Northeast Georgia Medical Center
GRADUATE MEDICAL EDUCATION

Educational Goals and Objectives for Rotations on:
Hematology & Oncology

The resident will evaluate outpatient continuity cancer patients, hospitalized hematology-oncology continuity patients, and hospitalized patients in need of hematology-oncology consultation. All patients will be presented to the attending physician who will fully supervise the resident's care decisions. With faculty guidance as necessary, the resident will construct a differential diagnosis and plan further diagnostic studies and treatment. Residents perform as consultants in both the inpatient and outpatient setting, with full supervision of the consultative plan by the attending physician.

- Residents will also attend outpatient chemotherapy infusion center activities and assist with patient care activities but will NOT write chemotherapy orders.
- Residents will perform diagnostic and therapeutic procedures and studies, as appropriate, with the guidance and supervision of the Hematology/Oncology and Pathology faculty.
- Residents may perform supervised interpretation of diagnostic studies, including peripheral blood smears, bone marrows, and biopsy specimens.
    - To provide exposure to a broad spectrum of Hematologic and Oncologic disorders and Transfusion Medicine in adults.
    - To develop problem-solving and diagnostic skills related to Hematologic and Oncologic disorders and Transfusion Medicine.
    - To develop treatment skills related to basic Hematologic diseases and Transfusion Medicine problems.

- The discipline of hematology-oncology relates to the care of patients with solid tumors and disorders of the blood, bone marrow, and lymphatic systems, including anemias, hematologic malignancies, and other clonal processes, and congenital and acquired disorders of hemostasis, coagulation, and thrombosis.

- The general internist should be competent in:

    - the detection of abnormal physical, laboratory, and radiologic findings relating to the lymphohematopoietic system;
    - the assessment of the need for bone marrow aspirate and biopsy and lymph node biopsy;
    - the initial diagnostic evaluation and management of thrombosis and bleeding;
    - the assessment of the indications and procedure for transfusion of blood and its separate components;
    - the management of therapeutic and prophylactic anticoagulation;
    - the diagnosis and management of common anemias;
    - the pharmacology and use of common chemotherapies;
    - the management of neutropenia/immunosuppression;
    - the diagnosis and general principles of management of common solid tumors

- end of life care

- The range of competencies expected for a general internist will vary depending on the availability of a hematologist-oncologist in the primary care setting. For example, in some communities a general internist may be responsible for bone marrow examination and administration of chemotherapy for certain disorders in conjunction with consultative assistance from appropriate hematologist-oncologist and pathologist colleagues.

Educational Content

- The resident will learn the pathophysiology, prevention, evaluation and management of common hematology problems including: anemia and abnormalities of peripheral blood smear, hemoglobinopathies, bleeding, bruising, petechia, family history of anemia or bleeding disorder,
  lymphadenopathy, pallor or fatigue, recurrent infections,
  fever/neutropenia, splenomegaly, venous or arterial thrombosis, polycythemia,
  neutropenia, leukocytosis, thrombocytopenia, thrombocytosis, coagulopathy,
  and common hematologic malignancies.

- The resident will learn the pathophysiology, prevention, evaluation and management of common oncology problems including: ascites, bleeding, bowel obstruction, cough, hoarseness, hemoptysis, lymphadenopathy, soft tissue mass, organ enlargement, pleural or peritoneal effusion of unknown cause, sensory polyneuropathy, superior vena cava syndrome, weight loss, lung cancer, breast cancer, colorectal cancer, prostate cancer, pancreatic cancer, urinary tract malignancies, uterine (including cervical) cancer, lymphoma, gastric cancer, ovarian cancer, skin cancer (including melanoma), head and neck cancers, and esophageal cancer.

