

## **Core Competencies Level Expectations for the MSU Hematology/Oncology Fellowship Program**

### **1. Patient Care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.**

Hematology/Oncology subspecialty residents must continue to build on their experience of patient care as obtained in their Internal Medicine training. Subspecialty residents rotate through in-patient care rounding at Ingham Regional Medical Center and Sparrow Hospital and 2 out-patient clinics per week. In addition they do rotations at McLaren Regional Medical Center and Wayne State University. Sub-specialty residents are supervised by attendings on a one on one basis in these settings and also supervise internal medicine residents and students. Each rotation has a well-defined set of goals and objectives prior to the beginning of the rotation. This competency is addressed and evaluated by the faculty throughout the fellow's training both written and verbally.

Residents are expected to:

#### PGY 4

1. Begin to understand special problems associated with care of cancer patient
2. Be able to perform a thorough History and Physical Examination
3. Be able to assemble pertinent laboratory and imaging studies.
4. To present findings from History and Physical, Lab and Imaging studies that are focused on the hematology/oncology problems
5. To list most probably diseases responsible for the patient's problems in a short but appropriate differential diagnosis
6. To outline at least one possible therapeutic approach

#### PGY 5

1. Understand and attempt to help with special needs of cancer patient
2. Develop a relatively complete differential diagnosis list
3. Develop several therapeutic options and suggest which treatment might be best for the particular patient being discussed

#### PGY 6

1. Understand and anticipate special needs of cancer patient
2. Have a broader list of diagnostic possibilities including diseases that are rarely seen but still might be responsible for causing the patient's problem
3. Understand the broader range of available treatment options, choose which therapeutic approach is best for the patient under discussion and understand why alternative treatment options are not optimally suited for the needs of the particular patient being discussed.

**2. Medical Knowledge about established and evolving biomedical, clinical, and cognate sciences and the application of this knowledge to patient care.**

Subspecialty residents are required to apply medical knowledge to patients by demonstrating an investigatory and analytical thinking to clinical situations. Required inpatient clinical experiences include rotations on the clinical service at Ingham Regional Medical Center and Sparrow Hospital. Didactic sessions consist of required weekly conferences held on Friday morning. These core conferences topics include: morphology, physiology and biochemistry of blood, marrow, lymphatic tissue; basic molecular and pathophysiologic mechanisms, diagnosis and therapy of diseases of the blood; pathology, staging and management of neoplastic disorders; immune markers, immunophenotyping, cytochemical studies; chemotherapeutic drugs, pharmacokinetics; multi-agent chemotherapy protocols; principles of surgery and radiation therapy in cancer; management of neutropenic fever; effects of systemic disorders, infections, solid tumors; pain management in the cancer patient; hospice and home care. Board certification exams are a critical evaluation of this core competency.

PGY 4 – Resident must be able to perform a competent hematology/oncology focused History and Physical and is capable of literature based investigations via the MSU Electronic library to develop a broad range of differential diagnosis with appropriate laboratory and imaging studies. Resident begins to develop basic knowledge of criteria necessary for appropriate hematology/oncology diagnosis.

PGY 5 – Resident will build skills developed in first year to extend knowledge base so that common disease problems are approached utilizing the basic understanding of the disease developed during the 1<sup>st</sup> year of Hematology/Oncology Training.

PGY 6 – In addition to the skills and knowledge base developed in the first 2 years of the fellowship, the resident develops a comfort and familiarity with common Hematology/Oncology diseases based on 2 years of caring for the patients. In addition, the resident is expected to expand their appreciation for the correct understanding and need for increased research related to Hematology/Oncology diseases. This will be developed with the aid of the MSU electronic library and attendance and presentation at local and national professional meetings.

**3. Practice Based Learning and Improvement that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence and improvements in patient care.** This competency is assured through review of case in groups and presentation of scientific data relevant to the care of the patient.

PGY 4 – Via introductory lecture series, Friday Core Conferences and monthly research conference and weekly Monday Journal club, the resident will develop an understanding of how practice in Lansing incorporates this information to improve care of the H/O patient.

PGY 5 – Builds upon 1<sup>st</sup> years of training and experience to help guide patient care through the Lansing based system. The resident should become facile with the system so that patient care, where possible, is streamlined and expedited.

PGY 6 - Builds on 1<sup>st</sup> two years of experience with the aid of literature and tries to improve or modify the current local approach to H/O patient care. The focus of this improvement is making the system easier for the patient while at the same time improving their health care.

**4. Interpersonal and Communication Skills that result in effective information exchange and learning with patients, their families, and other health care professionals.**

PGY 4 – learns about special needs of H/O patients in terms of personal and psychological support. Begins to understand the importance of listening to patients and trying to help them as the psychological aspects of their disease require help.

PGY 5 – Builds on 1<sup>st</sup> years experience and develops a significant doctor patient relationship that allows the patient to feel comfortable discussing their problems with the fellow who they now recognize as one of their important care givers.

PGY 6 – Based on their past 2 years experience begins to encourage patients to discuss medical and emotional problems and feels comfortable talking with patients and family in the setting of a family conference.

**5. Professionalism. Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.** Evaluation of this competency occurs by direct observation, as well as evaluation given by other physicians and health care professionals such as nurses, pharmacists, and social workers.

PGY 4 – Must be able to be punctual, complete all tasks as asked, follow directions, have a timely response to staff needs including pages and abnormal laboratory results, be honest, have appropriate use of coding and billing, demonstrate respect for patients and co-workers including understanding issues of culture, age, sex, sexual orientation and disability.

PGY 5 – Continue to adhere to expectations of first year of training. Begins to act as a leader and role model for the residents and students on various rotations. Begins to anticipate needs of other health care providers.

PGY 6 – Able to hold family conferences to explain patients problems, deliver bad news, volunteers for institution committees, provides leadership for the program.

- 6. System-Based Practice where residents must 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.** The fellows interact with a number of health systems ranging from HMO's, hospital based practice and free standing outpatient facilities and numerous payer types. Furthermore, hospice is an important part of care delivery. We have didactic lectures from our colleagues at Hospice as well as palliative care lectures to address medical and systems issues in the care of patients.

PGY 4 residents are expected to advocate for their patients in terms of obtaining resources that might be available through the cancer center and the hospital to help patients get the diagnostic tests and treatment appropriate for their patients.

PGY 5 residents are expected to build on their first year experience. The second year residents are expected to know some of the limits of clinic, hospital and insurance companies in terms of supporting expensive diagnostic and therapies that are new, but have not yet been approved by the FDA.

PGY 6 residents are expected to expand on their experience of the second year and to advocate for their patients as if they were the attending. To be more specific they should be able to contact hospital administrators and arbitrators of insurance companies to attempt to get the best care for their patients.

## **CLINICAL ROTATIONS PROGRESSION OF EXPECTATIONS FOR PGY 4, PGY 5 AND PGY 6 HEMATOLOGY/ONCOLOGY RESIDENTS**

The PGY 4 hematology/oncology residents are expected to:

1. Be able to perform a thorough History and Physical Examination.
2. To be able to assemble pertinent laboratory and imaging studies.
3. To present findings from History and Physical, Lab and Imaging studies that are focused on the hematology/oncology problems.
4. To list the most probable diseases responsible for the patient's problems in a short but appropriate differential diagnosis.
5. To outline at least one possible therapeutic approach.

The PGY 5 hematology/oncology residents are expected to:

1. Develop a relatively complete differential diagnosis list
2. Develop several therapeutic options and suggest which treatment might be best for the particular patient being discussed

The PGY 6 hematology/oncology residents are expected to:

1. Have a broader list of diagnostic possibilities including diseases that are rarely seen but still might be responsible for causing the patient's problem
2. Understand the broader range of available treatment options, choose which therapeutic approach is best for the patient under discussion and understand why alternative treatment options are not optimally suited for the needs of the particular patient being discussed.

