

Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation

BANK OF ASSESSMENT TOOLS FOR DISCIPLINE/PRACTICE
TRAUMATOLOGY and ORTHOPEDICS

Training program (specialty): **31.05.01 GENERAL MEDICINE**
code, name

Department: TRAUMATOLOGY, ORTHOPEDICS AND
NEUROSURGERY named after M.V. Kolokoltsev

Mode of study FULL-TIME
(full-time/mixed attendance mode/extramural)

Nizhniy Novgorod
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1. Bank of assessment tools for the current monitoring of academic performance, mid-term assessment of students in the discipline / practice

This Bank of Assessment Tools (BAT) for the discipline TRAUMATOLOGY and ORTHOPEDICS is an integral appendix to the working program of the discipline TRAUMATOLOGY and ORTHOPEDICS. All the details of the approval submitted in the WPD for this discipline apply to this BAT.

2. List of assessment tools

The following assessment tools are used to determine the quality of mastering the academic material by students in the discipline/ practice:

No.	Assessment tool	Brief description of the assessment tool	Presentation of the assessment tool in the BAT
1	Test №1	A system of standardized tasks that allows you to automate the procedure of measuring the level of knowledge and skills of a student	Bank of test tasks
	Test №2		
2	Situational tasks	A method of control that allows you to assess the criticality of thinking and the degree of the material comprehension, the ability to apply theoretical knowledge in practice.	List of tasks
3	Report	The product of the student's independent work, which is a public presentation about the results obtained by solving a certain educational, practical, research or scientific topic	Topics of reports, presentations
4	Interview	A tool of control organized as a special conversation between the teacher and the student on topics related to the discipline being studied, and designed to clarify the amount of knowledge of the student on a specific section, topic, problem, etc.	Questions on topics/sections of the discipline

Approximate list of assessment tools (select the one you need)

№	Name of assessment tool	Brief description of the assessment tool	Presentation of assessment tool in the bank
1	Test №1	A system of standardized tasks that allows you to automate the procedure of measuring the level of knowledge and skills of a student	Bank of test tasks
	Test №2		
3	Course work (project)	A tool of verifying the ability to present the results of theoretical, calculated, analytical, experimental studies	List of coursework topics (projects)
4	Business/role-playing game	Joint activity of a group of students and a teacher under the guidance of a teacher in order to solve educational and professionally-oriented tasks by game modeling of a real problem situation. It allows you to evaluate the ability to analyze and solve typical professional	Topic (problem), concept, roles and expected outcome for each game

		tasks	
5	Case - task	A problem task in which the student is offered to comprehend a real professionally-oriented situation necessary to solve this problem.	Tasks for solving cases
6	Colloquium	A tool of controlling the mastering of study materials of a topic, section or sections of a discipline, organized as a class in the form of an interview between a teacher and students.	Questions on topics/sections of the discipline
7	Round table, discussion, controversy, debate	Assessment tools that allow students to be included in the process of discussing a controversial issue, problem and evaluate their ability to argue their own point of view	List of discussion topics for a round table, discussion, polemic, debate
8	Portfolio	A targeted selection of student's works, revealing his/her individual academic achievements in one or more academic disciplines	Portfolio structure
9	Project	The final product obtained as a result of planning and execution of a complex of educational and research tasks. It allows students to evaluate the ability to independently construct their knowledge in the process of solving practical tasks and problems, navigate the information space and the level of formation of analytical, research skills, practical and creative thinking skills. It can be performed individually or by a group of students	Topics of group and/or individual projects
10	Workbook	A didactic complex designed for independent work of the student and allowing to assess the level of mastering study materials	Workbook sample
11	Solving sets of tasks	The following tasks are distinguished : a) of reproductive level, allowing to evaluate and diagnose knowledge of factual material (basic concepts, algorithms, facts) and the ability to correctly use special terms and concepts, recognition of objects of study within a certain section of the discipline; b) of reconstructive level, allowing to evaluate and diagnose the ability to synthesize, analyze, summarize factual and theoretical material with the formulation of specific conclusions, the establishment of cause-and-effect relationships; c) of creative level, allowing to evaluate and diagnose skills, integrate knowledge of various fields, argue your own point of view	A set of multi-level tasks
12	Essay	A tool that allows you to evaluate the student's ability to state the essence of the problem in writing, independently analyze this problem using concepts and analytical tools of the relevant discipline, and draw conclusions summarizing the author's position on the problem.	The subject of the essay
13	Control work	A tool of checking the ability to apply acquired knowledge for solving problems	Set of control

		of a certain type by topic or section	tasks in variants
14	Creative task	A partially regulated task that has a non-standard solution and allows you to diagnose skills, integrate knowledge of various fields, and argue own point of view. It can be performed individually or by a group of students.	Group topics and/or individual creative tasks
15	Abstract	The product of the student's independent work, which is a summary in writing of the results of the theoretical analysis of a certain scientific (educational and research) topic, where the author reveals the essence of the problem under study, provides various points of view, as well as his /her own views on it.	List of abstract topics
16	Terminological dictation	A knowledge testing tool that allows you to evaluate the theoretical training of a student.	List of terms
17	Individual survey	A control tool that allows you to assess the degree of comprehension of the material	List of questions
18	Interview	A tool of control organized as a special conversation between the teacher and the student on topics related to the discipline being studied, and designed to clarify the amount of knowledge of the student on a specific section, topic, problem, etc.	Questions on topics/sections of the discipline
19	Situational tasks	A method of control that allows you to assess the criticality of thinking and the degree of the material comprehension, the ability to apply theoretical knowledge in practice.	List of tasks
20	Report	The product of the student's independent work, which is a public presentation about the results obtained by solving a certain educational, practical, research or scientific topic	Topics of reports, presentations

3. A list of competencies indicating the stages of their formation in the process of mastering the educational program and the types of evaluation tools

Code and formulation of competence*	Stage of competence formation	Controlled sections of the discipline	Assessment tools
UC-1.	Current/Mid-term	<p>ID-1 UC-1.1 Ability to analyze the etiology, pathogenesis, clinic of the most common injuries and orthopedic diseases.</p> <p>ID-2 UC-1.2 Develop a strategy for examination and preliminary diagnosis with subsequent referral to the appropriate specialist doctor of the victim with injuries of the musculoskeletal system and orthopedic patient</p>	<i>Test, Situational tasks, Report/Interview</i>

