KUWAIT HEMATOLOGY RESIDENCY TRAINING PROGRAM

HANDBOOK

Updated 2014
This manual was prepared by members of the Curriculum Review/Accreditation, Sub-Committee of Kuwait Hematology Residency Training Program Committee.

It should not be viewed as a body of rigid rules. The information is general and intended to be adapted to many different situations, taking into account the needs and resources particular to the locality, the institution, or the type of practice.

Dr. Lama Al-Faris, FRCPath (UK) - Chair
Dr. Ali-Al-Muhaini, FRCP(C)
Dr. Salah Al-Humood, FRCP(C)
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Program Director Welcome Message

Welcome to Kuwait Hematology Residency Program (KHRP). We have an educational program that is challenging, supportive, flexible, and responsive to the needs of the community. We offer a five-year combined KIMS-approved program in laboratory and clinical hematology, with our mission being to train the next generation of hematologists. To that end, a unique aspect of our program is its hybrid nature, through which residents can develop the foundation for a successful career in the fields of hematological pathology and clinical hematology.

Learning should be hard work and learning should be fun, and training in hematology is both. A key to any excellent training program is the quality of the residents and faculty who form it. It is our job, to carry residents through a rigorous training system that excites them about the science and practice of our profession and prepares them for the future of their educational dreams.

From a clinical perspective we offer exposure to a diverse patient population throughout the hospitals and specialized centers of Ministry of Health. Throughout their rotations, our residents see a diverse spectrum of hematologic conditions. They rotate through disease-specific continuity clinics and laboratories staffed by national experienced hematologists and hematopathologists.

From an educational perspective, residents have a comprehensive mix of didactic and one-on-one teaching, including journal clubs, case presentations, and morphology sessions, as well as the opportunity to attend local meetings and courses on an annual basis.

We believe that we have one of the best training programs in the country. It is positioned to provide a unique training, which will prepare our residents very well for “real-world practice”.

Sincerely,

Ali Al-Muhaini, FRCP(C)
Program Director
Introduction to Kuwait Hematology Residency Program

Our training program entails five years of training that fulfills the requirements of Kuwait Institution for Medical Specialization (KIMS) for certification in Hematology. There are core rotations structured to provide exposure to both clinical hematology and laboratory medicine. Rotations are based at Mubarak Al-Kabeer and Al-Amiri Hospitals with a major interest and expertise in the content area to be covered. Participating sites include Kuwait Cancer Control Center (KCCC), Maternity Hospital, Kuwait Central Blood Bank (KCBB), Farwaniya Hospital, National bank of Kuwait (NBK) Hospital and Al-Sabah Hospital.

The first year of training is in Internal Medicine and its subspecialties, covering Internal Medicine for six months, Rheumatology, Nephrology, Endocrinology, Casualty, Cardiac care unit and Intensive care unit for one month each.

The second year is primarily laboratory-based and consists of three training blocks including ten months of General Hematology training, one month in transfusion medicine and one month in Immunophenotyping and Cytogenetics.

The third year includes five blocks of training including four months of clinical hematology training, two months in Leukemia Service, two months in Lymphoma and two months in Obstetric Hematology, one and a half months in Hematopathology, in addition to two weeks rotation in Clinical Chemistry.

The fourth year of training contains four blocks including three months of training in Lymphoma, three months in Leukemia Service, four months in General Hematology and two months in Pediatric Hematology.

The fifth year of the program provides advanced comprehensive clinical training and exposure to allogeneic and autologous peripheral stem cell transplantation and HLA Typing. It consists of five blocks, two months of training in Clinical Hematology, two months in Stem cell transplant, and six months in General Hematology, one month in Transfusion Medicine, in addition to one month elective block that allows for focused elective experiences.

During the five year training program, residents work closely with hematologists whose interests span diverse areas of clinical hematology and research. Basic science teaching is incorporated into all aspects of laboratory and clinical training, as well as during formal (Academic Half-Day) and informal teaching sessions. Biostatistics and critical appraisal are emphasized throughout the teaching program, through Academic Half-Day sessions and Journal Clubs. Ethical issues are also addressed throughout teaching activities of the program. Quality control and quality assurance are covered in laboratory-based rotations, as well as during Academic Half-Day sessions.
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Program Highlights

Faculty
Our University-based and Ministry of Health-based faculty view residency education as a priority. Our residents, therefore, have access to the latest developments in the field.

Mentorship
Formal and informal mentorship is provided by the Residency Mentorship Coordinator to assist with issues pertaining to the training program and career guidance. The Mentorship Coordinator develops relationships with each of the residents and serves as a resource and advocate for them within the Residency Training Program. The Mentorship Coordinator is available to assist with any personal or professional difficulties that residents may have, and can offer confidential and independent information and advice, as well as help them access appropriate resources.

Exam Preparation
Residents are encouraged to form study groups in preparation for the KIMS first part and the second part final qualifying examination. In addition, informal "oral examinations" might be arranged and integrated into seminar sessions to provide feedback on the resident's knowledge base. Residents are also encouraged to sit the fellowship examination of the Royal College of Pathologists in UK.

Access to Laboratory Resources
We are fortunate in that there is integration between the laboratory and clinical aspects of hematology.

Resident Involvement in the Program
Residents are well-represented on the Hematology Residency Program Committee. The Program Director meets regularly with the residents. Their feedback and suggestions are actively solicited.

Overall Program Strength
In 2012, our program was informally reviewed by an external surveyor from Canada, Prof. Louis Wadsworth, who had an extensive experience in reviewing and accrediting residency programs in Canada. His report included several points of strength as well as points of weakness, on which we are currently working to rectify.
People and Committees in Kuwait Hematology Residency Training Program

Residency Training Program Chairperson
Dr. Rajaa Marouf (r-marouf@hsc.edu.kw)

Residency Training Program Director
Dr. Ali Al-Muhaini (a.almuhaini@me.com)

Assistant Program Director
Dr. Hanan Al-Wazzan (hananhaem1967@yahoo.com)

Administrative Assistant
Mrs. Hadeel El-Muzaini (hmuz@hsc.edu.kw)

Residency Program Committee
The Kuwait Hematology Residency Training Program is a collaborative effort, guided by the Residency Program Committee (RPC). This Committee assists the Program Director in the planning, organization and supervision of the training process. It ensures that the program meets the minimum standards of accreditation; reviews the program to assess the quality of the educational experience and adequacy of resources; evaluates the performance of teaching tutors; assists the Program Director in the selection of the Rotation Supervisors, Residency Mentorship Coordinator, selects candidates for admission to the program, and evaluates and promotes residents in the program. The Committee meets quarter-annually and/or at the call of the Program Director.

The Residency Program Committee is comprised of the Residency Training Program Director, selected consultant hematologists members from various training sites, and an additional Resident Representative elected by the Trainees.

RPC Members
Dr. Rajaa Marouf (Chairperson)
Dr. Ali Al-Muhaini (Program Director)
Dr. Hanan Al-Wazzan (Assistant Program Director)
Dr. Salem Al-Shemmari
Dr. Faisal Al-Sayegh
Dr. Ramesh Pandita
Dr. Hanan Al-Awadhi
Dr. Reem Radwan
Dr. Shaikha Al-Muhareb

Residents’ representative (Chief Resident)

Resident Representatives
**Chief Hematology Resident**

The Chief Resident in hematology plays an important role in the residency program. This position is selected by the residents and approved by the Hematology Residency Training Program Committee annually. The responsibilities of the Chief Resident include representing residents on the Hematology Residency Training Program Committee.

**Sub- Committees**

[Diagram of committee structure]

**Examination Committee**

*Responsibilities:*

1) Meeting regularly to prepare the examination paper and the guidelines for marking the examination.

2) Ensuring that the examination is accurate and error-free, conforms to the examination specifications, and addresses an appropriate range of content and intended learning outcomes, and is prepared by the due date.

3) Participation in the standards-setting process for the examination and report to Program Director.

**Curriculum Review/ Accreditation Committee**

*Responsibilities:*

1) Regularly updating the curriculum based on a broad competency-based approach and consistent with the CanMEDS framework standards for training.

2) Reviewing and updating rotation schedule.

3) Reviewing and approving requests for modification.

4) Presenting recommendations to the RPC
Residents/Tutors/Rotations Evaluation Committee

Responsibilities:
1) Maintains a collegial atmosphere in which feedback is frequently exchanged between residents and tutors in order to promote excellence in resident education and performance.
2) Sets and updates guidelines for the evaluation process.
3) Review the evaluation of residents, tutors and rotations and present its recommendations to the RPC.

Educational Activities

Responsibilities:
Organizing all program-related educational activities in accordance with CanMEDS competencies including:
- Academic Half-Day
- Journal club
- Multidisciplinary sessions
- Morphology sessions

Coordinators

Residency Mentorship Coordinator

The role of the Residency Mentorship Coordinator exists outside of the evaluative framework of the Hematology Residency Training Program. The Mentorship Coordinator develops relationships with each of the residents and serves as a resource and an advocate for them within the Training Program. The Mentorship Coordinator is available to assist with any personal or professional difficulties that the residents may have and can offer confidential and independent information and advice, as well as help them access appropriate resources.

Rotation Supervisors

The Training Program has dedicated tutors responsible for coordinating each rotation.

Responsibilities:
1) Orientation of residents to work duties.
2) Scheduling residents to their on-call duties.
3) Ensuring adequate resident facilities.
4) Facilitating resident rotations and clinic experiences.
Examination Format

Comprehensive objective examinations make it possible to obtain a more complete evaluation of the candidate's strengths and weaknesses. Kuwait Hematology Residency Training Program has three examinations: R1 End-of-Year Examination, R3 End-of-Year Examination (Part 1), and R5 End-of-Year Examination (Final Part).

R1 End-of-Year Examination

Residents sit this examination at the end of the first year (R1), which is the year that residents spend in internal medicine. It is a written examination that consists of Multiple Choice Questions (MCQs).

R3 End-of-Year Examination (Part 1)

This is a comprehensive objective examination that residents sit at the end of the third year (R3). It consists of two components: a written component and a practical component. The important feature of this comprehensive objective examination is that candidates do not need to pass the written component in order to take the oral component. Success or failure is based on passing all components of the examination. The comprehensive objective examination is considered a "whole" and cannot be fragmented. Candidates who are unsuccessful at this examination must, if within their period of eligibility, repeat all components of the examination.

A. Written component

The written component consists of two papers: MCQs paper and Short Answers paper. Questions of the Short Answers paper are all of the short answer type and require answers ranging from one line to one paragraph. The questions are based on the educational objectives of hematology, as determined by the Specialty Committee (i.e. basic sciences, laboratory and clinical hematology).

B. Morphology/Laboratory component

This examination consists of several stations, through which candidates interpret morphology slides, hemoglobinopathy cases, hemostasis and coagulation disorders cases, and transfusion medicine cases.

R5 End-of-Year Examination (Final Qualifying Part)

This is a comprehensive objective examination that residents sit at the end of their training (End-of-5th Year). It consists of four components: a written component, a practical component, a clinical component and an oral component. The important feature of this comprehensive objective examination is that candidates do not need to pass the written component in order to proceed to the other components. Success or failure is based on passing all components of the examination. The comprehensive objective examination is considered a "whole" and cannot be fragmented. Candidates who are unsuccessful at this examination must, if within their period of eligibility, repeat all components of the examination.
A. Written component

The written component consists of two papers: MCQs paper and Short Answers paper. Questions of the Short Answers paper are all of the short answer type and require answers ranging from one line to one paragraph. The questions are based on the educational objectives of hematology, as determined by the Specialty Committee (i.e. basic sciences, laboratory and clinical hematology).

B. Practical (Morphology/Laboratory) component

This examination consists of several stations, through which candidates interpret morphology slides, hemoglobinopathy cases, hemostasis and coagulation disorders cases, and transfusion medicine cases.

C. Clinical Component

The oral component involves discussion of clinical scenarios and scenarios related to laboratory hematology. The candidate will receive relevant clinical and laboratory information and may be asked to interpret the laboratory results. The candidate will be asked to discuss the diagnosis and/or management in each case, which may include appropriate investigation, management decisions, and consultancy skills in challenging clinical circumstances. The candidate will be exposed to five examination panels focusing on clinical and laboratory hematology. The examination, will take approximately one hour, 10 minutes with each panel.

External and local examiners will be participating in the examination process, and their feedback will be submitted to the program Director at the end of the examination.
Participating Health Centers

Mubarak Al-Kabeer Hospital (MKH)
Mubarak Al-Kabeer Hospital is a secondary care center in Al-Jabriya area. It serves the Hawalli Governorate, and it is a center of excellence for a wide range of health services, including general medicine, general surgery, vascular surgery, nephrology, neurology, gastroenterology, respiratory medicine, endocrinology, cardiology, and rheumatology.

Al-Amiri Hospital
Al-Amiri Hospital is a secondary care center that works among the health care network in the capital area. It is a center of excellence for a variety of specialties including, general medicine, general surgery, hepato-biliary surgery, nephrology, neurology, cardiology, endocrinology, gastroenterology, hepatology, diabetology, respiratory medicine, and rheumatology.

Al-Sabah Hospital
Al-Sabah Hospital is a secondary care center that works among the health care network in Al-Sabah Health Area. It is a center of excellence for a variety of specialties and sub-specialties including general medicine, general surgery, nephrology, endocrinology, and cardiology.

Maternity Hospital
Maternity Hospital is located in Al-Sabah Health Area. It provides state-of-the-art facilities for the diagnosis and treatment to patients with various obstetrical and gynecological disorders, along with a neonatal unit.

Kuwait Cancer Control Center
The Kuwait Cancer Control Centre (KCCC) is a comprehensive specialized tertiary center dedicated entirely to the purpose of providing cancer care across the State of Kuwait. It provides inpatient, outpatient and palliative care, as well as diagnostic services including cell diagnostics and cytogenetic and molecular analysis.

Sheikha Badriya Al-Ahmad Center
Sheikha Badriya Al-Ahmad Center is a comprehensive specialized tertiary center dedicated entirely to the purpose of providing care for lymphoma patients. It is also the national center for Stem Cell Transplantation.

Al-Farwaniya Hospital
Al-Farwaniya Hospital is a secondary care center that works among the health care network in Al-Farwaniya Health Area. It is a center of excellence for a variety of specialties and sub-specialties including general medicine, general surgery, nephrology, endocrinology, gastroenterology and cardiology.
Kuwait Central Blood Bank

Kuwait Central Blood Bank (KCBB) is a national center that manages the blood and blood products supply to all governmental and private hospitals. It uses the state-of-the-art facilities to manage blood and blood products donation, blood testing, processing, preparation and distribution to end users.

National Bank of Kuwait Hospital

National Bank of Kuwait (NBK) Hospital is a tertiary specialized center dedicated entirely to the purpose of providing care to pediatric patients with benign and malignant hematological and non-hematological malignancies.
General Program Goals and Objectives

General Goals
Upon completion of residency training in hematology, residents are expected to be competent specialists in Clinical Hematology and Hematological Pathology capable of assuming a consultant’s role in the specialty.

General Objectives
Hematology is that branch of medicine which concerns itself with the laboratory detection, diagnosis, management and monitoring of diseases of the blood and blood forming tissues; and the collection, preparation, storage and provision of safe blood and blood components.
The intent of Kuwait Hematology Residency Training Program is to ensure competence as a laboratory and clinical consultant in hematology, and to acquire the skills and knowledge required to diagnose and manage benign and malignant hematological disorders. At the completion of training, residents will have acquired the following competencies that integrate all of the Roles in the CanMEDS framework. He/ She will function effectively as a:

Medical Expert
Definition
As Medical Experts, the hematology specialist integrates all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centered care. Medical Expert is the central physician Role in the CanMEDS framework.

Communicator
Definition
As Communicators, the hematology specialist effectively facilitates the doctor-patient relationship and the dynamic exchanges that occur before, during and after the medical encounter.

Collaborator
Definition
As Collaborators, the hematology specialist effectively works within a healthcare team to achieve optimal patient care.

Health Advocate
Definition
As Health Advocates, the hematology specialist responsibly uses their expertise and influence to advance the health and well-being of individual patients, communities, and populations.
Scholar

Definition

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

Professional

Definition

As Professionals, the hematology specialist is committed to the health and wellbeing of individuals and society through ethical practice, profession-led regulation, and high personal standards of behavior.
Evaluation

The Kuwait Hematology Residency Training Program maintains a collegial atmosphere in which feedback is frequently exchanged between residents and tutors in order to promote excellence in resident education and resident performance. We want to ensure that every resident successfully achieves or exceeds rotation objectives and that every rotation meets or exceeds resident learning objectives. The evaluation process is instrumental in meeting these goals.

Resident Evaluation (Effective October 2013)

There are a minimum of five “bottom-line” categories: Outstanding, Exceeds expectations, Meets expectations, Needs improvement and Unsatisfactory. Unsatisfactory exists when significant deficiencies have been identified (especially deficiencies related to non-Medical Expert CanMEDS domains, which require the trainee to undergo extra-training in the concerned rotation.

Key Guidelines for the Evaluation of Residents

1. At the beginning of the Rotation, the supervisor and trainee should meet to discuss objectives and how the trainee will be evaluated.
2. It is recommended that the resident seeks an informal mid-rotation evaluation in rotations of 2 months or more, so residents have an opportunity to address deficiencies.
3. At the end of the rotation, the supervisor should synthesize information from all teaching tutors, as well as the clinical or laboratory team to complete the In Training Evaluation Reports (ITER) and then discuss the evaluation and ITER with the resident prior to the end of the rotation.
4. It is the responsibility of residents to arrange an evaluation session with the training site supervisor to complete and discuss their evaluation within 10 working days after the rotation, and to submit their ITER to the Program Director.
5. All appeals must be made within 15 days after the resident becomes aware of the decision under appeal. The first level of appeal is made to the Program (Level 1). If the issue is not resolved at Level 1, it can be directed to KIMS (Appeal Review Committee) which is Level 2 and is the final level.

Rotation In-Training Evaluation Reports (ITERs)

The ITER is the main modality of assessing residents' knowledge and observed performance according to CanMEDS competencies. Hematology residents are evaluated at the end of each rotation with a rotation specific ITER that encompasses all of the CanMEDS domains. At an end of rotation meeting, the resident’s written evaluation is reviewed and discussed.

Final In-Training Evaluation Report (FITER)

At the end of training, a final evaluation form (FITER) is prepared by the Program Director, with assistance from the Residency Program Committee. The FITER is forwarded to KIMS to decide on the eligibility of residents to sit their final qualifying examination.
Tutor and Rotation Evaluation

Residents are encouraged to complete confidential rotation evaluations and tutor evaluations. When at least two evaluations for each tutor or rotation have been complied, the results are compiled into a single summary report and are reviewed by the Residency Program Committee and Director of the Program. Individual tutors are supplied with a summary of their evaluations. Each rotation supervisor receives a similar summary of rotation evaluations. Residents are also encouraged to compile a biannual group evaluation of the tutor and rotations that is also forwarded to the Program Director for review by the Evaluation Sub-committee. Specific tutor or rotation problems that require prompt attention can be brought to the attention of the Program Director, as necessary.
Resident Portfolio

All residents are required to maintain a Resident Portfolio. The Portfolio will be reviewed at each Progress Meeting.

Purpose

1. To make the residency experience more tangible, more retrievable and more meaningful.
2. To allow reflection and self-assessment during the residency and encourage the residents to take an active role in their achievements and professional development.
3. To reinforce the need for self-directed learning and maintenance of competence and to allow the resident to demonstrate evidence of professional development.
4. To assist the Program Director in ensuring that the resident gains insight into their training and achieves educational and career goals.

* A properly maintained Resident Portfolio becomes the basis of the Maintenance of Certification documentation.

Structure

The Portfolio is a three-ring binder which includes five standard sections, as listed below. However, Portfolios should be considered personal and individual and the residents should be encouraged to be creative in terms of structure and content.

Evaluation

Although the Portfolio is not formally evaluated, failure to maintain it would be interpreted as evidence of lack of professionalism.

Review of the Portfolio

The Portfolio will be annually reviewed as part of the resident’s meeting with the Program Director. Ultimately, the Portfolio is for residents to maintain and keep. They are responsible for ensuring that all the necessary documents/components are present for the annual review with the Program Director.

Content

• Curriculum vitae

• Examination results (including external examinations)

• Evaluations
  - ITERs
  - FITER
• Professional development
  - Conferences, workshops, or training courses attended
  - Certificates of completion for on-line ethics courses
    (http://ethics.mcmaster.ca/chart/ and http://phrp.nihtraining.com/users/login.php)
  - Abstracts (submitted/presented)
  - Manuscripts (submitted/published)
  - Presentations (e.g. original research, rounds, journal club)
  - Ideas for research projects
  - Educational activities
  - Administrative activities (e.g. Chief Resident)
  - Awards
  - Minutes of annual Progress Reviews with Program Director

• Practice-based Improvement
  - Significant event analysis (medical errors/near misses, difficult clinical situations and ethical dilemmas faced)
Resident On-Call and Leave

On-Call

Hematology residents are expected to attain proficiency in the recognition and management of emergent, urgent and elective problems in clinical and laboratory hematology. As part of this training, residents participate in adult hematology on-call duties, during which they may be asked to address both clinical and laboratory issues. Although residents have similar on-call as consultants, there is graded responsibility, commensurate to the knowledge, ability and experience of the resident. Residents are on-call with a consultant, who provides support, advice and education. The frequency of call is designed to provide optimal and adequate exposure to urgent problems. On-call responsibilities for each rotation are included in the rotation objectives/description.

Leave

Rules and Regulations

Total amounts of vacation and leave time permissible for residents are governed by the KIMS contract. Requests for vacation must be communicated in writing using the KIMS Vacation Form.

