INTERNATIONAL HIGHER SCHOOL OF MEDICINE

Department of Introduction to therapy and Family Medicine

SYLLABUS

Module «Musculoskeletal system»

2026-2027 academic year
for students of medical faculty
3 course 5 semester, groups 1-25
3,5 credits (105 h, including auditorial 64 h, independent work – 41 h)

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Venue: According to the timetable

The Syllabus is considered
at the meeting of the department of
Introduction to therapy and Family Medicine
Protocol №1 dated 27.08.2026
Head of the department Kamchybekova A.A.

Course Objective: mastering the complex foundations of theoretical knowledges, practical skills and abilities for physical and laboratory-instrumental methods of examination in patients with lesions of the musculoskeletal system (MSS) with the study of the characteristics of the course of diseases in children, as well as the principles of treatment and prevention of syndromes affecting the musculoskeletal system in adults and children.

After study of the discipline the student must:

Knowledge:

- a scheme of medical history that determines the sequence of examining a patient with musculoskeletal diseases using physical, clinical, laboratory, functional and instrumental methods;
- main symptoms and syndromes of pathological lesions of the MSS, mechanisms of their development and methods for their detection;
- patterns of functioning of the organs of MSS, mechanisms of development of the main symptoms and syndromes, as well as methods for their detection;
- the essence of methods for clinical, laboratory and functional examination of adults and children;
- the essence of normal biochemical processes at the level of organs, systems and the body as a whole, as well as standards for the results of biochemical and clinical studies in diseases of the MSS.

Skill:

- collect the necessary information, describe all sections of the "student's" medical history carefully and competently, recording all the necessary data reflecting the course of clinical thinking in the process of diagnosing and choosing treatment tactics for musculoskeletal diseases;
- analyze and synthesize information about identified pathological symptoms and syndromes of MSS lesions and prescribe an adequate examination for the purpose of reliable diagnosis of diseases;
- identify the main symptoms using physical examination methods and group them into syndromes based on knowledge of the anatomical and physiological characteristics and patterns of functioning of the MSS;
- analyze the results of clinical, laboratory and functional examination of an adult person and child, taking into account their specifics in order to diagnose the main diseases of MSS;
- recognize and interpret the results of biochemical and clinical studies, identifies logical relationships between changes in biochemical parameters and the clinical state of the body.

Attitude:

- demonstrate practical skills in collecting patient complaints, his medical history, conducting a physical examination in accordance with the medical history chart at the bedside of a patient with musculoskeletal pathology;
- skills in the practical use of methods aimed at identifying the main pathological symptoms and syndromes of MSS in order to reliably diagnose MSS diseases;
- skills in physical examination of patients aimed at identifying the main pathological symptoms and syndromes of MSS for the purpose of reliable diagnosis of diseases;
- skills in conducting basic clinical, laboratory and functional examinations of adults and children;
- skills in making a primary diagnosis based on the results of biochemical and clinical studies for musculoskeletal pathology.

Pre-requisites:

- macroanatomy of bones, muscles and joints;
- normal physiology;
- biochemistry (calcium-phosphorus exchange);
- microanatomy (different types of muscle tissue);
- introduction to therapy (physical examination of musculoskeletal system of healthy person)

Post-requisites:

- all clinical subjects;
- clinical training «Feldsher's assistant»
- clinical training «Doctor's assistant»

THEMATIC PLAN OF LECTURES

№	Theme of lecture	Hours	Date
1	The especially topographical anatomy of the fascia muscular synoviales of the upper limb.	2	According to the timetable

2	The especially topographical anatomy of the fascia muscular synoviales of the lower limb.	2	According to the timetable
3	Typical disorders of musculoskeletal system.	2	According to the timetable
4	The main syndromes of skeletal and muscular system pathology and skin pathology of children.	2	According to the timetable
5	Radiology of bone and joint diseases.	2	According to the timetable
6	Introduction to traumatology and orthopedics. Fractures and dislocations of the upper limb.	2	According to the timetable
7	Fractures and dislocations of the lower limb. Spinal and pelvic injuries.	2	According to the timetable
8	Physical examination of patients with musculoskeletal disorders. Inflammatory periarticular lesions syndrome.	2	According to the timetable
9	Systemic connective tissue inflammation syndrome. Skeletal muscle inflammation syndrome. Myodystrophy.	2	According to the timetable

