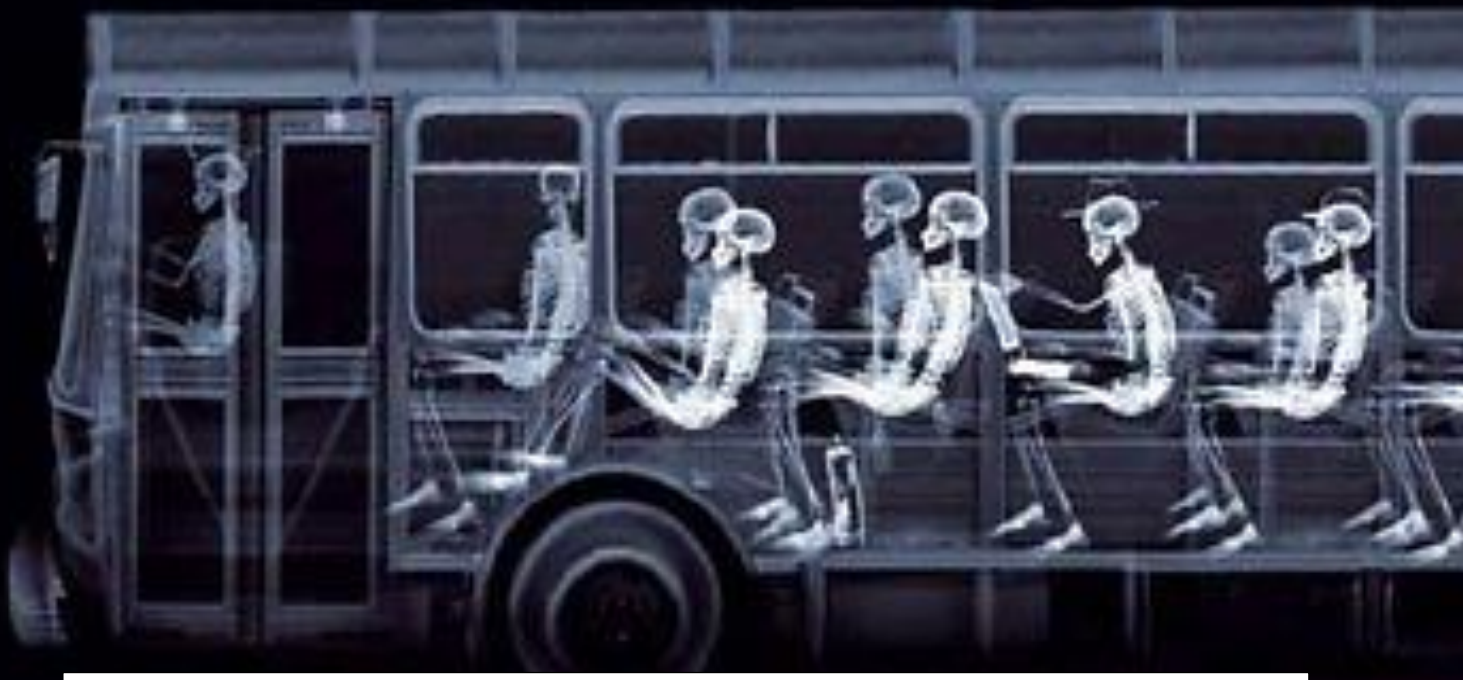
الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
يونيرسيتي إسلام انتارابغسا مليسيا
(Company No. 101067-P)

Kulliyyah of Medicine

ORTHOPAEDIC POSTING

Year 4 Student Guidebook



Name :	
Matric No. :	Group :
Academic Year : 20 ____ / 20 ____	
Supervisor:	

Assalamualaikum Warahmatullahi Wabarakatuh

Dear Students,

This logbook is meant to provide 2 functions. Firstly, it gives an introduction to the posting in the Department of Orthopaedics, Traumatology and Rehabilitation, Kulliyyah of Medicine, IIUM together with the syllabus and learning outcomes required.

Secondly, this logbook will provide a record of all the clinical exposure and activities of the individual student throughout the posting. This record will be assessed and marks given, which will contribute to the final assessment of the student.

The logbook must be submitted at the end of Week 8 of the posting.

Wassalam

Head

Department of Orthopaedics, Traumatology & Rehabilitation
Kulliyyah of Medicine, IIUM

INTRODUCTION

The Department of Orthopaedics, Traumatology and Rehabilitation was set up in the year 2000. This posting is provided 8 weeks in year 4 and 2 weeks in year 5 of the medical programme. During year 1 and year 2 some basic aspect of orthopaedics are taught namely the anatomy of the musculoskeletal system. This programme will introduce an integrated approach to the disciplines of orthopaedics, traumatology and rehabilitation.