1. Annual Leave (Vacation): Four weeks of vacation leave is allowed annually (including public holidays). Vacation entitlements do not carry over from one year to the next (i.e. it is not accumulative). The leave should be approved by the Program Director or his assistance in his/her absence. The vacation leave should not affect the structure and the objective of the rotation. It should be one week per month.

2. Study Leave: A total of 2 weeks of study leave is allowed for each resident during his/her residency program (It can be divided for Part 1 and Final Part or can be taken at once)
   Scenario 1: One week for Part 1 and one week for Final Part Examination.
   Scenario 2: Two weeks for Part 1 Examination.
   Scenario 2: Two weeks for Final Part Examination.

3. Sick Leave: Residents are allowed for 15 days of interrupted sick leaves annually. If sick leaves are continuous or exceeded 15 days. The condition needs to be evaluated individually by a committee assigned by KIMS.

4. Maternity Leave: Two maternity leaves (30 days/leave) are allowed during the five year residency program. Residents are not allowed to take more than 60 days per year including the maternity and vacation leave. They have the right to take this leave as consecutive or divided.
   Scenario 1: Maternity leave 30 days at once and no annual leave or
   Scenario 2: Maternity leave 30 days at once and 1 week/month annual leave or Scenario 3: Maternity leave 15 days at once and 15 days at once and no annual leave or
   Scenario 4: Maternity leave 15 days at once and 15 days at once and 1 week/month annual leave
5. **On-call Duties Exemption:** There are no on-call duty exemptions during the residency program. Unless the resident produces medical paper then this can be looked at by KIMS Committee.

6. **Incidental Leave (Aradhi):** No allowed during the residency program.

7. **Leave of Absence (LOA):** Should not exceed one year. Under the circumstances that it will exceed one year, the condition will be assessed by a committee formed by a Secretary General of KIMS. Upon return from LOA, the resident continues his/her residency from the last position left. The resident may only take the LOA from October-September not in-between. It must start at the beginning of the academic year and end at the end of the academic year (October-September)

8. The total number of missed days during training will be assessed by a committee from KIMS (Assessment of Training Committee) for eligibility to write the final board examination (Part 2).

9. **Haj Leave:** Each resident is allowed to take 1 Haj leave per residency program (4 weeks); however, it should not exceed 8 weeks/year inclusive of other leaves.

10. **Conference Leave:** Each resident is allowed 1 week conference leave per academic year approved by program director. This conference leave is intended for conferences being attended in Kuwait.
Information for New Residents

Membership in Hematology Societies

Residents are strongly encouraged to become Members in hematology societies such as the American Society of Hematology (ASH), British Society of Hematology (BSH), and European Hematology Association (EHA). Membership entitles residents to a variety of benefits, depending on the society, including subscription to publications, reduced rates to attend annual meetings, reduced subscription rates.

Information about how to become Members can be found at the ASH website (www.hematology.org), BSH website (www.b-s-h.org.uk), and EHA website (www.ehaweb.org).

Access to E-Journals

Access to KIMS e-Library can be easily initiated through registration to KIMS e-library website (http://kims.vdiscovery.org) by using CME account number.
General Overview of Rotations

First Year

The primary goal of this year is to provide training in Internal Medicine and Medicine subspecialties including Rheumatology, Nephrology, Endocrinology, Casualty, CCU and ICU. This year provides residents opportunities to develop essential clinical skills as an internist, to learn the many important diagnostic and therapeutic concepts in Internal Medicine, and to evolve as residents, who possess not only textbook knowledge but also the many personal attributes that patients expect of good physicians.

Second Year

General Hematology: this rotation is a hybrid rotation that includes hematological pathology and clinical hematology. It is intended to provide an experience that will facilitate the resident’s education in becoming a competent specialist in clinical and laboratory hematology.

Transfusion Medicine: This rotation allows residents to gain the principles and practices of transfusion medicine including basics of immunohematology, blood product preparation and utilization.

Immunophenotyping and Cytogenetics: Training is provided in flow cytometry, cytogenetics, DNA diagnostics, and molecular pathology in the evaluation of malignant and non-malignant hematologic diseases.

Third Year

Clinical Hematology: This rotation includes in-patient general and some of the malignant hematology exposure. Residents are exposed to a full spectrum of hematologic disorders and their management. The rotation is designed to provide an experience that will facilitate residents’ education in becoming a competent consultant in Clinical Hematology

General Hematology: This rotation is a hybrid rotation that includes hematological pathology and clinical hematology exposure. The goals of this experience are to develop consultancy and time management skills required to practice clinical and laboratory hematology.

Obstetrical Hematology: This rotation provides exposure to the diagnosis and management of common hematological disorders during pregnancy.

Leukemia Service: The goal of this rotation is to allow the residents to gain exposure to the management of patients with acute and chronic leukemias and plasma cell dyscrasias; however, there is no expectation that they will become experts in the diagnosis or management of patients with hematological malignancies.
**Lymphoma Service:** This rotation is designed to provide an experience that will facilitate the resident’s education in becoming a competent consultant in hematology. The goal of this experience is to allow residents to gain exposure to, and hence, gain advanced knowledge and practical skills in the management of various types of lymphoma.

**Clinical Chemistry:** This is a mandatory rotation intended for residents in their senior years of training. They are expected to become familiar with quality control roles, interpreting and investigating the common quality control problems, and to be familiar with interpreting the common abnormalities encountered in serum and urine protein electrophoresis.

**Fourth Year**

**Pediatric Hematology:** Training is provided in both in-patient and out-patient pediatric hematology. The care of neonatal and pediatric hematologic disorders and the team approach to patient care are emphasized.

**General Hematology:** This rotation is a hybrid rotation that includes hematological pathology and clinical hematology exposure. The goals of this experience are to develop consultancy and time management skills required to practice clinical and laboratory hematology. Residents in this rotation are exposed to a full spectrum of hematologic disorders and their management with a higher level of responsibility including participation in weekly ambulatory clinics.

**Leukemia Service:** The goal of this rotation is to allow the residents to gain exposure to the management of patients with acute and chronic leukemias and plasma cell dyscrasias; however, there is no expectation that they will become experts in the diagnosis or management of patients with hematological malignancies.

**Lymphoma Service:** This rotation is designed to provide an experience that will facilitate the resident’s education in becoming a competent consultant in hematology. The goal of this experience is to allow residents to gain exposure to, and hence, gain advanced knowledge and practical skills in the management of various types of lymphoma.

**Fifth Year**

**General Hematology:** This rotation is a hybrid rotation that includes hematological pathology and clinical hematology exposure. The goals of this experience are to develop consultancy and time management skills required to practice clinical and laboratory hematology. Residents in this rotation are exposed to a full spectrum of hematologic disorders and their management with an increasing level of responsibility including participation in weekly ambulatory clinics.

**Transfusion Medicine:** This is an advanced rotation, which allows residents to have the opportunity to study blood provision system in Kuwait and recognize the scope of specialized laboratory services provided by Kuwait Central Blood Bank. A dissection of the steps involved in the production and distribution of blood and blood products is provided. Knowledge of the risk of disease
transmission through blood transfusion is emphasized. This rotation is intended for residents in their senior years of training. They are expected to develop expertise in the principles and practices of transfusion medicine including advanced immunohematology, platelet and white cell immunobiology, hemovigilance, blood product utilization and conservation (including transfusion practices specific to pediatrics, obstetrics, allogeneic and autologous transplantation, cardiac and vascular surgery, trauma, critical care, and neurosurgery).

**Clinical Hematology:** This rotation, which includes in-patient and out-patient hematology exposure, is designed to provide an experience that will facilitate the resident’s education in becoming a competent consultant in clinical hematology. The goals of this experience are to develop consultancy and time management skills required to practice clinical hematology, as well as to allow the residents experience in supervision and education of junior residents and medical students. Residents in this rotation are exposed to a full spectrum of hematologic disorders and their management with a higher level of responsibility including participation in weekly ambulatory clinics.

**Stem Cell Transplant:** This two-month rotation will provide residents with knowledge, experience and skills pertaining to the use of bone marrow transplantation procedures in the care of patients with various hematologic diseases. The rotation provides exposure to allogeneic and autologous stem cell transplantation including initial patient assessment, donor selection, stem cell collection and infusion, in-patient management and management of graft-versus-host disease and other complications.

**Lymph node Pathology:** Residents are exposed to lymph node biopsies and are involved in daily joint sign-out sessions with the attending anatomical pathologist. It is designed to familiarize hematology residents with the process of the lymph node biopsy, processing, evaluation and diagnostic assessment at the level of consultative pathology practice.

**Elective:** This one month block is used to provide additional hematology-related clinical and/or laboratory exposure. Electives are coordinated through the Program Director.
Internal Medicine Rotation
(Amiri, Mubarak Al-Kabeer, Adan Hospital)

I. OVERVIEW

General Description of Rotation

The Internal Medicine rotation is a one-year rotation that involves training in the diagnosis and treatment of a broad range of diseases in adults involving all organ systems, and in the medical management of patients who have undifferentiated or multi-system disease processes. Upon completion of this rotation, hematology residents are expected to acquire proficiency in the theoretical basis of the specialty, including its foundations in basic medical sciences. The overall aim of this training is to instill knowledge and understanding, skills and attitudes, from which are formed the competencies for lifetime practice as a physician in adult Internal Medicine. Residents must demonstrate the requisite knowledge, skills, and attitudes for effective patient-centered care and service to a diverse population. In all aspects of specialist practice, they must be able to address issues of gender, age, culture, ethnicity and ethics in a professional manner. The main objective of this rotation is to provide a template for residents in acquiring relevant knowledge, skills and attitudes in Internal Medicine.

Responsibilities of Hematology Residents

The Internal Medicine rotation is the first rotation in the program that includes patient care activities in an inpatient setting. Residents will function under the supervision of the attending internist, who assumes responsibility for the in-patient unit. They are expected to be active members of the team providing primary care to in-patients, taking responsibility for the day-to-day care of in-patients commensurate with their level of training. In addition, it is expected that residents will be familiar with all patients on the ward and act as a resource for the other members of the team providing primary care to these patients. This care will include the development of skills in diagnosis, primary therapy, and supportive care including dealing with the psychosocial aspects of diseases that affect both patients and their families. Residents are also responsible for supervising interns. Residents are encouraged to keep a journal to track the types of patient problems seen over the course of the rotation and to review this regularly so adjustments in assigned patients may occur during the rotation in an effort to maximize exposure to a variety of disorders.

Educational Activities

Educational activities, which are a priority for hematology residents, include both scheduled rounds and other academic sessions. Residents are expected to attend and actively participate in the Internal Medicine Residents’ educational half-day on a weekly basis.

On-Call Duties

This rotation includes an on-call experience. Residents take in-house on-call on average every 4th day, as per the policy of their respective training site. When residents are on-call, they are the physicians of first contact, but are appropriately supervised and backed up by one of the senior staff. Residents will be expected to be able to provide a
thorough patient briefing to the attending consultant daily. The on-call responsibilities on the weekend include making rounds on in-patients of their assigned unit and acting as the first call for outpatients.

**Rotation and Site Residency Supervisor**

In this rotation, officially assigned senior internists are involved in the education of residents. The Training Site Coordinator’s responsibility is to ensure that the experience is going well and is covering all intended aspects of general medicine. In this way, all involved consultants are expected to interact with, and contribute to the educational experience of residents during this rotation. Assigned internists are asked to contribute to the evaluation of each resident.

**Resources**

KIMS e-Library

**Resident Evaluation**

An orientation session will take place during the first week of the rotation to discuss with residents its goals and objectives. They are encouraged to seek mid-rotation informal feedback concerning their proficiency at managing patient problems. A formal evaluation is given and fully discussed with residents at the end of their rotation. This will include a discussion of the residents’ progress in meeting the goals of this rotation. Input is sought from assigned attending members of the team. Based on the feedback received at the end of the rotation, a formal CanMEDS-based evaluation report is completed by the rotation supervisor. Final evaluations are discussed with the resident. Feedback from allied health professionals is also sought, as appropriate.

**Evaluation of the Rotation**

At the time of final evaluation of residents, they are expected to submit a feedback regarding the rotation, including its strengths and shortcomings. If issues arise during the rotation, residents are encouraged to bring these to the attention of the rotation supervisor. A mechanism for dealing with any shortcomings will then be discussed with them accordingly.

II. GOALS AND OBJECTIVES

**Medical Expert**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

1. Function effectively to integrate all of the CanMEDS Roles to provide optimal, ethical and patient-centered care
   1.1 Effectively perform a consultation, including the presentation of well documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional.
1.2 Demonstrate effective use of all CanMEDS competencies relevant to the practice of general medicine.
1.3 Identify and appropriately respond to relevant ethical issues arising in patient care.
1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems.
1.5 Demonstrate compassionate and patient-centered care.
1.6 Recognize and respond to the ethical dimensions in medical decision making.
1.7 Synthesize and prioritize effectively problems that are complex and/or undifferentiated.
1.8 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence.
1.9 Contribute to the enhancement of quality care and patient safety in Internal Medicine, integrating the available best evidence and best practices.
1.10 Demonstrate the ability to prioritize professional duties effectively and appropriately when faced with multiple patients and problems.

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice

2.1 Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to the following clinical scenarios and conditions applicable to Internal Medicine including an understanding of the manifestations, investigation and management:
   2.1.1 Acute medicine
      2.1.1.1 Immediately life-threatening metabolic, cardiac, pulmonary, neurological, gastrointestinal and other organ system dysfunction and abnormalities.
      2.1.1.2 Shock, including knowledge and identification of the different etiologies.
      2.1.1.3 Cardio-respiratory arrest.
      2.1.1.4 Poisoning.
      2.1.1.5 Severe drug reactions including but not limited to anaphylaxis.

3. Perform a complete and appropriate assessment of a patient

3.1 Effectively identify and explore issues to be addressed in a patient encounter, including the patient’s context and preferences and the impact of illness on the patient’s life.
3.2 For the purposes of diagnosis and or management, elicit a history that is relevant, concise and accurate.
3.3 For the purposes of diagnosis and/or management, perform a focused physical examination that is relevant and accurate.
3.4 Select medically appropriate investigations in a resource-effective and ethical manner.
3.5 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans.

4. Use preventive and therapeutic interventions effectively

4.1 Implement an effective management plan in collaboration with patients and their family.
4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the physician’s practice.

4.3 Ensure appropriate informed consent is obtained for interventions and therapies.

4.4 Ensure patients receive appropriate end-of-life care.

5. **Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic**

5.1 Demonstrate effective, appropriate, and timely performance of the following diagnostic and therapeutic procedures relevant to Internal Medicine including indications benefits, risks and interpretation of results:

5.1.1 Establishing an airway, bag and mask ventilation, mouth-to-mask ventilation, and use of hand-held resuscitators.

5.1.2 Invasive and non-invasive mechanical ventilation.

5.1.3 Insertion and care of peripheral arterial catheters.

5.1.4 Venous access including central line placement in elective and emergency situations.

5.1.5 Cardiopulmonary resuscitation.

5.1.6 Endotracheal intubation.

5.1.7 Diagnosing and managing life threatening cardiac arrhythmias.

5.1.8 Electrocardiograms

5.1.9 Diagnostic and therapeutic thoracentesis.

5.1.10 Diagnostic and therapeutic abdominal paracentesis.

5.1.11 Lumbar puncture.

5.2 Ensure appropriate informed consent is obtained for procedures.

5.3 Document and disseminate information related to procedures performed and their outcomes.

5.4 Ensure adequate follow-up is arranged for procedures performed

6. **Seek appropriate consultation from other health professionals, recognizing the limits of their expertise**

6.1 Demonstrate insight into their limitations of expertise via self-assessment.

6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.

6.3 Arrange appropriate follow-up care services for a patient and their family.

**Communicator**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

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 and responsive to nonverbal cues.

1.6 Effectively facilitate a structured clinical encounter.

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 also 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. Accurately convey relevant information and explanations 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.

3.2 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 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 Effectively identify and explore problems to be addressed from a patient encounter, 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 Effectively address challenging communication issues 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, accurate, and appropriate records (e.g., written or electronic) of clinical
       encounters and plans.
   5.2 Effectively present verbal reports of clinical encounters and plans.

Collaborator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Participate effectively and appropriately in an inter-professional healthcare team
   1.1 Clearly 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 patients.
       1.4.1 Incorporate understanding of the interactions of diseases involving multiple organ
           systems in the creation of multidisciplinary diagnostic and management strategies.
   1.5 Participate effectively in inter-professional team meetings.
   1.6 Enter into interdependent relationships with other professions for the provision of quality
       care.
   1.7 Describe the principles of team dynamics.
   1.8 Respect team ethics, including confidentiality, resource allocation and professionalism.
   1.9 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.
   1.10 Work within inter-professional teams to optimize both patient safety and quality of care.

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

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Participate in activities that contribute to the effectiveness of their healthcare 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 healthcare system as it relates to their specialty, including the roles of physicians.

2. Manage their practice and career effectively
   1.1 Set priorities and manage time to balance ward and ambulatory patient care, practice requirements, outside activities and personal life.
   1.2 Implement processes to ensure personal practice improvement.
   1.3 Employ information technology appropriately for patient care.

2. Allocate finite healthcare resources appropriately
   2.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care.
   2.2 Apply evidence and management processes for cost-appropriate care.

Health Advocate

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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 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, as appropriate
   3.1 Describe principles of learning relevant to medical education.
   3.2 Collaboratively identify 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 Pose a scholarly question.
   4.3 Conduct a systematic search for evidence.
   4.4 Select and apply appropriate methods to address the question.
   4.5 Appropriately disseminate the findings of a study.
Professional

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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, reliability, compassion, respect and altruism.
   1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence by acting promptly with respect to patient investigation and treatment; ensuring prompt completion of clinic notes and discharge summaries; providing thorough transfer of information for physicians assuming on-call care of their patients; rounding on patients prior to morning report in order to effectively lead discussion; and arriving at rounds and meetings on time.
   1.3 Recognize and appropriately respond to ethical issues encountered in practice.
   1.4 Appropriately manage conflicts of interest.
   1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
   1.6 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 behaviors in practice.

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.
I. OVERVIEW

General Description of Rotation

The General Hematology rotation is a hybrid rotation that includes hematological pathology and clinical hematology. This service covers the areas of general hematology, malignant hematology and laboratory hematology. Patient care activities take place at general hospitals that are approved as training sites including Al-Amiri Hospital and Mubarak Al-Kabeer Hospital.

This rotation is intended for hematology residents at their R2 to R5 levels of training to provide an experience that will facilitate the resident’s education in becoming a competent specialist in Clinical and Laboratory Hematology. It is designed to meet the objectives of the Educational Committee of Kuwait Hematology Residency Training Program (KHRTP).

Patients seen on this rotation will have primarily benign and malignant hematologic disorders, including cytopenias, bleeding disorders, thromboembolic disease, myeloproliferative disorders, monoclonal gammopathies/multiple myeloma and disorders of iron metabolism.

Responsibilities of Hematology Residents

The General Hematology rotation is included in all levels of training, and its duration varies accordingly. It includes patient care activities in an inpatient and out-patient settings, diagnostic laboratory hematopathology, and educational activities.

1. Patients Care Activities

Residents will function under the supervision of the attending hematologist, who assumes responsibility for the in-patient unit on a rotational basis. Residents are expected to be active members of the team providing primary care to in-patients, taking responsibility for the day-to-day care of in-patients commensurate with their level of training. In addition, it is expected that residents will be familiar with all patients on the ward and act as a resource for the other members of the team providing primary care to these patients. This care will include the development of skills in diagnosis, primary therapy, and supportive care including dealing with the psychosocial aspects of diseases that affect both patients and their families. Residents are also responsible for supervising junior hematology and internal medicine residents at different levels of training depending on their training levels. Depending on their level of training, residents will also provide a consultation service to other in-patient areas. The aim is for residents to provide a comprehensive hematology consultation service, where they will be required to communicate with the requesting physicians/health care professionals and follow up on any laboratory or imaging tests that are ordered. Residents will be expected to attend or delegate inpatient consults, review the consults and formulate an appropriate investigational and/or management plan for these patients. These consultations will be completed under the supervision of the consultant hematologist responsible for in-patient consultations.

The outpatient experience of this rotation involves senior hematology residents (R4/R5 residents), who will be responsible for reviewing the clinic cases with the attending consultant, in addition to seeing clinic patients independently, if the clinic is busy and space is available.
These clinics will involve both the assessment of newly referred patients, as well as the provision of care on an ongoing basis. A daily specialized anticoagulant management clinic occurs at Al-Amiri Hospital, which is the only hospital currently running this clinic. Residents are encouraged to keep a journal to track the types of patient problems seen over the course of the rotation and to review this regularly so adjustments in assigned patients may occur during the rotation in an effort to maximize exposure to a variety of hematological disorders.

2. Laboratory Diagnostic Activities

Hematological Pathology is that domain of laboratory medical practice and science concerned with the study, investigation, diagnosis and therapeutic monitoring of disorders of blood, blood-forming elements, hemostasis and immune function in adults and children. The specialty also encompasses the direction and supervision of transfusion medicine services at hospital level, ensuring safe and effective transfusion management for patients. The Hematological Pathology component of this rotation requires an in depth knowledge of the basic sciences (immunology, biochemistry, molecular pathology, genetics) related to the specialty which are an essential foundation for the provision of expert knowledge in the morphology of blood and hematopoietic/lymphoid organs, immunohematology, hemostasis and general hematology. The specialty also encompasses expertise in instrumentation, quality management systems, administrative and regulatory guidelines related to the directorship and management of diagnostic laboratory resources.

Based on the above, residents will be providing laboratory hematology diagnostic services including reviewing and commenting on peripheral blood smears, signing out bone marrow reports with the attending consultant, laboratory work up of bleeding and thrombotic disorders, signing out HPLC hemoglobin analysis reports, and management of common hospital-based transfusion problems.

