Federal state budgetary educational institute of the higher education

 «Orenburg state medical university» of Ministry of Health of the Russian Federation»

**METHODOLOGICAL RECOMMENDATIONS FOR A TEACHER**

**FOR ORGANIZING THE STUDY OF THE DISCIPLINE**

**Traumatology and Orthopedics**

majoring in (specialty)

31.05.01 General Medicine (Faculty of Foreign Students)

It is part of the main professional educational program of higher education majoring in (specialty)

31.05.01 Therapy, approved by the Academic Council of the FSBEI HE ORGMU of the Ministry of Health of Russia

protocol № 8 from «25» March 2016

Orenburg

**1. Methodological recommendations for the lecture course**

**Module 1. General traumatology and orthopedics.**

**Lecture No. 1.**

**1. Topic:** Injuries: types, causes, prevention. Organization of assistance. Polytrauma. Traumatic illness.

**2. Goal:** To arouse students ' interest and positive motivation to study traumatology and orthopedics. To form students ' understanding of the role of injuries in the structure of morbidity. To form an indicative basis for students to learn the skills of examining patients with injuries and diseases of the musculoskeletal system. To form students ' understanding of polytrauma, the organization of surgical care and evacuation of victims in emergency situations. To form students ' understanding of deontological and legal aspects in traumatology and orthopedics.

**3. Abstract of the lecture.**

Goals, objectives and significance of the study of traumatology and orthopedics. Injuries: types, causes, prevention. Organization of trauma care. Classification of fractures of the musculoskeletal system. The mechanism of trauma-the concept, types. The role of the mechanism of trauma in the occurrence of various injuries of the musculoskeletal system. The clinical symptoms of fractures and dislocations are relative and absolute. Methods of instrumental diagnostics - radiography, angiography, CT, MRI, radioisotope studies. Polytrauma: definition, types. Traumatic illness: definition, periods and their clinical characteristics. Fat embolism: concept, etiology and pathogenesis, clinical forms. Fat embolism: early diagnosis, prevention and treatment.

**The form of organization of the lecture**: traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture**: verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game.

**Training tools:**

**-** didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**Lecture No. 2.**

**1. Topic:** Bleeding. Compensation for blood loss in the aftermath of disasters.Shock. Long-term tissue compression syndrome**.**

**2. Objective:** To form students ' understanding of the etiology, pathogenesis, and treatment of traumatic shock, blood loss, and long-term tissue compression syndrome. To form an indicative basis for the acquisition of skills in providing first aid to victims of shock, blood loss, and long-term tissue compression syndrome.

**3. Abstract of the lecture.**

Bleeding. Definition. Classification of bleeding by the type of damaged vessel, the timing of occurrence and localization. Acute blood loss. Classification. Determination of the volume of lost blood (by specific blood density, hemoglobin and hematocrit, blood pressure level and the Algover index). Methods of temporary stopping of external bleeding and indications for their use. Rules for applying a hemostatic tourniquet. Classification of vascular injuries. Classification of the severity of ischemia according to V. A. Kornilov.Methods for the final stop of bleeding. Compensation for blood loss of various degrees of severity in victims of disasters. Traumatic shock. Definition. Frequency. Pathogenetic factors of traumatic shock. Diagnosis and classification of traumatic shock. Principles of anti-shock assistance. The scope and content of first aid measures for traumatic shock. The scope and content of measures of qualified medical care for traumatic shock. Determination of ischemic tissue injury. Causes of ischemic disorders. Development of endogenous intoxication syndrome, ways of its prevention.

Etiology and pathogenesis of long-term compression syndrome. Stages of the pathological process, classification of the severity of SDS, criteria for assessing the severity, prognosis. Leading, life-threatening disorders in SDS, measures to prevent the development of acute renal failure. Methods of correction of acute renal failure in patients with SDS when providing them with qualified and specialized medical care, Features of surgical treatment in the early and intermediate periods of the course of SDS; indications for fasciotomy, necrectomy, amputation of limbs. Soft tissue injuries that have a clinical course similar to SDS: positional compression syndrome, extensive soft tissue detachment, compartment syndrome with pronounced edema.

**The form of organization of the lecture:** traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture:** verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game**.**

**Training tools:**

**-** didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter)**.**

**Lecture №3.**

**1. Topic:** Wound infection.

**2. Purpose:** To form students ' understanding of the etiology, pathogenesis and treatment of wound infection. To form the concept of an algorithm for the prevention of wound infection.