GPC-5	Current/Mid-term	<p>ID-1 GPC-5.1 Ability to assess the pathogenesis, clinical manifestations of orthopedic diseases and injuries of the musculoskeletal system.</p> <p>ID-2 GPC-5.2 Ability to perform a general clinical examination with injuries of the musculoskeletal system and the most common orthopedic diseases.</p> <p>ID -3 GPC-5.3 Ability make a preliminary diagnosis followed by referral to the appropriate specialist doctor</p>	<i>Test, Situational tasks, Report/Interview</i>
GPC-7	Current/Mid-term	<p>ID-1 GPC-7.1 Knows modern methods of conservative and surgical treatment of patients with the most common injuries of the musculoskeletal system and indications for their use, possible complications of injuries and their treatment.</p> <p>ID-2 GPC-7.2 Able to develop a treatment plan for patients with injuries and the most common orthopedic diseases in accordance with the procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; prevent or eliminate complications that have arisen as a result of diagnostic or therapeutic manipulations</p> <p>ID-3 GPC-7.3 Has practical experience in developing a treatment plan for patients with the most common injuries and diseases of the musculoskeletal system; providing emergency and emergency medical care to patients with severe injuries, in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; selection and prescription of drugs, medical devices for the treatment of patients with injuries and diseases of the musculoskeletal system in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; evaluation of the efficacy and</p>	<i>Test, Situational tasks, Report/Interview</i>

		safety of the use of drugs, medical devices and non-drug treatment in patients with injuries and the most common orthopedic diseases; selection and appointment of non-drug treatment to patients with the most common injuries and orthopedic diseases in accordance with the procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; prevention and treatment of complications arising from diagnostic or therapeutic manipulations	
PC-1	Current/Mid-term	<p>ID-1 PC-1.1 Knows: etiology, pathogenesis and clinical picture of life-threatening conditions in injuries of the musculoskeletal system; method of physical examination (examination, palpation, percussion, auscultation).</p> <p>ID-2 PC-1.2 Can: identify clinical signs of life-threatening conditions in injuries of the musculoskeletal system that require medical care in emergency or emergency forms.</p>	<i>Test, Situational tasks, Report/Interview</i>
PC -5	Current/Mid-term	<p>ID-1 PC-5.1 Knows: <u>Legislation</u> of the Russian Federation in the field of health protection, regulatory legal acts and other documents determining the activities of medical organizations and medical workers; methods of collecting complaints, anamnesis of trauma and illness of the patient; methods of complete physical examination of the patient (examination, palpation, percussion, auscultation); etiology, pathogenesis and pathomorphology, clinical picture of injuries and diseases of the musculoskeletal system; methods laboratory and instrumental studies to assess the state of health, medical indications for research, rules for interpreting their results.</p> <p>ID-2 PC-5.2 Can: collect complaints, anamnesis of the patient's life and illness and analyze the information received; conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation) and</p>	<i>Test, Situational tasks, Report/Interview</i>

		interpret its results; determine the order of volume, content and sequence of diagnostic measures	
PC -6	Current/Mid-term	<p>ID-1 PK-6.1 Knows: general issues of organizing medical care for traumatological and orthopedic patients, methods of laboratory and instrumental research in traumatology and orthopedics; medical indications for research, rules for interpreting their results; procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, standards of medical care</p> <p>ID-2 PC-6.2 Can: justify the need for radiological examination of a traumatological-orthopedic patient; justify the need and scope of laboratory and instrumental examination of the patient; justify the need to refer a traumatological-orthopedic patient for consultations to specialist doctors</p>	<i>Test, Situational tasks, Report/Interview</i>

* - not provided for postgraduate programs

4. The content of the assessment tools of entry, current control

Assessment tools for current control.

Tests

Test 1 "TRIAGE. Assessment. Resuscitation. Airway opening"

Test 2 "Traumatic shock"

Test 3 "Wounds. Wound infection. Compound fractures. Gun shot injuries. Osteomyelitis.

Primary and secondary surgical debridement. External fixation. Ilizarov method."

Test 4 "Burns. Classification of depth and extent. Burn disease. Assessment. Emergency care.

Treatment of burns. Skin grafting."

Test 5 "Fracture classification. Signs of fractures. General principles of fracture management.

First aid. Splinting of a fracture"

Test 6 "Methods of fracture management. Plaster of Paris cast. Skeletal traction. Surgical treatment."

Test 7 "Definition of orthopaedics. Emblem of orthopaedics. Etiology of orthopaedic disorders."

Test 8 "Bone healing. Stages and kinds of bone healing. Factors influencing bone healing. Immobilization times."

Test 9 "Degenerative arthrosis (osteoarthritis). Arthroplasty of joints."

Test 10 "Management of fractures in elderly patient"

Test 11 "Injuries of the knee"

Test 12 "Polytrauma. Damage control."

Test 13 "Brain and Spine Trauma"

Test 14 "Congenital deformities. Cerebral palsy. Osteochondritis. Pediatric fractures."

Situational tasks

Situational task 1 "Brain and Spine Trauma. Clinical Tasks"

4.1. TRIAGE. Assessment. Resuscitation. Airway opening.

1. Which of the following patients should not be transported to a trauma center? (UC-1).
 - A. Fifty-year-old female who fell 8 feet from a step ladder, with isolated hip fracture and normal vital signs.
 - B. Fifteen-year-old bicyclist with closed head injury and Glasgow Coma Scale score of 12.
 - C. Three-year-old infant passenger (restrained) in motor vehicle accident with normal vital signs and no apparent injuries except abdominal wall contusion.
 - D. Twenty-three-year-old male assault victim with stab wound to the back, normal vital signs, and respiratory distress.

2. Trauma deaths most commonly occur at three distinct time periods after injury. Which of the following statement(s) is/are true concerning the time pattern of trauma mortality? (PC -6)
 - A. Death one day to weeks after the injury are almost entirely due to infection and multiple organ failure
 - B. Late mortality in trauma patients, occurring days to weeks after the injury, has not been affected by better trauma delivery systems
 - C. Only 10% of trauma deaths occur within seconds or minutes of the injury
 - D. A second mortality peak occurs within hours of injury with deaths in this time period being markedly reduced with the development of trauma and rapid transport systems

3. Which of the following statement(s) is/are true concerning the epidemiology of trauma? (PC -6)
 - A. Trauma follows only cancer and heart disease as leading causes of productive life lost
 - B. Trauma is the leading cause of death of individuals less than 44 years of ageMotor vehicle accidents are the most common cause of traumatic death in young males of all ethnic groups
 - C. Young males are the population at highest risk for trauma death

4. Which of the following steps is/are not the part of the primary survey in a trauma patient? (UC-1).
 - A. Insuring adequate ventilatory support
 - B. Examination of the cervical spine
 - C. Neurologic evaluation with the Glasgow Coma Scale
 - D. Measurement of blood pressure and pulse

5. Immediate life-threatening injuries that preclude air exchange which can be treated in the field include which of the following? (PC-1)
 - A. Massive open chest wounds
 - B. Sucking chest wounds
 - C. Tension pneumothorax
 - D. Tracheal disruption

6. Which of the following conclusions can be drawn from prospective randomized studies involving restoration of circulation in the field? (UC-1).
 - A. Hypertonic saline has been shown to exacerbate bleeding and precipitate coagulopathy
 - B. Hypertonic saline, used as resuscitation fluid, provides no benefit to patients
 - C. Pneumatic anti-shock garment is of benefit only in patients with a field blood pressure less than 50
 - D. Patients with major vascular injury should not receive intravenous fluid infusion until bleeding can be controlled in the operating room

7. The treatment of frostbite with rewarming should begin... (UC-1).
 - A. Immediately in the field

B. In the Emergency Room

8. There are a number of injuries associated with common orthopedic injuries. Which of the following diagnosed orthopedic injuries is associated with the injury listed? (PC-1)

- A. Sternal fracture—cardiac contusion
- B. Pelvic fracture—ruptured bladder or urethral transection
- C. Posterior dislocation of the knee—popliteal artery thrombosis
- D. Posterior dislocation of hip—sciatic nerve injury

9. A number of systems have been developed in an effort to allow comparison of trauma injuries and trauma patients among institutions. Which of the following statement(s) is/are true concerning trauma scoring systems? (UC-1).