Educational Activities

Educational activities, which are a priority for hematology residents, include both scheduled rounds and other academic sessions. Residents are expected to attend the Hematology Residents’ educational half-day on a weekly basis.

Residents are expected to present interesting patient problems at those rounds as well to do one formal presentation on a topic. In addition, a weekly formal one-hour tutorial session with residents will be set up with members of the hematology service depending on the training site’s teaching schedule. Residents’ educational activities will also include regular ward rounds with the attending hematologist. Morphology and hematopathology sessions may be arranged to complement the educational experience.

For both inpatient consults, clinic patients and laboratory diagnostic challenges, residents will be expected to consult the literature as needed, and to discuss the appropriate diagnostic and treatment approaches with the attending consultant.
On-Call Duties

This rotation includes an on-call experience. Residents are on-call (in-house during R2 and R3 levels or out-of-hospital during R4 and R5 levels) on average every 4th day, as per the policy of their respective training site and the level of training.

When residents are on-call, they are the physicians of first contact, but are appropriately supervised and backed up by one of the consultant hematologists. Residents will be expected to be able to provide a thorough patient sign-over to the attending consultant hematologist daily; this will need to be translated in writing to the on-call physician prior to the weekend.

The on-call responsibilities on the weekend include making rounds on in-patients of the hematology service and acting as the first call for outpatients. The on-call experience may also include the management of problems of hematology laboratories. The above on-call experience will be appropriately supervised by the attending hematologist on-call for both the Clinical and Laboratory Services.

Rotation and Site Residency Supervisor

In this rotation, officially assigned attending hematologists are involved in the education of residents. The staff hematologists assume responsibility for in-patients on a rotational basis. The Training Site Coordinator’s responsibility is to ensure that the experience is going well and is covering all intended aspects of hematology. In this way, all involved consultant hematologists are expected to interact with, and contribute to the educational experience of the hematology resident during this rotation. Assigned hematologists are asked to contribute to the evaluation of each hematology resident.

Resources

KIMS e-Library

Resident Evaluation

An orientation session will take place during the first week of the rotation to discuss with residents its goals and objectives. They are encouraged to seek mid-rotation informal feedback concerning their proficiency at managing patient problems. A formal evaluation is given and fully discussed with residents at the end of their rotation. This will include a discussion of the residents’ progress in meeting the goals of this rotation. Input is sought from assigned attending members of the team. Based on the feedback received at the end of the rotation, a formal CanMEDS-based evaluation report is completed by the rotation supervisor. Final evaluations are discussed with the resident. Feedback from allied health professionals is also sought.

Evaluation of the Rotation

At the time of the final evaluation of residents, they are expected to submit a feedback regarding the rotation, including its strengths and shortcomings. If issues arise during the rotation, residents are encouraged to bring these to the attention of the rotation supervisor. A mechanism for dealing with any shortcomings will then be discussed with them accordingly. Teaching tutors are evaluated separately in a similar manner, as for other rotations.
II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies and Enabling Competencies

_Hematology residents should be able to..._

1. Function effectively as hematologists, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered hematological care
   1.1 Effectively perform a consultation, including the presentation of well documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional.
   1.2 Demonstrate effective use of all CanMEDS competencies relevant to the practice of hematology.
   1.3 Identify and appropriately respond to relevant ethical issues arising in patient care.
   1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems.
   1.5 Demonstrate compassionate and patient-centered care.
   1.6 Recognize and respond to the ethical dimensions in medical decision-making.

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice
   2.1 Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to hematology as outlined below.

   *Non-malignant Hematological Disorders*
   Residents must demonstrate in depth knowledge of:
   a. Appropriate investigation and management of patients with anemia, leucopenia and thrombocytopenia.
   b. Appropriate investigation and management of patients with polycythemia, leukocytosis and thrombocytosis.
   c. Appropriate investigations and management of patients with hematological disorders that arise in general hospitals including those occurring in the intensive care.

   *Malignant Hematological Disorders*
   _Acute Leukemia (Acute Myelogenous and Acute Lymphoblastic Leukemia)_ Resident must demonstrate in depth knowledge of:
   b. Pathophysiology of alterations in morphology and quantity of formed elements in the blood and bone marrow.
   c. Indications for, and interpretation of, routine and specialized laboratory investigations applicable to the care of adult patients with acute myeloid and lymphoid leukemia, including sound knowledge of relevant aspects of biochemistry, genetics, immunology, and pathology.
d. Natural history, clinical and laboratory features, as well as prognostic differences between the subtypes of acute myeloid and lymphoid leukemia in adults.

e. Principles of therapy used for the treatment of acute myeloid and lymphoid leukemia in adults.

f. Supportive care issues surrounding the care of such patients including tumor lysis precautions, transfusion support, recognition and treatment of infectious complications.

**Chronic Myeloid Leukemia (CML)**

Resident must demonstrate in depth knowledge of:

a. Natural history, clinical and laboratory features, as well as prognostic indicators in CML in adults.

b. Routine and specialized laboratory investigations used in the diagnosis of adult patients with CML, including sound knowledge of relevant aspects of biochemistry, genetics and pathology.


**Lymphoproliferative Disorders**

Resident must demonstrate in depth knowledge of:


b. Natural history, clinical and laboratory features of the subtypes of lymphoproliferative disorders in adults.

c. Indications for, and interpretation of, routine and specialized investigations applicable to the care of adult patients with lymphoproliferative disorders, including sound knowledge of relevant aspects of biochemistry, genetics, immunology, pathology and radiology.


**Plasma Cell Disorders (Multiple myeloma and related conditions)** Resident must demonstrate in depth knowledge of:

a. Development, structure and function of plasma cells.

b. Clinical and laboratory features used to establish a diagnosis of active multiple myeloma requiring therapy, smoldering myeloma, monoclonal gammopathy of undetermined significance as well as other conditions associated with a monoclonal gammopathy.

c. Indications for, and interpretation of, routine and specialized investigations applicable in the care of patients with plasma cell disorders, including sound knowledge of relevant aspects of biochemistry, genetics, immunology, pathology and radiology.

d. Principles of therapy used for the treatment of plasma cell disorders.

**Supportive care of the patient with malignant disease** Resident must demonstrate in depth knowledge of:
a. Nature history, appropriate investigation and management of infectious diseases that arise in the setting of neutropenia and immunocompromise.

b. Special issues relating to transfusion support in patients with profound or prolonged cytopenias.

3. Perform a complete and appropriate assessment of a patient
   3.1 Effectively identify and explore issues to be addressed in a patient encounter, including the patient’s context and preferences.
   3.2 For the purposes of diagnosis and or management, elicit a history that is relevant, concise and accurate.
   3.3 For the purposes of diagnosis and/or management, perform a focused physical examination that is relevant and accurate.
   3.4 Select medically appropriate investigations in a resource-effective and ethical manner.
   3.5 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans.

4. Use preventive and therapeutic interventions effectively
   4.1 Implement an effective management plan in collaboration with patients and their family.
   4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the physician’s practice.
   4.3 Ensure appropriate informed consent is obtained for interventions and therapies.

5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
   5.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures as indicated below:
      - Bone marrow aspirations and biopsies, demonstrating not only the technical skill but awareness of informed consent, patient comfort and knowledge of the appropriate special tests to request (i.e. cell markers, cytogenetics, molecular markers, cultures, reticulin stains, congo red staining, etc.)
      - If they have not already done so, residents are to review the instructional videos and PDF documents on bone marrow aspiration/biopsy found at the following links: http://content.nejm.org/cgi/content/short/361/15/e28; http://content.nejm.org/cgi/video_dl/355/13/e12.
         Residents must be supervised during their performance of bone marrow aspiration and biopsy, unless they have been certified to perform the procedure independently.
   5.2 Ensure appropriate informed consent is obtained for procedures.
   5.3 Appropriately document and disseminate information related to procedures performed and their outcomes.
6. **Seek appropriate consultation from other health professionals, recognizing the limits of their expertise**
   6.1 Demonstrate insight into their limitations of expertise via self-assessment.
   6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.
   6.3 Arrange appropriate follow-up care services for a patient and their family.

**Communicator**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

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 and responsive to nonverbal cues.
   1.6 Effectively facilitate a structured clinical encounter.

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 also 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. **Accurately convey relevant information and explanations 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.

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 Effectively identify and explore problems to be addressed from a patient encounter, including the patient’s context, responses, concerns, and preferences.
   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 Effectively address challenging communication issues 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, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans.
   5.2 Effectively present verbal reports of clinical encounters and plans.
   5.3 When appropriate, effectively present medical information to the public or media about a medical issue.

**Collaborator**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

1. **Participate effectively and appropriately in an inter-professional healthcare team**
   1.1 Clearly describe their 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).
   1.5 Participate effectively in inter-professional team meetings.
   1.6 Enter into interdependent relationships with other professions for the provision of quality care.
   1.7 Describe the principles of team dynamics.
   1.8 Respect team ethics, including confidentiality, resource allocation and professionalism.
   1.9 Where appropriate, demonstrate leadership in a healthcare team.

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

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Participate in activities that contribute to the effectiveness of their healthcare 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.
   1.3 Describe the structure and function of the healthcare system as it relates to their specialty, including the roles of physicians.

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

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

Health Advocate

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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 in communities that they serve.
   2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately.

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 healthcare 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.

Scholar

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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 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, as appropriate
   3.1 Describe principles of learning relevant to medical education.
   3.2 Collaboratively identify 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 Appropriately disseminate the findings of a study.

Professional

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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, reliability, compassion, respect and altruism.
   1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence by acting promptly with respect to patient investigation, consultation and treatment; ensuring prompt completion of clinic notes and discharge summaries; providing thorough transfer of information for physicians assuming on-call care of their patients; rounding on patients prior to morning report in order to effectively lead discussion; and arriving at rounds and meetings on time.
   1.3 Recognize and appropriately respond to ethical issues encountered in practice.
   1.4 Appropriately manage conflicts of interest.
   1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
   1.6 Maintain appropriate relations with patients.

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation
   2.1 Appreciate 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 behaviors in practice.
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.
Clinical Hematology Rotation
(Mubarak Al-Kabeer and Al-Sabah Hospital)

I. OVERVIEW

General Description of Rotation

The Clinical Hematology Rotation for hematology residents is based at the clinical hematology division of Internal medicine department of Mubarak Al-Kabeer and Al-Sabah Hospitals. This is a two-month rotation that is intended for hematology residents at their R2 to R5 levels of training to provide an experience that will facilitate the resident’s education in becoming a competent specialist in Clinical Hematology. It is designed to meet the objectives of the Educational Committee of Kuwait Hematology Residency Training Program (KHRTP).

Residents will build on the experience in diagnosing and managing patients with diverse benign and malignant hematologic disorders, including cytopenias, bleeding disorders, thromboembolic disease, myeloproliferative disorders, monoclonal gammopathies/multiple myeloma and disorders of iron metabolism. They will also gain experience in dealing with common problems related to hospital-based transfusion medicine practice; however, they will not have comprehensive exposure to the management of malignant hematological disorders as they are mostly seen and managed at Kuwait Cancer Control Center.

Responsibilities of Hematology Residents

General Responsibilities

The Clinical Hematology rotation is included in R2 and R5 levels of training. Residents will function under the supervision of the attending hematologist, who assumes responsibility for the in-patient unit on a rotational basis. Residents are expected to be active members of the team providing primary care to in-patients, taking responsibility for the day-to-day care of in-patients commensurate with their level of training. In addition, it is expected that residents will be familiar with all patients on the ward and act as a resource for the other members of the team providing primary care to these patients. This care will include the development of skills in diagnosis, primary therapy, and supportive care including dealing with the psychosocial aspects of diseases that affect both patients and their families. Residents are also responsible for supervising junior hematology and internal medicine residents at different levels of training depending on their training levels.

Depending on their level of training, residents will also provide a consultation service to other in-patient areas. The aim is for residents to provide a comprehensive hematology consultation service, where they will be required to communicate with the requesting physicians/health care professionals and follow up on any laboratory or imaging tests that are ordered. Residents will be expected to attend or delegate in-patient consults, review the consults and formulate an appropriate investigational and/or management plan for these patients. These consultations will be completed under the supervision of the consultant hematologist responsible for in-patient consultations.

The outpatient experience of this rotation involves senior hematology residents (R5 residents), who will be responsible for reviewing the clinic cases with the attending consultant, in addition to seeing
clinic patients independently, if the clinic is busy and space is available. These clinics will involve both the assessment of newly referred patients, as well as the provision of care on an ongoing basis. Residents are encouraged to keep a journal to track the types of patient problems seen over the course of the rotation and to review this regularly so adjustments in assigned patients may occur during the rotation in an effort to maximize exposure to a variety of hematological disorders.

Site-specific Responsibilities (Mubarak Al-Kabeer Hospital)

1. Residents are expected to attend the Medical Morning Meeting at 7:30 am. Attendance less than 60% during the rotation (Minimum of 3 meetings per week) will have a weight in their final evaluation.
2. Residents are expected to attend the afternoon Departmental (Internal Medicine) meeting (Tuesday and Wednesday).
3. Residents are expected to present a minimum of three topics during the 2-month rotation.
4. At the end of the rotation, residents will have a formative oral examination, the performance on which will have a weight in their final evaluation.
5. Residents are expected to be updated on daily new admissions, and to see all hematology inpatients and follow up on consultation cases before the consultant rounds. They are expected to write medical notes and a detailed plan for each patient.
6. Topics to be covered during the rotation (every Monday & Wednesday) include:
   - Thrombosis
   - Thrombocytopenia
   - Acquired and congenital anemias
   - Bleeding disorder
   - Myleo-proliferative disorder
   - Lympho-proliferative disorders
   - Acute Leukemia
   - Lymphoma
   - Plasma cell disorder
   - Transfusion Medicine

Site-specific Responsibilities (Al-Sabah Hospital)

An orientation session will take place during the first week of the rotation to discuss with residents the structure of the rotation, its goals and objectives, residents’ responsibilities and educational activities.

On-Call Duties

In the third year, residents are expected to do calls in internal medicine at Mubarak Al-Kabeer Hospital, as per its call schedule policy.

Resources

KIMS e-Library
Resident Evaluation
Residents are provided with feedback during the rotation concerning their proficiency in managing clinical problems and their performance in informal and formal teaching sessions. Feedback for on-call duties is also provided. A formal evaluation is given and fully discussed with residents at the end of their rotation. This will include a discussion of the residents’ progress in meeting the goals of this rotation. Input is sought from assigned attending members of the team. Based on the feedback received at the end of the rotation, a formal CanMEDS-based evaluation report is completed by the rotation supervisor. Final evaluations are discussed with the resident.

Evaluation of the Rotation
At the time of the final evaluation of residents, they are encouraged to provide feedback on how the rotation and teaching are structured. If issues arise during the rotation, residents are encouraged to bring these to the attention of the rotation supervisor. A mechanism for dealing with any shortcomings will then be discussed with them accordingly. Teaching tutors are evaluated separately in a similar manner, as for other rotations.

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Function effectively as hematologists, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered hematological care
   1.1 Effectively perform a consultation, including the presentation of well documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional.
   1.2 Demonstrate effective use of all CanMEDS competencies relevant to the practice of hematology.
   1.3 Identify and appropriately respond to relevant ethical issues arising in patient care.
   1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems.
   1.5 Demonstrate compassionate and patient-centered care.
   1.6 Recognize and respond to the ethical dimensions in medical decision-making.

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to hematology practice
   2.1 Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to hematology as outlined below:
      2.1.1 Development, structure and function of the hemopoietic system.
      2.1.2 Pathophysiology of alterations in morphology and quantity of formed elements in the blood.
2.1.3 Indications for and interpretation of common hematologic tests.
2.1.4 Principles underlying transfusion of blood and blood products.
2.1.5 Characteristics and principles of investigation and treatment of various benign and some of the malignant hematological disorders.

2.2 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence.

2.3 Contribute to the enhancement of quality care and patient safety in their practice, integrating the available best evidence and best practices.

3. **Perform a complete and appropriate assessment of a patient**
   3.1 Effectively identify and explore issues to be addressed in a patient encounter, including the patient’s context and preferences.
   3.2 For the purposes of diagnosis and or management, elicit a history that is relevant, concise and accurate.
   3.3 For the purposes of diagnosis and/or management, perform a focused physical examination that is relevant and accurate.
   3.4 Select medically appropriate investigations in a resource-effective and ethical manner.
   3.5 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans.

4. **Use preventive and therapeutic interventions effectively**
   4.1 Implement an effective management plan in collaboration with patients and their family.
   4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the physician’s practice.
   4.3 Ensure appropriate informed consent is obtained for interventions and therapies.
   4.4 Ensure patients receive appropriate end-of-life care.

5. **Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic**
   5.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to hematology, including bone marrow aspiration and biopsy, lumbar puncture, and care and use of central venous lines.
   5.2 Ensure appropriate informed consent is obtained for procedures.
   5.3 Appropriately document and disseminate information related to procedures performed and their outcomes.
   5.4 Ensure adequate follow-up is arranged for procedures performed.

6. **Seek appropriate consultation from other health professionals, recognizing the limits of their expertise**
   6.1 Demonstrate insight into their limitations of expertise via self-assessment.
   6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.
6.3 Arrange appropriate follow-up care services for a patient and their family.

Communicator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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 and responsive to nonverbal cues.
   1.6 Effectively facilitate a structured clinical encounter.

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 also 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. Accurately convey relevant information and explanations 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.

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 Effectively identify and explore problems to be addressed from a patient encounter, including the patient’s context, responses, concerns, and preferences.
   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 Effectively address challenging communication issues 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, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans.
   
   5.2 Effectively present verbal reports of clinical encounters and plans.
   
   5.3 When appropriate, effectively present medical information to the public or media about a medical issue.

**Collaborator**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

1. **Participate effectively and appropriately in an inter-professional healthcare team**
   
   1.1 Clearly describe their 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).
   
   1.5 Participate effectively in inter-professional team meetings.
   
   1.6 Enter into interdependent relationships with other professions for the provision of quality care.
   
   1.7 Respect team ethics, including confidentiality, resource allocation and professionalism.
   
   1.8 Where appropriate, demonstrate leadership in a healthcare team.

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

**Manager**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*
1. **Participate in activities that contribute to the effectiveness of their healthcare 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.
   1.3 Describe the structure and function of the healthcare system as it relates to their specialty, including the roles of physicians.

2. **Manage their practice and career effectively**
   2.2 Set priorities and manage time to balance ward and ambulatory patient care, practice requirements, outside activities and personal life.
   2.3 Implement processes to ensure personal practice improvement.
   2.4 Employ information technology appropriately for patient care.

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

**Health Advocate**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

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 in communities that they serve.
   2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately.

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 healthcare 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.

**Scholar**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

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 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, as appropriate**
   3.1 Describe principles of learning relevant to medical education.
   3.2 Collaboratively identify 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 Appropriately disseminate the findings of a study.

Professional

Key Competencies and Enabling Competencies

_Hematology residents should be able to..._

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, reliability, compassion, respect and altruism.
   1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence by acting promptly with respect to patient investigation, consultation and treatment; ensuring prompt completion of clinical notes and discharge summaries; providing thorough transfer of information for physicians assuming on-call care of their patients; rounding on patients prior to reporting to the consultant hematologist in order to effectively lead discussion; and arriving at rounds and meetings on time.
   1.3 Recognize and appropriately respond to ethical issues encountered in practice.
   1.4 Appropriately manage conflicts of interest.
   1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
   1.6 Maintain appropriate relations with patients.

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation
   2.1 Appreciate 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 behaviors in practice.

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.
Obstetric Hematology Rotation
(Maternity Hospital)

I. OVERVIEW

General Description of Rotation

The rotation in Obstetric Hematology at Maternity Hospital is intended for third year residents (R3). It offers residents the opportunity to develop skills regarding the management of hematologic disorders as they occur in the pregnant woman. This is a multi-disciplinary field, increasing the residents’ understanding of the physiology of pregnancy and delivery, and hematological issues of concern to obstetricians and neonatologists.

Responsibilities of Hematology Residents

Residents will function under the supervision of the attending hematologist, who assumes responsibility for the in-patient unit and outpatient clinics. Residents are expected to be active members of the team providing primary care to in-patients, taking responsibility for the day-to-day care of in-patients. In addition, it is expected that residents will be familiar with all patients on the ward and act as a resource for the other members of the team providing primary care to these patients. This care will include the development of skills in diagnosis, primary therapy, and supportive care including dealing with the psychosocial aspects of diseases that affect both patients and their families. They are also expected to attend outpatient clinics with senior staff within the team.

Educational Activities

Educational activities, which are a priority for hematology residents, include both scheduled rounds and other academic sessions, as per Obstetric Hematology team educational activities schedule. For both in-patient and clinic patients, residents will be expected to consult the literature as needed, and to discuss the appropriate diagnostic and treatment approaches with the attending consultant.

On-Call Duties

This rotation includes an on-call experience. Residents are on-call on average every fourth day, as per the policy of Obstetric Hematology team call policy. When residents are on-call, they are the physicians of first contact, but are appropriately supervised and backed up by one of senior obstetric hematologists.

Rotation and Site Residency Supervisor

In this rotation, officially assigned senior hematologists are involved in the education of residents. The Training Site Coordinator’s responsibility is to ensure that the experience is going well and is covering all intended aspects of Obstetric Hematology.
Resources
KIMS e-Library

Resident Evaluation
Residents are provided with feedback concerning their proficiency in managing clinical problems and their performance in informal and formal teaching sessions during the rotation. They meet with the rotation supervisor at the end of the rotation to provide two-way feedback on the rotation. A formal CanMEDS-based evaluation is completed at the end of the rotation by the rotation supervisor, with feedback from the other staff members, including allied health professionals, as appropriate.

