Kuwait Institution of Medical Specialization
Internal Medicine Residency Training Program
Program Manual
2014
First edition
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I. Introduction

The internal medicine residency training program is one of the first structured training program adopted by Kuwait Institute for Medical Specialization (KIMS) since 1987 as the internists have a major role to play in today’s health care. They are involved in the ambulatory care and hospital practice and their training is broad, difficult, and challenging. Since 2010 KIMS established new program policies and adjustments to meet the needs of the medical community in Kuwait. These programs presently cater to a large number of resident trainees. The aim of training residents in adult medicine is to produce a safe doctor able to work at consultant level, supervise and train junior doctors, carrying out comprehensive medical care. This program involves five years of full-time supervised training in internal medicine consisting of rotations through general medicine, various medical subspecialties, emergency and critical care. Upon successful completion of the program, the residents will be awarded the Kuwait Specialty Certificate in Internal Medicine. Currently there are many consultant physicians in different specialties who are graduates of this program.
II. The vision

The vision is to have a post graduate program that provides opportunities for training in internal medicine that meet or exceed the international standards.

The mission

The mission is to train and graduate doctors who are knowledgeable, skillful in the different disciplines of internal medicine and have very high both ethical and social responsibilities towards their patients and their society.
III. General Goals and Objectives of the Internal Medicine Residency Program

Goals:

1- Train the internal medicine resident to competently practice general internal medicine in preparation for hospital practice and further subspecialty training.

2- Train the internal medicine resident in the basic general internal medicine to become fully trained in a variety of medical disciplines.

General Objectives

1. To provide patient-centered care that is appropriate, competent and effective for the treatment of diseases. The residents will receive hands-on experience in the practice of clinical medicine independently but under guidance and supervision of highly competent specialists who will provide and teach the skills of history taking and physical examination, skillful procedures as well as carrying out plans, family counseling and appropriate use of consultations.

2. To develop efficient communication skills with the patients and relatives as well as with other health care providers.

3. To emphasize on commitment to professional responsibilities through recognition of errors and limitations, ensuring continuity of care and respect patient’s privacy and rights.

4. To supervise the residents with the emphasis on leadership skills.

5. To update knowledge and learn current evidence based medicine and utilize it for patient’s care. This will be achieved through self learning as well as participation in the education process of students and trainees.
6. To practice quality health care and understand how to improve the patient’s care standard through the interaction with the health care professionals.

**By the end of the residency:**

1) Resident will be efficient in obtaining clinical data by history taking, physical examination, and data interpretation.

2) Resident will be efficient in utilizing clinical data to prioritize problems, list a differential diagnosis, formulate diagnostic plan and management.

3) Resident will utilize excellent communication skills with patients, families and health care team.

4) Resident should demonstrate respect, integrity, professionalism and commitment to ethical principles.

5) Resident will update the clinical knowledge to achieve broad knowledge and translate the knowledge into clinical practice and analyze the medical literature to apply it on patient’s management.
IV. CanMED Roles

1. Communicator

Definition:

As Communicators, Internists effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

OBJECTIVES OF TRAINING IN INTERNAL MEDICINE

1. Develop rapport, trust, and ethical therapeutic relationships with patients and families 1.1. Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes 1.2. Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy 1.3. Respect patient confidentiality, privacy and autonomy 1.4. Listen effectively 1.5. Be aware of and responsive to nonverbal cues 1.6. Facilitate a structured clinical encounter effectively

2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals 2.1. Gather information about a disease and about a patient’s beliefs, concerns, expectations and illness experience 2.2. Seek out and synthesize relevant information from other sources, such as a patient’s family, caregivers and other professionals

3. Convey relevant information and explanations accurately to patients and families, colleagues and other professionals 3.1. Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making 3.1.1. Demonstrate proficiency at counseling for HIV antibody testing 3.1.2. Promote patient safety through effective health care communication
3.2. Communicate effectively with patients and their caregivers about terminal illness and bereavement, including: 3.2.1. Care of the dying 3.2.2. Decision making concerning resuscitation 3.2.3. Immediate aftermath of bereavement 3.2.4. Organ donation requests 3.2.5. Demonstrating sensitivity to the emotional and psychological impact of acute emergency situations on patients, families and staff, together with the capability of providing appropriate counseling

4. Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care 4.1. Identify and explore problems to be addressed from a patient encounter effectively, including the patient’s context, responses, concerns, and preferences 4.1.1. Identify and respect important ethical and legal issues in caring for elderly people.

4.2. Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making 4.3. Encourage discussion, questions, and interaction in the encounter 4.4. Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care 4.5. Address challenging communication issues effectively, such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding

5. Convey effective oral and written information about a medical encounter 5.1. Maintain clear, concise, accurate and appropriate records (written and electronic) of clinical encounters and plans 5.2. Present verbal reports of clinical encounters and plans 5.3. Present medical information to the public or media about a medical issue

2.Collaborator

Definition:

As Collaborators, Internists effectively work within a health care team to achieve optimal patient care.

Key and Enabling Competencies: Internists are able to proficiently...
1. Participate effectively and appropriately in an inter-professional health care team 1.1. Describe the Internist’s roles and responsibilities to other professionals 1.2. Describe the roles and responsibilities of other professionals within the health care team 1.3. Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own. 1.4. Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)

1.4.1. Incorporate understanding of the interactions of diseases involving multiple organ systems in the creation of multidisciplinary diagnostic and management strategies 1.4.2. Work with interprofessional teams to provide palliative care

1.5. Work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities 1.6. Participate effectively in inter-professional team meetings 1.7. Enter into interdependent relationships with other professions for the provision of quality care 1.8. Describe the principles of team dynamics 1.9. Respect team ethics, including confidentiality, resource allocation and professionalism 1.10. Demonstrate leadership in a health care team, as appropriate 1.11. Respond to an emergency in a positive, organized and effective manner, including demonstrating the ability to direct an emergency team, and to prioritize tasks in the resuscitation 1.12. Work within inter-professional teams to optimize both patient safety and quality of care

2. Work with other health professionals effectively to prevent, negotiate, and resolve interprofessional conflict 2.1. Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team 2.2. Work with other professionals to prevent conflicts 2.3. Employ collaborative negotiation to resolve conflicts 2.4. Respect differences and address misunderstandings and limitations in other professionals 2.5. Recognize one’s own differences, misunderstanding and limitations that may contribute to interprofessional tension 2.6. Reflect on interprofessional team function
3. Manager

Definition:

As Managers, Internists are integral participants in health care organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the health care system.

1. Participate in activities that contribute to the effectiveness of their health care organizations and systems 1.1. Work collaboratively with others in their organizations 1.2. Participate in systemic quality process evaluation and improvement, such as patient safety initiatives 1.2.1. Anticipate, recognize and manage situations that place patients at risk 1.2.2. Recognize the occurrence of an adverse event or close call and respond effectively to mitigate harm to the patient, ensure disclosure and prevent recurrence 1.3. Describe the structure and function of the health care system as it relates to Internal Medicine, including the roles of physicians 1.4. Describe principles of health care financing, including physician remuneration, budgeting and organizational funding

2. Manage their practice and career effectively 2.1. Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life 2.2. Manage a practice including finances and human resources 2.3. Implement processes to ensure personal practice improvement 2.4. Employ information technology appropriately for patient care

3. Allocate finite health care resources appropriately 3.1. Recognize the importance of just allocation of health care resources, balancing effectiveness, efficiency and access with optimal patient care 3.2. Apply evidence and management processes for cost-appropriate care

4. Serve in administration and leadership roles 4.1. Chair or participate effectively in committees and meetings 4.2. Lead or implement change in health care 4.3. Plan relevant elements of health care delivery (e.g., work schedules).
4. Health Advocate

Definition:

As Health Advocates, Internists responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

1. Respond to individual patient health needs and issues as part of patient care
   1.1. Identify the health needs of an individual patient
   1.2. Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care

2. Respond to the health needs of the communities that they serve
   2.1. Describe the practice communities that they serve
   2.2. Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately
   2.3. Appreciate the possibility of competing interests between the communities served and other populations

3. Identify the determinants of health for the populations that they serve
   3.1. Identify the determinants of health of the populations, including barriers to access to care and resources
   3.2. Identify vulnerable or marginalized populations within those served and respond appropriately

4. Promote the health of individual patients, communities, and populations
   4.1. Describe an approach to implementing a change in a determinant of health of the populations they serve
   4.2. Describe how public policy impacts on the health of the populations served
   4.3. Identify points of influence in the health care system and its structure
   4.4. Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism
   4.5. Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
   4.6. Describe the role of the medical profession in advocating collectively for health and patient safety.
5. Scholar

Definition:

As Scholars, Internists demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.

1. Maintain and enhance professional activities through ongoing learning 1.1. Describe the principles of maintenance of competence 1.2. Describe the principles and strategies for implementing a personal knowledge management system 1.3. Recognize and reflect on learning issues in practice 1.4. Conduct a personal practice audit 1.5. Pose an appropriate learning question 1.6. Access and interpret the relevant evidence 1.7. Integrate new learning into practice 1.8. Evaluate the impact of any change in practice 1.9. Document the learning process

2. Critically evaluate medical information and its sources, and apply this appropriately to practice decisions 2.1. Describe the principles of critical appraisal 2.2. Critically appraise retrieved evidence in order to address a clinical question 2.3. Integrate critical appraisal conclusions into clinical care

3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others 3.1. Describe principles of learning relevant to medical education 3.2. Identify collaboratively the learning needs and desired learning outcomes of others 3.3. Select effective teaching strategies and content to facilitate others’ learning 3.4. Demonstrate an effective lecture or presentation 3.5. Assess and reflect on a teaching encounter 3.6. Provide effective feedback 3.7. Describe the principles of ethics with respect to teaching

4. Contribute to the development, dissemination, and translation of new knowledge and practices 4.1. Describe the principles of research and scholarly inquiry 4.2. Describe the principles of research ethics 4.3. Pose a scholarly question 4.4. Conduct a systematic search for evidence 4.5. Select and apply appropriate methods to address the question 4.6. Disseminate the findings of a study 4.7. Participate in a scholarly project/activity in Internal Medicine.
6. Professional

Definition:

As Professionals, Internists are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behavior.

1. Demonstrate a commitment to their patients, profession, and society through ethical practice 1.1. Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect and altruism 1.2. Demonstrate a commitment to delivering the highest quality care and maintenance of competence 1.3. Recognize and appropriately respond to ethical issues encountered in practice 1.4. Manage conflicts of interest 1.5. Incorporate an ethical framework for appropriate interventions in patients with life threatening disease, including truth telling, consent, treatment choice, the question of euthanasia, advanced directives and boundaries of palliative care. 1.6. Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law 1.7. Maintain appropriate relations with patients

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation 2.1. Demonstrate knowledge and an understanding of the professional, legal and ethical codes of practice 2.2. Fulfill the regulatory and legal obligations required of current practice

2.3. Demonstrate accountability to professional regulatory bodies 2.4. Recognize and respond to others’ unprofessional behaviours in practice 2.5. Participate in peer review

3. Demonstrate a commitment to physician health and sustainable practice 3.1. Balance personal and professional priorities to ensure personal health and a sustainable practice 3.2. Strive to heighten personal and professional awareness and insight 3.3. Recognize other professionals in need and respond appropriately.
V. Program

Admission Requirements

Residency acceptance is for Kuwaities as per the regulations of KIMS. Candidates should be graduated from an accredited medical school with MBBS or equivalent with successful completion of internship. Passing the Internal Medicine entry exam is a must for the selection criteria of the new residents after which an interview will be held by the faculty of Internal Medicine, KIMS. Furthermore, submission of at least two recommendation letters by the direct supervisor specialists and completion of the Basic Life Support (BLS) and Advanced Cardiovascular Life Support (ACLS) are other important recommendations before the application for the program.
V. Program

Structure of the training program

The internal Medicine Residency Training is a five year program divided into two stages (1) Junior Residency which is 24 month duration consisting of first year resident (R1) and second year resident (R2). (2) The Senior Residency is from year three up to year five (R3, R4, R5).

Currently there are six general hospitals and five specialty centers involved in the residency training program.

The general hospitals are:

1- Adan Hospital
2- Amiri Hospital
3- Farwaniya Hospital
4- Jahra Hospital
5- Mubarek Hospital
6- Sabah Hospital.

The specialty centers are:

1- Chest Hospital: Cardiology
2- Ibn Sina Hospital: Neurology
3- AL-Rashed Allergy Center: Allergy and Immunology + Pulmonary medicine
4- Asaad AL-Hamad Center: Dermatology
5- Kuwait Cancer Center: Oncology
The training program rotations according to the year and all the residents must have the following rotations:

**Year 1**
- Medical teaching unit (MTU) 6 months
- Junior Critical Care rotation (1 month ICU, 1 month CCU)
- Subspecialty rotation 4 months

**Year 2**
- Medical teaching unit (MTU) 4 months
- CCU 2 months
- Emergency medicine 2 months
- Subspecialty rotations 4 months (2 months blocks)

Annual leave cannot be taken during CCU or emergency medicine rotation. If a resident under emergency circumstances misses > 2 weeks, it has to be compensated. Please refer to leave section.

**Year 3**
- Medical teaching unit (MTU) 4 Months
- ICU 2 months
- Subspecialty rotations 6 months (2 months blocks)

Annual leave cannot be taken during ICU rotation. If a resident under emergency circumstances misses > 2 weeks of the ICU rotation. This has to be compensated.

**Year 4**
- Senior resident MTU 8 months
- Subspecialty rotations 4 months

**Year 5**

- General medicine track
  - 4 months block: The resident may spend 6 months block in one specialty of his choice or 2 months blocks in different specialties
  - 8 months block in general medicine (senior resident with more teaching responsibilities and longitudinal outpatient experience)

The program is conducting elective rotations for the Senior Residents (R3,R4,R5) for a maximum period of 2 months through resident communication and application to a recognized center outside Kuwait
The rotations are as outlined in the following table

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<td>Emergency department</td>
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<td>Medical teaching unit MTU (junior resident years 1 and 2)</td>
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<td>Medical teaching unit (MTU) (senior resident)</td>
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<th>Rotations outside of Kuwait (in year 3 to 5: Maximum elective duration for 2 months)</th>
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*These rotations will be divided into 2 blocks, 1 month in each discipline
Objectives and guidelines

The following are general guidelines for the residents from year 1 to 5. There will also be specific objectives for each subspecialty rotation.

General objectives and expectations for the residents

Year 1 (PGY1)

1) Competent performance of complete thorough clinical evaluation including history and physical examination
2) Oral presentation of the cases and a detailed written record of the cases admitted under resident care.
3) Development of a list of a basic differential diagnosis and work up plan of the admitted cases under close supervision.
4) The write up of consultation to other services and discharge summary.
5) To manage the different diseases encountered in general medicine with emphasis on common diseases under close supervision.
6) To practice and master the appropriate communication skills with the patients and their relatives.
7) To understand the ethical issues related to the practice of Medicine.
8) The resident is expected to look after on average at least 5 in patients per day and to admit at least 3-4 patients per on call day.
9) To present in the academic meeting especially in the mourning report and grand rounds.
10) To teach the medical students effectively.
Specific skills

1) Management of cardiopulmonary arrest
2) Interpretation of Electrocardiogram
3) Performance and interpretation of Arterial blood gases
4) Interpretation of chest radiographs and plain abdominal films
5) Interpretation of XR of the joints and back
6) Performance of lumbar puncture and measurement of CSF pressure
7) Performance of thoracoentesis and paracentesis.

Years 2 and 3 (PGY2, PGY3)

All the tasks and skills in year 1 apply to year 2

Additional skills

1) To list a more comprehensive diagnosis and plan

2) The performance of medical consultation for patients with other non medical problems e.g. surgical or obstetric patients.

3) To write orders and plans with less supervision required than R1.

4) The performance of more advanced procedure and data interpretation:
   a) Airway management and endotracheal intubation
   b) Performance of arterial line and central line insertion.
   c) Performance of arthrocentesis of large joints and intraarticular injections.
   d) To have an approach in the interpretation of CT scan especially CT scan of the head.

