

## Hematology Elective Curriculum Temple University Internal Medicine Residency Program

### I. Educational Goals

The elective is an inpatient consultative rotation focusing on the pathogenesis, diagnosis, and treatment of common inpatient hematologic problems and on the indications for and adverse events of therapy.

### II. Principal Teaching Methods

- A. The service – The Hematology consult service is a busy consultative inpatient service. The breadth of patient experiences includes the common and at times rare problems seen on medical and non-medical services at Temple University Hospital. Patient encounters occur on floor services and in intensive care units.
- B. Rounds – The primary educational experience on the elective is daily rounds. Rounds are conducted by a faculty member from the section of Hematology and include a fellow, one or two medicine residents, and 4<sup>th</sup> year medical students. Rounds occur at the bedside and start every weekday at 2:00 PM and typically last until 5:00 PM. All new patients are discussed in depth, and follow up cases are reviewed as needed.
- C. Responsibilities of the residents - Fellows, residents, and students are responsible for evaluating and presenting all new consults and for following the new patients they have presented.
- D. Conferences – Residents are expected to attend and participate in the following conferences:
  - i. Mondays
    1. 1<sup>st</sup> Mondays - Hematology Case Discussion- moderated by Heme Consult Fellows & Attending from previous month
    2. 2<sup>nd</sup> Mondays- BMT Case Discussion - moderated by BMT faculty, Heme Faculty, & fellows by case presentation (except in October- 4<sup>th</sup> Monday)
    3. 3<sup>rd</sup> Mondays - Hematology Attending Presentation
  - ii. Tuesdays
    1. 12p-1p Hematology/Oncology Patient Management Conference - moderated by Inpatient Oncology Fellow in the Executive Conference Room. 1<sup>st</sup> Floor TUH
  - iii. Wednesdays
    1. 1130a-1230p Department of Medicine Grand Rounds - in Erny Auditorium, 1<sup>st</sup> Floor TUH.
  - iv. Thursdays
    1. 1<sup>st</sup> Thursdays - Coagulation Conference - moderated by Hematology Department Faculty
    2. 2<sup>nd</sup> Thursdays - Hematopathology Conference - moderated by Dr. Bromberg, Dr. Hurford, & fellows
    3. 3<sup>rd</sup> Thursdays - Fellow Case Presentation & Review (Heme Or Onc) - Assigned fellow will be expected to present a case(s) and review the appropriate literature (40min-PPT presentation) (note can also be on Mondays - check schedule for assignment)
    4. 4<sup>th</sup> Thursdays - Heme/Onc Journal Club - moderated by assigned pair of attending & fellow - please submit articles to be reviewed at least two weeks in advance to Geri (2-2777) or Denise (2- 4684) for general distribution
  - v. Fridays

1. 12p-1p Hematology Case Review - in Cancer Center Conference Room with Drs. Rubin & Bromberg. All consult and elective fellows expected to attend; will review cases seen in Fri AM heme clinic.
  2. 12p-1p Pulmonary Malignancy Case Review Conference - in Parkinson Pavilion, 7<sup>th</sup> floor, Pulmonary Division Conference Room. Inpatient oncology fellow expected to attend.
- E. The NEJM Hematology Collection serves as a core reference for cases seen on service.

### **III. Evaluations**

Residents are evaluated by the faculty that directly supervises them on the elective utilizing a standard, competency-based, evaluation form supplied by the residency program.

### **IV. Tiered Objectives Organized by Competency**

Note: Some objectives may address more than one competency. Such instances are identified with the additional competencies noted in italics following the item.

Where tiered objectives are listed, it is expected that residents in each year will have mastered the competencies outlined for the previous levels of training.