Evaluation of the Rotation
Residents are encouraged to provide feedback on how the rotation and teaching are structured. As with all hematology rotations, residents are asked to complete a formal evaluation of the rotation and to hand it to the program director. Teaching tutors are evaluated separately in a similar manner, as for other rotations.

Rotation Topics
1. Physiologic hematological changes that occur in a normal pregnancy.
2. Diagnosis and management of a variety of hematological problems in pregnancy, including hemoglobinopathies, anemia, thrombocytopenia and thromboembolic disorders.
3. Application of clinical pharmacology in pregnancy, with a focus on the safety of drugs in pregnancy, as applicable to hematological disorders.

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Function effectively as hematologists, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered hematological care
   1.1 Effectively perform a consultation, including the presentation of well documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional.
   1.2 Demonstrate effective use of all CanMEDS competencies relevant to the practice of obstetric hematology.
   1.3 Identify and appropriately respond to relevant ethical issues arising in patient care.
   1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems.
1.5 Demonstrate compassionate and patient-centered care.
1.6 Recognize and respond to the ethical dimensions in medical decision-making.

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to obstetric hematology

2.1 Hematology residents must demonstrate in-depth knowledge of:
   2.1.1 The physiologic hematological changes that occur in a normal pregnancy.
   2.1.2 The physiology of factors responsible for hemostasis and thrombosis in pregnancy.
   2.1.3 The indications for and interpretation of common hematologic tests in this patient population.
   2.1.4 The principles underlying transfusion of blood and blood products in pregnancy.
   2.1.5 The characteristics and principles of investigation and treatment of variety of hematological problems in pregnancy, including hemoglobinopathies, anemia, thrombocytopenia and thromboembolic disorders).
   2.1.6 Neonatal hematology including:
      - Developmental hematology in the fetus
      - Bilirubin metabolism
      - Pathophysiology of hemostasis in the newborn
      - Transfusion practice in the newborn
      - Neonatal thrombocytopenia

3. Perform a complete and appropriate assessment of a patient

3.1 Hematology residents must demonstrate the ability to assess and investigate pregnant women with non-malignant hematologic disorders, including the ability to:
   3.1.1 Establish a professional relationship and interact with pregnant women and their care-givers in order to obtain a relevant history.
   3.1.2 Perform an efficient physical examination, demonstrating sensitivity to the patient’s needs.
   3.1.3 Understand and appropriately respond to the biomedical ethics involved in the investigation and care of pregnant women with hematological disorders, including the appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of “standard medical treatments”.

4. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic

4.1 Hematology residents must demonstrate the ability to perform the following technical skills relevant to their hematology practice.

5. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

5.1 Demonstrate insight into their limitations of expertise via self-assessment.
5.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.
5.3 Arrange appropriate follow-up care services for a patient and their family.

Communicator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
   1.1 Establish effective relationships with pregnant women with hematological disorders in order to obtain a meaningful history and to conduct a relevant physical examination.

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

3. Accurately convey relevant information and explanations 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.
   3.2 Understand the psychosocial aspects of caring for children with life threatening and/or chronic disorders, and their families.

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 Effectively identify and explore problems to be addressed from a patient encounter, including the patient’s context, responses, concerns, and preferences.
   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 Effectively address challenging communication issues 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, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans.
   5.2 Effectively present verbal reports of clinical encounters and plans.
   5.3 When appropriate, effectively present medical information to the public or media about a medical issue.
Collaborator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Participate effectively and appropriately in an inter-professional healthcare team
   1.1 Clearly describe their 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).
   1.5 Participate effectively in inter-professional team meetings.
   1.6 Enter into interdependent relationships with other professions for the provision of quality care.
   1.7 Describe the principles of team dynamics.
   1.8 Respect team ethics, including confidentiality, resource allocation and professionalism.
   1.9 Where appropriate, demonstrate leadership in a healthcare team.

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

Manager

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Participate in activities that contribute to the effectiveness of their healthcare 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.
   1.3 Describe the structure and function of the healthcare system as it relates to their specialty, including the roles of physicians.
2. **Manage their practice and career effectively**
   2.1 Set priorities and manage time to balance ward and ambulatory patient care, practice requirements, outside activities and personal life.
   2.2 Implement processes to ensure personal practice improvement.
   2.3 Employ information technology appropriately for patient care.

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

**Health Advocate**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

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 in communities that they serve.
   2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately.

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 healthcare 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.

**Scholar**

**Key Competencies and Enabling Competencies**

_Hematology residents should be able to..._

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 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, as appropriate**
   3.1 Describe principles of learning relevant to medical education.
   3.2 Collaboratively identify 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 Appropriately disseminate the findings of a study.

**Professional**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

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, reliability, compassion, respect and altruism.
   1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence by acting promptly with respect to patient investigation, consultation and treatment; ensuring prompt completion of clinic notes and discharge summaries; providing thorough transfer of information for physicians assuming on-call care of their patients; rounding on patients prior to morning report in order to effectively lead discussion; and arriving at rounds and meetings on time.
   1.3 Recognize and appropriately respond to ethical issues encountered in practice.
   1.4 Appropriately manage conflicts of interest.
   1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
   1.6 Maintain appropriate relations with patients.

2 **Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation**
   2.1 Appreciate 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 behaviors in practice.

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.
Immunophenotyping and Cytogenetic Rotation  
Kuwait Cancer Control Centre (KCCC)

I. OVERVIEW

General Description of the Rotation

This is a laboratory-based rotation focused on the basic science and laboratory aspects of the diagnosis of hematologic disorders, with an emphasis on hematologic oncology. The rotation is based at the Kuwait Cancer Centre (KCCC) – the site of the centralized Flow Cytometry service. The Immunophenotyping and Cytogenetic Rotation is a 4-week rotation designed to provide an experience that will facilitate the resident’s education in becoming a competent consultant in hematology. The goal of this experience is to allow hematology residents to gain exposure to, and hence, gain advanced knowledge and practical skills in the principles and use of flow cytometry, cytogenetic and molecular techniques in the diagnosis and monitoring treatment of various hematological disorders.

Responsibilities of the Hematology Resident

Resident Activities

Residents are expected to be actively involved in immunophenotyping and cytogenetics laboratories daily work gaining knowledge on method and application of flow cytometric and molecular techniques used in the diagnosis of various benign and malignant hematological disorders. The rotation also includes exposure to conventional karyotyping, FISH and PCR together with interpretation of their results.

Educational Activities

Educational activities, which are a priority for residents, include sessions and demonstrations on the different immunophenotyping, cytogenetic and molecular techniques and their applications in different hematological disorders.

Resources

KIMS e-Library

Resident Evaluation

Residents are provided with feedback at the end of the rotation concerning their proficiency in understanding the principles of immunophenotyping and cytogenetic analysis. They meet with the rotation supervisor at the end of the rotation to complete a formal evaluation, provide two-way feedback on the rotation, and discuss ways of improvement. A 360-feedback from other staff members including allied health professionals might also be sought.

Evaluation of the Rotation

At the time of the final evaluation of residents, they are expected to submit a feedback regarding the rotation, including its strengths and shortcomings. They are also encouraged to bring these to
the attention of the rotation supervisor. A mechanism for dealing with any shortcomings will then be discussed with them accordingly. Teaching tutors are evaluated separately using a special evaluation form.

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Function effectively to integrate all of the CanMEDS Roles to provide optimal, ethical and patient-centered care
   1.1 Perform a consultation, including the presentation of well-documented assessments and recommendations in written form in response to a request from the treating hematologist/oncologist.
   1.2 Demonstrate the ability to prioritize professional duties when faced with multiple patients, multiple laboratory tasks and problems related to these.
   1.3 Demonstrate compassionate and patient-centered care.

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to the practice of hematology
   2.1 Demonstrate in depth knowledge in the following general areas:
      2.1.1 Developmental cell morphology.
      2.1.2 Structure and function of factors and cells involved in hematopoiesis.
      2.1.3 Pathophysiology of leukemia/lymphoma, myeloma and related disorders.
      2.1.4 Interpretation of laboratory tests used in cell diagnostics.
      2.2 Be familiar with the basic principle and basic technical aspects of flow cytometric analysis including sample preparation, labeling with fluorochrome-labeled antibodies, gating, histogram and scatter plots interpretation, and reporting of results.
      2.3 Develop sound skills in the application of flow cytometric techniques in the diagnosis of various benign and malignant hematological disorders.
      2.4 Identify common chromosomal abnormalities found in the hematologic malignancies.
      2.5 Demonstrate the ability to properly order, use and interpret tests of cell diagnostics in patients with malignant hematologic disorders.
      2.6 Demonstrate proficient and appropriate use of procedural skills
      2.7 Be familiar with cytogenetic and molecular genetic techniques, and to develop a clear understanding of the role of these methodologies in the diagnosis of various types of benign and malignant hematological disorders.

3. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise
   3.1 Demonstrate insight into their limitations of expertise via self-assessment.
3.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.

Communicator

Key Competencies and Enabling Competencies

*Hematology residents should be able to...*

1. **Develop rapport, trust and ethical therapeutic relationships with patients, families and colleagues to formulate a shared plan of care**
   1.1 Recognize that being a good communicator is a core clinical skill for laboratory physicians, and that effective communication with other health professionals can foster physician satisfaction, adherence and improved clinical outcomes.
   1.2 Establish effective working relationships with consulting hematologists/ oncologists/ pathologists.
   1.3 Listen and respond effectively.

2. **Accurately elicit, synthesize and convey relevant information and perspectives of patients and families, colleagues and other professionals**
   2.1 Demonstrate effective communication skills by presenting concise, informative overviews on topics in the diagnosis of malignant hematologic disorders.
   2.2 Demonstrate effective communication skills by drafting accurate, organized and timely reports describing the findings of bone marrow aspirates.

Collaborator

Key Competencies and Enabling Competencies

*Hematology residents should be able to...*

1. **Participate effectively and appropriately in an inter-professional healthcare team**
   1.1 Clearly describe the roles and responsibilities of other professionals within the health care team.
   1.2 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own.
   1.3 Participate effectively in inter-professional team meetings by contributing clinically useful opinions on patients referred for consultation, including ordering and arranging for specific testing, and conveying the results of the opinion to referring physician.
   1.4 Contribute effectively to other interdisciplinary team activities.
   1.5 Have experience in neoplastic hematopathology sufficient to achieve a sound understanding of the effects of disease and the role of pathology in clinical management.
   1.6 Demonstrate the ability to advice on the appropriateness of obtaining ancillary techniques specimens and following examination of these, to advise on further appropriate investigations and management.
1.7 Contribute clinically useful hematological opinions on patients referred for consultation, including ordering and arranging for specific testing, administering required therapy, and conveying the results of the hematological opinion to referring physicians. This process involves integrating information from multiple sources to construct a clear diagnosis which is then used to guide the patient’s therapy. This may require integrating the results of the morphological interpretation with flow cytometry and cellular diagnostics.

2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict
   2.1 Consult and collaborate with physicians, laboratory staff, clinical staff, and other health care professionals, and contribute effectively to interdisciplinary team activities within and between hospitals, other health care facilities and collaborative groups.

Manager

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Utilize resources effectively to balance patient care, turnaround time, and educational needs
   1.1 Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life.

2. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
   2.1 Demonstrate knowledge of roles of, and be able to work collaboratively with the different physicians, nurses, clerical staff, laboratory staff and other allied health professionals in the ambulatory clinic setting, particularly as applied to cell diagnostics.

3. Allocate finite healthcare resources appropriately
   3.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care and apply evidence and management processes for cost-appropriate care.
   3.2 Demonstrate understanding of cost/benefit ratios of diagnostic and therapeutic interventions, cost containment and efficacy as they relate to quality assurance, particularly as they apply to cell diagnostics.

Health Advocate

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Respond to individual patient health needs and issues as part of patient care
1.1 Demonstrate an appreciation of the health care needs of patients with malignant hematological disorders.
1.2 Understand the ways effective laboratory support is important to patients with medical problems.
1.3 Advocate for patients if there are delays in diagnosis and management as a result of limited resources

Scholar

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Maintain and enhance professional activities through ongoing learning
   1.1 Recognize and reflect learning issues and integrate new learning into practice.
   1.2 Pose an appropriate learning question.
   1.3 Access and interpret the relevant evidence.
   1.4 Document the learning process - develop, implement and monitor a personal continuing education strategy.
   1.5 Describe principles of learning in relation to medical education and identify the learning needs and desired learning outcomes of others.
   1.6 Select effective teaching strategies and content to facilitate others’ learning.
   1.7 Assess and reflect on a teaching encounter and provide effective feedback.
   1.8 Conduct a systematic search for evidence as it applies to patient care.
   1.9 Conduct a systematic search for evidence as it applies to patient care

2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
   2.1 Describe the principles of critical appraisal and be able to critically appraise retrieved evidence and integrate critical appraisal conclusions into clinical care.

3. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices
   3.1 Demonstrate an effective lecture or presentation.

Professional

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Demonstrate a commitment to their patients, profession, and society through ethical and sustainable practice
1.1 Exhibit appropriate professional behaviors in practice, including honesty, integrity, compassion, respect, altruism, and a commitment to delivering the highest quality care and maintenance of competence.

1.2 Recognize and appropriately respond to ethical and legal issues encountered in practice and appropriately manage conflicts of interest.

1.3 Maintain appropriate relations with patients and recognize the principles and limits of their confidentiality.

2. **Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation**

   2.1 Fulfill the regulatory and legal obligations required of current practice and demonstrate accountability to professional regulatory bodies.

   2.2 Recognize and respond to others’ unprofessional behaviors in practice.

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.
Transfusion Medicine Rotation  
Kuwait Central Blood Bank (KCBB)

I. Overview

General Description of the Rotation

The general goal of the Transfusion Medicine rotation is to enable the hematologist in training to acquire the knowledge, procedural skills, and professional attitudes in Transfusion Medicine, directed to effective patient-centered care and so that they may better deal with the problems faced by Director of a Hospital Blood Bank. Hematology residents will acquire familiarity with transfusion principles and practices to enable them to deal with patients with blood transfusion problems. The areas of knowledge and skills include serology; transfusion principles and practices; blood utilization and conservation; platelet and white cell immunobiology; pediatric transfusion needs; obstetrical and neonatal transfusion issues; stem cell transplantation; transfusion practices for cardiac and vascular surgery; trauma and critical care; neurosurgery; drug-induced cytopenias including heparin-induced thrombocytopenia; hepatic insufficiency; renal transplantation; blood donor recruitment; blood collections; blood product fractionation; donor blood testing procedures; donor blood laboratory processes; blood product distribution and transportation; effective consultation with respect to donor and patient issues; donor and patient education of transfusion practices and process; regulatory issues; and legal opinions. Residents will also be exposed to and become familiar with basic science in the field of transfusion. An understanding of ethical dilemmas and how to handle them will also be experienced.

Training in Transfusion Medicine is carried out in two separate rotations: a rotation of basic Transfusion Medicine at R3 level and another advanced rotation at R4 level. By the end of the second rotation, residents should be able to provide advice in transfusion-related matters to clinical colleagues and provide laboratory staff with clinical advice.

Responsibilities of the Resident

It is expected that the residents will function as a junior consultant within the central blood bank, which provides expertise to all clinical areas using blood products in various hospitals. Residents will also participate in teaching sessions; during which essential topics in Transfusion Medicine and laboratory-based transfusion problems are discussed.

On-Call Duties

Transfusion residents participate in on-call duties covered by Transfusion Medicine specialists at the central blood bank. A consultant hematologist is assigned to backup residents when they are on-call. These on-call duties provide residents with important experience in dealing with urgent and non-urgent clinical hematological problems.

Resources

KIMS e-Library.
Resident Evaluation

Residents are provided with feedback during the rotation concerning their proficiency in understanding the principles of Transfusion Medicine and managing transfusion problems and their performance in informal and formal teaching sessions. They meet with the rotation supervisor at the end of the rotation to complete a formal evaluation, provide two-way feedback on the rotation, and discuss ways of improvement. A 360-feedback from other staff members including allied health professionals might also be sought.

Evaluation of the Rotation

Residents are encouraged to provide feedback on how the rotation and teaching are structured. Residents' input is enthusiastically received. Teaching tutors are evaluated separately using a special evaluation form.

II. GOALS AND OBJECTIVES

General Objectives as Applicable to Level of Training

At the end of R3 rotation, the resident is expected to:

- Be familiar with all components of KCBB operation.
- Understand the local structure of KCBB including the relationship with other healthcare facilities.
- Understand what constitutes an acceptable blood donor.
- Understand the potential risks of blood donations and the management of the complications of blood donation.
- Be familiar with the microbiological testing process of the donated blood, and understand the risk of disease transmission through blood transfusion and the procedures used to reduce this risk.
- Understand the principles of blood component preparation.
- Understand storage conditions of blood and blood products.
- Understand the basic immunohematology-related procedures including grouping, antibody screening, and cross-matching.
- Be familiar with pathophysiology of adverse effects associated with transfusion, and to be able to select medically appropriate laboratory tests for the investigation of a transfusion reaction to aid in the accurate diagnosis of the patient in order to develop the most appropriate treatment plan.
- Be familiar with strategies of directed donation, autologous donations, and alternatives to transfusion.

At the end of R4 rotation, in addition to the above, the resident is expected to:

- Have hands-on allo- and autoantibody identification.
- Understand the principle of stem cell-related transfusion practice; including the use of special blood products e.g. irradiated blood products.
• Be familiar with the principles of quality assurance with respect to safe blood and blood product preparation.
• Be familiar with inventory control and management.
• Be familiar with the process of antenatal testing, and gain experience in signing out prenatal antibody reports.
• Be familiar with HLA-matching and antibody detection and recognize the utility of platelet cross matching techniques in the selection of donors for patients who are refractory to random platelet transfusions.
• Effectively perform a consultation, including the presentation of well documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional. Function as a junior consultant within the Central Blood bank, which provides expertise to all clinical areas using blood products. Demonstrate effective transfusion-related consultation services with respect to patient care and education.
• Identify and appropriately respond to relevant ethical issues related to transfusion issues that arise in patient care.
• Effectively and appropriately prioritize patient’s transfusion needs when faced with blood and or blood product shortages.
• Demonstrate knowledge of medical legal issues relevant to management of the Transfusion Medicine.
• Demonstrate insight into one's own limitations of expertise. Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care

Medical Expert

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Function effectively as hematologists, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care
   1.1 Effectively perform a consultation, including the presentation of well documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional. Function as a junior consultant, which provides expertise to all clinical areas using blood products. Demonstrate effective transfusion-related consultation services with respect to patient care, education and legal opinions.
   1.2 Demonstrate effective use of all CanMEDS competencies relevant to the practice of Transfusion Medicine.
   1.3 Identify and appropriately respond to relevant ethical issues related to transfusion issues that arise in patient care. Obtain an introduction to basic principles in Transfusion Medicine. Learn the specific ethical aspects of laboratory testing and transfusion related decisions.
   1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems related to the transfusion service. Effectively and appropriately prioritize patient’s transfusion needs when faced with blood and or blood product shortages.
1.5 Demonstrate compassionate and patient-centered care.
1.6 Recognize and respond to the ethical dimensions in medical decision-making.
1.7 Recognize and be aware of the importance of biomedical ethics and their importance in the practice of Transfusion Medicine.
1.8 Demonstrate knowledge of medical legal issues relevant to management of the Transfusion Medicine laboratory. Demonstrate knowledge of medical legal issues, which affect KCBB and are specific to blood donation, blood product manufacturing, and blood product distribution.

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to one’s practice
2.1 Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to Transfusion Medicine, both for donors and recipient, including the following:
   b. Relevant aspects of blood group serology, genetics, immunology, principles of transfusion therapy, and pathophysiology of adverse effects associated with transfusion.
   c. Laboratory procedures critical to safe transfusion therapy, including quality control, quality essentials, and good manufacturing practices.
   d. Knowledge about blood and blood components including donor selection, method of preparation, testing performed, indications for use, and risks associated with product transfusion.
   e. Strategies of directed donation, autologous donations, and alternatives to transfusion.
2.2 Contribute to the enhancement of quality care and patient safety in the practice of Transfusion Medicine, integrating the available best evidence and best practices.

3. Perform a complete and appropriate assessment of a patient
3.1 Effectively identify and explore issues to be addressed in a patient encounter, including the patient’s context and preferences. Identify and explore a patient’s or families religious or other beliefs which may preclude the use of blood products.
3.2 For the purposes of prevention and health promotion, diagnosis and or management, elicit a thorough accurate, concise, blood transfusion history and pregnancy history (where applicable) from the patient.
3.3 Select medically appropriate laboratory tests for the investigation of a transfusion reaction. Select appropriate investigative transfusion medicine laboratory tests to aid in the accurate diagnosis of the patient in order to develop the most appropriate treatment plan.
3.4 Effectively correlate signs, symptoms and other clinical and laboratory information to accurately classify types of transfusion reactions in order to rapidly detect when they are occurring and respond appropriately.
3.5 Demonstrate effective knowledge in the interpretation of laboratory testing results to generate differential diagnoses and management plan.
4. **Perform a complete and appropriate assessment of a patient**

4.1 Implement an effective management plan in collaboration with a patient and their family.

4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to Transfusion Medicine. Demonstrate specific knowledge about the use of blood and blood products through the selection of appropriate blood and or blood product specific to the treatment need of the patient. Demonstrate effective and efficient use of the blood and blood products optimizing patient treatment and minimizing wastage of products. Demonstrate specific knowledge about blood and blood product collection and preparation. This would include: methods of product preparation; transmissible disease testing performed; specific and appropriate indications for use; risks associated with transfusion of the product; calculation of dosage and frequency of administration based on the clinical scenario; and appropriate monitoring (e.g. laboratory tests).