5) The observation of common diagnostic procedures in the different medical subspecialties and to have a thorough understanding of their indications,
contraindication, preparation of the patients prior to the procedure and monitoring of the patients post procedure. These procedures include:

- **Upper and lower GI endoscopy, liver biopsy,**
- **Bronchoscopy pleural biopsy, insertion of chest tube**
- **Insertion of temporary pacemaker, pericardiocentesis, exercise electrocardiography**
- **Renal biopsy, understand the principles of hemodialysis and peritoneal dialysis**

6) To teach medical students as well as year 1 residents.

**Years 4 and 5 (PGY4, PGY5)**

1) To practice and master all the objectives and skills of years 1 to 3.
2) To list a comprehensive diagnosis and plan and write orders with minimal supervision required.
3) To supervise junior residents in daily rounds and diagnostic procedures.
4) To participate in teaching of junior residents and medical students.
5) To participate in academic research or quality improvement projects.
6) To participate in patient education and public awareness activities.
7) The R5 should function at or near the level of general internist.

**General guidelines for all subspecialty rotations**

1) There should be a coordinator in each subspecialty either the head of the subspecialty or a designated person. The coordinator should:
   a. Meet with the residents at the beginning of rotations outlining their schedule, teaching activities, and the clinical activities of the unit.
   b. Give formal verbal feedback to the resident at mid rotation and complete the end of rotation evaluation.
2) The resident should have an **active role** in clinical care and should not act as observer i.e.
a. The resident (not the registrar of the unit) should see most or all the consults, develop a differential diagnosis and plan of management to discuss with the consultant in charge.

b. Has active role in the daily management of cases and the treatment decisions.

3) Outpatient experience:
   a. The resident should participate in the OP patient once a week
   b. It is highly desirable that the resident get the chance to see new referrals to the OPD, work up a plan of management then discuss with the consultant

4) Academic activities: the resident should be given a chance to make presentation during the subspecialty rotations.

5) Formal organized clinical sessions or topic discussion is expected to be given to the residents during the rotation.

VI. Program Content:

1-Academic Half Day/Organized academic Teaching

1) Each hospital will have its own medical education activities including morning reports and medical grand rounds.

2) Teaching and learning is expected to be a continuous process during rounds, review of cases and daily case presentation.

3) The resident will have once a week academic half day each Sunday (1:30 to 3:30 pm). This program will run simultaneously in Mubarak, Amiri and Farwaniah hospitals. This academic activity will be include:
   a. Emergency medicine lecture: usually given in the beginning of the year
   b. A medical teaching topic, which is presented by an expert in his field.
   c. Evidence-based medical teaching. A resident prepares and presents an article with a focus on critical appraisal.
d. Communication skills and professionalism

e. Case based discussion presented by a resident.

f. Bedside teaching

Guidelines for teaching

- Attendance is mandatory for all residents.
- Residents are exempted from clinical duties during the teaching activities.
- Residents are required to participate by presenting in journal clubs or case based discussion.
- The chief residents will help in the organizations of the teaching schedule by allocating residents for presentations.

VI. Program Content:

2. The on-call Duties

In-hospital calls shall be on average of 8 nights a month, most rotations are 1in 4 duty frequency. The residents must comply with the on-call schedule and the hospital regulations and are expected to perform regular duty on the day following an on-call assignment.
VI. Program Content

3) Clinical Supervisor

The program will assign clinical supervisor in each specialty in the six teaching general hospital as well as in the subspecialty centers to supervise the residents during the rotations and to facilitate the learning of the resident and provide feedback regarding the strength and weakness of the residents as well as informing the site coordinators about the problems facing the residents during the rotation.

4) Evaluation

a. End of rotation evaluation

The resident’s performance will be evaluated verbally by the direct consultant or the direct supervisor at the mid rotation and a written KIMS evaluation form at the end of the rotation. The written evaluation form should be discussed with the resident and completed within two weeks following the rotation. The evaluation form will be submitted to the site coordinator of KIMS. Any poor assessment of the resident should be discussed by the program director for further action.

b. End of year evaluation (ITER)

Each resident will have end of year evaluation in which the cumulative annual evaluation will be looked at by the site coordinators as well as the program director to assess the resident performance each year and a summation of the annual evaluation will be produced.
c. Log book.

Before the end of each year, named R1 to R4, (by September 21st) the resident should submit his/her Log book to the hospital coordinator. In turn the hospital coordinator will complete the End of year evaluation form based on the cumulative end of rotation evaluations and resident Log book. This end of year evaluation is essential for resident to be promoted to the following year.

d. Work based assessment.

This is a new method of evaluation that will be implemented in the academic year 2014-2015. Each resident should submit 4 mini-CEX evaluations that should evaluate the resident’s performance in history taking, physical examination, and communication skills. In the 4th form, the resident can choose which area to be evaluated on. This type of evaluation involve direct observation by the tutor followed by immediate feedback.

e. Rotation evaluation

The residents will be provided with rotation evaluation forms, which will be given at the end of each rotation to assess the rotation as well as the tutors involved during the rotation. The form will be submitted to the site coordinator confidentially. Residents’ feedback is important in improving the quality of training that we have in the program.
f. End of program Evaluation (FITER)

A summative evaluation form at the completion of the residency training program will be provided regarding full range of competencies that the resident acquired during the five year training. This will be prepared six months prior to the exam date and the evaluation will be discussed by the program director with the resident in order to assess eligibility for certification examination as well as in case of poor examination performance, the end of program evaluation will be looked at for eligibility or repeating the examination.

VI. Program Contents

5. Examinations

Below is the format of the current examination. However, the format is under review. Any change will be informed to all residents.

1. Part 1 Examination:
   - This consists of written paper only.
     - 100 Multiple choice questions, one best answer out of 4 options.
     - This is to be taken in September at the end of 2nd year (R2) in accordance with KIMS calendar.

2. Part 11 Examination:
   - This is to be taken at the end of the 5th year provided the resident has already passed Part 1 and has a satisfactory end of program evaluation.
     - This consists of 2 component (written and Clinical)
     - 1st component is written paper consisting of 100 MCQ (one best answer out of 4 choices)
The Clinical component consists of: 5 stations as outlined below.

**Format of Examination**

**Part I**

- 100 MCQ questions
- Pass mark is 60%
- Resident has maximum of 3 attempts to pass the examination.
- If the resident does not appear for an examination, this is considered a failed attempt unless the resident submits a paper outlining the reasons for not being able to appear for the examination. This paper has to be submitted **before** the exam and approved by the Program Director.

**The distribution of questions for Part 1 examination**

There will be more emphasis on applied basic sciences in part I exam but the distributions of questions according to specialties and disciplines will be the same for both part I and II.

<table>
<thead>
<tr>
<th>Specialty</th>
<th>percentage</th>
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<tbody>
<tr>
<td>allergy and immunology</td>
<td>5.00%</td>
</tr>
<tr>
<td>Cardiology</td>
<td>10.00%</td>
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<tr>
<td>critical care and emergency medicine</td>
<td>5.00%</td>
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<tr>
<td>endocrinology</td>
<td>6.00%</td>
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<tr>
<td>Diabetes and metabolism</td>
<td>6.00%</td>
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<tr>
<td>Gastroenterology and hepatology</td>
<td>10.00%</td>
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<tr>
<td>Hematology</td>
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<td>oncology</td>
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<tr>
<td>Infectious disease</td>
<td>6.00%</td>
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<tr>
<td>nephrology including electrolytes disturbances</td>
<td>10.00%</td>
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<tr>
<td>Neurology and neurosciences</td>
<td>10.00%</td>
</tr>
<tr>
<td>respiratory medicine</td>
<td>7.00%</td>
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</tbody>
</table>
Part II examination, 2 components (written and Clinical)

The written component consists of

- 100 MCQ questions
- Pass mark is 60%
- Resident has maximum of 3 attempts to pass the examination.
- If the resident does not appear for an examination, this is considered a failed attempt unless the resident submit a paper outlining the reasons for not being able to appear for the examination. This paper has to be submitted before the exam and approved by the Program Director.

The distribution of questions for Part II examination

<table>
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<td>Rheumatology</td>
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<tr>
<td>Statistics</td>
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<td>clinical pharmacology</td>
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<td>3.00%</td>
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<tr>
<td>clinical pharmacology</td>
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Part II Clinical component

This consist of 5 stations as follows

Station 1

- Cardiovascular case
- Neurology case

Station 11

- Respiratory case
- Abdominal case

Station 111 and 1V

- History taking & communication skill station using simulated patient

Station V

- 3 short cases: In each of the station the resident will be assessed by 2 examiners. The 2 examiners will assign marks for the resident independently
The competency which will be assessed during the Clinical Examination will be as follows

<table>
<thead>
<tr>
<th>DOMAINS of clinical examination</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Etiquette with Patients</td>
<td>[A]</td>
</tr>
<tr>
<td>Technique of Physical Examination</td>
<td>[B]</td>
</tr>
<tr>
<td>Identification of Physical Signs</td>
<td>[C]</td>
</tr>
<tr>
<td>List of Differential Diagnosis</td>
<td>[D]</td>
</tr>
<tr>
<td>Clinical Judgment</td>
<td>[E]</td>
</tr>
<tr>
<td>Clinical Communication Skills</td>
<td>[F]</td>
</tr>
<tr>
<td>[Data gathering and communication]</td>
<td></td>
</tr>
<tr>
<td>Response to patient concerns</td>
<td>[G]</td>
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</tbody>
</table>

Candidates passing the final Internal Medicine Specialty Examination will be awarded the Kuwait Board Specialty Certificate in Internal Medicine.
VI. Program Content

6. Leave Policy

Introduction

The policies and procedures for leaves during Postgraduate Education is a detailed manual outlining the position of Kuwait Institute for Medical Specialization regarding resident/ fellow’s leaves during postgraduate education.

The purpose of this policy and procedure manual is to:

1. Provide a guidance to the process of leaves throughout the postgraduate education programs at KIMS
2. Ensure consistent practices among postgraduate education programs at KIMS

The following outline the summary of the policy:

• Each resident/ fellow registered in residency/ fellowship program must follow the leave policy at the KIMS.
• The resident/ fellow must ensure that he/ she meets the minimal training requirement of the training and the eligibility for the examination.
• The resident/ fellow and the Program Director must ensure that resident/ fellow’s leaves do not affect goals and objectives of the rotation.
• The resident/ fellow must submit his/her leave request to the Site Coordinator/ Program Director in timely fashion in the designated form.
• The Site Coordinator must ensure that resident / fellow’s leaves do not interfere with clinical duties.
• The Program Director must approve all residents/fellow's leaves prior to final processing.
• The Program Director must capture all residents' / fellow's leaves and monitor days of leaves.
ALL LEAVES THAT ARE NOT APPROVED BY THE PROGRAM DIRECTOR AND THE POSTGRADUATE EDUCATION OFFICE MUST BE CONSIDERED VOID.

For further information regarding this policy and procedures please contact:

Kuwait Institute for Medical Specializations
Postgraduate Education Office
9th Floor, Behbahani Building
Tel:
E-mail:

1. Section One: General Information

Postgraduate education of the resident/ fellow at KIMS is an observed process to ensure that he/ she achieves targeted objectives of the rotation and overall goals in an allocated timeframe.

The goals and objectives of postgraduate education are achieved by structured rotations designed in sequence and duration in addition to other components such as academic days, workshops, etc.

KIMS has established a minimal required period of postgraduate education for its exam eligibility as delineated in the examinations policies.
1.1. Definitions

1.1.1. Resident: A physician enrolled in a postgraduate education residency program recognized by KIMS and registered at the Postgraduate Education Office of KIMS for the academic year.

1.1.2. Fellow: A physician enrolled in a postgraduate education fellowship program recognized by KIMS and registered at the Postgraduate Education Office of KIMS for the academic year.

1.1.3. Academic Year: An year of education that starts on Oct. 1 of each year and ends on the Sept. 30 of the following year

1.1.4. Effective Training: The time actually spent in clinical and/or structured rotations excluding all leaves (annual leaves, sick leaves, study leaves, maternity leaves of absence, haj leaves, conference leave, etc.). It is counted as months of training

1.1.5. Rotation: A period of time spent in a clinical and/or other health-related services. The rotations vary according to the discipline and the program (e.g., a 3 months rotation starts on Oct. 1 and ends on Dec. 31)

2. Section Two: Policy and procedures on Leaves During Postgraduate Education

2.1. General rules:

2.1.1. The resident/ fellow’s leave must not affect the goals and objectives of the rotations and hence the following must apply:

2.1.1.1. In two-months or lesser rotation, leaves must not exceed 5 working days
2.1.1.2. In two-months to four-months rotation, leaves must not exceed 10 working days
2.1.1.3. In four months or more rotation, leaves must not exceed 30 days including weekends

2.1.2. The maximum allowed time for completion of all requirements of five-years Residency is eight years and the maximum allowed time for completion of all requirements of three-years Fellowship is five years inclusive of the approved leaves
2.1.3. **75% attendance** is must for the success of a rotation

2.1.4. **Leaves must not be transferred** to the next academic year

2.1.5. All leaves **must be approved by the Program Director / desiginee**

2.1.6. If the **total requested leaves exceed 60 days of leaves** then "Leave of Absence" rules and regulations shall apply

2.1.7. **On Call Duties shall not be waived** during rotations
Leaves Categories

The following are categories of leaves within the maximum time allowed for the residency and fellowship postgraduate education programs.

2.2. **Annual Leave**: 30 days of annual leaves shall be granted each academic year including the public holidays.

- **2.2.1.** Annual leave is effective from Oct. 1st to Sept 30 of the following year
- **2.2.2.** Annual leave must not be transferred
- **2.2.3.** General Rules in section 2.1 apply

2.3. **Medical (Sick) Leave**: Residents/ fellows are allowed a total of 15 days of authorized sick leave each academic year

- **2.3.1.** Medical leaves exceeding 15 days must not be counted towards effective training period
- **2.3.2.** Medical leaves exceeding 15 days per year must be approved by the General Medical Council, MOH, Kuwait
- **2.3.3.** For resident/ fellow granted 30 days continuous medical leaves twice (total of 60 days duration) by the General Medical Council, "leave of absence" rule and regulations shall apply.
- **2.3.4.** General Rules in section 2.1 apply.

2.4. **Professional Leaves**

**2.4.1. Study Leave**: A total of 14 days of study leaves shall be granted during residency/ fellowship program

- **2.4.1.1.** The last day of the leave shall be the last day of the exam
- **2.4.1.2.** The study leave shall only be granted for Kuwait Board Examinations and not other examinations
- **2.4.1.3.** Study leaves shall be taken as:
  - **2.4.1.3.1.** (7 days) for Part 1 examination
  - **2.4.1.3.2.** (7 days) for Final examination
  - **2.4.1.3.3.** (14 days) for Part 1 examination
  - **2.4.1.3.4.** (14 days) for Final examination
2.5. **Conference Leaves**: Each resident/fellow is granted a 5 working days conference leaves each academic year.

2.5.1. Evidence of registration to the conference and certificate of attendance is must

2.5.2. This shall not grant a financial support or working days

2.6. **Special Leaves for residents/ fellows**

2.6.1. **Emergency leaves**: Each resident/fellow shall be granted emergency leaves in line with MOH regulations and these must be processed as annual leaves.

2.6.2. **Grieving Leaves**: A resident/fellow shall be granted 4 days of grieving leave upon death of husband/wife (a widow) or first degree relatives.

2.6.3. **Maternity Leaves**: A female resident/fellow shall be granted 30 days of maternity leaves twice during residency and once during fellowship.

2.6.4. **Companion Leaves**: Each resident/fellow shall be allowed a total of 15 days of companion to first degree relative during residency.

2.6.4.1. An authorized letter from the treating physician and head of department indicating a day of admission and discharge must be provided.

2.6.4.2. In case of travel abroad, companion approved letters from treatment abroad office must be provided.

2.7. **Special Leaves for Muslim residents/fellows**

2.7.1. **Hajj Leaves**: A muslim resident/fellow can be granted a 30 days of Hajj Leaves once during residency/fellowship.

