TEAM™

TRAUMA EVALUATION & MANAGEMENT

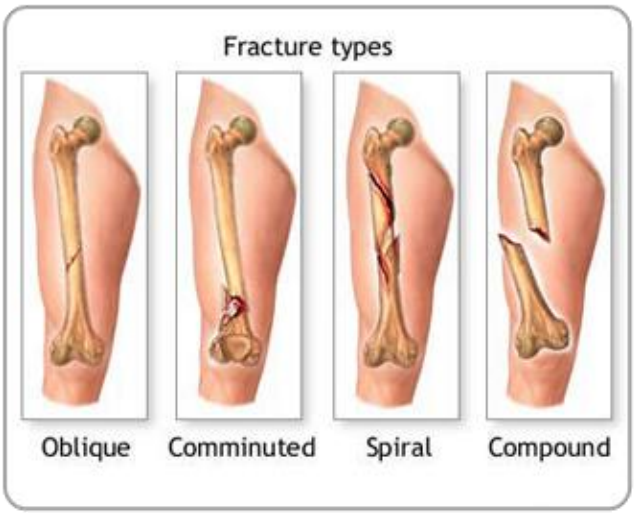
STUDY GUIDE

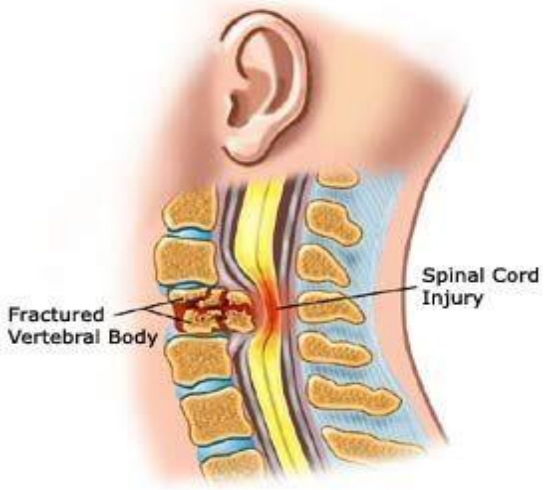
ORTHOPAEDICS AND TRAUMA CARE MODULE

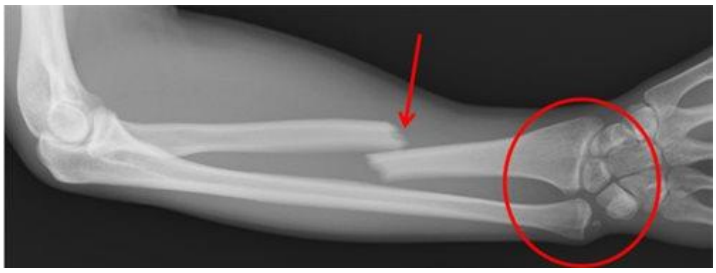
FOURTH YEAR MBBS SEMESTER 7

Duration: 6 weeks

8th Jan – 16th Feb 2019







Fracture of the radius and the ulna is dislocated at the wrist

LIAQUAT NATIONAL HOSPITAL & MEDICAL COLLEGE

STUDY GUIDE FOR ORTHOPAEDICS & TRAUMA CARE MODULE

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Module name: **Orthopaedics and Trauma Care**

Semester: **Seven** *Year:* ***Four*** *Duration:* ***6 weeks (January-February 2019)***

Timetable hours: **Lectures, Case-Based Discussion (CBD), TEAM® , Clinical Rotations, Task Oriented Learning, Task Presentation, Demonstrations, Skills, Self-Study**

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BIOCHEMISTRY • Professor Naheed Qadir	***MAXILLOFACIAL*** • Dr. Tauqeer-ul-Islam
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PHARMACOLOGY • Professor Nazir Ahmed Solangi	***PEDIATRICS*** • Professor Samina Shamim • Dr. Nazish Azeem
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STUDY GUIDE COMPILED BY:

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- Dr. Muhammad Suleman Sadiq, Lecturer III, Department of Health Care Education

INTRODUCTION

WHAT IS A STUDY GUIDE?

It is an aid to:

- Inform students how student learning program of the semester-wise module has been organized
- Help students organize and manage their studies throughout the module
- Guide students on assessment methods, rules and regulations

THE STUDY GUIDE:

- Communicates information on organization and management of the module.
  This will help the student to contact the right person in case of any difficulty.
- Defines the objectives which are expected to be achieved at the end of the module.
- Identifies the learning strategies such as lectures, small group teachings, clinical skills, demonstration, tutorial and case based learning that will be implemented to achieve the module objectives.
- Provides a list of learning resources such as books, computer assisted learning programs, web-links, journals, for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous and semester examinations on the student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's achievement of objectives.
- Focuses on information pertaining to examination policy, rules and regulations.

INTEGRATED CURRICULUM comprises system-based modules such as Orthopedics which links basic science knowledge to clinical problems. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have better understanding of basics sciences when they repeatedly learn in relation to clinical examples.

LEARNING EXPERIENCES: Case based integrated discussions, Task oriented learning followed by task presentation, skills acquisition in skills lab, computer-based assignments, learning experiences in clinics, wards and Trauma Evaluation and Management® (TEAM®) workshops.

SEMESTER 7 MODULE 3: ORTHOPAEDICS AND TRAUMA CARE

INTRODUCTION TO THE ORTHOPAEDICS AND TRAUMA CARE MODULE

Orthopedics is a medical specialty that focuses on the diagnosis, correction, prevention, and treatment of patients with skeletal deformities - disorders of the bones, joints, muscles, ligaments, tendons, nerves and skin. These elements make up the musculoskeletal system.

Many common problems encountered in daily medical and surgical practice have either manifesting symptoms or actual pathological origins in the musculoskeletal system that also forms the largest system of the body by volume. Integrity and health of this complex system of bones, joints, ligaments, tendons, muscles and nerves allows you to move, work and be active.

