INTERNATIONAL HIGHER SCHOOL OF MEDICINE
Department of Special Surgical Disciplines

SYLLABUS
Traumatology, orthopedic and extreme surgery

2025-2026 academic year
for students of medical faculty
4th course 7th semester
5 credits (150 h, including auditorial 90h, independent work –60h)

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The National Center of Oncology

The Syllabus is considered
at the meeting of the department of SSD
Protocol № 1 dated 30.08 2025
Head of the department

Course Objective: consists in mastering the knowledge of the etiology, pathogenesis of the main orthopedic diseases, mechanisms of trauma, methods of prevention, diagnosis, conducting and providing first aid at different stages of medical evacuation, as well as the principles of rehabilitation in patients with orthopedic and traumatological profile.

After study of the discipline the student must:

Knowledge:

- A list of medical equipment intended for solving certain professional problems in traumatology and orthopedics.
- Indicators of biochemical and clinical studies confirming the diagnosis.
- Standard treatment algorithms for the most common diseases in traumatology and orthopedics.
- Techniques and methods of first aid for emergency and life-threatening conditions in traumatology and orthopedics.
- Principles, methods and standards of emergency medical care and medical evacuation.
- Indications and contraindications for the appointment of rehabilitation measures for various diseases of adults and children

Skill:

- Choose the best medical equipment for solving specific problems in traumatology and orthopedics.
- Analyze the results of biochemical and clinical studies to highlight the main criteria that confirm the clinical diagnosis.
- Apply standard treatment algorithms for the most common diseases in typical clinical situations of traumatology and orthopedics.
- Select techniques and methods of first aid for emergency and life-threatening conditions in traumatology and orthopedics.
- Apply emergency medical care and medical evacuation standards.
- Give practical recommendations on the use of adequate rehabilitation measures for various diseases in adults and children, taking into account indications and contraindications

Attitude:

- Algorithm for the use of medical devices/equipment in standard cases of traumatology and orthopedics.
- Skills of reasoned substantiation of clinical diagnosis.
- Skills for correcting the treatment of the most common diseases within the framework of standard algorithms in accordance with the principles of evidence-based medicine.
- Skills in applying basic first aid techniques in emergency and life-threatening conditions in traumatology and orthopedics.
- Skills in patient triage for medical emergencies and medical evacuation.
- Skills in the selection and application of appropriate rehabilitation measures for various diseases of adults and children, taking into account indications and contraindications

Pre-requisites: anatomy, pathological anatomy, normal and pathological physiology, biochemistry, radiology, propedtherapy, therapy.

Post-requisites: policlinical surgery, family medicine, policlinical therapy.

THEMATIC PLAN OF LECTURES

№	Theme of lecture	Hours	Date
1	Bone fractures. Classification of fractures. Consolidation stages.	2	According to schedule.
2	Basic diagnostic methods in traumatology and orthopedics	2	According to schedule.
3	Conservative and surgical treatment of fractures	2	According to schedule.
4	Injuries of the shoulder girdle, shoulder joint and humerus.	2	According to schedule.
5	Injuries around the elbow joint.	2	According to schedule.
6	Forearm injuries.	2	According to schedule.
7	Injuries of the wrist and hand	2	According to schedule.
8	Injuries of the hip region and femur.	2	According to schedule.
9	Knee injuries.	2	According to schedule.
10	Injuries of the lower leg, ankle joint and foot	2	According to schedule.
11	Injury of the pelvic bones	2	According to schedule.
12	Injury of the spinal column	2	According to schedule.
13	Chest injury	2	According to schedule.
14	Osteoarthritis	2	According to schedule.
15	Congenital dislocation of the hip. Hip dysplasia	2	According to schedule.
16	Congenital clubfoot.	2	According to schedule.

17	Deformities of the spinal column. Acquired foot deformities.	2	According to schedule.
18	Osteochondropathy and osteodystrophy. Bone tumors.	2	According to schedule.