#### **A. Patient Care**

- i. PGY-1 residents will
  1. elicit a thorough history emphasizing hematology history and epidemiology
  2. supplement the history obtained from the patient with appropriate information gleaned from medical records, including but not limited to labs, radiologic studies, microbiology, pathology, records of previous inpatient admissions, records from outside institutions, and records from the primary care physician.
  3. will perform a systematic, comprehensive physical exam and be able to report the physiologic and anatomic bases of normal and abnormal findings. The physical exam will be obtained discretely, with attention to patient comfort and privacy.
  4. will record data in the medical record in a thorough, legible, systematic manner and at regular, timely intervals. Such documentation will include not only documentation of the facts, but will also reflect the reasoning underlying the resident's decision making.
  5. be able to suggest a diagnostic and therapeutic plan of action based on their problem list that reflects the identified priorities and respects patient preferences.
  6. utilize evidence-based strategies or practice guidelines whenever applicable. Cost effective strategies will be emphasized. (*system-based practice*)
  7. understand the risks and benefits of the proposed diagnostic studies and therapeutic interventions. Particular attention will be given to communicating to the patient and consulting physician those risks and benefits and ensuring that the patient has a clear understanding of the course of action. (*interpersonal and communication skills*)
  8. understand how to evaluate the success of therapeutic interventions, including measurement of the desired response and recognition of complications.

- ii. PGY-2 residents will take the history more efficiently without compromising accuracy or thoroughness.
  - iii. PGY-3 residents will develop plans that are not overly reliant on tests and procedures.
- B. Medical Knowledge
- All residents will
- i. Be able to examine a peripheral blood smear and recognize
    1. Thrombocytopenia
    2. Immature and abnormal WBC forms
      - e.g. blasts, hypersegmented forms
    3. Abnormal RBC forms
      - e.g. hypochromic cells, oval macrocytes, sickle cells, schistocytes
  - ii. Be able to generate a differential diagnosis of anemias based on MCV/Retic count
    1. Microcytic anemias
    2. Macrocytic anemias
    3. Normocytic anemias
  - iii. Have detailed clinical knowledge of common anemias such as iron deficiency, B12, myelodysplasia, etc.
  - iv. Be able to generate a differential diagnosis of bleeding disorders based upon data analysis of PT/PTT/platelet count and bleeding times
  - v. Have detailed clinical knowledge of common and important bleeding and coagulation disorders
    - ITP, uremia, DIC, liver disease, hemophilia A and lupus inhibitors
  - vi. Have detailed clinical knowledge of common WBC disorders
    1. Acute leukemia
    2. CML
    3. CLL
    4. Plasma cell dyscrasias
    5. Lymphomas
  - vii. Have appropriate clinical knowledge of hematological complications encountered in ICU patients.
  - viii. Have appropriate clinical knowledge of elementary blood bank and transfusion medicine
    1. ABO system and reactions
    2. Minor blood groups
    3. Plasma transfusion reactions
    4. Infectious complications of transfusion
    5. Appropriate indications for transfusions of RBC, FFP, and platelets
- C. Practice based learning and improvement
- All residents will
- i. recognize opportunities to review their clinical decisions with the fellows and faculty
  - ii. learn to review the literature in a systematic and formal way with the assistance of the faculty
  - iii. discuss patient care in the formal setting such as follow-up rounds
  - iv. be receptive and responsive to constructive criticism.

D. Interpersonal and communication skills

PGY-1 residents will

- i. develop effective and respectful relationships with patients, students, peers, supervisors, and other medical and administrative workers.
- ii. develop skills to communicate patient treatment plans with referring physicians, nurses, and students.
- iii. manage and direct the students on the elective, with the assistance of the fellows, to ensure timely and effective completion of the tasks of patient care
- iv. provide constructive feedback regarding the Hematology elective.  
(*professionalism, system-based practice*)

PGY-2 residents will

1. model effective and respectful relationships with patients, students, peers, supervisors, and other medical and administrative workers.

E. Professionalism

All residents will

- i. comply with all locally and nationally accepted standards of behavior for health care professionals, including but not limited to those mandated by law.
- ii. in all activities demonstrate a commitment to excellence.
- iii. act as a role model for medical students.

F. Systems based practice

All residents will

- i. utilize hospital resources to deliver effective, efficient, high quality patient care.
- ii. remain sensitive to health care costs while providing high quality care.