The purpose is not to teach orthopaedics as a speciality per se but rather to appreciate it as one facet in the spectrum of musculoskeletal disorders. During this posting, the students will gain the basic knowledge of orthopaedic problems, trauma, rehabilitation and related disorders.

MOTTO

Strength in Basics, Excellence in Orthopaedics

VISION

Provide adequate Basic Orthopaedics, Trauma and Rehabilitation training, skills and knowledge in line with current practice and attain adequate comprehension of the Islamic dimension in Orthopaedic practice for students and staff alike.

MISSION

1. Ensure students have the ability to recognize common Orthopaedic problems and to be able to formulate a clinical diagnosis, propose appropriate investigations and outline an adequate management plan for the patient.

2. Encourage and facilitate staff to develop subspecialty in an area of interest, including Spine Surgery, Arthroplasty, Sports Medicine, Arthroscopy, Foot & Ankle, Paediatric Orthopaedics, Hand & Upper Limb Surgery, Micro & Reconstructive Orthopaedic Surgery, Trauma Surgery and Rehabilitation.

3. Develop expertise and facilities for performing world class Basic Science and Clinical research with multi-disciplinary and multi-institution collaboration in accordance to the needs to the needs of the nation and the Orthopaedic industry.

4. Instil understanding of Islamic rules and regulation (Hukum and Syara') pertaining to the performance of Ibadah following musculoskeletal injury and surgery in Orthopaedics and to incorporate this understanding into the appropriate management of the patient.

STAFF OF DEPARTMENT OF ORTHOPAEDICS, TRAUMATOLOGY & REHABILITATION

ACADEMIC STAFF:

No	Lecturers	Abbr	Subspecialties / Field of Interest
1.	Prof. Dr. Ahmad Hafiz Zulkifly	AHZ	Arthroplasty and Joint Replacement Surgery
2.	Prof. Dr. Zamzuri Zakaria	ZZ	Spine Surgery
3.	Prof. Dr. Nazri Mohd Yusof	NMY	Advanced Trauma & Limb Reconstructive Surgery
4.	Prof. Dr. Aminudin Che Ahmad	ACA	Foot & Ankle Surgery
5.	Assoc. Prof. Dr. Kamarul Ariffin Khalid	KAK	Upper Limb and Microsurgery
6.	Assoc. Prof. Dr. Mohd. Shukrimi Awang	MSA	Paediatric Orthopaedic
7.	Assoc. Prof. Dr. Ahmad Fadzli Sulong	AFS	Advanced Trauma & Limb Reconstructive Surgery
8.	Assoc. Prof. Dr. Ardilla Hanim Abdul Razak	AHAR	Paediatric Orthopaedic
9.	Asst. Prof. Dr. Raffael Ismail	RI	Upper limb and Microsurgery
10.	Asst. Prof. Dr. Mohd Khairul Nizam Siron @ Baharom	KNS	Arthroscopy and Sports Surgery
11.	Asst. Prof. Dr. Mohd Adham Shah Ayeop	MASA	Foot & Ankle Surgery
12.	Asst. Prof. Dr. Rajandra Kumar Karupiah	RKK	Spine Surgery
13.	Asst. Prof. Dr. Nik Alyani Nik Abdul Adel	NA	Paediatric Orthopaedic
14.	Asst. Prof. Dr. Salmah Anim Abu Hassan	SA	Rehabilitation Medicine
15.	Asst. Prof. Dr. Muhammad Haidar Nasuruddin	MHN	Arthroplasty and Joint Replacement Surgery
16.	Asst. Prof. Dr. Muhammad Harith Rosdi	MHR	Sports Medicine
17.	Asst. Prof. Dr. Loh Li Loong	LLL	Spine Surgery
18.	Dr. Muhamad Syafiz Ahmad Ismani	MSAI	Foot & Ankle Surgery

19.	Dr. Kow Ren Yi	KRY	Arthroplasty and Joint Replacement Surgery
20.	Dr. Muhammad Wafiuddin Ahmad	MWA	Spine Surgery

NON-ACADEMIC STAFF:

KULLIYYAH OF MEDICINE

No.	Name	Position
1.	Muhamad Ezham Zainal Abdullah	Senior Science Officer
2.	Sarah Haryati Mohd Zohari	Science Officer
3.	Nor Hanani Mohd Razawi	Staff Nurse
4.	Rosnani Abdul Jalil	Senior MLT
5.	Mohd Zulfadzli Ibrahim	Senior MLT
6.	Zahana Abdul Hamid	MLT
7.	Nur Syuhada Abdul Rahman	Physiotherapist
8.	Nurul Anis Saliza Razali	Physiotherapist
9.	Nur Laila Afandi	Occupational Therapist
10.	Nur Amira Abdul Manan	Admin Assistant / PA