THEMATIC PLAN OF PRACTICAL CLASSES

№	Theme of practical class	Hours	Date
	Unit №1.		
1	Fractures. Definition. Consolidation stages. Fracture classification. Physical examination of fractures. Instrumental methods of diagnosis of fractures.	2	According to schedule.
2	Conservative management of fractures	2	According to schedule.
3	Surgical management of fractures	2	According to schedule.
4	Early and late complications of fractures	2	According to schedule.
5	Modul №1	2	According to schedule.
	Unit №2	2	According to schedule.
6	Injuries to the bones of the shoulder girdle	2	According to schedule.
7	Dislocation of the shoulder joint	2	According to schedule.
8	Injuries to the humerus.	2	According to schedule.
9	Elbow joint injuries.	2	According to schedule.
10	Forearm injuries. Pearl Colles, Smith.	2	According to schedule.
11	Injuries to the wrist joint. Hand injuries.	2	According to schedule.
12	Module №2	2	According to schedule.
	Unit №3		
13	Injuries to the hip region.	2	According to schedule.
1	Femur injuries.	2	According to schedule.
15	Knee injury.	2	According to schedule.
16	Shin and ankle injuries. Foot injuries.	2	According to schedule.
17	Module №3	2	According to schedule.
	Unit №4	2	According to schedule.
18	Injury to the pelvic bones	2	According to schedule.
19	Spinal cord injury	2	According to schedule.
20	Chest trauma	2	According to schedule.
21	Osteoarthritis	2	According to schedule.
22	Module №4	2	According to schedule.

	Unit №5	2	According to schedule.
23	Congenital dislocation of the hip. Hip dysplasia	2	According to schedule.
24	Congenital clubfoot. Club hand. Syndactyly. Polytactyly.	2	According to schedule.
25	Deformities of the spinal column. Acquired foot deformities.	2	According to schedule.
26	Osteochondropathy and osteodystrophy. Bone tumors.	2	According to schedule.
27	Module №5	2	According to schedule.

THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS

Unit №	Theme of independent work	Hours	Date
1	Make a table of classifications of bone fractures. Make a table of bone regeneration. Make a table of differential diagnosis of open and closed fractures. Make a table/chart indicating the advantages of instrumental examination methods (X-ray, ultrasound, tomography) in traumatology and orthopedics. Create a table showing the difference in benefits between MRI and CT scans. Make a table of standard projections for X-ray examination of fractures. Make a table of methods of surgical treatment of fractures. Make a table of indications and contraindications for surgical treatment of fractures.	10	
2	Demonstrate bleeding control and the application of a hemostatic tourniquet on the put-on dummy traumatic amputation of the shoulder "Realistic pad with imitation of the amputation stump of the arm". On the simulator for applying a plaster cast on the upper limb, demonstrate the application of plaster. Describe what includes a Monteggia fracture. Describe what includes a Galeazzi fracture. Describe Roland's fracture and differential diagnosis with Bennett's fracture.	10	
3	On the put-on model “open fracture of the femur”, show and tell immobilization and emergency medical care. help. On the put-on model "closed fracture of the femur" show and tell immobilization and emergency help. On the Bleeding Control Simulator for Lower Limb Injuries "Thigh Model for Bleeding Control in Lower Limb Injuries, with Visual Feedback" demonstrate control of bleeding and application of a tourniquet. On the put-on model traumatic amputation of the lower leg "Realistic pad with imitation of the amputation stump of the leg" to demonstrate the control of bleeding and the application of a hemostatic tourniquet and the first honey. help. Describe the types of fractures of the lower extremities according to x-ray images (8) given in the table. Describe the fracture of the lower extremities according to X-ray images (8) given in the table. Describe fractures of the lower extremities according to X-ray images (3) given in the table.	16	

	Describe fractures of the lower extremities according to X-ray images (10) given in the table. Make a table of methods for diagnosing meniscus injury and ligament injury.		
4	Fill in the table of injury of the pelvic bone. Fill in the table of classifications of injuries of the spinal column according to the AO / ASIF system. Fill in the table on the methods of diagnosing spinal injuries. Fill in the table of chest injury (symptoms of respiratory distress syndrome, open chest injury, post-traumatic pneumothorax, symptoms and clinical picture of pneumothorax) and methods of treatment and first aid. Fill in the table of indications for joint replacement (knee, shoulder and hip).	12	
5	Make a table of post-traumatic, congenital and acquired deformities of the feet. Decipher the pathology according to the indicated X-ray images. Make a table of differential diagnosis of benign and malignant bone tumors. Fill in the table with types of bone tumors and types of biopsies. Create a table showing the difference between Legg-Calve-Perthes, Koenig, Osgood-Schlatter, Keller, Kienbeck, Scheurman-Mau, Kümmel diseases.	12	