**3. Abstract of the lecture.**

Classification and characteristics of the most common types of wound infection. The importance and methods of early diagnosis, Early signs of tetanus, gas gangrene. Terms of development and measures of prevention of infectious complications of wounds. The course of the wound process, the problems of wound repair. Wound disease: pathogenesis, clinic, treatment. Ways to combat wound infection. The role of antibacterial drugs, indications for use, ways of their administration. Specific prevention and treatment of tetanus, gas gangrene. Features of seroprophylaxis of tetanus, gas gangrene with extensive smashed, gunshot wounds; with abundant contamination of wounds. Indications for repeated surgical treatment of wounds, its features, Methods of surgical treatment of wound complications, including anaerobic infection. Indications for amputation of limbs in wound complications. Measures for the prevention and treatment of infectious complications of wounds at the stages of medical evacuation.

**The form of organization of the lecture:** traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture:** verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game.

**Training tools:**

- didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**Lecture №4.**

1. **Topic:** Thermal injuries.

**2. Purpose:** To form students ' understanding of the etiology, pathogenesis and treatment of thermal lesions. To form an indicative basis for the acquisition of skills in providing emergency care at the stages of medical evacuation to victims with thermal trauma.

**3. Abstract of the lecture.**

Classification of thermal burns. Diagnostics of the depth and area of the burn. Burn shock, classification. Periods of burn disease. Forecast. Damage to the upper respiratory tract. Causes, clinic and diagnosis, first aid and treatment of respiratory tract lesions. Features of the defeat of combat fire mixtures. Radiation burns. The clinic. Assistance to the affected at the stages of medical evacuation. Medical triage and treatment of burned patients at the stage of first aid. Medical triage and treatment of burned patients at the stage of qualified medical care. Frostbite. Classification and diagnosis. General hypothermia (freezing). Classification and diagnosis. Help with cold injuries at the stages of medical evacuation.

**The form of organization of the lecture:** traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture:** verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game.

**Training tools:**

**-** didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**Lecture No. 5.**

**1. Topic**: Congenital diseases of the musculoskeletal system.

**2. Purpose:** To form students ' understanding of malformations and congenital diseases of the musculoskeletal system, the basis for acquiring skills for early diagnosis of such diseases.

**3. Abstract of the lecture**.

Congenital dislocation of the hip. Pathogenesis, clinical and radiological diagnostics before and after 1 year of age. Prevention, features of treatment in different age groups. Orthopedic consequences of congenital hip dislocation in adults. Congenital clubfoot. Myopia, Syndactyly. Polydactyly. Diagnosis, principles of treatment. Questions of early diagnosis of congenital deformities. Congenital deformities of the neck. Torticollis: causes, classification. Diagnosis, principles of treatment. Osteogenesis imperfecta. Albers-Schoenberg disease. Chondrodysplasia. Osteodystrophy.

**The form of organization of the lecture**: traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture**: verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game.

**Training tools:**

- didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**Lecture No. 6**

**1. Topic:** Degenerative and inflammatory diseases of the joints.

**2. Purpose:** To form students ' understanding of the etiology, pathogenesis and treatment of degenerative and inflammatory diseases of the joints. To provide students with an indicative basis for the formation of skills for the clinical examination of such patients, the ability to correctly interpret the data of laboratory and radiological methods of examination, to provide first aid.

**3. Abstract of the lecture.**

Frequency, classification of degenerative joint diseases. Osteoarthritis: definition, etiology. Primary and secondary osteoarthritis. Pathogenesis, classification of osteoarthritis by severity. Clinic, diagnosis. Conservative treatment and general principles of surgical treatment of osteoarthritis, depending on the stage of the process and the nature of changes in the joints.

Classification of inflammatory non-specific diseases of the joints.

Rheumatoid arthritis. Etiology, pathogenesis. The place of an orthopedic surgeon in the diagnosis of rheumatoid arthritis. Orthopedic aspects in the complex conservative treatment of rheumatoid arthritis. Prevention of contractures. Conservative methods of treatment of contractures. Pathogenetic surgical treatment of rheumatoid arthritis-synovectomy and synovocapsulectomy. Surgical treatment of deformities in the 3rd-4th stages of rheumatoid arthritis.

**The form of organization of the lecture**: traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture**: verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game.

**Training tools:**

- didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**Module 2. Private traumatology and orthopedics.**

**Lecture No. 1.**

**1. Topic:** Head and neck injuries.

**2. Objective:** To form an indicative basis for the acquisition of skills in diagnosis, medical triage and first aid to victims with head and neck injuries.

