

# DUBAI RESIDENCY TRAINING PROGRAMME



## **SPECIALIST TRAINING PROGRAMME IN INTERNAL MEDICINE**

Four Year Residency Training Program

Continuing Education Department  
Dubai Department of Health and Medical Services

Programme Administrators

**Programme Director  
Co-Director**

**Rashid Hospital**

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## **I. Mission Statement**

The mission of the programme is to train specialists in General Internal Medicine (Internists) who are capable of independent practice. An internist is a specialist trained in the diagnosis and treatment of a broad range of diseases involving all organ systems, and is especially skilled in the management of patients who have undifferentiated or multi-system disease processes. An internist cares for hospitalised and ambulatory patients and may play a major role in teaching or research.

## **II. Goals and Objectives**

Upon completion of training, a resident in internal medicine is expected to be a competent specialist in internal medicine, capable of independent practice in the specialty.

The goals and objectives may be summarized as follows. The resident must:

- acquire a working knowledge of the theoretical basis of the specialty, including its foundations in the basic medical sciences and research.
- acquire the knowledge, attitudes, and skills common to all internal medicine practice.
- demonstrate knowledge of the pathophysiology, presentation of historical and clinical features, and appropriate investigation and medical management of acute and chronic disease processes.
- be able to identify, diagnose and treat single system or multi-system disease with appropriate prioritization of patient problems.
- demonstrate the knowledge, skills and attitudes relating to gender, culture and ethnicity pertinent to Internal Medicine.
- demonstrate an ability to incorporate gender, cultural and ethnic perspectives in research methodology, data presentation and analysis.
- contribute to research
- have self-evaluation and learning skills in the areas of problem-solving, evidence based medicine, and critical appraisal at a level to ensure that they remain effective clinicians, teachers and investigators throughout their careers

## **III. Educational Objectives:**

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**

Specialists possess a defined body of knowledge and procedural skills, which are used to collect and interpret data, make appropriate clinical decisions, and carry out diagnostic and therapeutic procedures within the boundaries of their discipline and expertise. Their care is characterized by up-to-date, ethical, and cost-effective clinical practice and effective communication in partnership with patients, other health care providers, and the community. The role of medical expert/clinical decision-maker is central to the function of specialist physicians, and draws on the competencies included in the roles of scholar, communicator, health advocate, manager, collaborator, and professional.

#### ***General Requirements***

- Demonstrate diagnostic and therapeutic skills for ethical and effective patient care using the best available medical practices.
- Access and apply relevant information to clinical practice.
- Demonstrate effective consultation services with respect to patient care and education.

- Demonstrate an understanding of medico-legal issues as they apply to Internal Medicine.

### ***Specific Requirements***

- Elicit, present, and document a history that is relevant, concise, accurate and appropriate to the patient's problem(s).
- Perform, interpret the findings of, present and document a physical examination that is relevant and appropriate.
- Select medically appropriate investigative tools, interpret the results of common diagnostic tests and demonstrate an understanding of their cost effectiveness, limitations and complications.
- Formulate a comprehensive patient problem list, synthesize an effective diagnostic and therapeutic plan and establish appropriate follow up.
- Demonstrate effective consultation skills in presenting well-documented assessments and recommendations in written and/or verbal form.
- Be able to assess, diagnose, and manage patients with common and uncommon diseases in the appropriate setting (emergency, in-patient and ambulatory). Also, to demonstrate an understanding of the epidemiology of such conditions.
- Demonstrate expertise in the management of:
  - multi-system and/or undifferentiated disease;
  - medical complications of pregnancy;
  - perioperative care; and
  - issues related to health maintenance and disease prevention.
- Apply knowledge and technical expertise in performing the following procedures, interpreting the results and demonstrating an understanding of their limitations and complications:
  - central venous catheter insertion;
  - lumbar puncture;
  - peripheral arterial catheter insertion;
  - abdominal paracentesis;
  - endotracheal intubation;
  - thoracentesis;
  - knee joint aspiration; and
  - electrocardiographic interpretation.
- Retrieve, critically appraise and apply relevant information to clinical practice.
- Demonstrate an understanding of basic pharmacology and its application to clinical practice.

## **2. Communicator**

To provide humane, high-quality care, specialists establish effective relationships with patients, other physicians, and other health professionals. Communication skills are essential for the functioning of a specialist, and are necessary for obtaining information from, and conveying information to patients and their families. Furthermore, these abilities are critical in eliciting patients' beliefs, concerns, and expectations about their illnesses, and for assessing key factors impacting on patients' health.

### ***General Requirements***

- Establish therapeutic relationships with patients/families.
- Obtain and synthesize relevant history from patients/families/communities.
- Listen effectively.

- Discuss appropriate information with patients/families and the health care team.

### ***Specific Requirements***

- Recognize that being a good communicator is an essential function of a physician, and understand that effective patient-physician communication can foster patient satisfaction and compliance as well as influence the manifestations and outcome of a patient's illness.
- Establish relationships with the patient characterized by understanding, trust, respect, empathy and confidentiality.
- Demonstrate the ability to communicate professionally and compassionately, while considering the influence of factors such as the patient's age, gender, sexuality, and ethnic cultural and socio-economic background.
- Demonstrate skills in:
  - providing clear, concise and timely verbal and written communication as applied to consultation notes, sign over of patient care and discharge planning;
  - communication with patients and families regarding informed consent, the medical condition, plan of treatment, prognosis, primary and secondary prevention, adverse events, medical uncertainty, medical errors, end of life wishes, autopsy and organ donation; and
  - communication with other health care professionals regarding all aspects of patient care.

### **3. Collaborator**

Specialists work in partnership with others who are appropriately involved in the care of individuals or specific groups of patients. It is therefore essential for specialists to be able to collaborate effectively with patients and a multidisciplinary team of expert health professionals for provision of optimal patient care, education, and research.

### ***General Requirements***

- Consult effectively with other physicians and health care professionals.
- Contribute effectively to other interdisciplinary team activities.

### ***Specific Requirements***

- Identify and describe the role, expertise and limitations of all members of an interdisciplinary team required to optimally achieve a goal related to patient care, a research problem, an educational task, or an administrative responsibility.
- Develop a care plan for a patient they have assessed, including investigation, treatment and continuity of care, in collaboration with members of the interdisciplinary team, the patient and the family.
- Participate in an inter-physician or an interdisciplinary team meeting, demonstrating the ability to accept, consider and respect the opinions of other team members, while contributing specialty-specific expertise.

### **4. Manager**

Specialists function as managers when they make everyday practice decisions involving resources, co-workers, tasks, policies, and their personal lives. They do this in the settings of individual patient care, practice organizations, and in the broader context of the health care system. Thus, specialists require the abilities to prioritize and effectively execute tasks through teamwork with colleagues, and make systematic decisions when allocating finite health care resources. As managers, specialists take on positions of leadership within the context of professional organizations and the Dubai health care system.

### ***General Requirements***

- Utilise resources effectively to balance patient care, learning needs, and outside activities.
- Allocate finite health care resources wisely.
- Work effectively and efficiently in a health care organization.
- Utilise information technology to optimize patient care, life-long learning and other activities.

### ***Specific Requirements***

- Utilise appropriate time management for effective patient care, administrative duties and scholarly activities.
- Recognise the business and financial skills needed for a successful medical practice and/or academic career.
- Implement patient care practices considering available health care resources.
- Have an understanding of population-based approaches to health care services and recognise their implication for medical practice.
- Demonstrate conflict resolution skills.

## **5. Health Advocate**

Specialists recognize the importance of advocacy activities in responding to the challenges represented by those social, environmental, and biological factors that determine the health of patients and society. They recognize advocacy as an essential and fundamental component of health promotion that occurs at the level of the individual patient, the practice population, and the broader community. Health advocacy is appropriately expressed both by the individual and collective responses of specialist physicians in influencing public health and policy.

### ***General Requirements***

- Identify the important determinants of health affecting patients.
- Contribute effectively to improved health of patients and communities.
- Recognize and respond to those issues where advocacy is appropriate.