4.3 Ensure appropriate informed consent is obtained for therapies involving blood and blood products.

5. **Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic.**

5.1 Obtain a competent clinical understanding of the principles and interpretation of laboratory procedures in Transfusion Medicine and apply the results of these laboratory procedures to patient care.

5.2 Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to laboratory and clinical practice. Develop a sound knowledge of relevant aspects of blood group serology, genetics, immunology, principles of transfusion therapy and pathophysiology of adverse effects associated with transfusion.

5.3 Ensure that the patients have completed the appropriate informed consent forms for transfusion.

5.4 Appropriately document and disseminate up-to-date and relevant information related to blood and or blood product transfusions and their outcomes.

5.5 Ensure adequate follow-up is arranged for patients receiving blood and or blood product transfusions.

6. **Seek appropriate consultation from other health professionals, recognizing the limits of their expertise**

6.1 Demonstrate insight into one’s own limitations of expertise via self-assessment. Demonstrate insight into their limitations and proficiencies in understanding the principles of Transfusion Medicine and managing transfusion problems.

6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.

6.3 Arrange appropriate follow-up care services for a patient and their family.
Communicator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Develop rapport, trust and ethical therapeutic relationships with patients, 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. Establish good rapport with the Transfusion Medicine laboratory staff.
   1.3 Respect patient confidentiality, privacy and autonomy.
   1.4 Listening effectively to the patient’s needs concerning their medical condition, and their ideas about blood transfusion. Obtain and synthesize relevant history information from patients/families.
   1.5 Be aware and responsive to nonverbal cues.
   1.6 Effectively facilitate a structured clinical encounter.

2. Accurately elicit, synthesize and convey relevant information and perspectives of patients and families, colleagues and other professionals
   2.1 Gather information about a disease, but also about a patient’s beliefs, concerns, expectations and illness experience. Obtain a thorough history of any blood or blood product transfusion history and where applicable a history of any pregnancy (ies). Understand the biomedical ethics involved in the provision of transfusion therapy including appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of blood products.
   2.2 Seek out and synthesize relevant information from other sources, such as a patient’s family, caregivers and other professionals.

3. Accurately convey relevant information and explanations 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. Communicate effectively and discuss appropriate information about transfusion strategies with patients and families, other members of the health care team, Transfusion Medicine laboratory staff, and other organizations involved in transfusion practice strategies include: directed donation; autologous donations and alternatives to transfusion.

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 Effectively identify and explore problems to be addressed from a patient encounter, including the patient’s context, responses, concerns, and preferences.
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 for their transfusion needs.

4.5 Effectively address challenging communication issues such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding. Understand patients and family individual and religious views concerning blood transfusions, while working to develop a sound plan of optimal care.

5. **Convey effective oral and written information about a medical encounter**

5.1 Maintain clear, accurate, and appropriate records (e.g. written or electronic) of clinical encounters and plans. Order appropriate blood products following correct procedures.

5.2 Clearly and accurately convey any urgency or special product needs to the Transfusion Medicine laboratory.

5.3 Effectively present verbal reports of clinical encounters and plans. Convey effectively information surrounding the transfusion needs and transfusion related issues of patients in their care through verbal presentations and written clinical reports.

**Collaborator**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

1. **Participate effectively and appropriately in an inter-professional healthcare team**

1.1 Clearly describe their roles and responsibilities to other professionals.

1.2 Describe the roles and responsibilities of other professionals within the Transfusion Medicine health care team. Describe the roles and responsibilities of the professionals within the health care teams which collaborate in order to obtain, prepare, and provide blood and blood products to the patient.

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 patients. Consult effectively with other physicians, the KCBB, Transfusion Medicine laboratory staff, and health care professionals.

1.5 Enter into interdependent relationships with other professions for the provision of quality care. Contribute clinically useful hematological opinions on patients referred for consultation, including ordering and arranging for specific testing, administering required transfusion therapy, and conveying the results of the hematological opinion to referring physicians.

1.6 Describe the principles of Transfusion Medicine team dynamics including the Blood Supplier, the clinical service and the laboratory.
1.7 Respect team ethics, including confidentiality, resource allocation and professionalism.
1.8 Where appropriate, demonstrate leadership in a healthcare team.

2. **Effectively work with other health professionals 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. Understand interdisciplinary activities that relate to and impact on the Transfusion Service i.e. blood centers, Transfusion Committees etc.

2.3 Employ collaborative negotiation to resolve conflicts.

2.4 Respect differences, misunderstandings and limitations in other professionals.

2.5 Recognize one’s own differences, misunderstanding and limitations that may contribute to inter-professional tension.

2.6 Reflect on inter-professional team function.

Manager

**Key Competencies Enabling Competencies**

*Hematology residents should be able to...*

1. **Participate in activities that contribute to the effectiveness of their healthcare organizations and systems**

1.1 Work collaboratively with others in the Transfusion Medicine Service.

1.2 Contribute to the management of complex patients cared for by a multi-disciplinary health care team. Work effectively with and efficiently in a health care organization.

1.3 Participate in systemic quality process evaluation and improvement, such as patient safety initiatives, error reporting, adverse event surveillance etc.

1.4 Describe the structure and function of the healthcare system as it relates to Transfusion Medicine (Hospital and blood supplier), including the roles of physicians.

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 Implement processes to ensure personal practice improvement.

3. **Allocate finite healthcare resources appropriately**

3.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care.

3.2 Apply evidence and management processes for cost-appropriate care. Demonstrate understanding of cost/benefit ratios of diagnostic and therapeutic transfusion interventions, cost containment and efficacy as they relate to quality assurance.
Demonstrate understanding of cost/benefit ratios of diagnostic and therapeutic interventions, cost containment and efficacy as they relate to quality assurance.

Health Advocate

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Respond to individual patient and community health needs and issues as part of their service
   1.1 Identify the transfusion therapy needs of an individual patient. Identify the important determinants of health affecting patients. Demonstrate an appreciation of the health care needs of patients who require transfusion therapy and patients who refuse transfusion therapy.
   1.2 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care. Recognize and respond to those issues where advocacy is appropriate. Contribute effectively to improved health of patients and communities.

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.

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 such as treatment with erythropoietin, autologous blood donation and blood salvage techniques.
   3.2 Identify vulnerable or marginalized populations within those served and respond appropriately. Encourage the promotion of patient/family in decision-making related to transfusion therapy.

4. Promote the health of individual patients, communities, and populations
   4.1 Describe an approach to implementing a change in a determinant of health related to patients who require transfusion therapy.
   4.2 Describe how public policy impacts on the provision of transfusion therapy.
   4.3 Identify points of influence in the blood transfusion system and its structure.
   4.4 Describe the ethical and professional issues inherent in transfusion practice, 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 as it relates to transfusing practice.
   4.6 Describe the role of the medical profession in advocating collectively for safety or transfusion practice. Encourage the provision of appropriate information about transfusion
therapy to patients to ensure that informed consent for transfusion is practiced. Understand the role of regulatory requirements in transfusion practice.

4.7 Prepare documents for patients (e.g. hemophilia treatment cards, letters for patients with other bleeding disorders) that describe and outline the nature of the patient’s bleeding problem and the recommended treatments. Demonstrate an ability to effectively communicate this information to the patient.

Scholar

Key Competencies and Enabling Competencies:

Hematology residents should be able to...

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 in transfusion medicine. Develop, implement and monitor a personal continuing education strategy.
   1.3 Recognize and reflect 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 Document the learning process through the use of the “portfolio”.

2. Critically evaluate 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 the Transfusion Medicine field in order to address a clinical question. Develop critical appraisal skills for evaluating transfusion literature related to causation therapy, harm, diagnosis and evaluation of diagnostic tests.
   2.3 Integrate critical appraisal conclusions into clinical care. Critically appraise sources of medical information.

3. Facilitate the learning of patients, families, residents, other health professionals, the public, and others, as appropriate
   3.1 Describe principles of learning relevant to Transfusion Medicine.
   3.2 Collaboratively identify the learning needs and desired learning outcomes of others.
   3.3 Select effective teaching strategies and content to facilitate others’ learning.
   3.4 Contribute to the education of colleagues, students, residents and other health care workers.
   3.5 Demonstrate an effective lecture or presentation.
   3.6 Assess and reflect on a teaching encounter.
   3.7 Provide effective feedback.
3.8 Describe the principles of ethics with respect to teaching.

4. **Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices**
   4.1 Develop a method to identify current literature related to Transfusion Medicine.
   4.2 Pose a scholarly question.
   4.3 Conduct a systematic search for evidence.
   4.4 Select and apply appropriate methods to address the question.
   4.5 Appropriately disseminate the findings of a study.

**Professional**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

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; display attitude consistent with professionalism; exhibit appropriate personal and interpersonal professional behavior.
   1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence; exhibit commitment to patients, their profession and society through ethical practice.
   1.3 Recognize and appropriately respond to ethical issues encountered in practice. Practice medicine ethically consistent with ethical obligations of a physician.
   1.4 Appropriately manage conflicts of interest.
   1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
   1.6 Maintain appropriate relations with patients.

2. **Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation**
   2.1 Appreciate the professional, legal and ethical codes of practice.
   2.2 Fulfill the regulatory and legal obligations required of current practice.
   2.3 Participate in peer review. Recognize self-limitations and demonstrate insight into limitations of expertise in transfusion medicine by self-assessment.

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.
Leukemia Service Rotation
Kuwait Cancer Control Centre (KCCC)

I. OVERVIEW

General Description of the Rotation

The Leukemia Service Rotation at Kuwait Cancer Control Centre (KCCC) is a three month clinical/laboratory rotation. It is designed to provide an experience that will facilitate the resident’s education in becoming a competent consultant in hematology. The goal of this experience is to allow hematology residents to gain exposure to and adequate experience in diagnosis and management of patients with hematological malignancies.

Responsibilities of the Hematology Resident

This rotation includes patient care activities in both in- and out-patient settings, as well as participation in educational activities of the leukemia unit. Residents are expected to attend daily rounds, out-patient clinics, and be part of the team covering laboratory services. Outpatient clinics involve both the assessment of newly referred patients, as well as the provision of follow up care. These activities are supervised by consultant hematologists, and should provide broad exposure to the various types of hematological malignancies including myelodysplastic syndrome, acute and chronic leukemias and plasma cell disorders.

Educational Activities

Educational activities are a priority in the residency program. They include both scheduled rounds and other academic formal and informal sessions.

On-Call Duties

This rotation includes an on-call experience, in which residents cover on-call duties on average every fourth day at the KCCC. The on-call responsibilities include ward rounds, emergency admissions, and management of hematology-related laboratory issues. The above on-call experience is appropriately supervised by the attending staff on-call for both Clinical and Laboratory Services.

Resources

KIMS e-Library

 Resident Evaluation

An orientation session will take place during the first week of the rotation to discuss with residents its goals and objectives. They are encouraged to seek mid-rotation informal feedback concerning their proficiency at managing patient problems. A formal evaluation is given and fully discussed with residents at the end of their rotation. This will include a discussion of the resident’s progress in meeting the goals of this rotation. Input is sought from all attending members of the team. Based on the feedback received at the end of the rotation, a formal
CanMEDS-based evaluation report is completed by the rotation supervisor. Final evaluations are discussed with the resident.

**Evaluation of the Rotation**

At the time of the final evaluation of residents, they are expected to submit a feedback regarding the rotation, including its strengths and shortcomings. If issues arise during the rotation, residents are encouraged to bring these to the attention of the rotation supervisor. A mechanism for dealing with any shortcomings will then be discussed with them accordingly. Teaching tutors are evaluated separately using a special evaluation form.

II. **GOALS AND OBJECTIVES**

**Medical Expert**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

1. **Function effectively as hematologists, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered care**
   1.1 Effectively perform a consultation, including the presentation of well documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional.
   1.2 Demonstrate compassionate and patient-centered care and be able to identify and appropriately respond to relevant ethical issues arising in patient care.
   1.3 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems.

2. **Establish and maintain clinical knowledge, skills and attitudes appropriate to the practice of hematology**
   2.1 Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to hematological malignancies, as outlined below:
      2.1.1 Natural history and epidemiology of hematological malignancies (including risk factors, and prognostic variables).
      2.1.2 Theories of carcinogenesis, including oncogenes and tumor suppressor genes.
      2.1.3 Principles of therapy including, knowledge of the different classes of chemotherapy, biologic response modifiers, immunologic therapies (including mechanisms of action, short and long-term toxicities, mechanisms of resistance).
      2.1.4 Recognition and management of medical emergencies (e.g. spinal cord compression, superior vena cava syndrome, febrile neutropenia, hypercalcemia, obstructive uropathy).
      2.1.5 Supportive care issues surrounding the care of patients with hematological malignancies including venous access issues, transfusion support, appropriate use of hematopoietic growth factors, recognition and treatment of infectious...
complications, management of gastrointestinal side effects, nutritional support, and pain control.

2.1.6 Psychological and ethical aspects of treating patients with malignancy.
2.1.7 Manage patients with hematological malignancies in an ambulatory setting.

3. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic

3.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures as indicated below:

3.1.1 Bone marrow aspiration and biopsy.
3.1.2 Lumbar punctures, with and without administration of chemotherapy, demonstrating not only the technical skill but awareness of informed consent, patient comfort and knowledge of the appropriate special tests to request (i.e. cell markers, cytopathology, etc.).
3.1.3 Use and care of central venous lines.
3.1.4 Chemotherapy administration, demonstrating knowledge of different classes of chemotherapy, biologic response modifiers; toxicity profiles (short and long-term) of agents used to treat hematological malignancies; techniques of administering systematic and intrathecal chemotherapy; handling and disposal of chemotherapeutic and biologic agents.
3.1.5 Appropriately document and disseminate information related to procedures performed and their outcomes.
3.1.6 Ensure adequate follow-up is arranged for procedures performed.

4. Perform a complete and appropriate assessment of a patient

4.1 Assess new patients and manage follow-up patients in a timely manner in the ambulatory setting.
4.2 Effectively identify and explore issues to be addressed in a patient encounter, including the patient’s context and preferences.
4.3 Select medically appropriate investigative methods in a resource-effective and ethical manner.
4.4 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans.

5. Use preventive and therapeutic interventions effectively

5.1 Implement an effective management plan in collaboration with a patient and their family.
5.2 Ensure appropriate informed consent is obtained for therapies.
5.3 Ensure patients receive appropriate end-of-life care.

6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

6.1 Demonstrate insight into their imitations of expertise via self-assessment.
6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.
6.3 Arrange appropriate follow-up care services for a patient and their family.

Communicator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Develop rapport, trust and ethical therapeutic relationships with patients, families and colleagues to formulate a shared plan of care
   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 Effectively facilitate a structured clinical encounter.
   1.6 Understand the psychological aspects of caring for patients with life threatening and/or chronic disorders and develop skills in communicating around issues such as death and dying

2. Accurately elicit, synthesize and convey relevant information and perspectives of patients and families, colleagues and other professionals
   2.1 Gather information about a disease, but also 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. Accurately convey relevant information and explanations 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.

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 Effectively identify and explore problems to be addressed from a patient encounter, including the patient’s context, responses, concerns, and preferences.
   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 Effectively address challenging communication issues 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, accurate, and appropriate records (e.g. written or electronic) of clinical encounters and plans.
   5.2 Effectively present verbal reports of clinical encounters and plans.

**Collaborator**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

1. **Participate effectively and appropriately in an inter-professional healthcare team.**
   1.1 Clearly describe their roles and responsibilities to other professionals.
   1.2 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own.
   1.3 Establish a collegial relationship with the nursing staff such that education in both directions will be fostered.
   1.4 Work with others to assess, plan, provide and integrate care for patients.
   1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as educational work, program review or administrative responsibilities.
   1.6 Participate effectively in inter-professional team meetings by contributing clinically useful hematological opinions on patients referred for consultation, including ordering and arranging for specific testing, administering required therapy, and conveying the results of the hematological opinion to referring physician.
   1.7 Describe the principles of team dynamics.
   1.8 Respect team ethics, including confidentiality, resource allocation and professionalism.
   1.9 Where appropriate, demonstrate leadership in a healthcare team.

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

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. **Participate in activities that contribute to the effectiveness of their healthcare 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.
   1.3 Demonstrate knowledge of roles and be able to work collaboratively with different physicians, nurses, clerical staff, laboratory staff and other allied health professionals in the ambulatory clinic setting.
   1.4 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care and apply evidence and management processes for cost-appropriate care.
   1.5 Participate effectively in meetings, planning work schedules etc.

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 Implement processes to ensure personal practice improvement.
   2.3 Employ information technology appropriately for patient care.

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

Health Advocate

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. **Respond to individual patient and community health needs and issues as part of their service**
   1.1 Demonstrate an appreciation of the health care needs of patients with hematological malignancies and identify the important determinants of health affecting individual patients.
   1.2 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care (e.g. preparation of treatment documents for patients, by obtaining special access medications, thrombosis prophylaxis, or other prophylactic interventions).
2. **Promote the health of individual patients, communities and populations**

2.1 Describe an approach to implementing a change in a determinant of health of the populations they serve.

2.2 Identify points of influence in the healthcare system and its structure.

2.3 Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism.

2.4 Describe the role of the medical profession in advocating collectively for health and patient safety.

**Scholar**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

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 learning issues in practice and integrate new learning into practice.

   1.4 Pose an appropriate learning question.

   1.5 Access and interpret the relevant evidence.

   1.6 Evaluate the impact of any change in practice.

   1.7 Document the learning process - develop, implement and monitor a personal continuing education strategy.

   1.8 Conduct a personal practice audit

2. **Critically evaluate 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, as appropriate.**

   3.1 Describe principles of learning relevant to medical education.

   3.2 Collaboratively identify the learning needs.

   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 creation, dissemination, application and translation of new medical knowledge and practices**
   - 4.1 Conduct a systematic search for evidence as it applies to patient care.
   - 4.2 Critically appraise sources of medical information.
   - 4.3 Develop the ability to apply the principles of quality assurance to clinical care.
   - 4.4 Provide one comprehensive presentation on a suitable topic.

**Professional Key Competencies Enabling Competencies**

*Hematology residents should be able to...*

1. **Demonstrate a commitment to their patients, profession, and society through ethical and sustainable 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 Appropriately manage conflicts of interest.
   - 1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
   - 1.6 Maintain appropriate relations with patients.

2. **Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation**
   - 2.1 Appreciate 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 behaviors in practice.

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
Clinical Chemistry Rotation  
(Mubarak Al-Kabeer Hospital)

I. OVERVIEW

General Description of the Rotation

Clinical Chemistry is a branch of medicine concerned with the biochemistry and metabolism in human health and disease. The Clinical Chemistry Rotation at Mubarak Al-Kabeer Hospital is a two-week rotation designed to provide an experience that will facilitate residents’ education in becoming competent consultants in hematology.

The goal of this experience is to allow hematology residents to gain exposure, and hence knowledge, in performing and interpreting serum and urine protein electrophoresis as applicable to plasma cell dyscrasia, and to be familiar with the quality assurance program and quality control procedures that are implemented in Clinical Chemistry laboratories.

Upon completion of the rotation, hematology residents are expected to become proficient in playing an active role in quality assurance, become familiar with quality control roles, interpreting and investigating the common quality control problems, and to be familiar with interpreting the common abnormalities encountered in serum and urine protein electrophoresis.

Responsibilities of Hematology Residents

1) Hematology residents are expected to review all serum and urine protein electrophoresis of the week under the supervision of the consultant Clinical Chemist. They are not expected to develop the expertise to independently interpret protein and urine electrophoretic patterns within the two-week period of the rotation; however, they are expected to become proficient in the interpretation of serum and urine protein electrophoresis and immune fixation.

2) Residents are expected to acquire a basic understanding of the principles of quality assurance and quality control, and to be actively involved in investigating the commonly encountered quality control problems.

3) Residents are responsible for a presentation to the consultant Clinical Chemist at a weekly tutorial session.

Educational Activities

Educational activities, which are a priority for the residents, include sessions and demonstrations on various serum and urine electrophoresis sample results, and their interpretation and diagnosis under the supervision of the attending team.

On-Call Duties

Hematology residents will not participate in the on-call duties of Clinical Chemistry service; however, if needed, they may be asked to cover on-call duties with the General Hematology service at Mubarak Al-Kabeer Hospital, as per its on-call schedule.
Resources

KIMS e-Library.

Resident Evaluation

An orientation session will take place during the first day of the rotation to discuss with residents its goals and objectives. They meet with the rotation supervisor at the end of the rotation to complete a formal evaluation, provide two-way feedback on the rotation, and discuss ways of improvement. A 360-feedback from other staff members including allied health professionals might also be sought, as applicable. Based on the feedback received at the end of the rotation, a formal CanMEDS-based evaluation report is completed by the rotation supervisor. Final evaluations are discussed with the resident.

Evaluation of the Rotation

At the time of the final evaluation of residents, they are expected to submit a feedback regarding the rotation, including its strengths and shortcomings. They are also encouraged to bring these to the attention of the rotation supervisor. A mechanism for dealing with any shortcomings will then be discussed with them accordingly. Teaching tutors are evaluated separately using a special evaluation form.

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Function effectively to integrate all of the CanMEDS Roles to provide optimal, ethical and patient-centered care
   1.1 Perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional.
   1.2 Identify and appropriately respond to relevant ethical issues arising in patient care, research or laboratory functions.
   1.3 Demonstrate the ability to prioritize professional duties when faced with multiple patients, multiple laboratory tasks and problems related to these.
   1.4 Demonstrate compassionate and patient-centered care.
   1.5 Recognize and respond to the ethical dimensions in medical decision making.