Recommended reading for the discipline:

1.Basic

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017
1.3 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021

2. Additional

2.1 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020
2.2 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020

Grading policy and procedures for all types of work

For the period of studying the discipline, the student gains points for the relevant parameters (per unit):
current score - 40 points
independent work - 20 points
control score (final assessment of knowledge per unit) - 40 points
Maximum score - 100 (40+20+40)

Grading system for student's achievements

Grading criteria per discipline				
Maximum score	Intervals			
	«unsatisfactory»	«satisfactory»	«good»	«excellent»
Current control - 40	0-23	24-30	31-35	36-40
Interval description	Significant gaps in knowledge of the basic educational material are revealed, fundamental mistakes are made when answering questions.	Knowledge of the educational material in the amount necessary for the further development of the discipline, familiar with the main literature recommended for the lesson. The student	Full knowledge of the educational material, the main literature recommended for the lesson. The student shows the systemic nature of knowledge in the discipline and is able to independently	Comprehensive, systematic and deep knowledge of educational material, basic and additional literature, the relationship of the basic concepts of the discipline in their

		makes mistakes, but has the necessary knowledge to eliminate them under the guidance of the teacher.	replenish and update in the course of further educational work and professional activity	meaning for the acquired profession. The manifestation of creativity in the understanding, presentation and use of educational and program material
Independent work - 20	0-11	12-15	16-17	18-20
Interval description	the task is not completed, gross errors are made when answering the teacher's questions, there are no student ready-made schemes, charts.	if the student finds it difficult to answer, makes mistakes and inaccuracies.	Full knowledge of the educational material, the main literature recommended for the lesson. The student shows the systemic nature of knowledge in the discipline and is able to independently replenish and update in the course of further educational work and professional activity	Comprehensive, systematic and deep knowledge of educational material, basic and additional literature, the relationship of the basic concepts of the discipline in their meaning for the acquired profession. The manifestation of creativity in the understanding, presentation and use of educational and program material
Control work (module) - 40	0-23	24-30	31-35	36-40
The presence of correct answers to questions to the situational task	Correct answers are given to less than ½ questions, less than ½ tasks have been completed	Correct answers are given to 2/3 questions, 2/3 tasks are completed	All questions have been answered correctly, all tasks have been completed	All questions have been answered correctly, all tasks have been completed
Completeness and consistency of presentation of answers	The answers are short, undeveloped, "random"	Most (2/3) answers are short, not detailed	Sufficient in 2/3 answers	Fairly high in all responses

Student knowledge evaluation system in class

Determination of the rating during testing is carried out as follows:

Testing of each student is carried out according to test items, randomly generated from the discipline questions. The maximum number of points is 40 points.

Each task has one correct answer.

The passing score is 60%, the number of points scored is determined according to the scheme:

60-75% of correct answers are satisfactory;

76-89% of correct answers - good;

90-100% correct answers - excellent;

less than 60% of correct answers - unsatisfactory.

Conduct Policy: (lateness, absence, behavior in the auditorium, late submission of work).

- Punctuality and completion of tasks.
- Mandatory attendance of classes.
- Attending class in a clean medical uniform.
- Eliminating conversations on a cell phone in the classroom.
- Active participation in the learning process.
- Doing homework on time.
- Academic detention at the time specified by the teacher.

For violations of the Conduct Policy, the total points for discipline might be reduced to 1-5 points.

Academic Ethics Policy.

- Be tolerant, respect the opinions of others.
- Formulate objections in the correct form.
- Constructively support feedback in all classes.
- Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the following: the absence of references when using printed and electronic materials, quotes, thoughts and works of other authors or students.
- Prompting and cheating during tests, exams, classes is unacceptable as well as passing an exam for another student, unauthorized copying of materials.

For violations of the Academic Ethics Policy, the total points for the discipline may be reduced to 1-5 points.

