



الجامعة الإسلامية العالمية ماليزيا  
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA  
يُونِيْبَرْسِيْتِيْ اِسْلَامِيْ اِنْتَارْ اَبْحَسِيَا مَلِيْسِيَا  
(Company No. 101067-P)

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Kulliyyah of Medicine

# ORTHOPAEDIC POSTING

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Year 5 Student Guidebook



Name :

Matric No. :

Group :

Academic Year : 20 \_\_\_\_ / 20 \_\_\_\_

Supervisor:

**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.	Assoc. Prof. Dr. Kamarul Ariffin Khalid	KA	Upper Limb and Microsurgery
3.	Prof. Dr. Zamzuri Zakaria	ZZ	Spine Surgery
4.	Prof. Dr. Nazri Mohd Yusof	NMY	Limb Reconstruction Surgery
5.	Prof. Dr. Aminudin Che Ahmad	ACA	Foot & Ankle Surgery
6.	Assoc. Prof. Dr. Mohd Shukrimi Awang	MSA	Paediatric Orthopaedics
7.	Assoc. Prof. Dr. Ahmad Fadzli Sulong	AFS	Advance Trauma Surgery
8.	Asst. Prof. Dr. Ardilla Hanim Abdul Razak	AHAR	Paediatric Orthopaedics
9.	Asst. Prof. Dr. Raffael Ismail	RI	Upper limb and Microsurgery
10.	Asst. Prof. Dr. Mohd Khairul Nizam Siron@ Baharom	KNS	Arthroscopy and Sport Surgery
11.	Asst. Prof. Dr. Mohd Adham Syah 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	Rehab Medicine
15.	Asst. Prof. Dr Muhammad Haidar b. Nasuruddin	MHN	Arthroplasty and Joint Replacement Surgery
16.	Asst. Prof. Dr Muhammad Harith b. Rosdi	MHR	Sport Medicine
17.	Dr. Muhamad Syafiz bin Ahmad Ismani	SAI	Foot & Ankle Surgery
18.	Dr. Loh Li Loong	LLL	Spine Surgery
19.	Dr. Kow Ren Yi	KRY	Arthroplasty and Joint Replacement Surgery
20.	Dr. Muhammad Wafiuddin bin Ahamd	MWA	Spine Surgery

## **NON ADEMIC STAFF:**

### **KULLIYAH OF MEDICINE**

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

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

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

# **1. LEARNING OUTCOMES**

## **1.1 General Learning Objectives**

The Orthopaedics, Traumatology and Rehabilitation II course

1. Refreshes the students to the basic core knowledge and clinical skills in Orthopaedics. It covers common clinical orthopaedic problems.
2. Emphasis on apprenticeship training in preparation for the final professional examination and housemanship.

## **1.2 Learning Outcomes of the Orthopaedic Posting**

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

1. Integrate, correlate and apply knowledge of the basic medical sciences in formulating the diagnosis and planning for treatment and management.
2. Recognise, diagnose and apply principles of managing general orthopaedics, trauma and emergency conditions.
3. Perform thorough history taking and physical examination for orthopaedic conditions.
4. Demonstrate professional attitude and outlook towards the medical profession as a whole in orthopaedic setting.

# **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  
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.

**6. *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

**7. *Genetic disorders, dysplasia and malformations***

- a. skeletal dysplasias
- b. achondroplasia
- c. connective tissue disorders
- d. osteogenesis imperfecta
- e. Marfan's syndrome
- f. structural disorders

## **8. Tumours**

- a. Staging of musculoskeletal tumours
- b. principles of management.
- c. benign musculoskeletal tumours.
- d. malignant tumours – primary and secondary tumours.

## **9. Neuromuscular disorders**

- a. Cerebral Palsy
- b. Diabetic Neuropathy
- c. Poliomyelitis.

