RESEARCH & SCHOLARLY ACTIVITIES

INTERNAL MEDICINE RESIDENCY

Faculty: Janet Jokela, MD, MPH, Program Director

Sites: Carle Foundation Hospital

Duration: 2 week Rotation

Resident Level: PGY I*

DESCRIPTION:

A 2-week PGY I rotation designed to gain knowledge and understanding of general research guidelines and protection of human subjects.

Additional research training takes place longitudinally throughout all 3 years. PGY 2 and PGY 3 residents' requirements directly follow the specific 2 week rotation. Longitudinal requirements include the preparation and presentation of a scientific research abstract, clinical vignette and poster presentation, and/or case-report suitable for publication.

All Medicine residents participate in the annual research symposium, monthly Journal Club activities, and are strongly encouraged to collaborate with faculty on research projects currently in progress.

I. GOALS

Introduce selected aspects of clinical and bio-medical research, including general research guidelines and protection of human subjects.

Promote new research skills and knowledge, and an attitude of scholarly critique and inquiry through self-directed learning.

II. OBJECTIVES

A. PATIENT CARE:

At the completion of the rotation all residents will

Positively impact patient care at Continuity Clinic, and on the wards through a) question identification; b) literature search and critical review; and c) sharing information with colleagues and faculty to immediately improve patient care.

* If rotating resident is at the level different from PGY3, please use the core competency curriculum for goals and objectives.
B. MEDICAL KNOWLEDGE

At the completion of the rotation all residents will

Demonstrate aptitude and skills to identify, develop and execute own plan for research opportunities and activities.

Access and critically evaluate current medical information and scientific evidence to improve patient care on Rounds, and in Continuity Clinic.

Demonstrate understanding of basic clinical research strategies e.g. study design, measurement, and analysis through the review of an Institutional Review Board (IRB) application, including an informed consent document and attendance at an IRB meeting.

Successfully complete a tutorial on Good Clinical Practice and Human Subject Protection, i.e. IRB Human Subject Quiz on protection of human subjects.

C. PRACTICE-BASED LEARNING AND IMPROVEMENT

At the completion of the rotation all residents will

Demonstrate facility and scientific literacy in the use of electronic data bases, literature retrieval services and computer-based diagnostic reasoning programs in the critical review of a scientific journal article.

Demonstrate insight of relationship between clinical practice and evidence based medicine to continually improve patient care through an oral progress report to peers.

D. INTERPERSONAL AND COMMUNICATION SKILLS

At the completion of the rotation all residents will

Display an attitude of healthy skepticism and curiosity as evidenced by thoughtful questioning, independent study and critical analysis of published materials.

Create and present a critical review of a first tier journal article at Journal Club for resident colleagues and faculty in a clear, scientific manner.

E. PROFESSIONALISM

At the completion of the rotation all residents will

Demonstrate a professional, self-directed approach to learning through completion of the stated learning objectives and goals, e.g. providing peer presentations, presenting at Journal Club.
Discuss efforts to secure an ACP certified faculty mentor in preparation for future research endeavors.

**F. SYSTEM-BASED PRACTICE**

At the completion of the rotation all residents will

Select and critically review a scientific research articles, and present at peer presentations, and Journal Club.

Positively address patient care in Continuity Clinic and on the wards to provide immediate impact through identification of clinical question(s), literature search, and discussion with resident colleagues.

**III. METHODS**

**PGY I**

PGY I residents participate in a 2 week rotation with exposure to general research topics, e.g. Institutional Review Board (IRB), ethics in research, basic research design, critical review of journal articles, how research applies to fellowship application. The interactive learning experience provides concrete knowledge and a catalyst to self-directed, scientific literacy. There are no call responsibilities during the 2 week rotation.

**PGY I RESPONSIBILITIES**

Rotation responsibilities include active, positive participation in the class setting, no less than 2 peer presentations at Rounds, 1 peer presentation at Continuity Clinic, one 20-minute Research Journal Club presentation, and completion of IRB Human Subject Quiz. The resident prepares, researches, and writes up the Research Journal Club presentation, including how, when and where the question was identified, for one-on-one review with a Research faculty member.