 **3. Abstract of the lecture.**

Classification of gunshot head injuries. Clinic and diagnosis of gunshot head injuries. Traumatic brain disease. Determination of the severity of brain damage, diagnosis of life-threatening consequences of gunshot head injuries. Classification of neognestrel head injuries. Clinic and diagnosis of neognestrel head trauma. Medical triage and first aid measures for head injuries. Medical triage and qualified assistance measures for head injuries.

**The form of organization of the lecture:** traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture:** verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game.

**Training tools:**

- didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**Lecture No. 2.**

**1. Topic:** Spinal injuries.

**2. Goal:** To form students ' understanding of the principles of diagnosis and treatment of spinal injuries. To form an indicative basis for students to learn the skills of providing first aid for spinal injuries.

 **3. Abstract of the lecture.**

The frequency of spinal injuries. Classification, features of stable and unstable spinal injuries. Etiology and pathogenesis of spinal cord and spinal cord injuries. The concepts of "spinal shock", "traumatic spinal cord disease". Diagnostics, modern orthopedic approaches to the treatment of spinal column injuries. Complications of spinal cord and spinal cord injuries, their prevention and treatment, Problems of orthopedic and social rehabilitation of patients with spinal cord injuries.

**The form of organization of the lecture:** traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture:** verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game**.**

**Training tools:**

**-** didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**Lecture No. 3.**

**1. Topic**: Chest injury.

**2. Purpose:** To form students ' understanding of the etiology, pathogenesis and treatment of breast injuries. To form an indicative basis for the acquisition of skills in providing first aid to such victims.

 **3. Abstract of the lecture**.

Classification of chest injuries. Life-threatening consequences. Classification of acute respiratory failure in chest injuries. Diagnosis and treatment of closed pneumothorax. Diagnosis and treatment of open pneumothorax. Diagnosis and treatment of strenuous pneumothorax. Diagnosis and treatment of hemothorax. Diagnosis and treatment of heart injury. Diagnosis and treatment of heart injuries (hemopericardium, cardiac tamponade). Diagnosis and treatment of the rib valve. Diagnosis and treatment of traumatic asphyxia. Diagnosis and treatment of thoracoabdominal injuries. Medical triage and first aid measures for chest injuries. Medical triage and qualified assistance measures for chest injuries.

**The form of organization of the lecture:** traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture**: verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game.

**Training tools:**

- didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**Lecture No. 4.**

**1. Topic**: Injuries of the abdomen and pelvis.

**2. Purpose**: To form students ' understanding of the etiology, pathogenesis and treatment of abdominal and pelvic injuries. To form an indicative basis for the acquisition of skills in providing first aid to such victims.

 **3. Abstract of the lecture.**

Classification of injuries to the abdomen and abdominal organs. Damage to the diaphragm. The frequency of thoracoabdominal injuries in disasters, features of diagnosis and care. Diagnosis of intra-abdominal bleeding, damage to hollow and parenchymal organs. The possibility of clarifying the diagnosis using laparocentesis and laparoscopy, assessing the degree of reliability of the data obtained. Pseudoabdominal syndrome, the pathogenesis of its occurrence; injuries that may be accompanied by the development of this syndrome. Features of the development and course of shock in abdominal injuries. Peritonitis: causes, influence of the time factor on the prognosis. Principles of surgical interventions for wounds and closed injuries of the intestine, liver, and spleen at the stages of medical evacuation.

Classification of pelvic and pelvic organ injuries. The frequency of shock in pelvic injuries, the volume of blood loss. Features of diagnosis and assistance in the combination of pelvic injuries with pelvic injuries at the stages of medical evacuation, principles of emergency surgical treatment at the stages of medical evacuation.

Prevention, early diagnosis and treatment of complications of wounds and closed injuries of the abdomen and pelvis.

**The form of organization of the lecture**: traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture**: verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game.

**Training tools:**

- didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**Lecture No. 5.**

**1. Topic**: Structural and functional disorders of the spine. Osteochondrosis.

**2. Purpose**: To form students ' understanding of the etiology, pathogenesis and treatment of osteochondrosis.

**3. Abstract of the lecture.**

The frequency of structural and functional disorders of the spine, the social and economic significance of the problem of their prevention and correction. Influence of the consequences of injuries and orthopedic diseases of the extremities, pelvis on the function of the spinal column. Connection of morphological and functional disorders of the spine. Causes, clinic, diagnosis and treatment of pain syndromes. Neurological disorders in the pathology of the spine. Principles of conservative treatment, the role of manual diagnostics and therapy in the correction of spinal disorders. Modern principles of surgical treatment.