Guidelines for the lessons of the discipline

UNIT №1

Key questions covered in lesson 1.

1. Brief information about bone anatomy
2. Definition of bone fracture
3. Classification of fractures
4. The main symptoms of fractures
5. Methods of physical examination of fractures
6. Physical examination of the upper extremities
7. Physical examination of the lower extremities
8. Physical examination of the pelvis and spine
9. Physical examination of thorax
10. X-ray examination
11. Computed tomography (CT)
12. Magnetic resonance imaging (MRI)
13. Ultrasound examination (ultrasound)

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 1-19, 51-57

1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p.17-19,867-922.

Key questions covered in lesson 2.

1. Basic principles of conservative treatment of fractures
2. Splints for immobilization of limbs
3. Plastering of limbs in case of injuries
4. Methods of traction in limb fractures.

Recommended reading for the lesson:

1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p 53-65

Key questions covered in lesson 3.

1. Classification of surgical methods of fracture treatment
2. Intramedullary osteosynthesis of bones
3. Extramedullary osteosynthesis of bones
4. Compression-distraction osteosynthesis of bones

Recommended reading for the lesson:

1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p.66-83

1.3 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p.2783-2786

Key questions covered in lesson 4.

1. Fat embolism, thrombosis of large veins
2. Complications of open injuries
3. Late complications of fractures

Recommended reading for the lesson:

1.3 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 29-48

Key questions covered in lesson 5.

Modul №1

1. Definition of bone fracture
2. Classification of fractures
3. The main symptoms of fractures
4. Methods of physical examination of fractures
5. Physical examination of the upper extremities
6. Physical examination of the lower extremities
7. Physical examination of the pelvis and spine
8. X-ray examination of fractures
9. Computed tomography (CT) of fractures
10. Magnetic resonance imaging (MRI) of fractures
11. Ultrasound examination (ultrasound) of fractures
12. Basic principles of conservative treatment of fractures
13. Splints for limb immobilization
14. Plastering of limbs in case of injuries
15. Methods of traction in limb fractures
16. Classification of surgical methods of fracture treatment
17. Intramedullary osteosynthesis of bones
18. Extramedullary osteosynthesis of bones
19. Compression-distraction osteosynthesis of bones
20. Fat embolism, thrombosis of large veins
21. Complications of open injuries
22. Late complications of fractures

UNIT №2

Key questions covered in lesson 6

1. Fracture of the clavicle. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
2. Fracture of the scapula. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
3. Dislocation of the acromioclavicular joint. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
4. Dislocation of the sternoclavicular joint. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 63-92
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 113-131
2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p.62-85
2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.325-394
2.3 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.140-150

Key questions covered in lesson 7.

1. Shoulder joint anatomy.
2. Damage mechanism.
3. Classification
4. Diagnostics and treatment.
5. Complications.

Recommended reading for the lesson:

1.3 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 63-92
1.4 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 113-131
2.4 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p.62-85

2.5 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.325-394
2.6 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.140-150

Key questions covered in lesson 8.

1. Fracture of the surgical neck. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
2. Fracture of the diaphysis of the humerus. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
3. Supracondylar fracture of the humerus. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 63-92
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 113-131
2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p.148-153
2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.325-394
2.3 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.142-195

Key questions covered in lesson 9.

1. Fracture of the olecranon. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
2. Dislocation of the elbow joint. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
3. Dislocation of the radial head. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 63-92
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 113-131
2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p.148-153
2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.325-394
2.3 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.152-195

Key questions covered in lesson 10.

1. Fracture of Monteggi. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
2. Fracture Galiazzi Anatomy, mechanism of injury, classification, clinic, diagnosis, treatment and complications.
3. Kolles Fracture. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
4. Smith's fracture. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
5. Barton's fracture. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 63-92
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 113-131
2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p. 28-46, 143-148
2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.325-394
2.3 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.152-195

Key questions covered in lesson 11.

1. Scaphoid fracture. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
2. Pearl Rolando. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
3. Injuries to the bones of the metacarpus. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
4. Phalangeal injuries. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
5. Injuries to the bones of the metacarpus. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
6. Phalangeal injuries. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 63-92
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 249-260
2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p. 28-46, 143-148
2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.325-394

2.3 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.152-195

Key questions covered in lesson 12.