SULTAN AHMAD SHAH MEDICAL CENTRE @IIUM ORTHOPAEDIC'S CLINIC STAFF

No.	Name	Position
1.	Muhammad Syazwan Aiman Suhaimi	Head Staff Nurse
2.	Nursyuhaini Aziz	Staff Nurse
3.	Nur Raihan Rosli	Staff Nurse
4.	Hashabila Jusoh @Hassan	Staff Nurse
5.	Nurhidayah Mohd Yamin	Staff Nurse
6.	Nur Amirah Ahmad Daud	Staff Nurse
7.	Norafizah Kambali	Staff Nurse
8.	Tuan Nur Hidayah Tuan Zuraimi	Staff Nurse
9.	Nur Athirah binti Jameri	Staff Nurse
10.	Mohd Zikri Zainal	Assistant Medical Officer
11.	Anis Nina Sofea Mohamad	Assistant Medical Officer
12.	Nur Najla Iqwani Aminuddin	Assistant Medical Officer
13.	Junaizas Ab. Rahman	Medical Health Assistant

1. LEARNING OUTCOMES

1.1 General Learning Objectives

1. Have consolidated clinical ability and to be able to interpret the clinical history and examination
2. Being fluent in formulating diagnosis and understanding the mechanism and natural history of the disease
3. To be able to suggest key investigations and interpret the results in relation to the disease process, and also have rudimentary knowledge of appropriate treatment

1.2 Learning Outcomes of the Orthopaedic Posting

At the end of the posting students should be able to:

1. Gain basic knowledge on common orthopaedic and trauma problems and related disorders.
2. Appreciate the need to integrate and apply knowledge of the basic medical sciences in making diagnoses and planning treatment and management options.
3. Correlate knowledge of the basic medical sciences with diseased states.
4. Apply principles of management based on sound knowledge.
5. Recognise and diagnose emergency orthopaedics conditions.
6. Recognize the common orthopaedics problems seen in paediatrics, adults and elderly patients in the outpatient and general practice settings.
7. Develop good communication skills and holistic approach to case taking.
8. Understand the rationale of performing a thorough physical examination and its importance for detecting relevant physical signs.
9. Formulate diagnosis and appropriate investigations.
10. Understand the principles of management and rehabilitation for the physically impaired patient.
11. Be more professional in their attitude and outlook towards the medical profession as a whole.

1.3 Orthopaedic Ward Posting

At the end of the posting the students are able to:

1. Good communication skill with patients, relatives, colleagues and patient management team
2. Acquire the ability to take a complete and relevant history
3. Perform a detailed and thorough physical examination relevant to the disease process
4. Formulate appropriate diagnosis and / or relevant differential diagnosis
5. Synthesise appropriate investigations and principles of management relevant to the disease process
6. Interpret investigation results and data relevant to the patient and adapt the patient management appropriately
7. Integrate basic medical science knowledge in all aspects of the patient disease process and management
8. Be competent in the performance of common bedside procedures
9. Attain the professionalism required as a medical personnel
10. Understand how the disease process affects the needs and obligations of Muslim patients

1.4 Orthopaedic Out-Patient Clinic Attachment

At the end of the posting the students are able to:

1. Recognise common cases in the office orthopaedic setting
2. Perform detailed clinical examination pertinent to the patient's complaint
3. Understand the management of out-patient and follow-up orthopaedic cases
4. Integrate the management plan for the patient with other disciplines and resources available in the hospital (multi-disciplinary approach to management)
5. Acquire the competency to perform simple out-patient procedures (such as CMR, POP application, STO, dressing, K-wire removal etc)

1.5 On-call

At the end of the posting the students are able to:

1. Understand the general setup and function of the Emergency Department.
2. Be familiar with the range of orthopaedic emergency cases that is referred or admitted to the Emergency Department.
3. Understand about patient prioritisation according to the Triage system.
4. Able to assist in performing basic emergency resuscitation
5. Acquire the skill to perform common orthopaedic procedures in the emergency setting.
6. Integrate and apply basic medical science knowledge to Emergency Department cases.
7. Be professional in communicating with patients and relatives at the Emergency Department.

1.6 Operating Theatre (OT)

At the end of the posting the students are able to:

1. Understand the OT etiquette, setup and arrangement.
2. Understand and apply aseptic techniques and procedures in the OT.
3. Able to apply the principles of basic medical sciences, surgical and orthopaedic knowledge during the peri-operative management period.
4. Participate in selected surgical procedures.

1.7 Islamic Input in Orthopaedics (IIIO)

At the end of the posting the students are able to:

1. Apply the principles and guidelines of performing ibadah during illness and ruksah.
2. Understand the concept of disease and illness from the Islamic context.