Etiology and pathogenesis of scoliotic disease. Classification. Clinic of various degrees of scoliosis. Course of the disease, outcomes and complications. The course of scoliosis in puberty. Basic principles of early recognition of scoliosis.

Prevention, principles of conservative treatment. Predicting the course of scoliosis. The possibilities and place of surgical methods of treatment for scoliosis.

**The form of organization of the lecture**: traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture**: verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game.

**Training tools:**

- didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**Lecture No. 6.**

**1. Topic**: Scoliotic disease.

**2. Purpose:** To form students ' understanding of the etiology, pathogenesis and treatment of scoliotic disease.

**3. Abstract of the lecture.**

Etiology and pathogenesis of scoliotic disease. Classification. Clinic of various degrees of scoliosis. Course of the disease, outcomes and complications. The course of scoliosis in puberty. Basic principles of early recognition of scoliosis.

Prevention, principles of conservative treatment. Predicting the course of scoliosis. The possibilities and place of surgical methods of treatment for scoliosis.

**The form of organization of the lecture**: traditional, overview with elements of problematic content, lecture-visualization with elements of lecture-conversation.

**Methods used in the lecture**: verbal, visual, explanatory-illustrative, deductive, non-imitative (situations-illustrations), imitation non-game.

**Training tools:**

- didactic (multimedia presentation, including text, tables, diagrams, graphs, drawings, photos, video files);

- material and technical (chalk, blackboard, laptop, multimedia projector, screen, remote presenter).

**2. Methodological recommendations for the practical classes**

**Module 1. General Traumatology**

**Practical lesson No. 1.**

**1. Topic**: Injuries: types, causes. Organization of trauma care. Polytrauma: features of sorting and providing assistance in case of disasters. Traumatic illness: definition, periods. Curation of patients.

**2. Goal**: To form students ' understanding of the role of injuries in the structure of morbidity and organization of trauma care. To form students ' ability to examine patients with injuries and diseases of the musculoskeletal system..
**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

|  |  |
| --- | --- |
| №  | Stages and content of the lesson |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson:**- analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 2.**

**Topic:** Bleeding. Traumatic shock. Long-term tissue compression syndrome.

**Purpose:** To teach students the diagnosis, triage, principles of emergency care for victims of shock, methods of cardiopulmonary resuscitation in disasters, ways to stop bleeding.
**Form of organization of the class:**practical lesson

**The plan of the practical lesson:**

|  |  |
| --- | --- |
| №  | Stages and content of the lesson |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**- analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

 **Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 3.**

**Topic:** Wounds and their treatment.

**Purpose:** To teach students how to help victims with soft tissue injuries. Teach students how to provide assistance to victims at the stages of medical evacuation.Form of **organization of the class:** practical lesson

**The plan of the practical lesson:**

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| --- | --- |
| №  | Stages and content of the lesson |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 4.**

**Topic:** Wound infection.

**Purpose:** To teach students to help victims with wound infection. Teach students how to prevent infectious complications of wounds, methods of early diagnosis of wound complications.

**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| --- | --- |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 5.**

**Topic:** Thermal injuries.

**Purpose:** To teach students the diagnosis, medical triage and emergency care at the stages of medical evacuation to victims with thermal trauma**.**

**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| --- | --- |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 6**

**Topic:** Degenerative and inflammatory diseases of the joints. Osteoporosis.

**Purpose:** To form an idea of the etiology, pathogenesis and treatment of the following pathologies: Osteoarthritis. Deforming arthrosis of the hip joint. Deforming arthrosis of the knee joint. Deforming arthrosis of the ankle and other joints. Brachiopathic periarthrosis. Osteoporosis. To form an idea of endoprosthetics of large and small joints. To develop the practical skills necessary to work as a traumatologist-orthopedist.

**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| --- | --- |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 7.**

**Topic:** Tumors and osteochondropathies. Congenital diseases of the musculoskeletal system.

**Purpose**: To teach students the ability to diagnose tumors and osteochondropathies. Provide knowledge about treatment methods, possible complications, their prevention, and methods of restorative treatment.