### ***Specific Requirements***

- Educate patients and families about and promote the importance of long-term healthy behaviors and preventive health care (e.g. smoking cessation, screening tests, vaccinations, exercise, and nutrition).
- Respect and empower patient autonomy.
- Promote equitable health care.
- Apply the principles of quality improvement and quality assurance.
- Appreciate the existence of global health advocacy and initiatives for elimination of poverty and disease, (e.g. tuberculosis, malaria, Acquired Immune Deficiency Syndrome).

## **6. Scholar**

Specialists engage in a lifelong pursuit of mastery of their domain of professional expertise. They recognize the need to be continually learning and model this for others. Through their scholarly activities, they contribute to the appraisal, collection, and understanding of health care knowledge, and facilitate the education of their students, patients, and others.

### ***General Requirements***

- Develop, implement and monitor a personal continuing education strategy.
- Critically appraise sources of medical information.

- Facilitate learning of patients, house staff/students and other health professionals.
- Contribute to development of new knowledge.

### ***Specific Requirements***

- Understand the principles of scientific research and how these principles apply to the development and implementation of a research proposal.
- Understand how to search and critically appraise the medical literature.
- Demonstrate the ability to teach medical students, residents, patients, colleagues and other health care professionals.
- Develop lifelong learning skills.

## **7. Professional**

Specialists, as professionals, have a unique societal role with a distinct body of knowledge, skills, and attitudes dedicated to improving the health and well being of others. Specialists are committed to the highest standards of excellence in clinical care and ethical conduct, and to continually perfecting mastery of their discipline.

### ***General Requirements***

- Deliver highest quality care with integrity, honesty and compassion.
- Exhibit appropriate personal and interpersonal professional behaviours.
- Practise medicine ethically consistent with obligations of a physician.

### ***Specific Requirements***

- Discipline-based objectives:
  - Display attitudes commonly accepted as essential to professionalism.
  - Evaluate one's abilities, knowledge and skills, recognize one's limitations and use appropriate strategies to maintain and advance professional competence.
- Personal/Professional Boundary Objectives:
  - Strive to heighten personal and professional awareness and explore and resolve interpersonal difficulties in professional relationships.
  - Strive to balance personal and professional roles and responsibilities.
  - Demonstrate ways of attempting to resolve conflict and role strain.
- Objectives related to Ethics and Professional Bodies:
  - Know and understand the professional, legal and ethical codes to which physicians are bound.
  - Recognize, analyze and attempt to resolve in clinical practice ethical issues such as truth telling, consent, advanced directives, confidentiality, end-of-life care, conflict of interest, resource allocation, research ethics, interactions with the pharmaceutical industry.
  - Understand and apply relevant legislation that relates to the health care system in order to guide one's clinical practice.
  - Recognize and know how to deal with unprofessional behaviours in clinical practice, taking into account local and provincial regulations.

## **IV. Administrative Structure**

### **1. Programme Director**

The program director is senior physician for the overall conduct of the Residency Program. The Residency Program Director is responsible to the Chair of the Department

of Medicine and to the Postgraduate Dean and is a member of the Postgraduate Education Committee.

**2. Programme Site Co-Director**

The Program Site Co-directors are responsible for the day-to-day functioning of the Residency Program at each institution participating in the Program. The Program Site Co-directors are responsible to the Program Director. There must be active liaison between the Program Director and the Program Co-directors.

**3. Residency Programme Committee**

The Residency Program Committee assists the Program Director in the planning, organization, and supervision of the Program. The Residency Program Committee must meet regularly, at least quarterly, and keep minutes. The Programme Director who is its executive officer chairs it.

This committee includes

- A representative from each participating institution,
- the Program Site Co-Directors
- A representative of each major component of the program: these being Cardiology, Gastroenterology, Neurology, and Respiratory Medicine,
- Representatives of Residents in the Program nominated and elected by their peers in the program. Where numbers permit this representation should consist of at least one each from Dubai Hospital and Rashid Hospital.

**4. Responsibilities of the Programme Director**

The responsibilities of the Program Director, assisted by the Residency Program Committee include:

- Development and operation of the Program such that it meets the standards of accreditation for a specialty program in Internal Medicine.
- Selection of candidates for admission to the program
- Evaluation and promotion of residents in the program in accordance with policies approved by the Postgraduate Medical Education Committee.
- Maintenance of an appeal mechanism. (see description of Appeal Mechanism)
- Establishment of mechanisms to provide career planning and counseling for residents and to deal with problems such as those related to stress in collaboration with the Residents Affairs
- An ongoing review of the Program to assess the quality of the educational experience and to review the resources available in order to ensure that maximal benefit is being derived from the integration of the components of the program.

This review must include:

- An assessment of each component of the Program to ensure that the educational objectives are being met
- An assessment of resource allocation to ensure that resources and facilities are being utilized with optimal effectiveness
- An assessment of the teachers in the program

Further to those responsibilities listed above, the Program Director must function as a resident advocate and aid in the organization of other educational opportunities. The Program Director is responsible for assigning residents their rotation and service schedules. The Program Director is responsible to the residents to train them well in a humane atmosphere.

The Program Director reports to the Postgraduate Dean.

**5. Programme Sites**

The Residency Program in Internal Medicine will utilize the following sites:

- Dubai Hospital, Dubai
- Rashid Hospital, Dubai
- Other hospitals or institutions recognized for training by the Accreditation Committee of the Postgraduate Medical Education Committee

#### 6. Entry Requirements

Prospective candidates:

- Should have successfully completed basic medical training leading to MBBS, MD, or MB Ch from a recognized institution.
- Must have completed a one year internship programme that included at least three months of Internal Medicine.
- Must be fully registered by the competent Authority, to practice Medicine in the United Arab Emirates.
- Must be successful at an Evaluation Examination which may include an oral and/or written examination and oral interview. The Office of Postgraduate Education in collaboration with the Admission Committee will supervise the Evaluation. Applications will be submitted on line in response to advertisement.

#### 7. Number of Posts and Duration of Programme

The number of posts in the Internal Medicine Residency Program is **10**. This number reflects the available resources at the program sites and the need within the community.

The duration of the Program is four years of formal supervised training plus two years of apprenticeship in a senior specialist position. The resident would have successfully challenged the Arab Board and the British membership examinations by the end of the fourth year. Residents may start applying for overseas fellowship at this time. The fourth and fifth years are as Chief of resident in General Internal medicine or a sub-specialty of interest. The end of training is marked by an assessment by a panel of external and internal examiners and certification by a competent authority. The respective postgraduate committees are developing the structure of this final examination.

### V. Program Structure

Residents will enter the program having received a broad foundation in several aspects of general medicine and surgery during their internship year. **Fundamental to the program is a graded increase in responsibility for the resident as they proceed through the training. This level of responsibility will be dependent on their ability, experience and level of training. Appropriate levels of supervision for the trainee will be maintained throughout the program to maximize educational opportunities as well as to optimise patient care and satisfaction.**

#### 1. Core Rotations:

The program will provide a strong base of General Internal Medicine in the first two years that will be followed by experience in each of the major subspecialty areas:

In order to give the maximum exposure to all the available specialties, a minimum of 3 months will be spent in each rotation in the first year. The rotations in the second year and third years cover the subspecialties and three of the four core rotations. The resident will select two of the four core rotations in the fourth year and spend longer time (18 weeks) in each than in the previous years. In addition there is an 8 wk elective, which can be used,

for revision in the other two core specialties or sub-specialties. Four weeks are allocated to research in each of Years 2-4. The fifth year is a post-residency experience in a sub-specialty of interest and can be part of a local Fellowship training. The end will be marked by an assessment and certification.

During the first four years, the residents would have completed all the requirements for the Arab Board and the British College of Internal Medicine and are expected to have passed all the examinations.

## **2. Elective:**

The resident will be given the opportunity for additional experience in an area of interest that may be outside of the prescribed selective experiences. This 8 week elective period will be in an area to be chosen by the resident in consultation with the Program Director.

## **3. Academic Half Day:**

One half-day per week will be designated as protected academic time. This period will be utilized to bring all residents in the program together in order to undertake lectures, workshops and other learning experiences that are best delivered in this format. These sessions are meant to compliment and augment learning that is taking place in the clinical setting.

## **4. Research Blocks:**

A block of 4 weeks that is left unscheduled for clinical training in each of the years 2-4 is for resident research into a chosen topic. The Programme Director will identify the Research supervisor at the beginning of the residency.