3. Understand the responsibility of a Muslim doctor when treating the illnesses of patients.
4. Integrate and Islamicise medical knowledge relevant to orthopaedic practice.

1.8 Seminars

1.8.1 Management and Complications of Fractures

At the end of the seminar, students are expected to:

- Understand about fractures (pattern, types, mechanism, and classification).
- Understand and discuss the principle of open fracture management.
- Describe the principle of closed fracture management.
- Differentiate and justify operative versus conservative fracture management.
- Define and give examples on complications of fractures: acute and long term complications or local and systematic complications.

1.8.2 Diabetic Foot & Soft Tissue Infection

At the end of the seminar, students are expected to:

- Understand the pathophysiology of diabetic foot ulcer and risk factor.
- Know through clinic examination in diabetic foot and special test.
- Know the management of diabetic foot ulcer.
- Recognize soft tissue infections and able to differentiate cellulitis and necrotizing fasciitis.
- Aware of charcot foot and joint problem.

1.8.3 Degenerative and Inflammatory Joint Diseases

At the end of the seminar, students are expected to:

- Differentiate between the inflammatory and non-inflammatory joint diseases.
- Understand the difference in clinical presentations of those conditions.
- Request the appropriate investigations to differentiate these conditions.
- Know the basic principle of management including the medical and surgical treatment

1.8.4 Orthopaedic Emergencies

At the end of the seminar, students are expected to:

- Identify the important and common orthopaedic emergencies.
- Recognise all the clinical signs of the said orthopaedic emergencies either it is obvious or subtle.
- Understand the importance of doctors especially house officers in the initial detection of such problems.
- Understand the latest management for each orthopaedic emergencies especially the acute management.
- Understand the latest management of joint dislocations especially shoulder, hip, knee and elbow, inclusive of the complications.
- Understand the importance of clinical vigilance in detecting cases such as compartment syndrome and fat embolism syndrome and its management.
- Understand the importance of preventing pulmonary embolism by prevention of deep vein.
- Understanding the importance of early detection and management of cauda equine syndrome in prevention of severe future morbidity.
- Realizing responsibility and being accountable is important for a Muslim doctor.

1.8.5 Sport Injuries

At the end of the seminar, students are expected to:

- Understand the clinical symptoms and presentations of acute and chronic knee, ankle, shoulder and elbow injuries through history taking.
- Understand the range of the diagnosis related to each of the cases.
- Discuss the steps of investigation and brief principle of management.
- Give input in Islamic practise / religious responsibilities to the patient.

1.8.6 Spine Injuries

At the end of the seminar, students are expected to know about:

- Anatomy of the spinal cord and vertebra.
- Dermatome and myotome.
- Types of neural injury and its importance.
- Anatomical level of spinal cord injuries in relation to the vertebra.
- Categories of neurological injuries- UMNL VERSUS LMNL.
- Etiology of spinal cord injury.
- Common cervical and thoracolumbar fractures contribute to spinal cord injuries with its classification for stability.
- Pathophysiology of spinal injuries.
- Neurogenic shock, spinal shock and pattern of injury (complete / incomplete)
- Diagnosis, management and complications.

1.8.7 Surgery in Orthopaedics

At the end of the seminar, students are expected to:

- Prepare patient for an elective and emergency surgery.
- Identify the type, indication and contraindication for internal and external fixation in fracture.
- Know general orthopaedic procedures such as wound debridement, amputation, arthrotomy, bone graft etc.
- Be familiar with common orthopaedic elective surgery in arthroplasty, spine, sport, tumour and paediatric.
- Manage patient postoperatively and recognized post op complications.

1.8.8 Musculoskeletal Oncology

At the end of the seminar, students are expected to:

- Understand the basis pathology of tumours.
- Know about common benign and malignant musculoskeletal tumours which includes
    - ✓ Osteosarcoma
    - ✓ Chondorsarcoma
    - ✓ Ewing sarcoma
    - ✓ Giant Cell Tumour
    - ✓ Lipoma and Liposarcoma
    - ✓ Synovial Sarcoma
    - ✓ Fibrous Dysplasia
- Recognise the clinical and radiological features of malignant and benign musculoskeletal tumours.
- Outline the principles of management of primary malignant bone and soft tissue tumours.
- Know the common primary tumours that commonly metastasize to the bone.
- Outline the management of metastatic bone disease and its complications.

1.8.9 Musculoskeletal Infection (MSI)

At the end of the seminar, students are expected to:

- Make the diagnosis of MSI base on history and physical finding.
- Identify and interpret investigation to diagnose and manage MSI.
- Outline the principle management of MSI.
- Understand the pathophysiology of MSI and the reason why it is difficult to treat.

