

كلية الطب
College of Medicine



Emergency Medicine Clerkship

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

First Quarter AY22-23

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Introduction

Emergency Medicine is the branch of specialty practice that is concerned with the management of a broad spectrum of acute illnesses and injuries in all age groups. The specialist in Emergency Medicine is foremost a clinician who uses highly developed clinical skills to care for patients with acute and often undifferentiated medical problems, frequently before complete clinical or diagnostic information is available.

Clerkship Description

- The Emergency Medicine Clerkship provides medical students with an in-depth exposure to Emergency Medicine as a specialty and career choice. They will interact with a wide variety of undifferentiated patients and problems, with a goal of improving the students' skill in acute care decision-making, a beneficial skill for all physicians.
- The majority of the educational curriculum, in addition to clinical bedside teaching, includes simulation exercises, small group case- based discussions/didactics and interactive seminars.
- During the three-week rotation, students will participate in 42 hours of clinical encounters, attend eight interactive sessions, exercise at three simulation/clinical skills sessions, and complete end of rotation clinical assessment and oral examination.

Course learning Objectives :

1. Illustrate a diagnostic and therapeutic plan for a patient with an acutely life or limb threatening condition
2. Demonstrate basic science and clinical principles to the emergency medicine patient.
3. Demonstrate the ability to express findings of a complete but directed history and physical examination in a clear and concise manner.
4. Apply a hierarchy of acuity and likelihood to a differential diagnosis and patient care plan that accounts for "worst case scenario" and most likely etiologies for a patient's clinical presentation.
5. Demonstrate an appropriate patient disposition plan.
6. Demonstrate effective communications skills with patients and other members of the ED clinical team.
7. Demonstrate ethical, responsible and empathic behavior with patients and ED clinical staff.
8. Discuss the scope of Emergency Medicine (public health, pre-hospital and ER) care to the healthcare system at large.

Clinical Competencies

1. Develop a differential diagnosis when evaluating an undifferentiated patient:
 - a. Prioritize likelihood of diagnoses based on patient presentation and acuity.
 - b. List the worst-case diagnoses.
2. Create a diagnostic plan based on differential diagnoses.
3. Develop a management plan for the patient with both an undifferentiated complaint and a specific disease process.

Block Information

Course Coordinator	Dr. Khalid Nabeel Al-Mulhim
Course Co-coordinator	Dr. Abdulltif Al maghlouth
Course Duration	4 Weeks
Course Units	Four Credit Hours

Rotation Timeline

1 st Week	Emergency Medicine
2 nd Week	Emergency Medicine
3 rd Week	Emergency Medicine
4 th Week	Urology

Marks Distribution

Written Exam (MCQs + PS)	40
OSCE	30
Clinical Assessment/ Logbook	20
Attendance and Professionalism	10
Total	100

Block Themes (Interactive Sessions)

1 Resuscitation

Airway Management
Management of Cardiac Arrest
Shock

2 Cardiovascular Emergencies

Bradyarrhythmia & Tachyarrhythmia
Acute Coronary Syndrome
Hypertensive Emergency

3 Trauma

Initial ATLS Management
Intracranial Injuries
Cervical Spine Fractures

4 Toxicological Emergencies

Toxic Alcohols
Acetaminophen & Salicylates

5 Environmental Emergencies

Electrical Injuries
Heat Related Injuries
Animal Injuries

6 Miscellaneous Emergencies

Part 1:

Electrolytes Disorders (DKA & Hyperkalemia)
Sepsis and Septic Shock
Massive GI Bleeding

Part 2:

Thoracic Aortic Dissection
Acute Limb Ischemia
Acute Abdomen (Life-Threatening Conditions)
Burn & Smoke Inhalation

Reference:

- 1 Tintinalli's Emergency Medicine: A Comprehensive Study Guide (7th Edition)
- 2 Rosen's Emergency Medicine – Concepts and Clinical Practice (8th Edition)

Clinical Encounters and Procedures

Required Clinical Encounters	Location of Activity
Acute Chest Pain, Undifferentiated	Emergency Department at KFHH
Acute Abdominal Pain, Undifferentiated	
Acute Altered Consciousness, Undifferentiated	
Acute Dyspnea, Undifferentiated	
Triage Principles	
Blood gas analysis, ECG and CXR	
How to approach a trauma patient	Simulation lab at the college
Resuscitation, Acute Medical or Trauma	
Shock	