## **5. Chief Resident Year:**

In the fourth year, the resident will assume responsibility, under supervision, approximating and consolidating consultant skills. He/she will provide care for ambulatory patients and in-patients with complex problems and will have administrative and educational responsibilities for a significant portion of the year.

## **6. Vacation and Conference Leave:**

Each year will include four weeks of vacation and one week of conference leave that may be taken at any time in the program with the approval of the Programme Director and the supervisor of the affected rotation. An effort will be made to avoid significantly impacting the educational experience on any single rotation that might occur should a prolonged leave take place within a single rotation.

## **7. Absences from training**

Residents are statutorily entitled to short breaks as per government announcements. In addition they are entitled to absence for special leave, compassionate leave, sick leave and maternity leave. The totality of leave for these purposes should not exceed ten weeks during the four years of training. If this period is exceeded, additional training will be required and the date of Certification will be postponed.

# **VI. Evaluation of Resident Performance**

## **1. Format**

The ultimate responsibility for compiling the Final In-Training Evaluation of the resident lies with the Program Director. During each rotation of the program the resident will be

supervised and evaluated by the rotation supervisor directly or by the members of the rotations teaching faculty as co-coordinated by the rotation supervisor. Evaluations will reflect the goals and objectives for the rotation as set out in this document. At the beginning of each rotation the goals and objectives for the rotation will be reviewed by the rotation supervisor with the resident and these will be reviewed periodically during the rotation to ensure that progress is being made towards their attainment.

Evaluation will be ongoing throughout the rotation and be composed of several components and will include a formal written exam, oral exam as well as by direct observation of resident performance in clinical situations. This evaluation will be at the end of each rotation.

Clinical and operative skills will be assessed by direct observation by the rotation's teaching staff. Communication skills will be assessed by direct observation of resident interaction with patients and families as well as by examining written communications to patients and colleagues. Resident's interpersonal skills will be assessed by observing collaborations with all members of the patient care team and their wise use of consultations with other specialties, subspecialties and non-medical disciplines. Teaching skills will be assessed by written student evaluation and by direct observation of the resident in seminars, lectures and case presentations. Attitudes will be assessed by observation and by using feedback from peers, supervisors, allied health personnel, and patients and their families.

## **2. Feedback:**

Honest and constructive feedback will be provided to the resident in a timely fashion. Formal feedback sessions will take place at the midpoint of each rotation and at the end of the rotation following the evaluation process. Examples of formats for the end of rotation In-Training Evaluation Form are in the appendix. There should also be regular feedback to residents on an informal basis. To facilitate this and to provide the rotation supervisor with further information to complete the end rotation In-Training Evaluation Form a day to day evaluation tool will be used. This tool will be either in the form of paper 'Encounter Cards' or one of the Palm Pilot based problem management programs currently available for postgraduate resident education. An example of an 'Encounter Card' is given in the appendix. As well, a case log will be maintained by the resident and signed by the senior clinician involved with the particular case. The Programme Director will inspect this periodically by the rotation supervisor and discussion around the cases will occur to ensure progress in the area of patient management. Examples of a case log page may be found in the appendix.

## **3. Standards**

The residents and the Program Director are ultimately responsible for the candidates' successful progress through and completion of the Program. The Programme Director will review each rotation evaluation and any concerns will be reviewed with the resident. As well, rotation supervisors and site co-coordinators will be encouraged to make any concerns about the resident known at the earliest opportunity in order that any deficiencies may be addressed in a timely and effective manner. A clear plan for addressing any deficiencies will be developed by the involved parties.

If two consecutive evaluation reports are either "Borderline" or "Poor", or the resident is absent from the Program for two months in any one year, the resident will be invited for counseling by the Program Director and the resident's progress reviewed. Such a resident is allowed to continue with the Program at the discretion of the Postgraduate Dean and based on the recommendation of the Program Director and the Residency Program Committee. It is

expected that inputs from the tutors and the involved rotation and supervisors will weigh heavily in these considerations.

Any period of absence in excess of two months will result in the addition of a make-up period. The duration, timing and composition of this period will be at the discretion of Program Director after consultation with the Residency Program Committee and the involved resident.

The resident must pass the Part 1 examination of either the Arab Board for Specialization or the MRCP starting at the end of the first year. If a resident has not passed either of these examinations after two attempts, the Program Director will initiate a review of the resident's progress and consideration may be given to withdrawing from the program and selecting an alternate career path.

Before the end of Year 4, a resident must have successfully completed all components of the Arab Board and British Royal College of Physician Examinations. At the end of year 5 the residents will be assigned by an examination with the following components; a comprehensive written examination, a clinical examination and OSCE. This is a requirement for completion of the program.

If a resident fails to successfully complete the Final Examination, a re-sit examination will be arranged within one month of the first attempt. If the resident fails to pass the re-sit examination, a review with the Program Director will be undertaken. The resident will be required to complete another year in the Programme prior to attempting the examination again. Only one additional year may be spent in the Program and a resident cannot be certified as having successfully completed the program if they do not pass the Final Examination even if they pass the Part 2 of either the Arab Board for Specialization or the MRCP.

Should a resident be dissatisfied with their assessment at any point in the program they are encouraged to review the issues with the involved rotation supervisor or the Programme Director. If satisfactory resolution cannot be obtained the resident has the right to lodge a formal complaint with the Programme Director, the Residency Program Committee or the Postgraduate Dean. The complaint will then undergo the process as outlined in the guidelines for appeal.

**DUBAI RESIDENCY TRAINING PROGRAM  
INTERNAL MEDICINE ROTATION**

	4w	4w	4w	4w	4w	4w	4w	4w	4w	4w	4w	4w	4w
<b>4<sup>th</sup> Year</b>	Specialty Selective						Specialty Selective						Exam
<b>3<sup>rd</sup> Year</b>	Specialty Cardiology DH,RH	Specialty Gastroenterology RH	Gen Med DH	Geriatric RH	(A/EDH,RH), (NeuroRH) (RespDH,RH) Selectives/Electives	Research		Leave					
<b>2<sup>nd</sup> Year</b>	Specialty Resp AMH, DH	Specialty Nephro DH	Specialty Haematology RH 6wk	Gen Med, IDU RH 6 wk	Med ICU RH,DH	Radiol RH,DH	Derma RH,DH	Psych RH	Research	Leave			
<b>1<sup>st</sup> Year</b>	Gen Med Gastro (RH)	Gen Med Rheu (DH)	Gen Med Endo/DM RH,DH	Neurology RH	Gen Med Cardio RH, DH	A/E RH,DH	Research	Leave					

## **VII. Evaluation of the Programme**

### **1. Residency Programme Committee**

The Residency Programme Committee under the leadership of the Programme Director will be responsible for the ongoing evaluation of the programme. This will include an assessment of the strengths and weaknesses of the programme and recommendation of improvements. As well, all residency training sites, including elective experiences will be assessed and evaluated. Formal evaluation of all of the teaching staff affiliated with the program. Discussion regarding the program will occur at all residency program committee meetings and a formal evaluation of the program accompanied by a report should occur on a yearly basis.

### **2. Internal Review**

The internal review is intended as a mechanism to assist the sponsor in maintaining the quality of Residency Programme and providing the Programme Administrators with information about the strengths and weaknesses of the Programme, so that necessary corrective measures may be taken.

The Postgraduate Dean should initiate the internal review and the team should include: a Programme Director from another Programme, a staff member from another discipline who is experienced in postgraduate medical education, and a resident from another discipline. The review team should have available all documentation regarding the Programme. A series of interviews should take place with the Programme Director, teaching staff, members of the resident group, and with the Residency Programme Committee.

Visits to individual sites should occur when indicated. The internal review team should review all residency education sites and elective experiences. There should be a careful assessment of the quality of the program and the degree to which it fulfills its Goals and Objectives.

The written report of the internal review should include the strengths and weaknesses of the Programme and specific recommendations for continued development and improvements. This report should be submitted to the Postgraduate Dean, and made available to the Chair of the department, the Programme Director, and members of the Residency Programme Committee.