THEMATIC PLAN OF PRACTICAL CLASSES

№	Theme of practical class	Hours	Date
1	The topographical anatomy of the upper limb	2	According to the timetable
2	The topographical anatomy of the lower limb.	2	According to the timetable
3	The topographical anatomy of the vertebral column.	2	According to the timetable
4	Typical disorders of musculoskeletal system.	2	According to the timetable
5	Anatomical and physiological peculiarities of the skin, musculoskeletal system in child.	2	According to the timetable
6	The main syndromes of skin, skeletal and muscular system pathology in child	2	According to the timetable
7	Unit №1	2	According to the timetable
8	Radiology of bone and joint diseases.	2	According to the timetable
9	Radiological semiotic of different diseases and lesions of musculoskeletal system.	2	According to the timetable

10	Introduction to traumatology and orthopedics. Principles of pre-hospital care and emergency of a trauma victim.	2	According to the timetable
11	Fractures and dislocations of the upper limb. Treatment of open fractures with an emphasis on the prevention and treatment of secondary infection.	2	According to the timetable
12	Fractures and dislocations of the lower limb. Spinal and pelvic injuries. Treatment of open fractures with an emphasis on the prevention and treatment of secondary infection.	2	According to the timetable
13	Unit №2	2	According to the timetable
14	Physical examination of patients with musculoskeletal disorders. Medical history of rheumatological patient. Inflammatory periarticular lesions syndrome.	4	According to the timetable
15	Joint inflammation syndrome. Degenerative joint disorder syndrome. Indications for arthrocentesis.	4	According to the timetable
16	Systemic connective tissue inflammation syndrome.	3	According to the timetable
17	Skeletal muscle inflammation syndrome. Myodystrophy. Treatment and monitoring plans for patients with rheumatological diseases.	3	According to the timetable
18	Unit №3	2	According to the timetable

THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS

Unit №	Theme of independent work	Hours	Date
1 Top anatomy and pathophysiology of MSS	1. Make a table classifying bones by shape and structure. 2. Make a table classifying joints by tissue type, shape, and axis of motion. 3. Make a table classifying muscles by fiber type, number of heads (striated muscles), and function. 4. To make a drawing of general structure of synovial joint with short explanation. 5. Make an outline on the topic temporo-mandibular joint and muscles and muscles moving lower jaw. **Choose topic for presentation:** 6. Paget's disease 7. Rhabdomyolysis 8. Marfan syndrome	9	According to the timetable

	9. Duchenne muscular dystrophy 10. Achondroplasia 11. Osteomyelitis 12. Main parts and manipulation in inspection of skin and adipose tissue 13. Inspection and evaluation of the child's body 14. Assessment of musculoskeletal apparatus of children 15. Clinical signs, laboratory diagnosis, treatment principles of rickets.		
2 Investigation and traumatology in MSS	**Make an abstract for topics:** 1. Radiological signs of complicated fractures 2. Radio anatomical parallels between osteochondrosis and deforming spondylosis 3. Osseous callosity as pathology of childhood its radiological signs 4. Primary and late radiographic signs of osteomyelitis 5. General signs and differences between pyogenic and tuberculous arthritis 6. Make the table with indicating the nerves and vessels in the area of the upper arm 7. Make a list of complications of fractures of the upper extremities 8. Decipher the fracture according to the indicated X-ray images. 9. Make the table with illustrating the differences between Montegi and Galiaci fractures. 10. Make the table with illustrating the differences between Collis and Smith fractures. 11. Make the table of bone strength (Bone density table. T score) 12. Make a graph of changes in bone strength with age for men and women	9	According to the timetable
3 The main lesion syndromes of musculoskeletal system	**Choose topic for presentation:** 1. Raynaud's syndrome (pathogenesis, clinical manifestations, stage, diagnostics) 2. Systemic lupus erythematosus (SLE) (variants of the clinical features of the disease) 3. Verlgof's syndrome (autoimmune thrombocytopenia) in SLE 4. The criteria for the diagnosis of acute rheumatic fever (criteria Kisel-Jones) 5. Possibilities of ultrasound diagnostics for diseases of the joints 6. Radiological signs of rheumatoid arthritis.	12	According to the timetable