Procedures	Location of Activity
Endotracheal Intubation	CTC
Cricothyrotomy	
Tube Thoracostomy	
Needle Chest Decompression	
Central Venous Access	
E-FAST Exam	

First week schedule:

Day/Date	8:30- 10:00	10:15- 11:45	12:30-2:30
Sunday	Orientation Session <i>Dr. Khalid Almulhim</i>	Interactive Seminar -Sick Vs. Not sick -Approach to undifferentiated patient <i>Dr. Khalid Almulhim</i>	
Monday	Bedside Teaching Groups A, D	Bedside Teaching Groups B, C	Interactive seminar Resuscitation theme
Tuesday	Cases Discussion	Case Discussion	PD4
Wednesday	Interactive Seminar Cardiology Theme	Interactive Seminar Toxicology theme	PD5
Thursday	Bedside Teaching Groups B, C	Bedside Teaching Groups A, D	Interactive Seminar Mis. Emergency 1

*Interactive seminar venue: TBD

*Bedside teaching: ED at KFHH

*Procedural skills session: Simulation lab at the college/CTC

Second week schedule:

Day/Date	8:30- 10:00	10:15- 11:45	12:30-2:30
Sunday	Bedside teaching Groups A,D	Bedside teaching Groups B, C	Procedural Skills Session <i>Dr. Khalid Almulhim</i>
Monday	Cases Discussion	Cases Discussion	Interactive seminar Trauma theme
Tuesday	Bedside Teaching Groups B, C	Bedside teaching Groups A,D	PD4
Wednesday	Interactive seminar Mis. Emergency 2	Interactive seminar Environmental theme	PD5
Thursday	Bedside teaching Groups A,D	Bedside teaching Groups B, C	

*Interactive seminar venue: TBD

*Bedside teaching: ED at KFHH

*Procedural skills session: Simulation lab at the college/ CTC building

Third week schedule:

Day/Date	8:30- 10:00	10:15- 11:45	12:30-2:30
Sunday	Procedural Skills Session	Procedural Skills Session	
Monday	Bedside teaching Groups B, C	Bedside teaching Groups A,D	Case Discussion
Tuesday	Bedside Teaching	Bedside Teaching	
Wednesday		Q/A session <i>Dr. Khalid Almulhim</i>	
Thursday		Logbook Submission Clinical Assignment & Exam	

*Interactive seminar venue: TBD

*Bedside teaching: ED at KFHH

*Procedural skills session: Simulation lab at the college/ CTC building

Forth week schedule:			
Day/Date	8:30- 10:00	10:15- 11:45	12:30-2:30
Sunday	<div>Urology Week</div>		
Monday			
Tuesday			
Wednesday			
Thursday			

Interactive seminars are presented by the students as the following table:

CLUSTER	Students Serial Number		Topics
	1		Management of cardiac arrest (BLS)
	2		Management of cardiac arrest (ACLS)
	3,4		Airway management
	5		Shock
	6,7		Tachyarrhythmia
	8		Bradyarrhythmia
	9,10		Acute Coronary Syndrome
	11		Hypertensive emergency
	12,13		Initial trauma management
	14,15		Intracranial injuries
	16,17		Cervical spine fractures
	18		Toxic Alcohols
	19		Acetaminophen toxicity
	20		Salicylates toxicity
	21,22		Electrical & heat injuries
	23		Animal injuries
	24		Burn & smoke inhalation
	25		Acute abdomen
	26,27		Electrolytes disorders
	28		Sepsis and septic shock
	29		Massive GI Bleeding
	30		Thoracic aortic dissection
	31		Acute limb ischemia
	32		Met. acidosis and alkalosis
	33		Resp. acidosis and alkalosis

Procedural Skills Sessions schedule

Day/Date	08:30- 10:00	10:15- 11:45
Sunday	<u>Procedural skills session</u> 1 Tube thoracostomy 2 Needle chest decompression 3 Cricothyrotomy <i>Surgery faculty</i>	<u>Procedural skills session</u> 1-Endotracheal intubation 2- Central venous access <i>Anesthesia faculty</i>

* Venue : CTC building

Students Assessment /Evaluation

The assessment is classified into two main categories: formative and summative.