Competency based Goals:

- Patient Care: History Taking
- Take a complete history and physical of the cancer patient.
- Construct a complete differential diagnosis for a wide variety of medical problems encountered by patients in the hematology/oncology practice.
- Select appropriate hematologic/oncologic diagnostic studies and understand the significance of their results.
- Perform common diagnostic studies and, as appropriate, appreciate them difficulty, the impact on patients, and advantages and shortcomings of the studies.
- Correctly interpret peripheral blood smears demonstrating normal findings and common abnormalities.

Proficiency by learner level:

- PGY 1 residents are expected to take a complete history and physical of the cancer patient. The resident may struggle to create differential diagnoses particularly of subtypes of oncology and hematology conditions. Residents at this level should be demonstrating an

attempt to be an interpreter and to reasonably address abnormal labs and determine the cause of the abnormalities.

- PGY 2 residents are expected to be much more proficient at the interpreter level and be demonstrating management level skills. The resident should easily be able to take a complete history and physical created a differential diagnosis that is least 5 items long. The resident should be able to correctly know when to treat and when to withhold treatment in the resident should be working to require an educator level of patient care experience.
- PGY 3 residents are expected to be approaching competence and ready for independent practice. The resident at this level should be not only able to manage the patient's correctly and quickly but they should also be able to teach others particularly Junior students and junior residents about the conditions and the evidence behind the treatment protocols.
- Evaluation Methods: Mini Cex, End of Rotation Competency Tool

Medical Knowledge

- Reflect satisfactory understanding of the common hematologic and oncologic conditions noted above under the Educational Content.
- Understand the indications and limitations as well as technical aspects of common diagnostic procedures including:

- Bronchoscopy and mediastinoscopy
- Open lung biopsy and mediastinotomy
- Mammography
- Needle aspiration (breast and others)
- Breast biopsy and axillary node dissection
- Bone marrow aspiration and biopsy
- Upper and lower GI endoscopy
- Prostatic ultrasound and biopsy (transrectal and TUR)
- Nuclear imaging studies, including PET
    - Understand the indications, limitations, and technical aspects (lab and clinical) of transfusion of blood products.

- Understand the basic principles of major modalities of cancer treatment including:
    - Chemotherapy
    - Surgical treatment
    - Radiation therapy
    - Immunotherapy

- Understand the importance of adequate symptom management and demonstrate knowledge of specific techniques for control of pain, nausea, and anxiety.
- Medical decision making and medical management: By completion of the rotation, residents should:
    - Integrate history, physical exam, and diagnostic studies to formulate a differential diagnosis, diagnostic plan, and initial management plan for common hematologic and oncologic syndromes:
        - anemia and other cytopenia’s
        - disorders of homeostasis and clotting

- newly diagnosed common tumors (breast, colon, prostate, lung and hematologic malignancies)

- Under supervision, properly order transfusion of blood products
- Under supervision, provide appropriate palliative care

Proficiency by learner level:

- PGY 1 residents should be demonstrating proficiency with basic medical school knowledge such as anatomy and physiology. Residents at the entry level should be still intermittently required to read and look up things to reassure her of the knowledge they may have lost.
- PGY 2 residents should demonstrate a higher level of medical knowledge including having committed certain things to memory after having looked them up in the PG 1 year.
- PGY 3 residents should demonstrate the highest level of medical knowledge and be exceeding a feeling of ready for independent practice. Having been through the hematology oncology rotation in the in the PGY 2 rotation that is resident at this level should be looking for journals and communicating knowledge about hematology and oncology conditions by discussing research and literature. Resident at this level is expected to be participating fully in tumor boards and conversations with the faculty on the rotation.
- Evaluation Methods: End of Rotation Quiz, End of Rotation Competency Tool

Interpersonal and Communication Skills

- Demonstrate satisfactory communication skills necessary for the care of the dying patient and his/her family.
- Demonstrate clear and effective communication in the role of consultant.