## Hematology

### 1. Rotation Name

CLINICAL - Hematology

### 2. Educational Purpose of the Rotation

Exposure to patient with hematological conditions with the goal of learning about both the clinical and basic science aspects of hematologic disease. The goal of the clinical rotation is to allow the sub-specialty residents (SSR) to become familiar with a broad range of hematologic problems. Emphasis is placed on diagnostic accuracy as well as appropriate utilization of radiographic and laboratory testing. Communication skills are stressed to allow the SSR to clearly and concisely report their diagnostic findings. Additional goals include pathophysiology, therapeutics, prevention, epidemiology, humanistic moral and ethical aspects of medicine as they relate to the hematologic patient.

### 3. Staffing of the Rotation

Attending faculty members include Drs. Schwartz, Conley, Tamkus, Al-Janadi and Aung. Rotations at McLaren Regional Medical Center in Flint are staffed by Dr. Arora. In addition the Division is currently recruiting for additional faculty.

### 4. Resources

Outpatient clinic rotations are housed in the MSU Clinical Center and Ingham Regional Medical Center. Inpatient rotations occur in Lansing at Ingham Medical Center and McLaren Regional Medical Center in Flint. Additional clinical experiences are obtained during the required elective rotations and may include any or all of the following: Wayne State University, University of Washington and University of Michigan.

### 5. Patients

Ultimate and primary patient responsibility rests upon the attending physician. As the residents' understanding and competencies increase, their role in patient decision making is increased. Residents are exposed to a wide variety of hematologic problems. These include anemias, leukopenias, thrombocytopenias, pancytopenias, coagulation disorders as well as hematopoietic premalignancies, myelodysplastic disorders, myeloproliferative syndromes, myelomas, lymphomas and leukemias.

### 6. Responsibilities

Goal: The hematology resident will gain exposure to a wide range of patients with both acute and chronic hematologic related problems by participating in admissions, planning diagnostic and therapeutic procedures and daily patient management and discharge. This includes evaluating the patient for hematologic treatment with medication, chemotherapy or other anticancer therapies.

- Duties: The hematology resident is expected to:
1. Care for patients including a complete work-up with a history and physical examination in both inpatient and outpatient settings.
  2. Be responsible for daily patient follow up including appropriate medical record documentation.
  3. Be prepared to discuss all aspects of a patients' illness as it relates to significant findings, progress and treatment plans.
  4. Attend inpatient rounds with the attending physician on weekdays and assigned weekends.
  5. To present significant patient related events that occur during nighttime hours to ensure information transfer and continuity of care.
  6. Prepare case presentations for conferences that include tumor board, Hematology/Oncology Conference and other patient related conferences.
  7. Participate in other hematology related conferences.
  8. Participate in out patient clinics and patient management of hematologic conditions under the supervision of an attending physician.
  9. Read and be prepared to discuss key literature.

## **7. Instructional Methods**

Faculty members teaching the hematology resident are responsible for:

1. Supervision of the resident in accordance with the supervision policy.
2. Respond promptly to the resident's questions/concerns.
3. Organize and conduct four hours of formal teaching/week, utilizing appropriate lectures, teaching material and literature.
4. Provide the resident with ongoing performance feedback and skill progression.
5. Increase the level of responsibility as the individual skill level progresses.

## **8. Evaluation**

6. At the conclusion of each rotation faculty members will summarize and accurately describe the resident's performance on the provided form, discuss this evaluation with the resident and return the form to the residency director.
7. The resident will summarize and accurately describe faculty performance and return it to the program office for inclusion in a computer-generated report to insure resident anonymity.
8. Twice per year the resident will be evaluated by the program director in a formal, written evaluation session. These evaluations will be transcribed and signed by both the residency program director and the resident.

Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	<b>7:30 am Journal Club Research Conf – 1st</b>  Inpatient care*	Inpatient care*  12:15 Medicine Grand Rounds	<b>7:00 am Tumor Board Sparrow</b>  Inpatient care*	<b>7:00 am IRMC Tumor Board</b>  Inpatient care*	<b>7:30 Hem/Onc Core Conference</b>  Inpatient care*
PM	Inpatient care*	Inpatient care*	Inpatient care*	Inpatient care*	Inpatient care*

**All activities in bold are required activities for all sub-specialty residents.**

\* Inpatient care occurs at Ingham Medical Center and McLaren Regional Medical Center

Note: During the week the sub-specialty resident attends at least two sessions of outpatient clinics at the Hematology/Oncology Clinic at the Ingham Regional Medical Center. The times for this clinic vary from resident to resident and as such have not been including in this table.

Note: Didactic sessions for blood and bone marrow morphology are taught by Dr. Hamdan when the resident is assigned to the “clinic” rotation. This is facilitated by a new double-headed light microscopy that is also connected to a T.V. monitor and can capture images via a digital format.

## **9. Clinical Hematology - Rotation Competency Objectives**

### **1. Patient Care**

- a) All residents will be able to demonstrate the ability to complete an efficient hematologic work up inclusive of history and physical, diagnostic procedures, problem list, working diagnosis and treatment plan.
- b) The Hematology/Oncology Resident will be able to perform the above skills and be able to independently generate an appropriate management plan.
- c) The resident will be able to demonstrate the ability to respond appropriately to abnormal test results.
- d) The resident will be able to follow assigned patients appropriately adjusting treatment plans as additional information or changes in the physical examination becomes evident.

### **2. Medical Knowledge**

- a) All residents will be evaluated by the supervising faculty for appropriate analytic approach to hematologic conditions. These include immune and non-immune cytopenias including aplastic anemia, myelodysplasias, thrombophilia's hereditary and acquired as well as bleeding disorders including hemophilia and hematopoietic malignancies such as lymphomas and leukemias. Residents will be evaluated for satisfactory basic and clinical knowledge of medical aspects of hematology.
- b) All residents will demonstrate a sound knowledge base pertinent to the broad range of illnesses common to the practice of hematology.

### **3. Interpersonal and Communication Skills**

- a) Residents are expected to demonstrate professional communication skills throughout their interactions with oncology patients. In addition, residents will be assessed for appropriate communication with MSU's office staff, including setting clear expectations for work hours and outpatient/inpatient duties. Residents will be expected to act as a constructive and proactive member of the practice.
- b) Residents will be able to demonstrate the ability to work effectively with other members of the health care team including other residents, attending physicians and health care providers.

4. Professionalism

- a) Throughout the rotation, residents are expected to exhibit reliability in their clinical duties, as well as integrity and respect in their interactions with patients and colleagues.
- b) Residents will be able to demonstrate appropriate consultative principles of communication and responsiveness to professional consultative requests.

5. Practice Based Learning and Improvement

- a) Rotating residents will demonstrate self-initiative in the use of information technology available via the MSU electronic library and computer terminals located in the residents' offices and throughout the clinic.
- b) Rotating residents will be expected to show progressive learning throughout the rotation, with emphasis on learning from any cognitive or procedural errors. They are also expected to facilitate any quality improvement initiatives in place at MSU's clinical office practice.

6. Systems Based Practice

- a) All residents will demonstrate conscientious awareness of the impact of their professional activities at the MSU office practice site, and will conscientiously avoid inappropriate use of the practice resources.
- b) Residents must demonstrate understanding of cost-effectiveness of care incorporating cost-effectiveness into their development of diagnosis and treatment plans.
- c) Residents will work effectively with Internal Medicine Residents as well as residents from other sub-specialties to coordinate patient care including development of a comprehensive treatment plan.

## **Oncology**

### **1. Rotation Name**

CLINICAL - Oncology

### **2. Educational Purpose of the Rotation**

Exposure to oncological patients with the goal of learning about both the clinical and basic science aspects of malignancy. The goal of the clinical rotation is to allow the sub-specialty residents (SSR) to become familiar with a broad range of oncological problems. Emphasis is placed on diagnostic accuracy as well as appropriate utilization of radiographic and laboratory testing. Communication skills are stressed to allow the SSR to clearly and concisely report their diagnostic findings. Additional goals include pathophysiology, therapeutics, prevention, epidemiology, humanistic moral and ethical aspects of medicine as they relate to the oncologic patient.

### **3. Staffing of the Rotation**

Attending faculty members include Drs. Schwartz, Conley, Tamkus, Al-Janadi and Aung. Rotations at McLaren Regional Medical Center in Flint are staffed by Dr. Arora. In addition, the Division is currently recruiting for several additional faculty members.