2.7.1.1. This leave must not have been granted prior to joining the program

2.7.1.2. The resident/fellow must be officially registered by pilgrim group, licensed by the Ministry of Awqaf and Islamic Affairs

2.7.1.3. Evidence of presence in Kingdom of Saudi Arabia during the period of Hajj as shown in resident/fellow’s passport
2.7.1.4. Hajj Official Mission is only allowed once to a resident/fellow and shall not consume the Hajj Leaves

2.7.2. Female widow Grieving Leave: A married muslim female resident is entitled a grieving leave upon her husband death for **4 months and 10 days**.

2.7.2.1. Official Governmental letter is required.

2.8. **Leave of Absence:** Resident/fellow may need to interrupt his/her training due to various reasons. "Leave of Absence" (LOA) is a voluntary leave for a specific period of time that resident/fellow may choose to take during residency/fellowship due to legitimate reasons.

2.8.1. The leave must be discussed and approved by the Program Director

2.8.2. The leave must be **a minimum of 2 months** and **maximum of 12 months**

2.8.3. A resident/fellow is allowed **a cumulative of maximum of 12 months** of LOA during residency

2.8.4. It shall be taken as **a block of rotation/s** and not mid-rotation

2.8.5. **If under special circumstances,** LOA is approved during the rotation, criteria for maximum allowed leaves during the rotation is applied to credit the successful completion of rotation

2.8.6. The Program Director must notify the KIMS Office of Postgraduate Education of the details including the first day and last day of the planned LOA.

2.8.7. The period of leave must not be considered as effective period of postgraduate education.
VII. Administrative structure of internal medicine program

Head of faculty: Dr. Nabila Abdella
Program Director: Dr. Sheikha Abalkhail (Mubarak Hospital)
Assistant Program Director: Dr. Wehad ALTourah (Amiri Hospital)

Site Coordinators:

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Doctor’s Name</th>
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<tbody>
<tr>
<td>Amiri</td>
<td>Dr. Wehad Altourah</td>
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<tr>
<td></td>
<td>Dr. Awsan Almohaini</td>
</tr>
<tr>
<td>Mubarak</td>
<td>Dr. Suha Abdulsalam</td>
</tr>
<tr>
<td></td>
<td>Dr. Sundus Alduaij</td>
</tr>
<tr>
<td>Farwaneya</td>
<td>Dr. Salsabeel Alansari</td>
</tr>
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<td></td>
<td>Dr. Mohammed Al-Shammari</td>
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<tr>
<td>Adan</td>
<td>Dr. Saleh Almutairi</td>
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<tr>
<td>Sabah</td>
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<tr>
<td>Jahra</td>
<td>Dr. Abdulrazaq Alshemmeri</td>
</tr>
</tbody>
</table>

The internal medicine board committee includes the program director, head of faculty of medicine, assistant program director, hospital coordinators and an elected residents. The committee meets on regular basis.

Exam Committee:

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Doctor’s Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amiri</td>
<td>Dr. Saad Alzanki (Chief of the examination committee)</td>
</tr>
<tr>
<td></td>
<td>Dr. S. Narayanan</td>
</tr>
<tr>
<td>Mubarek</td>
<td>Dr. Majed Zaki</td>
</tr>
<tr>
<td>Adan</td>
<td>Dr. Mohammed Mouro</td>
</tr>
<tr>
<td>Sabah</td>
<td>Dr. Hadeel ALOthman</td>
</tr>
</tbody>
</table>

Evaluation and assessment Committee:

Dr. Suha Abdulsalam
Dr. Saleh ALmutairi
Program Goals & Objective Committee:

Dr.Sheikha AbalKhail  
Dr.Wehad ALTourah  
Dr.Sundus ALDuaij  
Dr.Saleh ALmutairi

Curriculum and Teaching Committee:

Dr.Sheikha AbalKhail  
Dr.Wehad Altourah

Chief Resident:
There is one chief resident position at the Internal Medicine Residency Training Program. This resident is chosen by the members of the internal medicine faculty and should be in year 4. The chief resident term lasts one year and run from October 1st until the end of September of the following year.

Responsibilities:
1-Assist the Program Director in looking after residents issues.

2-Act as a communicator between the program director, site coordinators and the residents to help in organizing the academic half day, solving residents issues and obstacles and attending the meeting of the board committee members.

3-Keep record of resident attendance at weekly rounds and journal clubs

Elected Resident:
The resident will nominate her or himself after submitting the CV to the program director and to be elected by the residents. This election will be initiated by October 2014.
Specific Goals and Objectives of Training in Internal Medicine
Cardiology Rotation

Introduction:

Cardiovascular diseases are the leading cause of death in Kuwait and represent a significant proportion of the admitting diagnoses to the internal medicine in-patient service. Accordingly, understanding the principles of diagnosis and management of the most common cardiovascular diseases is an essential part of the training of the general internist. The mission of the in-patient cardiology rotation is to give the internal medicine residents the opportunity to develop advanced skills in clinical interviewing, physical exam and differential diagnosis of patients with cardiovascular disease symptoms, strengthen their medical knowledge in the basic and clinical science of cardiovascular disease and apply this knowledge to the care of patients.

The critical evaluation of current medical information and scientific evidence is crucial to the understanding and appropriate use of diagnostic strategies and treatments in cardiology and will be emphasized.

Goals

1. To familiarize the resident with the diagnosis, evaluation and management of common cardiovascular disease.

2. To understand and implement the modifications of cardiac risk factors in the management of cardiac patients.

3. To improve interpretive skills in electrocardiography.

4. To understand the methods for the differential diagnosis of arrhythmias and the management

5. To understand the indications and limitations of cardiovascular diagnostic testing.

6. To understand the principles of cardiology preoperative assessment.
The residents are expected to gain from the rotation the following objectives:

1. Take appropriate problem oriented history including the details of the current complaint, past history of rheumatic heart disease and cardiac procedure and risk factors for coronary artery disease.

2. Perform adequate cardiac examination including related extra cardiac signs.

3. Evaluate and manage the following common cardiac diseases:

   **A-Coronary Artery Diseases**

   1. Risk factors of coronary artery disease and their modifications.

   2. Management of acute coronary syndrome including stable, unstable angina and non ST elevation myocardial infarction, short term and risk stratifications.

   3. Management of ST elevation MI.

   4. Indications for medical therapy, percutaneous revascularization and surgical therapy.

   5. Obtain the skills for ECG interpretation in acute coronary syndrome.

   6. Obtain the communication skills with the patient and family regarding management plans, and dealing with difficult cardiac cases like cardiogenic shock.

   **B-Heart Failure:**

   1. Know the pathophysiology of acute and chronic heart failure.

   2. Know the clinical presentation and work up of heart failure.

   3. Management of acute and chronic heart failure.

   4. Management options of heart failure including cardiac resynchronization therapy and cardiac transplantation.

   5. Obtain the communication skills when dealing with patient with decompensated heart failure.
C-Valvular Heart Disease:
1-Know the pathophysiology of common valvular heart disease.
2-Know the presentation, investigations, diagnosis and work up of valvular heart disease.
3-Know the indications for medical and surgical interventions in the management of common valvular heart diseases.
4-Identify the complications of valvular heart disease including prosthetic valves.
5-Endocarditis classification (native and prosthetic valve), identify the clinical presentation and diagnosis, know the microbiology and treatment options and the indication for prophylaxis.

D-Pericardial Disease and cardiomyopathies:
1-Describe the pathophysiology, the diagnosis and the management of acute pericardial disease.
2-Know the causes and clinical presentation of cardiac tamponade and the indications for pericardiocentesis.
3-Know the common cardiomyopathies, classification and management.

E-Cardiac Arrhythmias:
1-Describe the pathophysiology of common arrhythmias (supraventricular and ventricular arrhythmias).
2-Know the acute management of common tachyarrhythmia like atrial fibrillation, supraventricular tachycardia, and ventricular tachycardia.
3-Develop the familiarity and competency in the use of antiarrhythmic medications.
4-Know the management of bradyarrhythmia.
5-Know the indication for temporary, permanent pace maker fixation and ICD.
**F-Learn the indications and the interpretation for:**

1. ECG, echocardiography (TTE, TEE).

2. Exercise tolerance tests, cardiac nuclear medicine studies.

3. Non-invasive coronary imaging (CT coronary angiography, cardiac MRI).

4. Electrophysiology including ambulatory monitoring in the assessment of cardiac arrhythmias (24-48 hours ECG monitoring, tele-ambulatory monitoring and implantable loop recorders), and pace maker implantation.

5. Cardiac catheterization.

6. Pericardiocentesis

**III- Cardiology services:**

To achieve the objectives and goals of cardiology rotation the resident will join the coronary care and non-coronary care units in our affiliated teaching hospitals.

The coronary care unit rotation is a mandatory rotation for year 1 and year III residents. The resident will rotate for two months in the CCU in each year.

The non-coronary care cardiology rotation will include the general cardiology ward and the consultation service. The resident is offered this rotation as an elective for at least one month during his residency.
A- Coronary care unit Objectives for year One resident:

Medical expert:

1-Learn to take, perform a detailed cardiovascular history and physical examination properly. To recognize and interpret common pathologic findings, including murmurs.
2-Learn to evaluate patients with chest pain appropriately.
3-Learn to assess patients with acute coronary syndrome appropriately.
4-Learn to manage acute systolic and diastolic heart failure appropriately.
5-Learn to assess and manage patients with common arrhythmias including supraventricular and ventricular tachycardia’s
6-Learn to assess and manage patient with conduction abnormalities.
7-Learn to assess and manage patient with myocardial, pericardial and endocardial diseases.
8-Learn how assess and utilize common cardiology testing especially ECGs.

Communicator:

1-Be able to provide a verbal and written summary evaluation of the patient’s cardiac problem and demonstrate skill in medical record keeping by recording the case histories of inpatients and writing progress notes at an appropriate frequency.
2-Be able to explain to the patient his/her cardiac condition and the proposed plan for investigation and management.
3-Be able to outline the potential risks of any treatment.
4-Demonstrate an appreciation of issues related to patient confidentiality.
5-Develop skills in verbal presentation by presenting cases at ward rounds and at formal teaching conferences.
Collaborator:

1- Be able to maintain collegial relationships with colleagues.

2- Be able to maintain collegial relationships with para-medical personnel.

3- Recognize and integrate into case management, the roles of other health care providers including cardiac surgeons, physiotherapists, dieticians and nurses.

Manager

1-Gain experience in formulating a list of appropriate and cost-effective investigation and treatment on patients with cardiac disease under the guidance of the resident on the service and attending physician

2-The resident will be able to manage his/her time so that clinical Responsibilities do not interfere/overlap with mandatory participation in educational activities.

Health Advocate:

1-Use appropriate special diagnostic methods in cardiology (ECG, echocardiography, nuclear cardiology and cardiac catheterization) and follow up on the results and interpretation of tests done on their assigned inpatients.

2- Identify and use appropriate interventions to treat risk factors for coronary artery disease.
Scholar:
1-Identify and review current medical resources for up-to-date information on common cardiac clinical problems.
2-The resident will participate in bedside teaching provided by attending cardiologists
3-When confronted with a difficult clinical problem the resident will research the literature.

Professional
1. Demonstrate a professional manner to render routine and emergency cardiac care through on coverage of coronary care unit.
2. Recognize the role of biomedical ethics in medicine including clinical practice, teaching, and research.
3. Embrace attitudes conducive to effective doctor-patient/family, doctor-doctor and doctor-allied health care worker relationships.

B- Coronary care unit Objectives for year three resident:

Medical expert:
1- Learn to evaluate patients with acute myocardial infarction appropriately, and interpret laboratory markers of cardiac disease properly.
2-Learn to manage patients with acute coronary syndrome appropriately.
3-learn to manage patient with acute pericarditis, myocarditis and endocarditis.
4- Learn to manage patient with cardiac tamponade.
5- Learn how to perform pericardiocentesis and insertion of temporary pacemakers.

4-Learn to select appropriate cardiac stress tests and myocardial imaging studies for various categories of patients.

5- Learn the indications for pacemakers and implantable defibrillators.

Communicator:

1-Be able to provide a verbal and written summary evaluation of the patient’s cardiac problem and demonstrate skill in medical record keeping and following the record of his junior staff.
2-Be able to explain to the patient his/her cardiac condition and the proposed plan for investigation and management and make sure that his juniors will keep the same standard.
3-Be able to outline the potential risks of any treatment.
4-Demonstrate an appreciation of issues related to patient confidentiality.
5-Develop skills in verbal presentation by presenting cases at ward rounds and at formal teaching conferences.

Collaborator:

1- Be able to maintain collegial relationships with colleagues and be aid for his junior staff.
2- Be able to maintain collegial relationships with para-medical personnel
3- Recognize and integrate into case management, the roles of other health care providers including cardiac surgeons, physiotherapists, dieticians and nurses.
Manager

1- Gain experience in formulating a list of appropriate and cost-effective investigation and treatment on patients with cardiac disease under the guidance of the attending physician and guide his junior staff to do so.

2- The resident will be able to manage his/her time so that clinical responsibilities do not interfere/overlap with mandatory participation in educational activities. And make sure that his junior staff will balance their clinical responsibilities and educational activities.

3- Gain supervisory experience by reviewing elective cases with year one residents in regard to their diagnostic assessments and treatment plans. This will also require writing a resident’s summary admission note on these charts.

4- Supervise year one residents on the cardiology service managing acute problems developing on the inpatient cardiology service and in the emergency department.

5- Supervise year one residents perform basic cardiac procedures.

Health Advocate:

1- Use appropriate special diagnostic methods in cardiology (ECG, echocardiography, nuclear cardiology and cardiac catheterization) and follow up on the results and interpretation of tests done on their assigned inpatients.

2- Identify and use appropriate interventions to treat risk factors for coronary artery disease.

Scholar:

1- Develop teaching skills by supervising the junior house staff and by participating in presentations and discussion at cardiology conferences.

2- Critically appraise the literature in appropriately complex cases.
3-Appreciate the importance of critical appraisal of the literature and the application of the literature in patient care.

4-Recognize the requirement for self-assessment, and the critical role of self-directed learning and continuing medical education.

Professional

1. Demonstrate a commitment to excellence and continuous professional development.
2- Demonstrate a professional attitude toward his junior staff.
3-Recognize the role of biomedical ethics in medicine including clinical practice, teaching, and research.
4- Embrace attitudes conducive to effective doctor-patient/family, doctor-doctor and doctor-allied health care worker relationships.

C- Non-coronary care unit rotation objectives:

Medical Expert:

1-Learn how to manage ACS patients after discharge from CCU.
2-Learn how to assess and mange patient with congestive heart failure.
3-Learn to assess and mange patients with infective endocarditis.
4-Learn to assess and manage patient with valvular heart disease.
5-Learn to select appropriate cardiac stress tests and myocardial imaging studies for various categories of patients
6-Learn how to perform a cardiac preoperative assessment for non cardiac surgeries.
**Communicator:**

1-Be able to provide a verbal and written summary evaluation of the patient’s cardiac problem and demonstrate skill in medical record keeping and following.

2-Be able to explain to the patient his/her cardiac condition and the proposed plan for investigation and management.

3-Demonstrate effective verbal communication skills in assessing patients referred to the cardiology consultation service from the inpatient wards in the hospital.

4- Communicate effectively through written consultation reports prepared on each patient.

5- Develop skills in verbal presentation by presenting cases at ward rounds and at formal teaching conferences.

**Collaborator**

1- Recognize and integrate into case management, the roles of other health care providers including general physician, general surgeon, cardiac surgeon, physiotherapists, dieticians, nurses, and social workers.

2- Foster respect for and appreciation of the importance of communication with allied health care workers and referring physicians in the care of patient.

**Manager**

1- Allocate patients with acute coronary syndromes to the appropriate acute care setting (e.g. CCU, ward)

2- Demonstrate appropriate supervision of junior trainees

3- Demonstrate the ability to manage time efficiently and appropriately triage patients in term of the severity of their presentations.
**Health Advocate:**

1-Use appropriate special diagnostic methods in cardiology (ECG, echocardiography, nuclear cardiology and cardiac catheterization) and follow up on the results and interpretation of tests done on their assigned inpatients.