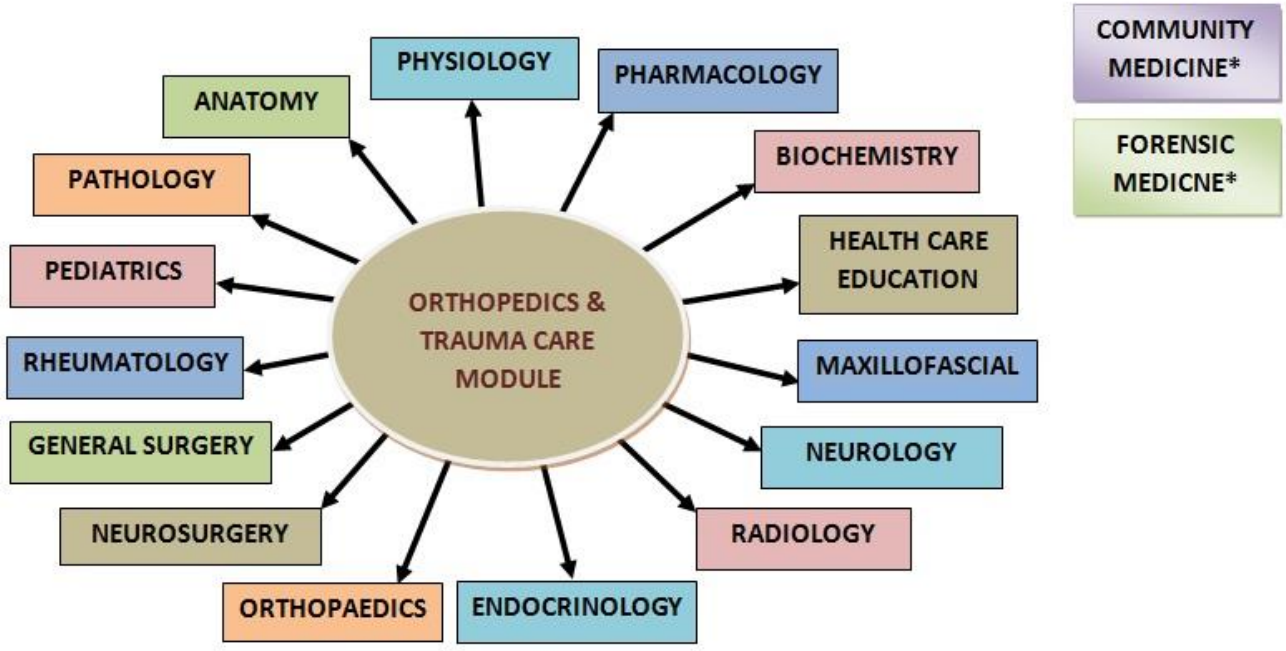
Once devoted to the care of children with spine and limb deformities, orthopedics now cares for patients of all ages, from newborns with clubfeet, to young athletes requiring arthroscopic surgery, to older people with arthritis.

Trauma is a major cause of morbidity and mortality in both the developed and developing world. It is perhaps the disease which has the most negative impact on healthcare systems and societies today, yet up to 90% is preventable. Injuries are the leading cause of death under the age of 40 years in the United States of America (USA) according to trauma registry data.

The stipulated health burden in the developing world is unknown due to lack of data but should theoretically be much higher due to lack of road and civil safety. Presently, injuries account for one in seven health life years lost worldwide, and the WHO predicts that this will increase to one in five by 2020, with low and middle income countries accounting for the majority of the increase.

In the Orthopedic and trauma module, varied teaching learning experiences will enable the student to appreciate disorders of the musculoskeletal system with an integrated approach incorporating knowledge of anatomy, physiology, biochemistry, pathology, pharmacology, radiology, allied medical and surgical disciplines with orthopedic principles.

INTEGRATING DISCIPLINES OF ORTHOPAEDICS AND TRAUMA CARE MODULE



Note: *Community Medicine & Forensic Medicine Curriculum will run parallel in 7th and 8th Semester

LEARNING METHODOLOGIES

The following teaching/learning methods are used to promote better understanding:

- Interactive Lectures
- Small Group Discussion
- Case- Based Discussion (CBD)
- Clinical Experiences
  - Clinical Rotations
- Skills session
- Task-Oriented Learning (TOL)
  - Task Presentation
- Trauma Evaluation and Management® (TEAM®) workshops
- Case Based interactive learning (CBIL)

INTERACTIVE LECTURES

In large group, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. Students are actively involved in the learning process.

SMALL GROUP SESSION: This format helps students to clarify concepts, acquire skills or desired attitudes. Sessions are structured with the help of specific exercises such as patient case, interviews or discussion topics. Students exchange opinions and apply knowledge gained from lectures, tutorials and self study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts.

CASE-BASED DISUCSSION (CBD): A small group discussion format where learning is focused around a series of questions based on a clinical scenario. Students' discuss and answer the questions applying relevant knowledge gained previously in clinical and basic health sciences during the module and construct new knowledge.

CLINICAL LEARNING EXPERIENCES: In small groups, students observe patients with signs and symptoms in hospital wards, clinics and outreach centers. This helps students to relate knowledge of basic and clinical sciences of the module and prepare for future practice.

- **CLINICAL ROTATIONS:** In small groups, students rotate in different LNH wards like Medicine, Pediatrics, Surgery, ObsGyne, ENT, Orthopaedics, Family Medicine clinics and outreach centers and related community Medicine experiences are included as well. Here students observe patients, take histories and perform supervised clinical examinations in outpatient and inpatient settings. They also get an opportunity to observe medical personnel working as a team. These rotations help students relate basic medical and clinical knowledge in diverse clinical areas.

SKILLS SESSION: Skills relevant to respective module are observed and practiced where applicable in RSDC.

SELF-DIRECTED STUDY: Students' assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Center, teachers and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

TRAUMA EVALUATION AND MANAGEMENT® (TEAM®) WORKSHOPS

What is TEAM?

Trauma Evaluation and Management® (TEAM®) introduces the concepts of trauma assessment and management to medical students during their clinical years.

Content: The core content is adapted from the American College of Surgeons (ACS) Advanced Trauma Life Support® (ATLS®) course. Developed by the ATLS Committee of the ACS Committee on Trauma, TEAM is an expanded version of the ATLS "Initial Assessment and Management" lecture.