	7. Signs of articular syndrome in rheumatoid arthritis. 8. Features articular syndrome in acute rheumatic fever. 9. The criteria for the diagnosis of rheumatoid arthritis by the American Rheumatology Association. 10. The variants of the clinical course of rheumatoid arthritis. 11. The changes in the internal organs in dermatomyositis. 12. The differential diagnostic symptoms of dermatomyositis. 13. Differential diagnostic signs of systemic sclerosis with other systemic diseases. 14. The pathogenesis of scleroderma. 15. Manifestations of visceral forms of systemic sclerosis. 16. X-ray differences syndromes inflammatory changes in joints and degenerative changes in joints. 17. The diagnostic criteria for systemic lupus erythematosus developed by the American Association of Rheumatic. 18. X-ray signs of changes in the joints in gout. 19. Clinical signs of acute gouty arthritis 20. Raynaud's Syndrome. Causes of development 21. Diagnosis of Raynaud's syndrome 22. Clinical and laboratory characteristics of rheumatoid arthritis, reactive arthritis and osteoarthritis. 23. Differential diagnosis of SLE. 24. Characteristics of the skin lesions in systemic diseases. 25. Differential diagnostic signs of joint disease in systemic diseases. 26. Bekhterev's disease. Diagnostics. 27. Signs of acute rheumatic fever.		
	Total	30	

Recommended reading for the discipline:

Basic:

Traumatology:

1. Maheshwari and Mhaskar «Essential Orthopaedics», 6th edition 2019

Patophysiology:

2. Robins and Katran «Pathologic basis of disease», 8th edition 2012
3. Harsh Mohan «Textbook of pathology», 8th edition 2019

Topanatomy:

4. B.D.Chaurasia «Human Anatomy» Volume 1-4, 8th edition 2020

Propedtherapy:

5. Barbara Bates «A guide to physical examinaton and history taking», 6th edition 2009
6. Davidson «Principles and Practice of medicine», 23rd edition 2018
7. Harrison «Principles of Internal Medicine» Volume 1-2, 16th edition 2005

Propedpediatrics:

8. Ghai «Essential Pediatrics», 8th edition 2014
9. Nelson «Textbook of Pediatrics», 21th edition 2020

Radiology:

10. Satish K. Bhargava «Textbook of radiology», 3rd edition 2007

Additional:

Topanatomy:

11. Frank H. Netter «Atlas of Human Anatomy», 6th edition 2011

Radiology:

12. RadiologyEducation: https://www.radiologyeducation.com/
    PubMed: https://www.ncbi.nlm.nih.gov/
    ffMedLine: https://www.nlm.nih.gov/
    Medscape: https://www.medscape.com

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
- unit/ module – 40 points
- the overall score - 100 (40+20+40)

For violations of t**he conduct policy**, the overall discipline score will be reduced by a maximum of 10 points.
For violations of **the academic ethics policy**, the overall score in the discipline is reduced by a maximum of 10 points.
Exam 100 points.
The exam is carried out in 2 stages:
Stage 1 - clinical skills exam – 40
Stage 2 - theoretical knowledge exam – 60

Grand total score for the discipline (middle score for units 100 + exam score 100) = 100 points
Grand total score for the discipline put into the record book.