2. Be able to establish and maintain clinical knowledge, skills and attitudes appropriate to the practice of hematology
   2.1 Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to hematology.
2.2 Demonstrate proficient and appropriate use of diagnostic skills relevant to the practice of hematology.
2.3 Be familiar with the normal serum and urine protein electrophoresis pattern.
2.4 Demonstrate the expertise needed to direct clinical investigations of plasma cell dyscrasia.
2.5 Demonstrate clinical competence in the diagnosis and clinical management of patient referred for nutritional deficiency anemias.
2.6 Demonstrate expertise necessary to adequately supervise the technical performance, interpretation and reporting of results. Residents must be able to adequately supervise the technical performance of the analysis, and to accurately interpret and report the analytical results in electrophoretic methods.
2.7 Demonstrate the ability to establish the precision, accuracy, and linear range of instrument methods.
2.8 Demonstrate ability to supervise pre-analytical, analytical and post-analytical aspects of laboratory procedures.
2.9 Demonstrate the ability to establish proper reference ranges.
2.10 Demonstrate the ability to describe the principle of new instrument evaluation.

4. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise
   4.1 Demonstrate insight into personal limitations of expertise.
   4.2 Demonstrate effective, appropriate, and timely consultation with other health professionals as needed for optimal patient care.

Communicator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Develop rapport, trust and ethical relationships with colleagues to formulate a shared plan of care
   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 Respect patient confidentiality, privacy and autonomy.
   1.3 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 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 colleagues and other professionals**
   3.1 Deliver information to colleagues and other professionals in a timely manner and in such a way that it is understandable, encourages discussion and participation in decision making.

4. **Develop a common understanding on issues, problems and plans with other colleagues to develop a shared plan of care**
   4.1 Encourage discussion, questions, and interaction in the encounter.
   4.2 Engage relevant health professionals in shared decision-making to develop a plan of care.

5. **Convey effective oral and written information about a medical encounter**
   5.1 Maintain clear, accurate, and appropriate records of laboratory testing and be able to effectively present them verbally.
   5.2 Recognize the importance of maintenance of laboratory documentation.
   5.3 Identify the legal requirements for maintenance of laboratory patient reports, documentation of laboratory procedures, laboratory participation in quality control and quality assurance programs for each test procedure.
   5.4 Present verbal clinical and laboratory reports of clinical encounters and plans.
   5.5 Produce accurate individual reports for laboratory procedures requiring interpretation including, but not limited to protein electrophoresis and immunofixation.
   5.6 Incorporate diagnostics and management plans into a formal Clinical Chemistry consultation report.

**Collaborator**

**Key Competencies and Enabling Competencies**

_Hematology residents should be able to..._

1. **Participate effectively and appropriately in an inter-professional healthcare team**
   1.1 Clearly describe the roles and responsibilities of other professionals within the health care team.
   1.2 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own.
   1.3 Work with others to assess, plan, provide and integrate patient care, educational work, or administrative responsibilities.
   1.4 Work with others to plan and provide quality laboratory services.
   1.5 Participate effectively in inter-professional team meetings by contributing clinically useful opinions on patients referred for consultation, including ordering and arranging for specific testing, and conveying the results of the opinion to referring physician.
   1.6 Enter into interdependent relationships with other professions for the provision of quality care.
   1.7 Respect team ethics, including confidentiality, resource allocation and professionalism and respect differences, misunderstandings and limitations in other professionals.
1.8 Provide support to laboratory technologists and other laboratory personnel, listen to their needs, and help them develop and maintain their competencies.

2. **Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflicts**

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 inter-professional tension.

**Manager**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

1. **Participate in activities that contribute to the effectiveness of their healthcare organizations and systems**

1.1 Work collaboratively with others in their organizations.
1.2 Demonstrate knowledge of roles and be able to work collaboratively with all of the different physicians, clerical staff, laboratory staff and other allied health professionals.
1.3 Participate in systemic quality process evaluation and improvement, and apply the principles of total quality management from test ordering to health care professionals’ interpretation of results.
1.4 Establish policies and procedures for specimen collection, result reporting, quality assurance and laboratory safety.
1.5 Demonstrate laboratory safety procedures relevant to laboratory application of WHMIS (Workplace Hazardous Materials Information System), biologic safety with regard to handling of potentially infective body fluids, and chemical safety with regard to caustic chemical reagents (including acids and bases).
1.6 Demonstrate the ability to develop an effective quality assurance program, to interpret quality assurance data and to recommend appropriate corrective action.

1.7 Maintain a quality assurance program and contribute to the enhancement of quality care and patient safety in clinical chemistry, integrating regulations, the available best evidence and best practices.
1.8 Describe the structure and function of the health care system as it relates to clinical chemistry, including the roles of physicians.
1.9 Demonstrate the ability to direct the day-to-day operations of a clinical chemistry laboratory.
2. **Manage their practice and career effectively**  
   2.2 Set priorities and manage time to balance laboratory duties, patient care, practice requirements, outside activities and personal life.  
   2.3 Implement processes to ensure personal practice improvement.  
   2.4 Apply appropriate information technologies to access and analyze data to solve individual patient problems.  
   2.5 Demonstrate an understanding of laboratory information systems.  

3. **Allocate finite healthcare 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 Participate effectively in meetings, planning work schedules etc.  

**Health Advocate**  
**Key Competencies and Enabling Competencies**  

*Hematology residents should be able to...*  

1. **Respond to individual patient and community health needs and issues as part of their service**  
   1.1 Identify the health needs of an individual patient.  
   1.2 Promote the use of appropriate testing.  
   1.3 Provide effective reporting and follow-up for laboratory results suggesting imminent danger for the patient and prompting immediate clinical intervention (critical values).  

2 **Promote the health of individual patients, communities and populations**  
   2.1 Identify points of influence in the health care system and its structure.  
   2.2 Describe an approach to implementing a change in a determinant of health of the populations they serve.  

**Scholar**  
**Key Competencies and Enabling Competencies**  

*Hematology residents should be able to...*  

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 information and its sources, and apply this appropriately to practice decisions**
   2.1 Describe the principles of critical appraisal.
   2.2 Identify criteria used to evaluate the quality of diagnostic tests and laboratory methods.
   2.3 Critically appraise retrieved evidence in order to address a clinical or laboratory question.
   2.4 Integrate critical appraisal conclusions into clinical care and laboratory practices.

3. **Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate**
   3.1 Describe principles of learning relevant to medical education.
   3.2 Demonstrate an effective lecture or presentation.
   3.3 Assess and reflect on a teaching encounter.
   3.4 Provide effective feedback.
   3.5 Describe the principles of ethics with respect to teaching.

4. **Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices**
   4.1 Pose a relevant scholarly question related to the practice of Clinical Chemistry including but not limited to: basic or clinical research, method development, clinical and/or laboratory audit, educational or ethical issues in laboratory medicine/research, or laboratory quality management.

**Professional**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

1. **Demonstrate a commitment to their patients, profession, and society through ethical and sustainable practice**
   1.1 Exhibit appropriate professional behaviors in practice, including honesty, integrity, compassion, respect, altruism, and a commitment to delivering the highest quality care and maintenance of competence.
   1.2 Recognize and appropriately respond to ethical and legal issues encountered in practice, and appropriately manage conflicts of interest.
   1.3 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
2. **Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation**
   2.1 Fulfill the regulatory and legal obligations required of current practice and demonstrate accountability to professional regulatory bodies.
   2.2 Recognize and respond to others’ unprofessional behaviors in practice.

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.
Pediatric Hematology Rotation  
(National Bank of Kuwait Hospital)

I. OVERVIEW

General Description of Rotation

The Pediatric Hematology Rotation at National Bank of Kuwait (NBK) Hospital is intended for fourth year Hematology Residents (R4). It is designed to provide experience that will facilitate the resident’s education in becoming a competent consultant in Clinical Hematology. This two-month rotation will include out-patient and in-patient consultative Pediatric Hematology exposure, as well as ongoing outpatient clinical care.

Responsibilities of Hematology Residents

Residents will function under the supervision of the attending hematologist, who assumes responsibility for the in-patient unit on a rotational basis. Residents are expected to be active members of the team providing primary care to in-patients, taking responsibility for the day-to-day care of in-patients. In addition, it is expected that residents will be familiar with all patients on the ward and act as a resource for the other members of the team providing primary care to these patients. This care will include the development of skills in diagnosis, primary therapy, and supportive care including dealing with the psychosocial aspects of diseases that affect both patients and their families. They are also expected to attend out-patient clinics with senior staff within the team.

Educational Activities

Educational activities, which are a priority for hematology residents, include both scheduled rounds and other academic sessions, as per pediatric hematology team educational activities schedule. For both inpatient and clinic patients, residents will be expected to consult the literature as needed, and to discuss the appropriate diagnostic and treatment approaches with the attending consultant.

On-Call Duties

This rotation includes an on-call experience. Residents are on-call on average every fourth day, as per the policy of the training site. When residents are on-call, they are the physicians of first contact, but are appropriately supervised and backed up by one of senior pediatric hematologist. The on-call responsibilities include making rounds on in-patients and acting as the first call for out-patients.

Rotation and Site Residency Supervisor

In this rotation, officially assigned attending hematologists are involved in the education of residents. The staff hematologists assume responsibility for in-patients on a rotational basis. The Training Site Coordinator’s responsibility is to ensure that the experience is going well and is covering all intended aspects of hematology. In this way, all involved consultant hematologists are expected to interact with, and contribute to the educational experience of, hematology
residents during this rotation. Assigned hematologists are asked to contribute to the evaluation of each hematology resident.

Resources
KIMS e-Library

Resident Evaluation
Residents are provided with feedback concerning their proficiency in managing clinical problems and their performance in informal and formal teaching sessions during the rotation. A formal CanMEDS-based evaluation is completed at the end of the rotation by the rotation supervisor, with feedback from the other staff members, including allied health professionals. Final evaluations are discussed with the resident.

Evaluation of the Rotation
Residents are encouraged to provide feedback on how the rotation and teaching are structured. As with all hematology rotations, residents are asked to complete an anonymous formal evaluation of the rotation and to hand it to the program director. Teaching tutors are evaluated separately in a similar manner, as for other rotations.

Rotation Topics
1. Developmental hematology and normal values for age
2. Neonatal hematology
   - Developmental hematology in the fetus
   - Bilirubin metabolism
   - Pathophysiology of hemostasis in the newborn
   - Transfusion practice in the newborn
   - Neonatal thrombocytopenia
3. Diagnostic approach to anemia
4. Mechanisms and management of purpura
5. Thalassemia syndromes – molecular and clinical pathogenesis
6. Aplastic anemia
7. Inherited marrow failure syndromes
8. Granulocytopenia and disorders of granulocyte function
9. Leukemia in childhood
10. Hemophagocytic syndromes
11. Late effects of treatment of childhood leukemia
12. Inherited bleeding disorders
13. Red cell membrane disorders
II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Function effectively as hematologists, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered hematological care
   1.1 Effectively perform a consultation, including the presentation of well
   1.2 Documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional.
   1.3 Demonstrate effective use of all CanMEDS competencies relevant to the practice of pediatric hematology.
   1.4 Identify and appropriately respond to relevant ethical issues arising in patient care.
   1.5 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems.
   1.6 Demonstrate compassionate and patient-centered care.
   1.7 Recognize and respond to the ethical dimensions in medical decision making.

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to pediatric hematology
   2.1 The hematology resident must demonstrate in-depth knowledge of:
      2.1.1 The development, structure and function of the hemopoietic system in infancy, childhood and adolescence, including changes in normal values with age.
      2.1.2 The physiology of factors responsible for hemostasis and thrombosis in infancy, childhood and adolescence.
      2.1.3 The indications for and interpretation of common hematologic tests in this patient population.
      2.1.4 The principles underlying transfusion and hyper-transfusion of blood and blood products in infancy, childhood and adolescence.
      2.1.5 The characteristics and principles of investigation and treatment of leukemias in pediatric patients.
      2.1.6 The infectious complications in pediatric patients with malignant and non-malignant hematologic disorders.

3. Perform a complete and appropriate assessment of a patient
   3.1 The hematology resident must demonstrate the ability to assess and investigate patients with malignant or non-malignant hematologic disorders in a manner appropriate for the patient’s age, including the ability to:
      3.1.1 Establish a professional relationship and interact with infants, toddlers, children or adolescents and their care-givers in order to obtain a relevant history.
3.1.2 Perform an efficient physical examination, demonstrating sensitivity to the patient’s needs, modified according to the patient’s age.

3.1.3 Understand and appropriately respond to the biomedical ethics involved in the investigation and care of children and adolescents with hematological disorders, including the appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of “standard medical treatments”.

4. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic

4.1 The hematology resident must demonstrate the ability to perform the following technical skills:

4.1.1 Bone marrow aspiration and biopsy from sites appropriate to the size of the child.

4.1.2 Lumbar puncture and administration of intrathecal medications.

5. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

5.1 Demonstrate insight into their limitations of expertise via self-assessment.

5.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.

5.3 Arrange appropriate follow-up care services for a patient and their family.

Communicator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Develop rapport, trust and ethical therapeutic relationships with patients and families

1.1 Establish effective relationships with children, their parents, legal guardians or other caregivers in order to obtain a meaningful history and to conduct a relevant physical examination

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 also 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. Accurately convey relevant information and explanations 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.
3.2 Understand the psychosocial aspects of caring for children with life threatening and/or chronic disorders, and their families.

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 Effectively identify and explore problems to be addressed from a patient encounter, including the patient’s context, responses, concerns, and preferences.
   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 Effectively address challenging communication issues 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, accurate, and appropriate records (e.g. written or electronic) of clinical encounters and plans.
   5.2 Effectively present verbal reports of clinical encounters and plans.
   5.3 When appropriate, effectively present medical information to the public or media about a medical issue.

**Collaborator**

**Key Competencies and Enabling Competencies**

_Hematology residents should be able to..._

1. **Participate effectively and appropriately in an inter-professional healthcare team**
   1.1 Clearly describe their 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).
   1.5 Where appropriate, 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 Where appropriate, demonstrate leadership in a healthcare team.
3. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict
   3.1 Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team.
   3.2 Work with other professionals to prevent conflicts.
   3.3 Employ collaborative negotiation to resolve conflicts.
   3.4 Respect differences, misunderstandings and limitations in other professionals.
   3.5 Recognize one’s own differences, misunderstandings and limitations that may contribute to inter-professional tension.
   3.6 Reflect on inter-professional team function.

Manager

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Participate in activities that contribute to the effectiveness of their healthcare 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.
   1.3 Describe the structure and function of the healthcare system as it relates to their specialty, including the roles of physicians.

2. Manage their practice and career effectively
   2.1 Set priorities and manage time to balance ward and ambulatory patient care, practice requirements, outside activities and personal life.
   2.2 Schedule their own and junior resident ambulatory clinic attendance.
   2.3 Implement processes to ensure personal practice improvement.
   2.4 Employ information technology appropriately for patient care.

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

Health Advocate

Key Competencies and Enabling Competencies

Hematology residents should be able to...
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 in 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 healthcare 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.

**Scholar**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

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 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, as appropriate
   3.1 Describe principles of learning relevant to medical education.
   3.2 Collaboratively identify 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 Appropriately disseminate the findings of a study.

Professional

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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, reliability, compassion, respect and altruism.
   1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence by acting promptly with respect to patient investigation, consultation and treatment; ensuring prompt completion of clinic notes and discharge summaries; providing thorough transfer information for physicians assuming on-call care of their patients;
rounding on patients prior to morning report in order to effectively lead discussion; and arriving at rounds and meetings on time.

1.3 Recognize and appropriately respond to ethical issues encountered in practice.
1.4 Appropriately manage conflicts of interest.
1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
1.6 Maintain appropriate relations with patients.

2. **Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation**
   2.1 Appreciate the professional, legal and ethical codes of practice.
   2.2 Fulfill the regulatory and legal obligations required of current practice.
   2.3 Recognize and respond to others’ unprofessional behaviors in practice.

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.
I. OVERVIEW

General Description of the Rotation

The Lymphoma Rotation at the Shiekha Badryia Al-Ahmed Centre is a three-month rotation. It is designed to provide an experience that will facilitate the resident’s education in becoming a competent consultant in hematology. The goal of this experience is to allow the hematology resident to gain exposure to, and hence, gain advanced knowledge and practical skills in the management various types of lymphoma.

Responsibilities of the Hematology Resident

This rotation includes patient care activities in both in- and out-patient settings as well as participation in educational activities of the lymphoma unit. Residents are expected to attend ward rounds, out-patient clinics and act as an integral part of the team covering that service. Out-patient clinics involve both the assessment of newly referred patients and the provision of care on an ongoing basis. All of these activities are supervised by consultant hematologists and should provide broad exposure to the management of the various types of Hodgkin and non-Hodgkin lymphomas.

Educational Activities

Educational activities, which are a priority for the hematology resident, include both teaching rounds and other academic sessions.

On-Call Duties

This rotation includes an on-call experience in Lymphoma service as part of the lymphoma team. Residents cover on-call duties on average every fourth day. On-call responsibilities include making ward rounds and emergency admissions. The above on-call experience is appropriately supervised by the attending staff on-call.

Resources

KIMS e-Library

Resident Evaluation

An orientation session will take place during the first week of the rotation to discuss with residents its goals and objectives. They are encouraged to seek mid-rotation informal feedback concerning their proficiency at managing patient problems. A formal evaluation is given and fully discussed with residents at the end of their rotation. This will include a discussion of the resident’s progress in meeting the goals of this rotation. Input is sought from all attending members of the team. Based on the feedback received at the end of the rotation, a formal CanMEDS evaluation report is completed by the rotation supervisor. Final evaluations are discussed with the resident.
Evaluation of the Rotation

At the time of both the mid-term and final evaluation of residents, they are expected to submit a feedback regarding the rotation, including its strengths and shortcomings. If issues arise during the rotation, residents are encouraged to bring these to the attention of the rotation supervisor. A mechanism for dealing with any shortcomings will then be discussed with them accordingly. Teaching tutors are evaluated separately using a special evaluation form.

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies and Enabling Competencies:

Hematology residents should be able to...

1. Function effectively as hematologists, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered care
   1.1 Effectively perform a consultation, including the presentation of well documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional.
   1.2 Demonstrate compassionate and patient-centered care and be able to identify and appropriately respond to relevant ethical issues arising in patient care.
   1.3 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems.

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to the practice of hematology
   2.1 Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to hematological malignancies, as outlined below:
       2.1.1 Natural history and epidemiology of lymphomas (including risk factors and prognostic variables).
       2.1.2 Theories of carcinogenesis, including oncogenes and tumor suppressor genes.
       2.1.3 Principles of therapy including, knowledge of the different classes of chemotherapy, biologic response modifiers, immunologic therapies (including mechanisms of action, short and long-term toxicities, mechanisms of resistance).
       2.1.4 Recognition and management of medical emergencies (e.g. superior vena cava syndrome, febrile neutropenia).
       2.1.5 Supportive care issues surrounding the care of oncology patients including venous access issues, transfusion support, appropriate use of hematopoietic growth factors, recognition and treatment of infectious complications, management of gastrointestinal side effects, nutritional support and pain control.
       2.1.6 Psychological and ethical aspects of treating patients with malignancy.
       2.1.7 Manage patients with lymphoma in an ambulatory setting.
3. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
   3.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures as indicated below:
      3.1.1 Bone marrow aspiration and biopsy.
      3.1.2 Lumbar punctures, with and without administration of chemotherapy, demonstrating not only the technical skill but awareness of informed consent, patient comfort and knowledge of the appropriate special tests to request (i.e. cell markers, cytopathology, etc.).
      3.1.3 Use and care of central venous lines etc.
      3.1.4 Chemotherapy administration, demonstrating knowledge of different classes of chemotherapy, biologic response modifiers, toxicity profiles (short and long-term) of agents used to treat lymphomas, techniques of administering systematic and intrathecal chemotherapy; handling and disposal of chemotherapeutic and biologic agents.
      3.1.5 Appropriately document and disseminate information related to procedures performed and their outcomes.
      3.1.6 Ensure adequate follow-up is arranged for procedures performed.

4. Perform a complete and appropriate assessment of a patient
   4.1 Assess new patients and manage follow-up patients in a timely manner in the ambulatory setting.
   4.2 Effectively identify and explore issues to be addressed in a patient encounter, including the patient’s context and preferences.
   4.3 Select medically appropriate investigative methods in a resource-effective and ethical manner.
   4.4 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans.

5. Use preventive and therapeutic interventions effectively
   5.1 Implement an effective management plan in collaboration with a patient and their family.
   5.2 Ensure appropriate informed consent is obtained for therapies.
   5.3 Ensure patients receive appropriate end-of-life care.

6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise
   6.1 Demonstrate insight into their limitations of expertise via self-assessment.
   6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.
   6.3 Arrange appropriate follow-up care services for a patient and their family
Communicator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Develop rapport, trust and ethical therapeutic relationships with patients, families and colleagues to formulate a shared plan of care
   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 Effectively facilitate a structured clinical encounter.
   1.6 Understand the psychological aspects of caring for patients with life-threatening and/or chronic disorders and develop skills in communicating around issues such as death and dying.

2. Accurately elicit, synthesize and convey relevant information and perspectives of patients and families, colleagues and other professionals
   2.1 Gather information about a disease, but also 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. Accurately convey relevant information and explanations 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.

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 Effectively identify and explore problems to be addressed from a patient encounter, including the patient’s context, responses, concerns, and preferences.
   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 Effectively address challenging communication issues such as obtaining informed consent, delivering bad news, and addressing anger, and confusion.
5. **Convey effective oral and written information about a medical encounter**
   5.1 Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans.
   5.2 Effectively present verbal reports of clinical encounters and plans.