Modul №2

1. Fracture of the clavicle. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications
2. Fracture of the scapula. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
3. Dislocation of the acromioclavicular joint. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
4. Dislocation of the shoulder joint. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
5. Fracture of the surgical neck of the humerus. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
6. Fracture of the diaphysis of the humerus. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
7. Supracondylar fracture of the humerus. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
8. Fracture of the olecranon. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
9. Dislocation of the elbow joint. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
10. Dislocation of the radial head. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
11. Fracture of Monteggi. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
12. Fracture Galiazzi Anatomy, mechanism of injury, classification, clinic, diagnosis, treatment and complications.
13. Kolles Fracture. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
14. Smith's fracture. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
15. Scaphoid fracture. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
16. Pearl Rolando. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
17. Injuries to the bones of the metacarpus. Anatomy, mechanism of injury, classification, clinical picture, diagnosis, treatment and complications.
18. Phalangeal injuries. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.

UNIT №3

Key questions covered in lesson 13.

1. Anatomy of the hip region.
2. Dislocation of the hip joint. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
3. Fracture of the femoral neck. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 115-124

1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 212-243

2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p.62-85

2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.462-520

2.4 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.140-150

Key questions covered in lesson 14.

1. Thigh anatomy.
2. Trochanteric fractures. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
3. Fracture of the femoral shaft. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 115-124

1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 212-243

2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p.62-85

2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.462-520

2.5 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.140-150

Key questions covered in lesson 15.

1. Knee anatomy.

2. Condylar fractures of the femur. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
3. Fracture of the patella. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 115-124
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 244-263
2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p.148-153
2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.126-166
2.6 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.152-195

Key questions covered in lesson 16.

1. Knee ligament injuries. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
2. Damage to the knee joint menisci. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
3. Fractures of the tibial plateau. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
4. Shin, ankle and foot anatomy
5. Fracture of the diaphysis of the tibia and fibula bones. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
6. Ankle injuries. Definition. Classification. Clinic. Diagnostics. Treatment. Complications

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 115-124
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 244-263
2.2 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p. 28-46, 143-148
2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.542-585
2.3 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.152-195

Key questions covered in lesson 17.

Modul №3

1. Anatomy of the hip region.
2. Dislocation of the hip joint. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
3. Fracture of the femoral neck. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
4. Thigh anatomy.
5. Trochanteric fractures. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
6. Fracture of the femoral shaft. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
7. Knee anatomy.
8. Condylar fractures of the femur. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
9. Fracture of the patella. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
10. Knee ligament injuries. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
11. Damage to the knee joint menisci. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
12. Fractures of the tibial plateau. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
13. Anatomy of the lower leg, ankle and foot.
14. Fracture of the diaphysis of the greater and fibula bones. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
15. Ankle injuries. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
16. Injuries to the bones of the foot (calcaneus, talus, metatarsal bones). Definition. Classification. Clinic. Diagnostics. Treatment. Complications.
17. Phalangeal injuries. Definition. Classification. Clinic. Diagnostics. Treatment. Complications.

UNIT №4

Key questions covered in lesson 18.

1. Anatomy of the pelvis.
2. Classification of pelvic injuries.
3. The clinical picture of fractures of the pelvic bones.
4. Diagnosis of injuries to the pelvic bones.
5. Methods for treating pelvic injuries
6. Complications of pelvic injuries
7. Rehabilitation of pelvic injuries

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p.84-102, 116-130
2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p. 842-868
2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.692-697

2.3 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.149-151

Key questions covered in lesson 19.
1. Anatomy.
2. Classification of spinal injury.
3. Reliable and probable signs of spinal injuries in disasters. "Stable" and "unstable" vertebral fractures.
4. Methods for diagnosing spinal cord injuries. Features of the traumatic spine.
5. Medical triage and the scope of assistance at the stages of medical evacuation, especially the transportation of victims with complicated and uncomplicated spinal injuries.
6. Treatment of spinal injuries

Recommended reading for the lesson:
1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 109-116
2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p. 113-175,1314-1364
2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.269-327
2.3 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p.618-669

Key questions covered in lesson 20.
1. Classification; clinical and radiological diagnostics; possible complications; methods, features and timing of treatment; subsequent rehabilitation with: - soft tissue bends of the chest.
2. Indications for blockages: areas of fractures of the ribs and sternum, mechrocostal nerves, paravertebral, vagosympathetic. Their technique.
3. Acquaintance with the technique of traction for the sternum, fixation of fenestrated rib fractures.
4. Methods for the diagnosis and treatment of chest injuries.