## **10. Peripheral nerve injuries**

- a. Nerve Healing.
- b. Brachial Plexus Injuries.
- c. Peripheral Nerve Compression Syndromes

## **11. 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

## **4. *Hand***

- a. Tendon injury in the hand
- b. Tenosynovitis
- c. Infections in the hand

## **5. *Oncology***

- a. Soft tissue tumors
- b. Bone tumors
- c. Bone Metastases
- d. Bone Cysts

## **6. *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

## LEVEL OF CORE COMPETENCIES FOR ORTHOPAEDICS II POSTING

### Clinical Problems and Diseases: Level Descriptors

Level	Descriptors
1	Aware of the condition based on literature at the level of overview
2	Able to make provisional diagnosis based on Physical examination and basic investigations. Refer to the relevant specialist
3	Able to make provisional diagnosis based on Physical examination and basic investigations. Initiate initial treatment Refer to the relevant specialist
4	Able to make diagnosis based on Physical examination and basic investigations. Manage and solve the problem

### 1. List of Problems

General:

No	Problem	Level
1	Pain over the; <ul style="list-style-type: none"> <li>• Joint</li> <li>• Neck/Back</li> <li>• Shoulder region</li> <li>• Elbow/wrist region</li> <li>• Hand region</li> <li>• Hip region including gluteal</li> <li>• Knee region including popliteal fossa</li> <li>• Foot/ankle</li> </ul> May include trauma related (e.g fracture, soft tissue)	2 2 2 2 2 2 2 2
2	Skin changes <ul style="list-style-type: none"> <li>• Ulcer/wound*</li> <li>• Redness</li> <li>• Discharge</li> </ul>	3 2 2
3	Limping (painful or painless)	2
4	Deformity <ul style="list-style-type: none"> <li>• Upper limb</li> </ul>	2

	<ul style="list-style-type: none"> <li>• Lower limb</li> <li>• Back/spine</li> </ul>	2 2
5	Weakness/Numbness to upper and lower limb	2
6	Lump/Swelling on the extremity	2
7	Joint Stiffness	2
8	Joint instability	2
9	Locked joint	2

## 2. List of Diagnosis

No	Diagnosis	Level
1	Fracture (upper/lower limbs) <ul style="list-style-type: none"> <li>• Closed</li> <li>• Opened</li> </ul> Pelvis (Pelvic ring and acetabular)	3 3 2 2
2	Joint dislocation-trauma related - Shoulder / elbow / hip / knee / ankle	3
3	Trauma Complication Acute <ul style="list-style-type: none"> <li>• Compartment Syndrome</li> <li>- Release source of compression e:g POP</li> <li>- Circulation Chart monitoring of affected limb</li> <li>• Fat embolism</li> <li>-Fluid resuscitation</li> <li>-Oxygen therapy</li> <li>-Vital signs monitoring</li> <li>• Neurovascular injury</li> <li>-Compression bandage or tourniquet application</li> <li>-Circulation Chart Monitoring of the affected limb</li> </ul> Chronic <ul style="list-style-type: none"> <li>• Non-union/delayed union/Malunion</li> </ul>	3  3 3  3
4	Shoulder <ul style="list-style-type: none"> <li>• Frozen Shoulder</li> <li>• Impingement Syndrome</li> <li>• Rotator Cuff (tendonitis / tear) and rotator cuff arthropathy</li> <li>• Shoulder instability</li> </ul>	2 2 2 2 2

5	<p>Elbow</p> <ul style="list-style-type: none"> <li>• Tendinitis (e,g Tennis elbow, Golfer elbow)</li> <li>• Deformity (e,g Malunion fracture)</li> </ul>	<p>3</p> <p>2</p>
6	<p>Wrist</p> <ul style="list-style-type: none"> <li>• Ganglion</li> <li>• Carpal Tunnel Syndrome</li> <li>• De Quarvain</li> </ul>	<p>2</p> <p>3</p> <p>3</p>
7	<p>Hand</p> <ul style="list-style-type: none"> <li>• Trigger Finger</li> </ul>	<p>3</p>
8	<p>Hip Adult</p> <ul style="list-style-type: none"> <li>▪ Osteoarthritis</li> <li>▪ Avascular Necrosis</li> </ul>	<p>3</p> <p>2</p>
9	<p>Knee Adult</p> <ul style="list-style-type: none"> <li>• Osteoarthritis</li> <li>• Ligamentous Injury</li> <li>• Meniscus Injury</li> <li>• Patellar instability</li> <li>• Osteochondritis dessicans</li> </ul>	<p>3</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>
10	<p>Foot &amp; Ankle</p> <ul style="list-style-type: none"> <li>• Osteoarthritis</li> <li>• Tendinitis</li> <li>• TA rupture</li> <li>• Plantar Fasciitis / Calcaneal spur</li> <li>• In-grown Toe nail</li> <li>• Deformity(e.g Hallux Valgus)</li> </ul>	<p>3</p> <p>3</p> <p>2</p> <p>3</p> <p>2</p> <p>2</p>
11	<p>Spine</p> <ul style="list-style-type: none"> <li>• Deformity (scoliosis includes adolescent and degenerative)</li> <li>• Herniated Nucleus Pulposus</li> <li>• Trauma/Fracture</li> <li>• Spinal Shock / Neurogenic shock / Cauda equina syndrome</li> <li>• Degenerative (Cervical and lumbar spondylosis)</li> </ul>	<p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>