The TEAM format:

- Pre-Test of 30 mins will be conducted a week before TEAM® workshop for each group.
- TEAM® workshop will be flexible, with a 90-minute slide presentation and optional components. The program includes a three-segment initial assessment through video demonstration, a series of clinical trauma case scenarios for small-group discussion, and skills sessions. The slide/lecture presentations have been adapted for LNHMC curriculum.
- Post-Test of 30 mins will be conducted a day after the TEAM® workshop

On completion of the TEAM program, students would be able to demonstrate knowledge of the philosophy, intent, and content of principles of multidisciplinary trauma care as laid down in the ATLS program.

Certification: Students will be awarded Certificate of Participation at the end of the course recognized by the American College of Surgery (ACS) as official recognition of completion of this course. Attendance in all components of TEAM® i.e. Pre-Test, Lecture, Video demonstration, Working through stations and Post-Test is mandatory. Certificate of participation will not be awarded to any student who is either not present or fails to complete any of the component of TEAM® workshop.

IMPORTANT:

- *TEAM is an abbreviated version of the ATLS course and should not be used to replace ATLS participation. Individuals who take the TEAM course are not considered as having completed an ATLS course. Medical students are encouraged to take the ATLS course in their final year of medical school or after graduation.*
- ***Use of Cell phones is prohibited during Pre and Post Tests.***

TASK-ORIENTED LEARNING: (TOL)

TOL is a learning activity that encourages students' self-directed learning, discussion in small groups, and peer to peer collaborative work.

For TOL, those objectives are selected that enhance students' understanding of the basic concepts in relation to its application to medical practice. Tasks are primarily questions that students seek answers through different authentic resources, and prepare presentations that reflect understanding of concepts, and ready to give explanations, or defend their responses through questions and answers to large group.

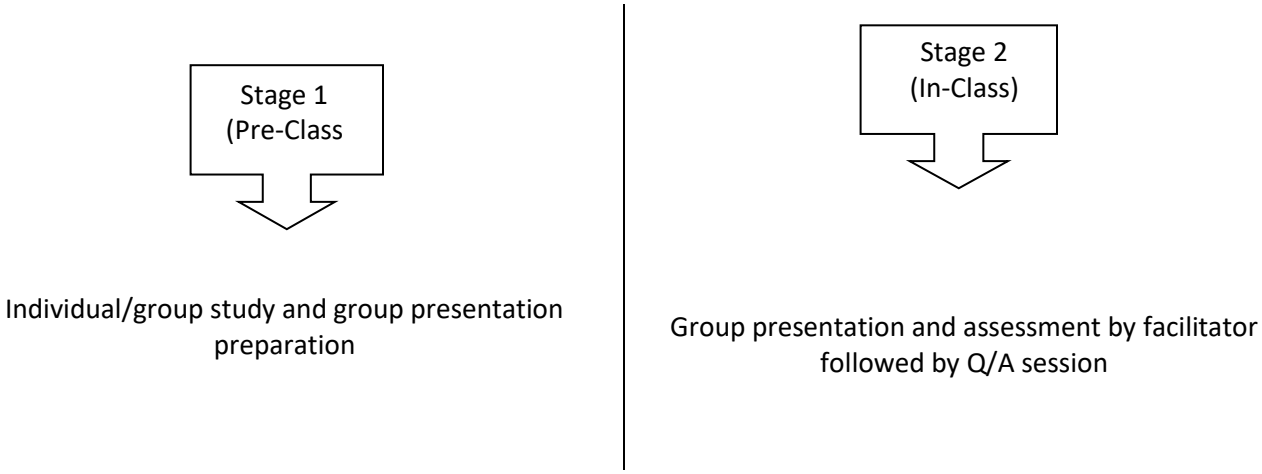
PROCESS of TOL

Learning in this strategy will comprises of two stages

Stage 1. Pre-class learning in groups

Stage 2. In-class group focused active learning

TOL Process: Stage I



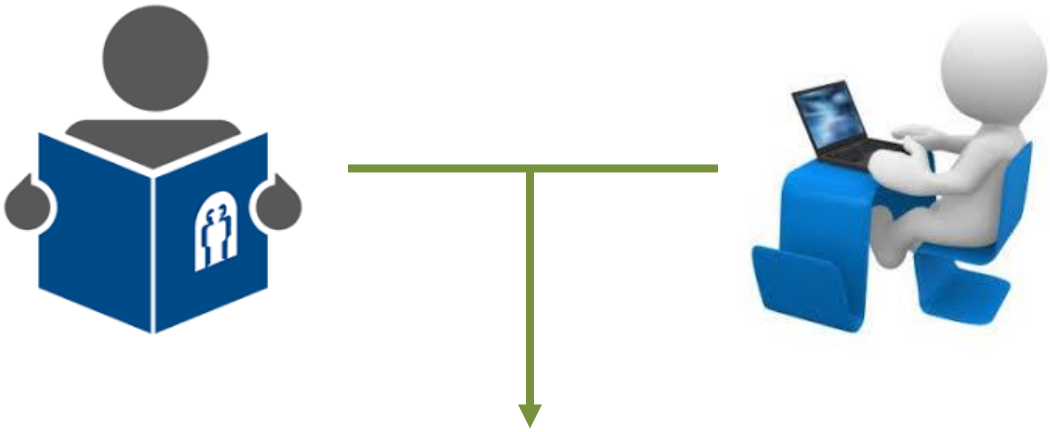
- Each of the Four groups (Groups A-D) of 25 students are further divided into three sub groups comprising 8-9 students each (see Appendix A). Every group is given similar Tasks to be completed within the defined time.
- Every day for two hours, *one* group which includes three sub groups meets to discuss the Task, and seek explanation from the recommended authentic sources including website *(patient education websites are strictly NOT ADVISED!!!)* and work in groups to develop presentations during allotted study hours
- Students' prepare presentations for large group discussion on the fifth day.

TOL Process: Stage II

Every group will present its 10 minute power point presentations (PPT) or Prezi to the large group and five minutes for questions supported by concerned faculty

TOL Assessment:

The group presentations and collaborative work will be graded on defined criteria. (**See Appendix: B**). Each week, student is to demonstrate active participation and effective contribution during the group activities. It is mandatory for the students to participate in this activity as their scores will contribute to **internal evaluation**.