A- Formative Assessment Tools

Learning domain	Formative assessment tools (continuous assessment)
Knowledge (15%)	Interactive discussion, quizzes and end of rotation exam
Skills (10%)	Case presentation, Mini-CEX, logbook and end of rotation exam
Attendance/Interactions/ Professionalism (5%)	Daily assessment

B- Summative Assessment Tools

Learning domain	Summative assessment tools
Knowledge (40%)	Final Exam This exam is conducted in the form of a written examination with a MCQ format and Problem-Solving questions
Skills (30%)	OSCE, OSPE & Multimedia

ED Case Presentation Components:

You may review the following resources for models of case presentation:

-Davenport, Chris et al. "The Three Minute Emergency Medicine Medical Student Presentation: A Variation on a Theme. Academic Emer. Med. 2008 15:633-687.

-Cullather, Chrysa. Emergency Medicine Clerkship Primer: A Manual for Medical Students. Clerkship Directors in Emergency Med. 2008.

Teaching Methods & Tools

The teaching methods used primarily based on Adult Learning Theory principles.

Teaching methods & tools include:

- Case-based discussion
- Interactive seminars
- Clinical bedside teaching
- Clinical skills practice on manikins
- Simulation based learning
- Game based learning
- Summarizing a podcast about a specific theme
- Shadowing ER certified physician in clinical shifts (practice-based learning)(in progress)
- Attending ER morning report/meetings (in progress)

Logbook format

Student Name:

Academic No.:

Cluster:

Age/ gender	Presenting complaint	Triage level	Most likely diagnosis /DDx	ED Disposition	Mentor signature (if case was discussed)

STEPS	INFORMATION
Basic Bio./ CC	
Arrival/Event	
VS/RBS/look	
Triage level	
Focused History	
Focused PE:	
DDx:	
Investigations (labs & imaging)	
Most likely Dx	
Disposition/ Plan	
Total Mark	

Case No.	
Discussed?	
Shared?	

Immediate Actions

ED Management

	Case Summary	Procedure	MD/RN Signature
1			
2			
3			
4			
5			

Exam Blueprint

Blueprint of the final Exam is shown in the following table:

Theme	Weight
Resuscitation	20%
Cardiovascular	20%
Trauma	20%
Toxicological Emergencies	5%
Environmental Emergencies	5%
Other Emergencies	30%

*This blueprint is made for demonstration purposes, and a detailed version will be completed before the final exam.

Block Evaluation (Emergency Medicine Rotation Evaluation Survey)

This survey will be sent to the students online at the end of the rotation as a way to evaluate the block as a whole and hear the students' opinions and comments.

	Excellent	Very Good	Good	Fair	Poor	Very Poor
The rotation content was:						
Rotation organization was:						
Your knowledge in Emergency Medicine field <u>before</u> the rotation was:						
Your knowledge in Emergency Medicine field <u>after</u> the rotation is:						
How would you rate the overall quality of this rotation?						
Overall, how would you rate the instructor?						

Comments/ Suggestions :

Abbreviations used in this document

Abbreviations	Intended Meaning
ED, ER	Emergency Department, Emergency Room
ATLS	Advanced Trauma Life Support
DKA	Diabetic Ketoacidosis
GI	Gastrointestinal
Mini CEX	Mini Clinical Evaluation Exercise
OSCE	Objective Structured Clinical Examination
OSPE	Objective Structured Practical Examination
CC	Chief Complaint
VS	Vital Signs
RBS	Random Blood Sugar
DDx	Differential Diagnosis
Dx	Diagnosis
PE	Physical Examination
EFAST US	Extended Focused Assessment with Sonography for Trauma

References

- 1 Tintinalli's Emergency Medicine: A Comprehensive Study Guide (7th Edition)
- 2 Rosen's Emergency Medicine – Concepts and Clinical Practice (8th Edition)
- 3 Roberts and Hedges Procedures in Emergency Medicine (6th Edition)

Contact Information

In case of any difficulties or concerns, students are welcome to contact
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