9100 Heme Service Rotation Description- PGY 1
Leukemia / Lymphoma Inpatient Service
Intern’s Duties

http://oncology.medicine.duke.edu
http://www.dukehealth.org/Services/AdultBoneMarrowTransplant

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OVERVIEW:
The in-patient service of the 9100 Hem Service is designed to teach the housestaff and the fellows about the care of the acutely ill hematology/oncology patients who require hospitalization. The intern’s primary responsibility is to provide the necessary general medical care of patients on the service and in so doing increase their core skills in the practice of internal medicine.

The 9100 service will be divided into three teams. A night float intern and resident will provide medical coverage from 7PM until 7:30 AM. Because of this it is important to stress the need for effective communication between all team members. The medical care of the 9100 patients is the responsibility of everyone on the team. Currently the attending and the fellow will oversee two of the interns, and the third intern will round with either a junior attending or on rare occasions they will round a mid-level provider, with supervision provided by the attending physician. The attending physicians will rotate and cover the service on a weekly (usually Mon-Sun) basis.

GOALS:
1) To become an integral part of the team that cares for the inpatients on the 9100 Leukemia/Lymphoma Service, and to assist in making decisions in the care of the patients.
2) For the intern to be exposed to the care of cancer patients, and to become a competent and caring physician in the needs of cancer patients.
3) To learn general internal medicine, especially in the subspecialty field of hematology and oncology.

OBJECTIVES:
The objectives for this rotation are in a separate document.

PATIENTS AND DISEASE PROFILE:
The patients admitted to the Hematology/Oncology Associates Service are admitted with a wide variety of diagnosis and problems. Many of these patients have a hematologic malignancy such as acute or chronic leukemia, myelodysplastic syndrome, non-Hodgkin’s lymphoma, Hodgkin’s disease, or multiple myeloma. Patients may be receiving standard chemotherapy or biologic therapy such as ATG for a variety of conditions, or high dose chemotherapy for
relapsed disease. Other common situations include patients with complications from their malignancy such as brain metastasis or hypercalcemia, patients with complications from their treatments such as febrile neutropenia or severe mucositis, and patients who are dying from their malignancy or failing to thrive. Many of the patients on the ward are very acutely ill and will need close medical attention by both the nursing staff and the house staff.

TOPICS THAT WILL BE SPECIFICALLY COVERED:

- Acute myeloid leukemia
- Hairy cell leukemia
- Acute promyelocytic leukemia
- Myelodysplastic syndromes
- Acute lymphoid leukemia
- Aplastic anemia
- Chronic myeloid leukemia
- Paroxysmal Nocturnal Hemoglobinuria
- Non-Hodgkin’s Lymphoma
- Multiple myeloma
- Hodgkin’s disease
- Pancytopenia
- Febrile neutropenia
- Fungal infections
- Myeloproliferative disorders
- Transfusion therapy

DUTIES:

1) **Admissions** – Admissions to 9100 may be “elective”, that is scheduled ahead of time (for example routine chemotherapy admission), or may be emergent from either the clinic or the ER. Patients admitted electively or from the clinic will usually come with Pre-orders in CPOE. ER admits, transfers from outside hospitals, or direct admissions from home will need orders entered on admission. These patients should be seen fairly soon after admission to assess their condition and need for any immediate care. Prior to 6 PM, admissions should be worked up by one of the three interns if available. The mid level providers are also able to help with admission workups. Night time admissions will be performed by the night float resident. Admission workups will be entered into the Browser system. Night time workups will be presented to the attending physician in the AM.

2) **Rounding** - Each intern will round separately with the attending, the fellow, or the mid-level provider on 9100. **Rounds will start at 7:30 AM on M, Tu, Th, and potentially at 6:30 AM on Wednesday and Friday.** (Please note that these times may change based on the discretion of the attending physician on call that week). Weekend rounding times will be set by the attending but will usually begin around 7:30 AM. The intern will be responsible for presenting the patient to the attending, for knowing and reviewing any pertinent physical findings or laboratory values, and for entering any orders for the patient’s general care (not chemotherapy orders). Evening rounds will begin at a time to be set by the attending, usually around 4:00 or 4:30 in the 9100 work room, to be followed by review of hematology slides. Following a didactic session, the interns will complete any necessary work, and sign out to the night float intern. A signout system will be established for effective communication of all the issues regarding the 9100 patients. In addition the attending will likely go over patient issues with the night float team around 7PM.