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	The student refuses to answer or when trying to answer demonstrates a complete lack of knowledge of the material. No clinical task has been solved, no practical task	The student knows the educational material partially. Incorrectly performs or disrupts the sequence of clinical examination of the patient. Can apply his knowledge only in a typical familiar	The student knows program material fluently in a familiar situation and makes two or three mistakes when answering. The student confidently answers additional questions.	The student is fluent in educational material of varying complexity and uses information from other disciplines. The student demonstrates the ability to think and perform practical work independently.

	has been completed.	situation, and experiences difficulty when changing the question. There are also difficulties in using special skills. Can only solve typical clinical problems and has poor communication skills.	Able to apply knowledge and relevant clinical skills to a range of routine tasks. There are minor errors in the preparation of the medical history or situational task. Good confidence in communication skills and ability to conduct effective dialogue.	All tasks of the practical part were completed at a high level, clinical thinking and a non-standard approach to problem solving were demonstrated. He is fluent in communication skills.
Independent work - 20	0-11	12-15	16-17	18-20
Interval description	As above	As above	As above	As above
	The following are additionally taken into account – compliance with the expected answers; – correct using of the algorithm for performing actions (methodology, technology, etc.); – logic of reasoning; – original approach to the solution.			
Description of criteria by intervals	Given to the student if he does not possess the listed skills.	Given to the student if he demonstrates knowledge and understanding of most of the assignment. The student knows the categorical apparatus, can give calculation formulas, and calculate the task.	Given to the student if the task is completed with minor errors. The student masters the categorical apparatus, can classify the factors of a phenomenon, solve the problem and analyze the results obtained	Given to the student if the task is completed in full. The student knows the categorical apparatus, can classify the factors of a phenomenon, solve the problem and analyze the results obtained, explain the reasons for deviations from the desired result, defend his point of view, citing facts.
Control work (module) - 40	0-23	24-30	31-35	36-40
Interval description	Number of correct answers to MCQs –49% or less	Number of correct answers to MCQs –50-75 %	Number of correct answers to MCQs – 76-89%	Number of correct answers to MCQs – 90% and above

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 1-10 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 1-10 points.

Guidelines for the lessons of the discipline
Key questions covered in lesson 1. **The topographical anatomy of the upper limb.**
1. The borders of the axillary region.
2. The layered topography of the axillary region.
3. The borders and layers of the deltoid region.
4. The topography of the subclavian region.
5. The borders and layers of the scapular region.
6. Find out the ligaments of the shoulder joint.
7. The topography of the arm region.
8. The topography of the elbow joint.
9. The borders and layers of the forearm regions.
10. The topography of the wrist joint.
11. The topography of the carpal tunnel.
12. The topography of the extensor retinaculum.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[4,11]

Key questions covered in lesson 2. **The topographical anatomy of the lower limb.**
1. The topography of gluteal region.
2. The topography of the hip joint.
3. The borders and layers of the thigh regions.
4. The borders and layers of the popliteal regions. The topography of the popliteal fossa.
5. The topography of the knee joint.
6. The borders and layers of the leg regions.
7. The topography of the ankle joint.
8. The borders and layers of the foot regions.
9. The topography of the calcaneal and plantar canals.
10. The foot as a functional unit.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[4,11]

Key questions covered in lesson 3. **The topographical anatomy of the vertebral column.**
1. The border and layers of vertebral column.
2. The joints and ligaments of vertebral column.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[4,11]

Key questions covered in lesson 4. **Typical disorders of musculoskeletal system.**
1. What is the difference between osteopenia and osteopetrosis?
2. Definition, causes and mechanisms of osteoporosis development
3. Definition, causes and mechanisms of development of osteomalacia
4. Consequences of osteomalacia and osteoporosis.
5. What does RANK mean?
6. What does RANKL mean?

