diabetic foot with osteomyelitis usually is:
a) 1-2 days
b) 5-7 days
c) 1-2 weeks
d) 2-4 weeks
e) 3-6 months

877. CM. Choose the correct statements regarding VAC – therapy (Vacuum Assisted Closure) in diabetic foot syndrome.
a) Method is used for treatment of ulcers and wounds
b) Method is based on prolonged exposure of the wound to negative pressure
c) Method includes permanent washing of wound with antiseptics
d) Method is used for treatment of neuropathy
e) Method requires introduction of polyurethane foam into the wound

878. CS. Central venous access is performed preferentially by:
a) Indirect venepuncture
b) Seldinger technique
c) Trendelenburg technique
d) Venesection
e) Guided venesection

879. CM. As indications for central veins catheterization can serve:
   a) Inability to obtain a peripheral venous access
   b) Hemodialysis
   c) Severe coagulopathy in a patient with stable hemodynamics
   d) Plasmaferesis
   e) Lack of staff experience in a peripheral vein catheterization

880. CM. Central venous access can be achieved by:
   a) Internal jugular vein
   b) Internal thoracic vein
   c) Subclavian vein
   d) Femoral vein
   e) Common iliac vein

881. CM. Placing the patient in the Trendelenburg position during jugular vein catheterisation:
   a) Decrease venous distension
   b) Increase venous distension
   c) Decrease the risk of thrombotic complications
   d) Decrease the risk of air embolism
   e) Decrease the risk of pneumothorax

882. CS. Which kind of catheter is used to measure pressure in the pulmonary artery?
   a) Seldinger
   b) Swan-Ganz
   c) Foley
   d) Biluminal
   e) Fogarty

883. CM. Mark pathological states that require most frequent urgent pericardiocentesis.
   a) Aggravated cardiac failure
   b) Myocardial infarction
   c) Cardiac tamponade
   d) Pericarditis
   e) Endocarditis

884. CM. As indications for installation of chest tube (thoracostomy) can serve:
   a) Pneumothorax
   b) Haemotorax
   c) Pulmonary edema
   d) Pulmonary emphysema
   e) Pleural empyema
885. CM. To the complications of thoracentesis is refers:
   a) **Pneumothorax**
   b) **Haemopneumothorax**
   c) Acute respiratory distress syndrome
   d) **Emphysema**
   e) Pleural empyema

886. CM. In case of pneumothorax thoracentesis is performed more frequently:
   a) On mid-clavicular line
   b) On mid-axillary line
   c) On fifth intercostal space
   d) On second intercostal space
   e) On seventh intercostal space

887. CM. In case of hydrotorax thoracentesis is frequently performed:
   a) On the mid-axillary line
   b) On midclavicular line
   c) On the second intercostal space
   d) On XI intercostal space
   e) On seventh intercostal space

888. CM. Select the aims of installing the naso-gastric tube:
   a) **Assessment of upper gastrointestinal bleeding (presence, volume)**
   b) **Evacuation of gastric contents in the recent case of food intoxication**
   c) Decreasing of gastric secretion
   d) Increasing of gastric secretion
   e) **Gastric decompression in cases of intestinal obstruction**

889. CM. Which kind of tubes is used for eso-gastric hemostatic balloon tamponade in variceal upper digestive bleeding.
   a) **Sengstaken-Blakemore tube**
   b) Fogarty tube
   c) **Minnesota tube**
   d) **Linton-Nachlas tube**
   e) Button tube

890. CM. Among the complications of eso-gastric balloon tamponade in variceal upper digestive bleeding may be encountered:
   a) **Bronchoalveolar aspiration**
   b) **Perforation of the esophagus**
   c) Esophageal stricture
   d) Reflux esophagitis
   e) Esophageal diverticulum
891. CM. Eso-gastric balloon tamponade in case of variceal upper digestive bleeding is indicated in:
   a) **Bleeding from esophageal or gastric varices when conservative and endoscopic therapy is not effective**
   b) **Bleeding from esophageal and gastric varices when endoscopic hemostasis is not possible**
   c) Bleeding from esophageal or gastric varices stopped by endoscopic way
   d) Bleeding from esophageal or gastric varices stopped conservatively
   e) Positive anamnesis of hemorrhage from esophageal or gastric varices in the last 2 weeks

892. CS. Haemostatic balloon tamponade in cases of upper digestive hemorrhage from varices with gastric localization is possible with:
   a) Nasogastric tube
   b) Orogastric tube
   c) **Linton-Nachlas tube**
   d) Sengstaken-Blakemore tube
   e) Nasogastroduodenal tube

893. CS. Prolonged haemostatic balloon tamponade in case of upper digestive bleeding from esophageal varices can cause:
   a) Reflux esophagitis
   b) Mallory-Weiss syndrome
   c) Rupture of esophageal balloon of tube
   d) **Esophageal mucosal necrosis and ulceration**
   e) Recurrence of bleeding

894. CS. With the aim of preventing esophageal mucosa necrosis following prolonged haemostatic balloon tamponade with Sengstaken-Blakemore tube it is recommended to:
   a) Deflate gastric balloon over 24-48 hours after tube insertion
   b) **Deflate esophageal balloon over 24-48 hours after tube insertion**
   c) Inflate esophageal balloon over 24-48 hours after tube insertion
   d) Withdraw temporary the tube over 24-48 hours after insertion
   e) Change the tube over every 24-48 hours

895. CM. Indicate pathological conditions that can be diagnosed by anoscopy:
   a) **Hemorrhoidal disease**
   b) Pilonidal disease
   c) Anal fissure
   d) Anal itching
   e) Perirectal fistula

896. CS. Endoscopic examination with rigid sigmoidoscope allows visualization of:
   a) Whole sigmoid colon
   b) 50 cm of distal sigmoid colon
c) 30 cm of distal sigmoid colon

d) 50 cm of distal intestine

e) 30-35 cm of distal intestine

897. CS. For urethral catheterization is used:

a) Fogarty catheter

b) Foley catheter

c) Swan-Ganz catheter

d) Cantor catheter

e) Seldinger catheter

898. CM. The complications of urethral catheterisation includes:

a) Urethral trauma

b) Acute urinary retention

c) Urinary tract infection

d) Phimosis

e) Oliguria

899. CM. Laparocentesis is indicated in the following conditions:

a) Suspected traumatic haemoperitoneum

b) Tension ascites

c) Suspected acute appendicitis

d) Acute abdominal intermittent pain

e) Acute abdominal continuing pain