Recommended reading for the lesson:
2.1 Campbell's OPERATIVE ORTHOPAEDICS, 14th Edition, 2021, p. 1880-1890

Key questions covered in lesson 21.
1. Etiology, pathogenesis, incidence of osteoarthritis.
2. Classification
3. Risk groups for this pathology. Classification; clinical and radiological diagnostics; possible outcomes.
3. Methods of particularity and timing of treatment; subsequent rehabilitation of patients with osteoarthritis
4. Complex conservative treatment of osteoarthritis: traction, exercise therapy, intra-articular injections of drugs, principles of drug therapy, physiotherapy treatment.
5. Concept of the main surgical methods of treatment: corrective surgery, endoprosthetics, arthrodesis, arthroplasty.
6. Types of osteoarthrosis: arthrosis of the shoulder joint, arthrosis of the knee joint, arthrosis of the hip joint
7. Complications of osteoarthritis
8. Ways to prevent the onset and progression of osteoarthritis
9. Indications for surgical treatment of osteoarthritis

Recommended reading for the lesson:
1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 198-224
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p.552-668
2.2 Concise Orthopedics Notes, Firas Arnaout MD MSc MRCS FEBOT FRCS (Tr&Orth) University Hospital of Coventry & Warwickshire – UK, 2020, p.179-185
2.3 MILLER'S REVIEW OF ORTHOPAEDICS EIGHTH EDITION, 2020, p. 479–485, 480–484, 545–546,584–586

Key questions covered in lesson 22.
Modul №4
1. Anatomy of the pelvis.
2. Classification of pelvic injuries.
3. The clinical picture of fractures of the pelvic bones.
4. Diagnosis of injuries to the pelvic bones.
5. Methods for treating pelvic injuries
6. Complications of pelvic injuries
7. Rehabilitation of pelvic injuries
8. Anatomy of the spine.
9. Classification of spinal injury.
10. Reliable and probable signs of spinal injuries in disasters. "Stable" and "unstable" vertebral fractures.
11. Methods for diagnosing spinal cord injuries. Features of the traumatic spine.
12. Medical triage and the scope of assistance at the stages of medical evacuation, especially the transportation of victims with complicated and uncomplicated spinal injuries.
13. Treatment of spinal injuries

14. Classification; clinical and radiological diagnostics; possible complications; methods, features and timing of treatment; subsequent rehabilitation in case of: - soft tissue bends of the chest.
15. Indications for blockages: areas of fractures of the ribs and sternum, mechrocostal nerves, paravertebral, vagosympathetic. Their technique.
16. Acquaintance with the technique of traction for the sternum, fixation of fenestrated rib fractures.
17. Methods for the diagnosis and treatment of chest injuries.
18. Etiology, pathogenesis, incidence of osteoarthritis.
19. Risk groups for this pathology. Classification; clinical and radiological diagnostics; possible outcomes. Methods of particularity and timing of treatment; subsequent rehabilitation of patients with osteoarthritis
20. Complex conservative treatment of osteoarthritis: traction, exercise therapy, intra-articular injections of drugs, principles of drug therapy, physiotherapeutic treatment.
21. Concept of the main surgical methods of treatment: corrective surgery, endoprosthetics, arthrodesis, arthroplasty.
22. Types of osteoarthrosis: arthrosis of the shoulder joint, arthrosis of the knee joint, arthrosis of the hip joint
23. Complications of osteoarthritis
24. Ways to prevent the onset and progression of osteoarthritis
25. Indications for surgical treatment of osteoarthritis

UNIT №5

Key questions covered in lesson 23.