2-Identify and use appropriate interventions to treat risk factors for coronary artery disease.

**Scholar:**

1-Develop teaching skills by supervising the junior house staff and by participating in presentations and discussion at cardiology conferences.

2-Critically appraise the literature in appropriately complex cases.

3- Appreciate the importance of critical appraisal of the literature and the application of the literature in patient care.

4-Recognize the requirement for self-assessment, and the critical role of self-directed learning and continuing medical education.

**Professionalism**

1-Demonstrates respect, compassion and integrity in working with patients, families, colleagues and other health professionals.

2-Adheres to principles of confidentiality, scientific and academic integrity and informed consent

3-Recognizes and identifies deficiencies in peer performance in a constructive manner.

4-Takes responsibility for patient care; acknowledges mistakes
Procedural skills:

1- Performane and interpretation of ECG.
2- Cardiopulmonary resuscitation.
3- Elective DC cardioversion
4- Central line, Swan-Ganz catheter and hemodynamic studies.
Goals and Objectives of Critical Care Rotation

Introduction:
Critical care medicine is a multidisciplinary field concerned with patients who have sustained, or are at risk of sustaining, life threatening single or multiple organ system failure due to disease or injury. Critical care medicine seeks to provide for the needs of these patients through immediate and continuous observation and intervention so as to restore health and prevent complication. The cornerstone is recognition and proficiency in managing acutely ill patients knowing self-limitation and asking for help when ever needed.

Learning objectives:
The rapidly expanding body of knowledge regarding the treatment of the critically ill, the continuing introduction of new technology for life support, and more complex societal issues (legal, moral, ethical) have created a need for residents trained in the recognition and management of this patient subset. Residents training within the unique interactive environment in which the critically ill are managed, must respect the rights of the patient and family and acknowledge the importance of age, gender, culture, and ethnicity. The period of training deemed necessary for sufficient clinical exposure and development of knowledge and technical skills necessary for the care of critically-ill patients. This period is recommended as not to be less than three months rotation.

Adult Critical Care Medicine Competency:
At the completion of training, the resident will have acquired the following competencies and will function effectively as a:
1- Medical Expert/Clinical Decision-Maker

**General Requirements:**

The adult critical care medicine must demonstrate:

1. Diagnostic and therapeutic skills for effective interventions and ethical management at the individual, group, organization and population levels.
2. Access and apply relevant information to the practice of Critical Care Medicine.
3. Demonstrate effective consultation services with respect to assessment and interventions at the individual, group and population levels.

**Specific Requirements:**

The adult critical care medicine resident will:

1. Demonstrate a detailed knowledge of the generalist and specialist aspects of critical illness.

2. Demonstrate competencies in the safe application of equipment, careful monitoring, thoughtful use of drugs, and the coordinated provision of multidisciplinary care for effective organ system support.

3. Demonstrate an ability to recognize, resuscitate, and stabilize patients sustaining, or at risk of, cardiopulmonary arrest or other life-threatening condition.

4. Demonstrate a working knowledge of applied clinical physiology and homeostasis and the ability to recognize, prevent, and treat single or multiple organ failure.

5. Demonstrate a basic understanding of physiology, pathophysiology, and pharmacology as they related to the critically ill patient.
6. Demonstrate both basic and applied knowledge of the following dysfunctions, as outlined below:

**A- Neurological Disorders:**

1- The ability to recognize problems in a patient with a central nervous system (CNS) crisis and/or an altered level of consciousness, institute immediate life sustaining measures, carry out appropriate neurological examination, develop a differential diagnosis, and continue with appropriate diagnostic and supportive measures.

2- Demonstrate knowledge of:
   i. The toxic, metabolic, structural, and infectious causes of altered consciousness.
   ii. Intracranial hypertension (pathophysiology, investigation, monitoring techniques, treatment).
   iii. status epilepticus (pathophysiology, investigation, systemic metabolic consequences, pharmacological management)
   iv. The clinical diagnosis of brain death and confirmatory investigations involved.
   v. The environmental and drug-related psychopathology associated with critical illness (anxiety, sleep disorders, hallucinations and withdrawal).
   vi. Understand importance of relieving pain, anxiety and assurance of good sleep quality.
   vii. The perioperative management of major neurosurgical procedures.

**B- Neuromuscular Disorders:**

1- The ability to recognize the seriousness of the problem of a patient with an acute or chronic neuromuscular disorder, institute life-sustaining measures, and compose a program of definitive diagnosis, support, and specific therapy.
2- Demonstrate knowledge of:

i. Specific physiological support (support of vital organs, circulation, respiration, nutrition, bowel, bladder, and skin care).

ii. Acute neuromuscular disease (disorders of the myoneural junction, myopathy and polyneuropathy of the critically ill, spinal cord syndromes) including investigations and therapeutic options.

iii. The medical, administrative, and ethical considerations associated with the institution and maintenance of long-term mechanical ventilation.

iv. Supportive services integral to the management of patients with neuromuscular diseases (physiotherapy, occupational therapy, social services).

C- Respiratory Disorders:

1- The ability to determine the presence of respiratory failure, provide for its emergency support, and have a plan of action to subsequently investigate and manage related issues.

2- Demonstrate knowledge of:

i. Normal anatomy of the respiratory system.

ii. Physiology of the gas exchange unit, lung and chest wall mechanics, airway dynamics.

iii. Chest imaging of the ICU patients.

iv. The control of respiration.

v. Pathophysiology of disease states leading to respiratory failure.

vi. Principles and theory of mechanical ventilation invasive and noninvasive and other methods of respiratory support like extracorporeal oxygenation (ECMO).

vii. Acute respiratory distress syndrome (ARDS).

viii. Sever COPD.

ix. Status Asthmaticus.
x. Other Respiratory diseases and their management following surgical interventions especially bronchial asthma, COPD and pulmonary fibrosis.

D- **Cardiovascular Disorders:**

1- The ability to recognize the problem, provide emergency life support, and embark upon a diagnostic and management plan.

2- Demonstrate knowledge of:

i. The methods and application of “Advanced Cardiac Life Support” techniques.
ii. The principles of invasive and non-invasive hemodynamic monitoring.
iii. The pathophysiology and treatment of cardiac failure, including the pharmacology of drugs used to treat these entities.
iv. Basic and complex cardiac arrhythmias, including pharmacological and electrical management.
v. Shock syndromes, with emphasis on the pathophysiological events leading to surgical interventions in patients with cardiac disease, including perioperative management of the cardiovascular surgery patient.
vi. Acute valvular heart disease.
viii. Acute disease of the walls of large arteries (including dissection) and venous occlusive disorders.
ix. Hypertensive emergencies.
x. Heart-lung interactions.

E- **Renal Disorders:**
1-The ability to recognize the problem of a patient with oliguria or evidence of advancing or established renal failure, institute measures to preserve remaining renal function, and provide for precise diagnosis, adequate supportive measures, and appropriate therapy.

2-Demonstrate knowledge of:
   i. The pathophysiology and management, both medical and surgical, of acute kidney injury (AKI) pre-renal, renal and post-renal failure.
   ii. Pharmacodynamics and nephrotoxins.
   iii. Perioperative issues, pharmacological management, and potential complications in the renal transplant patient.

F-Metabolic - Endocrine Disorders:

1- The ability to recognize the nature and severity of the problem of a patient with metabolic, endocrine, or fluid/electrolyte abnormalities, establish a differential diagnosis, and embark on a course of definitive diagnosis, treatment, and continued monitoring and support.

2- Demonstrate knowledge of:
   i. The diagnosis and management of fluid and/or electrolyte disturbances.
   ii. The pathophysiology, diagnosis, and treatment of acid-base disorders.
   iii. The pathophysiology, diagnosis, and treatment of endocrine emergencies like thyrotoxic storm / hypothyroidism (Myxedema coma) and Adrenal crisis.
   iv. Diabetic emergencies (diabetic Ketoacidosis / hyperosmolar coma) and hypoglycemia.
v. Normal and abnormal body temperature regulation and their associated disorders.

**G-Gastrointestinal Disorders:**

1-The ability to evaluate the nature of the illness of a patient who presents with gastrointestinal (GI) crisis, institute immediate life-sustaining support, and develop a diagnostic and therapeutic plan.

2- Demonstrate knowledge of:

   i. The etiology, diagnosis, and management of the acute abdomen.
   ii. The etiology, diagnosis, and management of hollow viscus dysfunction (obstruction, ischemia, perforation, dysmotility).
   iii. The etiology, diagnosis, and management of upper and lower GI bleeding.
   iv. The complications of abdominal surgery and trauma.
   v. Abdominal compartment syndrome/ intra-abdominal hypertension.
   vi. Sever necrotizing pancreatitis.
   vii. Intra-abdominal pressure measurement.
   viii. Abdominal Tamponade.

**H-Hepatic Disorders:**

1-The ability to recognize the problem of a patient with jaundice and/or manifest hepatic failure, provide for immediate life-sustaining support, and develop a diagnostic and therapeutic plan.

2- Demonstrate knowledge of:

   i. The pathophysiology and management of acute and chronic liver disease.
   ii. The biosynthetic, immunologic, and detoxification functions of the liver.
iii. Hepatic failure / decompensating hepatic failure/ fulminant hepatitis/ hepatic coma.
iv. The pathophysiology and management of liver abscess.
v. The liver transplant patient, including perioperative issues, pharmacological management, potential complications.

I- Sepsis:

1- The ability to recognize the infective nature of the condition of a patient with catastrophic septic illness, institute immediate life-sustaining measures, establish a differential diagnosis (site of origin, etiological pathogens), and embark upon a course of definitive diagnosis, continued life support, and appropriate antimicrobial and/or surgical therapy.

2- Demonstrate knowledge of:
   i. Early goal directed therapy.
   ii. Available techniques for diagnostic procedures.
   iii. The epidemiology of host specific infectious disease.
   iv. The immunocompromised host response.
   v. Preventative infection control techniques, including antibiotic prophylaxis of contacts, when appropriate.
   vi. The pharmacology, indications, complications, interactions, monitoring, and efficacy of usual antimicrobial agents.
   vii. The occult indicators of sepsis.
   viii. The systemic inflammatory response syndrome.
   ix. The multiple organ dysfunction syndromes.

J- Hematological Disorders:

1- The ability to recognize the problem of a patient with a thrombotic or thrombolytic disorder, bleeding, neutropenia, or anemia, provide for any indicated life-sustaining support, and proceed with an orderly course of investigation, management, continued monitoring, and supportive plans.

2- Demonstrate knowledge of:
i. The pathogenesis and management of thrombocytopenia, anemia, and neutropenia.
ii. The pathogenesis and management of DIC.
iii. The pathogenesis and management of hemolysis and vaso-occlusive diseases like acute chest syndrome in sickle cell disease patients.
iv. Acute thrombotic thrombocytopenic purpura (TTP).
v. The coagulation sequence, fibrinolytic pathway, and their associated disorders.
vi. Blood component therapy and alternatives available.
vii. Anticoagulant and fibrinolytic therapies.

**K-Oncology Disorders:**

1- The ability to recognize the problem of a patient with a malignancy complications, therapeutic protocol complications for any indicated life-sustaining support, and proceed with an orderly course of investigation, management, continued monitoring, and supportive plan.

2- **Demonstrate knowledge of:**
   i. Febrile neutropenia.
   ii. Various chemotherapy complications.
   iii. Radiotherapy complications.
   iv. The pathogenesis and management of oncologic emergencies like tumor lysis syndrome, febrile neutropenia, SVC syndrome.

**L-Trauma:**

1- The ability to manage the patient who has sustained severe trauma, with or without extensive soft tissue and bony injury, in accordance with practices advocated by “Advanced Trauma Life Support (ATLS)” training.

2- **Demonstrate knowledge of:**
   i. The necessity to evaluate and prioritize the unique needs of the traumatized patient.
ii. The need for continuing care of the traumatized patient with regard to all systems, injured or not.

iii. The secondary insults that enhance the primary pathogenicity of the traumatized organs.

M-Intoxication:

1- The ability to formulate a differential diagnosis for a patient potentially suffering from a toxic syndrome and undertake a sequential plan to support organ function, prevent further absorption, alter distribution, and if possible, enhance elimination by natural and mechanical means.

2- Demonstrate knowledge of:
   i. The general support, together with any specific antidotes or supportive therapy pertinent to individual intoxicants.
   ii. The pharmacology of common intoxicants.
   iii. Strategies to reduce absorption and enhance elimination of toxic substance (hemodialysis, hemoperfusion).
   iv. The need of patients and families for emotional and psychiatric support.

N-Burns and/or Electrical Injury:

1- The ability to institute immediate life-supportive measures for a patient who has sustained primary, secondary, or tertiary life threatening burns and develop a plan of ongoing support (adequate fluid resuscitation, maintenance of vital organ systems' integrity, prevention and management of burn wound sepsis, minimization of metabolic complications).

2- Demonstrate knowledge of:
i. The pathophysiology and medical/surgical management of the phases of the burn injury.
ii. The respiratory complications of burn injuries (smoke inhalation, airway burns).
iii. The environmental control necessary for optimal care (Specialized Burn Unit).

O-Nutritional Support

1- Evaluate the nutritional status of the critically ill patient, identify current deficiencies, ongoing losses, and extra needs induced by the illness, including the ability to devise a management strategy for the provision of either enteral and/or parenteral nutrition to sustain the patient throughout the period of critical illness.

2- Demonstrate knowledge of:
   i. Fluid compartments and fluid/caloric requirements in the critically ill patient.
   ii. The techniques and laboratory tests used to evaluate nutritional status.
   iii. The methods of assessing basal energy expenditure and monitoring effectiveness.
   iv. Indications, limitations, methods, and complications of enteral and parenteral nutritional techniques.

P-Pharmacotherapy:

1- Have a thorough knowledge of indications, risks, and side effects of relevant pharmacotherapy.

2- Demonstrate knowledge of:
   i. The principles of clinical pharmacology.
   ii. The pharmacologic and therapeutic applications of drugs.
   iii. Side effects, drug interactions associated with other medications.
iv. checking drug levels when it is needed.

v. The indications for, and management of, sedation, analgesia, and neuromuscular blockade if needed.

Q-Transportation:

1- Demonstrate a basic understanding of the problems peculiar to the transportation of the critically ill patient.

2- Demonstrate knowledge of:
   i. Communication, triage and preparation prior to and during transport intra hospital for example to radiology department or outside the hospital.
   ii. The unique monitoring and management problems associated with transport.
   iii. The determination of need for physician accompaniment.
   iv. The role of paramedical personnel.
   v. Altitude physiology associated with air transport.

R-End of Life Issues:

1- In a patient where death is inevitable the resident will help facilitate a dignified process of life sustaining support withdrawal, without the withdrawal of care.

2- Demonstrate knowledge of:
   i. Withholding and withdrawing life sustaining therapies.
   ii. Clear decision-making and communication.
   iii. Pain and symptom management.
   iv. Psychological, social and spiritual support.
   v. Bereavement.
   vi. Terminal care.

S- Specialized Critical Care of:

1- Critical Illness in Pregnancy:
a. In a pregnant woman presenting with acute respiratory failure or shock the resident must be able to institute immediate life-supportive measures and develop a plan of ongoing support that includes adequate fluid resuscitation and maintenance of vital organ systems' integrity for both the mother and fetus.

b. **Demonstrate knowledge of:**
   i. Maternal cardiovascular, respiratory, and renal physiology during pregnancy.
   ii. Critical illness of pregnancy due to circulatory disorders, hypoperfused states.
   iii. Preeclampsia/eclampsia, pulmonary disorders, acute renal and hepatic failure.
   iv. Cardiopulmonary resuscitation of the pregnant patient.
   v.

2. **Transplantation:**
   a. Demonstrate an awareness of common problems peculiar to transplantation.

b. **Demonstrate knowledge of:**
   i. Organ donation and donor management.
   ii. The medical, ethical and medico-legal issues of brain death.
   iii. Immunesuppresion and rejection.
   iv. Opportunistic and nosocomial infectious risk and disease
   v. The postoperative care of the transplant patient.