### **4. Resources**

Outpatient clinic rotations are housed at the Breslin Cancer Center, Great Lakes Cancer Center (GLCI) an affiliate of McLaren Regional Medical Center. Inpatient rotations occur in Lansing at Ingham Regional Medical Center and, or at McLaren Regional Medical Center in Flint. Additional clinical experiences are obtained during the elective rotations and may include any or all of the following: Wayne State University, University of Washington and University of Michigan. A weekly multidisciplinary breast clinic organized by MSU Surgery is held on the Sparrow campus. Patients are seen by the senior surgery resident with an attending oncologist and discussed with a surgeon, radiation therapist, pathologist and radiologist.

### **5. Patients**

Ultimate and primary patient responsibility rests upon the attending physician. As the residents' understanding and competencies increase, their role in patient decision-making is increased. Residents are exposed to a wide variety of oncologic problems. These include solid tumors including tumors of the lung, breast, bowel, ovary, uterus and other organs as well as hematopoietic malignancies such as lymphomas and leukemias.

## **6. Responsibilities**

Goal: The oncology resident will gain exposure to a wide range of patients with both acute and chronic cancer related problems by participating in admissions, planning diagnostic and therapeutic procedures and daily patient management and discharge. This includes evaluating the patient for oncologic treatment with chemotherapy or other anticancer therapies.

Duties: The oncology resident is expected to:

- a. Care for patients including a complete work-up with a history and physical examination in both inpatient and outpatient settings.
- b. Be responsible for daily patient follow-up including appropriate medical record documentation.
- c. Be prepared to discuss all aspects of a patients' illness as it relates to significant findings, progress and treatment plans.
- d. Attend inpatient rounds with the attending physician on weekdays and assigned weekends.
- e. Present significant patient related events that occur during nighttime hours to ensure information transfer and continuity of care.
- f. Prepare case presentations for oncology conferences that include tumor board, Hematology/Oncology Conference and other patient related conferences including the Breast Cancer Conference, the Head and Neck Conference and the Ob-Gyn Tumor Boards.
- g. Participate in other oncology related conferences.
- h. Learn by assisting and performing (with supervision) bone marrow aspirations and biopsies and other oncologic-related procedures.
- i. Participate in outpatient clinics and patient management of oncological conditions under the supervision of an attending physician.
- j. Read and be prepared to discuss key literature including articles as listed in the recommended reading section.

## **7. Instructional Methods**

Faculty members teaching the oncology resident are responsible for:

1. Supervision of the resident in accordance with the supervision policy.
2. Respond promptly to the resident's questions/concerns.
3. Organize and conduct four hours of formal teaching/week, utilizing appropriate lectures, teaching material and literature.
4. Provide the resident with ongoing performance feedback and skill progression.
5. Increase the level of responsibility as the individual skill level progresses.

## **8. Evaluation**

1. At the conclusion of each rotation, faculty members will summarize

and accurately describe the resident’s performance on the provided form, discuss this evaluation with the resident and return the form to the residency director.

2. The resident will summarize and accurately describe faculty performance and return it to the program office for inclusion in a computer-generated report to insure resident anonymity.
3. Semiannually the resident will be evaluated by the program director in a formal, written evaluation session. These evaluations will be transcribed and signed by both the residency program director and the resident.

## 9. Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	<b>7:30 am Journal Club</b>  Inpatient care*	Inpatient care*  12:15 Medicine Grand Rounds	<b>7:00 am Tumor Board Sparrow</b>  Inpatient care*	<b>7:00 am IRMC Tumor Board</b>  Inpatient care*	<b>7:30 Hem/Onc Core Conference</b>  Inpatient care*
PM	Inpatient care*	Inpatient care*	Inpatient care*	Inpatient care*	Inpatient care*

**All activities in bold are required activities for all sub-specialty residents.**

Note: During the week the sub-specialty resident attends at least two session of outpatient clinic at the MSU Clinical Center. The times for this clinic vary from resident to resident and as such have not been including in this table.

Reference: Mortimer et al. Medical Oncology Fellowship Guidelines. By the Ad Hoc Committee on Fellowship Curriculum Guidelines of the American Society of Clinical Oncology.

## 10. Clinical Oncology - Rotation Competency Objectives

### 1. Patient Care

- a) By the conclusion of the rotation, the Hematology/Oncology Resident will demonstrate the ability to perform an appropriate oncology history and physical, documenting the findings in an appropriate consultative summary, with a differential diagnosis list.
- b) By the conclusion of the rotation, the Hematology/Oncology Resident will be able to perform the above skills and be able to independently generate an appropriate management plan.
- c) Demonstrate the ability to complete an efficient oncologic work up inclusive of history and physical, diagnostic procedures, problem list, working diagnosis and treatment plan.
- d) Follow assigned patients appropriately adjusting treatment plans as additional information or changes in the physical examination becomes evident.
- e) Demonstrate the ability to respond appropriately to abnormal test results.

### 2. Medical Knowledge

- a) All residents will be evaluated by the supervising faculty for appropriate analytic approach to oncologic conditions. These include solid tumors including tumors of the lung, breast, bowel, ovary, uterus and other organs as well as hematopoietic malignancies such as lymphomas and leukemias. Residents will be evaluated for satisfactory basic and clinical knowledge of medical aspects of oncology.
- b) Demonstrate a sound knowledge base pertinent to the broad range of illnesses common to the practice of oncology.

### 3. Interpersonal and Communication Skill

- a) Residents are expected to demonstrate professional communication skills throughout their interactions with oncology patients. In addition, residents will be assessed for appropriate communication with MSU's office staff, including setting clear expectations for work hours and outpatient/inpatient duties. Residents will be expected to act as a constructive and proactive member of the practice.
- b) Demonstrate the ability to effectively work with other members of the health care team including other residents, attending physicians and other health care providers.
- c) Communicate effectively with patients and their families including conducting a family conference.

- d) Work effectively with Internal Medicine Residents as well as Residents from other sub-specialties to coordinate patient care including development of a comprehensive treatment plan.
4. Professionalism
- a) Throughout the rotation, residents are expected to exhibit reliability in their clinical duties, as well as integrity and respect in their interactions with patients and colleagues.
  - b) Residents will be able to demonstrate appropriate consultative principles of communication and responsiveness to professional consultative requests.
5. Practice Based Learning and Improvement
- a) Rotating residents will demonstrate self-initiative in the use of information technology available via the MSU electronic library to access and retrieve materials for self-education via computer terminals located in the resident offices and throughout the clinic.
  - b) Rotating residents will be expected to show progressive learning throughout the rotation, with emphasis on learning from any cognitive or procedural errors. They are also expected to facilitate any quality improvement initiatives in place at MSU's clinical office practice.
6. Systems Based Practice
- a) All residents will demonstrate conscientious awareness of the impact of their professional activities at the MSU office practice site, and will conscientiously avoid inappropriate use of the practice resources.
  - b) Residents must demonstrate understanding of cost-effectiveness of care incorporating cost-effectiveness into their development of diagnosis and treatment plans.