1.8.10 Metabolic Bone Diseases

At the end of the seminar, students are expected to:

- Understand bone physiology and vitamin-D metabolism in relation to metabolic bone diseases.
- Discuss common metabolic bone diseases which includes:
  - ✓ Osteoporosis
  - ✓ Rickets and osteomalacia
  - ✓ Hypercalcaemia, hypocalcaemia and renal osteodystrophy
  - ✓ Hyperparathyroidism and hypoparathyroidism
- Recognize clinical features of osteoporosis, rickets and hypercalcaemia.
- Discuss the clinical differences between nutritional and renal rickets in terms prevalence, genetic inheritance, investigation and management.
- Discuss the investigations, management and prevention of osteoporosis and hypercalcaemia of malignancy.

1.8.11 Paediatric Orthopaedics

At the end of the seminar, students are expected to:

- Understand the difference of anatomy, pattern of type of fracture between paediatric and adult bone.
- Recognise the clinical features and understand the principle management of common paediatric fractures such as supracondylar humerus, lateral condyle and long bone fracture.
- Understand the pathoanatomy, clinical features and know the principle management of congenital Talipes Equines varus (CTEV)
- Identify the risk factors, clinical features and principle management of Developmental Dysplasia of the Hip.
- Be familiar with common angular deformity and limb length discrepancy in paediatric.
- Be aware of other paediatric hip problems such as Perthes and SCFE.
- Recognise other common paediatric problems such as Torticolis and Scoliosis.

1.8.12 Peripheral Nerve Injuries

At the end of the seminar, students are expected to:

- Understand the clinical correlation of nerve anatomy and clinical conditions.
- Understand the importance of nerve injury classification.
- Understand principles of treatment and their assessment.
- Distinguish between low and high lesion and their assessment in common nerves affected.
- Identify some condition associated with peripheral nerve injuries:
    - ✓ Axillary nerve
    - ✓ Radial nerve
    - ✓ Median nerve
    - ✓ Ulna nerve
    - ✓ Sciatic nerve and its branches
    - ✓ Bracchial plexus injury

- ✓ Carpal tunnel syndrome
- ✓ Guyon canal compression
- ✓ Hip dislocation
- ✓ Leprosy

- Understand the complications associated with peripheral nerve injury.

1.8.13 Hand & Tendon Injuries

At the end of the seminar, students are expected to know / understand about:

- Importance of anatomy when treating hand & tendon injuries.
- Common fractures in the hand.
- Common carpal bone injuries.
- Familiar with common treatment methods for fractures in the hand.
- The ligamentous / fibrous structures that are injured in common fractures and dislocations in the hand and wrist.
- The current minimum standards in flexor tendon repair surgery.
- Interplay of extensor tendon system with intrinsic muscles of the hand.
- Concept of balancing functional recovery with healing of tissues (hand rehabilitation).
- Specific complications of importance for the following conditions:
  - ✓ Fracture waist of scaphoid
  - ✓ Trapeziometacarpal (1st carpometacarpal / CMC) joint fracture
  - ✓ Metacarpophalangeal (MCP) joint dislocations
  - ✓ Proximal interphalangeal (PIP) joint dislocations
  - ✓ Distal end radius fractures
- The difference in presentation and clinical examination techniques in specific nerve injuries affecting the hand (and upper limb).

2. ORTHOPAEDICS POSTING SYLLABUS

Major Topics

1. Basic sciences in orthopaedics
2. General orthopaedics
3. Principles of orthopaedic surgery
4. Basic trauma management
5. Regional orthopaedics
6. Basic orthopaedic skills
7. Basic principles of rehabilitation

2.1 Basic Sciences in Orthopaedics

1. Embryology of the musculoskeletal system.
2. Applied clinical anatomy of musculoskeletal system
3. The biology of the musculoskeletal system
4. Musculoskeletal pathology
5. Physiological changes in trauma and polytrauma
6. Healing of the musculoskeletal tissues/bone
7. Applied clinical microbiology

2.2 Diagnosis in Orthopaedics

1. History taking.
2. Physical examination and physical signs.
3. Investigations

2.3 Basic Trauma Management

1. General principles of management of acute injuries
2. Principles of fracture management
    a. Classification of fractures
    b. Closed fracture management.
    c. Open fractures management
    d. Fracture complications
    e. Conservative and operative management
    f. Principles of fracture fixation.