Internal Review should take place every two years

### **3. External Review**

The Programme should undergo an external review every 5 to 6 years. The process of the external review is similar to that of the internal review with the exception of the make up of the review committee. The external review is initiated by the Postgraduate Dean and the team should include: a representative of an accrediting body in Internal Medicine, a Programme Director from another Internal Medicine Programme accredited by the aforementioned body, a faculty member from another discipline who is experienced in postgraduate medical education, and a resident from an accredited external program.

The external review committee would generate a report that should include the strengths and weaknesses of the program and specific recommendations for continued development and improvements. This report should be submitted to the Postgraduate Dean and made available

to the Chair of the Department, the Programme Director, and members of the Residency Programme Committee.

#### VIII. THE CERTIFICATE:

On satisfactory completion of the entire program of specialist training, the Programme Director will notify the Postgraduate Dean and a certificate of completion of training will be issued. The authorized signatories on the certificate will be the Programme Director, Director General/Assistant Director General (MA) and Postgraduate Dean

#### IX. References

- Policies and Procedures for Certification and Fellowship, Royal College of Physicians and Surgeons of Canada, January 2001
- General Standards of Accreditation, Royal College of Physicians and Surgeons of Canada, September 2006
- General Information Concerning Accreditation of Residency Programs, Royal College of Physicians and Surgeons of Canada, 2006
- Specific Standards of Accreditation for Residency Programs in Internal Medicine Royal College of Physicians and Surgeons of Canada, 2006
- Objectives of Training and Training Requirements in Internal Medicine, Royal College of Physicians and Surgeons of Canada, 2006
- Residency Training in Internal Medicine; A Collaborative Program of the Faculty of Medicine and Health Sciences and the The General Authority of Health Services. Departments of Medicine at Al-Ain, Tawam Hospitals and Faculty of Medicine and Health Sciences. January 2006. by Professor Michael Ellis

## APPENDIX 1

### Syllabus

There are no *specific* syllabi for the higher diplomas of the Arab Board for Specialization in Internal Medicine or the MRCP [UK]. However attached is a comprehensive outline of those areas in which the Resident should acquire good knowledge, clinical competence including appropriate technical abilities. Each sub-specialty component of the Program has an introduction describing the contribution of that specialty in Internal Medicine. The key areas of Basic Science, which the Resident should be familiar with, follow this. Those emergency situations and clinical scenarios of each specialty are listed in which there should be a thorough knowledge and application of the more frequent problems the General Internist will encounter. There is itemization of those investigations and procedures that the Resident should have observed over the four years. Those **procedures** identified by an asterisk\* are mandatory for the Resident to have performed personally under supervision. The minimum numbers of each procedure/investigation are listed in the logbook, which should be completed. The logbook entries will form part of the yearly and final evaluation. A sub-specialty reading list is included in each section, which although this is not essential reading, the Resident is encouraged to use, particularly for interests that the Resident may develop.

#### Basic science

**Common to all specialties:** regional anatomy, physiology, defense mechanisms, clinical pharmacology [drug interactions, adverse drug effects, risk groups, knowledge of main drug classes – their mechanism of actions and indications], and clinical chemistry as relevant to each specialty

**Genetics and Molecular Medicine**

**Epidemiology and statistics**

**Immunology**

#### INTERNAL MEDICINE SPECIALITIES

##### 1. CARDIOLOGY

Cardiology constitutes a substantial proportion of Internal Medicine, with cardiac admissions accounting for at least 20% admissions to medical wards.

The Resident should

- have a firm knowledge of the basic mechanisms of disease causation, varying manifestations and treatments.
- have a firm understanding of the epidemiology of cardiac diseases and preventive cardiology is essential to the competent practice of cardiology.
- have a clear knowledge of the clinical presentations of all cardiac diseases as seen in the Emergency Room, Hospital wards and in health centers.
- have a thorough knowledge of the therapy of myocardial infarction and other coronary syndromes Investigations form a core part of the management of cardiac diseases.
- be familiar with ECG interpretation, echocardiography and its diagnostic capabilities, exercise and pharmacological stress testing, myocardial perfusion imaging, stress echocardiography, coronary angiography and cardiac MRI.
- familiar with therapeutic procedures in coronary heart disease including coronary angioplasty and stent implantation, coronary bypass grafting and valve replacement.
- have a clear understanding of rheumatic valvular disease and its treatment.
- thorough understanding of hyperlipidemia and its management

## **Core subject knowledge**

### **Basic science**

Regional anatomy: fetal circulation, principal blood vessels, coronary anatomy and circulation; Conducting system of the heart; Cardiac cycle; Cardiac performance

### **Clinical**

- Symptoms and signs of heart and vascular diseases
- Ischemic heart disease; myocardial infarction
- Arrhythmias
- Heart failure
- Cardiogenic shock
- Hypertension
- Valvular heart disease
- Infective endocarditis
- Myocarditis and pericarditis
- Cardiomyopathies
- Peripheral vascular disease
- Cardiac transplantation
- Peripheral vascular disease
- Congenital heart disease
- Inflammatory vasculitides
- Systemic disease and cardiology

### **Emergency management**

- Unstable angina
- Arrhythmias
- Myocardial infarction
- Left ventricular failure
- Malignant hypertension

### **Common presentation scenarios**

- Chest pain syndrome
- Shock state
- Acute pulmonary edema
- Cyanosis
- Breathlessness
- Palpitations
- Edema

### **Investigations, procedures, and interpretation of ACLS certification**

- ECG interpretation
- Ambulatory ECG
- Echocardiography
- Cardiac catheterization
- Cardiac pacing
- *Cardio- Pulmonary resuscitation*
- *Advance cardiac Life support (ACLS) Certification\* Strongly recommended*

### **Cardiology reading**

- An introduction to electrocardiography <sup>recommended</sup> : Leo Shamroth
- Heart Disease: a textbook of cardiovascular disease <sup>reference</sup> : Eugene Braunwald

## **2. ENDOCRINOLOGY AND METABOLIC DISEASES**

The General Interest frequently encounters endocrine disorders and it is essential for the Resident to be familiar with many of these diseases.

### ***Core subject knowledge***

- Classification of hormones
- Mechanisms of hormone action
- Hypothalamic regulatory hormones
- Anterior pituitary hormones
- Posterior pituitary hormones
- Adrenal cortex

### ***Basic science***

- Adrenal medulla
- Thyroid
- Pancreas
- Physiological response of mother to pregnancy

### ***Clinical***

- Symptoms and signs of endocrine disorders
- Diabetes mellitus
- Hypoglycemia
- Hypo- and hyperthyroidism
- Hypo- and hypercalcemia
- Thyroid nodules and cancer
- Hypopituitarism
- Pituitary tumors
- Endocrine hypertension
- Hypo- and hyperadrenalism
- Pheochromocytoma
- Hyperaldosteronism, hypoaldosteronism
- Osteomalacia and rickets
- Osteoporosis
- Multiple endocrine neoplasia
- Dyslipidemias
- Porphyria
- Obesity
- Anorexia nervosa
- Polycystic ovary syndrome
- Hirsutism
- Mild hypogonadism
- Female hypogonadism
- Menopause

### ***Emergency management***

- Diabetic ketoacidosis
- Hyperosmolar non-ketotic coma
- Hypoglycemia
- Addisonian crisis
- Hypopituitary crisis
- Pheochromocytoma crisis
- Thyrotoxic crisis
- Myxedema crisis
- Hypokalemia
- Hypercalcemia

### ***Common clinical scenarios***

- Thirst, polyuria syndrome
- Hyperpigmentation
- Weakness, fatigue
- Sexual dysfunction
- Appetite and weight symptoms
- Sympathetic system disturbances

### ***Investigations and procedures***

- CT and MRI pituitary and adrenals
- Radionuclide scan of thyroid
- Ultrasound of thyroid
- Bone densitometry
- Fine needle aspiration of thyroid nodules
- Oral glucose tolerance test
- ACTH stimulation test

### **Endocrinology reading**

Endocrine secrets: Hanley and Belfus.