Proficiency by learner level:

- PGY 1 residents should demonstrate an ability to interact with the patient and family's. They should be able to communicate empathy and obtain the necessary details for the care of the patient. Resident at the first level should be able to present a case clearly and concisely to the consultant.
- PGY 2 residents should be able to also demonstrate an impeccable history taking ability that exudes empathy for the patient. They should be able to answer some questions for the patient and they should be functioning at the ability of seeking to get more information when they do not know the answer to a question.
- PGY 3 resident should be most proficient level able to negotiate and discuss the management plan. They should be having patients to teach back methodology to ensure full comprehension of the patient. They should be having communications with nurses and other caregivers that models their leadership abilities.
- Evaluation Methods: Mini Cex, End of Rotation Competency Tool

Professionalism

- Exhibit consistently responsible, sensitive, and ethical behaviors.
- Demonstrate punctuality and personal responsibility for attendance at learning opportunities.

- Competently work with patients regarding advanced directives, DNR status, futility, and withholding or withdrawing therapy.

Competencies by learner level:

- PGY 1 residents should be demonstrating the highest-level professionalism within 3 months of starting the residency.
- PGY 2 and PGY 3 level expected to demonstrate a professionalism that is ready for independent practice if not role model already.

- Evaluation Methods: End of Rotation Competency Tool

Practice Based Learning and Improvement

- Understand the design of oncologic trials and the implications for clinical practice.
- Demonstrate a commitment to continuous improvement, both in personal
- Development and in a constructive approach to the clinical curriculum and clinical operations
- Demonstrate critical appraisal of literature relating to hematology-oncology care, and constructively participate in small group discussions, including journal club.
- Demonstrate active case-based reading

Competency by learner level:

- PGY 1 residents should demonstrate an ability to accept unexpected feedback and show a consistent ability to incorporate the feedback.
- PGY2 Residents at this level should also be interested in finding quality improvement projects and looking at the best practices within an oncology practice as to how quality is maintained and assured. This level of care is highly regulated by the government and accreditation is not easy to achieve.
- PGY 2 residents should be consumers of this knowledge and be watchful for areas that need to be improved.
- PGY 3 residents should be fully competence at inviting feedback from every level of number of the healthcare team including the patient and the family's. The PGY 3 resident should be consistently able to incorporate feedback after just one advice. PGY 3 resident should be completing quality improvement projects but showing an appreciation for quality assurance that goes into maintaining a cancer center and infusion centers. This is 1 of the most tightly regulated industries and PGY 3 resident should learn techniques from the hematology and oncology doctors as to how this is able to be maintained at a such a highly reliable rate.
- Evaluation Methods:
    - Participation in Quality Assurance efforts
    - End of Rotation Competency Tool

Systems Based Practice

- Demonstrate satisfactory knowledge of systems of care available for the care of the dying patient and his/her family, including the use of advance directives and hospice care.

- Integrate care with nurses, ancillary staff, infusion staff, social workers and faculty to contribute to efficient and effective clinic care.
- Demonstrate understanding of the circumstances under which the general internist should consult other health care professionals, including hematology-oncology subspecialists, surgeons, radiation oncologists,
- nutritionists, etc.

Proficiency by level of Lerner:

- PGY 1 residents will be still learning the system of healthcare and will have difficulty without the assistance of nursing staff social workers case managers and others in the group. PGY 1 resident should be fully engaged in asking for help and identifying through clarifying questions how things are done.
- PGY 2 residents are expected to be more proficient with the system based resources periods. However, because this is a new rotation in a new location for the PGY 2 they are expected to need to ask questions about the service lines and how things are done within the diagnostic clinic.
- PGY 3 residents are expected to also continually be learning this new system of healthcare and because of the unique attributes of the long history clinics hematology and oncology service line they should be paying close attention to how the office utilizes the Comprehensive Care clinic to avoid ER admissions for their patients who are sick from post chemotherapy to 3. It would be the expected that the PGY 3 resident would also show appreciation for how the long Street clinic has arranged for a direct admit process further cancer patients to their own hospital rounder for the group.