12	<p>Infection</p> <ul style="list-style-type: none"> <li>• Septic Arthritis</li> <li>• TB infection</li> <li>• Osteomyelitis (acute and chronic)</li> <li>• Necrotising Fasciitis</li> <li>• Gas Gangrene</li> <li>• Diabetic foot (infected gangrene)</li> <li>• Finger Pyogenic tenosynovitis</li> <li>• Abscess (Subcutaneous and intramuscular)</li> </ul>	<p>3</p> <p>2</p> <p>3</p> <p>3</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>
13	<p>Tumor (bone and soft tissue)</p> <p>Benign</p> <p>Malignant (Primary and metastasis)</p>	<p>2</p> <p>2</p>
14	<p>Metabolic disorders</p> <p>Gouty arthritis / Pseudogout</p> <p>Rickets</p> <p>Osteoporosis</p>	<p>3</p> <p>2</p> <p>3</p>
15	<p>Paediatrics</p> <ul style="list-style-type: none"> <li>• Paediatric fractures</li> <li>• DDH, Perthes, SCFE</li> <li>• Angular deformity</li> <li>• LLD</li> <li>• CTEV</li> <li>• Septic arthritis</li> <li>• Osteomyelitis</li> </ul>	<p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>

### **Clinical Skills Levels Descriptors:**

<b>Level</b>	<b>Descriptors</b>
1	Able to describe the task
2	Able to apply the principles or theory of the specific task. May have seen the task being perform
3	Have experience performing the task or perform under supervision
4	Able to relate the theory and principles and indications of the specific task Able to perform the task

### **3. Clinical skills**

- Physical examination
- Investigations

- Procedures- diagnostics, therapeutics.

Physical examination: General

No	Physical examination General	Level
1	Level of consciousness	4
2	Peripheral hand assessment	4
3	Vital signs	
	PR	4
	RR	4
	BP	4
4	Gait Assessment	3

Physical examination:

No	Physical examination	Level
1	Joint	
	Attitude( include deformity description)	4
	Joint line tenderness	4
	Effusion test	4
	ROM – Active	4
	Passive	4
2	Neurology Assessment	4
	UMN/LMN	
3	Spine	
	Deformity	3
	ROM	3
4	Limb Length Measurement	4
5	Special Test:	
	Shoulder	
	Impingement test	3
	Apprehension test	3
	Hip	4
	Thomas test	4
	Trendelenburg	4
	Knee	
	Drawer Test	4
	Lachman	4
	Varus/Valgus stress test	4
	McMurray	3
	Apprehension test	3
6	Lump/Swelling Assessment	4
7	Wound/Ulcer Description	4

Orthopaedic procedures:

No	Procedure	Level
1	Immobilisation Cast application: <ul style="list-style-type: none"> <li>• Backslab</li> <li>• Full cast</li> <li>• Cast split</li> </ul> Orthosis <ul style="list-style-type: none"> <li>• Cervical collar</li> </ul>	3 3 3 3
2.	CMR*	3
3.	Toilet and Suturing	3
4.	Traction: <ul style="list-style-type: none"> <li>Skin traction</li> <li>Skeletal traction</li> </ul>	3 2
5.	Joint aspiration	2
6.	Joint injection	2
7.	Wound dressing including pin site*	4
8.	Desloughing under LA	2
9.	Tourniquet application*	3
10.	External fixation of all fractures	2
11.	Internal fixation	2
12.	K-wiring <ul style="list-style-type: none"> <li>• Insertion</li> <li>• removal</li> </ul>	2 4
13.	Major amputation of limbs	2
14.	Arthrotomy	2
15.	Fasciotomy for compartment syndrome	2
16.	Excision biopsy of superficial lumps	2
17.	Ring block	2
18.	Debridement of wounds	2

Students are expected to know the above topics and headings at a level that is acceptable for undergraduates.

