AJK Medical College, Muzaffarabad

Musculoskeletal Systems Module
(LMR-II-03011)
Final Year MBBS

Pre-requisite:
CHP, CVS-II, Hematology, RES-II, GIT-II, SPS-II, Reproduction, Endocrine, Renal & NEU
Starting:

DEPARTMENT OF MEDICAL EDUCATION

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Locomotor System & Rheumatology Module Team

1. Dr. Shaukat Hayat (Planner)
2. Dr. Mateen (Coordinator)
3. Dr. Prof Nizam ud Din (Member)
4. Dr. Abdul Khalid Awan (Member)
5. Dr Mazhar Hamdani (Member)
6. Dr. Liaqat Mahmood (Member)

Rationale:

Musculoskeltal problems are very common in every community particularly in hilly areas of AJK. The prevalence of musculoskeletal problems in the population is increasing with longevity and may continue to increase over time. An increased morbidity by virtue of musculoskeletal disorders may compromise their quality of life and impose burden on health economics. The cost of treatment and inability to remain employed full time will have a significant financial impact on the economy of a resource constrained developing country. It warrants that trainee physicians should recognize and appreciate fully the importance of common musculoskeletal conditions. According to WHO 2003,although the diseases that kill attract much of the public's attention, musculoskeletal or rheumatic diseases are the major cause of morbidity throughout the world, having a substantial influence on health and quality of life, and inflicting an enormous burden of cost on health systems …"

Undergraduate Medical Education Programs are primarily responsible in Pakistan for preparing medical graduates/doctors to care for common clinical disorders prevalent in the country. Therefore, it is mandatory for medical schools to provide learning experiences that allow students to gain an appreciation of the importance of these conditions and the challenges inherent in caring for those patients. Traditional Medical Schools may not be accomplishing this educational goal since the attention paid to the conditions in the usual medical school curriculum is not commensurate with the prevalence of these conditions. We have developed LMR Module, which would provide appropriate learning experiences necessary for effective training of future physicians' knowledge, skills, and attitudes relevant to musculoskeletal conditions that all medical students should acquire prior to graduation. This module has been designed to unfold the structural organization, functions, congenital anomalies and some of the disorders of the limbs and back. It explains the mechanism of neuromuscular transmission, its biochemical basis and the importance of Ca++ in the body along with neurotransmitters/drugs acting at this level.

Apart from above mentioned details, this module will also covers main components of primary survey in a trauma patient along with identification of common fractures of long bones on radiographs and examination of musculoskeletal system along with joint examination.

Teaching Strategy

The teaching strategy will include, large group interactive sessions (LGIS), demonstrations in dissection hall, lab practical, general club and clinical skill sessions at skill lab. Group projects will be assessed at the end of the block.

Organization of Module

The module consists of seven themes, and 8 PBLs each based on a real life situation. Each theme has its explicate LOs. The module will employ different modes of instruction, briefly described below. Major emphasis will be on discussion, analysis and deductions; all by the students and guided by the faculty.

Content Delivery

Entire curriculum will be delivered by clinical case scenarios each covering a theme. Read the cases and the objectives of the theme which you are supposed to encounter next day, understand and explain the case to yourself and read the relevant information. Following learning/teaching strategies will be employed to discuss the cases:

Large group

Large group instruction will be employed at times sparingly. Attend large group sessions with the following focus

a. Identify important points

b. Ask questions on concepts not well understood in the text books

c. Measure your learning comprehension

Self Directed Learning

A few SDLs have been added in between to create an environment for you to search literature as well as to deduce and synthesize information from different sources to meet the learning objectives. It will also help in breaking the monotonous / strenuous schedule and make you life- long learner.

Assessment

In this 2-weeks duration module, you will have formative surprise quizzes and intermittent short tests. A full-fledged summative assessment will be conducted at the end of module. This will give you an idea about the format of the examination that you will go through at the end of the year. Of course, this will be followed by feedback on your performance in the exam.

Marks obtained in the module examination will contribute 30% (internal assessment) towards end of year Professional University Examination. There is no resit exam for module written assessment and block IPE. If you miss them, your internal assessment will be recorded as zero. No excuse of any kind is permissible for absence in module or IPE assessment.

Table of Specifications (TOS)

Sr.#	Theme	Weight%
1	Trauma	25
2	Lumps/swellings of limbs	20
3	Painful Joints	25
4	Myopathy	5
5	Limping child	25
	Total	100%

Learning Objectives

1. Theme (Trauma)

At the end of the module the Students should be able to;

1- Define, classify and diagnose fracture.
2- Enlist fracture's complications.
3- Diagnose shoulder dislocation. Describe its clinical features and management.
4- Describe the primary and secondary survey in a trauma patient.
5- Define triage.
6- Discuss initial management of trauma patient.
7- Define AVN.
8- Enlist bones which are prone to develop AVN in trauma.
9- Neck: mechanical/myofascial neck pain, cervical radiculopathy, (cervicalmyelopathy)
10- Shoulder: rotator cuff tendinitis/opathy, AC joint problems (arthritis, separation), anterior dislocation, biceps tendinitis/rupture
11- Elbow: lateral and medial epicondylitis, radial head fracture, olecranon bursitis
12- Wrist: DeQuervain's tenosynovitis, carpal tunnel syndrome, scaphoid fracture
13- Hip: trochanteric bursitis, osteoarthritis
14- Lumbar spine: mechanical low back pain, lumbar radiculopathy, lumbar spinal stenosis, lumbar spondylolysis, and listhesis
15- Knee: ligament sprains, including anterior cruciate ligament, meniscal tears, Patella femoral pain