**Collaborator**

**Key Competencies and Enabling Competencies**

_Hematology residents should be able to..._

1. **Participate effectively and appropriately in an inter-professional healthcare team.**
   1.1 Clearly describe their roles and responsibilities to other professionals.
   1.2 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own.
   1.3 Establish a collegial relationship with the nursing staff such that education in both directions will be fostered.
   1.4 Work with others to assess, plan, provide and integrate care for patients.
   1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as educational work, program review or administrative responsibilities.
   1.6 Participate effectively in inter-professional team meetings by contributing clinically useful hematological opinions on patients referred for consultation, including ordering and arranging for specific testing, administering required therapy, and conveying the results of the hematological opinion to referring physician.
   1.7 Describe the principles of team dynamics.
   1.8 Respect team ethics, including confidentiality, resource allocation and professionalism.
   1.9 Where appropriate, demonstrate leadership in a healthcare team.

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

**Manager**

**Key Competencies and Enabling Competencies**

_Hematology residents should be able to..._
1. **Participate in activities that contribute to the effectiveness of their healthcare 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.
   1.3 Demonstrate knowledge of roles and be able to work collaboratively with different physicians, nurses, clerical staff, laboratory staff and other allied health professionals in the ambulatory clinic setting.
   1.4 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care and apply evidence and management processes for cost-appropriate care.
   1.5 Participate effectively in meetings, planning work schedules etc.

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 Implement processes to ensure personal practice improvement.
   2.3 Employ information technology appropriately for patient care.

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

**Health Advocate**

**Key Competencies and Enabling Competencies**

_Hematology residents should be able to..._

1. **Respond to individual patient and community health needs and issues as part of their service**
   1.1 Demonstrate an appreciation of the health care needs of patients with lymphomas and identify the important determinants of health affecting individual patients.
   1.2 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care (e.g. preparation of treatment documents for patients, by obtaining special access medications, thrombosis prophylaxis, or other prophylactic interventions).

2. **Promote the health of individual patients, communities and populations**
   2.1 Describe an approach to implementing a change in a determinant of health of the populations they serve.
   2.2 Identify points of influence in the healthcare system and its structure.
   2.3 Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism.
2.4 Describe the role of the medical profession in advocating collectively for health and patient safety.

Scholar

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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 learning issues in practice and Integrate new learning into practice.
   1.4 Pose an appropriate learning question.
   1.5 Access and interpret the relevant evidence.
   1.6 Evaluate the impact of any change in practice.
   1.7 Document the learning process - develop, implement and monitor a personal continuing education strategy.
   1.8 Conduct a personal practice audit

2. Critically evaluate 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, as appropriate
   3.1 Describe principles of learning relevant to medical education.
   3.2 Collaboratively identify the learning needs.
   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 creation, dissemination, application, and translation of new medical knowledge and practices
   4.1 Conduct a systematic search for evidence as it applies to patient care.
   4.2 Critically appraise sources of medical information.
   4.3 Develop the ability to apply the principles of quality assurance to clinical care.
   4.4 Provide one comprehensive presentation on a suitable topic.
Professional
Key Competencies Enabling Competencies

Hematology residents should be able to...

1. Demonstrate a commitment to their patients, profession, and society through ethical and sustainable 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 Appropriately manage conflicts of interest.
   1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
   1.6 Maintain appropriate relations with patients.

2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
   2.1 Appreciate 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 behaviors in practice.

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
Bone Marrow Transplantation Rotation  
(Sheikha Badriya Al-Ahmad Center)

I. OVERVIEW

General Description of Rotation

This one-month rotation will provide residents with knowledge, experience and skills pertaining to the use of bone marrow transplantation procedures in the care of patients with various hematologic diseases. The rotation consists of two main components: a short laboratory rotation relevant to hematopoietic stem cell transplantation and HLA typing, and an in-patient and an out-patient Bone Marrow Transplantation (BMT) service.

Responsibilities of Hematology Residents

The BMT rotation is scheduled to be at R5 level of training. Residents will be involved in the following activities:

1. Patients Care Activities

Residents will function under the supervision of the attending hematologist, who assumes responsibility for the in-patient unit. Residents are expected to be active members of the team providing primary care to in-patients, taking responsibility for the day-to-day care of in-patients commensurate with their level of training. In addition, it is expected that residents will be familiar with all patients on the ward and act as a resource for the other members of the team providing primary care to these patients. This care will include the development of skills in diagnosis, primary therapy, and supportive care including dealing with the psychosocial aspects of diseases that affect both patients and their families.

During the period of this rotation residents will:
- Participate in the BMT first call schedule to maximize their exposure to transplantation-based patient care issues.
- Be assigned to provide primary care to both in- and out-patients on the transplant service. They will be expected to discuss treatment decisions with the attending consultant at daily rounds and clinics.
- Participate in bone marrow harvesting procedures, if available.
- Participate in the supervision of stem cell collection by apheresis.

2. Laboratory Activities

During the period of this rotation residents will:
- Attend a short mandatory laboratory rotation relevant to hematopoietic stem cell transplantation including HLA typing and stem cells processing.
Educational Activities

Educational activities, which are a priority for hematology residents, include both scheduled rounds and other academic sessions. Residents are expected to present formal presentations on BMT-related topics as scheduled by the rotation supervisor.

On-Call Duties

This rotation includes an on-call experience. Residents are on-call on average every 4\textsuperscript{th} day, as per the policy of the training site. When residents are on-call, they are the physicians of first contact, but are appropriately supervised and backed up by one of the consultants. Residents will be expected to be able to provide a thorough patient sign-over to the attending consultant daily.

Rotation and Site Residency Supervisor

In this rotation, officially assigned tutors are involved in the education of residents. They assume responsibility for in-patients on a rotational basis. The Training Site Coordinator’s responsibility is to ensure that the experience is going well and is covering all intended aspects of the rotation. In this way, all involved tutors are expected to interact with, and contribute to the educational experience of the residents during this rotation.

Resources

KIMS e-Library

Resident Evaluation

An orientation session will take place during the first week of the rotation to discuss with residents its goals and objectives. A formal evaluation is given and fully discussed with residents at the end of their rotation. This will include a discussion of the residents’ progress in meeting the goals of this rotation. Input is sought from assigned attending members of the team. Based on the feedback received at the end of the rotation, a formal CanMEDS-based evaluation report is completed by the rotation supervisor. Final evaluations are discussed with the resident. Feedback from allied health professionals might also be sought.

Evaluation of the Rotation

At the time of both the final evaluation of residents, they are expected to submit a feedback regarding the rotation, including its strengths and shortcomings. If issues arise during the rotation, residents are encouraged to bring these to the attention of the rotation supervisor. A mechanism for dealing with any shortcomings will then be discussed with them accordingly. Teaching tutors are evaluated separately using a special evaluation form.

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies and Enabling Competencies

Hematology residents are expected to...
1. **Acquire the fundamental biomedical sciences relevant to stem cell transplantation. They should be able to:**

   1.1 Demonstrate understanding of the biology and immunology of the HLA system and how this impacts donor selection, including a working knowledge of donor-recipient compatibility testing. Work through cases involving donor selection. Understand rationale for non-HLA criteria important in donor selection.

   1.2 Understand the differences and indications for the different donors used for stem cell transplantation, including HLA-matched sibling-derived marrow or peripheral blood; HLA-matched sibling-derived cord blood; HLA-compatible unrelated marrow or peripheral blood donors; HLA-mismatched related marrow or peripheral blood donors.

   1.3 Demonstrate an understanding of the rationale for autologous transplantation in malignant and non-malignant diseases.

   1.4 Understand the differences and indications of autologous and allogeneic stem cell transplantation.

   1.5 Understand the differences between the different types of sources of hematopoietic stem cells, including marrow, peripheral blood, and cord blood.

   1.6 Understand the rationale for allogeneic transplantation for hematologic diseases including myeloablative and immunoablative therapy and graft vs. disease effects.

   1.7 Understand the differences between unmodified and T cell-depleted stem cell transplants.

   1.8 Understand the pharmacology of agents used in conditioning therapy and immunosuppression, and supportive care (e.g. chemotherapeutic agents commonly used, total body irradiation, immunosuppressive drugs (antithymocyte globulin, cyclosporine, mycophenolate mofetil, tacrolimus, sirolimus, and prednisone), antibiotics, antivirals, antifungals, antiemetics.

   1.9 Understand dose-limiting toxicities for many of the chemotherapy drugs used in transplantation, means used to prevent toxicities, and use of therapeutic drug monitoring in transplantation.

   1.10 Understand Immunosuppression and its consequences (infections, second malignancies, myelosuppression and organ dysfunction) including the kinetics of immune reconstitution post transplantation.

   1.11 Understand the pathogenesis of graft vs. host disease.

2. **Acquire the fundamental clinical knowledge relevant to stem cell transplantation. They should be able to:**

   2.1 Elicit relevant information with respect to the patient’s medical history, hematologic problems, and indications for transplantation.

   2.2 Discuss the indications, role and relative merits of allogeneic and autologous marrow transplantation in the treatment of malignant and nonmalignant hematologic disease with particular reference to:

   - Disease states
   - Prognosis and Outcome
   - Predictive factors (e.g. patient disease, stage, response to previous treatment, age, donor type)
- Complications (Short and Long-term) Alternative non-transplant treatment modalities

2.3 Discuss the nature of the supportive care required for bone marrow transplantation with respect to medical, psychological, nutritional, social, economic realms including the impact of transplant on transfusion practices, infection prophylaxis and treatment, use of growth factors, issues in iron overload, secondary malignancy surveillance and management of long term complications of conditioning.

2.4 Describe the commonly used conditioning agents and regimens for transplantation procedures.

2.5 Compare and contrast the early complications of both autologous and allogeneic transplantation including organ-specific toxicities, infection, failed engraftment, late graft rejection.

2.6 Discuss the Pathogenesis, clinical presentation, investigation, prevention and treatment of both acute and chronic graft vs. host disease.

2.7 Describe the relative merits of alternative donors to histocompatible siblings with emphasis on clinical outcomes, speed of transplant and economic impact.

2.8 Discuss the relative merits of peripheral blood stem cells and umbilical cord blood compared with autologous or donor marrow as a source of hematopoietic stem cells.

2.9 List the requirements of allogeneic donors. Be familiar with the registries available for the related marrow, blood cell and cord blood transplants and be familiar with the means of access to these resources.

2.10 Describe the technical procedures related to the harvesting and storage of hematopoietic stem cells including leukopheresis and stem cell cryopreservation.

2.11 Describe various means for enhancing stem cell collection and identify patients at risk of poor stem cell mobilization.

2.12 Diagnose and manage complications of apheresis, including citrate toxicity, poor cell yield, fluid balance, and problems around venous access.

2.13 Describe the role of flow cytometry in evaluating stem cell products.

2.14 Describe the techniques available for evaluating allogeneic engraftment including DNA technology, cytogenetic examination, and investigation to tissue types and blood groups.

2.15 Describe the complications for the donor of marrow harvesting and stem cell collection procedures and give the rationale for their use.

3. Acquire the fundamental procedural skills relevant to stem cell transplantation. they should be able to:

3.1 Take a history and perform a physical examination on an autologous or allogeneic transplant recipient with particular emphasis on the detection of relevant complications such as infection, graft vs. host disease.

3.2 Counsel donor and recipient with respect to the risks and benefits of transplantation.

3.3 Understand the technical aspects of apheresis procedures and to be able to supervise apheresis as used for stem cell collection.

3.4 Perform a bone marrow harvest.
Communicator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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 and responsive to nonverbal cues.
   1.6 Effectively facilitate a structured clinical encounter.

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 also 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. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
   3.1 Deliver information to the patient and family regarding the process of transplantation, prognosis, complications, and impact on quality of life in a manner which is understandable, encourages discussion and promotes patient’s participation in the decision making process.
   3.2 Provide information to the donor regarding procedures, complications, costs and alternatives of marrow or stem cell donation in an ethical and confidential manner. The resident must take into account the potential factors influencing donor decision making about participation in the procedure including donors age, gender, ethnic, spiritual, cultural, socioeconomic. The resident must be able to anticipate and explore potential interpersonal conflict between the donor and recipient in the case of related donor donation in a sensitive, ethical, confidential and respectful manner.

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 Effectively identify and explore problems to be addressed from a patient encounter, including the patient’s context, responses, concerns, and preferences.
   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 Effectively address challenging communication issues 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, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans.
   5.2 Effectively present verbal reports of clinical encounters and plans.
   5.3 When appropriate, effectively present medical information to the public or media about a medical issue.

Collaborator

**Key Competencies and Enabling Competencies**

_Hematology residents should be able to..._

1. **Participate effectively and appropriately in an inter-professional healthcare team**
   1.1 Clearly describe their 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).
   1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities.
   1.6 Coordinate specialist consultation referrals where appropriate.
   1.7 Participate effectively in inter-professional team meetings.
   1.8 Enter into interdependent relationships with other professions for the provision of quality care.
   1.9 Describe the principles of team dynamics.
   1.10 Respect team ethics, including confidentiality, resource allocation and professionalism.
   1.11 Where appropriate, demonstrate leadership in a healthcare team.

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

Manager

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Participate in activities that contribute to the effectiveness of their healthcare 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.
   1.3 Describe the structure and function of the healthcare system as it relates to their specialty, including the roles of physicians.

2. Manage their practice and career effectively
   2.1 Set priorities and manage time to balance ward and ambulatory patient care, practice requirements, outside activities and personal life.
   2.2 Implement processes to ensure personal practice improvement.

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

Health Advocate

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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.
   1.3 Demonstrate an understanding of how the basic determinants of health will affect outcome of bone marrow transplant patient e.g. employment status, social support systems.
   1.4 Identify those patients groups that will benefit the most from bone marrow transplantation.
Key Competencies and Enabling Competencies

Hematology residents should be able to...

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 Develop and implement a personal continuing education strategy with respect to the changing indications, modalities, improvements in care and treatment of complications of bone marrow transplantations.
   1.4 Recognize and reflect learning issues in practice.
   1.5 Conduct a personal practice audit.
   1.6 Pose an appropriate learning question.
   1.7 Access and interpret the relevant evidence.
   1.8 Integrate new learning into practice.
   1.9 Evaluate the impact of any change in practice.
   1.10 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, as appropriate
   3.1 Describe principles of learning relevant to medical education.
   3.2 Collaboratively identify 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 Appropriately disseminate the findings of a study.

Professional

Key Competencies and Enabling Competencies

**Hematology residents should be able to...**

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, reliability, compassion, respect and altruism.
   1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence by acting promptly with respect to patient investigation, consultation and treatment; ensuring prompt completion of clinic notes and discharge summaries; providing thorough transfer information for physicians assuming on-call care of their patients; rounding on patients prior to morning report in order to effectively lead discussion; and arriving at rounds and meetings on time.
   1.3 Recognize and appropriately respond to ethical issues encountered in practice.
   1.4 Appropriately manage conflicts of interest.
   1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
   1.6 Maintain appropriate relations with patients.

2. **Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation**
   2.1 Appreciate 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 behaviors in practice.

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.
Lymph Node Pathology Rotation  
Kuwait Cancer Control Centre (KCCC)

I. OVERVIEW

General Description of the Rotation

The Lymph node Pathology Rotation at the Kuwait Cancer Control Centre (KCCC) is a one-month rotation designed to provide an experience that will facilitate residents’ education in becoming competent consultants in hematology. This four-week long rotation is designed to familiarize hematology residents with the process of the lymph node/hematolymphoid mass biopsy, processing, evaluation and diagnostic assessment at the level of consultative pathology practice, which comprehensively covers all aspects of patients care including: expert, education and legal matters.

At the completion of the rotation hematology residents are expected to be familiar with the indications for the lymph node biopsy, to understand the distinction between the fine needle aspiration (FNA), core biopsy and excisional biopsy, to comprehend the distinct portions of the lymphoma protocol, to be able to describe the microscopic findings and appreciate the value of ancillary techniques to the final diagnosis/sub-classification.

In addition, hematology residents will be able to differentiate the reactive, atypical and neoplastic processes and will be able to properly sub-classify clonal neoplasms into WHO subcategories/differential diagnoses.

In addition, residents will be able to appropriately interpret and utilize data extracted from case relevant research/review papers and will be encouraged to independently pose their own investigative questions.

Responsibilities of the Hematology Resident

Resident Activities

This is a laboratory-based rotation. Residents will be exposed and provide provisional reports on lymph node biopsy samples of patients with malignant hematological disorders. They are expected to read and interpret diagnostic lymph node samples that the laboratory processes. All cases are reviewed with an attending staff. Residents are not expected to develop the expertise to independently interpret lymph node biopsies and spleen specimens within the one month period of the rotation. They are expected to attend the interdisciplinary rounds, during which, cases are presented by clinicians, relevant diagnostic tests are presented (including results of bone marrow and lymph node morphology, flow cytometry, molecular and conventional cytogenetics), and treatment plans are discussed. They are expected to synthesize the available laboratory diagnostic information in individual cases and participate in the discussion concerning these patients.

Educational Activities

Educational activities, which are a priority for residents, include sessions and demonstrations on different pathology samples and their interpretation and diagnosis under the supervision of the attending team.
Resident Evaluation

Residents are provided with feedback during the rotation concerning their proficiency in understanding the principles of reporting pathology samples and their performance in informal and formal teaching sessions. They meet with the rotation supervisor at the end of the rotation to complete a formal evaluation, provide two-way feedback on the rotation, and discuss ways of improvement. A 360-feedback from other staff members including allied health professionals might also be sought.

Evaluation of the Rotation

Residents are encouraged to provide feedback on how the rotation and teaching are structured. Resident input is enthusiastically received.

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Function effectively to integrate all of the CanMEDS Roles to provide optimal, ethical and patient-centered care
   1.1 Perform a consultation, including the presentation of well-documented assessments and recommendations in written form in response to a request from the treating hematologist/oncologist.
   1.2 Demonstrate the ability to prioritize professional duties when faced with multiple patients, multiple laboratory tasks and problems related to these.
   1.3 Demonstrate compassionate and patient-centered care.
   1.4 Recognize and respond to the ethical dimensions in medical decision making.

2. Establish and maintain clinical knowledge, laboratory skills and attitudes appropriate to the practice of hematology
   2.1 Demonstrate understanding of a role of consultative practice in surgical pathology.
   2.2 Understands effective selection of immunohistochemical markers.
   2.3 Comprehends value of ancillary techniques/data and their utility in the diagnosis of malignant lymphoma.
   2.4 Demonstrates knowledge of histology of a normal lymph node and developmental pathways of hematopoietic cells.
   2.5 Understands the concept and distinct morphologic features of various reactive lymphadenopathies.
2.6 Demonstrates understanding of basis of WHO classification of tumors of hematopoietic and lymphoid tissues.
2.7 Understands clinical and morphologic basis of Hodgkin lymphoma diagnosis.
2.8 Understands principles of diagnostic criteria and sub-classification of Hodgkin Lymphoma.
2.9 Understands differential diagnosis and mimickers of Hodgkin Lymphoma.
2.10 Understands clinical and morphologic basis of Non-Hodgkin lymphoma diagnosis.
2.11 Understands principles of diagnostic criteria and sub-classification of Non-Hodgkin Lymphoma.

3. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise
   3.1 Demonstrate insight into their limitations of expertise via self-assessment.
   3.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.
   3.3 Arrange appropriate follow-up care services for a patient and their families.

Communicator
Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Develop rapport, trust and ethical relationships with colleagues to formulate a shared plan of care
   1.1 Recognize that being a good communicator is a core clinical skill for laboratory physicians, and that effective communication with other health professionals can foster physician satisfaction, adherence and improved clinical outcomes.
   1.2 Establish effective working relationships with consulting hematologists/ oncologists/ pathologists and surgeons.
   1.3 Listen and respond effectively.

2. Convey effective oral and written information
   2.1 Deliver information to colleagues and other professionals in a timely manner and in such a way that it is understandable, encourages discussion and participation in decision-making.
   2.2 Maintain clear, accurate, and appropriate records of laboratory testing and be able to effectively present them verbally.

Collaborator
Key Competencies and Enabling Competencies

Hematology residents should be able to...
1. Participate effectively and appropriately in an inter-professional healthcare team
   1.1 Clearly describe the roles and responsibilities of other professionals within the health care team.
   1.2 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own.
   1.3 Participate effectively in inter-professional team meetings by contributing clinically useful opinions on patients referred for consultation, including ordering and arranging for specific testing, and conveying the results of the opinion to referring physician.
   1.4 Contribute effectively to other interdisciplinary team activities.
   1.5 Must have experience in neoplastic hematopathology sufficient to achieve a sound understanding of the effects of disease and the role of pathology in clinical management.
   1.6 Demonstrate the ability to advice on the appropriateness of obtaining histologic/ancillary techniques specimens and following examination of these, to advice on further appropriate investigations and management.

2. Effectively work with other health professionals to prevent, negotiate, and resolve inter-professional conflict
   2.1 Respect team ethics, including confidentiality, resource allocation and professionalism and respect differences, misunderstandings and limitations in other professionals.
   2.2 Where appropriate, demonstrate leadership in a healthcare team

Manager

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Utilize resources effectively to balance patient care, turnaround time, and educational needs
   1.1 Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life.

2. Allocate finite health care resources wisely
   2.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care and apply evidence and management processes for cost-appropriate care.

3. Work effectively and efficiently in a health care organization
   3.1 Participate effectively in meetings, planning work schedules etc.
   3.2 Demonstrate knowledge of roles and be able to work collaboratively with all of the different physicians, clerical staff, laboratory staff and other allied health professionals.
Health Advocate

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. **Contribute effectively to improved health of patients and communities**
   1.1 As members of an interdisciplinary team of professionals responsible for individual and population health care, the consult hematologist will endeavor to ensure that laboratory practices and test selection are regularly evaluated to determine that they meet these community needs.

2. **Recognize and respond to those issues where advocacy is appropriate**
   2.1 Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism.

3. **Understand the role of consult pathology in patient’s care**
   3.1 Reinforce to the public and to the profession the essential contribution of laboratory medicine health.