3) **Procedures** - The housestaff may (and are encouraged to) perform any and all procedures with which they are properly trained, and will be assisted by the resident, fellow, or mid-level provider as appropriate. This will include central line placement,
bone marrow aspiration and biopsy, thoracentesis, paracentesis, and lumbar puncture. All procedures need to be documented by a written note in the chart. Prior to all procedures, patient identification should be accomplished using the “TIME-Out” process. The attending physician will be present during the critical portion of any procedure. **The administration of intravenous chemotherapy on the ward is performed by trained and certified oncology nurses. Intrathecal chemotherapy is to be administered by either the NP/PA, the fellow, or the attending physician. While the intern may do the lumbar puncture procedure, the intern can only administer chemotherapy if being directly supervised by an attending physician.**

4) **Educational Conferences** - The intern is expected to attend the following conferences provided no medical emergencies are taking place:

1) Hematology/Oncology Gallops (Wed 7:30-9 AM); and
2) Medical Grand Rounds (Friday 8:00 AM).

An additional conference of interest is the Hematologic malignancies Grand Rounds on Fridays at 9:15 AM. Medicine conferences should be attended by interns provided it does not interfere with patient care matters. This includes the “Golden Hour” of education conference and the “Intern Report” conference. Members of the attending staff often hold didactic session around 4:00 or 4:30.

5) **RRC Compliance Issues** – As per the Duke Housestaff requirements, each intern will receive a day off per week. A schedule will be sent to the interns to allow each intern to take either a Friday, Saturday, or Sunday off with **only one intern being off on each of these days.** “Golden weekends” where the intern trades to get two days off is discouraged and must be approved by the attending physician preferably far in advance of this occurring. The interns must also average only 75 hours per week based on a 4 week average. The interns must keep track of their own hours and if problems arise with hours, they will bring this to the attention of the attending physician. Finally, interns must work for no more than 6 hours following a 24 hour call period. Either the PA/NP or the fellow will need to pick these patients up for the rest of the day, preferably by rounding in the AM with the intern and then accepting signout when the intern checks out for the day. As always the safety and care of the patient should remain the primary concern of all the physicians. As new requirements form the RRC come through, we will work with the interns to make sure that they stay compliant with these requirements.

**BACK-UP:**
At no time should an intern feel overwhelmed by either the number of patients to care for, amount of work to do, or a feeling that there are too many admissions and critically sick patients that need to be seen. In the event that this does occur, the interns need to take responsibility for asking for help and should not feel any pressure to not do so, or that such an action would be viewed as “a sign of weakness”. Available resources include the resident or fellow on call with the service, the mid-level providers, the MICU resident on call, the chief resident, and the attending physicians. It should be stressed that the 9100 attendings have a strong interest in maintaining a high standard of care for our patients, and are always available for assistance (We like being called about issues!!)
EDUCATIONAL METHODS:
Interns will be instructed by teaching rounds at the patient room and by the bedside. Didactic instruction on a variety of topics will occur during evening rounds with presentations by the attending, fellow, and resident. Appropriate reading material will also be distributed during such conferences. The interns will learn review of X-rays during afternoon rounds, and will be exposed to and learn how to read peripheral blood smears and bone marrows during the afternoon sessions with direct instruction by the attending physicians. Computer terminals have been set up on 9100 in the housestaff work area with connections to the Internet and to other educational material including a tutorial on peripheral blood smears.

EVALUATION METHODS:
At the end of each rotation, the attending physicians will meet and fill out the evaluation form provided by the house staff office. If an intern appears to be lacking in certain areas, it is the responsibility of the attending to both notify the intern of the deficit which needs to be worked on and corrected, and to notify the chief resident of the concern regarding the intern.

CORE COMPETENCIES:
Patient Care – Your main goal while on the 9100 Oncology service is to provide medical care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

- All members of the team should work together as advocates for each patient on the service. 9100 patients frequently have complex histories and medical problems. Take ownership for the care of your patients and strive to provide them the best possible care. This will often involve coordinating consultations, diagnostic tests and therapy.

- You will see a broad variety of problems while on the 9100 service, many of which are general medicine type of problems ranging from altered mental status to community acquired pneumonia to rare and esoteric “zebras.” The majority of patients will have a hematologic malignancy such as leukemia, lymphoma, myeloma, myelodysplastic syndrome, or a bone marrow failure problem.

- Care should involve prompt bedside history and physical within 30 minutes of hearing about a patient from the emergency department or upon learning that a patient has arrived on the floor (from an outside hospital). You will need to assess acutely how ill the patient is and begin upon a course of diagnosis and therapy. Do not rely upon the history or diagnosis given by the ED! Notes should reflect your own assessment and exam.

- Important diagnostic tests and urgent therapy (IV fluids, antibiotics etc) should be ordered promptly carried out expeditiously.