3. Dislocations
4. Polytrauma Management
5. Soft tissue trauma
6. Pathological fractures
7. Fractures in the elderly

2.4 General Orthopaedics.

1. Musculoskeletal Infection

a. Soft tissue infections
b. Osteomyelitis
c. Diabetic foot
d. Septic arthritis
e. Chronic infection e.g. Tuberculosis

2. Rheumatic disorders

a. Rheumatoid arthritis
b. Ankylosing spondylosis
c. Seronegative arthritis
d. Other inflammatory joint disease

3. Crystal deposition disorders

a. Gout
b. Pseudogout

4. Musculoskeletal degenerative disorders

a. Osteoarthritis
b. Spondylosis

5. Osteonecrosis and osteochondritis

a. Avascular necrosis (AVN)
b. Osteochondritis

7. ***Metabolic and endocrine disorders***
    a. Bone and calcium metabolism
    b. Bone metabolic disorders
    c. Osteoporosis
    d. Rickett's
    e. Osteomalacia
    f. Osteopetrosis
    g. Endocrine disorders

8. ***Genetic disorders, dysplasia and malformations***
    a. Skeletal dysplasias
    b. Achondroplasia
    c. Connective tissue disorders
    d. Osteogenesis imperfecta
    e. Marfan's syndrome
    f. Structural disorders

9. ***Tumours***
    a. Staging of musculoskeletal tumours
    b. Principles of management
    c. Benign musculoskeletal tumours
    d. Malignant tumours – primary and secondary tumours

10. ***Neuromuscular disorders***
    a. Cerebral Palsy
    b. Diabetic Neuropathy
    c. Poliomyelitis

11. ***Peripheral nerve injuries***
    a. Nerve Healing
    b. Brachial Plexus Injuries
    c. Peripheral Nerve Compression Syndromes

12. Orthopaedic Emergencies

a. Compartment Syndrome
b. Fat Embolism Syndrome
c. Shock
d. Cauda Equina Syndrome
e. DVT / PE
f. Necrotising Fasciitis
g. Gas Gangrene
h. Tetanus

2.5 Orthopaedic Specialties

1. Paediatrics

a. CTEV
b. DDH
c. Perthes
d. SCFE
e. Limb length discrepancy
f. Angular deformity
g. Physeal injuries
h. Child abuse
i. Paediatric fractures

2. Spine

a. Spinal cord injuries
b. Spine fractures
c. Back pain
d. Prolapsed Invertebral Disc (PID)
e. Degenerative spine diseases
f. TB and pyogenic spondylitis
g. Spinal tumours

3. Sports

a. Internal derangement of the knee (IDK)
b. Soft tissue injuries

5. ***Hand***
    a. Tendon injury in the hand
    b. Tenosynovitis
    c. Infections in the hand

6. ***Oncology***
    a. Soft tissue tumors
    b. Bone tumors
    c. Bone metastases
    d. Bone cysts

7. ***Foot & Ankle***
    a. Distal end tibial fractures
    b. Pilon fractures
    c. Charcot foot
    d. Lisfranc injuries

2.6 Principles of Orthopaedic Surgery

1. Pre and post-operative assessment
2. Antibiotic prophylaxis and treatment
3. Basic orthopaedic operations

2.7 Regional Orthopaedics

1. ***Spine***
    a. Cervical
    b. Thoracic
    c. Lumbar
    d. Sacral

2. ***Upper limb***
    a. Shoulder
    b. Elbow
    c. Wrist
    d. Forearm
    e. Hand

3. ***Pelvic girdle***
    a. Pelvis
    b. Acetabulum.

4. ***Lower limb***
    a. Hip
    b. Knee
    c. Ankle
    d. Foot

2.8 Basic Principles of Rehabilitation.

1. Orthosis & prosthesis
2. Physiotherapy
3. Occupational therapy

2.9 Practical Procedures

1. Closed manual reduction of fractures and dislocation.
2. POP application.
3. Traction application.
4. Wound dressing
5. Toilet and suturing

Students are expected to know the above topics and headings at a level that is acceptable for undergraduates. However, students are encouraged to know more in pursuit of lifelong learning.

3. TEACHING AND LEARNING METHODOLOGY

The methods utilised for teaching and learning during the orthopaedic posting will include:

1. Lectures
2. Clinical bedside teaching
3. Students' seminars
4. Consultant round (Every Monday morning)
5. Orthopaedic CPC (Every Thursday afternoon)
6. Specialist clinics
7. Operating theatre sessions
8. Orthopaedic wards attachment
9. On-call sessions (6.00 pm to 11.30 pm, Monday to Friday)

3.1 Introduction (Ta'aruf)

Students are given an introduction to the posting on the first day of their posting. This also provides an opportunity for the students and Orthopaedic Lecturers to get to know each other.

3.2 Seminar Sessions

This is a regular group learning activity held during the posting. Each seminar will be researched for and presented by students from a particular group with the guidance of the lecturer appointed as the supervisor for the particular seminar topic.

Every student in the group will have the opportunity to present a subtopic that has been agreed upon after discussion with the Orthopaedic lecturer supervising the seminar. The other students are expected to read the topic prior to attending the seminar session.