### 3. GASTROENTEROLOGY

**During the Residency Program clinical skills will be acquired to enable the future Specialist to recognize and manage gastrointestinal problems within Internal Medicine.**

#### *Core subject knowledge*

##### *Basic science*

- Regional anatomy: surface markings, diaphragm, thoracic duct, esophagus, stomach, duodenum, liver
- Physiology of stomach, pancreas, biliary system, small intestine, colon

##### *Clinical*

- Symptoms and signs of gastrointestinal and hepatobiliary diseases
- Oral Medicine
- Esophagitis, reflux, esophageal cancer
- Peptic ulcer disease
- Coeliac disease
- Colitis
- Crohn's disease
- Gastric cancer
- Irritable bowel syndrome and functional disorders
- Malabsorption
- Pancreatic cancer
- Pancreatitis
- Colorectal cancer
- Diverticular disease
- Gallstone diseases
- Alcoholic liver disease
- Acute viral hepatitis
- Chronic viral hepatitis
- Primary biliary cirrhosis
- Haemochromatosis
- Wilsons disease
- Hepatic cancer
- Gastro-intestinal hemorrhage
- Ischemic bowel disease
- Acute abdomen
- Ascites
- Liver transplantation
- Hepatic encephalopathy
- Infections

##### *Emergency management*

- Upper gastrointestinal hemorrhage
- Acute pancreatitis
- Acute colitis
- Fulminant hepatic failure

##### *Common presentation scenarios*

- Intestinal [?] blood loss
- Diarrhea
- Abdominal pain
- Jaundice
- Abdominal distension and masses
- Anorexia and weight loss

##### *Investigations and procedures*

- Upper gastrointestinal endoscopy
- Intestinal biopsy
- ERCP
- Sigmoidoscopy Colonoscopy
- Crosby capsule
- Breath tests
- Intestinal motility and pH

- Liver Biopsy
- Abdominal Paracentesis
- Plain radiology
- Ultrasonography of the hepatobiliary system
- Abdominal CT, MRI
- Angiography
- Insertion of Sengstaken Blakemore tube

### **Gastroenterology Reading**

- Clinical Gastroenterology<sup>REFERENCE</sup>. Editors: Edgar Achkar, Richard G Farmer, Bertram Fleshler. Publisher: Lea & Febiger, Philadelphia, London

## **4. HAEMATOLOGY**

Hematological diseases encompass both benign and malignant disorders. A firm knowledge of molecular biology is important to comprehend the malignant hematological conditions. A comprehensive understanding and competence in Haematology is therefore crucial for the Resident.

### *Basic science*

- Hematopoiesis and hematopoietic growth factors
- Immunohematology; HLA typing
- Molecular basis of malignant blood disorders

### *Core subject knowledge*

- The anemias
  - Iron-Deficiency Anemia
  - Megaloblastic Anemia
  - Anemia of Chronic Disease
  - Aplastic Anemia
- Primary and Secondary Erythrocytosis
- Hemolytic Anemia: Congenital and Acquired
- Iron-Overload Disorders
- Immunohematology; HLA typing
- Genetic Disorders of Hemoglobin
- Platelet Disorders: Hereditary and Acquired
- Myeloproliferative Diseases
- Myelodysplastic Syndromes
- Cytogenetics and Molecular Basis of Leukemia and Lymphoma
- Acute Leukemia
  - Acute Myeloid Leukemia
  - *Acute Lymphoblastic Leukemia*
- Chronic Leukemia
  - Chronic Myeloid Leukemia
  - Chronic Lymphocytic Leukemia and Related Disorders
- Multiple Myeloma and Related Monoclonal Gammopathies
- Benign Lymphocytic Disorders
- Malignant Lymphomas
- Hodgkin's Disease
- Non Hodgkin's Lymphoma
- Hemostasis: Hemorrhagic and Thrombotic Disorders

- Transfusions: Blood and Blood Components, complications of Transfusions
- Stem-Cell Transplantation

#### ***Emergency management***

- Acute severe blood loss
- Neutropenic fever with sepsis
- Deep venous thrombosis and pulmonary embolism
- Sickle cell sequestration crisis
- Disseminated intravascular coagulation
- Severe acute hemolysis
- Thrombotic thrombocytopenic purpura-hemolytic uremic syndrome

#### ***Investigations and procedures***

- Interpretation of CBC results
- Interpretation of blood films
- Bone marrow aspiration and trephine biopsy
- Interpretation of bone marrow aspiration and trephine biopsy
- Platelet pheresis

#### ***Haematology Reading***

- Essential Haematology by A Hoffbrand and I Petit<sup>BASIC</sup>. or
- ABC of Clinical Haematology by D. Provan and A. Henson<sup>RECOMMENDED</sup>.
- Basic Hematology by Hoffbrand and Pettit<sup>REFERENCE</sup> or
- Williams Hematology by E Beutler and M Lichtman<sup>REFERENCE</sup>.

### **5. INFECTIOUS DISEASES**

Infections comprise a substantial element of Internal Medicine [20% of examination questions in the ABIM are Infectious Diseases topics] and cross subspecialty barriers in terms of presenting clinical features and diagnostic techniques. It is in this specialty that a truly comprehensive history and physical examination approach is required; special attention is needed for travel and social aspects of disease. Diagnostic tools are firmly based on the understanding of microbial growth and the host response to infection – it is important to have clarity in understanding microscopical interpretation of stains, cultures and serological investigations. The basic science element is based on the microbe-host interaction that characterizes this discipline. The Resident’s knowledge of Infectious Diseases also requires more than knowledge of the consequences of Infection; correct use of antimicrobials, prevention of transmission, bacterial resistance are some concomitant areas that should be covered.

#### ***Core subject knowledge***

##### ***Basic science***

- |   |  |
|---|--|
| • Classification of micro-organisms                   | • Oncogenic viruses                        |
| • Bacterial characteristics, reservoirs of infections | • Important serologic tests                |
| • Endotoxins, exotoxins                               | • Fungal structure                         |
| • Antibacterial chemotherapy                          | • Antifungal chemotherapy                  |
| • Structure of viruses                                | • Parasites and antiparasitic chemotherapy |
| • Virus replication                                   | • Opportunistic pathogens                  |
| • Antiviral chemotherapy                              | • Incubation periods                       |
| • Slow viruses  | • Vaccines and immunization schedules      |

- Sterilisation and disinfection
- Immunology: cells involved in the immune response to infection, cytokines, heat shock proteins, free

radicals, nitric oxide, pathology of septic shock, basis of immunodeficiency states

- Pathophysiology of fever

### *Clinical*

- Broad knowledge of bacterial, viral, chlamydial and rickettsial diseases
- Major infections of the sub-specialties of Medicine
- Major infections of other Disciplines [surgery, obstetrics, intensive care etc]
- Staphylococcal, streptococcal diseases
- Typhoid
- Malaria
- Bacterial meningitis
- Viral meningitis
- Pulmonary tuberculosis
- Extrapulmonary tuberculosis
- Anaerobic sepsis – gangrene, Fournier’s
- Brucellosis
- Infectious mononucleosis
- Tetanus
- Varicella-zoster
- Major diseases of gastro-entero-colitis: salmonellosis, campylobacteriosis, shigellosis, yersiniosis, *clostridium difficile*, giardiasis
- Amoebiasis

- Syphilis
- Gonorrhoea
- Other sexually transmissible diseases
- “Tropical” Diseases
- HIV infection
- Endemic fungal infections
- Cryptococcosis
- Systemic nosocomial invasive mycoses including Aspergillosis and Candidiasis
- Antimicrobials: classification, mode of action principles and practice of use
- Epidemiology
- Principles of Infection Control
- Pyrexia of unknown origin
- Viral haemorrhagic fevers
- Important emergent infectious diseases
- Vaccination
- Infection in the immunocompromised
- Diseases of the Traveller, travel advice
- Sepsis syndrome, septic shock
- Infectious Diseases prophylaxis
- Notifiable diseases

### *Emergency management*

- Septicemia
- Bacterial meningitis
- Fulminant malaria
- Sepsis in the immunocompromised
- Needle stick and mucous membrane exposures
- Infectious endocarditis
- Orbital cellulitides

### *Common presentation scenarios*

- Fever
- Fever of unknown origin in hospital and community patients
- Fever in the returned traveller
- Chills, rigors
- Rash
- Lymphadenopathy
- Chronic fatigue
- See appropriate scenarios in other subspecialities
- Abnormal white blood counts

- Abnormal serology tests

### ***Investigations and procedures***

- Lumbar Puncture\*
- Abscess aspiration including radiology control
- Serological tests
- Interpretation of microbiology stains, culture results
- Tuberculin testing
- Sputum examination
- Radiology investigations
- Other invasive procedures as described under other sub-specialties

### **Infectious Diseases Reading**

- Principles and Practice of Infectious Diseases: Mandell, Bennett, Dolin<sup>CLASSIC, REFERENCE</sup>

## **6. NEPHROLOGY**

**The roots of the specialty of Nephrology are firmly entrenched in discipline such as histopathology, immunology & physiology – the basic sciences that helped to elucidate both the pathogenesis of various renal diseases and the kidney’s role in hypertension and common electrolyte and acid-base disturbances.**

With the availability of hemodialysis, peritoneal dialysis and effective immunosuppressive therapy for kidney transplant patients, however, the clinical practice of nephrology has centered increasingly on the management of patients with end-stage renal disease.