- A. The Revised Trauma Score uses the physiologic parameters of blood pressure, heart rate, and head injury to mathematically assess injury severity
- B. The Triss System is the most complete system in combining trauma score and anatomic component as well as patient age
- C. The Abbreviated Injury Scale (AIS) is a specific anatomic index
- D. The Injury Severity Score (ISS) correlates not only the severity of the injury but adjusts for patient age and comorbid risk factors

10. Valid points concerning the initial physical examination in a burn patient include which of the following statement(s)? (PC -5)

- A. Inhalation injury is suggested by the presence of singed facial hair and nasal vibrissae, carbonaceous sputum, and a hoarse voice
- B. All corneal injuries are obvious on initial physical examination
- C. Blistering in or around the mouth may suggest hot liquid aspiration in small children
- D. Patients should be examined in a warm environment to prevent hypothermia

4.2. Traumatic Shock.

1. Cardiac contusions caused by blunt chest trauma (UC-1).

- A. Demonstrate arrhythmia as the most common complication
- B. Do not usually cause right ventricular dysfunction
- C. Occur in up to 20% to 40% of patients with major blunt thoracic trauma
- D. Are fairly easy to diagnose

2. Which of the following statements about head injuries is/are false? (UC-1).

- A. The majority of deaths from auto accidents are due to head injuries
- B. A rapid and complete neurologic examination is part of the initial evaluation of the trauma patient
- C. Head injury alone often produces shock
- D. Optimizing arterial oxygenation is part of initial therapy

3. Which of the following statements or descriptions typically characterizes the syndrome of overwhelming postsplenectomy sepsis? (UC-1).

- A. A syndrome of rapidly appearing septic shock unresponsive to antibiotic therapy, with an average mortality of 50%.
- B. A syndrome that occurs in 5% to 7% of patients following traumatic splenectomy.
- C. A syndrome of fulminant gram-negative bacteremia and septicemia in asplenic individuals, characterized by the presence of as many as 10⁶ bacterial organisms per cu. mm. circulating in the bloodstream.
- D. A syndrome caused primarily by impaired host ability to mount an effective humoral (immunoglobulin) response to infection.

4. There are a number of options for resuscitative fluids. Which of the following statement(s) is/are true concerning fluids used for resuscitation of shock? (PC -6).

- A. Risks of autotransfused blood include disseminated intravascular coagulation and activation of fibrinolysis
- B. The literature strongly supports the use of colloid as being superior to crystalloid in the resuscitation of shock
- C. Hypertonic saline solution results in volume expansion, an increase in left ventricular performance, decreased peripheral resistance, and redistribution of cardiac output to kidneys and viscera

Resuscitation with crystalloid requires volume replacement in a ratio of 1:1 to volume lost

- D. The use of perfluorocarbons as an experimental resuscitative fluid has been demonstrated to stimulate the immune system

5. Hemorrhage initiates a series of compensatory responses. Which of the following statement(s) is/are true concerning the physiologic responses to hemorrhagic shock? (PC -6).

- A. Extracellular fluid becomes increasingly hyperosmolar
- B. Transcapillary refill is a response serving to restore circulating volume
- C. Adrenergically mediated vasoconstriction is well maintained at the arteriolar and precapillary sphincters
- D. An immediate response is an increased sympathetic discharge with resultant reflex tachycardia and vasoconstriction

6. Which of the following steps is/are part of the primary survey in a trauma patient? (UC-1).

- A. Measurement of blood pressure and pulse
- B. Insuring adequate ventilatory support
- C. Neurologic evaluation with the Glasgow Coma Scale
- D. Examination of the cervical spine

7. Which of the following statement(s) is/are true concerning endotracheal intubation at the site of injury?

- A. Indications for intubation in the field include respiratory distress, significant head injury, severe chest injury and hypovolemic shock
- B. If patients clench their teeth violently, endotracheal intubation is impossible without the use of paralytic agents
- C. Bag valve mask systems are equally as efficient as endotracheal intubation for early management of the trauma patient
- D. Paramedic intubation in the field is successful in over 90% of cases

8. A 75-year-old man is involved in a motor vehicle accident. Which of the following statement(s) is/are true concerning this patient's injury and management? (PC -1)

- A. Hypertonic solutions should not be used for resuscitation due to concerns for fluid overload
- B. There is no role for inotropic agents in the management of this patient
- C. The patient would be more prone to a subdural hematoma than a younger patient
- D. Acceptable vital sign parameters are similar across all age groups

9. Which of the following statement(s) is/are true concerning the Advanced Trauma Life Support (ATLS) classification system of hemorrhagic shock? (PC -6)

- A. Class III hemorrhage can usually be managed by simple administration of crystalloid solution
- B. In Class II shock there will be evidence of change in vital signs with tachycardia, tachypnea and a significant decrease in systolic blood pressure
- C. Class IV hemorrhage involves loss of over 40% of blood volume loss and can be classified as life-threatening
- D. Class I shock is equivalent to voluntary blood donation

10. Which of the following statement(s) is/are true concerning Emergency Room thoracotomy? (PC - 6)
- A. Overall survival rates approach 25%
 - B. None of the above
 - C. All patients with penetrating trauma to the chest and the absence of vital signs are candidates for ER thoracotomy
 - D. Blunt trauma patients without signs of life upon arrival in the Emergency Room are candidates for Emergency Room thoracotomy