COURSE OBJECTIVES AND STRATEGIES

By the end of Orthopaedics and Trauma Care module, students should be able to:

OBJECTIVES	*FACULTY*	*LEARNING STRATEGY*
TRAUMA		
1. Describe the morphology, function and neurovascular supply of bones. 2. Discuss bone remodeling and repair of bone fractures. 3. Describe the development of bones and joints. 4. Describe the process of increase in length and width of bone during embryonic life and after birth. 5. Discuss the congenital anomalies related to skeletal system	Anatomy	Interactive Lecture
1. Compare the processes of modeling and remodeling of bone 2. Explain the major steps in bone remodeling.	Physiology	Interactive Lecture
1. Classify the natural disasters 2. Explain the terms like mitigation, preparedness, response to disaster etc 3. Describe the effect of disaster on public health 4. Discuss the application of epidemiological methods to disaster (before, during and after the event)	Community Medicine	Interactive Lecture
1. Classify missiles and gunshot wounds 2. Identify type of wound based on its appearance	Forensic Medicine	Interactive Lecture
1. Classify fractures and describe followings named fractures: • Colles' Fracture • Greenstick Fracture • Ronaldo • Bannete Fracture • Smith Fracture	Orthopaedics	Interactive Lecture
2. Describe the principles of non-operative and operative management of fractures in adults		
3. Describe the principles of non-operative and operative management of fractures in children		

4. Discuss an overview of ATLS protocol for management of trauma patients	General Surgery & Orthopaedics	TEAM® Workshops
5. Develop a plan for the evaluation and management of pelvic injuries		
6. Describe the sequence of a trauma patient evaluation		
7. Describe the appropriate triage of trauma patient		
8. Discuss the evaluation and management of a patient with spine trauma		
1. Describe the evaluation and Management of non-traumatic pain of spine	Neurosurgery	Interactive Lecture
1. Describe the mechanism of injury, assessment and management of a patient with maxillofacial trauma	Maxillofacial Surgery	Interactive Lecture
PEDIATRICS / METABOLIC		
1. Explain the curvatures, joints, ligaments and movements of vertebral column	Anatomy	Interactive Lecture
1. Discuss the impact of calcium, vitamin D, and parathyroid hormone concentration changes on bone resorption	Physiology	Interactive Lecture
1. Discuss the biochemical role of calcium & phosphate in bones	Biochemistry	Interactive Lecture
2. Describe the role of Parathyroid hormone, vitamin D & calcitonin in bone metabolism		Small Group Discussion
1. List developmental and congenital anomalies related to skeletal system 2. Differentiate between acquired/metabolic syndromes of bones and cartilages	Pathology	Interactive Lecture
3. Discuss pathophysiology, diagnosis of osteoporosis, rickets and osteomalacia 4. Differentiate between osteoporosis, rickets and pagets' disease osteomalacia on the basis of lab test		Small Group Discussion

1. Classify the drugs used in the management of Osteoporosis and Osteomalacia 2. Discuss the treatment of Osteoporosis and Osteomalacia in detail 3. List the adverse effects of drugs use in the treatment of osteoporosis and osteomalacia 4. Prescribe the drug's used in the treatment of osteoporosis and osteomalacia	Pharmacology	Interactive Lecture
1. Discuss the diagnosis and Management of following congenital bone diseases • Osteogenesis imperfect • Achndroplasia • Development Displasia of Hip • Congenital talipes equinovarus	Orthopaedics	Interactive Lecture
2. Discuss the diagnosis and management of Osteomalacia and Osteoporosis		TOL
1. Evaluate a patient with acute flaccid paralysis and describe management of GBS and Poliomyelitis	Neuro-medicine	Interactive Lecture
2. Evaluate a patient with Cerebral Palsy and discuss management		Small Group Discussion
3. Evaluate a patient with neuromuscular atrophies and following dystrophies • Duchenne • Myotonic • Becker's		Interactive Lecture
4. Describe the pathology, prevalence, etiology, symptoms, and diagnosis associated with systemic sclerosis, Polymyositis and Dermatomyositis. 5. Discuss current treatment strategies used in the management of Polymyositis and Dermatomyositis		Interactive Lecture
1. Discuss the management of disorders of the parathyroid gland and its skeletal manifestations	Endocrinology	Interactive Lecture
1. Classify rickets on the basis of vitamin D responsiveness 2. Describe pathophysiology, diagnosis and management of rickets	Pediatric Medicine	Interactive Lecture

3. Discuss the causes of short stature 4. Evaluate short stature clinically	Pediatric Medicine	Small Group Discussion
MUSCULOSKELETAL INFECTIONS AND TUMORS		
1. Classify etiological organisms, route of spread and pathophysiology of osteomyelitis	Pathology	Small Group Discussion
2. Classification of bone tumors on the basis of their cells of origin 3. Discuss risk factors, epidemiology and pathophysiology of important bone tumors		Interactive Lecture
4. Classify soft tissue tumors on the basis of their cells of origin 5. Discuss clinical manifestations, prognostic factors morphology and diagnostic tools of soft tissue tumors.		Interactive Lecture
6. Differentiate septic arthritis, osteoarthritis and rheumatoid arthritis on the basis of synovial fluid analysis		Small Group Discussion
1. Classify the drugs used in osteomyelitis 2. Discuss the mechanism of action , clinical uses and adverse effects of drugs used in osteomyelitis 3. Prescribe the drugs used in osteomyelitis 4. Discuss in detail parameters to monitor efficacy and toxicity of anti microbial drugs in osteomyelitis	Pharmacology	Interactive Lecture
1. List the major pathogenic organisms causing joint infection 2. Describe the pathophysiology and elements of prevention and management of joint infection 3. Outline the main clinical features and laboratory tests to recognise Joint Infections (Septic, Viral, Tuberculosis arthritis) 4. Discuss diagnosis and management of joint infections. (Septic, Viral, Tuberculosis arthritis, Gonococcal)	Orthopaedics	Interactive Lecture
1. Classify primary bone tumors 2. Classify soft tissue tumors 3. Justify the investigations involved in diagnosis of malignant lesions of bones 4. Develop a management plan for malignant lesions of soft tissues		Interactive Lecture