1. **Rotation Name**

Interdisciplinary Clinic

2. **Educational Purpose of the Rotation**

a. Multidisciplinary Clinic is provided in an out patient setting for fellows to participate in weekly multidisciplinary clinics. Weekly clinics and/or tumor boards in breast and thoracic oncology (twice a month) organized by Dr. Barbara Conley and Dr. Deimante Tamkus, Michigan State University Hematology/Oncology faculty are held at the Breslin Cancer Center Clinic, Ingham Regional Medical Center or the Radiation Oncology Alliance. Fellows with medical oncology faculty supervision will see or discuss the patient along with a radiation oncologist and surgeon. In breast interdisciplinary clinic, a social worker will also see the patient (we don't have a psychologist!). The patient is presented to the group with pertinent radiographs reviewed by a radiologist and photographs of the patients' histological specimen displayed by a power point projector for the entire group to review. Fellows are expected to synthesize the important points from their history and physical exam, radiographs and histology and present before the group the medical oncology approach to the patients' treatment. Up to four new patients are discussed at each clinic.

b. Clinical Pharmacology of Chemotherapeutic Agents

Fellows will arrange to spend several hours per week observing and assisting the Breslin Cancer Center Pharmacist, Lise Dibert, prepare chemotherapeutic medications. This will include learning about appropriate precautions that are important in preparing different medications, which diluents are used for each medication and what are the usual clinical doses commonly used. In addition, it is expected that the fellow will couple this hands-on experience, with an in-depth review of the clinical chemotherapy literature. At a minimum this will include reading the chemo-therapy chapters in a standard oncologic textbook, like De Vita's, "Cancer, Principles and Practice of Oncology." At the end of the rotation fellows must report by phone or e-mail to Ms. McMahon that they have completed this required assignment.

c. Review of normal and pathologic peripheral blood and bone marrow smears

Fellows are expected to be familiar with microscopic normal and pathologic findings observed in peripheral blood and bone marrow smears. During the multidisciplinary rotation fellows are expected to arrange a specific time with either Dr. Olsen in Pathology or Dr. Kenneth Schwartz or Dr. Anas Al-Janadi to review normal and patient blood and bone marrow specimens. At a minimum these specific smear reviews will occur for 1 hour per week. In addition, they may attend the monthly hematology conferences that are jointly run with MSU faculty and Sparrow Hospital.

d. Additional out-patient clinical experience

Fellows are expected to arrange with faculty additional clinical experiences. The goal is to facilitate exposure to patients who may have a different set of hematology/oncology problems than the resident's regular clinic patients. Attendings with different backgrounds will have a unique approach to patient care and it is important for residents to learn that there are many acceptable approaches to patient care.

### 3. **Staffing the Rotation**

Attending faculty include Dr. Kenneth A. Schwartz, Dr. Barbara Conley, Dr. Deimante Tamkus and Dr. Anas Al-Janadi.

### 4. **Resources**

The multidisciplinary clinic is housed at the Michigan State Universities out-patient clinic that is located at the Ingham Hospital campus which is adjacent to the Breslin Cancer Center.

### 5. **Patients**

Fellows are exposed to a large variety of patients with cancer presenting at different stages. The excellent reputation of Michigan State's Surgery department attracts newly diagnosed patients with cancer. Attendings attract a unique mix of patients and these will be available for fellows teaching.

### 6. **Responsibilities**

At the multidisciplinary clinic and at the faculty clinics fellows will see the patient independently, obtain a history and perform a physical examination, before discussing the patient with the attending oncologist.

### 7. **Instructional Methods**

Faculty members teaching at the multidisciplinary clinic are responsible for:

- a. Supervising the fellow in accordance with the supervision policy.
- b. Responding promptly to the fellow's questions/concerns.
- c. Providing the fellow with ongoing performance feedback and skill progression.
- d. Increasing the level of responsibility as the individual's skill level progresses.

### 8. **Evaluation**

At the end of the rotation fellows will be expected to have knowledge of the genesis of the patient's cancer, risk factors important for predicting who is likely to develop this cancer and what are the important factors in predicting prognosis. Fellows are expected understand appropriate therapy for the patient's malignancy including indications and contraindications for a particular type of surgery, radiation therapy and chemotherapy.

### 9. **Multidisciplinary and Attendings Clinic - Competency Objectives**

#### 1. Patient Care

- a) By the conclusion of the rotation, the Hematology/Oncology Fellow will demonstrate the ability to perform an appropriate history and physical that is focused on the patient's cancer and documented in an appropriate consultative summary.
- b) By the conclusion of the rotation, the Hematology/Oncology Fellow will be able to perform the above skills and be able to independently generate an appropriate management plan.
- c) Demonstrate the ability to complete an efficient evaluation inclusive of history and physical examination, diagnostic procedures, important laboratory parameters, and

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formulate a specific treatment plan that is developed for the patient's particular circumstance.

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## 2. Medical Knowledge

- a) All fellows will be evaluated by the supervising faculty for appropriate analytic approach to the diagnosis and treatment of cancer.
- b) Demonstrate a sound knowledge base pertinent to cancer.
- c) Enhance understanding of clinical pharmacology of chemotherapeutic agents and learn appropriate precautions utilized in preparing them for patients' use.
- d) Recognize normal and pathologic cellular morphology and findings of peripheral blood and bone marrow smears.

## 3. Interpersonal and Communication Skill

- a) Fellows are expected to demonstrate professional communication skills throughout their interactions with cancer patients as well as clinicians from different specialties. In addition, fellows will be assessed for appropriate communication with office staff, including setting clear expectations for work hours and outpatient/inpatient duties. Fellows will be expected to act as a constructive and proactive member of the practice.
- b) Demonstrate the ability to work effectively with other members of the health care team including other residents, attending physicians and nurses.
- c) Communicate effectively with patients and families.

## 4. Professionalism

- a) Throughout the rotation, fellows are expected to exhibit reliability in their clinical duties, as well as integrity and respect in their interactions with patients and colleagues.
- b) Fellows will be able to demonstrate appropriate consultative principles of communication and responsiveness to professional consultative requests.

## 5. Practice Based Learning and Improvement

- a) Rotating fellows will demonstrate self-initiative in the use of information technology available via the MSU electronic library to access and retrieve materials for self-education via computer terminals located in the fellows' work stations and throughout the clinic.
- b) Rotating fellows will be expected to show progressive learning throughout the rotation, with emphasis on learning from any cognitive or procedural errors. They are also expected to facilitate any quality improvement initiatives in place at MSU's clinical office practice.

6. Systems Based Practice

- a) All fellows will demonstrate conscientious awareness of the impact of their professional activities at the MSU office practice site, and will conscientiously avoid inappropriate use of the practice resources.
- b) Fellows must demonstrate understanding of cost-effectiveness of care incorporating cost-effectiveness into their development of diagnosis and treatment plans.

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## Research

### 1. **Rotation Name**

Research

### 2. **Educational Purpose of the Rotation**

Research is considered a cornerstone of the training program. Residents are expected and required to participate in ongoing and development of research studies. Involvement in both a specific area as well as participation in ongoing projects allows the participant to gain a “hands-on view” essential to the research process. Commitment to this process allows the resident to develop a more critical review process to published literature.

### 3. **Staffing of the Rotation**

Attending faculty members include Drs. Schwartz, Conley, Al-Janadi, Tamkus, Aung and Arora as well as those faculty members participating in the Radiation Therapy and Bone Marrow Transplantation Rotations. Ongoing clinical trials at the Michigan State University Clinical Center and Breslin Cancer Center are also included in this experience. Residents may also choose research rotations with any of MSU’s basic scientists with a cancer or hematologic related project. These include investigators who focus on carcinogenesis, epidemiology, pharmacology, biochemistry and psychosocial aspects of cancer or hematology.

### 4. **Resources**

Broad areas of investigation as well as specific projects are available to the resident. These include both basic science and clinical research. Michigan State University’s participation in the NSABP and involvement with SWOG insure exposure to protocols based in clinical research for cancer therapy. These widely recognized programs are investigated by a number of MSU faculty members including an interdisciplinary approach utilizing members outside the program itself but within the MSU system.

### 5. **Responsibilities**

Sub-specialty residents are required to participate in research activities. Where possible, they are encouraged to present data at national conferences and to prepare manuscripts for publication. In addition residents are encouraged and assisted in preparing grant applications for specific research projects. Second year residents are required to learn about design and implementation of clinical research protocols. Through affiliation with NSABP and SWOG, the resident is exposed to patients being managed according to national protocols. These residents are also required to develop and implement, with assistance, a clinical protocol focused on a clinically important question.

## 6. Objectives

1. The sub-specialty resident is expected to become completely familiar with the hypothesis underlying a research project and literature supporting key questions implicit in the hypothesis.
2. The resident should be able to formally present the nature of the research as a “works in progress” to the section. Residents are required to present, “their research” during the once a month research seminar. This is scheduled for the first Monday of each month at 8:00 am at the Breslin Cancer Center. Depending upon the rate of progress, resident presentations may be simply development of a hypothesis with the background information supporting the importance of the hypothesis or a completed project with data and conclusions derived from the work.
3. Where appropriate, the resident should learn to analyze data utilizing valid statistical methods.
4. By the conclusion of all research rotations the resident should be able to chart future directions for research.
5. The resident will be able to develop, implement and analyze research protocols.
6. Instructional Methods

Initially, sub-specialty residents work with a particular mentor in projects currently underway. As research skills progress, residents work closely with this mentor to design and implement a research protocol. Assistance from the mentor includes development (including grant proposals), design, implementation, analysis, and publication of results.