4.3. Wound

1. Immediate life-threatening injuries that preclude air exchange which can be treated in the field include which of the following? (UC-1)
- A. Massive open chest wounds
 - B. Tension pneumothorax
 - C. Sucking chest wounds
 - D. Tracheal disruption
2. Which of the following statement(s) is/are true concerning the biomechanics of penetrating injuries? (UC-1)
- A. The frontal area of impact of a bullet is determined by the caliber of the bullet
 - B. A high velocity gunshot wound creates a vacuum pulling clothing, bacteria, and other debris into the wound
 - C. Stab wounds are associated with significant cavitation
 - D. A hollow point bullet is associated with an enlarged area of injury
3. In which of the following clinical situations is peritoneal lavage indicated? (PC-1)
- A. A hemodynamically unstable patient with a high suspicion of intraabdominal hemorrhage
 - B. A patient with major noncontiguous injuries (i.e., chest and lower extremity)
 - C. A patient with suspected intraabdominal injury who will undergo prolonged general anesthesia for another injury outside the abdomen
 - D. A patient with an abdominal knife wound
 - E. A patient with a high velocity abdominal gunshot wound
4. An 18-year-old male suffers a gunshot wound to the abdomen, resulting in multiple injuries to the small bowel and colon. Which of the following statement(s) is/are true concerning this patient's perioperative management? (PC-1)
- A. A multi-agent antibiotic regimen is indicated
 - B. Laparotomy, as a diagnostic test for postoperative sepsis, should be considered
 - C. Antibiotics should be continued postoperatively for at least 7 days
 - D. The incidence of postoperative wound or intraabdominal infection would be increased in association with a colon injury
5. Which of the following statement(s) is/are true concerning injuries to the chest wall? (PC-1)
- A. The severe ventilatory insufficiency associated with a flail chest is due to the paradoxical motion of the involved segment of chest wall
 - B. Persistent chest tube bleeding at a rate greater than 200 ml/hour for four hours, or greater than 100 ml/hour for eight hours is an indication for thoracotomy for control of hemorrhage
 - C. A 20% incidence of splenic injury is associated with fractures of ribs 9, 10 and 11 on the left
 - D. In most cases of an open pneumothorax, or sucking chest wound, surgical closure is necessary
 - E. The mortality rate currently associated with sternal fractures is as high as 25–30%
6. Which of the following statement(s) concerning the operative approach to abdominal trauma is/are correct? (PC-5)

- A. The initial approach is control of hemorrhage by packing and controlling ongoing contamination from enteric injuries
- B. Central retroperitoneal hematomas should be explored after control of other injuries within the peritoneal cavity
- C. Pelvic hematomas associated with pelvic fractures should be explored
- D. Stable hematomas in the perinephric space lateral to the midline should be explored to rule out renal injury

7. Which of the following statement(s) is/are true concerning the diagnosis and management of pelvic fractures secondary to blunt trauma? (PC-1)

- A. A urethral catheter should be placed immediately in patients with suspected pelvic fracture to allow early peritoneal lavage
- B. Most pelvic fractures are apparent on the basis of physical examination
- C. If a large expanding pelvic hematoma is found at surgery, the intraabdominal injury should be dealt with, and the hematoma explored
- D. The application of pelvic external fixation may be used as the initial step in control of hemorrhage from pelvic fractures
- E. An infra-umbilical approach to peritoneal lavage in a patient with a major pelvic fracture may yield a false-positive rate approaching 50%

8. The treatment of invasive burn wound infection may include which of the following? (PC-5)

- A. Subeschar infusion of half the daily dose of a broad-spectrum penicillin suspended in 1 liter of normal saline.
- B. Specific systemic antibiotic therapy
- C. Amputation when the infection has extended to involve underlying muscle.
- D. Use of 0.5% silver nitrate soaks for topical therapy
- E. Excision and immediate autografting

9. Which of the following statement(s) is/are true concerning topical antimicrobials in common use? (PC-5)

- A. Silver sulfadiazine has the best eschar penetration
- B. Silver sulfadiazine, mafenide acetate, and 0.5% silver nitrate all have a broad spectrum activity, however, only silver nitrate has anti-fungal activity
- C. The use of 0.5% silver nitrate is associated with trans-eschar leeching of sodium and potassium from the wound
- D. Of the common topical antimicrobials, only mafenide acetate is painful upon application

10. Arguments in favor of early wound excision include which of the following statement(s)? (PC-5)

- A. Hospital stays can be shortened with this technique
- B. A decrease in duration and intensity of the hypermetabolic response is observed
- C. Early burn excision results in fewer painful dressing changes
- D. Enhanced survival is seen in patients with large burn injuries

4.4. Burns

1. The intravenous fluid that a 60 kg., 30-year-old woman with an 80% burn should be given in the first 24 hours following burn injury is (PC-5):

- A. 14.4 liters of lactated Ringer's
- B. 5.5 liters of the pentafraction component of hydroxyethyl starch
- C. 7.2 liters of 5% albumin solution
- D. 19.2 liters of 5% glucose in lactated Ringer's
- E. 9.6 liters of hypertonic salt solution (sodium concentration 200 mEq. per liter)

2. Indications for escharotomy of a circumferentially burned right lower limb include all of the following except (PC-5):

- A. Progressively severe deep tissue pain
 - B. Coolness of the unburned skin of the toes of the right foot
 - C. Absence of pulsatile flow in the posterior tibial artery
 - D. Edema of the unburned skin of the right foot
 - E. A pressure of 40 mm. Hg in the anterior compartment of the distal right leg
3. Which of the following is/are true about inhalation injury in burn patients? (PC-5)
- A. Its presence characteristically necessitates administration of resuscitation fluids in excess of estimated volume
 - B. Prophylactic high-frequency ventilation reduces the occurrence of pneumonia and the mortality in burn patients with inhalation injury
 - C. It increases the prevalence of bronchopneumonia
 - D. When moderate or severe, it exerts a comorbid effect that is related to both extent of burn and the age of the patient
 - E. A chest x-ray obtained within 24 hours of injury is an accurate means of diagnosis
4. Adequacy of fluid resuscitation in burn patients is indicated by which of the following? (PC-5)
- A. Hourly output of 40 ml. of port wine-colored urine in an 80-kg. male who has severe high-voltage electric injury of the right arm and left leg
 - B. A urinary sodium concentration of 4 mEq. per liter
 - C. Hourly urine output of 7 ml. in a 7-kg. 15-month-old child with burns involving 40% of the total body surface
 - D. Urine output of 45 ml. per hr. in a 70-kg. 30-year-old man with flame burns involving 55% of the total body surface
 - E. A pulmonary capillary wedge pressure of 17 to 20 mm. Hg
5. Common electrolyte changes during and after resuscitation in a patient with a burn of 65% of the total body surface include (PC-5):
- A. A serum sodium concentration of 152 mEq. per liter on the fifth postburn day in a 75-kg. male with a 75% burn who has received only calculated maintenance fluids each day following successful resuscitation
 - B. A serum potassium concentration of 5.7 mEq. per liter as a consequence of the destruction of red cells and other tissues in a patient with high-voltage electrical injury
 - C. A serum sodium concentration of 128 mEq. per liter following 48 hours of resuscitation fluid therapy
 - D. Hypokalemia due to the kaliuretic effect of 0.5% silver nitrate soaks
 - E. Hypocalcemia with a low ionized calcium level on the third postburn day as a consequence of dilution and hypoalbuminemia\
6. The clinical and histologic signs of invasive burn wound infection include which of the following? (UC-1)
- A. Delayed separation of the eschar
 - B. The presence of micro-organisms in the unburned subcutaneous tissue in a burn wound biopsy specimen
 - C. Conversion of an area of partial-thickness burn to full-thickness necrosis
 - D. Perineural and perivascular microbial migration through the eschar with proliferation of micro-organisms in the subeschar space
 - E. Focal dark red or dark brown discoloration of the eschar
7. The treatment of invasive burn wound infection may include which of the following? (PC-5)
- A. Excision and immediate autografting
 - B. Amputation when the infection has extended to involve underlying muscle
 - C. Subeschar infusion of half the daily dose of a broad-spectrum penicillin suspended in 1 liter of normal saline