.**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| --- | --- |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Module 2. Private traumatology and orthopedics.**

**Practical lesson № 1.**

**Topic:** Head and neck injuries. Patient supervision.

**Purpose:** To teach students the diagnosis, medical triage and emergency care at the stages of medical evacuation to victims with head and neck injuries. Perform curation of the patient for writing an educational medical history.
**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

|  |  |
| --- | --- |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 2.**

**Topic:** Chest injury**.**

**Purpose:** To teach students the diagnosis, triage and emergency care at the stages of medical evacuation to victims with chest injuries.
**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| --- | --- |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 3.**

**Topic:** Spinal injuries**.**

**Purpose:** To teach students the ability to diagnose spinal injuries. Teach first aid in case of spinal injuries. Provide knowledge about treatment methods, possible complications, their prevention, and methods of restorative treatment.
**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 4.**

**Topic:** Injuries to the abdomen and pelvis.

**Purpose:** To teach students to diagnose, sort and provide emergency care at the stages of medical evacuation to victims with injuries to the abdomen and abdominal organs, pelvis and pelvic organs.

**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 5.**

**Topic:** Injuries to the shoulder girdle, shoulder.

**Purpose:** To teach students the ability to diagnose shoulder injuries, to provide first aid. Provide knowledge about treatment methods, possible complications, their prevention, and methods of restorative treatment.

**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

A set of radiographs.

Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

**Practical lesson № 6**

**Topic:** Injuries to the forearm and hand.

**Purpose:** To teach students the ability to diagnose injuries to the forearm and hand, to provide first aid. Provide knowledge about treatment methods, possible complications, their prevention, and methods of restorative treatment**.**

**Form of organization of the class:** practical lesson.

**The plan of the practical lesson:**

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| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

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Centimeter tape and protractor.

Methodological guide for the programmed control of students ' knowledge

- material and technical resources

Multimedia projector, Negatoscope

 **Practical lesson №7**

**Topic:** Hip fractures and dislocations.

**Purpose:** To teach students methods of examination of patients with hip injuries, to provide first aid. Provide knowledge about the choice of treatment methods, possible complications, their prevention, and methods of restorative treatment..
**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

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Methodological guide for the programmed control of students ' knowledge

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Multimedia projector, Negatoscope

 **Practical lesson № 8**

**Topic:** Injuries and diseases of the knee joint.

**Purpose:** To form an idea of the injuries of intra-articular structures on the example of the knee joint. To develop the practical skills necessary to work as a traumatologist-orthopedist.

**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

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Training tables.

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Methodological guide for the programmed control of students ' knowledge

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Multimedia projector, Negatoscope

**Practical lesson №9**

**Topic:** Fractures of the shin and foot bones.

**Purpose**: To teach students the ability to diagnose injuries of the lower leg and foot, to provide first aid. Provide knowledge about treatment methods, possible complications, their prevention, and methods of restorative treatment.
**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| --- | --- |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

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Training tables.

Dummies-bones.

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Multimedia projector, Negatoscope

**Practical lesson №10**

**Topic:** Orthopedic pathology of the feet**.**

**Purpose:** To teach students the ability to diagnose orthopedic diseases of the feet. Provide knowledge about treatment methods, possible complications, their prevention, and methods of restorative treatment. To teach students to recognize typical static deformities of the feet, to familiarize them with methods of their prevention and treatment**.**

**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| --- | --- |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

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Multimedia projector, Negatoscope

**Practical lesson № 11**

**Topic:** Pathology of the spine.

**Purpose:** To teach students the ability to diagnose spinal pathology. Provide knowledge about treatment methods, possible complications, their prevention, and methods of restorative treatment.

**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| --- | --- |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

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Training tables.

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Centimeter tape and protractor.

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Multimedia projector, Negatoscope

**Practical lesson № 12**

**Topic:** Fundamentals of outpatient trauma care.

**Purpose:** to familiarize students with the peculiarities of work in the trauma center, to teach the basics of differential diagnosis and determination of therapeutic tactics in the pathology of the musculoskeletal system in outpatient settings.
**Form of organization of the class:** practical lesson

**The plan of the practical lesson:**

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| --- | --- |
| 1 | **Organizational moment:** Checking attendance, finding out the reasons for the absence of students in the practical lesson.Announcement of the topic, the purpose of the lesson.Motivational moment. Discussion of questions raised by students |
| 2 | **The main part of the practical lesson::**analysis of complaints and the mechanism of trauma in a particular patient;- physical examination of a patient with damage or disease of the musculoskeletal system;- interpretation of radiographs with typical injuries and the most common diseases of bones and joints;- formulation of the correct diagnosis based on the conducted clinical examination and available data from additional (paraclinical) studies. |
| 3 | **The final part of the lesson:**Summing up the lesson resultsSubmitting current marks to the training journal |

**Training tools:**

- - didactic-educational tables,

A human skeleton.

Training tables.

Dummies-bones.

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Centimeter tape and protractor.

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Multimedia projector, Negatoscope