## 7. Evaluation

Research experience is evaluated jointly by the sub-specialty resident and faculty mentor. This is accomplished by summarizing and accurately describing the performance on the prescribed form and returning it to the program director. These forms are completed by both the faculty member and the sub-specialty resident. Presentation of research related material at Division activities provides for further faculty and resident participation in the evaluative process. Residents may choose to continue involvement on particular projects during elective time periods.

## 8. Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	<b>7:30 Journal Club</b>  Research	Research  12:15 Medicine Grand Rounds	<b>7:00 Tumor Board Sparrow</b>  Research	<b>7:00 am IRMC Tumor Board</b>  Research	<b>7:30 Hem/Onc CoreConference</b>  Research
PM	Research	Research	Research	Research	Research

**All activities in bold are required activities for all sub-specialty residents.**

Residents continue to attend their outpatient hematology oncology clinic during their research elective.

## 9. Research - Rotation Competency Objectives

### 1. Patient Care

- a) If the residents research involves human subjects, the resident will demonstrate the ability to evaluate research subjects for:
  - 1) protocol inclusion and exclusion criteria
  - 2) side effects of therapy
- b) In addition, the resident should be able to clearly explain to the patient the question being asked by the research and how participating in this project will help or harm the patient.
- a) By the conclusion of the rotation, the Hematology/Oncology Resident will be able to perform the above skills and be able to independently generate an appropriate management plan.

### 2. Medical Knowledge

- a) All residents will be evaluated by the supervising faculty for appropriate analytic approach to the research problem. Residents will be evaluated for knowledge of their hypothesis, the medical literature substantiating their hypothesis and the methodology used to test the hypothesis.

### 3. Interpersonal and Communication Skill

- a) Residents are expected to demonstrate professional communication skills throughout their interactions with oncology patients and staff. In addition, residents will be assessed for appropriate communication with MSU's research office staff, including setting clear expectations for work hours and outpatient/inpatient duties. Residents will be expected to act as a constructive and proactive member of the research team

### 4. Professionalism

- a) Throughout the rotation, residents are expected to exhibit reliability in their research duties, as well as integrity and respect in their interactions with patients and colleagues.

### 5. Practice Based Learning and Improvement

- a) Rotating residents will demonstrate self-initiative in the use of information technology available via the MSU electronic library to access and retrieve materials for self-education via computer terminals located in the resident offices and throughout the university.

- b) Rotating residents will be expected to show progressive learning throughout the rotation, with emphasis on learning from any cognitive or procedural errors.

6. Systems Based Practice

- a) All residents will demonstrate conscientious awareness of the impact of their professional activities in the research setting, and will conscientiously avoid inappropriate use of the investigator's resources.
- b) Residents must demonstrate understanding of cost-effectiveness incorporating cost-effectiveness into their development of research methods.

## **Bone Marrow Transplantation**

### **1. Rotation Name**

Bone Marrow Transplantation

### **2. Educational Purpose of the Rotation**

The overall goal of this rotation is not to provide the resident with the skills necessary to become a primary operator in the bone marrow transplantation process but rather to allow them to have an increased understanding of the eligibility requirements, indications and side effects for bone marrow transplantation. Included in this rotation are the techniques used in bone marrow transplantation inclusive of harvesting stem cells, the critical steps required in post transplantation care and hematotherapy support. Residents will also gain knowledge in expected microbial problems associated with bone marrow transplantation.

### **3. Staffing of the Rotation**

Faculty members at the Fred Hutchinson Cancer Research Institute, University of Washington; Wayne State University at the Karmanos Institute; the University of Nebraska or Massachusetts General Hospital

### **4. Resources**

This rotation provides experiences at the one of the above four sites. The Fred Hutchinson Cancer Research Center at the University of Washington, the Karmanos Cancer Center at Wayne State University, the University of Nebraska or Massachusetts General Hospital. In either case, sub-specialty residents are provided with inpatient and outpatient experiences.

### **5. Patients**

Ultimate and primary responsibility for patient care rests upon the attending physician. In this rotation sub-specialty residents never have the opportunity to serve as primary care giver but, as their level of skill progresses so does their level of participation. This particular procedure requires additional training beyond this three-year educational program.

### **6. Responsibilities**

Goal: The resident will gain exposure to the practices of bone marrow transplantation. The sub-specialty resident will participate as a member of the primary patient care team and assumes responsibilities for four to eight bone marrow transplant patients.

Duties: The sub-specialty resident is expected to:

- a. Care for patients including a complete work-up with a history and physical examination in both the inpatient and outpatient settings.
- b. Be responsible for daily patient follow up including appropriate medical record documentation.
- c. Be prepared to discuss all aspects of a patients' illness as it relates to significant findings, progress and treatment plans.
- d. Attend inpatient rounds with the attending physician on weekdays and assigned weekends.
- e. Present significant patient related events that occur during nighttime hours to ensure information transfer and continuity of care.
- f. Prepare case presentations for conferences including Grand Rounds, weekly Sub-specialty Resident Teaching Conferences and monthly Morbidity/Mortality Rounds.
- g. Participate in the above named conferences as well as attend other related conferences.
- h. Learn by observing and assisting related procedures.
- i. Participate in outpatient clinics and patient management under the supervision of an attending physician.
- j. Read and be prepared to discuss key literature including articles as recommended.

## **8. Instructional Methods**

Faculty members teaching the resident are responsible for:

- a. Supervision of the resident in accordance with the supervision policy.
- b. Respond promptly to the resident's questions/concerns.
- c. Organize and conduct four hours of formal teaching/week, utilizing appropriate lectures, teaching material and literature.
- d. Provide the resident with ongoing performance feedback and skill progression.
- e. Increase the resident's level of responsibility as individual skill levels progress.

## **9. Evaluation**

At the conclusion of each rotation faculty members will summarize and accurately describe the resident's performance on the provided form, discuss this evaluation with the resident and return the form to the residency director. In addition, the resident will summarize and accurately describe faculty performance and return it to the program office for inclusion in a computer generated report to insure resident anonymity. Residents are further evaluated twice per year by the program director. These evaluation sessions include a formal, written evaluation which is signed by both the director and the resident.

## 10. Schedule

The schedule for the resident on the bone marrow transplantation service varies according to the site but includes inpatient and outpatient experiences, daily ward and x-ray rounds, weekly Grand Rounds, weekly Sub-specialty Resident Teaching Conferences and monthly Morbidity/Mortality Rounds. Night call, if required, averages six nights per month which includes one weekend each month.

## 11. Bone Marrow Transplantation - Rotation Competency Objectives

### 1. Patient Care

- a) By the conclusion of the rotation, the Hematology/Oncology Resident will have gained exposure as a member of the primary care team and have assumed responsibility for four to eight bone marrow transplant patients.
- a) The subspecialty resident will care for patients including a complete work-up with a history and physical examination in both the inpatient and outpatient settings.
- b) Attend in-patient rounds
- c) Resident will be responsible for daily patient follow up including appropriate medical record documentation.
- d) Residents will observe and assist with related procedures.
- e) Demonstrate the ability to complete an efficient work up inclusive of history and physical, diagnostic procedures, problem list, working diagnosis and treatment plan.
- f) Follow assigned patients appropriately
- g) Demonstrate the ability to respond appropriately to abnormal test results.