1. Describe the use of radiological modalities in diagnosis of bone and soft tissue infections and tumors 2. List the indication for the use of isotope bone scan, MRI, DEXA Scan and CT scan	Radiology	Interactive Lecture
SPORTS ORTHOPAEDICS AND DEGENERATIVE CONDITIONS		
1. Compare the structure and function of three types of cartilages 2. Discuss histogenesis of cartilage.	Anatomy	Interactive Lecture
1. Classify bone disorders. 2. Discuss diseases of joints (Osteoarthritis and Rheumatoid arthritis)	Pathology	Interactive Lecture
Osteoarthritis (OA) and Rheumatoid Arthritis (RA) 1. Classify the drugs used in the treatment of OA and RA 2. Discuss the pharmacokinetics, clinical uses and adverse effects of drugs used in OA and RA. 3. Prescribe the drugs used in OA and RA	Pharmacology	CBIL
1. Describe the basic concepts of occupational health, occupational medicine, occupational hygiene and ergonomics 2. Identify the importance of occupational health, occupational medicine, occupational hygiene and ergonomics	Community Medicine	Interactive Lecture
3. Describe the risk factors for illness and the injuries at work place		
4. Discuss association between workplace exposure and health effect		
5. Describe the steps in risk prevention of hazards at workplace		
6. Describe the basic concepts in sports medicine		
1. Describe the investigations to diagnose and manage degenerative condition of joints of appendicular skeleton(RA, OA)	Orthopaedics	TOL

INFLAMMATORY CONDITIONS OF JOINTS		
1. Describe the gross and microscopic features of synovial joint 2. List the factors that provide stability to a synovial joint	Anatomy	Small Group Discussion
1. Explain the composition and function of synovial fluid in a typical synovial joint	Biochemistry	Small Group Discussion
1. Explain the clinical significance of purine degradation, hyperuricemia and Gout. 2. Discuss Pyrophosphate Metabolism in Pseudogout and bone mineralization. 3. Discuss the clinical correlation of uric acid with renal function.		Interactive Lecture
1. List disorders of joints 2. Discuss crystal induced Arthritis (Gout and pseudogout)	Pathology	Interactive Lecture
1. Classify the drugs used in the treatment of gout 2. Discuss the indications, side effects, dosage of drugs used in gout 3. Prescribe the drugs used for gout	Pharmacology	CBIL
1. Identify common skeletal injuries on radiographs	Radiology	Interactive Lecture
1. Discuss the diagnosis and management of systemic inflammatory conditions affecting the joints (rheumatoid arthritis, SLE induced arthritis, Psoriatic arthritis)	Rheumatology	Interactive Lecture
2. Discuss the diagnosis and management of crystal induced arthropathies (gout and pseudogout)		
3. Classify vasculitis 4. Describe the pathophysiology involved in the inflammatory process of vasculitis 5. 5. Discuss the clinical manifestations and treatment of vasculitis		

COMMUNITY MEDICINE		
1. Explain different research designs	Community Medicine	Interactive Lecture
2. Justify selection of statistical tests based on prescribed criteria		
3. Practice of statistical tests application based on prescribed criteria on the given data set		Small Group Discussion
4. List the overall process of designing a research study from its inception to its report		
5. Differentiate among purpose statement, research question, hypothesis and research objective 6. Design a good quantitative purpose statement, research question and hypothesis		
7. Write a good discussion of research paper		

Apart from attending daily scheduled sessions, students too should engage in self-study to ensure that all the objectives are covered

Objectives for Task Oriented Learning (TOL)

WEEK 3

Task 1

A 75-years old female presented in Orthopaedics OPD with complain of worsening backache after lifting weight about 5 days back. She was unable walk after onset of pain. She has also history of distal radial fracture about one year back after minor fall. There have been a gradual change in the posture of spine and she is unable to walk straight. She is also having generalized bone and joint pains for many years. X-ray of dorso-lumbar spine is given below.

S.No	Groups	Questions
1	**A1/C1**	What are the differential diagnoses and why?
2	**A2/C2**	How other anatomical areas are involved?
3	**A3/C3**	What is the patho-physiology of this disease?
4	**B1/D1**	How will you further investigate her and what will be the interpretation of findings?
5	**B2/D2**	What will be the management plan for this patient?
6	**B3/D3**	What are the complications of this disease?

WEEK 3

Task 2

A 39-year old woman who was admitted to hospital after experiencing systemic bone pain and muscle weakness for more than 2 years. The patient had bilateral thigh pain and was unable to walk. Laboratory results showed a high alkaline phosphatase concentration. Nodules were visible on the thyroid and parathyroid glands during ultrasound examination. X ray was done as a part of investigation

S.No	Groups	Questions
1	**B3/D3**	What are the differential diagnoses?
2	**B2/D2**	What are the causes and patho-physiology of Osteomalacia?
3	**B1/D1**	What are the risk factors for developing Osteomalacia?
4	**A3/C3**	How other conditions can mimic Osteomalacia?
5	**A2/C2**	What are the biochemical findings and laboratory investigations relevant to osteomalacia?
6	**A1/C1**	What is the management protocol and possible complications?