Scholarship/Research Seminar - Seminars cover the following topics: a) use of on-line computerized databases; b) critical appraisal of medical literature; c) preparation of an abstract, poster, or oral presentation; and/or d) writing a case report for publication.

Journal Club - Journal Club is held monthly. Residents are taught principles of epidemiology; critical appraisal of medical literature with emphasis on research design, and strengths and weakness of an article; and application to clinical practice. Basic statistical principles are taught through interaction with faculty.

**PGY II**

PGY II residents are required to write and present a scientific research abstract and clinical vignette per American College of Physicians guidelines.

**Clinical Abstract & Vignette:**
A. Write a clinical vignette abstract illustrating a teaching point that enhances his/her medical knowledge and clinical skills;
B. Prepare a clinical vignette (case report) abstract eligible for submission to the national meeting of the American College of Physicians; and
C. Present the clinical abstract and vignette to the Department of Medicine.

During PGYII, residents identify a case for the clinical vignette/abstract competition. The case must express one major teaching point, and be rare or have characteristics interesting and suitable for presentation and publication. Residents identify a clinical faculty member involved with the case to serve as faculty advisor for the write-up. Residents are expected to communicate with his/her collaborating clinical faculty member regarding the case write-up as needed.

The 5-minute oral presentations are presented during Research Day to invited teaching attendings, residents and College of Medicine administrators. The winner of the local competition is the program's representative at the October state ACP meeting of the academic year. All vignette abstracts are submitted by the program office to the National ACP vignette competition.

**PGY III**

PGY III residents are required to prepare and submit the written research abstract and clinical vignette, per American College of Physicians guidelines, as a comprehensive case report for publication to a medical journal.

**Case Report:**

A. Write a comprehensive case report based on the clinical vignette; and
B. Prepare the document for publication to a medical journal, e.g. Carle Selected Papers

PGY III residents complete a case-write-up, including a bibliography, based on the clinical vignette case. The case report is due to the Residency by September of the PGY III. Between the months of September and December, the program faculty will assist residents to refine and prepare the case report for submission to Carle Selected Papers or another scientific journal. Residents work with the clinical faculty mentor with whom he/she collaborated for the clinical vignette abstract and presentation. Residents may also present vignettes or posters at the Regional ACP meeting held in the spring of the PGY III.

**IV. OTHER SCHOLARSHIP/RESEARCH OPTIONS**

Scholarly activity is broadly defined and includes projects in the basic or clinical sciences, and/or educational or administrative arenas. All residents must complete a clinical vignette, abstract and case report, however, residents may demonstrate research competency in other ways. Residents who plan to exceed the minimum research and scholarship Residency requirements have several options available:
1. A literature review or meta-analysis of a particular topic;
2. A retrospective analysis of patients with a particular disease, disorder or treatment;
3. Four-Week Elective Block - Elective Research rotation for scholarly activities. This requires a written and approved research proposal, submitted no later than May of the preceding academic year. Residents on an elective Research rotation have Continuity Clinic and on-call responsibilities.

V. ASSESSMENT METHODS

A. Resident Performance

Global Assessment

The evaluation method is primarily accomplished electronically. Residents' performance in the Research block is evaluated by the attending physician and/or faculty member. Evaluations are reviewed with the residents for formal feedback. In addition, feedback is provided on an ongoing basis relative to the resident's progress, responsibilities and activities.

Residents will document the Research rotation in portfolios, e.g. written vignettes. This tool will provide individual learning, reflection and assessment.

B. Education Outcomes, Program Evaluation and Improvement

Aggregate data from assessment of the program’s research curriculum is reviewed periodically. The Program’s Curriculum Committee and Progress and Promotions Committee reviewed these data and make recommendations for program change. Aggregated results of resident’s performance data is reviewed as a part of the program’s annual clinical improvement evaluation and planning.

VII. REFERENCES

Fletcher R. H., Fletcher S.W. et al Clinical Epidemiology: The Essentials Williams and Wilkins (current edition)

Hulley, S.B. Summing, S.R. Designing Clinical Research, Williams and Wilkins (current edition)


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