### 2. Medical Knowledge

- a) Residents will develop a knowledge base pertinent to the practice of bone marrow transplantation.
- b) Residents will be exposed to the techniques used in bone marrow transplantation such as harvesting of stem cells, knowledge in expected microbial problems associated with bone marrow transplantation, and the critical steps required in post transplantation care and hematotherapy support.
- c) Demonstrate a sound knowledge base pertinent to the practice of bone marrow transplantation.
- d) Demonstrate the ability to effectively work with other members of the health care team including other residents, attending physicians and other health care providers

### 3. Interpersonal and Communication Skills

- a) Residents are expected to demonstrate professional communication skills throughout their interactions with other members of the health care team including other residents, attending physicians and other health care providers participating in the Bone Marrow Transplantation program to develop a comprehensive treatment plan.
- b) Residents will be expected to communicate effectively with patients and their families.
- c) Communicate effectively with patients and their families.
- d) Work effectively with residents on other services as well as residents participating in the Bone Marrow Transplantation program to develop a comprehensive treatment plan.

### 4. Professionalism

- a) Throughout the rotation, residents are expected to exhibit reliability in their clinical duties, as well as integrity and respect in their interactions with patients and colleagues.
- b) Residents will be able to demonstrate appropriate consultative principles of communication and responsiveness to professional consultative requests.

### 5. Practice Based Learning and Improvement

- a) Rotating residents will demonstrate self-initiative in the use of information technology available via the MSU electronic library to access and retrieve materials for self-education regarding bone marrow transplantation.
- b) Rotating residents will be expected to show progressive learning throughout the rotation, with emphasis on learning from any cognitive or procedural errors. They are also expected to facilitate any quality improvement initiatives in place at the marrow transplantation facility.

### 6. Systems Based Practice

- a) All residents will demonstrate conscientious awareness of the impact of their professional activities at the marrow transplantation office practice site, and will conscientiously avoid inappropriate use of the practice resources.
- b) Residents must demonstrate understanding of cost-effectiveness of care incorporating cost-effectiveness into their development of diagnosis and treatment plans.

## **Gynecologic Oncology**

### **1. Rotation Name**

Gynecologic Oncology

### **2. Educational Purpose of the Rotation**

The rotation is to provide the hematology/oncology fellows with exposure to the full spectrum of benign and malignant tumors that are associated with Gyn oncology. These include tumors of the ovaries, cervix, vagina, uterus, and gestational and trophoblastic diseases. In addition, it is expected that the resident will get to know the staging and clinical presentations of the disease as well as the staging and presentation of advanced diseases and the usual and natural progress of these tumors.

### **3. Staffing of the Rotation**

The rotation will take place at the offices of Joseph Meunier, DO whose offices are at Sparrow Hospital. Dr. Meunier is an assistant clinical professor at the College of Human Medicine. He is board certified in Ob/Gyn and in Gyn oncology.

### **4. Resources**

Training will primarily be through patient care activities which will be supervised by Dr. Meunier. In addition, Dr. Meunier will have several assigned readings for the fellows. The fellow will also interact with ancillary staff so that have an understanding of the systems based care of Gyn/Oncologic patients. The hematology/oncology fellows will be expected to see techniques for both in-patient and out-patient staging of Gyn tumors as well as those associated with out-patient biopsies.

### **5. Patients**

The patients will be those of Dr. Meunier's who will be of multiple ethnicities and socioeconomic backgrounds. Dr. Meunier is a well-respected gynecologic surgeon in Lansing and has a broad range of referrals.

#### **a. Mix of diseases:**

tumors of the:

- i. ovary
- ii. cervix
- iii. vagina
- iv. uterus
- v. gestational trophoblastic diseases.

## 6. Responsibilities

It is the goal of this program that the resident will gain exposure to the full range of benign malignant tumors of the female gynecologic area.

Gynecologic

- a. The residents will be expected to obtain a complete and focused history and physical, present it to the attending physician in a logical and careful and timely manner.
- b. The resident will be expected to learn the staging work up of these tumors.
- c. Demonstrate an increased proficiency in prediction of outcome or prognosis.
- d. Become familiar with the surgical management of these malignancies.
- e. Learn recommendations for future adjuvant treatment modalities for these malignancies.
- f. Gain increased knowledge with patient directed literature searches.
- g. Work effectively with other members of the health care team in Dr. Meunier's office.

## 7. Instructional Methods

Faculty members teaching the hematology/oncology resident are responsible for:

- a. Supervision of the resident in accordance with the supervision policy.
- b. Respond promptly to the resident's questions/concerns.
- c. Provide the resident with ongoing performance feedback and skill progression.
- d. Increase the level of responsibility as the individual skill level progresses.

## 8. Evaluation

- a. At the conclusion of this rotation, faculty members will summarize and accurately describe the resident's performance on the provided form, discuss this evaluation with the resident and return the form to the residency director.
- b. The resident will summarize and accurately describe faculty performance and return it to the program office for inclusion in a computer-generated report to ensure resident anonymity.

**9. Schedule**

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>AM</b>	<b>7:30 am Journal Club</b>  Gynecologic Oncology	Gynecologic Oncology	<b>7:00 am – Tumor Board- Sparrow</b>  Gynecologic Oncology  <b>12:00 GYN Tumor Board – 2 and 4th</b>	<b>7:00 am IRMC Tumor Board</b>  Gynecologic Oncology	<b>7:30 am Hem/Onc Core Conference</b>  Gynecologic Oncology
<b>PM</b>	Gynecologic Oncology	Gynecologic Oncology	Gynecologic Oncology	Gynecologic Oncology	Gynecologic Oncology

**All activities in bold are required activities for all sub-specialty residents.**

Note: During the week the sub-specialty resident attends at least two session of outpatient clinic at the Breslin Cancer Center. The times for this clinic vary from resident to resident and as such have not been including in this table.

**10. Gynecologic Oncology Rotation Competency Objectives:**

1. Patient Care

- a) By the conclusion of the rotation, the Hematology/Oncology Resident will demonstrate the ability to perform an appropriate gyn/oncologic surgical history and physical, including pelvic examination and document the findings as a consultative summary, with a differential diagnosis list.
- b) By the conclusion of the rotation, the Hematology/Oncology Resident will be able to perform the above skills and be able to independently generate an appropriate management plan.
- c) Demonstrate the ability to complete an efficient gynelological work up that includes a history and physical and diagnostic procedures, problem list, working diagnosis and treatment plan. This is to have a special emphasis on perfecting the resident’s pelvic examination skills as tutored by Dr. Meunier.
- d) Follow assigned patients appropriate adjusting treatment plans as additional information or changes in physical examination become evident.
- e) Demonstrate the ability to respond appropriate to abnormal lab and radiographic results.

## 2. Medical Knowledge

- a) All residents will be evaluated by the supervising faculty for their analytic approach to gynecologic oncology conditions, and residents will be evaluated for satisfactory basic and clinical knowledge of medical aspects of gynecologic oncology.
- b) Residents will learn the staging and work up of tumors of Gynecology Gyn malignancies and learn recommendations for further adjuvant modalities of these malignancies.
- c) Demonstrate a sound knowledge based pertinent to the broad range of illnesses common to the practice of gynecologic I surgery.

## 3. Interpersonal and Communication Skills

- a) Residents are expected to demonstrate professional communication skills throughout their interactions with gynecologic patients. In addition, residents will be assessed for appropriate communication with Dr. Meunier office staff, including setting clear expectations for work hours and outpatient/inpatient duties. Residents will be expected to act as a constructive and proactive member of the practice.
- b) Residents will work effectively with physicians from other sub-specialties to coordinate patient care including development of a comprehensive treatment plan.
- c) Demonstrate the ability to work effectively with other members of the health care team including other residents, attending physicians and other health care providers.
- d) Develop effective communication skills with patients and their families including conducting a family conference.
- e) Work effectively with physicians from other sub-specialties to coordinate patient care including development of a comprehensive treatment plan.

## 4. Professionalism

- a) Throughout the rotation, residents are expected to exhibit reliability in their clinical duties, as well as integrity and respect in their interactions with patients and colleagues.
- b) Residents will be able to demonstrate appropriate consultative principles of communication and responsiveness to professional consultative requests.

## 5. Practice Based Learning and Improvement

- a) Rotating residents will demonstrate self-initiative in the use of information technology to access and retrieve materials for self-education regarding gynecological cases.

- b) Rotating residents will be expected to show progressive learning throughout the rotation, with emphasis on learning from any cognitive or procedural errors. They are also expected to facilitate any quality improvement initiatives in place at Dr. Meunier and his associates' practice.