- D. Use of 0.5% silver nitrate soaks for topical therapy
- E. Specific systemic antibiotic therapy

8. The treatment of patients with high-voltage electric injury differs from that of patients with conventional thermal injury with respect to the need for (PC-5):

- A. Amputation
- B. Hemodialysis
- C. Pulse oximetry
- D. Fasciotomy
- E. Prehospital cardiopulmonary resuscitation

9. Therapeutic interventions needed for specific chemical agents include which of the following? (PC-5)

- A. Prolonged saline irrigation of eyes injured by concentrated sodium hydroxide using a scleral lens with an irrigating sidearm
- B. Administration of an emetic agent as immediate treatment following lye ingestion
- C. Intra-arterial infusion of calcium gluconate for relief of refractory deep tissue pain due to hydrofluoric acid injury
- D. Use of propylene glycol to remove residual phenol following water lavage
- E. Application of 5% copper sulfate solution soaks to areas of embedded particles of white phosphorus

10. Characteristics of the hypermetabolic response to burn injury include (PC-1):

- A. Ambient temperature dependency of metabolic rate
- B. Oxidation of stored lipid as the major source of metabolic energy
- C. Elevation of core temperature, skin temperature, and core-to-skin heat transfer
- D. A curvilinear relationship to the extent of burn
- E. A marked increase of blood flow to the burn wound

4.5. Fractures

1. A 22-year-old male is hospitalized with multiple extremity fractures including a comminuted fracture of the femur and multiple rib fractures. Which of the following statement(s) is/are true concerning his hospital course? (PC-5)

- A. Low-dose heparin should not be employed during his hospital stay
- B. Acute respiratory failure associated with petechiae of the head, torso, and sclerae would suggest a pulmonary embolism
- C. The placement of a Greenfield filter should be avoided due to the risk of lower extremity edema
- D. Early fracture fixation would decrease the incidence of fat embolism?

2. Which of the following patients should be transported to a trauma center? (PC-6)

- A. Twenty-three-year-old male assault victim with stab wound to the back, normal vital signs, and respiratory distress
- B. Three-year-old infant passenger (restrained) in motor vehicle accident with normal vital signs and no apparent injuries except abdominal wall contusion
- C. Fifty-year-old female who fell 8 feet from a step ladder, with isolated hip fracture and normal vital signs.
- D. Fifteen-year-old bicyclist with closed head injury and Glasgow Coma Scale score of 12.

3. Which of the following statements about maxillofacial trauma is/are false? (UC-1)

- A. The mandible is the most common site of facial fracture
- B. Loss of upward gaze may indicate either an orbital floor or orbital roof fracture
- C. The Le Fort II fracture includes a horizontal fracture of the maxilla along with nasal bone fracture

- D. Asphyxia due to upper airway obstruction is the major cause of death from facial injuries
4. A 28-year-old male was injured in a motorcycle accident in which he was not wearing a helmet. On admission to the emergency room he was in severe respiratory distress and hypotensive (blood pressure 80/40 mm. Hg), and appeared cyanotic. He was bleeding profusely from the nose and had an obviously open femur fracture with exposed bone. Breath sounds were decreased on the right side of the chest. The initial management priority should be: (PC-5)
- A. Endotracheal intubation with in-line cervical traction
 - B. Obtain cross-table cervical spine film and chest film
 - C. Obtain intravenous access and begin emergency type O blood transfusions
 - D. Tube thoracostomy in the right hemithorax
 - E. Control of hemorrhage with anterior and posterior nasal packing
5. A middle-aged construction worker had a significant fall on the job and presents with obvious high cervical spine injury. Which of the following statement(s) is/are true concerning his diagnosis and management? (PC-5)
- A. The use of methylprednisolone beginning 24 hours after the injury will be indicated
 - B. The patient's extremities are likely to appear warm and well perfused despite the presence of hypotension
 - C. A paradoxical breathing pattern in which the abdomen protrudes on inhalation may be observed
 - D. The presence of hypotension strongly suggests significant blood loss from associated injury
 - E. If the patient appears well compensated on initial evaluation, intubation is unlikely to be necessary
6. Which of the following statement(s) is/are true concerning injuries to the chest wall? (PC-5)
- A. The mortality rate currently associated with sternal fractures is as high as 25–30%
 - B. The severe ventilatory insufficiency associated with a flail chest is due to the paradoxical motion of the involved segment of chest wall
 - C. Persistent chest tube bleeding at a rate greater than 200 ml/hour for four hours, or greater than 100 ml/hour for eight hours is an indication for thoracotomy for control of hemorrhage
 - D. In most cases of an open pneumothorax, or sucking chest wound, surgical closure is necessary
 - E. A 20% incidence of splenic injury is associated with fractures of ribs 9, 10 and 11 on the left
7. A 22-year-old male driving a car at a high speed and not wearing a seatbelt, leaves a road and crashes with a full frontal impact into a tree. Which of the following injury patterns may be predictable from this type of motor vehicle accident? (PC-1)
- A. Laceration to the aorta
 - B. Orthopedic injuries involving the knees, femurs, or hips
 - C. Hyperextension of the neck with cervical spine injury
 - D. Diaphragmatic rupture due to marked increase in intraabdominal pressure
8. There are a number of injuries associated with common orthopedic injuries. Which of the following diagnosed orthopedic injuries is associated with the injury listed? (PC-1)
- A. Posterior dislocation of the knee—popliteal artery thrombosis
 - B. Pelvic fracture—ruptured bladder or urethral transection
 - C. Sternal fracture—cardiac contusion
 - D. Posterior dislocation of hip—sciatic nerve injury
9. Which of the following statement(s) is/are true concerning the diagnosis and management of pelvic fractures secondary to blunt trauma? (PC-5)
- A. An infra-umbilical approach to peritoneal lavage in a patient with a major pelvic fracture may yield a false-positive rate approaching 50%

- B. The application of pelvic external fixation may be used as the initial step in control of hemorrhage from pelvic fractures
- C. Most pelvic fractures are apparent on the basis of physical examination
- D. If a large expanding pelvic hematoma is found at surgery, the intraabdominal injury should be dealt with, and the hematoma explored
- E. A urethral catheter should be placed immediately in patients with suspected pelvic fracture to allow early peritoneal lavage

10. Nasotracheal intubation (PC-1):

- A. Maximizes neck manipulation
- B. Is contraindicated in the patient who is breathing spontaneously
- C. Is preferred for the unconscious patient without cervical spine injury
- D. Is preferred for patients with suspected cervical spine injury

4.6. Fracture management

1. What is the earliest symptom of Volkmann's contracture following application of circular POP cast:

Choose the right answer:

- a. Contracture of fingers
- b. Gangrene of tips of fingers
- c. Paraesthesia in median nerve area
- d. Severe pain

2. Commonest cause of failure of internal fixation is:

Choose the right answer

- a. Immune deficient patient
- b. Corrosion
- c. Infection
- d. Stress fracture of implant
- e. Metal reaction
- e. Pallor and poor capillary filling

