

# Fractures and Orthopaedic course specification

Course title: Fractures 5th year course of M.B.Ch.B program

Allocated marks: 100

Course duration : 1 term theory and 2wks clinical sessions (group based)

Teaching staff: 4 professors, 1 assisted professor and 2 lecturer

## I-Aim of the course:

- Provide students with basic knowledge of principal of surgical anatomy and fracture and Orthopaedic problems related to upper and lower limbs and spine and provide background covering the common and important Orthopaedic emergencies and diseases (causes, diagnosis and management).
- Provide appropriate ethical and professional education necessary for establishment of excellent communication with patients and colleagues and using sound ethical principles in clinical decision making .
- Provide lifelong learning competencies necessary for continuous professional development and research studies.

## II-Intended learning outcomes:

by the end of the course, all students should be able to:

**1-Knowledge and understanding** : principles of fracture management and major guide line about common Orthopaedic emergencies related to upper , lower limb or spine and pelvis whether pediatrics or adults .

**2-Skills:** by the end of the course all students should be able to:

- **Professional skills:** distinguish between different types of fractures and kind of conservative or fixation tools used and the common orthopedic procedure in the emergency department like cast , traction etc...
- **Intellectual skills:** The student should obtain a complete and reliable history in fracture clinic or ward, and will be able to give a good history .



- **Communication and general skills** : Communicate with the patient as a person, not as a disease, and understand that the patient is a person with beliefs, values, goals, and concerns, which must be respected in addition to respecting the patient's dignity, privacy, information confidentiality and autonomy. Counsel the patient before doing any intervention and in different situations with respect to his or her wish whenever this is possible.  
Maintain the atmosphere of cooperation, peer relationships, and mutual respect in the university society.  
Advance the knowledge base of fractures by developing and encouraging scientific researches.

### 3-Attitudes:

- The student will be able to apply Back slab , cast and skin tractions.
- The student may observe& share if possible in :fractures and dislocation reduction and joint aspirations and other simple procedure
- The student will have fair knowledge of utilization of uses of x ray as a golden diagnostic tools and application of CT scan and MRI in orthopaedic diagnosis .

### III- Course contents:

#### 1-Topics:

No.	Topics	Learning content	Hours
1	Introduction Introduction to traumatology and orthopedics. Bone regeneration. Closed and open fractures. Modern methods of fracture treatment	Master the basic knowledge of Transport Immobilization. Features of treatment of multiple, combined and combined injuries of the support and movement system. Transport immobilization. Basic principles. Devices for transport immobilization. Definition of "fracture". Classification of fractures, clinic, diagnosis, treatment.	3

			Complications that occur in the treatment of fractures: delayed fusion, false joints, improper fusion. The causes of these complications, their prevention and treatment.	
2	Upper trauma	limb	<p>Master the basic knowledge of scapular damage. Classification, diagnosis, treatment. Dislocations and fractures of the clavicle. Diagnosis, conservative and operative treatment. Mechanogenesis of fractures of the proximal humerus. Classification, diagnosis, treatment. Fractures of the diaphysis of the humerus. Mechanogenesis of injury, diagnosis, treatment. Fractures of the distal end of the humerus. Mechanogenesis of injury, classification, diagnosis, treatment. Fractures of the ulnar process. Mechanogenesis of injury, clinic, diagnosis, treatment. Fractures of the radial head. Classification, mechanism of injury. Clinic, diagnosis, treatment. Fractures of the diaphyses of the forearm bones. Classification, mechanism of damage. Features of fragment displacement. Clinic, diagnosis. Indications for conservative and operative methods of treatment. Fractures of the distal end of the radial bone and their types. Mechanogenesis of damage. Clinic, diagnosis, treatment Fractures of the bones of the hand. Fractures of the wrist and metacarpal bones. Typical mechanisms of injury. Clinic, diagnosis, treatment. Damage to the tendons of the fingers. Clinic, diagnosis, treatment. Classification of bleeding in injuries and damage to blood vessels. Clinic of acute blood loss. Ways to temporarily stop bleeding on the battlefield and stages of medical evacuation. Clinic and treatment of nerve damage.</p>	5
3	Lower trauma	limb	Master the basic knowledge of the classification of fractures of the proximal femur. Mechanism of damage. Clinic, diagnostics. Providing medical	5

		<p>care at the prehospital stage. Methods of treatment, their indications and features depending on the location of fractures and their types. Fractures of the femoral shaft. Mechanism of injury, clinic, diagnosis. Features displacement of fragments depending on the location of the fracture.</p> <p>Indications for conservative and surgical treatment.</p> <p>Fractures of the condyles of the femur. Classification, mechanism of injury. Clinic, diagnosis. The main principles of treatment. Indications for operative and conservative methods of treatment. Fractures of the patella. Clinic, diagnosis. Methods of treatment depending on the type of fracture. Knee ligament damage. Mechanism of injury, clinic, diagnosis. Methods of their conservative and operative treatment. Damage to the menisci. Mechanism of injury, clinic, diagnosis, treatment. Damage to the soft tissues of the lower leg (muscles, heel tendon, small tibial and tibial nerves, blood vessels). Clinic, diagnosis and treatment. Fractures of the tibia. Classification. Damage mechanism, clinic, diagnosis. Conservative and operative methods of treatment of shin bone fractures, indications for them. Shin bone fractures. Classification, mechanism of injury, diagnosis. Conservative and operative treatment. Closed reposition technique for typical bone fractures. Fractures of the calcaneus and heel bones. The mechanism of their damage. Clinic, diagnosis, treatment. Fractures of the metatarsals and phalanges of the fingers. Clinic, diagnosis, treatment. Features of treatment of fractures of foot bones.</p>	
4	<p><b>Spine trauma and orthopaedic</b></p> <p>Spine injury. Clinic, diagnosis, treatment. Open fractures, features of treatment. Traumatic osteomyelitis</p>	<p>Master basic knowledge about spinal injuries, mechanogenesis, clinic, diagnosis. Treatment. Features of modern approaches to the treatment of open fractures, classification. Methodology of treatment of posttraumatic osteomyelitis.</p>	5