- Each 9100 team will assess each patient daily with daily examination and documentation of daily notes. Sick patients may need to be assessed more than once per day. Any patient (including cross-cover patients) needs a note to describe a change in status.

- When a patient becomes critically ill, the MICU or rapid response team should be alerted in a timely fashion with appropriate clinical information relayed to the unit team.

- The intern must work together with all members of the team to manage the new results that as they return, following up conscientiously and systematically on important studies.
- Housestaff should spend as much time as possible at the patient’s beside. Exams should be careful and accurate. A sick patient deserves a doctor close-at-hand.

- Test results which become available after a patient’s discharge must be tracked, and either communicated clearly to the patient’s primary care physicians or addressed directly with the patient and family.

- Care should be delivered with sensitivity and caring, especially since many of these patients are gravely ill, and may eventually pass away from their malignancy. Treat all patients with the utmost respect – they are our greatest teachers.

**Medical Knowledge** - Housestaff are to use the 9100 experience to review pertinent parts of the established and evolving biomedical, clinical, and sciences as pertinent in the care of all patients.

- The 9100 service is a time for patient-focused learning. Reading should be primarily based around the problems your patients have (although housestaff should read broadly on topics as their schedule allows). Textbooks of medicine (Harrison’s), systematic reviews from key journals (NEJM), ACP journal club reviews, guidelines from national organizations are all reasonable sources of information.

- “Morning report” on 9100 is a time to present patients that are admitted by the intern on-call the night before. The goal of these sessions is to review generation of a differential diagnosis, practice history taking skills, select appropriate diagnostic tests and decide upon appropriate therapy.

- Residents and interns should talk with their attendings about topics to discuss in attending rounds. The attending may lead didactic sessions, but students and housestaff should also be encouraged to teach the group, particularly on pre-call days.

**Practice-Based Learning and Improvement** – While on General Medicine, housestaff should remain mindful of the quality of the care they provide. This involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.

- When errors are noted, these should be reported through the error-reporting systems in place. When in doubt, the attending should be notified.

- If there are systems improvements that the housestaff discover, particularly in the realm of safety, these should be shared with the attending. A shared discussion about the problem and potential solutions should ensue.

- Application of medical knowledge should be an active pursuit while on the service. Critical appraisal behind the medical evidence (or lack-thereof) should be an important part of the rotation.

**Interpersonal and Communication Skills** – Communication is critical for effective care of patients on the 9100 service. Housestaff on the 9100 service should always practice the most respectful and clear communication with colleagues, staff, patients and families. The goal is effective information exchange for the betterment of patient care.
• There may be times on 9100 when one’s patience will be tried either by a worried nurse who is paging you with great insistence, by a consultant who is yelling into the phone, by an emergency room doctor on the phone with an admission or by a family who is scared and frantic about a loved one. Always take the upper-hand when communicating with others.

• Do your best to remain empathetic. Listening is often the best tool you can use. Echo the emotion of the person with whom you are communicating. Take a deep breath and try to learn why the other person is so worried, frustrated, scared etc.

• If communicating with others is a skill where you need to improve, talk with the chief resident (sooner rather than later). These skills can be learned. There are many helpful books that teach communication skills (Getting to Yes, Difficult Conversations: How to Discuss What Matters Most, Crucial Conversations are three resources that may be helpful).

• Effective communication and hand-offs with other housestaff are critical for patient care and safety. On 9100, interns and residents should be able to provide a concise, clear presentation of each patient. This is a skill that should be practiced over the course of the rotation. Housestaff should help their students learn to give excellent oral presentations of their patients.

• Hand-offs from intern-to-intern in the evening or from primary team to day-float are an essential part of patient care and should be taken seriously. Detail should be provided about any expected results that need to be followed or on any outstanding issues that will need attention. Ask the cross-cover intern or dayfloat to check on anyone who is sick and/or tenuous. May sure to get feedback about what happened on your team while you were gone.

• Questions to consultants should be clearly articulated with pertinent history provided. Think in advance about why you are calling (for a second opinion, for a procedure, to help make the diagnosis, for expert opinion, for a therapy that needs approval…)

• The written medical record is an important part of the 9100 experience. Each new patient needs an admission note on the chart by 7AM the post-call day to be available for the attending and any consultants to review.

• Daily notes must be written by a team member and should clearly reflect any new events that have occurred. Try not to make these redundant. The physical exam and pertinent labs should always be included in the note. Discharge plans should also be included (ie what needs to be addressed or accomplished prior to discharge).

• Discharge summaries should be completed within 24 hours of discharge at the latest. They should be clear and informative. Outside physicians should be faxed a copy of the discharge summary.