Technological improvements in renal replacement therapies (i.e. dialysis and renal transplantation) have resulted in a dramatic increase in the number of patients where lives can be sustained despite end-stage renal disease.

To the extent that renal diseases such as hypertension, electrolyte and acid-base disturbances and various kidney diseases occur in patients caused for by virtually all medical and surgical specialties and house officers should regard basic concepts of nephrology as an essential element of training.

This program will provide information about all aspects of nephrology that will be of value to the nephrologist as well as the General Physician who seeks a review of essential topics in the field.

### ***Core subject knowledge***

- Fluid balance
- Acid-base balance
- Kidney functions
- Renal sodium transport
- 

### ***Basic science***

- Salt and water balance
- Renal transport of other solutes
- Renal transport of water

### ***Clinical***

- Signs and symptoms of renal disease
- Acid-base balance
- Urinary tract infection
- Chronic renal failure
- Dialysis
- Renal transplantation

- Glomerulonephritis
- Renal tract malignancies
- Polycystic renal disease
- Renal tubular acidosis
- Haematuria
- Nephrotic syndrome
- Renal calculi
- Congenital urinary tract abnormalities
- Diabetic renal disease
- Renal bone disease
- Urinary tract obstruction

#### ***Emergency management***

- Acute renal failure
- Acute urinary tract obstruction

#### ***Common presentation scenarios***

- Edema
- Polyuria, polydyspnea, oliguria symptom complex
- Abdominal pain
- Proteinuria
- Hematuria
- Fever and dysuria

#### ***Investigations and procedures***

- *The GFR*
- Renal biopsy
- Radionuclide studies
- Renal imaging
- Interpretation of acid-base disturbances
- Interpretation of electrolyte imbalance

#### ***Nephrology reading***

- Lectures notes on Nephrology <sup>BASIC</sup>
- Key topics in Renal Medicine by CRV Tomson and WD Plant [web = [www.Bookshop.co.uk/BIOS](http://www.Bookshop.co.uk/BIOS) ]
- Manual of Nephrology. Diagnosis and therapy. Schrier R. Lippincott and Williams.
- Diseases of the kidney and urinary tract. Schrier R.
- Immunology of Renal Diseases. Nelson and Couser.

## **7. NEUROLOGY**

Neurological diseases account for 15 – 20% of acute general medical emergencies admissions and ambulatory referrals. Most emergencies require prompt diagnosis and management. The Resident will consolidate knowledge of relevant clinical anatomy of the central and peripheral nervous system, enabling a rational approach to the major nervous disorders encountered in clinical practice. These include several important neurological emergencies and different presentation scenarios with which the Resident will need to be familiar. The Resident should be familiar with appropriate diagnostic tests and be competent in performing lumbar punctures. Interpretation of CSF findings in the clinical setting is essential practice. In addition to becoming familiar with the major therapeutic modalities, the Resident should understand the importance of rehabilitation in the overall scheme of management of the patient with neurological disease.

#### ***Core subject knowledge***

### ***Basic science***

- Regional anatomy of: dermatomes, spinal nerves, autonomic nervous system, central nervous system, cranial nerves

### ***Clinical***

- Signs and symptoms of neurologic disorders
- Stroke
- Transient ischemia
- Intracranial hemorrhages
- Cerebral tumors
- Meningitis and encephalitis
- Basal ganglia diseases
- Movement disorders
- Epilepsy
- Degenerative diseases
- Neuropathy
- Myopathy
- Myasthenia gravis
- Motor neurone disease
- Spinal cord diseases
- Multiple sclerosis and demyelinating diseases
- Confusion
- Cranial nerve diseases
- Brain death
- Headache
- Paraneoplastic syndromes

### ***Emergency management***

- Coma
- Bacterial meningitis
- Herpes simplex encephalitis
- Raised intracranial pressure
- Status epilepticus
- Subarachnoid hemorrhage
- Guillain Barre syndrome

### ***Common presentation scenarios***

- Headache
- Confusion
- Coma
- Loss of consciousness
- Dizziness and vertigo
- Weak legs
- Speech problems
- Abnormal movements
- Ptosis and facial palsy
- Visual disturbances
- Unilateral weakness

### ***Investigations and procedures***

- **LUMBAR PUNCTURE**
- Interpretation of nerve conduction studies, EMG and characteristic types of EEG
- Angiography
- CT, MRI, radionuclide scanning
- Muscle and nerve biopsy

### **Neurology Reading**

- Oxford text book of Medicine<sup>BASIC</sup>
- Neurology & Neurosurgery<sup>REFERENCE</sup>, Lindsay-Bone-Callander

## **8. PULMONARY MEDICINE**

To understand pulmonary disease better, a clear understanding of the applied anatomy and pulmonary physiology are essential for a medical resident. To investigate respiratory failure,

the resident should have a sound understanding of the control of breathing, mechanics of breathing, and ventilation and oxygenation processes. Furthermore, to investigate a patient with pulmonary disease, a systematic approach in evaluating chest radiograph, pulmonary function tests, arterial blood gas analysis and pleural fluid analysis are mandatory. A resident should also be proficient in doing thoracentesis and closed pleural biopsy. In the event of encountering a life threatening pneumothorax in hospital, the resident should be prepared to insert a chest tube on an emergency basis.

#### ***Basic science***

- Regional anatomy: cricoid cartilage, thyroid gland, larynx, thorax surface markings, bronchus divisions, pleural space.
- Lung volumes and capacities
- Mechanics of breathing
- Pulmonary gas exchange and blood gas transport
- Pulmonary circulation
- Control of breathing
- Response to chronic hypoxia

#### ***Core subject knowledge***

- Symptoms and signs of respiratory disease
- Asthma
- Chronic obstructive lung disease
- Community acquired pneumonia
- Hospital acquired pneumonia
- Bronchial carcinoma
- Bronchiectasis
- Chronic bronchitis
- Emphysema
- Mediastinal diseases
- Chest wall diseases
- Lung abscess
- Pleural diseases
- Cystic fibrosis
- Pulmonary thrombo-embolic disease
- Upper respiratory tract infections
- Pneumothorax
- Sarcoidosis
- Fungal lung diseases
- Sleep apnoea
- Pulmonary hypertension
- Interstitial lung disease
- Pulmonary involvement in systemic diseases
- Occupational lung diseases and exposure to dusts
- Diseases of cigarette smoking
- Respiratory failure
- Assisted ventilation
- Adult respiratory distress syndrome
- Lung and heart lung transplantation

#### ***Emergency management***

- Acute asthma
- Pneumonia
- Pulmonary embolism
- Acute upper airways obstruction
- Respiratory failure
- Acute respiratory distress syndrome
- Pneumothorax
- Acute facial swelling

#### ***Common presentation scenarios***

- As for Cardiology
- Hemoptysis
- Sudden breathlessness
- Cough syndrome
- Wheezing
- Acute pneumonia syndrome and pulmonary infiltrate

#### ***Investigations and procedures***

- *chest radiography*
- *Pulmonary function tests*

- *Interpretation of pulmonary function tests*
- Bronchoscopy
- **ARTERIAL BLOOD GASES**
- *Interpretation of arterial blood gases*
- *Intercostal tube placement*
- **PLEURAL ASPIRATION AND BIOPSY**

### ***Pulmonary reading***

- Respiratory Diseases<sup>RECOMMENDED</sup>: Crofton and Douglas
- Textbook of Respiratory Medicine<sup>REFERENCE</sup>: Murray Nadel
- Chest Medicine: Essentials of Pulmonary and Critical Care<sup>REFERENCE</sup>: George Mathay

## **9.RHEUMATOLOGY**

Rheumatic and systemic inflammatory diseases are common, span all ages, are characterized by deformities, pain and stiffness. Their spectrum ranges from mild regional conditions such as “tennis elbow” to generalized life-threatening diseases such as SLE. Many rheumatic diseases appear to initiate with complex interaction between individual genetic predispositions and various environmental factors, including trauma, infection and toxin exposure. Pathogenesis variously involves changes in immune function, inflammation of synovia and other tissues, altered turnover of connective tissues, crystal deposition and many other processes. The important treatable outcomes include pain, physical incapacity and psychosocial stress. Rheumatology is therefore an important, exciting, challenging and rewarding subspecialty of Medicine requiring coordination of multidisciplinary technical expertise in both the diagnostic including a thorough knowledge of joint examination and therapeutic process as well as the art of caring effectively for patients with chronic disease.