Seminar Topics:

i. Management and complications of fracture
ii. Musculoskeletal Infections
iii. Diabetic foot and soft tissue infections
iv. Orthopaedic emergencies
v. Degenerative and inflammatory joint diseases
vi. Metabolic bone diseases
vii. Peripheral nerve injuries
viii. Spine injuries
ix. Paediatric orthopaedics
x. Sport injuries
xi. Hand and tendon injuries
xii. Surgery in orthopaedics
xiii. Musculoskeletal oncology

3.3 Hospital Attachment

Students are expected to attend to the clinical posting in the hospital everyday unless they are scheduled for formal lectures and seminar sessions elsewhere. The activities that the students have to participate in include:

3.3.1 Rotation in orthopaedic wards

Students will undergo clinical posting in the Orthopaedics wards in Sultan Ahmad Shah Medical Centre @IIUM. Students are divided into small groups under the direct supervision of an Orthopaedic lecturer. They join the team that are involved in the orthopaedic care of the patients via house officers, medical officers, specialists, nursing and other ancillary staff. Daily activities include clerking of cases, participating in ward work, observing procedures and performing simple procedures under supervision.

3.3.2 On-call sessions

The students are required to attend on-call sessions starting from 6.00 pm till 11.30 pm according to the roster they themselves prepared at the beginning of each block. They are expected to clerk and present new admissions to the IIUM specialist, participate in acute emergency management and assist in emergency operations. Students **MUST** complete on-calls by the end of the posting as per required.

3.3.3 Orthopaedics' Specialist Out-Patient Clinics

Students will be scheduled to attend the Orthopaedics' Specialist Out-Patient Clinic in SASMEC @IIUM, from Monday to Thursday. They are expected to be actively involved in the clerking and presenting of new cases to the IIUM lecturers. Discussions on the principle of management of relevant conditions are done with the lecturers concerned as appropriate. A roster is prepared at the beginning of each block to ensure that the students have the opportunity to attend different clinic sessions.

Below is the schedule of the Orthopaedic Specialist Out-Patient Clinics for students to attend:

Day	Clinic	8.30am-1.00pm	2pm – 5pm	Orthopaedics Lecturers/ Surgeon
MONDAY	**SASMEC**	Advanced Trauma		Prof. Dr. Nazri AP Dr. Fadzli
		Hand		AP Dr. Kamarul Dr. Raffael
		Paediatric Orthopaedic / General Paediatric		AP Dr. Shukrimi Dr. Ardilla Dr. Alyani

			General Foot & Ankle	Dr. Adham Dr. Syafiz
			General Arthroplasty	Dr. Haidar Dr. Kow
			General Arthroplasty	Dr. Haidar Dr. Kow
TUESDAY	**SASMEC**	Arthroplasty		Prof. Dr. Hafiz Dr. Haidar Dr. Kow
		Sports Medicine		Dr. Harith
		General Paediatric		Dr. Ardilla Dr. Alyani
WEDNES DAY	**SASMEC**	Foot & Ankle		Prof. Dr. Aminudin Dr. Adham Dr. Syafiz
		Spine		Prof. Dr. Zamzuri Dr. Kumar Dr. Loh Dr. Wafiuddin
THURS DAY	**SASMEC**	Hand		AP Dr. Kamarul Dr. Raffael
		Sports Surgery & Shoulder		Dr. Khairul Nizam
		General Spine		Dr. Kumar Dr. Loh Dr. Wafiuddin

3.3.4 Operating theatre sessions

Students are required to be in the Orthopaedic operating theatres from **8.00 am** onwards according to the roster prepared at the beginning of the block. They are expected to learn how to scrub and wear surgical gowns properly, observe all operations and assist during surgery whenever possible. Students scheduled to the operating theatre are expected to have clerked patients that are listed the day before and do the required reading beforehand. Students are required to look at the respective operating list as soon as it is available.

Operating theatre sessions in SASMEC @IIUM will either be on Tuesday, Thursday or Friday every week. While emergency operating theatre will be held every day. (Please refer to the Orthopaedic Activity Calendar provided at the beginning of every block)

3.4 Case-Based Discussion

Students are expected to select cases for case-based discussion (CBD) to be discussed with IIUM lecturers. Cases could be selected from the wards or clinics. Each cases discussed should include all the management of the patient from history until the patient's treatment. It is advised that the case selection should be diverse in its problems to benefit the student's learning.

For each CBD, reflection should be done by the student about the case discussed. This reflection could be about the case and its management or could be about any aspect of the patient management encountered throughout the patient's treatment in SASMEC@IIUM. The reflection should be mature and focus on what had piqued the student interest about the case or what had been learned from the management of the case. This reflection should be recorded clearly in the student's logbook

Following their discussion, the lecturer would ask about the student's reflection about the case. This would then be discussed, and feedback would be given by the lecturer about the case and the students reflection. All these points should be recorded well in the student's logbook.