3. Internal fixation of fracture is contraindicated in which situation:

Choose the right answer

- a. When bone gap is present
- b. In epiphyseal injuries
- c. In compound fracture
- d. Active infection
- e. In pathological fracture

4. Most often open reduction of fracture is required in:

Choose the right or some answer:

- a. Compound fracture
- b. Non union
- c. Unsatisfactory closed reduction
- d. Closed fracture with nerve injury
- e. Fracture in children

5. Fracture disease can be prevented by:

Choose the right answer:

- a. Cast brace treatment of fracture
- b. External fixation of fracture
- c. Plaster immobilization of fracture
- d. Physiotherapy
- e. Internal fixation of fracture

6. Which of the following are commonest materials used to make orthopaedic implant:

Choose the right or some answer:

- a. Stainless steel
- b. Titanium
- c. Carbon
- d. Methyl-methacrylate
- e. Polyethylene

7. Commonest complication while using external fixation is:

Choose the right answer

- a. Compartment syndrome
- b. Pin tract infection
- c. Loosening of pins
- d. Fixation of muscles
- e. Joint stiffness

8. A patient who has sustained open wound on leg is bleeding profusely. Before patient arrives in hospital the safest method to stop bleeding is:

Choose the right answer

- a. Elevation of leg
- b. Local pressure on wound and elevation of leg
- c. Ligation of bleeding vessel
- d. Pressure over femoral artery in groin
- e. Use of tourniquet

9. Which of the following fractures are slowest to heal and often develops non-union:

Choose the right or some answer:

- a. Surgical neck of humerus
- b. Intracapsular femoral neck fracture
- c. Scaphoid
- d. Distal radius
- e. Anatomical neck of humerus

10. Chemically Plaster of Paris is:

Choose the right answer

- a. Anhydrous calcium sulphate
- b. Calcium sulphate
- c. Hemihydrated calcium sulphate
- d. Calcium phosphate
- e. Calcium carbonate

4.7. Fracture management Etiology orthopedic disorders

1. Acute osteomyelitis is commonly caused by:

- a. H. influenzae
- b. Staph aureus
- c. S. pyogenes
- d. Salmonella

2. What is not True of Brodie's abscess:

- a. Common to diaphysis
- b. A form of chronic osteomyelitis
- c. Excision is very often required
- d. Intermittent pain and swelling

3. Tuberculosis of the spine most likely originates from:

- a. Ligamentous structures
- b. Paravertebral soft tissue
- c. Cancellous vertebral body
- d. Intervertebral disk

4. In Pott's spine, the disease starts in the:

- a. Posterior vertebral margin
- b. Paravertebral soft tissue

- c. Anterior vertebral margin
 - d. Intervertebral disk
5. Osteoid osteoma originates from:
- a. All of the above
 - b. Medullary cavity
 - c. Periosteum
 - d. Cortex
6. The synonym for Paget's disease is:
- a. Osteitis fibrosa
 - b. None of the above
 - c. Osteitis proliferans
 - d. Osteitis deformans
7. Osteoporosis is a deficiency in:
- a. None of the above
 - b. Calcium metabolism
 - c. Protein supporting tissue
 - d. All of the above
8. Localized bone sclerosis may be due to:
- a. Bone tumors
 - b. All of the above
 - c. Osteoarthritis
 - d. Sclerosing osteoperiostitis
 - e. Syphilis
 - f. Calcium deposition
9. In rheumatoid arthritis the
- a. synovial membrane characteristically undergoes marked hypertrophy
 - b. fibrosis in the joint capsule and ligaments produces the main deforming forces in the early stages of the disease
 - c. principal lesion is an area of fibrinoid necrosis surrounded by fibroblasts
 - d. permanent deformity in the late stage of the disease is usually due to bone ankylosis

4.8. Bone Healing

1. Origin of bone is from:
- a. Mesoderm
 - b. All of the above
 - c. Endoderm
 - d. Ectoderm
 - e. radiological signs occur at a late stage in the disease
2. Dislocation of the sternoclavicular joint:
- a. displaces the clavicle upwards and medially
 - b. is usually accompanied by fracture of the first rib
 - c. is usually treated by internal fixation
 - d. very rarely causes any compression of the trachea or vessels in the neck
 - e. All Above
 - f. is usually caused by a fall on the outstretched hand
3. Fracture involving which part of humerus can cause delayed ulnar palsy:
- a. Medial epicondyle
 - b. Surgical neck
 - c. Shaft
 - d. Lateral epicondyle
4. A fracture of the midshaft of the clavicle is best treated by
- a. a broad arm sling and analgesics
 - b. an intramedullary nail
 - c. clavicle rings

- d. open reduction and plating
- 5. Recurrent shoulder joint dislocation is best treated by:
 - a. Bankart's operation
 - b. Arthrodesis of the joint
 - c. Putti-Platt's operation
 - d. Physiotherapy
 - e. Nicola's operation
- 6. The enzyme found in osteoclasts but not in osteoblasts is:
 - a. Alkaline phosphatase
 - b. Cytochrome oxidase
 - c. Elastase
 - d. Acid phosphatase
- 7. A child with mid clavicular fracture and overriding of the fragments is best treated by:
 - a. Figure-of-eight bandage
 - b. Closed reduction and plaster fixation
 - c. Manipulative reduction and abduction splint
 - d. Open reduction and internal fixation
 - e. Supine bed rest with interscapular sandbag support
- 8. In shoulder dislocations, the humeral head usually dislocates primarily in which of the following directions:
 - a. Anteriorly
 - b. Posteriorly
 - c. Superiorly
 - d. Laterally
 - e. Inferiorly
- 9. Which of the following statements is untrue concerning the enzyme alkaline phosphatase:
 - a. Is excreted in the bile
 - b. Is present in high concentrations in liver cells
 - c. Is elevated in the serum of patients with healing fractures
 - d. Has a normal serum concentration of 3-13 KA units
 - e. Is ↑ in the serum of patients with rickets and osteomalacia
- 10. In a healing fracture
 - a. the tissue formed by the invading osteoblasts is termed osteoid
 - b. calcium salts are laid down in the osteoid tissue
 - c. the hematoma is initially invaded by osteoblasts
 - d. the final stage of repair is the remodeling of the callus
 - e. osteoid tissue is formed in an acid pH

4.9. Degenerative arthrosis (Osteoarthritis)

- 1. Osteoarthritis occurs as result of:
 - a. gradual degeneration of the movable joint due to wear and tear of the articular cartilage with advancing age
 - b. Deficiency of calcium in young people
 - c. low levels of estrogen in older women
- 2. Osteoarthritis affecting the distal inter phalangeal joint (i.e first finger joint from finger ti):
 - a. Heberden's nodes
 - b. Richards nodes
 - c. bouchard's nodes
- 3. Osteoarthritis when involves the thumb base gives it a:
 - a. squared appearance
 - b. triangular appearance
 - c. oval appearance
- 4. Bony crepitus which is heard on moving the knee affected with osteoarthritis:
 - a. sensation of weakness in the bone

- b. sensation of bone rubbing against bone a
- c. sensation of bubbles in the bone