1. Congenital dislocation of the hip. Pathogenesis, clinical and radiological diagnostics at the age before and after 1 year.
2. Prevention, features of treatment in different age groups. Orthopedic consequences of congenital hip dislocation in adults.
3. Issues of early diagnosis of congenital deformities.

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 233-236
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 471-497

Key questions covered in lesson 24.

1. Congenital clubfoot. Club hand. Syndactyly. Polytactyly. Classification. clinical and radiological diagnostics; possible complications; methods, features and types of treatment; subsequent rehabilitation.

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 239-243
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 239-244, 439-440

Key questions covered in lesson 25.

1. Types of posture. Posture defects.
2. Principles of diagnosis and treatment.
3. Etiology and pathogenesis of scoliotic disease. Classification of scoliosis.
4. Clinic of various degrees of scoliosis.
5. The course of the disease. Basic principles of early recognition of scoliosis. Prevention, conservative and surgical methods of treatment.
6. Rehabilitation of patients with diseases of the spine

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 215-217, 249-250
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p.447-466

Key questions covered in lesson 26.

1. Etiology, pathogenesis, clinic of osteochondropathy. Disease of Legg-Calve-Perthes, Koenig, Osgood-Schlatter, Keller, Kienbek, Schoerman-Mau, Kümmel.
2. Clinical course, phases.
3. X-ray diagnostics, principles of treatment, outcomes. Classification of tumors of cartilaginous and bone origin.
4. Benign tumors - clinical and radiological features, methods treatment.
5. Primary and secondary malignant tumors. Frequency, diagnostic features; pathological fractures. Medical tactics.

Recommended reading for the lesson:

1.1 Orthopedics Quick Reviev, Apurv Mehra, 5th Edition, 2018, p. 25-50,207-229
1.2 Textbook of Orthopedics, Lohn Ebnezar, Rakesh Lohn, 5th Edition, 2017, p. 596-617

Key questions covered in lesson 27.

Modul №5

1. Congenital dislocation of the hip. Pathogenesis, clinical and radiological diagnostics at the age before and after 1 year.
2. Prevention, features of treatment in different age groups. Orthopedic consequences of congenital hip dislocation in adults.

3. Issues of early diagnosis of congenital deformities.
4. Congenital clubfoot. Club hand. Syndactyly. Polytactyly. Classification. clinical and radiological diagnostics; possible complications; methods, features and types of treatment; subsequent rehabilitation.
5. Types of posture. Posture defects.
6. Principles of diagnosis and treatment.
7. Etiology and pathogenesis of scoliotic disease. Classification of scoliosis.
8. Clinic of various degrees of scoliosis.
9. The course of the disease. Basic principles of early recognition of scoliosis. Prevention, conservative and surgical methods of treatment.
10. Rehabilitation of patients with diseases of the spine
11. Etiology, pathogenesis, clinic of osteochondropathy.
12. Disease of Legg-Calve-Perthes, Koenig, Osgood-Schlatter, Keller, Kienbek, Schoerman-Mau, Kümmel.
13. Clinical course, phases.
14. X-ray diagnostics, principles of treatment, outcomes. Classification of tumors of cartilaginous and bone origin.
15. Benign tumors - clinical and radiological features, methods treatment.
16. Primary and secondary malignant tumors. Frequency, diagnostic features; pathological fractures. Medical tactics.
17. Etiology and pathogenesis of scoliotic disease.
18. Classification. Clinic of various degrees of scoliosis. The course of the disease, outcomes and complications.
19. Course of scoliosis in puberty. Basic principles of early recognition of scoliosis.
20. Prevention, principles of conservative treatment.

Methodological instructions for the implementation of independent work on the discipline

Recommended perform independent work in the form of diagrams and tables/charts. Examples will be given below.

Make a table: classification of fractures

Types		
Mechanism		
Displacement		
Intra articular/ Extra articular (explanation)		

Make a table of the stages of bone regeneration

Stages	Explanation	Picture

Make a table of differences between open and closed fractures

Open fracture	Close fracture

Make a table indicating the advantages of the methods of instrumental examination of traumatology and orthopedics.