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[2,3]

Key questions covered in lesson 5. **Anatomical and physiological peculiarities of the skin, musculoskeletal system in child.**

1. Features of the structure of the skin and subcutaneous fat in children and their value in clinical practice.
2. The main reasons for changes in skin color. Jaundice, types of jaundice. Cyanosis, types of cyanosis.
3. Characteristics of the rash elements. Classification of the rash. Main causes of the rash. The clinical manifestation and differential diagnosis of rash in children.
4. Changes in the structure of the skin and subcutaneous fat layer. The main causes, clinical manifestations, differential diagnosis. The scars, the scar tissue. Skin changes due to autoimmune diseases.
5. Changes in the structure of the skin appendages: hair and nails. The main causes, clinical manifestations, differential diagnosis.
6. Physical methods of studies of skin and subcutaneous fat layer. Inspection, palpation conducting various tests (temperature, humidity, turgor, elasticity, puffiness).
7. Features of the composition of bone in children, especially the structure of the epiphysis, the timing of ossification and their importance in determining the child's biological age.
8. Inspection and examination of the head in infants.
9. Milk-teeth and permanent teeth erupt and the timing of their shift. The formulas for the calculation of the teeth. Reasons for delays in dentition.
10. Features of the structure of the spine.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[8,9]

Key questions covered in lesson 6. **The main syndromes of skin, skeletal and muscular system pathology in child.**

1. Pathology chest. "Funnel-shaped" and "keeled" rib cage. The main causes, methods of correction.
2. The physiological and pathological changes in the limbs. O-shaped, X-shaped curvature. Valgus position of the heel bone in children of the 2nd year of life.
3. Inspection and testing of the joints. Tests to determine the functional activity of the joints in children. The hip joint. Maturity Evaluation of the newborn. Signs of dysplasia and dislocation of the hip in children of different ages.
4. Features of the structure and blood supply to the muscle tissue in children.
5. Physical methods of examination of the musculoskeletal system. Inspection, palpation. Methods for determination of muscle strength, tone and physiological reflexes.
6. Instrumental methods of investigation of the musculoskeletal system. Myography, radiography, computed and MRI.
7. Violations of muscle tone and muscle strength in various diseases.
8. Violations of the calcium-phosphorus metabolism. Rickets, its clinical and laboratory signs

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[8,9]

Key questions covered in lesson 7. **Unit №1**
Module questions

1. The borders of the axillary region.
2. The layered topography of the axillary region.
3. The borders and layers of the deltoid region.
4. The topography of the subclavian region.
5. The borders and layers of the scapular region.
6. Find out the ligaments of the shoulder joint.
7. The topography of the arm region.
8. The topography of the elbow joint.

9. The borders and layers of the forearm regions.
10. The topography of the wrist joint.
11. The topography of the carpal tunnel.
12. The topography of the extensor retinaculum.
13. The topography of gluteal region.
14. The topography of the hip joint.
15. The borders and layers of the thigh regions.
16. The borders and layers of the popliteal regions. The topography of the popliteal fossa.
17. The topography of the knee joint.
18. The borders and layers of the leg regions.
19. The topography of the ankle joint.
20. The borders and layers of the foot regions.
21. The topography of the calcaneal and plantar canals.
22. The foot as a functional unit.
23. The border and layers of vertebral column.
24. The joints and ligaments of vertebral column.
25. Definition, causes and mechanisms of osteoporosis development
26. Definition, causes and mechanisms of development of osteomalacia
27. Examination of the skin of different ages of children, consideration of the elements of rash (in the absence of case-patients - working with photo).
28. Assessment of muscle tone in children of different ages. The study of X-rays.
29. The survey based on questions for self - features of the structure and physiology of the baby's skin, bone and muscle systems.
30. Muscle hypertrophy, atrophy, muscle tone disorders, diseases accompanied these changes.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets. [2,3,4,8,9,11]

Key questions covered in lesson 8. **Radiology of bone and joint diseases.**

1. Radiological semiotic of long tubular bone.
2. Osteoporosis, osteosclerosis, osteolysis, destruction, necrosis, hyperostosis, atrophy etc.
3. Correlation of pathological osseous metabolism with clinical signs.
4. Radial reflection of the most common systemic, specific & tumorous diseases.
5. Osteoarticular trauma.
6. Classification of fractures, dislocations, subluxations.
7. Soft tissue trauma.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets. [10,12]

Key questions covered in lesson 9. **Radiological semiotic of different diseases and lesions of musculoskeletal system.**