6. Systems Based Practice

- a) All residents will demonstrate conscientious awareness of the impact of their professional activities on Dr. Meunier and his associates' practice, and will conscientiously avoid inappropriate use of the practice resources.
- b) Residents must demonstrate understanding of cost-effectiveness of care incorporating cost-effectiveness into their development of diagnosis and treatment plans.

## **Radiation Oncology**

### **1. Rotation Name**

Radiation Therapy

### **2. Educational Purpose of the Rotation**

The Radiation Therapy rotation is designed to give the sub-specialty resident experience and expertise in the techniques and appropriate uses of radiation treatment of cancer patients. Topics covered during this rotation include basic principles of radiation therapy, introduction to brachytherapy of Hodgkin's Disease, Non-Hodgkin's Lymphoma, multiple myeloma, squamous carcinomas of the head, neck and skin, lung cancer, early and late stage breast cancer, upper and lower GI tumors, sarcomas, prostate cancer, GYN cancer, other GU malignancies, brain tumors and palliative uses of radiation therapy.

### **3. Staffing of the Rotation**

This rotation is supervised by radiation therapy faculty housed at Ingham Regional Medical Center in Lansing which include David DeBiase, D.O. and Jeff Richmond, MD. Participating faculty members hold dual faculty appointments at Michigan State University and University of Michigan therefore allowing for additional educational experiences at University of Michigan facilities as well.

### **4. Resources**

Sub-specialty residents attend outpatient clinics at the Radiation Therapy Unit at Ingham Regional Medical Center and the Breslin Cancer Center also located at Ingham Regional Medical Center. Additional resources include didactic lectures at University of Michigan's Radiation Therapy Unit and the MSU Hematology/Oncology Seminar series.

### **5. Patients**

The attending physician maintains ultimate responsibility for patient care. As the resident's understanding and competencies increase, so does their role in patient decision-making. Residents are exposed to a variety of radiation therapy techniques relating to various hematologic and/or oncologic conditions.

### **6. Responsibilities**

Goal: The resident will understand the physics and biological consequences of radiation therapy, gain exposure to a variety of malignancies requiring radiation therapy including recognition of when radiation therapy is appropriate or not appropriate for the various types/stages of malignancies, gain understanding regarding radiation therapy side effects and learn how to plan dosimetry.

Duties: The oncology resident is expected to:

- a. Care for patients, including a complete work-up with a history and physical examination in both inpatient and outpatient settings.
- b. Be responsible for daily patient follow-up including appropriate medical record documentation.
- c. Be prepared to discuss all aspects of a patients' illness as it relates to significant findings, progress and treatment plans.
- d. Attend inpatient rounds with the attending physician on weekdays and assigned weekends.
- e. Prepare case presentations for oncology conferences that include tumor board, Hematology/Oncology Conference and other patient-related conferences including the Breast Cancer Conference, the Head and Neck Conference and the Ob-Gyn Tumor Boards.
- f. Participate in radiation therapy conferences and other oncology -related conferences.
- g. Learn by assisting in the planning of radiation therapy protocols and dosimetry.
- h. Participate in outpatient clinics and patient management of oncological conditions under the supervision of an attending physician.
- i. Read and be prepared to discuss key literature including articles as listed in the recommended reading section.

## **7. Instructional Methods**

For the radiation therapy rotation, a variety of instructional modalities are included. All sub-specialty residents are required to read Radiation Therapy for the House Officers from Fox Chase Cancer Center. Didactic lectures relating to radiation therapy are also required and include lectures at the University of Michigan as included on the weekly schedule and lectures by participating faculty members who hold dual appointments at the University of Michigan and Michigan State University at the Friday morning Hematology/Oncology seminar. Sub-specialty residents will observe a dosimetrist and physicist to gain expertise in planning dosimetry. Issues regarding radiation therapy side effects are addressed by exposure to patients either by observing acute side effects via physical examination on treatment days and by observing chronic side effects via physical examination during regularly scheduled outpatient clinic follow up. Additionally, all faculty members are responsible for the following educational guidelines:

1. Supervision of the resident in accordance with the supervision policy.
2. Respond promptly to the resident's questions/concerns.
3. Organize and conduct four hours of formal teaching/week, utilizing appropriate lectures, teaching material and literature.
4. Provide the resident with ongoing performance feedback and opportunities for skill progression.
5. Increase the resident's level of responsibility as his/her individual skill level progresses.

**8. Evaluation**

5. At the conclusion of each rotation faculty members will summarize and accurately describe the resident’s performance on the provided form, discuss this evaluation with the resident and return the form to the residency director.
6. The resident will summarize and accurately describe faculty performance and return it to the program office for inclusion in a computer-generated report to insure resident anonymity.
7. Twice per year the resident will be evaluated by the program director in a formal, written evaluation session. These evaluations will be transcribed and signed by both the residency program director and the resident.

**9. Schedule**

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>AM</b>	<b>7:30 am Journal Club</b>  University of Michigan Conf.  Clinic/DD	Clinic/DD	<b>7:00 am EWS Tumor Board</b>  Clinic/JM Clinic	<b>7:00 am IRMC Tumor Board</b>  University of Michigan Conf.  Clinic/JM  11:00 Breast Tumor Board	<b>7:30 am Hem/Onc Core Conference</b>  Clinic/JM
<b>PM</b>	Clinic/JR	Clinic/DD	Clinic/JR	Clinic/DD	Treatment Planning Conference (ROA) Chart Rounds (ROA)

**All activities in bold are required activities for all sub-specialty residents.**

Didactic lectures and teaching conferences listed are given to all the Sub-specialty residents together during the Friday morning MSU Hematology/Oncology seminar.

Note: During the week the sub-specialty resident attends two outpatient clinics at Ingham Regional Medical Center. The times for this clinic vary from resident to resident and as such have not been including in this table.

## 10. Radiation Therapy - Rotation Competency Objectives

### 1. Patient Care

- a) By the conclusion of the rotation, the Hematology/Oncology resident will have been exposed to a variety of malignancies requiring radiation therapy including recognition of when radiation therapy is appropriate or not appropriate for the various types/stages of malignancies, gain understanding regarding radiation therapy side effects and learn how to plan dosimetry. By the conclusion of the rotation, the Hematology/Oncology Resident will be able to complete an efficient oncologic work up inclusive of history and physical, diagnostic procedures, problem list, working diagnosis and treatment plan. Be able to follow assigned patients appropriately, adjusting treatment plans as additional information or changes in the physical examination becomes evident.
- b) Demonstrate the ability to respond appropriately to abnormal test results.
- c) Participate in outpatient clinics and patient management of oncological conditions under the supervision of an attending physician.
- d) Demonstrate the ability to complete an efficient oncologic work up inclusive of history and physical, diagnostic procedures, problem list, working diagnosis and treatment plan.
- e) Follow assigned patients appropriately, adjusting treatment plans as additional information or changes in the physical examination becomes evident.
- f) Demonstrate the ability to respond appropriately to abnormal test results.

### 2. Medical Knowledge

- a) The subspecialty resident will gain experience and expertise in the techniques and appropriate uses of radiation therapy. The resident will gain medical knowledge in the basic principles of radiation therapy, introduction to brachytherapy of Hodgkin's Disease, Non-Hodgkin's Lymphoma, multiple myeloma, squamous carcinomas of the head, neck and skin, lung cancer, early and late stage breast cancer, upper and lower GI tumors, sarcomas, prostate cancer, GYN cancer, other GU malignancies, brain tumors and palliative uses of radiation therapy.
- b) Demonstrate a sound knowledge base pertinent to the broad range of illnesses common to the practice of radiation oncology.
- c) Work effectively with Internal Medicine Residents as well as Residents from other sub-specialties to coordinate patient care including development of a comprehensive treatment plan.

### 3. Interpersonal and Communication Skills

- a) Communicate effectively with patients and their families, including conducting a family conference.
- b) Demonstrate the ability to effectively work with other members of the health care team, including other residents, attending physicians and other health care providers.
- c) Communicate effectively with patients and their families, including conducting a family conference.