Students are expected to actively involved in patient management from admission to discharge. They should be able to recognise and anticipate any complications related to disease and management of the patient.

Students are expected to learn more details on core orthopaedics disease and procedures such as:

1. Fracture – management and complications
2. Infection – diabetic foot, septic arthritis
3. Degenerative joint diseases – primary and secondary osteoarthritis
4. Sports injury – ACL, meniscus
5. Spine – trauma and infections

For clinical skills, students are expected to be competent to perform examination of:

1. Non-union, malunion and measurement for LLD
2. Wound and diabetic foot problem
3. Lower limb joint degenerative deformity
4. Knee and hip
5. Spine and neurology assessment
6. Peripheral nerve examination



### **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. Consultant round
4. Tutorials
5. Specialist clinics
6. Operating theatre sessions
7. Orthopaedic wards attachment
8. On-call sessions (6.00 pm to 11.30 pm, Monday to Friday)

#### **3.1 Lectures**

There will be two common lectures within the block on orthopaedics topics ;

- i. Management of diabetic foot infection*
- ii. Spine infection*

#### **3.2 Tutorial**

Students will be involved with tutorial session every Monday to Wednesday in afternoon session discussion topics with lecturer. This is a two way session in between lecturer and students. The topics that will be covered in the tutorial area:

- i. Acute fracture management (open and closed)*
- ii. Complication of fracture*
- iii. Spine trauma*
- iv. Musculoskeletal infection*
- v. Degenerative joint disease*
- vi. Knee sports injury*

#### **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 10 calls by the end of the posting.

### ***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:

<b>Day</b>	<b>Clinic</b>	<b>8.30am-1.00pm</b>	<b>2pm – 5pm</b>	<b>Orthopaedics Lecturers/ Surgeon</b>
<b>MONDAY</b>	<b>SASMEC</b>	Advance Trauma		Prof. Dr. Nazri Dr. Fadzli
		Hand		Dr. Kamarul Dr. Raffael
		Paediatric Orthopaedics		Dr. Shukrimi Dr. Ardilla Dr. Alyani
			Foot & Ankle	Dr. Syafiz
<b>TUESDAY</b>	<b>SASMEC</b>	Arthroplasty		Prof. Dr. Hafiz Dr. Haidar Dr. Kow
		Rehab Medicine		Dr. Salmah Anim Dr. Harith
<b>WEDNESDAY</b>	<b>SASMEC</b>	Foot & Ankle		Prof. Dr. Aminudin Dr. Adham Dr. Syafiz
		Spine		Prof. Dr. Zamzuri Dr. Kumar Dr. Loh Dr. Wafiuddin
		Sports Surgery and Knee		Dr. Khairul Khalid
<b>THURSDAY</b>	<b>SASMEC</b>	Hand		Dr. Kamarul Dr. Raffael
		Sports Surgery and Shoulder		Dr, Khairul Nizam
		General Spine		Prof. Dr. Zamzuri Dr. Kumar

### ***3.3.4 Operating theatre sessions***

Students are required to be in the Orthopaedic operating theatres from **9.00 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, depending on the week. While the operating theatre sessions in HTAA will be on every working Monday, Tuesday, Wednesday and Thursday. (Please refer to the Orthopaedic Activity Calendar provided at the beginning of every block)

## **3.4 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. Orthopaedic procedure (CMR, POP, traction)
- ii. Orthopaedic operations
- iii. Case presentation
- iv. Case report writing

## 5. METHODS OF ASSESSMENT

Student 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 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 block examination will comprise of theory and clinical components. The theory exam will have a paper consist of multiple choice question includes multiple true false (MTF), one best answer (OBA) and extended matching question (EMQ); and key feature question (KFQ).

The clinical examination will have both manned and unmanned OSCE.

## 7. 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