X-ray	Ultra sound investigation	Tomography

Make a table indicating the difference in benefits between MRI and CT examinations

MRI	CT-scan

Make a table of standard projections for X-ray examination of fractures

Bone	AP view	Lateral view
	Picture	Picture

Make a table of methods of surgical treatment of fractures

Intramedullary fixation	Extramedullary fixation	External fixation

Make a table of indications and contraindications for surgical treatment of fractures

Indications	Contrindications

Fill the table of x-rays and describe injuries

	Describe type of injury
	
	

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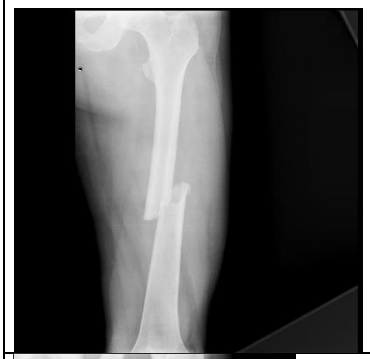
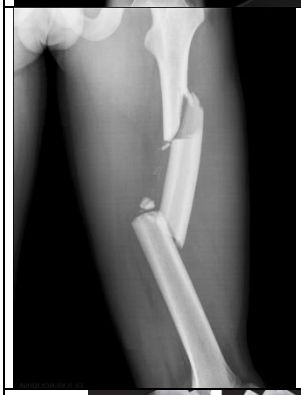
 L	
 R GS Tait	
	
 R	

	Describe the injury
	
	
	
	

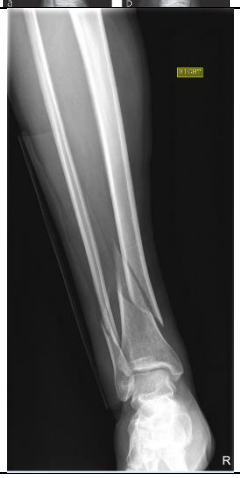
 ↓R PORT ER	
	
 R NW	
	

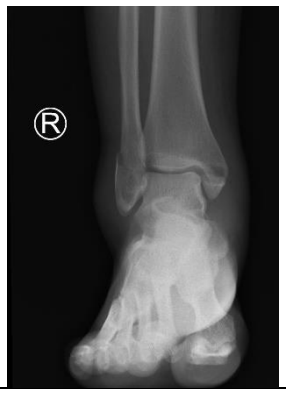
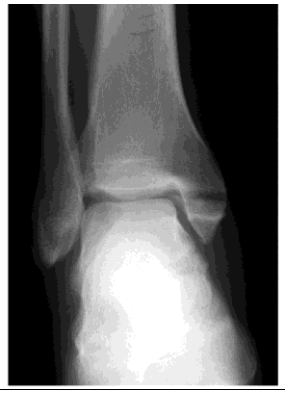
Describe injuries from following informations

		
Discrib the injury	Discrib the injury	Discrib the injury

Which test we use to find out the menisci injury	Which test we use to find out the ligament injury
Discrib the test	Discrib the test

Discrib the injuries from following xrays

 R	
	
	
	
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Anatomy of pelvis

	Blood supply to pelvis	picture
	-Extarnal iliac -internal iliac	
	Three bones of the pelvis	
	Two innominate bones and sacrum. İlium, ischium and pubis bones form the innominate	

Mechanism of pelvic injury	
Young-Burgess Classification	
Neurologic injury	
Absolute Indications for Operative Treatment	

« Spinal cord injury »
Classification of spinal injuries according to the system AO / ASIF

Classification of spinal injuries		

Methods of diagnosis in spinal cord injuries

Instrumental methods:		
Clinical research method		
Palpation:	1	

«Chest trauma»

Classification:	I. According to trauma to other organs:	
	II. By the nature of the complications:	
Floating rib fracture		

Signs of respiratory distress	-	picture

Signs of Penetrating or open chest trauma	-	
Posttraumatic pneumothorax		
Symptomatology and clinical picture of pneumothorax		
Treatment		

«Osteoarthritis»

Definition	

Types of pain:	
What is the normal angle between the femoral head bones and femoral neck	
Indications for endoprosthetic joint replacement:	

Indications for the knee joint endoprosthetic replacement:		
Indications for the shoulder joint endoprosthetic replacement:		
Indications to the hip joint endoprosthetic replacement:		