### ***Core subject knowledge***

- |   |                                      |
|---|--------------------------------------|
| • Osteoarthritis  | • Systemic sclerosis                 |
| • Rheumatoid arthritis  | • Dermatomyositis and polymyositis   |
| • The seronegative spondyloarthropathies: ankylosing spondylitis, reactive arthritides such as psoriatic arthritis, Reiter’s syndrome, and Whipple’s disease and enteropathic arthritis | • Infectious arthritis               |
| • Behcet’s syndrome   | • Osteomyelitis                      |
| • Juvenile chronic arthritis  | • Paget’s disease                    |
| • Reactive arthritis  | • Osteoporosis                       |
| • Polymyalgia rheumatica and giant cell arteritis   | • Osteomalacia                       |
| • Gout, pyrophosphate and other crystal arthropathies   | • Endocrine associated arthropathies |
| • Systemic lupus erythematosus  | • Fibromyalgia and low back pain     |
|   | • Vasculitis syndromes               |
|   | • Lyme disease                       |
|   | • Hypertrophic osteoarthropathy      |
|   | • Sarcoidosis                        |

### **Investigations and Procedures**

- **JOINT ASPIRATION**
- Joint Injection
- Interpretation of radiological, immunological and serologic tests such as
  - Autoantibodies interpretation

- Radionucleotide Isotope Imaging

### **Rheumatology Reading**

- Primer and the rheumatic diseases<sup>BASIC</sup>, Edited by H. Ralph Schumaker M.D. Published by Arthritis Foundation
- Clinical examination in rheumatology<sup>BASIC</sup>: Author: Michael Doherty & John Doherty. Published by Wolfe Publishing Ltd
- Arthritis and allied conditions-a text book of Rheumatology<sup>REFERENCE</sup>, Author: W. J Koopman M. D. Published by: Williams & Wilkins

## Epidemiology and Clinical research Methods:

### Population terms:

**Understand birth, immigration, death, emigration, the 4 demographic processes, which might act on a population group.**

### Other epidemiological terms:

**Understand and able to apply the following:**

- **Etiological fraction: the reduction in disease when a risk factor is removed**
- **Density dependence: effects in which intensity increases with increasing population density**
- **Cumulative incidence**
- **Patterns of infection: endemicity, epidemicity, and herd immunity**
- **Rates: attack rate, case fatality rate, mortality rate**
- **Risk: risk factor, attribute, exposure, competing risk, induction period and latent period, risk determinant and risk marker**

### Epidemiological methods:

**Be able to:**

- **Search the literature and data-bases purposefully**
- **Appraise critically relevant articles and reports**
- **Interpret findings and consider their applications to other contexts**
- **Know how to select and draw on clinical evidence to inform practice**

### Research methods

**Be able to define the following terms:**

**Clinical significance**

**Statistically significant / insignificant**

**Variability**

**Biological variability**

**Laboratory variability**

**Observer variability**

**Data types: categorical, continuous, discrete, qualitative, quantitative**

Understand the following methods of, and terms associated with, data collection:

**Epidemiological studies**

**Randomized controlled clinical trials**

**Randomized cross over clinical trials**

**Randomized controlled laboratory study**

**Observational studies**

**Discrete and continuous variables**

**Sample size determination**

**Recognize and understand the following concepts of problems associated with data:**

**Bias: confounding bias, measurement bias, sampling bias**

**Randomization**

**Stratification**

**Blindness (masking)**

**Relevance of sample size to the ultimate**

**Outcome of the statistical analysis**

**Understand the significance and limitations of measures of central tendency:**

**Mean, median, mode**

**Variance**

**Co-variance**

**Standard deviation**

## **Confidence interval**

Understand and apply the following statistical terms:

- **Probability and probability distribution models**
- **Regression and correlation analysis**
- **Risk – sensitivity analysis, particularly:**
  - **Absolute risk**
  - **Absolute risk difference**
  - **Absolute risk reduction**
  - **Attributable risk**
  - **Etiologic fraction**
  - **Relative risk**
  - **Exposure odds ratio**
  - **Number needed to treat**
  - **Significance testing**
  - **Meta-analysis**

Research skills:

- **Using electronic databases such as Medline and the Internet to conduct literature searches and to locate information**
- **Critically appraise/evaluate relevant literature, reviews and new techniques/technologies**
- **Use word processors, databases, spreadsheets and statistical packages to produce statistical analysis and research papers**
- **Conduct a literature review**
- **Develop an hypothesis to be tested**
- **Choose an appropriate research methodology and design a research study**
- **Write a grant application to fund a research project.**
- **Apply for ethics committee approval for a clinical or laboratory based study**
- **Collect, collate and interpret data**
- **Apply basic statistical analysis to clinical data**
- **Develop an outline structure for a research paper**
- **Write a literature review for a research paper**
- **Apply the developed outline to write a research paper**

## SUPERVISION OF THE RESIDENTS

### **Policy:**

1. Clinical Teaching staff are essential and important to the successful implementation of the Dubai residency training Programme.
2. Clinical Teaching staff are expected to be familiar with the goals and objectives of the programme as well as of the rotation for which they have responsibility.
3. Clinical Teaching staff are expected provide a direct and appropriate level of clinical supervision to all residents during clinical rotations.
4. Clinical Teaching staff are expected to foster an effective learning environment by ensuring that the (a) residents share responsibility for decision-making in patient care under supervision, (b) residents have constructive feedback from the concerning clinical skills at diagnosis and management (c) participation of residents in patient care adds to the effectiveness, appropriateness and quality of care.

### **Procedures:**

1. Clinical responsibilities must be assigned to the residents in a carefully supervised and graduated manner, so that the resident assumes progressively increasing responsibility in accordance with their level of education, ability, and experience.
2. Teaching staff supervision must include timely and appropriate feedback to the residents.
3. The resident's clinical involvement must be in fulfillment of the programme's written educational curriculum.
4. Teaching staff must demonstrate concern for each resident's well-being and professional development.
5. Teaching staff who supervise the residents have overall responsibility for patient care and are the ultimate authority for final decision.
6. Teaching staff schedules must be structured to ensure continuous supervision of residents and availability of consultation.
7. All decisions regarding diagnostic tests and therapeutics, initiated by the residents will be reviewed with the responsible Consultants during patient care rounds.
8. Patients will be seen by the team of residents, interns and medical student and their care will be reviewed with the Consultant at appropriate intervals.
9. The residents are required to promptly notify the patient's Consultant physician in the event of any controversy regarding patient care or any serious change in the patient's condition.
10. In clinics and consultation services, the Consultant or supervising physician must review overall patient care rendered by residents.
11. In the operating theatres, the Consultant or supervising physicians are responsible for the supervision of all operative cases. Consultants supervising physicians must be present in the operating room with residents during critical parts of the procedure. For less critical parts of the procedure, the Consultant or supervising physician must be immediately available for direct participation.