- d) Work effectively with Internal Medicine Residents as well as Residents from other sub-specialties to coordinate patient care including development of a comprehensive treatment plan.
4. Professionalism
- a) Throughout the rotation, residents are expected to exhibit reliability in their clinical duties, as well as integrity and respect in their interactions with patients and colleagues.
  - b) Residents will be able to demonstrate appropriate consultative principles of communication and responsiveness to professional consultative requests.
5. Practice Based Learning and Improvement
- a) Rotating residents will demonstrate self-initiative in the use of information technology available via the MSU electronic library to access and retrieve materials for self-education regarding radiation oncology cases.
  - b) Rotating residents will be expected to show progressive learning throughout the rotation, with emphasis on learning from any cognitive or procedural errors. They are also expected to facilitate any quality improvement initiatives in place at the Radiation Oncology clinical office practice.
  - c) Read Radiation Therapy for the House Officers from Fox Chase Cancer Center.
6. Systems Based Practice
- a) All residents will demonstrate conscientious awareness of the impact of their professional activities at the Radiation Oncology office practice site, and will conscientiously avoid inappropriate use of the practice resources.
  - b) Residents must demonstrate understanding of cost-effectiveness of care incorporating cost-effectiveness into their development of diagnosis and treatment plans.

## **Diagnostic Radiology and Breast Imaging**

### **1. Rotation Name**

Diagnostic Radiology and Breast Imaging

### **2. Educational Purpose of the Rotation**

The Diagnostic Radiology and Breast Imaging rotation is designed to provide the sub-specialty resident the experience of interpreting radiology studies in the various techniques used in diagnostic and interventional imaging. Topics covered during this rotation include indications and choices of imaging modality for initial and follow up evaluation of oncologic disorders. There will be an emphasis on value of breast mammography as screening, follow up, or diagnostic modality.

### **3. Staffing of the Rotation**

This rotation is supervised by Dr. David Anderson, Director of the Breast Center of Lansing. Dr. Anderson is the only attending radiologist who will be supervising the residents during this rotation.

### **4. Resources**

Sub-specialty residents attend Dr. Anderson's office activities at the Breast Center of Lansing. Additional resources include attending the Breast Interdisciplinary Clinic (IDC) at Breslin Cancer Center.

### **5. Patients**

The attending physician maintains ultimate responsibility for patient care. As the residents' understanding and competencies increase, so does their role in participating in the initial and preliminary interpretation of diagnostic studies and recommending further studies as indicated. Also residents will take a role in informing patients and referring physicians of study result.

### **6. Responsibilities**

Goal: During this rotation, residents will understand the standard reporting categories of breast mammography (BIRADS), breast ultrasound technique and performance, computed tomography scanning and magnetic resonance imaging indications, limitations and interpretation methodology. Also residents will have the opportunity to watch and provide limited help in performing image-guided breast biopsy.

Duties: The oncology resident is expected to:

- a. Participate in the daily activities of the center including reading of performed studies.
- b. Be responsible for follow-up of the result with patients and their referring physicians.
- c. Be prepared to discuss all aspects of radiological findings as it relates to significant findings, progress and treatment plans.
- d. Attend the Breast Interdisciplinary Clinic (IDC) at Breslin Cancer Center.
- e. Participate with Dr. Anderson in discussing the result of breast imaging with patients.
- f. Read and be prepared to discuss key literature including articles as listed in the recommended reading section.

## **7. Instructional Methods**

A variety of instructional modalities are included. All sub-specialty residents are required to read ACR/BI-RADS Breast Imaging Reporting and Data System published by the American College of Radiology. Sub-specialty residents will observe a technician to gain expertise in placing the patient in an optimal position for any given study. Safety precautions and the expected exposure to ionizing radiation from diagnostic studies to the procedure operator will be always reinforced. Methods to check for radiation exposure and safety in the work place will be reviewed and applied during the residents' rotation. They are also expected to participate in patients' monitoring after an image-guided biopsy and schedule follow up as necessary. This will give them the opportunity to know and observe potential complications of such a procedure. Additionally, all faculty members are responsible for the following educational guidelines:

1. Supervision of the resident in accordance with the supervision policy.
2. Respond promptly to the resident's questions/concerns.
3. Organize and conduct four hours of formal teaching/week, utilizing appropriate lectures, teaching material and literature.
4. Provide the resident with ongoing performance feedback and opportunities for skill progression.
5. Increase the resident's level of responsibility as his/her individual skill level progresses.

## **8. Evaluation**

5. At the conclusion of each rotation faculty members will summarize and accurately describe the resident's performance on the provided form, discuss this evaluation with the resident and return the form to the residency director.
6. The resident will summarize and accurately describe faculty performance and return it to the program office for inclusion in a computer-generated report to insure resident anonymity.
7. Twice per year the resident will be evaluated by the program director in a formal, written evaluation session. These evaluations will be transcribed and signed by both the residency program director and the resident.

## 9. Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	7:30 am Journal Club  Office (DA)	Office (DA)	7:00 Sparrow Tumor Board	7:00 IRMC Tumor Board  Office (DA)	7:30 am Hem/Onc Core Conference  Office (DA) Breast IDC
PM	Office (DA)	Office (DA)	Office (DA)	Office (DA)	Office (DA)

**All activities in bold are required activities for all sub-specialty residents.**

Didactic lectures and teaching conferences listed are given to all the Sub-specialty residents together during the Friday morning MSU Hematology/Oncology seminar.

**Note: During the week the sub-specialty resident attends two outpatient clinics at Ingham Regional Medical Center. The times for this clinic vary from resident to resident and as such have not been including in this table.**

## 10. Rotation Competency Objectives

### 1. Patient Care

- a) By the conclusion of the rotation, the Hematology/Oncology resident will have participated, observed and helped in interpreting various diagnostic studies. The resident will gain adequate understanding regarding indications for appropriate imaging based on the case in question. By the conclusion of the rotation, the Hematology/Oncology Resident will be able to follow a comprehensive and accurate method of evaluating and interpreting different types of radiographs.
- b) Demonstrate the ability to respond appropriately to abnormal study results.
- c) Participate in outpatient diagnostic center activities under the supervision of an attending physician.
- d) Demonstrate the ability to render initial result of a given radiology study including a well-thought and organized differential diagnosis for the study findings.
- e) Discuss with the supervising physician a suggested follow up recommendation, which may include observation, further studies, or specific intervention.

### 2. Medical Knowledge

- a) The subspecialty resident will gain experience and expertise in the techniques and appropriate uses of diagnostic radiology studies. The resident will gain medical knowledge in the basic principles of diagnostic radiology and breast imaging.

- b) Demonstrate a sound knowledge base pertinent to the use of diagnostic radiology and the different modalities used in this field.
3. Interpersonal and Communication Skills
- a) Communicate effectively with patients and their families, including conducting a family conference.
  - b) Demonstrate the ability to effectively work with other members of the health care team, including other residents, attending physicians and other health care providers.
  - c) Work effectively with referring physicians to coordinate further patient care as dictated by the result of performed studies.
4. Professionalism
- a) Throughout the rotation, residents are expected to exhibit reliability in their clinical duties, as well as integrity and respect in their interactions with patients and colleagues.
  - b) Residents will be able to demonstrate appropriate consultative principles of communication and responsiveness to professional consultative requests.
5. Practice Based Learning and Improvement
- a) Rotating residents will demonstrate self-initiative in the use of information technology available via the MSU electronic library to access and retrieve materials for self-education regarding diagnostic radiology literature.
  - b) Rotating residents will be expected to show progressive learning throughout the rotation, with emphasis on learning from any cognitive or procedural errors. They are also expected to facilitate any quality improvement initiatives in place at the Diagnostic radiology office practice.
  - c) Read ACR/BI-RADS Breast Imaging Reporting and Data System published by the American College of Radiology.
6. Systems Based Practice
- a) All residents will demonstrate conscientious awareness of the impact of their professional activities at the Breast Care Center practice site, and will avoid inappropriate use of the practice resources.
  - b) Residents must demonstrate understanding of cost-effectiveness of care incorporating cost-effectiveness into their development of diagnosis and treatment plans.