16- Ankle/foot: inversion sprains, Achilles tendinitis, plantar fasciitis
17- Define and Classify Disaster.
18- Enlist various levels of disaster.
19- Describe Disaster management.
20- Describe the disaster impact &preparedness.
21- Discuss the Disaster preparation.
22- Differentiate between Accident, Injury & Handicap
23- Discuss various types of accident and its preventions

2. Theme (lumps/swellings of limbs)

1. Enumerate the congenital bone disease
2. Describe the pathogenesis of Osteogenesis imperfecta and Achondroplasia
3. Enumerate different types of metabolic bone disorders.
4. Describe the pathogenesis of metabolic bone diseases.
5. Identify osteogenic imperfecta and developmental dysplasia of hip (DDH) on radiographs/pictures/videos.
6. Identify and interpret congenital anomalies of the limbs and correlate with their embryological basis.
7. Describe Radiological findings in osteomyelitis, & osteomalacia
8. Describe Ricket
9. Describe the pathogenesis and lab diagnosis of infectious bone disease

3. Theme (painful joints)

1- Enumerate the different types of arthritis like JRA,Septic arthritis rheumatic arthritis.
2- Describe the pathology and lab diagnosis of arthritis
3- Identify/illustrate components of clinically important joints on imaging modalities.
4- Outline plan for taking history of joint disorder and the important components of their examination.
5- Council the patient suffering from immunological and/or degenerative arthritis for prevention and lifestyle modifications.
6- Describe clinical features, investigations and management of Rheumatoid Arthritis.
7- Describe clinical features, investigations and management of systemic lupus erythematosis
8- Enlist different causes of backache and describe the clinical features and management of ankylosing spondylitis.
9- Gouty arthritis

4. Theme (Myopathies)

At the end of this module, students will be able to describe the main clinical features and investigations of the following conditions

1. Common heredity and acquired myopathies like diabetic and thyroid myopathy and heredity conditions like dystrophy
2. Different positive and negative signs symptoms in all types of myopathies
3. To know about the expression of different mopathies in different age groups like myopathies at birth in childhood and in adults
4. Key differentiating points of some common myopathies
5. Different investigations in diagnosis of myopahty like muscle enzyme electrophysiology NCS/EMG and muscle biopsy
6. Skills
   a. History and physical examination of patient with muscle weakness
   b. Interpretations of different investigations like muscle biopsy

5; Theme (Limping child)

1. To define and classify the rickets
2. To define clinical features of rickets
3. To describe the role of parathyroid gland , liver kidney and intestine in development of ricket
4. To make list of investigations of rickets
5. To make the treatment plan of rickets

RECOMMENDED BOOKS

1. Appleys book of orthopedic.
2. Campbel orthopedics
3. Davidson text book of medicine

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Schedule for Musculoskeletal Module (0323) – 5th Year MBBS

Week-1

Time	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00am-8:40am	**Written Assessment NEU-VI & Psy. & Behavioral Module**	**LGIS** Chest Trauma **Prof. Nizam ud Din**	x	x	x	**CLINICAL ROTATIONS (8:00 AM to 2:00 PM)**
8:45am-9:25am		**LGIS** Basic Principal of management of Spinal Injury **Dr. Liaqat**	x	x	x	
9:30am-2:00pm	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	
Break (2:00 – 5:00 PM)						
5:00-8:00 pm	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	

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Schedule for Musculoskeletal Module – 5th Year MBBS

Week 2

Time	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00am-8:40am	**LGIS** Dysplasia **Prof. AG Nagi**	**LGIS** Vercose Vains **Dr. Nizam-Ud-Din**	**LGIS** Basic Principal of fracture management **Dr. Shahbaz Raza**	**LGIS** Arterial Disease of Lower Limb **Prof. Adnan Mehraj**	**LGIS** Ankylozing spandylitis **Dr. Liaquat Awan**	**CLINICAL ROTATIONS (8:00 AM to 2:00 PM)**
8:45am-9:25am	**LGIS** SLE **Prof. Javed Rathoe**	**LGIS** Gout **Dr. Ali Arshad**	**LGIS** Myopathies **Dr. Mazhar Hamdani**	**LGIS** Osteomylitis **Col Zubair**	**LGIS** Cysts & Beige bone tumor **Prof. Nizam-ud-Din**	
9:30am-2:00pm	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	
Break (2:00 – 5:00 PM)						
5:00-8:00 pm	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	

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Schedule for Musculoskeletal Module – 5th Year MBBS

Week 2

Time	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00am-8:40am	**LGIS** Rheumatoid arthritis **Dr. Khalid Awan**	**LGIS** Perthes Disease /DDH **Col. Zubair**	**LGIS** Trauma Manegael **Dr. Shahbaz Raza**	**LGIS** Malignant Bone Tumors **Col Zubair**	**LGIS** Support Injuries **Col Zubair**	**CLINICAL ROTATIONS (8:00 AM to 2:00 PM)**
8:45am-9:25am	**LGIS** Rickets **Dr. Manzoor**	**LGIS** Osteoarthritis **Dr. Shauket Hayat**	**LGIS** Juvenile rheumatoid arthritis **Dr. Tahir Aziz**	**LGIS** Rheumatic Septic Arthritis **Prof. Abdul Ghaffar Nagi**	**LGIS** Swollen Limb DUT lymph **Dr. Sarmad**	
9:30am-2:00pm	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	
Break (2:00 – 5:00 PM)						
5:00-8:00 pm	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	**CLINICAL ROTATIONS**	

Inquires & trouble shooting

Department of Medical Education,
AJK Medical College, Muzaffarabad, AJK, Pakistan
Email: ayub@ajkmc.edu.pk, DME@ajkmc.edu.pk
Tel: +92-5822-920527-8/808, 816