

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	7:30 Journal Club Research	Research 12:15 Medicine Grand Rounds	7:00 Tumor Board Sparrow Research	7:00 am IRMC Tumor Board Research	7:30 Hem/Onc CoreConference 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.