WEEK 5

Task 1

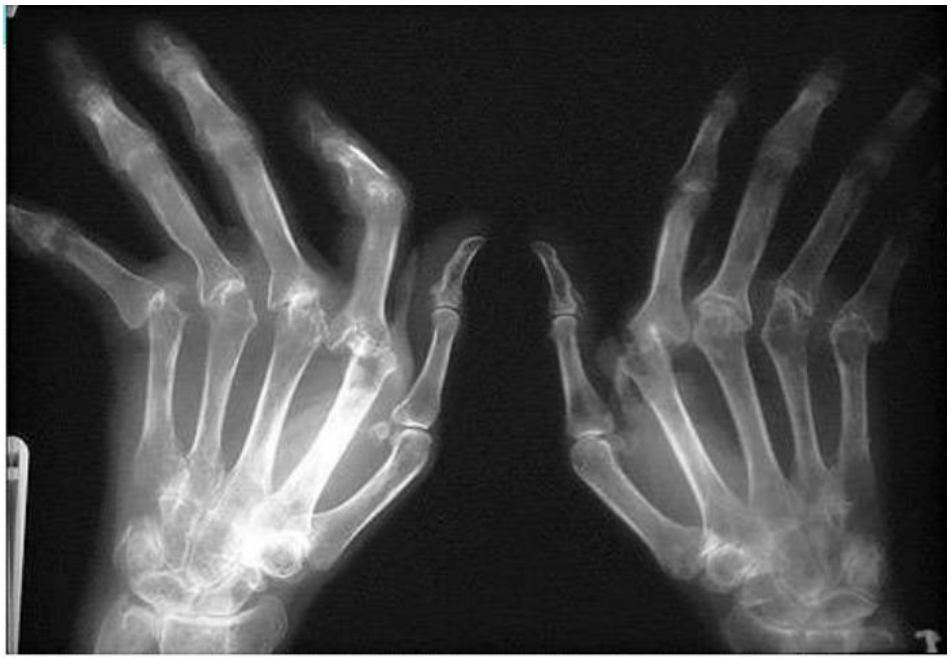
A 62-year old patient presents with complaints of aching pain in the right groin that varies in severity and extends down the anterior thigh to the knee. The pain began gradually about 3 months before. Initially the patient felt stiffness whenever he sat for prolonged periods of time or after a night's sleep. The patient reports that he can no longer walk as far as he once did, and that negotiating stairs was especially painful. The patient's past medical history is significant for a long history of osteoarthritis of the spine and occasional twinges of pain in the right groin. The patient also has history of right-sided sciatica. Radiographs of the right hip are provided.

S.No	Groups	Questions
1	**A1/C1**	What are the differential diagnoses of this pathology?
2	**A2/C2**	List the anatomical areas which can be affected with this problem and How?
3	**A3/C3**	What is the patho-physiology of this disease?
4	**B1/D1**	What are the laboratory investigations and their findings for osteoarthritis?
5	**B2/D2**	What are the management issue regarding non-operative and operative management? Why or why not?
6	**B3/D3**	What are the complications of this disease?

WEEK 5

Task 2

A 34-year old female presented with complaints of pain and stiffness in both hands. Stiffness in hands, wrists and ankles lasts more than 1 hour every morning. She also had increasing difficulty standing for long periods at work or at home due to foot and ankle pain. She began feeling extremely tired and short tempered. She had no energy to do her usual activities. She gradually started having ulnar deviation of her hands and swan neck deformity of fingers along with nodules in soft tissues. Some preliminary investigations show raised ESR and high RA factor. X-rays were done as part of investigations.



S.No	Groups	Questions
1	**B3/D3**	What are the systemic manifestations of the disease?
2	**B2/D2**	What is the patho-physiology of this disease?
3	**B1/D1**	What are the criteria for the diagnosis of the disease?
4	**A3/C3**	What are the differential diagnoses?
5	**A2/C2**	What are the management options for the control of the disease?
6	**A1/C1**	What are the complications of this disease?

LEARNING RESOURCES

SUBJECT	RESOURCES
GENERAL SURGERY, ORTHOPAEDIC, NEROSURGERY	**TEXT BOOK** 1. Bailey & Love's Short Practice of Surgery , 26th Edition **WEBSITES (ORTHOPAEDICS):** www.orthobullets.com
NEUROLOGY, RHEUMATOLOGY & ENDOCRINOLOGY	**REFERENCE BOOKS:** 1. Hutchison's Clinical Methods, 23rd Edition 2. MacLeod's clinical examination 13th edition 3. Davidson's Principles and Practice of Medicine 4. Kumar and Clark's Clinical Medicine 5. HCAI guidelines CDC
PEDIATRICS	1. Textbook of Pediatrics by PPA, preface written by S. M. Haneef 2. Basis of Pediatrics (8th Edition Pervez Akbar)
ANATOMY	**A. GROSSANATOMY** 1. K.L. Moore, Clinically Oriented Anatomy **B. EMBRYOLOGY** 1. KeithL. Moore. The Developing Human 2. Langman's Medical Embryology
BIOCHEMISTRY	**A. TEXTBOOKS** 1. Harper's Illustrated Biochemistry 2. Lehninger Principle of Biochemistry 3. Biochemistry by Devlin
COMMUNITY MEDICINE	**TEXTBOOKS** 1. Preventive and Social Medicine by K Park 2. Community Medicine by M. Ilyas 3. Basic *Statistics* for the Health Sciences by Jan W Kuzma
PHARMACOLOGY	**A. TEXT BOOKS** 1. Lippincot Illustrated Pharmacology 2. Basic and Clinical Pharmacology by Katzung
PATHOLOGY/MICROBIOLOGY	**TEXTBOOKS** 1. Robbins & Cotran, Pathologic Basis of Disease,9th edition. 2. Rapid Review Pathology,4th edition by Edward F. Goljan MD

	WEBSITES: 1. http://library.med.utah.edu/WebPath/webpath.html 2. http://www.pathologyatlas.ro/
PHYSIOLOGY	**A. TEXTBOOKS** 1. Textbook Of Medical Physiology by Guyton and Hall 2. Ganong'S Review of Medical Physiology 3. Human Physiology by Lauralee Sherwood 4. Berne &Levy Physiology 5. Best &Taylor Physiological Basis of Medical Practice
FORENSIC MEDICINE	**TEXT BOOKS** 1. Nasib R. Awan. Principles and practice of Forensic Medicine 1st ed. 2002. 2. Parikh, C.K. Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology. 7th ed.2005. **REFERENCE BOOKS** 3. Knight B. Simpson's Forensic Medicine. 11th ed.1993. 4. Knight and Pekka. Principles of forensic medicine. 3rd ed. 2004 5. Krishan VIJ. Text book of forensic medicine and toxicology (principles and practice). 4th ed. 2007 6. Dikshit P.C. Text book of forensic medicine and toxicology. 1st ed. 2010 7. Polson. Polson's Essential of Forensic Medicine. 4th edition. 2010. 8. Rao. Atlas of Forensic Medicine (latest edition). 9. Rao.Practical Forensic Medicine 3rd ed ,2007. 10. Knight: Jimpson's Forensic Medicine 10th 1991,11th ed.1993 11. Taylor's Principles and Practice of Medical Jurisprudence. 15th ed.1999 **CDs:** 1. Lectures on Forensic Medicine. 2. Atlas of Forensic Medicine. **WEBSITES:** www.forensicmedicine.co.uk