1. Gun shooting trauma.
2. Gaseous infections.
3. Osteomyelitis.
4. Tuberculosis.
5. Tumors.
6. Endocrinal disorders.
7. Interventional orthopedic procedures.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets. [10,12]

Key questions covered in lesson 10. **Introduction to traumatology and orthopedics. Principles of pre-hospital care and emergency of a trauma victim.**

1. Definition of traumatology and orthopedics. Anatomy of bones and joints.
2. Fracture. Definition and classification of fractures.
3. Diagnostics in orthopedics and traumatology.
4. Treatment methods in traumatology and orthopedics

5. Stages of fracture regeneration
6. Principles and methods of diagnosis
7. Treatment principles in traumatology and orthopedics
8. Treatment classification
9. Principles of pre-hospital care and emergency of a trauma victim.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[1]

Key questions covered in lesson 11. **Fractures and dislocations of the upper limb. Treatment of open fractures with an emphasis on the prevention and treatment of secondary infection.**

1. Lesions around the shoulder girdle and humerus
2. Injuries around the elbow joint
3. Damage to the bones of the forearm and hand
4. Treatment of open fractures with an emphasis on the prevention and treatment of secondary infection.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[1]

Key questions covered in lesson 12. **Fractures and dislocations of the lower limb. Spinal and pelvic injuries. Treatment of open fractures with an emphasis on the prevention and treatment of secondary infection.**

1. Injuries around the hip joint and femur
2. Injuries around the knee
3. Injuries to the bones of the lower leg and, ankle joint and foot
4. Pelvic bone injury
    a. Anatomy
    b. Classification
    c. Diagnostics
    d. Treatment
    e. complications
5. Spinal cord injury
    a. Anatomy
    b. Classification
    c. Diagnostics
    d. Treatment
    e. Complications
6. Treatment of open fractures with an emphasis on the prevention and treatment of secondary infection.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[1]

Key questions covered in lesson 13. **Unit №2**

Module questions

1. Definition of the concept of "trauma". Traumatology and Orthopedics as a Medical Specialty.
2. Definition and classification of fractures.
3. Complications of fractures and their treatment.
4. Types of treatment for traumatological and orthopedic patients.
5. Fracture of the clavicle. Definition. Classification. Diagnostics. Treatment. Complications.
6. Fracture of the scapula. Definition. Classification. Diagnostics. Treatment. Complications.
7. Dislocation of the shoulder joint. Definition. Classification. Diagnostics. Treatment. Complications.
8. Fracture of the surgical neck of the humerus. Definition. Classification. Diagnostics. Treatment. Complications.
9. Fracture of the diaphysis of the humerus. Definition. Classification. Diagnostics. Treatment. Complications.
10. Supracondylar fracture of the humerus. Definition. Classification. Diagnostics. Treatment.

Complications.