7. **Demonstrate proficiency in the following technical skills:**
   a. **A core skill:** requires mastering of the technique.

   b. **Advanced skill:** requires an appreciation and understanding of the technique, not the actual performance.

A- **Airway**
   a. **Core Competencies:**
i. Assessment and maintenance of the airway.
ii. Orotracheal intubation.
iii. Indication for tracheostomy tube insertion.
iv. Replacement of a preexisting tracheostomy tube
v. Cricothyrotomy and indication for other urgent surgical airways.

b. Advanced Skills:
i. Airway management during an unexpected difficult intubation
ii. Anesthesia and airway management during initial tracheostomy tube insertion in the intensive care unit (ICU).
iii. Video-assisted intubation.
iv. Fiberoptic intubation.
v. Laryngeal mask airway.
vi. Transcricoid jet ventilation.

B- Breathing:

a. Core Competencies:
i. Ventilation by bag and mask.
ii. Application of conventional positive pressure mechanical ventilation.
iii. Application of non-invasive ventilation.
iv. Advanced ventilation strategies.
v. Application of an end-tidal CO2 detector post-intubation.
vi. Application of pulse oximetry.
vii. Ventilation weaning techniques.
viii. Thoracocentesis.

b. Advanced Skills:
i. Fiberoptic bronchoscopy in the intubated patient.
ii. Fiberoptic bronchoscopy in the non-intubated patient.
iii. Special gas admixture administration (NO).
iv. Thoracotomy tube insertion.
v. Bronchoalveolar lavage.
vi. Protected brush specimen sampling.
vii. hyperbaric oxygenation.

C- Circulation:

a. Core Competencies:

i. Arterial lines insertion.
ii. Central venous lines insertion.
iii. Utilization, zeroing, and calibration of transducers.
iv. Application and maintenance of pulmonary artery catheter.
v. Electrocardiogram (ECG) interpretation.
vi. Defibrillation.
vii. Elective cardioversion.
viii. Temporary transcutaneous pacemaker.
ix. Level 1 Infuser.
x. Prevention and management of air embolism.

b. Advanced Skills:

i. Knowledge and maintenance of intra-aortic devices.
ii. Cardiac output measurements by pulmonary artery catheter and other recent devices (noninvasive).
iii. Temporary transvenous pacemaker.
iv. Cardiac overdrive pacing.
v. Pericardiocentesis.

D-Central Nervous System:

a. Core Competencies:

i. Lumbar puncture.
ii. Supervision of intracranial pressure (ICP) monitoring.
iii. Trouble shooting ICP monitoring.
iv. Cerebral spinal fluid (CSF) drainage for raised ICP.
v. Declaration of brain death.
vi. Therapy aimed at maintenance of cerebral perfusion pressure.
b. **Advanced Skills**: in Neuro Critical Care Unit
   i. Advanced ICP monitoring techniques
   ii. Application of electroencephalogram (EEG) monitoring / cerebral Doppler.
   iii. Jugular bulb oximetry.

**E-Renal:**

a. **Core Competencies**:
   i. Insertion of a temporary hemodialysis catheter.
   ii. Indication for continuous renal replacement therapy.

b. **Advanced Skills**:
   i. Supervision of continuous renal replacement therapy.
   ii. Management of continuous ambulatory peritoneal dialysis (CAPD) in the ICU.
   iii.

**F-Gastrointestinal:**

a. **Core Competencies**:
   i. Post-pyloric feeding tube placement.
   ii. Intra-abdominal pressure monitoring.
   iii. peritoneal tap.

b. **Advanced Skills**:
   i. Peritoneal lavage.
   ii. gastro-esophageal balloon Tamponade in refractory variceal bleed.

**G-Nutrition:**

a. **Core Competencies**:
   i. Determination of a nutritional plan.

b. **Advanced Skills**
i. Indirect calorimetry.

**H-Transport:**

a. Core Competencies
   i. Organization and supervision of inter- and intra hospital transfers.

i. Others:

   a. Core Competencies
      i. use of special beds.
      ii. application of techniques to treat or induce hypo/hyperthermia.

**2- Communicator:**

**General Requirements:**

The adult critical care medicine resident must be able to:

1. Establish relationships with patients/families.
2. Listen effectively.
3. Obtain and synthesize relevant history from patients/families/communities.
4. Discuss appropriate information with patients/families and the health care team.

**Specific Requirements:**

1. Assess, communicate with, and support patients and families confronting with critical illness.
2. Explain life-sustaining therapies, in clear language, and describe the expected outcome of such therapies in view of the patient’s goals and wishes.
3. Know and understand the consequences of the language used to convey information.
4. Be familiar with the unique stressful environment of the critical care circumstances for patients and their families.

5. Demonstrate respect and understanding for the role of other team members in communicating and facilitating decision-making with critically ill patients and their families.

6. Communicate effectively with families who may be dysfunctional, angry, confused, or arguable.

7. Explain the concept of brain death and organ donation, in clear language.

3- Collaborator

**General Requirements:**

The adult critical care medicine resident must be able to:

1. consult effectively with other physicians and health care professionals.
2. contribute effectively to interdisciplinary team activities.

**Specific Requirements:**

1. Contribute to productive communication and cooperation among colleagues in all aspects of education, service, and research, as they impact on the critical care environment, recognizing the multi-disciplinary nature of the specialty.

2. Demonstrate knowledge and skill in preventing and resolving conflict.

3. Demonstrate leadership in the continuing education of members of the multidisciplinary health care team.

4- Manager

**General Requirements:**
The adult critical care medicine resident should be able to:

1. allocate limited health care resources wisely.

2. work effectively and efficiently in a health care organization.

3. utilize information technology to optimize patient care, life-long learning, and other activities.

4. utilize personal resources effectively to balance patient care, learning needs, and outside activities.

*Specific Requirements:*

1. Be familiar with the administrative organization required to operate an Intensive Care Unit within an acute urban or rural hospital.

2. Be knowledgeable regarding unit staffing requirements, skills, education, and organization.

3. Be able to evaluate and cooperatively determine unit equipment requirements.

4. Be able to manage the clinical, academic, and administrative affairs of an Intensive Care Unit.

5. Demonstrate the ability to acquire, interpret, synthesize, record, and communicate (written and verbal) clinical information in managing health problems in the critical care setting.

*5-Health Advocate*

*General Requirements:*

The adult critical care medicine resident should be able to:

1. identify the important determinants of health affecting patients.

2. contribute effectively to the improved health of patients and communities.
**Specific Requirements:**

1. Understand, in general, the diverse determinants of health, disease, and illness, and relate occupational and environmental exposures, socio-economic factors, and life style factors to critical illness.

2. Understand, in general, the health care system and more specifically the structure, function, and financing of critical care units.

3. Understand the importance of medico-legal considerations for the critically ill.

4. Be able to communicate to the general population critical care issues and their impact on the maintenance and improvement of health care.

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**6- Scholar**

**General Requirements:**

The adult critical care medicine resident should be able to:

1. facilitate the learning of patients/families, house staff/students and other health professionals.

2. contribute to the development of new knowledge.

3. develop, implement, and monitor a personal continuing education strategy.

**Specific Requirements:**
1. Demonstrate the expertise necessary for rational use of the principles of “evidence based medicine” in both clinical and research settings.

2. Demonstrate the expertise to competently appraise:
   i. levels of evidence.
   ii. interventions.
   iii. diagnostic tests.
   iv. prognosis.
   v. integrative literature (meta-analyses, practice guidelines, decision analyses).

3. Demonstrate a basic understanding of biostatistics, study design, protocol writing, and manuscript preparation.

4. Demonstrate the ability to efficiently access information from the medical literature using current information retrieval tools.

5. Practice the principles of adult learning and help others learn by providing guidance constructive feedback.

6. Be familiar with the concepts of basic applied research and epidemiology in order to competently evaluate newer forms of therapy.

7- Professional

General Requirements:

The adult critical care medicine resident should be able to:

1. Deliver the highest quality care with integrity, honesty, and compassion.

2. Exhibit appropriate personal and interpersonal professional behaviors.

3. Practice medicine ethically consistent with the obligations of a physician.

Specific Requirements:

1. Be aware of, and understand, moral and ethical issues as they impact on patients, their families, and critical care providers.
2. Understand the role and responsibilities of the critical care physician at the local, regional, and national levels.

2. Develop and demonstrate use of a framework for recognizing and dealing with ethical issues in clinical and/or research practice including truth-telling, consent, conflict of interest, resource allocation, and end-of-life care.
Goals and Objective of Emergency Medicine rotation:

Introduction: the resident will spend 2 months in the medical casualty in his second year where he/she should develop an experience in the initial assessment of a variety of medical conditions as well as the acute management of sick patients.

Medical expert:

1. History and Physical Examination: To develop the following skills:
   - Ability to elicit essential diagnostic information through appropriate, thorough, and directed history for common ER clinical cases.
   - Ability to perform a thorough yet directed physical examination, this includes (when appropriate) basic ophthalmologic, and neuro-cognitive assessments.

2. Judgment and Decision Making:
   - Develop and understanding rationale for ordering certain diagnostic and ancillary test/procedures.
   - Independently synthesize details of history, physical examination, and results of investigations of cases seen to obtain a decision (in consultation with the attending staff) as to management, and disposition.

3. Procedural Skills:

To perform/practice, independently or with supervision of a senior physician, the following procedures:
i.  IV insertion  
ii.  Venipuncture 
iii.  ABG sampling  
iv.  Simple suturing  
v.  NG insertion  
vi.  Cardioversion or defibrillation  

4. Resuscitations Skills: To exercise and sharpen the following skills:  

I. An ability to recognize an unstable patient who requires urgent intervention.  
II. Participate in medical resuscitations.  
III. Perform CPR, defibrillation, and assist with basic airway management  
IV. Exposure to the use of ventilation devices and oxygen administration devices  
V. Initial assessment and treatment and treatment of the patient with common cardiac arrhythmias, ventricular fibrillation/tachycardia, asystole and bradycardia  
VI. Initial assessment and management of the patient in shock  

5. Develops an approach to patients presenting with toxic exposure and substance abuse  

   o Management of the poisoned patient including decontamination procedures, laboratory investigations and use of anti dote  
   o Recognition and management of alcohol related disease  

Communicator:  

1. To exercise good interviewing skills in non-complex situations.  
2. To develop an effective manner of dealing with patients and their family, and be able to address their concerns.
3. To demonstrate empathy, and the ability to pick up and respond to non-verbal cues.
4. To exercise drafting a concise yet thorough causality notes – legibly written pertinent history, physical findings, and clear diagnosis and plan.

**Collaborator:**

1. To conduct a team approach in consultation with the other services.

**Manager:**

1. To manage individual patients independently, i.e., initiate management, and work through additional patients throughout the shift.
2. To practice outlining a thorough disposition/follow-up plan for patients.
3. To learn how to manage time wisely and effectively.

**Health advocate:**

1. To learn which appropriate services need to be involved that would be best serve the patient.

**Scholar:**

1. To develop a personal study strategy.
2. To recognize personal knowledge gaps.
3. To practice teaching and supervision skills to more junior members of the team, i.e. medical students.

**Professional:**

1. To develop maturity in conduct and behavior while working in a high-stress, multi-professional environment.
2. Recognizes their own limitations and when to ask for help
3. To exhibit the following characteristics: honesty, reliability, respect for others, openness to constructive criticism, concern for others.
Goals and Objectives Rheumatology Rotation

Introduction: The resident will spend 2 months in rheumatology where he/she will attend rheumatology clinics, do inpatients rounds and consult service.

Medical Expert:

1. Obtain a complete and accurate rheumatologic history in patients with
   a. Arthritis
   b. Multi-system inflammatory illness
   c. Other MSK complain
   d. Reduced bone density and osteoporosis
2. Conduct a detailed MSK examination including a screening and detailed examination of the joints
3. Formulate an appropriate differential diagnosis and management strategy based on the above
4. Assess functional status and disability in Rheumatology
5. Appropriately order and interpret the following laboratory investigations: rheumatoid factor, antinuclear antibody, anti-dsDNA antibody, serum complements, ESR and serum uric acid.
6. Demonstrate knowledge in the pathophysiology and clinical course of the following rheumatic conditions, and apply this knowledge in the diagnosis and management of patients presenting with these conditions.
   1. Inflammatory arthritis including rheumatoid arthritis, seronegative spondylarthropathy,
   2. Diffuse inflammatory connective tissue disorders (including lupus, scleroderma, vasculitis, myositis, and Sjögren’s),
   3. Crystal related arthritis
4. Degenerative diseases of the MSK system (including osteoarthritis),
5. Osteoporosis
6. Fibromyalgia.
7. Identify the most current pharmacological and non-pharmacological therapeutic interventions used in the treatment of rheumatic diseases and the side effects and risks of therapy
8. Perform joint aspiration and therapeutic injection

Communicator:

1. Communicate in an effective manner, verbally (and in written form), with patients, families and other members of the health care team.
2. Develop good patient-physician relationships, characterized by understanding, trust, respect, empathy, and confidentiality.
3. Develop a patient-centered approach to healthcare. This appraisal will encourage discussion, promote patients’ participation in decisions (such as choice between various therapeutic options), and acknowledge the importance of factors which influence the patient-physician relationship, such as age, gender, ethnicity, cultural and socioeconomic background, and spiritual values.
4. Develop exemplary consultancy skills (e.g. high quality letters and/or recommendations to the consulting physician/team).

Collaborator

1. Participate in an interdisciplinary team in which the opinion of each team member are recognized and respected.
Manager

1. Appropriately utilize other health care organizations and allied health care professionals (including physiotherapists and occupational therapists) in the efficient management of ambulatory Rheumatology problems and delivery of Rheumatology services in an out-patient environment.
2. Demonstrate the efficient use of time with the ability to multi-task, prioritize responsibilities, and delegate responsibilities appropriately.
3. Demonstrate the appropriate supervision of junior trainees (if applicable)

Health advocate

1. Determinants of health which particularly relate to the practice of Rheumatology (including patient socioeconomic background, financial resources, employment status, and social support).

Scholar

1. Identify and correct knowledge deficits by means of self-assessment, literature review, and consultation with other health care professionals.
2. Evaluate medical literature using critical appraisal skills.
3. Facilitate the learning of medical students, residents, and allied health professionals through regular review of key concepts.
4. Participate in presentations in the hospital
Professional

1. Recognizes his/her own limitations and when to ask for help
2. Demonstrates professional behavior with appropriate attendance and punctuality
3. Be cognizant of ethical issues in the management of patients with chronic potentially disabling diseases.
4. Demonstrates appropriate interpersonal professional behaviors with patients and members of the health care team
Goals and Objectives of Pulmonary Rotation

Introduction:

Postgraduate internal medicine residents shall rotate in an Adult Pulmonary Unit at a General Hospital for 1-2 months.

General Goals:

1. Learn inpatient consultation management and outpatient management of patient with Pulmonary disorders.

2. Recognize and treat life-threatening Pulmonary conditions like status asthmaticus, acute respiratory failure, acute upper airway obstruction and pneumothorax.

3. Learn the indication and interpretation of Pulmonary Function test and Cardio-Pulmonary Exercise (CPET) as well as Arterial Blood Gas interpretation.

4. Learn the role of different imaging modalities in the diagnosis and management of various Pulmonary conditions.
Medical Expert:

- Given a patient with cough, shortness of breath, chest pain, hemoptysis, purulent sputum, wheeze, stridor or sleepiness the resident will be able to:

1. Elicit a history relevant to the pulmonary system. **This includes:**
   - Symptoms which indicate pulmonary pathology.
   - History relevant to common pulmonary disorders.
   - Occupational exposures.
   - Geographical details including risks for TB.
   - Exposure history relevant to pulmonary infection.
   - Systemic diseases with pulmonary manifestations including HIV, CTD.
   - A sleep history.

2. Accurately perform a physical exam in diagnosis of pulmonary disorders.

3. The resident will discuss the diagnostic value of these physical signs.
4. Order investigations appropriately including sputum gram stain and cultures, sputum cytology, leg dopplers, lung scans, CXR, CT chest, spirometry, full PFTs, oximetry, screening tests for sleep disordered breathing and ABGs. The resident will interpret these tests in the context of the patient problem.