ADDITIONAL LEARNING RESOURCES

Hands-on Activities/ Practical	Students will be involved in Practical sessions and hands-on activities that link with the Orthopaedics Module to enhance learning.
Museum	Models available in the museum are a rich learning resource for quick review of anatomy and related educational activities
Skills Lab	Skills acquisition in a simulated environment in the skills lab involving experiential learning will ensure patient safety and will also help to build confidence in approaching the patients
Videos/Podcasts	Videos and podcasts will familiarize the student with the procedures and protocol which they can watch and listen to at any time and wherever they are, as part of task oriented learning
Internet Resources	Students will use easily accessible internet resources with added time flexibility to enrich and update their knowledge and its application

ASSESSMENTMETHODS:

- **Best Choice Questions (BCQs)** also known as MCQs (Multiple Choice Questions)
- **Objective Structured Practical/Clinical Examination OSPE or OSCE**

BCQs:

- A BCQ has a statement or clinical scenario of four options (likely answers).
- **Correct answer carries one mark, and incorrect 'zero mark'. There is NO negative marking.**
- Students mark their responses on specified computer-based sheet designed for LNHMC.

OSCE:

- All students rotate through the same series of stations in the same allocated time.
- At each station, a brief written statement includes the task. Student completes the given task at one given station in a specified time.
- Stations are observed, unobserved, interactive or rest stations.
- In unobserved stations, flowcharts, models, slide identification, lab reports, case scenarios may be used to cover knowledge component of the content.
- Observed station: Performance of skills /procedures is observed by assessor
- Interactive: Examiner/s ask questions related to the task within the time allocated.
- In Rest station, students in the given time not given any specific task but wait to move to the following station.

Internal Evaluation

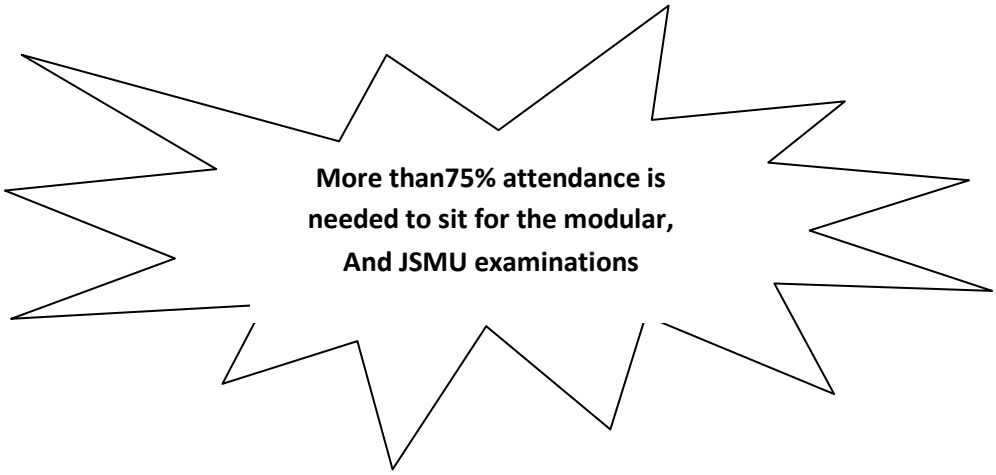
- Students will be assessed comprehensively through multiple methods.
- 20%marksofinternalevaluationwillbeaddedintheoryofsemesterexam.That20%may include class tests, assignment, journals, and the modular exam which will all have specific marks allocation.

Example: Number of Marks allocated for Semester Theory and Internal Evaluation			
JSMU Examination	**Theory Marks**	**Internal Evaluation (Class tests +Journals + Assignments + Modular Exam)**	**Total(Theory)**
	80%	**20%**	100%

Formative Assessment

Individualdepartmentmayholdquizorshortanswerquestionstohelpstudentsassesstheir own learning. The marks obtained are not included in the internal evaluation

For JSMU Examination Policy, please consult JSMU website!


More than75% attendance is
needed to sit for the modular,
And JSMU examinations

MODULAR EXAMINATION RULES & REGULATIONS (LNH&MC)

- Student must report to examination hall/venue, 30minutes before the exam.
- **Exam will begin sharp at the given time.**
- No student will be allowed to enter the examination hall after 15 minutes of scheduled examination time.
- Students must sit according to their roll numbers mentioned on the seats.
- **Cell phones are strictly not allowed in examination hall.**
- If any student is found with cell phone in any mode (silent, switched off or on) he/she will not be allowed to continue their exam.
- No students will be allowed to sit in exam without University Admit Card, LNMC College ID Card and Lab Coat
- Student must bring the following stationary items for the exam: Pen, Pencil, Eraser, and Sharpener.
- In discipline in the exam hall/venue is not acceptable. Students must not possess any written material or communicate with their fellow students.

SCHEDULE:

WEEKS	4th Year SEMESTER 7	MONTH
WEEK 1	OPHTHALMOLOGY/ENT	16th Oct 2017
WEEK 2		
WEEK 3		
WEEK 4		8th Nov 2017
	MODULAR EXAM	10th Nov 2017
WEEK 1	ORTHOPEDICS	10th Dec 2018
WEEK 2		
WEEK 3		
WEEK 4		
WEEK 5		
WEEK 6		
WEEK 7		
WEEK 8		19thJan 2019*
	MODULAR EXAM	Jan 2018
WEEK 1	REPRODUCTIVE SYSTEM-II	8th Jan 2018
WEEK 2		
WEEK 3		
WEEK 4		
WEEK 5		13th Feb 2018
	MODULAR EXAM	15th& 16th Feb 2018
PREPARATORYLEAVE		
	SEMESTEREXAM	March 2018*