11. Dislocation of the elbow joint. Definition. Classification. Diagnostics. Treatment. Complications.
12. Dislocation of the head of the ulna. Definition. Classification. Diagnostics. Treatment. Complications.
13. Fracture of the olecranon. Definition. Classification. Diagnostics. Treatment. Complications.
14. Fracture of Monteggi. Definition. Classification. Diagnostics. Treatment. Complications.
15. Fracture Galiazi. Definition. Classification. Diagnostics. Treatment. Complications.
16. Collis and Smith fracture. Definition. Classification. Diagnostics. Treatment. Complications.
17. Barton's fracture. Definition. Classification. Diagnostics. Treatment. Complications.
18. Rolando and Benett's fracture. Definition. Classification. Diagnostics. Treatment. Complications.
19. Scaphoid fracture. Definition. Classification. Diagnostics. Treatment. Complications.
20. Fracture of the phalanges of the hand. Definition. Classification. Diagnostics. Treatment. Complications.
21. Dislocation of the hip joint. Definition. Classification. Diagnostics. Treatment. Complications.
22. Fracture of the femoral neck. Definition. Classification. Diagnostics. Treatment. Complications.
23. Transtrochanteric fracture. Definition. Classification. Diagnostics. Treatment. Complications.
24. Subtrochanteric fracture. Definition. Classification. Diagnostics. Treatment. Complications.
25. Fracture of the femoral shaft. Definition. Classification. Diagnostics. Treatment. Complications.
26. Supracondylar fracture of the femur. Definition. Classification. Diagnostics. Treatment. Complications.
27. Damage to the PKS and ZKS. Definition. Classification. Diagnostics. Treatment. Complications.
28. Damage to the ISS and LKS. Definition. Classification. Diagnostics. Treatment. Complications.
29. Fracture of the patella. Definition. Classification. Diagnostics. Treatment. Complications.
30. Fracture of the tibial plateau. Definition. Classification. Diagnostics. Treatment. Complications.
31. Fracture of the diaphysis of the shin bones. Definition. Classification. Diagnostics. Treatment. Complications.
32. Fractures and dislocations of the ankle. Definition. Classification. Diagnostics. Treatment. Complications.
33. Fracture of the calcaneus and talus. Definition. Classification. Diagnostics. Treatment. Complications.
34. Fracture of the metacarpal bones and bones of the phalanges of the foot. Definition. Classification. Diagnostics. Treatment. Complications.
35. Fracture of the pelvic bones. Definition. Classification. Diagnostics. Treatment. Complications.
36. Fracture of the spinal column. Definition. Classification. Diagnostics. Treatment. Complications.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[1,10,12]

Key questions covered in lesson 14. **Physical examination of patients with musculoskeletal disorders. Medical history of rheumatological patient. Inflammatory periarticular lesions syndrome.**

1. Interviewing, physical examination, laboratory and instrumental methods of investigation of the patients with disorders of the musculoskeletal system.
2. Medical history of rheumatological patient.
3. Inflammatory periarticular lesions syndrome (complaints, history of present illness, life history, physical examination, laboratory and instrumental methods of investigation)
4. Situational tasks, their decisions.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[5,6,7]

Key questions covered in lesson 15. **Joint inflammation syndrome. Degenerative joint disorder syndrome. Indications for arthrocentesis.**

1. Joint inflammation syndrome (complaints, history of present illness, life history, physical examination, laboratory and instrumental methods of investigation)
2. Degenerative joint disorder syndrome (complaints, history of present illness, life history, physical examination, laboratory and instrumental methods of investigation)
3. Indications for arthrocentesis.
4. Situational tasks, their decisions.

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[5,6,7]

Key questions covered in lesson 16. **Systemic connective tissue inflammation syndrome.**

1. Systemic connective tissue inflammation syndrome ((complaints, history of present illness, life history, physical examination, laboratory and instrumental methods of investigation)
2. Situational tasks and their results

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[5,6,7]

Key questions covered in lesson 17. **Skeletal muscle inflammation syndrome. Myodystrophy. Treatment and monitoring plans for patients with rheumatological diseases.**

1. Skeletal muscle inflammation syndrome (complaints, history of present illness, life history, physical examination, laboratory and instrumental methods of investigation)
2. Myodystrophies (complaints, history of present illness, life history, physical examination, laboratory and instrumental methods of investigation)
3. Treatment and monitoring plans for patients with rheumatological diseases.
4. Situational tasks and their results

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[5,6,7]