5. The resident will order and justify initial management based on his/her comprehensive assessment. The resident will modify the management based on the initial response to therapy.

- Given a patient with the following diseases the resident will be able to discuss the epidemiology, prevention, pathogenesis, clinical manifestations, differential diagnosis, laboratory testing, CXR findings, treatment (outpatient and inpatient), prognosis and complications. The resident will justify his/her approach using the literature.

These diseases include:
- Asthma.
- Chronic obstructive pulmonary disease.
- Pneumonia.
- Thromboembolic disease.
- Lung cancer.
- Sleep disordered breathing.
Interstitial Lung disease (ILD).

The resident will formulate a plan to **diagnosis and manage the following common pulmonary problems**. The resident will be able to correctly interpret the CXR from patients with these clinical presentations. The resident will justify their diagnostic and therapeutic approach using the current literature.

- Unexplained dyspnea.
- Solitary lung nodule.
- Preoperative respiratory assessment.
- CO2 retention.
- Hypoxemia.
- Chest pain.
- Hemoptysis.
- Cough.
- Pleural effusion.
- SOB in pregnancy.

The resident will be able to independently **manage the following emergency situations**. This includes the initial resuscitation including the treatment of hypercapnea and hypoxia with noninvasive mechanical ventilation (when appropriate).
- Status asthmaticus.
- Acute respiratory failure.
- Acute pulmonary edema.
- Acute upper airway obstruction.
- Pneumothorax.

The resident will be able to **perform the following procedures**. The resident will justify how the procedure will improve patient management. The resident will discuss with the patient the indications for the test and possible complications. The resident will interpret the results of the fluid obtained by the procedure.

- Thoracentesis.

- Chest tube insertion. (Only observe)

- Chemical pleurodesis. (Only observe)

- Arterial puncture for blood gas measurement.

The resident will **observe performance of the following diagnostic tests**. The resident will explain the indications and complications for these tests.

- Pleural biopsy.

- Spirometry.

- Sputum induction.

- Measurement of diffusing capacity and lung volumes.

- Exercise testing.
- Bronchoscopy (Observe)
- Bronchoalveolar lavage (Observe)
- Transbronchial lung biopsy (Observe)
- Transbronchial needle aspiration (Observe)

**Communicator:**

- Given a patient with pulmonary disease or symptoms the resident will be able to:

  1. Provide a verbal and written summary evaluation of the patient’s pulmonary and medical problems. The resident will be able to justify their suggestions as a consultant.

  2. Keep accurate records of daily inpatient care as well as outpatient care.

  3. Explain to the patient his/her pulmonary condition and the proposed plan for investigation and management.


  5. Obtain informed consent for pulmonary procedures using the principles of disclosure, capacity and voluntariness.

  6. When dealing with patients for whom treatment options are limited the resident will discuss end-of-life care and wishes, taking into account different cultural issues related to death and dying.
Collaborator:

1. Be able to maintain collegial relationships with colleagues, nurses, respiratory therapists (RT) and secretaries.

2. Be able to maintain collegial relationships with para-medical personnel. The resident will function as a team member with RTs including when dealing with patients that require supplemental O2, nebulisers, or BIPAP.

3. The resident will work in collaboration with the asthma educators to provide state of the art asthma education.

Manager:

1. When asked to assess several new patients simultaneously the resident will be able to priories according to the level of acuity (i.e. triage of patients).

2. When multiple tasks require attention the resident will be able to divide these appropriately among colleagues (including Medical Students) and provide supervision of their activity.

3. When multiple patients require use of limited resources (CT scan chest) the resident will be able to provide the laboratories with direction in terms of patient priority for each test.

4. The resident will be able to manage his/her time so that clinical responsibilities do not interfere/overlap with mandatory participation in educational activities.
5. The resident will consider socioeconomic (cost) issues in selecting medications for patients.

Health Advocate:

1. Given a smoker the resident will be able to give staged matched advice and treatment for smoking cessation.

2. The resident will be aware that there are global, national and regional initiatives for a tobacco free world.

3. The resident will be aware that there are global initiatives for the elimination of TB.

4. The resident will order DVT prophylaxis and justify their prophylactic treatment.

Scholar:

1. The resident will identify learning needs and make use of available learning resources and resource faculty.

2. The resident will participate in bedside teaching provided by attending pulmonologist.
3. The resident will present interesting, unusual or difficult cases at the city wide pulmonary rounds.

4. When confronted with a difficult clinical problem the resident will research the current literature.

5. The resident will provide clinical and didactic teaching to medical students, residents and faculty on the same rotation. This includes presenting an interactive noon round for the Internal Medicine Department.

**Professional:**

1. The resident will display professional attitudes and behaviors, including:
   - The resident will be punctual for rounds, family conferences, and educational events.
   - The resident will follow through on assigned tasks.
   - The resident will be respectful when dealing with patients, families, and other professionals.

2. The resident will consider racial and cultural issues in selecting treatment regimens for patients.
Goals and Objective Endocrinology rotation:

Introduction: Internal medicine residents will spend 1-2 months in an endocrinology unit, or 2 months in a mixed endocrinology-diabetes unit

General Goals:

1. Learn inpatient consultation management and outpatient management of patient with endocrine disorders
2. Recognize and treat life-threatening endocrine conditions like thyroid storm, myxedema coma, adrenal crisis and hypertensive emergency in pheochromocytoma patients.
3. Learn the indication and interpretation of dynamic tests.
4. Learn the role of different imaging modalities in the diagnosis and management of endocrine conditions

Medical expert:

1. Perform the appropriate history and physical examination, interpret correctly the laboratory and radiologic investigations, and develop the appropriate management plan in the ambulatory and inpatient consultation setting for patients with a variety of endocrine disorders including:
   a. Thyroid disease
   b. Disorders of lipid metabolism
   c. Osteoporosis
   d. Endocrine disorders in pregnancy
e. Obesity
f. Calcium disorders
g. Adrenal disorders
h. Anterior and posterior pituitary disorders
i. Hypoglycemic disorders
j. Reproductive disorders in males and females

2. List the indications for fine needle aspiration biopsy of the thyroid.

3. Describe the indications and procedures of dynamic pituitary testing

4. Understand basic science knowledge in endocrine disorders mentioned above

Communicator:

1. Document and present competently the clinical findings, problem synthesis, and management plans for clinic patients with endocrine disorders.

2. Demonstrate the ability to share information with patients and families, and elicit patients’ preferences with regard to treatment decisions;

3. Recognize the importance of non-adherence in the management of endocrine disorders and demonstrate strategies to optimize compliance with treatment regimen.
Collaborator:

1. Demonstrate awareness of the importance of the multi-disciplinary approach required in the management of endocrine disorders, and contribute effectively to inter-disciplinary team activities.

2. Work effectively with nurses, patient educators, laboratory physicians, and surgeons to optimize patient outcomes.

Manager:

1. Effectively coordinate the ambulatory care of patients with a variety of endocrine disorders to prevent costly hospital admissions, and coordinate the inpatient care of patients with a variety of endocrine disorders to reduce length of hospital stay.

2. Investigate and manage patients with endocrine disorders in a cost-effective manner while focusing on optimal patient care and outcomes.

Health advocate:

1. Recognize and respond to opportunities to prevent and treat selected endocrine disorders through patient education and counseling.

2. Identifies important determinants of health for patients with endocrine diseases (e.g. diabetes, lipid disorders, pituitary)
Scholar:

1. Use patient encounters as a stimulus to further reading and review of the current literature.
2. Develop and apply skills in critical appraisal and the practice of evidence-based medicine.
3. Understand the importance of patient education in the management of many common medical conditions, and facilitate such learning wherever possible.
4. Teach other residents and medical students in the outpatient and inpatient consultation settings.

Professional:

1. Demonstrate effective, ethical medical care with integrity, honesty, and compassion.
2. Display appropriate professional behaviors and inter-personal skills, including deportment, punctuality, and respect.
3. Recognizes the limitations of their own knowledge
Goals and Objective Diabetes rotation:

Introduction: Internal medicine residents will spend 1-2 months in a diabetes unit, or 2 months in a mixed endocrinology-diabetes unit

General goals:

1. Learn inpatient and outpatient management of patients with diabetes mellitus including ketoacidosis, non-ketotic hyperosmolar coma, glycemic control, management and prevention of diabetic complication and insulin/antidiabetic agents management for diabetic patients going for surgery.

Medical expert:

1. Perform the appropriate history and physical examination, interpret correctly the laboratory and radiologic investigations, and develop the appropriate management plan in the ambulatory and inpatient consultation setting for patients diabetes including
   a. Diabetes mellitus type 1 and 2
   b. Insulin resistance
   c. Disorders of lipid metabolism
   d. Obesity
   e. Hypoglycemic disorders

2. Demonstrate understanding of basic science knowledge in diabetes including epidemiology, pathophysiology, pharmacology of anti-diabetes medications including insulin, oral hypoglycemic agents, and incretins
Communicator:

1. Document and present competently the clinical findings, problem synthesis, and management plans for clinic patients with endocrine disorders.

2. Demonstrate the ability to share information with patients and families, and elicit patients’ preferences with regard to treatment decisions;

3. Recognize the importance of non-adherence in the management of endocrine disorders and demonstrate strategies to optimize compliance with treatment regimen.

Collaborator

1. Demonstrate awareness of the importance of the multi-disciplinary approach required in the management of endocrine disorders, and contribute effectively to inter-disciplinary team activities.

2. Work effectively with nurses, patient educators, laboratory physicians, and surgeons to optimize patient outcomes.

Manager:

1. Effectively coordinate the ambulatory care of patients with diabetes to prevent costly hospital admissions, and coordinate the inpatient care to reduce length of hospital stay.

2. Investigate and manage patients with diabetes in a cost-effective manner while focusing on optimal patient care and outcomes.
Health advocate:

1. Recognize and respond to opportunities to prevent and treat selected endocrine disorders through patient education and counseling.
2. Identifies important determinants of health for patients with diabetes

Scholar:

1. Use patient encounters as a stimulus to further reading and review of the current literature.
2. Develop and apply skills in critical appraisal and the practice of evidence-based medicine.
3. Understand the importance of patient education in the management of many common medical conditions, and facilitate such learning wherever possible.
4. Teach other residents and medical students in the outpatient and inpatient consultation settings.

Professional:

1. Demonstrate effective, ethical medical care with integrity, honesty, and compassion.
2. Display appropriate professional behaviours and inter-personal skills, including deportment, punctuality, and respect.
3. Recognizes the limitations of their own knowledge
**Goals and Objectives of Gastroenterology**

**Introduction**: Residents will spend 2 months in gastroenterology rotation where they will attend clinics, do rounds and consultation services.

**Medical expert**

1. Using knowledge of the pathogenesis, natural history and clinical presentations of illness, demonstrates an evidence based approach to diagnosis and differential diagnosis of common presenting gastrointestinal symptoms:

   o Abdominal pain
   o Acute and chronic diarrhea
   o Ascites
   o Dyspepsia
   o Dysphagia
   o Heartburn
   o Hematemesis
   o Intestinal obstruction
   o Jaundice
   o Odynophagia
   o Rectal bleeding
   o Weight loss

2. Demonstrates an evidence based diagnostic and management approach to common gastrointestinal disorders:
a. Esophageal disorders
   i. Gastroesophageal reflux disease, Esophageal cancer, Esophageal Bleeding
   ii. Esophageal motor disorders
b. Gastric disorders
   i. Peptic ulcer diseases
      (Role of *Helicobacter pylori* infection, NSAIDS, Hypergastrinemia)
c. Idiopathic inflammatory bowel disease
   i. Crohn’s disease and Ulcerative colitis
d. Functional Bowel diseases
   i. Non-ulcer dyspepsia, Irritable Bowel syndrome, Chronic constipation
e. Malabsorption syndrome
   i. Celiac Disease, Chronic pancreatitis
f. Enteric infections
   i. Bacterial, Protozoal, Pseudomembranous colitis
g. Diseases of the gall bladder and biliary trees cholelithiasis including risk factors
h. Acute and chronic pancreatitis
i. Infectious viral hepatitis
   i. Knowledge of the pathophysiology and natural history of various viral hepatitis infection (A, B, C, D and E)
   ii. Interpretation of hepatitis B serology
   iii. Treatment options for HBV and HCV infections
j. Non-viral chronic liver disease
   i. Fatty liver (NAFL and NASH)
   ii. Alcoholic liver disease Primary biliary cirrhosis,
   iii. Primary sclerosing cholangitis, Autoimmune hepatitis,
      Hemochromatosis, Wilson disease
k. Chronic liver failure (compensated and decompensated cirrhosis)
   including: Portal hypertension, Ascites, Variceal bleeding and Hepatic encephalopathy
l. Develops an approach to the differential diagnosis and indications for transplantation
m. GI Malignancies
n. Ischemic colitis, Mesenteric ischemia

3. Performs independently
   I. Nasogastric tube insertion and paracentesis
   II. Recognizes the role of diagnostic and therapeutic endoscopy

Communicator

- Effectively communicates information regarding risks and benefits of treatments and procedures to patients
- Obtains an inform consent for endoscopic procedures from patients
- Communicates details of treatment and follow-up plans to the patient

Collaborator

- Recognizes the role of allied healthcare professionals in the management of GI patients.

Manager

- Demonstrates the ability to perform focussed histories and physical examination in the time-limited environment of the hospital
Health Advocate

- Identifies opportunities for patient counselling and education regarding their medical conditions
- Educates patients regarding the role of diet in the maintenance of wellness

Scholar

- Accesses medical information resources to answer clinical questions and support decision making
- Appraises the quality of medical information resources and selects among them based on the characteristics of the clinical question
- Applies clinical evidence, as appropriate, in the provision of patient care

Professional

- Treats all patients with dignity, civility and respect
- Demonstrates integrity in all interactions with colleagues and patients
- Ensures timely and accurate completion of clinical, administrative and curricular tasks
**Goals and Objectives of General Medicine rotation:**

I-**Introduction:**

A general internist is a specialist trained in the diagnosis and treatment of a broad spectrum of diseases in adult patients and will be particularly skilled in the management of undifferentiated or multisystem disease processes. The aim of the general medicine rotation is to train the residents to acquire the knowledge, attitude and skills common to all general internal medicine practice for effective patient-centered care and service. The residents will be trained on history taking, performing physical examination, ordering proper laboratory investigations and applying cost-effective studies. Also, the residents must gain the knowledge on the management of acute and chronic medical conditions, the proper utilization of consultations and the development of the ability to communicate with the patient, family members, and health care professionals. Upon completion of the training, the residents will be competent specialists in internal medicine and will be efficient in problem formulation and treatment, consultation and assessment and referrals, reviewing and presentation of scientific literature as well as gaining the ability to teach.

II-**General Objectives:**

The residents must acquire the following skills:

1. Diagnosis of Acute illness with one or multiple organ involvement.
2. Multisystem disease management in the acute care setting.
3. Chronic disease management in patients with multiple comorbidities.
4. Undifferentiated symptoms in both acute and ambulatory settings.
5. Approach and management of common medical illness.
6. Approach and management of less common medical illness.
Internal Medical Competencies:

**Medical Expert:**

1-The internists are able to function effectively as consultants to provide optimal, ethical, safe and patient-centered medical care by performing effectively the consultations, prioritizing problems, identifying ethical issues arising in patient care, applying learning skills and keep up-to-date and evidence-based practice. Also, contribute in improvement of quality of patient’s care and safety and demonstrate medical expertise in legal medical issues, as needed.

2-The internist must establish and maintain proficiency in clinical knowledge, skills and attitudes.