5	Lower limb orthopaedic	Master the common sport related injuries and common congenital and soft tissue problems related to lower limbs and pelvis in pediatrics and adult	5
6	Upper limb orthopedics	Master the common sport related injuries and common congenital and soft tissue problems related to upper limbs and shoulder girdle in pediatrics and adult	5



7	<p><b>Tumors Orthopaedic infections</b></p> <p>Inflammatory, tumorous and tumorous diseases of the musculoskeletal system. Clinic, diagnosis, treatment.</p>	<p>Master basic knowledge about tumor and tumorlike diseases of the musculoskeletal system.</p>	4
9	<p><b>Osteoporosis and rickets</b></p>	<p>Master the basic principles of detection and diagnosis, laboratory diagnostics. Instrumental diagnostics. Basic principles of treatment of osteopenia and osteoporosis.</p>	2
10	<p><b>Amputation</b></p> <p>Limb amputations. Rehabilitation and prosthetics for the disabled with limb defects. Treatment of traumatological and orthopedic patients in an outpatient setting.</p>	<p>Master the basic knowledge of indications for limb amputation. Methods and methods of limb amputation. Features of treatment of patients with defects of extremities The purpose and objectives of prosthetics. Indications and contraindications to prosthetics. Types of limb prostheses - cosmetic, activecosmetic. Orthopedic devices, their purpose,</p>	1

		device. Indications for use orthopedic devices. Orthopedic shoes. Indications for the appointment of orthopedic shoes. Principles of organization of outpatient care for patients with injuries and orthopedic diseases.	
11	Osteoarthritis	Master basic knowledge of Clinical manifestations of osteochondrosis and osteoarthritis, modern methods of diagnosis and treatment of degenerative - dystrophic diseases of the spine and joints.	1
12	Neurologic disorder and nerve injury	Master basic knowledge of clinical diagnosis of partial and complete nerve injuries and there treatment	1

**2-Clinical cases: as**

- **Pediatric supracondylar fracture of humerus**
- **Hip spica for fracture femur**
- **Compound fracture tibia :emergency managements**



- **Hip joint septic arthritis**

**3- Medical skills A:** further subdivision of the students into small groups with the residents to observe them while managing the outpatient clinic, also they can watch cast room and minor operation room , and interpret different.

**4-Clinical Diagnostic Studies:** The students will be trained adequately on self-learning methods and procedures. So, they can continuously update their knowledge and skills. The role of teachers in these activities is to supervise and guide the student's effort.

#### **IV. TEACHING METHODS:**

**Methods used:**

**1-lectures:** Three hours per week (Monday )from 1.00pm till 2:00pm & (Tuesday )from 11:00 am till 1:00pm (general topics)to cover the basic minimal knowledge required for all physicians &to utilize the available time in presenting the knowledge as simple , updated, well-illustrated, and easily understood as possible. Rare topics, and those irrelevant to our community should be omitted or given less importance and time. Lectures are delivered whenever possible by the senior academic staff. Lectures given as clinical presentation to cover each areas.

**2-clinical attachments::** students are divided into 5-6 groups , students will have a clinical round in the morning from 8:00am -9.00am discussing a clinical case from outpatients then they are subdivided to small groups to examine the patients& in the outpatient clinic.

**3-problem based learning:** if there is no patients with particular problem in the ward, teacher has to be a "role player" and make the students take history followed by diagnosis, investigation and management:

#### **Teaching & learning facilities**

The facilities available used for teaching in this fifth year course include :





1. Lecture hall in the college contains writing board , overhead & slide projector
2. 12 rooms at clinical words of 2<sup>nd</sup> floor at Al Diwaniyah teaching hospital
3. Data show & computer
4. outpatients clinical rooms .
5. Multiple learning skill labs.

### **\*Clinical facilities**

- At least 25 patients in each day available in inpatient units ( words ) in the hospital .
- Out patients clinic
- Emergency room
- Operating rooms : 3 rooms for fracture and orthopaedic operations

### **\*Students assessment**

1. Attendance
  - a. Behavioral & ethical attendance
  - b. Logbook for clinical cases
  - c. Attendance in outpatient clinic

They whole should be fulfilled .

The minimum accepted attendance is 70 % at the end of term examination.

2. Assessment tools



- a. Written examination : for assessment of general knowledge & understanding .
- b. Oral examination by two members of teaching staff to assess how fifth year student deal with orthopaedic scenario problems .
- c. Clinical examination to medical students attendance in managing clinical cases in apprehensive way .

3. Assessment schedules : fifth year MBCHB program assessment schedules include :

Marks allocated	Examination	Marks	Parameters
10% M	Term exam held at the end of 14 days of clinical attachment	28	Attendance oral examination
30 %M	Mid Term	30	MCQ , most appropriate answers , matching short assay ( 2 hours )
60%M	End course	60	60% cases MCQ , most appropriate answers , matching 40% short assay( 3 hours )

\* The minimum passing score is 50 marks , the passing grades :

Excellent > 90

Very good > 80

Good > 70

Fair > 60

\* Recommended readings & books for students :

1-Apley's System of Orthopaedics and Fractures, 9th Edition

2-Campbell's Operative Orthopaedics, 4-Volume Set - 14th Edition