5. The term 'Generalized osteoarthritis is used when:

- a. More than one joint is involved
- b. Three or more joints involved
- c. All joint of the body are involved

6. Typical pain of osteoarthritis is:

- a. aggravated by rest and relieved by use
- b. aggravated by use as well as from rest
- c. aggravated by use and relieved by rest

7. In osteoarthritis of the hip joint all following are false except

- a. associated changes in the ankle joint are rare
- b. a femoral osteotomy usually helps halt the progress of the disease process D
- c. the joint capsule becomes stretched and lax
- d. the leg is usually adducted and externally rotated when the patient lies supine

8. Osteoarthritis all the following are true except

- a. commonly not presents with back pain
- b. commonly produces swelling of the distal interphalangeal joints
- c. is characterized by marginal osteophyte formation
- d. symptoms are least apparent in the morning
- e. is the commonest arthropathy

9. Tom Smith arthritis manifest as:

- a. hip stiffness
- b. shortening of limb
- c. increase hip mobility and instability

10. Arthritis of tertiary syphilis most frequently involves:

- a. knee joint
- b. All above
- c. elbow joint
- d. shoulder joint

4.10 Management of fractures in elderly patient

1. In pelvic fractures all the following are false except:

- a. Reduction may need 40 to 50 lb (18 to 23 kg) of traction
- b. undisplaced lesions of the ischial or pubic rami are usually treated by early mobilization
- c. avulsion injuries are usually treated by early mobilization
- d. extraperitoneal urinary extravasation may be due to damage of the base of the bladder
- e. extraperitoneal urinary extravasation may be due to damage either to the membranous urethra or to the base of the bladder
- f. which are unstable, one half of the pelvis is displaced proximally by the flank muscles

2. In fractures of the mid-shaft of the femur all the following are false except:

- a. proximal fragments is usually abducted
- b. proximal fragment is usually flexed
- c. common femoral vessels are usually damaged
- d. distal fragment is usually adducted

3. Extracapsular fractures of the upper end of the femur are

- a. rarely comminuted
- b. usually accompanied by internal rotation of the leg
- c. usually treated by internal fixation
- d. usually subject to avascular necrosis of the head of the femur
- e. usually subtrochanteric in position

4. Colles' fracture is
 - a. fracture of the scaphoid
 - b. a fracture of the head of the radius
 - c. common in elderly women
 - d. a fracture of the clavicle
 - e. a fracture about the ankle joint
5. Spiral fracture is due to:
 - a. Blunt trauma
 - b. Twist
 - c. Axial compression
 - d. Direct impact
6. A greenstick fracture:
 - a. Does not occur in children
 - b. Occurs chiefly in the elderly
 - c. Is a spiral fracture- of tubular bone
 - d. Is a fracture where part of the cortex is intact and part is crumpled or cracked
7. All the following conditions may be responsible for osteoporosis except
 - a. prolonged weightlessness in spaceship
 - b. steroid therapy
 - c. hypothyroidism
 - d. hyperthyroidism
8. Drug of choice for senile osteoporosis is:
 - a. androgens
 - b. estrogens
 - c. ethidrinat
 - d. calcitonin
9. All the following fractures are associated with osteoporosis except
 - a. vertebral fracture
 - b. fracture neck of femur
 - c. Colles' fracture
 - d. fracture of clavicle
10. Osteoporosis is characterized most commonly by:
 - a. backache
 - b. fracture vertebra
 - c. abdominal pain
 - d. bowing legs

4.11 Injuries of knee ankle and foot

1. Which of the following causes acute compartment syndrome most frequently:
 - a. soft tissue injury
 - b. postischemic swelling
 - c. exercise initiated
 - d. fractures
2. Transverse fracture of the patella the treatment is
 - a. wire fixation
 - b. excision of a small fragment
 - c. plaster cylinder
 - d. patellectomy
3. Non-union is a common fracture of
 - a. clavicle
 - b. coracoid process
 - c. supracondylar humerus
 - d. lower tibia

4. Club foot with hypoplasia of calf muscles with inability to extend knee and hips is seen in
 - a. congenital myotonia
 - b. athrogryposis
 - c. still's diseases
 - d. congenital dislocation of hip
5. Fracture involving both the malleoli is:
 - a. dupuytren's fracture
 - b. potts's fracture
 - c. pirogoff's fracture
 - d. cotton's fracture
 - e. reirter's disease
6. Stress fracture not involved
 - a. metatarsals
 - b. tibia
 - c. calcanium
 - d. metacarpals
7. In fracture neck of fibula the following nerve is involved
 - a. medial popliteal nerve
 - b. posterior tibial nerve
 - c. common peroneal nerve
 - d. anterior tibial nerve
8. Healing of knee joint is slow because of:
 - a. weight bearing
 - b. increase movement
 - c. decreased subcutaneous fat
 - d. poor vascularity
9. Pott's fracture is fracture of:
 - a. lower end tibia + calcaneum
 - b. lower end of tibia
 - c. lower end of tibia+ fibula
 - d. calcaneum +talus
10. The commonest cause of pathological fracture is generalized affection is:
 - a. cyst
 - b. carcinoma
 - c. osteoporosis
 - d. all of the above

4.12. Polytrauma damage control and pelvis injury

1. Patient comes with fracture femur in an acute accident the first things to do is
 - a. secure airway and treat the shock
 - b. physical examination
 - c. splinting
 - d. x-ray
2. In an injury with multiple fractures most important is:
 - a. airway maintenance
 - b. intravenous fluids
 - c. blood transfusion
 - d. open reduction of fractures
3. The correct order of priorities in the initial management of head injury is:
 - a. treatment of extra cranial injuries airway breathing circulation
 - b. airway breathing circulation treatment of extra cranial injuries
 - c. airway circulation breathing treatment of extra cranial injuries
 - d. circulation airway breathing treatment of extra cranial injuries
4. Consider the following sign (S):

1. increasing pollar
 2. restlessness
 3. air hunger
 4. water-hammer pulse
- Hemorrhage shock due to acute blood loss includes
- a. water-hammer pulse
 - b. increasing pollar
 - c. air hunger
5. Late complication of acetabular fracture
 - a. secondary osteoarthritis of hip joint
 - b. fixed deformity of the hip joint
 - c. avascular necrosis of iliac crest
 - d. avascular necrosis of head of femur
 6. In pelvis fracture the amount of blood loss is around:
 - a. 4-8 units
 - b. 1-4 units
 - c. 2-4 units
 - d. 2-6 units
 7. Open fracture is treated by:
 - a. debridement
 - b. tourniquet
 - c. internal fixation
 - d. external fixation
 8. A patient presents with compound fracture of the tibia with 1 cm opening in the skin. Which grade it belong to?
 - a. grade IIIB
 - b. grade II
 - c. grade I
 - d. grade III
 - e. grade IIIA
 9. Internal splints are used in all except
 - a. compound fracture
 - b. fracture in elderly patients
 - c. fracture neck of femur
 - d. multiple fracture
 10. The most common site for ligamentous injury are those of the
 - a. shoulder joint
 - b. ankle joint
 - c. elbow
 - d. knee joint