The internist must understand the manifestations, investigations, and the management of the following:

1-Acute medicine:
   a-Cardiopulmonary arrest
   b-Hyperthermai and hypothermia
   c-Life threatening conditions
   d-Poisoning
   e-Severe drug reaction
   g-Shock due to different etiologies

2-Cardiovascular and Vascular disease:
   a-Chest pain
   b-Dyspnea
c-Syncope
d-Palpitations
e-Coronary heart disease (acute coronary syndrome and its complications)
f-Heart failure
g-Valvular heart disease
h-Cardiomyopathies
i-Pericardial diseases (pericarditis, pericardial effusion and tamponade)
j-Pulmonary hypertension
k-Systemic hypertension
l-Aortic aneurysm and aortic dissection
m-Venous thromboembolic disease
n-Superior vena cava obstruction
o-Peripheral arterial disease
p-Edema

2-Endocrine and metabolic disorders
a-weight loss and gain
b-Obesity
c-Hyper/hypocalcemia
d-Hyper/hypoglycemia
e-Diabetes mellitus and its complications
f-Hyperlipidemia
g-Hyper/hypothyroidism and its complications
h-Thyroid nodule and disorders
i-Hyper/hypoparathyroidism
j-adrenal masses
k-Hyper/hypoadrenalism (cushing’s syndrome, Addison’s disease)
l-Endocrine tumours
m-Pituitary masses
n-Vitamin D deficiency
o-Osteoporosis

3-Gastrointestinal disease
a-Dysphagia
b-Vomiting
c-Constipation
d-Diarrhea
e-Abdominal pain
f-Upper and lower gastrointestinal bleeding
g-Gastroesophageal reflux and its complications
h-Peptic ulcer disease
i-Abnormal liver enzymes
j-Acute hepatitis
k-Jaundice
l-Cirrhosis and its complications
m-Ascites
n-Encephalopathy
o-Peritonitis
p-Liver abscess
q-Biliary tract disease(cholelithiasis, ascending and sclerosing cholangitis)
r-Acute and chronic pancreatitis
s-small and large bowel disorders(malabsorption, celiac disease, inflammatory bowel disease, diverticular disease, bowel obstruction, colonic polyp, colonic cancer, irritable bowel syndrome)

4-Heamatological disorders
a-Anemia
b-Polycythemia
c-platelets disorders
d-Thrombosis and thrombophilia
e-Bleeding disorders
f-Leukemia
g-Myeloproliferative disorders
h-Myelodysplastic disorders
i-Multiple myeloma
j-Lymphadenopathy
k-Lymphoma
l-Febrile neutropenia
m-Eosinophilia
n-Petechiae, purpura and echymosis
o-Blood and blood products transfusion and its complications
p-Anticoagulant therapy and its complications

5-Musculo-skeletal system disorders
a-Monoarthritis (septic arthritis)
b-Polyarthritis
c-Low back pain
d-Proximal myopathy
e-Gout
f-Rheumatoid arthritis
g-Sero-negative arthropathies
h-Systemic lupus erythematosus
i-Antiphospholipid syndrome
j-Behcet’s disease
k-Ankylosing spondylitis
l-Scleroderma
m-Sjogren’s syndrome
n-Temporal arteritis
o- Osteoarthritis

6 - Nervous system disorders
        a- Acute confusion
       b- Unconsciousness
       c- Dementia
       d- Delirium
       e- Dizziness and vertigo
       f- Headache
       g- Cerebrovascular accident (stroke and transient ischemic attack)
       h- Meningitis and encephalitis
       i- Brain tumour
       j- Increased intracranial pressure
       k- Hydrocephalus
       l- Seizure and status epilepticus
       m- Brain death
       n- Multiple sclerosis
       o- Cranial nerves palsy
       p- Spinal cord disorders (compression, transverse myelitis)
       q- Motor neuron disease
       r- Myasthenia gravis
       s- Guillian – Barre’ syndrome
t-mono/para/quadriplegia
u-Peripheral neuropathy
v-Movement disorders and tremor

7-Oncology and oncologic emergencies
a-Diagnosis of cancer and dealing with terminal cancer patients
b-Hypercalcemia
c-Superior vena cava syndrome
d-Chemotherapy complications
e-Pleural and pericardial effusion
f-Tumour lysis syndrome
g-Hyperemesis

8-Pregnancy
a-Venous thromboembolic disorders
b-cardiomyopathy (postpartum)
c-Hypertension
d-Bronchial Asthma
e-Drug prescribed during pregnancy and postpartum
9-Perioperative assessment and management of patients with different medical diseases.

10-Pulmonary disease:

a-Acute and chronic dyspnea
b-Cough
c-Bronchial Asthma and COPD
d-Obesity hypoventilation syndrome and sleep related breathing disorders
e-Pneumonia
f-Pneumothorax
g-Pleural effusion
h-Hemoptysis
i-Pulmonary embolism
j-Interstitial lung disease
k-Pulmonary nodule
l-Lung cancer
m-Respiratory failure
n-Interpretation of pulmonary function tests
o-the indication of non-invasive ventilation

11-Renal disease

a-Acid-base disorders
b-Fluid and electrolytes abnormalities
c-Acute kidney injury and chronic kidney disease
d-Hematuria
e-Proteinuria
f-Acute tubular necrosis
g-Interstitial nephritis
h-Nephrotic and nephrotic syndromes
i-Renovascular disease
j-Nephropathy due to DM, hypertension and rhabdomyolysis
k-Urinary tract infection/pyelonephritis and its complication
l-Renal replacement therapy

12-Skin disorders
a-Bullous skin disease
b-Maculopapular lesions
c-Urticaria
d-Psoriasis
e-Steven-Johnson syndrome
f-Herpes zoster
g-Toxic epidermal necrolysis
h-Drug rash (+DRESS)
i-Skin lesions related to systemic diseases and cancer
12-Miscellaneous

a-Clostridium difficile colitis

b-Diseases associated with infectious agents

c-Fever of unknown origin

d-HIV

e-Malaria

f-Osteomyelitis

g-Sexually transmitted diseases

h-Tuberculosis

i-Dealing with psychiatric patients

j-Effects and side effects of psychiatric drugs

k-Nutritional deficiencies (post bariatric complications)

l-Infection control in the hospital
3-The internist must perform a complete and appropriate assessment of a patient with time management

<table>
<thead>
<tr>
<th>Subject</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>Symptom pattern</td>
<td>• Identify and synthesize problems</td>
<td>• Recognize the impact of physical problems on psychological and social well being</td>
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<td></td>
<td>Alarm symptoms</td>
<td>• Take a history in difficult circumstances</td>
<td>• Show empathy with the patient</td>
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<td></td>
<td>• How to formulate a differential diagnosis</td>
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</tbody>
</table>
| Examination                  | Patterns and physiological basis of physical examination | Explain examination procedure and minimize patient discomfort  
Elicit signs and use instruments appropriately | Be aware of patient dignity, confidentiality and cultural/ethnic issues. The relatives rights and responsibilities  
The need for a chaperone |
|-----------------------------|----------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------|
| Examination                  | Structure of:  
Medical notes  
Discharge summaries  
Outpatient letters | Record accurately and legibly in the medical notes including:  
History  
Examination  
Summary  
Differential diagnosis  
Initial investigation and management plan  
Investigations results and action | Ensure that notes are accessible to all members of the team and patients/relatives under certain circumstances  
Recognize the benefits of:  
Prompt communication with primary care  
New technology |

| Documentation | Structure of: Medical notes  
Discharge summaries  
Outpatient letters | Record accurately and legibly in the medical notes including:  
History  
Examination  
Summary  
Differential diagnosis  
Initial investigation and management plan  
Investigations results and action | Ensure that notes are accessible to all members of the team and patients/relatives under certain circumstances  
Recognize the benefits of:  
Prompt communication with primary care  
New technology |
Conversations e.g. between team members and patient/relatives.

Date and sign each entry (with time of first contact)

Mouse and keyboard skills and ability to use e-mail and internet.

e.g. fax, e-mail etc

<table>
<thead>
<tr>
<th>Subject</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Attitudes</th>
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<tbody>
<tr>
<td>Time management</td>
<td>Which patients/tasks take priority</td>
<td>• Start with the most important tasks</td>
<td>• Have realistic expectations of tasks to be completed by self and others.</td>
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<tr>
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<td>• Work more efficiently as clinical skills develop.</td>
<td>• Consult and work as part of a team.</td>
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<td>• Recognize when he/she is falling behind and re-prioritizes or call for help.</td>
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<tr>
<td>Decision making</td>
<td>Clinical priorities for investigation and management</td>
<td>Analyze and manage clinical problems</td>
<td>Be flexible and willing to change</td>
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4-The internist must implement an effective management plan and demonstrate an appropriate use of therapeutic intervention with the insurance of obtaining informed consent.

5-The internist must demonstrate an efficient and appropriate use of diagnostic and therapeutic procedural skills with proper interpretation of the benefit and risk associated with an appropriate informed consent and proper follow up of the procedure performed.

6-The internist must identify and apply proper consultation from other health professionals with recognition of the limitations of the expertise and ensure appropriate follow up of the care service for an optimal patient’s care.

7. Procedural skills gained at the end of the rotations:

ABG

CPR, tracheal intubation

ECG

NGT

LP

Peripheral venous catheters insertion and removal of central venous catheter

Sampling of pleural and peritoneal fluids

Urinary catheterization
**Communicator:**

The internist effectively facilitate the doctor-patient relationship. The internist is able to:

1- Develop the trust of the patients and their families by being a good communicator and establishing a positive relationship with the patients and their families by being an effective listener. Also maintain the patient’s privacy and confidentiality.

2- Seek out and gather relevant information from the patients, families, caregivers and other professionals.

3- Deliver relevant information to the patients and their families and other professionals as well as demonstrating efficacy when counseling patients regarding tests that need confidentiality like HIV tests.

4- Communicate effectively with the patients and their families regarding critical decision like resuscitation decision, mechanical ventilation, dialysis, terminal cases management and organ donation.

5- Identify and respect patient’s concerns, ethics and preferences and develop common plans with the patients, families and other professionals.

6- Maintain clear, concise, accurate records about the encountered plans.

**Collaborator**

The internist effectively works within a health care team to achieve optimal patient care by:

1- Describing the internist’s role to other professionals as well as working with others to assess and plan an integrated care for the patients. Also demonstrating
and respecting the principles of team work and the appropriate use of the leadership in the team.

2-Working with other health professionals in a respectful, professional and a collaborative way to prevent conflicts and misunderstanding. Also the internist should recognize the differences and the limitations of the other professionals to limit the interprofessional team tension.

**Manager:**

The internist is an integral participant in the health care organization by:

1-Participating in the activities that manage and prevent risks to the patients and contributing to functions which improve the health care systems.

2-Setting priorities to balance patient care and personal life as well as implementing information to ensure improving the standard of practice.

3-Allocating the health resources appropriately

4-Chairing and participating in committees and meeting as well as playing a leadership role and implementing changes in health care effectively.

**Health Advocate**

The internists responsibly use their expertise to advance the health and wellbeing of the patients by:

1-Identifying the health needs of the patient.

2-Responding to the health needs of the communities that they serve by promoting for disease prevention and the benefit of screening of diseases and risk factors.

3-Promoting the health of individual patients and implementing changes that will affect the health of the patient as well as describing policies and ethical issues like implementing plans for breast cancer, premariatal screening, smoking cessation
modalities and advocating for the recognition of risk factors of chronic diseases like DM.

**Scholar:**

The internists should demonstrate lifelong commitment to the process of learning as well as application and translation and the delivery of medical knowledge by:

1- Describing the principles of maintaining competence and conducting a personal audit of practice, integrating new learning into practice, posing an appropriate learning questions, evaluating the impact of learning in practice and accessing the relevant evidence.

2- Critically evaluating the medical information and resources and applying it properly into clinical practice by addressing clinical questions and conclusions.

3- Facilitating the learning process of patients, families, students, residents and public by identifying and demonstrating the relevant medical information, selecting the effective teaching strategies by conducting presentations, lectures, assessing the teaching process and providing a feedback as well as describing the principles of teaching ethics.

4- Contributing to the development of new knowledge and practice by describing the principles of research, conducting systematic search for evidence, applying appropriate method to address questions as well as posing questions, and participating into projects and clinical activities.

**Professional**

The internists are committed to the health and well-being of individuals in the community by:

1- Demonstrating appropriate behavior to the patients in an honest respectful way and maintaining appropriate relations with the patients.
2-Demonstrating a proper understanding of the regulations and legal obligations required in clinical practice.

3-Demonstrating a balance between personal and professional priorities to ensure an appropriate clinical practice and respond properly to other professionals needs.

4-Avoiding judgmental behavior and recognizing and acknowledging errors and limitations.

-All the teaching principles and medical knowledge are delivered through teaching rounds, during duties, lectures and presentations

**Specific Objectives of final year residents (R5):**

Residents at the final year should practice medicine competently and professionally with minimal supervision to prepare them for independent practice following their graduation.

1. R5 residents should run a medical outpatient clinic under consultant supervision every week or every other week
2. R5 residents should assume a leading role in their medical unit, this includes leading ward rounds independently with consultation of a senior physician, and teaching medical students and junior colleagues. This will encourage their ability for decision-making and leadership skills.
3. R5 residents should be responsible for medical consultation for other spatialities.
Goals and Objectives of Nephrology rotation

Educational Purpose
The educational purpose of the nephrology rotation is to provide the resident with a concentrated experience working with patients with disorders of renal function and the urinary tract. This exposure should allow the resident to gain skills in diagnosis, acute care and long-term management of patients with renal disorders.

Education Objectives
By completion of training the resident should be able to demonstrate:

Medical Expert
1-Knowledge related to prevention, diagnosis, treatment, long term management, patient education, and referral of both common and serious renal disorders including:

   Acute renal failure
   Chronic renal failure
   Hypertension (essential and secondary)
   Fluid and electrolyte disorders
   Dialysis and transplantation in the treatment of renal failure
   Immunopathogenic mechanisms of renal injury
   Major glomerulopathies
   Glomerulopathies associated with multisystem diseases
   Tubulointerstitial diseases of the kidney
   Vascular injury to the kidney
   Hereditary tubular disorders
   Nephrolithiasis
Urinary tract obstruction

2-Skill in data gathering, recording and interpretation including: taking and recording a focused history, performing a focused physical examination, using diagnostic studies and interpreting data related to renal dysfunction.

3-Knowledge concerning the indications, contraindications, complications and limitations of renal diagnostic procedures and skill in interpreting data gained. These procedures include: urinalysis, contrast radiography, ultrasound, isotope scans, renal angiography, and renal biopsy.

4-Medical and psychosocial management of patients with chronic renal disease including disability, life adjustment to this chronic illness, its effect on the family and the effect of illness on the mental health of patient and family.

5-Appropriate use of prescription of drugs considering risk factors, patient education regarding possible side effects, and monitoring of efficacy and side effects. Special attention should be given to drugs, which require dosage adjustment in renal failure and those that have nephrotoxic potential.

Communicator

1-The resident will be able to effectively communicate with the patient and their family regarding all aspects of their care. This includes being able to put the patient at ease as well as eliciting all necessary information from the patient.

2-The resident will be able to communicate effectively with other specialty services regarding nephrology patients.

3-The resident will be able to perform complete consultations and communicate their concerns and issues in writing as well as verbally.

4-The resident will know when consultation with other services is required and in the best interest of the patient.

5-The resident will document clearly, concisely and legibly all aspects of their involvement with the patient.
COLLABORATOR

1- The resident will strive to involve other medical subspecialties when necessary, as well as other allied health professionals in order to better care for their patients.

2- The resident will interact with other physicians and health professionals in a mature, respectful and professional manner.

Manager

1- The resident will manage their time appropriately in order that all patients requiring attention can be seen.

2- The resident will triage and prioritize those patients requiring the most urgent care.

3- The resident will supervise junior residents and medical students appropriately, as well as seek supervision from the attending staff when needed.

4- The resident will delegate certain responsibilities to other team members when necessary and appropriate

Health Advocate

1- The resident must always be an advocate for the patient, especially when the patient is unable to do so for his/herself.

2- The resident must always ensure that the highest standards of care are practiced, and that all guidelines and policies are adhered to.
**Scholar**
1-Identify and correct the knowledge deficits by self-assessment and literature review and consultations.

2-Evaluate the medical literature by critical appraisal.

3-Facilitate the learning process to the residents and students.

4-Utilize the available resources to improve patient care and education.

**Professional**
1-Learn approaches to counseling patients regarding hemodialysis, transplantations and end of life care and cessation of replacement therapy.

