

CA-1 Research Rotation: Clinical Rotation

The Clinical Research Rotation is intended to be one means by which anesthesia residents are exposed to clinical research related to anesthesiology and pain management. Residents will learn about clinical research designs used in investigator initiated and industry sponsored research; learn the significance of obtaining human subjects approval; gain an appreciation for the processes and skills used in the collecting, quality assessment, statistical analysis, and interpretation of data; and will learn how to develop written presentations of clinical research findings.

Goals of the Clinical Rotation

- Encourage the development of critical thinking and critical evaluation of the scientific literature
- Familiarize residents with the concept of a testable hypothesis
- Provide every resident with the opportunity to observe a research project/clinical study
- Provide every resident with the opportunity to become familiar with the workings of the University's Institutional Review Board (IRB)

Objectives

- Learn how to access, read, and critically evaluate the primary scientific/medical literature
- Learn what constitutes a well-designed, controlled study/clinical trial
- Learn about statistical methods and power analysis
- Contribute to the collection (as available), analysis, and interpretation of data
- Complete a scientific abstract using clinical research data

Specific Activities and Experiences

A schedule will be developed for each resident for the weeklong rotation that incorporates time devoted to six specific experiences. These experiences include an orientation to clinical research, introduction to clinical trials, basic statistics, the OHSU IRB, how to access and evaluate research literature, and write a scientific abstract.

Orientation to clinical research. The resident will learn about different types of clinical studies and research designs through meeting with faculty and reviewing study protocols. At the beginning of the rotation, the Director of APOM Clinical Research and Training will meet with each resident to provide an overview to clinical research, review the schedule of activities for the rotation, arrange meetings between the residents and faculty mentors, and discuss the resident's scientific abstract.

Introduction to clinical trials. The resident will learn about the organization, development, and phases of clinical trials, protection of research subjects, research integrity, and general study procedures. Time will be scheduled for didactics with the departmental clinical trials coordinator and faculty to receive an introduction to clinical trials/industry sponsored research. Experiential learning experiences involving

observation and shadowing of study patients will be scheduled as these become available during the rotation period.

Introduction to basic statistics. Residents will learn basic study designs and statistical tests appropriate to them; learn about power analysis; and receive experience in conducting basic statistical analyses in SPSS using real data. Didactics will be scheduled with departmental research staff to provide an introduction to basic statistics and to statistical analysis software. Experiential learning will occur through working with an established clinical dataset under the supervision of research staff. This dataset will be used to write the scientific abstract for the final project.

Introduction to the OHSU IRB. The resident will obtain an overview to the IRB process at OHSU. Each resident will complete online human subjects training for PIs about research ethics and conflict of interest. Didactics with departmental research staff will be used to demonstrate the eIRB system, discuss phases of a research study and appropriate IRB documentation, and other relevant human subjects issues.

Access and evaluate research literature. Residents will learn how to perform basic literature and database searches; and will receive experience in evaluating scientific articles. Each resident will attend a free OHSU Library class on how to conduct database searches (i.e., Medline). Experience in evaluating/critiquing a scientific article will be conducted under the guidance of a faculty mentor.

Write a scientific abstract. Residents will learn how to write a scientific abstract that is suitable for submission to a scientific meeting. The abstract should explain the significance of the research questions under study, the hypotheses tested, methods used, results obtained, and a discussion of the findings. Data for the abstract will be provided to the resident. Each resident will work with a faculty mentor to review sample abstracts and receive guidance on a draft of the abstract. A draft of the abstract should be completed and submitted to the faculty mentor by the end of the first week of the rotation. The faculty mentor will then edit and review with the resident over the course of the second week of the rotation.

Additional learning experiences. Each resident will receive a rotation packet consisting of references and recommended readings concerning clinical research and clinical trials. Residents will have relevant research conferences and seminars that are occurring during the rotation period on their rotation schedule. These include the weekly departmental research conference and the monthly clinical research in progress seminar.