4.13. Brain and Spine Trauma Clinical Tasks

1. A 54-year-old man with a history of metastatic lung cancer comes to the office because he had sudden onset of pain in the lower back 24 hours ago. Which of the following findings in this patient differentiates lumbar disk herniation from cauda equina syndrome as the cause of his pain?
 - a. Bilateral weakness of the legs
 - b. Pain radiating to one buttock
 - c. Impotence
 - d. Anesthesia of the saddle region
 - e. Urinary incontinence
2. A 32-year-old man comes to the clinic because he has had pain in the back for the past 24 hours. The patient says he first noticed the pain when he awoke in the morning and had difficulty getting out of bed. He had been playing flag football the day before the pain began but did not sustain any

injuries during the game. Acetaminophen has provided only minimal relief of the patient's pain. On physical examination, pain is elicited on palpation of the back on the left, lateral to the region of L2-L5. Full range of motion is noted in vertebral flexion, extension, lateral rotation, and lateral bending, with some hesitancy because of pain on the left side. Which of the following is the most appropriate initial step?

- Strict bed rest and application of moist heat to the lower back
- MRI of the lumbar spine
- CT scan of the lumbar spine
- Epidural injection of a corticosteroid
- Anti-inflammatory and muscle relaxant therapy

Situational tasks

Brain and Spine Trauma Clinical Tasks

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5. The content of the assessment tools of mid-term assessment

5.1.1. Questions for the discipline exam **TRAUMATOLOGY and ORTHOPEDICS**

Question	Competence code (according to the WPD)
1. Tree of Andry. What does it symbolize?	UC-1.
2. Varus and valgus deformity. What does it mean?	GPC-5
3. What movements are possible in the major joints?	GPC-7
4. What are the differences between contracture and ankylosis?	PC-1
5. Where the shortening is worse – leg or arm and why?	PC -5
6. AO-ASIF classification of fractures. What are the principles?	PC -6
7. Classification of osteoarthritis.	UC-1.

8. Radiological symptoms of osteoarthritis.	GPC-5
9. Gonarthrosis and coxarthrosis – clinical features.	PC -1
10. What are the indications to total hip replacement and hemiarthroplasty?	PC-5
11. What are the differences in the treatment of single rib fractures and flail chest.	PC -5
12. Complications of the rib fractures.	PC -6
13. Mechanisms of clavicle fractures and dislocations.	UC-1.
14. What type of shoulder dislocation is most common?	GPC-5
15. Injury of what nerve is most common in humerus shaft fractures and clinical symptoms of this injury?	GPC-7
16. What is better to patient – fracture of surgical or anatomical neck of the humerus and why?	PC-1
17. Volkmann contracture – what is it?	PC -5
18. What are the differences between Colle’s and Smith’s fractures?	PC -6
19. Hip dislocations – what type is common, mechanism and way of reduction. Is it reduction urgent?	UC-1.
20. Complications of hip dislocation.	GPC-5
21. Complications of femoral shaft fractures.	GPC-7
22. Femoral neck fractures. Diagnostic, classification, features in prognosis and treatment.	PC-1
23. Hemarthrosis – treatment.	PC -5
24. Tri-malleolar fracture – what is this?	PC -6
25. Complications of pelvic fractures	PC -5
26. Basic antishock actions	UC-1
27. Complications of acetabular fractures	GPC-5
28. Central hip dislocation	PC -5
29. Transport immobilization of the cervical spine injuries, thoracic and lumbar spine injuries	PC -5
30. Early symptoms of hip dysplasia.	UC-1.
31. Congenital clubfoot (pes equinovarus) – when you should start treatment and what treatment is used in newborn.	PC -5

6. Criteria for evaluating learning outcomes

For the credit (example)

Learning outcomes	Evaluation criteria	
	Not passed	Passed

Completeness of knowledge	The level of knowledge is below the minimum requirements. There were bad mistakes.	The level of knowledge in the volume corresponding to the training program. Minor mistakes may be made
Availability of skills	Basic skills are not demonstrated when solving standard tasks. There were bad mistakes.	Basic skills are demonstrated. Typical tasks have been solved, all tasks have been completed. Minor mistakes may be made.
Availability of skills (possession of experience)	Basic skills are not demonstrated when solving standard tasks. There were bad mistakes.	Basic skills in solving standard tasks are demonstrated. Minor mistakes may be made.
Motivation (personal attitude)	Educational activity and motivation are poorly expressed, there is no willingness to solve the tasks qualitatively	Educational activity and motivation are manifested, readiness to perform assigned tasks is demonstrated.
Characteristics of competence formation*	The competence is not fully formed. The available knowledge and skills are not enough to solve practical (professional) tasks. Repeated training is required	The competence developed meets the requirements. The available knowledge, skills and motivation are generally sufficient to solve practical (professional) tasks.
The level of competence formation*	Low	Medium/High

* - not provided for postgraduate programs

For the exam (example)

Learning outcomes	Assessment of competence developed			
	unsatisfactory	satisfactory	good	excellent
Completeness of knowledge	The level of knowledge is below the minimum requirements. There were bad mistakes	The minimum acceptable level of knowledge. A lot of light mistakes were made	The level of knowledge in the volume corresponding to the training program. A few light mistakes were made	The level of knowledge in the volume corresponding to the training program, without errors
Availability of skills	Basic skills are not demonstrated when solving standard tasks. There were bad mistakes	Basic skills are demonstrated. Typical problems with light mistakes have been solved. All tasks have been completed, but not in full.	All basic skills are demonstrated. All the main tasks have been solved with light mistakes. All tasks have been completed, in full, but some of them with shortcomings	All the basic skills were demonstrated, all the main tasks were solved with some minor shortcomings, all the tasks were completed in full

Learning outcomes	Assessment of competence developed			
	unsatisfactory	satisfactory	good	excellent
Availability of skills (possession of experience)	Basic skills are not demonstrated when solving standard tasks. There were bad mistakes	There is a minimal set of skills for solving standard tasks with some shortcomings	Basic skills in solving standard tasks with some shortcomings are demonstrated	Skills in solving non-standard tasks without mistakes and shortcomings are demonstrated
Characteristics of competence formation*	The competence is not fully formed. The available knowledge and skills are not enough to solve professional tasks. Repeated training is required	The formation of competence meets the minimum requirements. The available knowledge and abilities are generally sufficient to solve professional tasks, but additional practice is required for most practical tasks	The formation of competence generally meets the requirements, but there are shortcomings. The available knowledge, skills and motivation are generally sufficient to solve professional tasks, but additional practice is required for some professional tasks	The formation of competence fully meets the requirements. The available knowledge, skills and motivation are fully sufficient to solve complex professional tasks
The level of competence formation*	Low	Below average	Intermediate	High

For testing:

Mark "5" (Excellent) - points (100-90%)

Mark "4" (Good) - points (89-80%)

Mark "3" (Satisfactory) - points (79-70%)

Less than 70% – Unsatisfactory – Mark "2"

Developer(s):

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Date