The student should also highlight during the discussion with the lecturer about any Islamic input / professionalism / bed side manners issues that they are concerned about or encountered during the management of the patient. This issue should be reflected upon and feedback/opinion should be obtained from their lecturer.

Signature should be obtained from the lecturer following all discussions.

3.5 Case Write-Ups

Each student is required to hand in two (2) case write-ups to their supervisor during the posting. Students are required to hand in a case write-up at specific intervals as determined by their respective supervisors. This is made to ensure that the students have enough time to put in the necessary effort and care in preparing the write-up. The students are given the liberty of choosing the type of cases from the wards that they want to write on after discussion with their supervisors. The case write-ups will be corrected by the respective supervising lecturer, who is also required to discuss the case write-ups with the respective student under his or her care. Marks are given, which forms part of the continuous assessment portion of the student's end-of posting assessment.

3.6 Case Summaries with Learning Points

Each student is required to hand in five (5) Case Summaries with Learning Point (CSLP) in which every CSLP, the student need to reflect and obtain feedback about three (3) learning points from their supervisor during the posting. Students are required to hand in a case summary with learning points at specific intervals as determined by their respective supervisors. This is made to ensure that the students have enough time to put in the necessary effort and care in preparing the write-up. The students are given the liberty of choosing the type of cases from the wards or clinics that they want to write on after discussion with their supervisors. The case summaries with learning points will be corrected by the respective supervising lecturer, who is also required to discuss the case learning with the respective student under his or her care. Marks are given, which forms part of the

continuous assessment portion of the student's end-of posting assessment.

3.7 Log Book Procedures

Students are required to fill the procedure list in this log book. This log book is a verified record of the procedures and activities that the students have observed or performed during their posting. The sections in this log book include:

Procedures

i. Wound dressing
ii. Wound toilet & suturing
iii. CMR, POP, traction
iv. Clinic procedures
v. Orthopaedic operations
vi. Case write up
vii. CPC and seminars
viii. Case presentation

Kulliyyah CPC / Orthopaedic Radiology Conference / Other Events

**NOTE: All are subject to change according to SOP guidelines from the authorities at the particular time.*

4. ISLAMIC INPUT IN ORTHOPAEDICS

This is a one-day event that includes a problem-based discussion session in the morning and a hands-on practical session in the afternoon. It integrates orthopaedic knowledge with accepted Islamic practices, according to Sunni practices.

5. METHODS OF ASSESSMENT

Students assessment is both formative and summative. Formative assessment will include daily attendance for all scheduled activities according to the Orthopaedic Activity Calendar. Continuous assessment carries 40 marks and is complimented by a formal end of posting examination.

The components for continuous assessment include:

1. Case write up/case summaries with learning point marks
2. Log book assessment
3. Attendance for all teaching and learning activities
4. Attitude of the student
5. Overall performance and participation during the posting

A student who is absent for 10% of the activities will receive a **WARNING LETTER** from the Kulliyyah and will be required to provide an explanation letter to the department. Any student is absent 20% or more will be **BARRED** from the end of posting exam.

The end of posting examination will comprise of theory and clinical components. The theory exam will have a paper consist of multiple choice question (MCQ), one best answer (OBA) and extended matching question (EMQ); and another paper with four questions on key feature question (KFQ). Students must pass the theory + continuous assessment (Part 1) with marks ≥ 25 in order to pass the examination.

The clinical examination (Part 2) will have both OSCE (manned & unmanned) and an observed long case component. For the observed long case, students are given 40 minutes to clerk a patient observed by an examiner and discussion. Passing mark for the clinical examination is ≥ 25 marks.

Students who achieve ≥ 70 marks overall (Part 1 + Part 2) will be awarded a distinction. A student with 49 marks or less is considered as **FAIL.**

6. REFERENCES

1. Recommended Textbook

- Apley's System of Orthopaedics and Fractures, Ninth Edition by Louis Solomon, Davic Warwick and Selvadurai Nagayan.

2. Recommended Physical Examination book

- Clinical Orthopaedic Examination, 6th Edition by Ronald McRae

3. Recommended Handbook

- Netter's Concise Orthopaedic Anatomy, Updated Edition, 2nd Edition by Jon C. Thompson

4. Recommended App

- OrthoBoard by Goh Kian Liang

5. Accepted online references

- http://www.orthobullets.com
- https://www.wheelessonline.com

6. Others

- Miller's Review of Orthopaedics - 7th Edition by Mark D. Miller, and Stephen R. Thompson