Scholar

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. **Maintain and enhance professional activities through ongoing learning**
   1.1 Recognize and reflect learning issues and integrate new learning into practice.
   1.2 Pose an appropriate learning question.
   1.3 Access and interpret the relevant evidence.
   1.4 Document the learning process - develop, implement and monitor a personal continuing education strategy.
   1.5 Describe principles of learning in relation to medical education and identify the learning needs and desired learning outcomes of others.
   1.6 Select effective teaching strategies and content to facilitate others’ learning.
   1.7 Assess and reflect on a teaching encounter and provide effective feedback.
   1.8 Conduct a systematic search for evidence as it applies to patient care.

2. **Critically evaluate information and its sources, and apply this appropriately to practice decisions**
   2.1 Describe the principles of critical appraisal and be able to critically appraise retrieved evidence and integrate critical appraisal conclusions into clinical care.
Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

2.2 Demonstrate an effective lecture or presentation.

Professional

Key Competencies and Enabling Competencies:

Hematology residents should be able to...

1. Demonstrate a commitment to their patients, profession and society through ethical and sustainable practice
   1.1 Have an appreciation of the crucial role of the pathologist in providing quality patient care. This will include knowledge of an individual professional limitations and the necessity of seeking appropriate second opinions.

2. Demonstrate the knowledge, skills and attitudes relating to gender, culture and ethnicity pertinent to anatomical pathology.

3. Exhibit appropriate professional behaviors in practice, including honesty, integrity, compassion, respect, altruism and a commitment to delivering the highest quality care and maintenance of competence.
II. OVERVIEW

General Description of the Rotation

The Hematological Pathology Rotation at Al-Farwaniya Hospital is a one-month rotation designed to provide an experience that will facilitate residents’ education in becoming competent consultants in hematology.

Hematological Pathology is a domain of laboratory medical practice and science concerned with the study, investigation, diagnosis and therapeutic monitoring of disorders of blood, blood-forming elements and hemostasis in adults and children. The specialty also encompasses the direction and supervision of transfusion medicine services at hospital, ensuring safe and effective transfusion management for patients. The practice of Hematological Pathology requires an in-depth knowledge of the basic sciences (immunology, biochemistry, molecular pathology, genetics) related to the specialty which are an essential foundation for the provision of expert knowledge in the morphology of blood and hematopoietic/lymphoid organs, immunohematology, hemostasis and general hematology. The specialty also encompasses expertise in instrumentation, quality management systems, administrative and regulatory guidelines related to the directorship and management of diagnostic laboratory resources.

This rotation is intended for senior residents at their final year of training. It is considered to be a fine tuning rotation, at the completion of which, they are expected to be capable of assuming a consultant’s role in the specialty and to have the competence to act as consultants to clinicians with respect to appropriate investigation, diagnosis and monitoring of various hematological disorders. They will acquire a working knowledge of the theoretical basis of the specialty, including its foundations in the basic medical sciences. Resident are also expected to be competent in all aspects of organizing and running a transfusion medicine service as well as to be competent in laboratory management issues of blood and blood product procurement and issuing. They will have a broad experience in both clinical and laboratory practice.

Resident will acquire an understanding of the scientific, technical and operational management principles applicable to Hematological Pathology. They must be familiar with the medical disorders affecting blood cells, hemostatic proteins, bone marrow, and the approach to their investigation, diagnosis, and monitoring as well as a general knowledge of the therapeutic interventions for these disorders.

Responsibilities of the Hematology Resident

Resident Activities

This is a laboratory-based rotation, during which residents will be exposed and provide provisional reports on peripheral blood smears and bone marrow samples of patients with various hematological disorders. They are also expected to interpret and understand the principle of HPLC hemoglobin analysis and laboratory investigations related to disorders of coagulation and hemostasis. All cases are reviewed with an attending staff. Residents are expected to synthesize the available laboratory diagnostic information in individual cases and participate in the discussion concerning these patients. They are expected to be involved in all aspect hospital based laboratory
and clinical transfusion medicine practice. They are also expected to be familiar with instrumentation and quality management systems.

**Educational Activities**

Educational activities, which are a priority for residents, include sessions and demonstrations on different samples and their interpretation and diagnosis under the supervision of the attending staff.

**Resources**

KIMS e-Library

**Resident Evaluation**

Residents are provided with feedback during the rotation concerning their proficiency in understanding the principles of reporting test results and their performance in informal and formal teaching sessions. They meet with the rotation supervisor at the end of the rotation to complete a formal evaluation, provide two-way feedback on the rotation, and discuss ways of improvement. A 360-feedback from other staff members including allied health professionals is also sought.

**Evaluation of the Rotation**

Residents are encouraged to provide feedback on how the rotation and teaching are structured. Resident input is enthusiastically received. Teaching tutors are evaluated separately in a similar manner, as for other rotations.

**II. GOALS AND OBJECTIVES**

The objective mentioned below covers all aspects of laboratory hematology practice that are expected to be met at the end of the training program.

**Medical Expert**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

1. **Function effectively to integrate all of the CanMEDS Roles to provide optimal, ethical and patient-centered care**
   1.1 Perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional.
   1.2 Demonstrate use of all CanMEDS competencies relevant to Hematological Pathology.
   1.3 Identify and appropriately respond to relevant ethical issues arising in patient care.
1.4 Demonstrate the ability to prioritize professional duties when faced with multiple patients and problems.
1.5 Demonstrate compassionate and patient-centered care.
1.6 Recognize and respond to the ethical dimensions in medical decision making.

2. **Establish and maintain clinical knowledge, laboratory skills and attitudes appropriate to Hematological Pathology**

2.1 Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to Hematological Pathology.
   2.1.1 Demonstrate a knowledge base [including changes related to age from the fetus to the elderly] of:
       2.1.1.1 Ontogeny of hematopoietic cells
       2.1.1.2 Mechanisms of normal and disordered hematopoiesis
       2.1.1.3 Genetics/cytogenetics pertaining to Hematology
       2.1.1.4 Immune function
       2.1.1.5 Immunohematology
       2.1.1.6 Hemostasis
   2.1.2 Investigate the following in a timely, cost-effective, logical, step-wise, ethical, and useful manner, integrating information from other investigations:
       2.1.2.1 Normal and disordered hematopoiesis, including disorders of hemoglobin synthesis
       2.1.2.2 Normal and disordered hemostasis
       2.1.2.3 Normal and disordered immune and cellular function
       2.1.2.4 Transfusion medicine/immunohematology issues
   2.1.3 Access and apply information and data, demonstrating cognitive and process skills using the principles of evidence-based medicine to solve individual patient problems
       2.1.3.1 Using knowledge of epidemiology and biostatistics, determine appropriate reference ranges, spectrum of testing and accurate interpretation of hematologic laboratory investigations

2.2 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence.

2.3 Contribute to the enhancement of quality care and patient safety in Hematological Pathology, integrating the available best evidence and best practices.

3. **Perform a complete and appropriate assessment of a patient**

3.1 Identify and explore issues to be addressed in a patient encounter effectively, including the patient’s context and preferences.

3.2 Elicit a history that is relevant, clear, concise and accurate to context and preferences for the purposes of diagnosis and/or management.

3.3 Select medically appropriate investigative methods in a resource-effective and ethical manner.
   3.3.1 Demonstrate knowledge, technical, and diagnostic skills relevant to Hematological Pathology relating to:
       3.3.1.1 Appropriate laboratory specimen collection and identification
3.3.1.2 Procurement and interpretation of blood films, bone marrow aspirate and biopsy samples in all age groups from neonates to the elderly.

3.3.1.3 Hematology, coagulation and platelet function analyzers, flow cytometers, slide stainers, automation and other technologies related to Hematological Pathology.

3.3.1.4 Histochemical and immunohistochemical stains, including appropriate indications for use.

3.3.1.5 Molecular genetics/cytogenetic testing.

3.3.1.6 Diagnosis of hemoglobinopathies and gammopathies.

3.3.1.7 Management of a transfusion medicine service including safe transfusion practices from vein-to-vein, audit and utilization reviews.

3.3.1.8 Hospital-based immunohematologic testing.

3.3.1.9 Quality control/monitoring/assessment measures.

3.3.1.10 Potential artefacts related to Hematological Pathology testing

3.4 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans.

3.4.1 Apply interpretive and diagnostic skills effectively, integrating epidemiology, pathophysiology, clinical manifestations and laboratory information, to disorders involving the following:

3.4.1.1 Red cells:

3.4.1.1.1 Hypochromic anemias - to include the differentiation of iron deficiency from other causes of defective hemoglobin synthesis

3.4.1.1.2 Macrocytic anemias - including megaloblastic anemias, congenital anemias, aplastic anemia, hypothyroidism and myelodysplastic syndromes

3.4.1.1.3 Hemolytic anemias - congenital and acquired

3.4.1.1.4 Secondary anemias

3.4.1.1.5 Marrow failure syndromes

3.4.1.1.6 Polycythemas - congenital, primary and secondary

3.4.1.1.7 Hemoglobinopathy/thalassemia

3.4.1.2 Granulocytes:

3.4.1.2.1 Neutrophil dysfunction - congenital and acquired

3.4.1.2.2 Neutropenia - congenital and acquired

3.4.1.2.3 Neutrophilia

3.4.1.2.4 Leukemias - including transient myeloproliferative disorder

3.4.1.2.5 Myelodysplastic disorders

3.4.1.2.6 Myeloproliferative disorders

3.4.1.2.7 Eosinophilia

3.4.1.2.8 Basophilia

3.4.1.3 Monocytes/histiocytes:

3.4.1.3.1 Monocytosis
3.4.1.3.2  Benign and malignant disorders

3.4.1.4  Lymphocytes:
   3.4.1.4.1  Lymphocyte dysfunction - congenital and acquired
   3.4.1.4.2  Lymphopenia - congenital and acquired
   3.4.1.4.3  Lymphocytosis - benign and malignant
   3.4.1.4.4  Leukemias
   3.4.1.4.5  Lymphomas - Hodgkin, non-Hodgkin

3.4.1.5  Plasma cells:
   3.4.1.5.1  Hyper- and hypo-gammaglobulinemia
   3.4.1.5.2  Malignant and benign disorders

3.4.1.6  Blood cell-related congenital and inherited anomalies:
   3.4.1.6.1  Splenic dysfunction
   3.4.1.6.2  Infiltrative and storage diseases

3.4.1.7  Platelets:
   3.4.1.7.1  Platelet dysfunction - congenital and acquired
   3.4.1.7.2  Thrombocytopenia - congenital and acquired
   3.4.1.7.3  Thrombocytosis - benign and malignant

3.4.1.8  Hemostasis/thrombosis:
   3.4.1.8.1  Bleeding disorders - congenital and acquired
   3.4.1.8.2  Thrombotic disorders - congenital and acquired
   3.4.1.8.3  Vascular disorders - congenital and acquired

3.4.1.9  Transfusion Medicine:
   3.4.1.9.1  Problems involving red cell and platelet compatibility
   3.4.1.9.2  Hemolytic disease of the newborn
   3.4.1.9.3  Allo-immune and auto-immune cytopenias
   3.4.1.9.4  Transfusion reactions

4. Use therapeutic interventions effectively
   4.1  Implement a management plan in collaboration with clinicians and patients.
   4.2  Demonstrate appropriate and timely application of therapeutic interventions relevant to Hematological Pathology.
   4.3  Ensure appropriate informed consent is obtained for diagnostic procedures.
   4.4  Demonstrate appropriate consultation to ensure patients receive appropriate care.

5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
   5.1  Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to Hematological Pathology.
       5.1.1  Bone marrow aspiration and biopsy
   5.2  Ensure appropriate informed consent is obtained for procedures.
   5.3  Document and disseminate information related to procedures performed and their outcomes.
5.4 Ensure adequate follow-up is arranged for procedures performed.

6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise
6.1 Demonstrate insight into their own limitations of expertise.
6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.
6.3 Arrange appropriate follow-up care services for patients.

Communicator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Develop rapport, trust and ethical relationships with colleagues to formulate a shared plan of care
   1.1 Recognize that being a good communicator is a core clinical skill for laboratory physicians, and that effective communication with other health professionals can foster physician satisfaction, adherence and improved clinical outcomes.
   1.2 Establish effective working relationships with consulting clinicians.
   1.3 Listen and respond effectively.

2. Accurately elicit and synthesize relevant information and perspectives of patients, 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.
     2.2.1 Explain the role of good communication between physicians and other health care professionals in fostering effective laboratory utilization, accurate interpretation and improved patient outcomes.

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 skills in working with others who present communication challenges.
     3.1.2 Cooperate and communicate with health professionals involved in the care of individual patients to ensure consistent and accurate messages are delivered.
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.
   4.2 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, accurate, and appropriate records (e.g., written or 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

Collaborator

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Participate effectively and appropriately in an inter-professional healthcare team
   1.1 Describe the specialist’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.
     1.3.1 Describe and respect the roles, expertise and limitations of all members of interdisciplinary health teams to achieve goals related to patient care, research, education or administrative responsibility including the delivery of safe, cost-effective and appropriate Hematological Pathology services, including Transfusion Medicine for a geographic health authority
   1.4 Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)
   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 in interprofessional team meetings, demonstrating the ability to accept, consider and respect the opinions of other team members while contributing specialty expertise.
   1.7 Enter into interdependent relationships with other professions for the provision of quality care.
   1.8 Respect team ethics, including confidentiality, resource allocation and professionalism.
   1.9 Demonstrate leadership in a healthcare team, as appropriate
2. Effectively work with other health professionals 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 and, where appropriate, assume a leadership role in these situations.

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.

Manager

Key Competencies and Enabling Competencies

Hematology residents should be able to...

1. Participate in activities that contribute to the effectiveness of their healthcare 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 Explain the importance of a safe, efficient blood transfusion service organization and the need for participation in a transfusion medicine committee.

1.3 Describe the structure and function of the healthcare system as it relates to Hematological Pathology, including the roles of physicians

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.

2.2.1 Direct and manage a hematologic laboratory including addressing issues pertaining to quality management, staffing and reporting.

2.2.2 Apply efficient methods of indexing specimens and reports, for providing a useful patient-based filing system, for rapid reporting of results and for convenient data retrieval.

2.3 Implement processes to ensure personal practice improvement,

2.4 Employ information technology appropriately for patient care.
3. **Allocate finite healthcare resources based on sound judgment that is supported by evidence–based information**
   
   3.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care.

   3.1.1 Discuss the importance of human resource policies, role profiles, and organizational structures for optimal laboratory functioning in accordance with institutional, local, provincial and national regulations.

3.2 Apply evidence and management processes for cost-appropriate care.

   3.2.1 Employ processes to ensure standardization, policy adherence, adverse event and incident reporting.

   3.2.2 Plan and implement quality management programs and laboratory information systems.

   3.2.3 Minimize hazards of the laboratory workplace to create and maintain a safe working environment.

   3.2.4 Participate in effective multi-disciplinary patient safety initiatives.

   3.2.5 Explain resource utilization issues of the laboratory as they apply to the conduct of research.

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**Health Advocate**

**Key Competencies and Enabling Competencies**

*Hematology residents should be able to...*

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. **Promote the health of individual patients, communities, and populations**

   2.1 Describe an approach to implementing a change in a determinant of health of the populations they serve.

   2.2 Identify points of influence in the healthcare system and its structure.

   2.3 Describe the role of the medical profession in advocating collectively for health and patient safety.

   2.3.1 Recognize the critical importance of the sufficiency and safety of the blood supply and remain updated of pertinent international initiatives.

   2.3.2 Recognize the importance of an error reporting/risk management policy and promotes its advancement.
Scholar

Key Competencies and Enabling Competencies

Hematology residents should be able to...

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.
      2.2.1 Execute a systematic search for evidence and critically evaluate medical and other scientific literature to optimize problem-solving and decision making.
      2.2.2 Critically evaluate quality of research sources used
   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, as appropriate**
   3.1 Describe principles of learning relevant to medical education
   3.2 Identify collaboratively the learning needs and desired learning outcomes of others.
      3.2.1 Participate in educational endeavors for students, residents, health professionals, patients, families, general public and governments:
         3.2.1.1 Accurately assess the educational needs of target groups.
         3.2.1.2 Describe and demonstrate the principles of adult learning and preferred learning methods.
         3.2.1.3 Give clear, accurate, succinct and informative presentations.
         3.2.1.4 Evaluate the effectiveness of presentations given.
   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 Demonstrate a working knowledge of research and scholarly inquiry.
4.2 Pose a scholarly question.
4.3 Conduct a systematic search for evidence.
4.4 Select and apply appropriate methods to address the question.
4.5 Disseminate the findings of a study.

**Professional**

**Key Competencies and Enabling Competencies:**

*Hematology residents should be able to...*

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 Respect patient confidentiality, privacy and autonomy.
      1.5.1 Explain issues of confidentiality including information shared through the Laboratory Information System, by e-mail, FAX, phone or other means of communication
   1.6 Maintain appropriate relations with patients

2. **Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation**
   2.1 Explain the professional, legal and ethical codes of practice.
   2.2 Fulfill the regulatory and legal obligations required of current practice.
   2.3 Recognize and respond to others’ unprofessional behaviors in practice.

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.
Educational Activities

Academic Half-Day in Hematology

Each Monday afternoon, residents are excused from their clinical duties to attend an afternoon devoted to education (2 pm to 4 pm). Attendance at Academic Half-Days is compulsory for all residents. Academic Half-Day is organized by the educational activities sub-committee with oversight by the Program Director using the curriculum outline below. Tutors might be invited to present at the Academic Half-Day in their area of expertise.

Curriculum for Academic Half-Day in Hematology

Non-Medical Expert Content

• Clinical skills – procedures and procedure log
• Critical appraisal
• Manager (e.g. practice management, laboratory management issues, information technology)
• Collaborator (e.g. communication with other health professionals, conflict resolution)
• Communicator (e.g. breaking bad news, discussing termination of curative therapy, disclosing medical errors, etc.)
• Health Advocate (e.g. drug access)
• Professional (e.g. ethical issues in hematology, ethics of publication)

Core Medical Expert Content

It includes, but not limited to the following:

Cell Diagnostics

• Morphology review
• Flow cytometry and important cell markers
• Cytogenetics and molecular genetics

General Hematology

• DIC/TTP-HUS
• HIV and hematologic changes
• Hemachromatosis and iron metabolism
• Hematological manifestations of systemic diseases
• Acquired and congenital aplasia

Malignant Hematology

• Acute myeloid leukemia
• Acute promyelocytic leukemia
• Acute lymphoid leukemia
• Chronic myelogenous leukemia
• Myeloproliferative disorders
• Myelodysplasia
• Chronic lymphocytic leukemia
• Plasma cell myeloma and plasma cell dyscrasias
• Hodgkin’s lymphoma
• Non-Hodgkin’s lymphoma – (indolent and aggressive)
• Chemotherapy overview

**Stem Cell Biology**
• The HLA system
• Overview of bone marrow/peripheral stem cell transplantation
• Autologous allogenic transplants
• Nonmyeloablative transplants and donor leukocyte infusions
• Complications of bone marrow transplantation

**Red Cell Disorders**
• Practical red cell diagnostics clinical problems
• Sickle cell disease and sickle cell syndrome
• Thalassemias and hemoglobinopathies
• Hemolytic anemias □ Macrocytic anemia

**Thrombosis and Bleeding**
• Overview of normal hemostasis
• From normal to abnormal hemostasis
• Platelet biology and physiology
• Primary hemostatic defects
• Secondary hemostatic defects
• Disorders of fibrinolysis
• Venous thromboembolism, thrombophilia (acquired and inherited) in adults and in pregnancy
• Overview of management of deep vein thrombosis and pulmonary embolism
• Venous thromboembolism and malignancy
• Management of thrombosis
• Antiphospholipid antibody syndrome
• Management of arterial thromboembolic disease
• Antiplatelet agents and anticoagulants
• Perioperative anticoagulation
• Heparin-induced thrombocytopenia
• Practical coagulation lab clinical problems
• Management of the bleeding patient
• Practical coagulation lab clinical problems
Transfusion Medicine
• Overview of blood products
• Transfusion reactions
• Alternatives to transfusion
• Apheresis
• Practical transfusion problems

Pediatric hematology
• Neonatal cytopenias

Hematology Journal Club
Journal Club is organized and incorporated into the Academic Half day.

Scientific Conferences
Although no allocated funding is available for attending conferences, residents are encouraged to attend one of the international conferences at least twice during their training. International conferences include the Annual Meeting of the American Society of Hematology, BSH Annual Scientific Meeting, and Congress of the European Hematology Association.
Stress during Residency

During residency, Residents will almost certainly encounter problems and periods of stress. These problems may be related to personal life, professional life, or the program and its structure. There is a support system available to hematology residents to provide assistance with stress or personal problems.

Support within the Hematology Residency Program

The Residency Program Director attempts to build a close relationship with the residents. They are made aware that the Program Director will make all reasonable efforts to ameliorate stressful personal, health, and work-related situations – including intervening in situations in which there is personal conflict between the resident and other faculty members.

Effective October 2012, the program has created a stipended position, currently known as the “Resident Mentorship Coordinator”. This position allows residents to access a mentor and advisor, who can advocate solely on their behalf.

Issues of Harassment

Harassment and intimidation includes but is not limited to unfair work demands or workload abuse, discrimination, and verbal abuse. The Kuwait Hematology Residency Training Program has zero tolerance for harassment. Residents should deal with these issues in that way that makes them most comfortable – complaints may be informal (unwritten) or formal (written). No one shall be compelled to proceed with a complaint. Reprisal of the complainant for involvement in this process will not be tolerated. Confidentiality of the identity of the complainant and the respondent will be protected.

Residents have the option of discussing their concerns with the individual involved in the incident, the Rotation Supervisor, the Residency Mentorship Coordinator, and/or the Program Director, who will make every effort to resolve the problem.