Key questions covered in lesson 18. **Unit №3**

Module questions

1.Inflammatory joint disorders syndrome: (complaints, present illness, life history).
2.Inflammatory joint disorders syndrome: (palpation of involved joints at rest, inspection during movement, lab tests, imaging studies).
3. Degenerative joint disorders syndrome: [complaints, present illness, life history).
4. Degenerative joint disorders syndrome:(lab tests, imaging studies).
5. Inflammatory muscle disorders syndrome: (complaints, present illness, life history, Inspection of involved muscles at rest, palpation of involved muscles at rest).
6. Degenerative joint disorders syndrome: (inspection during movement, lab tests,imaging studies).
7. Inflammatory periarticular lesions syndrome: (complaints, present illness, life history, attitude of the extremities, inspection of involved periarticular structure at rest, palpation of involved periarticular structure at rest).
8. Inflammatory periarticular lesions syndrome: (lab tests, imaging studies).
9. Inflammatory muscle disorders syndrome: (inspection during movement, specialtests, lab tests, imaging studies).
10. Inflammatory periarticular lesions syndrome: (palpation of involved periarticular structure at rest, inspection and auscultation during movement, lab tests, imaging studies).
11. Inflammatory periarticular lesions syndrome: (lab tests, imaging studies).
12. Inflammatory muscle disorders syndrome: (complaints, present illness, life history, attitude of the extremities and posture of patient) .
13. Inflammatory muscle disorders syndrome:(Inspection of involved muscles at rest, palpation of involved muscles at rest).
14. Inflammatory muscle disorders syndrome: (inspection during movement, special tests).
15. Inflammatory muscle disorders syndrome: (lab tests, imaging studies).
16. Systemic connective tissue inflammation syndrome: [complaints, present illness, life history).
17. Systemic connective tissue inflammation syndrome:(general survey, skin changes, hair and nail lesions).
18. Systemic connective tissue inflammation syndrome: (vascular disorders, mucous membrane lesions, lymphatic nodes lesions, inflammatory joint disorders).
19. Systemic connective tissue inflammation syndrome: (lab tests, imaging studies).
20. Inflammatory joint disorders syndrome: (complaints, present illness, life history, inspection of gait, attitude of the extremities, inspection of involved joints at rest).
21. Inflammatory joint disorders syndrome: (lab tests, imaging studies).
22. Inflammatory joint disorders syndrome: (palpation of involved joints at rest, inspection during movement, lab tests, imaging studies).
23. Systemic connective tissue inflammation syndrome: (lab tests, imaging studies).
24. Degenerative joint disorders syndrome: (complaints, present illness, life history, inspection of gait).

25. Degenerative joint disorders syndrome: (lab tests, imaging studies).
26. Degenerative joint disorders syndrome: (inspection during movement, lab tests, imaging studies).
27. Inflammatory periarticular lesions syndrome:(lab tests, imaging studies).
28. Inflammatory periarticular lesions syndrome: (complaints, present illness, life history , inspection of involved periarticular structure at rest, palpation of involved periarticular structure at rest).
29. Inflammatory joint disorders syndrome:(lab tests, imaging studies).
30. Inflammatory periarticular lesions syndrome: (palpation of involved periarticular structure at rest, inspection and auscultation during movement, lab tests, imaging studies).

Recommended reading for the lesson/unit (if necessary); serial number is indicated in square brackets.
[5,6,7]

Methodological instructions for the implementation of independent work on the discipline

Methodological instructions for making an abstract:

1. To study the curriculum and the working curriculum.
2. Determine the place of the topic of this lecture in the structure of the discipline according to the thematic plan.
3. Find out all the issues that need to be studied.
4. To study material, which is in the syllabus, to clarify the amount of missing material on the basis of control questions, tasks for control work and questions submitted for the module (see the program discipline and the working curriculum).
5. Determine the literature in which there is the necessary educational material, and the sequence of its assimilation.
6. To process each educational material in the following way.
7. Read it in dynamics to understand the general essence.
8. Read the study material a second time, understanding each word and sentence
9. For the third time to identify the basic concepts, the essence of phenomena and processes, their structure and content, as well as the links between them.
10. Write it all down in a synopsis.
11. To establish a connection with the previous educational material.
12. Independently answer all control questions on this topic.

Methodological instructions for independent work:
1. Study the theoretical material well; master the method of applying knowledge in practice.
2. Be able to use the necessary equipment, materials, equipment for measurements.
3. To study the recommendations for specific laboratory or practical work, which are set out in textbooks and methodological developments.
4. Make a plan for laboratory or practical work.
5. Prepare the necessary material.
6. Perform tasks of laboratory or practical work.
7. Interpret the results and describe the identified phenomena.
8. Draw conclusions.
9. Draw up everything accordingly.