2-Know how to inform the patients and obtain voluntary consent for the treatment options and interventions.

3-Understand the ethical issues of organ donation and promote community awareness of organ donation.

4-Demonstrate punctuality and regular attendance of scheduled rounds and medical activities.

5-Recognize the limitations and advice proper consultation.

**Procedures at the end of the rotation:**

Care of A-V fistula

Central line insertion and care and related complications

Indications and types of renal replacement therapy

Observation of renal biopsy and basics of renal histopathology
Urine dipstick and microscopy

**Goals and Objectives of Neurology rotation**

**Introduction:** The residents will do a two-month rotation in a neurology unit in a general hospital or in Ibn Sina hospital. By the end of the rotation, the resident will develop the necessary knowledge, skills and attitude to take care of patients with different neurological diseases in a medical inpatient or outpatient setting.

**Medical expert:**

1. Obtain a comprehensive history from patients with neurological symptoms
2. Formulate a differential or provisional diagnosis based on data obtained from patients
3. Perform a complete neurological examination
4. Choose necessary laboratory, radiological or electrophysiological tests
5. Perform lumbar puncture
6. Evaluate and interpret CSF analysis
7. Evaluate and interpret EEG and EMG
8. Develop a thorough understanding of the following:
   a. Dementia, including mental status exam
   b. Coma, including Glasgow coma scale
   c. Headache
   d. Epilepsy
   e. Stroke
   f. Approach to movement disorders
g. Demyelinating disorders  
h. Peripheral neuropathies

Communicator

- Develop patient communication skills used to elicit a medical and/or neurological history;
- Communicate effectively and appropriately with medical colleagues and allied health professional in a co-operative work environment;

Collaborator

- Consult effectively with other physicians and healthcare professionals in the acute and ambulatory care settings;

Manager

- Develop an understanding of how healthcare resources can be effectively allocated;
- Ensure continuity of care and effective transfer of medical information to other healthcare professionals.

Health advocate

- Identify important determinants of health affecting patients with neurological disorders and educate patients and families about their potential modification through lifestyle modification and/or medical intervention;
Scholar

1. Develop the skills required to support a life-long commitment to scholarly education of self, peers, colleagues, patients and the community;
2. Develop the skills required to critically appraise the medical and scientific literature;
3. Share knowledge and information with other members of the healthcare team;
4. Attend local teaching sessions and rounds

Professional

1. Demonstrate respect for patients, and promote their independence, autonomy and self-determination through shared decision-making regarding diagnostic and management issues
2. Deliver the highest quality care with integrity, honesty and compassion in keeping within an ethical framework that is consistent with legal and societal values
Goals and objectives Infectious Diseases

Medical Expert:

1. To demonstrate appropriate history taking and examination skills for patients presenting with infectious diseases
2. To use patient-derived data in formulating a patient-based problem list and clinical/microbiologic diagnosis.
3. To summarize the pertinent investigations needed to confirm a microbiologic diagnosis using common microbiology laboratory methods.
4. To interpret common microbiology tests and other laboratory investigations within the context of a clinical assessment of the patient.
5. To demonstrate proficiency in the interpretation of: gram stain, tuberculin skin test, lumbar puncture, and model use of infection control personal protective equipment, hand hygiene

Communicator:

1. To present and discuss their recommendations in a consultative note or letter for the referring physician.
2. To present cases for discussion at clinical rounds and meetings in a succinct and clear fashion.
3. To perform an accurate and complete clinical assessment and record the findings in a readable and organized fashion.
4. To demonstrate good interpersonal skills with patients and families

Collaborator:
1. To work with microbiology staff to ensure appropriate workup of clinical specimens based on clinical information.
2. To work collaboratively with the primary referring teams and other allied health professionals.

Manager:

1. To demonstrate an organized and cost-effective sequence of investigations based on the consultative database.
2. Appropriate supervision of junior trainees
3. Demonstrate efficient and effective time management skills

Health Advocate:

1. To recognize the importance of using antibiotics appropriately to reduce the emergence of antibiotic resistant organisms.
2. To identify important strategies to prevent infectious disease.
3. Define and understand the role of infection control in the hospital and health care environment.
4. To demonstrate advocacy for patients

Scholar:

1. Demonstrate evidence of reading and utilizing the literature pertaining to selected infectious diseases and their management.
2. Demonstrate evidence of teaching/educating consulting services and team members

Professional:

1. Demonstrate appropriate professional behavior during interactions with other infectious diseases team members including, microbiology laboratory staff, infection control
practitioners, pharmacists, nurses and secretarial and clerical staff members.

2. Appropriate attendance and punctuality at clinical rounds, and clinics

3. Demonstrate an awareness of one's own limitations, and seeks help or advice when needed
Goals and Objectives Medical Oncology

Medical Expert:

1. Perform a focused, accurate and complete history and physical examination as pertaining to an oncology patient, especially
   a. Examination of lymph nodes, liver and spleen, breast
   b. Neurological examination as it pertains to diagnosis of spinal cord compression and brain metastases
   c. Physical findings associated with pleural and pericardial effusions
2. Demonstrate general knowledge of the roles of chemotherapy, hormonal therapy, targeted therapy, radiation and surgery in managing cancer patients at various stages of disease
3. Recognize the differences between adjuvant, curative and palliative therapies and demonstrate general knowledge regarding the indications for these in the common solid tumors and lymphoma
4. Recognize, anticipate and manage general medical problems experienced by cancer patients appropriately
5. Recognize and manage common oncologic emergencies, specifically:
   1. Febrile neutropenia
   2. Spinal cord compression
   3. Brain metastasis and increased ICP
   4. Superior vena cava obstruction
   5. Hypercalcemia
   6. Tumor lysis syndrome
6. Recognize and describe common acute and chronic toxicities associated with common antineoplastic agents and the prevention and management of these toxicities.

7. Demonstrate proficiency in the following as available: thoracentesis, paracentesis, and lumbar puncture.

8. Become familiar with different types of central venous devices (Portacath, PICC line, Hickmean etc) and capable of accessing them.

**Communicator:**

1. Elicit relevant information from the patients/families to assist in patient care.
2. Convey information to patients/families regarding diagnosis, prognosis and treatment options in a compassionate and effective manner.
3. Communicate effectively with other health care providers to ensure consistency and continuity of patient care.

**Collaborator:**

1. Consult and involve other physicians and health care professionals in patient care when appropriate.
2. Participate in multidisciplinary team activities including patient oriented and educational rounds.
3. Attend all MDT meetings when rotating with corresponding team.
Manager:

1. Understand the finite limitations of health care resources and incorporate the principles of evidence based medicine to make management decisions that maintain the best interest of the patient
2. Work effectively and efficiently in a cancer care setting
3. Supervision of other trainees (junior residents)

Health Advocate:

1. Identify risk factors important in the development of malignancies and provide appropriate counseling to patients and families
2. Identify those settings where the role of cancer screening is established and promote preventative strategies
3. Recognize and respond to issues in which advocacy on behalf of cancer patients is appropriate

Scholar:

1. Review and critically appraise medical information and incorporate the use of evidence into daily clinical decision making
2. Develop skills necessary in medical education of patients, students, residents and other health professionals
3. Presentation of a topic at Oncology meetings during the rotation

Professional:

1. Deliver quality care with integrity, honest and compassion
2. Exhibit personal and interpersonal professional behaviors which includes appropriate attendance and punctuality
3. Demonstrate knowledge of own limitations
ALLERGY AND IMMUNOLOGY ROTATION

GOALS AND OBJECTIVES

The resident will spend one month in the ambulatory service in the Allergy/Clinical Immunology rotation Al-Rashid hospital. During the rotation, the resident will achieve the following in their role as:

Medical Expert:

1. Achieve a sound knowledge base in the basic science and clinical principles pertinent to the practice of Allergy/Clinical Immunology in the areas of:
   - anaphylaxis,
   - food allergy,
   - allergic rhinitis,
   - otitis,
   - sinusitis,
   - asthma,
   - acute and chronic urticaria,
   - atopic dermatitis,
   - drug allergy and other adverse drug reactions (e.g. antibiotics, local and general anesthetics, latex, stinging insects),
   - autoimmune phenomenon,
primary/secondary immune deficiencies.

2. Attain proficiency in selection of appropriate methods of diagnosis and investigation of allergic and immunological diseases, including appropriate assessment of environmental contributors to the allergic disease and diagnosis of common abnormal laboratory results.

3. Acquire competence in management of allergic and immunologic diseases, including age-appropriate pharmacology, immunotherapy, and the provision of advice appropriate for patients, their families, and communities (e.g. schools, etc.).

4. Demonstrate appropriate history taking and physical exam skills for patients presenting with allergy/immunological diseases

Communicator

1. Demonstrate proficiency in verbal communication skills in order to elicit information from and present information about patients with allergic and immunological diseases.

2. Demonstrate proficiency in written skills accurately reflecting the information obtain from patients.

3. Develop effective communication skills and demonstrate appropriate therapeutic relationships with patients afflicted by allergic and immunological problems, and their families.

4. Demonstrate the ability to produce high quality consultation letters and or recommendations to referring physicians either in the outpatient or inpatient setting.
Collaborator

To interact with other members of the health care team/community to provide an appropriate care plan for the patient with allergic/immunologic disease.

Manager

1. Demonstrate appropriate time management skills in reviewing clinic patients and or inpatient consults.

2. Understand the functioning of the Allergy/Clinical Immunology Division within the health care organization, utilize its resources to balance patient care, learning needs and outside activities.

3. Make appropriate decisions when allocating finite health care resources.

Scholar

1. Demonstrate evidence of self-directed learning (e.g. reading around allergy/immunology diseases affecting both adult and pediatric populations.

2. Critically appraise sources of medical information with regards to allergic/immunologic diseases.

3. Demonstrate the use of evidence-based practice when applicable.
Professional

1. Deliver the highest quality care with integrity, honesty, and compassion.

2. Exhibit appropriate personal and interpersonal professional behaviors.

3. Respect diversity of age, gender, disability, intelligence, and socioeconomic status.

4. Practice medicine ethically, consistent with the obligations of a physician.

5. Exhibit punctuality.
HEMATOLOGY ROTATION GOALS AND OBJECTIVES

Introduction: The resident will spend 2 months in a clinical hematology unit.

The aim of this rotation is to adequately evaluate, diagnose, and provide initial treatment for patients with common hematological problems through direct patient care responsibility in the inpatient setting.

During the Hematology rotation, the resident will achieve the following in their role as:

Medical Expert

1. To gain expertise in the hematology physical examination.

2. To learn an approach to common blood count abnormalities, including anemia, thrombocytopenia, and leucopenia.

3. To know the diagnosis and management of the common lymphomas.

4. To understand an approach to the diagnosis and treatment of leukemia.

5. To learn an approach to the diagnosis and management of paraproteinemia.
6. To understand the myeloproliferative diseases and know an approach to their diagnosis and treatment.

7. To understand the major anticoagulants and the principles of their control.

8. To have an approach to the diagnosis and management of thrombophilia and venous thromboembolic disease.

9. To know the principles of blood component therapy

10. To interpret peripheral blood smear

**Communicator**

1. Communicate effectively with other healthcare professionals, verbally and by means of consult reports and letters.

2. Communicate effectively with patients and families.

3. Communicate recommendations effectively with letters or consults

**Collaborator**

1. Co-operate with the other members of the clinics and consult team to provide exemplary patient care.

2. Demonstrate appropriate collaboration with allied health professionals.
Manager

1. Demonstrate time management skills
2. Demonstrate appropriate supervision of junior trainees when applicable
3. Utilize resources wisely in the investigation and management of patients with hematological disorders.

Scholar

1. Critically appraise medical literature as it pertains to managing patients with hematological and oncological disorders.
2. Demonstrate use of the literature in management of patients with hematological diseases.
3. Facilitate the learning of other members of the healthcare team through presentations at Medical/Hematology meetings and at the bedside.

Professional

1. To relate to patients in a respectful and professional manner.
2. To be collegial and to treat other members of the healthcare team respectfully.
3. To recognize their own limitations.
Dermatology Rotation Goals and Objectives

Introduction: The resident will spend one month in dermatology rotation. The Goal is to improve knowledge and skills relevant to diagnosis and management of various skin diseases in order to improve recognition and management of dermatologic process seen in patients potentially presenting to an Internal Medicine specialist.

Medical Expert

Demonstrates sufficient knowledge to appropriately diagnose and manage the following:

1. Common and Important Skin Disorders
   a. Common Skin Cancers and their Precursors (basal cell carcinoma; actinic keratoses, squamous cell carcinoma; melanoma
   b. Psoriasis
   c. Eczema
   d. Vitiligo
   e. Ulcers (venous, arterial, mixed)

2. Dermatologic Emergencies
   a. Drug Eruptions including Drug Hypersensitivity Syndrome, Stevens Johnson Syndrome and Toxic Epidermal Necrolysis
   b. Pemphigus Vulgaris
   c. Erythroderma
   d. Acute cutaneous necrosis

3. Dermatological Manifestations of Internal Diseases
   a. Allergy and Immunology:
      i. Urticaria, Angioedema and Anaphylaxis.
   b. Rheumatology
      i. Connective Tissue Diseases: Systemic lupus erythematosus, Rheumatoid Arthritis,
Dermatomyositis, Scleroderma, Raynaud’s Phenomenon
ii. Psoriatic Arthritis Systemic
iii. Vasculitis
c. Hematology and Oncology
   i. Skin signs of internal malignancy including cutaneous metastases and nutritional deficiencies.
   ii. Leukemias and lymphomas
   iii. Dysproteinemias
   iv. Porphyrias
d. Endocrinology
   i. Diabetes mellitus
   ii. Thyroid disease
   iii. Adrenal, androgen-related, and pituitary disorders
e. Gastroenterology
   i. GI cancer syndromes (e.g. Gardner’s Syndrome, Muir Torre Syndrome)
   ii. Inflammatory Bowel Diseases (Erythema nodosum, Pyoderma gangrenosum, Sweet's Syndrome).
      Dermatitis herpetiformis
   iii. Chronic Liver Failure Cutaneous signs of viral hepatitis B and C (necrolytic acral erythema, lichen planus)
f. Infectious Diseases
   i. Cutaneous manifestations of systemic viral, bacterial, fungal infections, and protozoal diseases.
   ii. Herpes zoster and eczema herpeticum.
   iii. Cutaneous manifestations of AIDS and other STD’s
g. Miscellaneous
   i. Cutaneous nephrology (e.g. perforating disorder and calciphylaxis)
   ii. Transplant–associated skin disorders
   iii. Neurocutaneous diseases
   iv. Generalized pruritus
Demonstrates knowledge of the indications, contraindications and awareness of technique for key technical procedures relevant to the practice of Dermatology including:

1. Skin scraping or nail clipping
2. Viralswab
3. Cryotherapy
4. Punch biopsy of the skin

**Communicator**

1. Demonstrates effective methods for gathering historical information from patients
2. Effectively communicates information regarding the skin disease, management options and treatment plans to patients
3. Defines and discusses appropriate follow-up plans with the patient
4. Conveys oral and written medical information effectively with regards to the patient encounter.

**Collaborator**

1. Works effectively with primary services to optimize the medical care of the patient
2. Recognizes the role of allied healthcare professionals in the management of patients with skin disorders
3. Provides specific, responsive consultation to other services
Manager

1. Develops the ability to perform focused histories and physical examination in the time-limited environment of the outpatient clinics
2. Prioritizes consultations effectively based on patient based and system based factors

Health Advocate

1. Identifies opportunities for patient counseling and education regarding their medical conditions
2. Educates patients regarding lifestyle modifications that may prevent disease skin disease, including avoidance of sun exposure and use of sunscreens

Scholar

1. Accesses relevant medical information resources to answer clinical questions and support decision making
2. Appraises the quality of medical information resources
3. Applies new medical knowledge to the clinical question with consideration of whether the evidence can be generalized to an individual patient

Professional

1. Responds promptly and appropriately to clinical responsibilities including but not limited to consultation requests, and pages
2. Recognizes the scope of his/her abilities and asks for supervision and assistance appropriately
3. Demonstrates professional attitudes in interactions with patients and other healthcare team members