## Resident LogBook





























## APPENDIX 4 Encounter Card

An example of a resident evaluation Encounter Card that would be used in day to day clinical settings is shown below:

### Encounter Cards

Resident \_\_\_\_\_ Staff \_\_\_\_\_ Date \_\_\_\_\_

Clinical Situation \_\_\_\_\_

	Unsatisfactory		Adequate		Excellent		N/A
Knowledge							

	Unsatisfactory		Adequate		Excellent		N/A
Professional Skills							

	Unsatisfactory		Adequate		Excellent		N/A
Manual Skills							

	Unsatisfactory		Adequate		Excellent		N/A
Overall							

Comments: \_\_\_\_\_

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## DOHMS Internal Medicine Residency Program Clinical ROTATION Evaluation

Resident (optional) \_\_\_\_\_ Rotation \_\_\_\_\_

Name: \_\_\_\_\_

This Form is designed to provide resident feedback to Programme Administrators concerning strengths and areas to improve in the variety and organisation of clinical exposures provided in the different clinical rotations of the Internal Medicine Programme. The forms will be given to the rotation supervisor of each rotation at the end of the rotation. Please feel free to be candid and objective. All comments will not be traceable to the resident completing the form by the immediate supervisor.

Rank the following statements on a scale of 1 to 7 on whether you agree or disagree with them as they pertain to this rotation (1= strongly disagree; 7 = strongly agree)

Evaluation Scale:	Could not Judge	Strongly Disagree	→		→		→	Strongly Agree
<b>Organization of the Rotation</b>								
The overall workload of the rotation was appropriate (please make a comment in comments section as to if workload was too light or too heavy)	0	1	2	3	4	5	6	7
Patient Rounds were run in an efficient manner balancing teaching with patient care needs	0	1	2	3	4	5	6	7
The amount of scut in the Rotation was appropriate	0	1	2	3	4	5	6	7
The clinical material I saw provided a good exposure to the field of practice of the rotation	0	1	2	3	4	5	6	7
I was given clinical responsibilities appropriate for my level of training (please make a comment in comments section as to whether too much or too little was expected of you)	0	1	2	3	4	5	6	7
<b>Teaching</b>								
The academic activities of the division provided good learning opportunities	0	1	2	3	4	5	6	7
There was adequate access to internet resources and books if I needed to look something up	0	1	2	3	4	5	6	7
The bedside teaching was very good	0	1	2	3	4	5	6	7
I received my evaluation before the rotation ended	0	1	2	3	4	5	6	7
I received feedback about my performance throughout the rotation	0	1	2	3	4	5	6	7
<b>Organisation</b>								
There was adequate space for me to complete my work	0	1	2	3	4	5	6	7
The supervising staff were available for back up and consultation if needed	0	1	2	3	4	5	6	7
The rotation was arranged in such a way that I was able to attend other Teaching Activities	0	1	2	3	4	5	6	7
<b>Resident – Faculty Interactions</b>								
I felt that my contributions to the department’s clinical activities were valued	0	1	2	3	4	5	6	7
My opinions were respected and I felt like a member of the team.	0	1	2	3	4	5	6	7

Overall								
Overall this rotation allowed me to meet most of the rotation specific educational objectives	0	1	2	3	4	5	6	7

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Adapted from McGill Paediatric Residency Forms



**DOHMS Internal Medicine Residency Program**  
**Clinical Rotation FACULTY Teaching Evaluation**

Resident \_\_\_\_\_ Name: \_\_\_\_\_  
 (optional) \_\_\_\_\_ Rotation \_\_\_\_\_

This Form is designed to provide resident feedback to Programme Administrators concerning strengths and areas to improve in the quality of training by providing an assessment of teaching staff in the Internal Medicine Programme. The forms will be given to the resident at the end of each rotation. Please feel free to be candid and objective. All comments will not be traceable by the faculty in question to the resident completing the form.

Rank the following statements on a scale of 1 to 7 on whether you agree or disagree with them as they pertain to this rotation (1= strongly disagree; 7 = strongly agree) Please Rate the Faculty Member's teaching style and capacity to function as a role model.

Clinical Teaching Faculty: \_\_\_\_\_ Rotation: \_\_\_\_\_  
 \_\_\_\_\_

(Note: Use a separate sheet for each supervising Faculty Member)

	Could not Judge	Strongly Disagree	→		→		→	Strongly Agree
<b>Medical Expert</b>								
Up-to-date in area of practice, scientific and clinical knowledge	0	1	2	3	4	5	6	7
Promotes development of trainee's judgement and decision making	0	1	2	3	4	5	6	7
Supervised the teaching of procedural skills	0	1	2	3	4	5	6	7
<b>Communicator</b>								
Role model for effective & compassionate communication with patients & families	0	1	2	3	4	5	6	7
Clear written communications documentation	0	1	2	3	4	5	6	7
<b>Collaborator</b>								
Role model for care in interdisciplinary setting	0	1	2	3	4	5	6	7
Respectful interaction with trainees/ other colleagues in clinical situations	0	1	2	3	4	5	6	7
<b>Provided appropriate graded responsibility to the resident during the rotation</b>								
<b>Manager</b>								
Role modeled the use of health care resources cost effectively	0	1	2	3	4	5	6	7
Organization of work and time management	0	1	2	3	4	5	6	7
<b>Health Advocate</b>								
Role-modeled just advocacy for his/her individual patients	0	1	2	3	4	5	6	7
<b>Scholar</b>								
Promoted critical appraisal skills in teaching and clinical work	0	1	2	3	4	5	6	7
Enthusiasm for and effectiveness at teaching	0	1	2	3	4	5	6	7
<b>Professional</b> Role modelled and promoted the values of:								

The highest levels of integrity and honesty	0	1	2	3	4	5	6	7
Sensitivity to and respect for diversity	0	1	2	3	4	5	6	7
Compassion and Empathy	0	1	2	3	4	5	6	7
Recognition of own limitations	0	1	2	3	4	5	6	7
Application of the principles of medical ethics to clinical situations	0	1	2	3	4	5	6	7





**DOHMS INTERNAL MEDICINE RESIDENCY PROGRAM**  
**ROTATION IN-TRAINING ASSESSMENT (RESIDENT)**

Name:

Period of Training FROM:

TO:

Resident: I II III IV V VI

Site:

**Rotation:**

	Could not Judge	Strongly Disagree	→	→	→	→	Strongly Agree	
<b>MEDICAL EXPERT</b>								
Basic scientific knowledge	0	1	2	3	4	5	6	7
Basic clinical knowledge	0	1	2	3	4	5	6	7
History & physical examination	0	1	2	3	4	5	6	7
Interpretation & use of information	0	1	2	3	4	5	6	7
Clinical judgment & decision making	0	1	2	3	4	5	6	7
Technical skills	0	1	2	3	4	5	6	7
<b>COMMUNICATOR</b>								
Communication with other allied health professionals	0	1	2	3	4	5	6	7
Communication with patients & families	0	1	2	3	4	5	6	7
Written communication & documentation	0	1	2	3	4	5	6	7
<b>COLLABORATOR</b>								
Consults effectively with all health professionals	0	1	2	3	4	5	6	7
Delegates effectively	0	1	2	3	4	5	6	7
<b>MANAGER</b>								
Understands & uses IT	0	1	2	3	4	5	6	7
Uses resources cost-effectively	0	1	2	3	4	5	6	7
Organises work & manages time well	0	1	2	3	4	5	6	7
<b>HEALTH ADVOCATE</b>								
Advocates for the patient	0	1	2	3	4	5	6	7
Advocates for the community	0	1	2	3	4	5	6	7
<b>SCHOLAR</b>								
Motivated to acquire knowledge	0	1	2	3	4	5	6	7
Critically appraises medical literature	0	1	2	3	4	5	6	7
Teaching skills	0	1	2	3	4	5	6	7
Completion of research/project	0	1	2	3	4	5	6	7
<b>PROFESSIONAL</b>								
Integrity & honesty	0	1	2	3	4	5	6	7
Sensitivity & respect for diversity	0	1	2	3	4	5	6	7
Responsibility and self-discipline	0	1	2	3	4	5	6	7
Professional relationships with physicians	0	1	2	3	4	5	6	7
Recognition of own limitations, seeking advice when needed	0	1	2	3	4	5	6	7
Understands and applies principles of ethics clinical situations	0	1	2	3	4	5	6	7
<b>GLOBAL EVALUATION OF COMPETENCE AND PROGRESS</b>	0	1	2	3	4	5	6	7