*Final dates will be announced later

APPENDIX: A

LIAQUAT NATIONAL MEDICAL COLLEGE

FOURTH YEAR MBBS, SEMESTER VII ORTHOPAEDICS MODULE

Criteria: Group Task Presentation

Speaker/Group: _____

Assignment: _____

This criteria is designed to clarify the grading process for Group Oral Presentations	Not Acceptable	Poor	Average	Good	Excellent
	0	1	2	3	4
Content					
1. Objectives were achieved during the presentation					
2. Information in presentation was clear and organized.					
3. Material presented was derived from authentic sources					
4. Queries were answered appropriately					
Collaboration					
5. Every member of the group contributed to the presentation.					
6. There was smooth transition (of group members) from one presenter to another during presentation.					
Presentation Style/ Professionalism					
7. Appropriate interaction with audience members.					
8. Readiness to present at scheduled time.					
9. Presentation completed within assigned time					

Marks obtained out of 36: _____

Facilitators' signature: _____, _____, _____

APPENDIX B:

SR.#	Roll. #	Name of Students	Sub Group
Group-A			
1	MC/2021/001	Aakash Kumar	A1
2	MC/2021/002	Aayosh Jai	
3	MC/2021/003	Ahmed Safiullah Shaikh	
4	MC/2021/004	Airas Zainab	
5	MC/2021/005	Aliya Fatima	
6	MC/2021/006	Amna Aslam	
7	MC/2021/007	Anum Minal	
8	MC/2021/009	Aqsa Khalid	
9	MC/2021/011	Areeba Imran	A2
10	MC/2021/012	Arisha Zaheer	
11	MC/2021/013	Ayesha Javed	
12	MC/2021/014	Ayesha Khan	
13	MC/2021/015	Daania Aman Zaidi	
14	MC/2021/016	Duaa Rehman	
15	MC/2021/018	Ensharah Ahmed	
16	MC/2021/019	Faisal Khan	
17	MC/2021/020	Faiza	A3
18	MC/2021/021	Farrukh Mehmood	
19	MC/2021/022	Fatima	
20	MC/2021/023	Filza Zahid	
21	MC/2021/024	Ghulam Hussain	
22	MC/2021/025	Ghulam Murtaza	
23	MC/2021/026	Hafiza Hifza Bibi	
24	MC/2021/027	Hafsa Basharat	
25	MC/2021/028	Haisum Baktashi	

SR.#	Roll. #	Name of Students	Sub Group
Group-B			
1	MC/2021/029	Hamna Jawaid	B1
2	MC/2021/030	Haya Muhammad Tahir	
3	MC/2021/032	Hifza Amna	
4	MC/2021/033	Hina Khan	
5	MC/2021/034	Hira Ansari	
6	MC/2021/035	Hizba Zulfiqar Ali	
7	MC/2021/036	Inshrah Moin	
8	MC/2021/037	Israr Khan	
9	MC/2021/038	Javeria Hameed	B2
10	MC/2021/039	Javeria Sheikh	
11	MC/2021/040	Jazib Ali Shah	
12	MC/2021/041	Johar Abbas	
13	MC/2021/042	Kainat Azam	
14	MC/2021/043	Kajol	
15	MC/2021/044	Kapil Kumar	
16	MC/2021/045	Karan Raj	
17	MC/2021/046	Khizra Fatima Akber	B3
18	MC/2021/047	Kinza Binte Khalid	
19	MC/2021/048	Kiran	
20	MC/2021/049	Madhuri	
21	MC/2021/050	Madiha Usman	
22	MC/2021/051	Maha Umer	
23	MC/2021/054	Mahnoor Khan	
24	MC/2021/055	Maimoona Khan	
25	MC/2021/056	Manal Nadeem	

SR.#	Roll. #	Name of Students	Sub Group
Group-C			
1	MC/2021/057	Manal Nasir	C1
2	MC/2021/058	Mehtab	
3	MC/2021/059	Mehtab	
4	MC/2021/060	Minha Sabzwari	
5	MC/2021/062	Mohammad Omar Saeeduddin	
6	MC/2021/063	Muhammad Daniyal Zeerak	
7	MC/2021/064	Muhammad Mohsin Khan	
8	MC/2021/065	Muhammad Munir	C2
9	MC/2021/066	Muhammad Sharjeel Rawal	
10	MC/2021/067	Muhammad Zain Khalid	
11	MC/2021/068	Munib Sultan	
12	MC/2021/069	Murk Raj	
13	MC/2021/070	Musab Muhammad Mahmood	
14	MC/2021/071	Nashit Irfan Aziz	
15	MC/2021/072	Navin Rathore	
16	MC/2021/073	Osman Hasan	C3
17	MC/2021/074	Pelash Kumar	
18	MC/2021/075	Rabail	
19	MC/2021/076	Rabia Babar	
20	MC/2021/078	Rabiya Irfan	
21	MC/2021/079	Raima Hossain	
22	MC/2021/080	Ravina	
23	MC/2021/081	Rehmat Riaz Memon	
24	MC/2021/082	Resham	
25	MC/2021/083	Sadia Nawab	

SR.#	Roll. #	Name of Students	Sub Group
Group-D			
1	MC/2021/084	Sahil Kumar	D1
2	MC/2021/085	Saniya Amir	
3	MC/2021/086	Sant Piyari	
4	MC/2021/087	Saqib Hussain	
5	MC/2021/088	Sayyeda Anooshay Azhar	
6	MC/2021/089	Seerat Aslam	
7	MC/2021/090	Shahwar	
8	MC/2021/091	Shibra Fatima	
9	MC/2021/092	Sumair Ali Khan	D2
10	MC/2021/093	Syed Yousuf Iqbal	
11	MC/2021/094	Syeda Namayah Fatima Hussain	
12	MC/2021/096	Um e Laila	
13	MC/2021/097	Umar Farooq	
14	MC/2021/098	Umar Shabbir	
15	MC/2021/099	Usama Feroz	
16	MC/2021/100	Vandna	
17	MC/2021/101	Monika Kumari	D3
18	MC/2021/102	Reeha Rani	
19	MC/2021/103	Inaara	
20	MC/2020/016	Bilal Yousuf (Only Reproductive OSPE)	
21	MC/2020/021	Faiza Raheem	
22	MC/2020/065	Rohit Kumar	
23	MC/2020/055	Muhammad Shah Zaib Khan (Only Eye Theory)	
24	MC/2020/090	Vijay Kumar	
25	MC/2020/092	Vinesh Kumar	
26	MC/2020/101	Usama Sadiq	