• Whenever possible, communicate directly with the PCP to review events of the hospitalization and plans for discharge.

**Professionalism** – The care of oncology patients demands a high level of professionalism as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
• Professional attire and demeanor are expected. Scrubs may be worn on General Medicine, but only at night on call. Even when post-call, regular clothes must be worn after 7AM (ties for men, dress pants or a skirt or dress for women). (See dress code for specifics.)

• Refer to patients respectfully by their last names (Mrs. Smith).

• Treat all patient confidential medical information in accordance with HIPAA. Patient records and outside documents should be maintained in the chart outside the patient room. Documents should not be left in workrooms, call rooms, or any conference rooms used for rounds.

• Learn the names of the nurses with whom you work and always treat them as colleagues and members of the care team—it goes a long way.

• Be respectful of your colleagues. If one of your peers is overwhelmed, ask what you can do to help.

**Systems Based Practice** as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value

• Housestaff will partner with Patient Resource Managers, Social Workers, nurses, physical and occupational therapists, pharmacists and other health professionals to provide comprehensive and effective care for patients on Duke General Medicine.

• Interns are expected to communicate and partner with referring physicians within and outside of Duke University Health System, and work with community health agencies to ensure safe and effective transitions of care for our patients.
HEMATOLOGY/ONCOLOGY ROTATION SUMMARIES
GENERAL PROCEDURES FOR INTERNS

Basic Information

1. Phone numbers:
   - 684-3587 Cytopath
   - 684-3300 Pathology
   - 681-2545 Clinical Lab
   - 684-2089 Microbiology

2. ID approval: 970-GERM (970-4376).
3. Know critical labs (CBC for pancytopenic patients).
4. Know I's and O's, weights, T max.
5. All patients should have regular Bowel Movements - do not get behind.

Chemotherapy

1. Call the fellow on your service if a patient needs chemo orders, or if you need any help with procedures, etc. Fellows or attending physicians should write all chemotherapy orders. The attending will co-sign all chemotherapy orders. Interns should never administer chemotherapy such as intrathecal chemo unless there is an attending physician directly supervising them.
2. Clinic nurses are helpful with chemo orders, RTC appointments.
3. All of the nurse clinicians are extremely helpful (Dr. de Castro - Rhonda Laney, Dr. Moore - Laura Turkel, Dr. Diehl - Mary Malicki, Dr. Gockerman - Heather Brumbaugh).
4. Attend chemotherapy orientation held in 9300 Physician Workroom during the first week of your rotation.
5. Know what day patient is in chemotherapy or past chemotherapy (e.g. “Day 1 is the day they first receive chemotherapy”).

Inpatients

1. For patients who have been neutropenic five days or more, always get fungal cultures when you do bacterial cultures. Send urine for fungal cultures as well.
2. Before leaving the hospital, check to see if any of your patients are febrile and culture if you have not already, so the on-call person does not have to - the nurses draw blood cultures.
3. For cross cover, call fellows for major Rx's, especially antibiotic choices.
4. Blood cultures: For fever, draw from central line, do not need to waste 5cc's. If patient looks sick and has new fever, draw peripheral also. Check T's at early hour, so avoid early AM call for T's (nurses draw blood cultures).
5. Do diagnostic LP's in AM if possible, so fresh sample will go to cytopath.
**Blood Products**

1. To get washed or HLA matched products, you have to talk to components director or medical director of blood bank.
2. General rules of thumb: transfuse for HCT <25, PLTs <10. When count no longer bumps appropriately, set up HLA-matched platelets.
3. Irradiate blood for patients with leukemia and lymphoma with possible bone marrow transplant in future.
4. Need to update blood bank weekly concerning status of patients receiving HLA matched platelets.
5. To set up HLA matched PLTs, order HLA antibody panel, HLA type if not yet done, and contact components coordinator in blood bank. It will take »24 hours if patient has already been HLA typed. (HLA Lab operates Mon. - Fri., days only.)
6. Get HLA haplotype on all leukemics prior to induction.

**Laboratory**

1. Leukemia patients - order chem GI once a week.
2. Special heme last draw is 1:30 P.M.
3. If patient has Hickman or portacath, indicate "pt c CVA" on all lab orders.
4. Keep K+ >4.0; keep Mg >2.0.
5. Drawing off central lines - labs: waste 5cc's, draw blood for lab, flush Hickman with 3-5 cc heparin flush; portacath with 10cc of heparin flush.
6. At least a weekly chem GI and LDH (or more frequently if needed).
7. Order "blood film to special heme" on patients with leukemia, and recovering neutropenics, so that smear can be reviewed on rounds. (Only Monday-Friday)

9100 Intern Revised: 6/18/2012