

Research Rotation

This rotation provides comprehensive, mentored exposure to scholarly research activities. The faculty research coordinator works closely with the research residents and oversees the rotation. Clinical faculty mentors are selected based on the research topics. The faculty may invite the resident to develop one aspect of ongoing research, or they may mentor the resident in designing an entirely new project within their subspecialty. The research rotation is for four months during the R3 year with two preparatory months in the R2 and R1 years.

Meetings with the research director and the individual research mentors are designed to coach the resident in principles of scholarly research. Additionally, the Research resident is required to participate in all formal didactic sessions at the University, take call, continue his or her medical education through self-reading, and participate as otherwise outlined in this Handbook.

Goals and Objectives

The goals of the rotation are to become efficient and competent in critically evaluating scholarly literature, to accurately assess the merit of proposed research, and to conduct original research. Upon finishing the research rotation, the resident will have gained knowledge in the principles of research design, data collection, data analysis and the scholarly exercise of dissemination and application of gained knowledge. Research ethics and the promotion of human curiosity will be integrated at all levels.

Specific Goals:

1. Submit AAO-HNS Core grant.
2. Complete a basic science research project.
3. Complete a clinical or quality improvement research project.
4. Submit a manuscript for publication.
5. Submit a manuscript for oral presentation.

The goal of the research rotation is to allow the resident to:

1. Obtain a background in research methods and techniques.
2. Obtain a background in grant writing through submission of an AAO-HNS Resident CORE grant application.
3. Obtain experience in clinical or quality improvement research by completion of a clinical or quality improvement research project.
4. Obtain experience in basic science research by completion of a basic science research project.
5. Obtain experience in manuscript preparation, publication, and presentation through the publication of at least one, but hopefully multiple manuscripts based on this research.

The research rotation will provide education in the following areas:

Medical/Research Knowledge will be improved by an exposure to:

1. Clinical research design, human subject research, animal research, research ethics, grant writing, IRB submission, and IACUC submission

2. Research methodology: hypothesis, design, experiments, data collection, statistical methods, etc.
3. Literature search and evaluation.
4. The principles of manuscript preparation and submission, visual data presentation, and effective scientific oral presentations.

Practice-Based Learning and Improvement will be improved by:

1. Working closely with faculty mentor to develop a well-developed research proposal to address a specific topic of interest.
2. Preparation of an animal care and/or human subject protocols as appropriate prior to initiation of a research project.
3. Submission of an AAO-HNS Resident Core grant application.
4. Regular and frequent meetings with the research mentor.
5. Collection, analysis, and organization of data.

Interpersonal and Communication Skills will be enhanced by:

1. The development of scientific writing skills to lucidly convey ideas, implementation, results etc.
2. Gaining familiarity with scientific writings including: IRB/IACUC protocols, grants, manuscripts etc.
3. Completion of all writing assignments in a timely fashion.
4. Gaining competence in all aspects of manuscript preparation through the preparation and submission of at least one abstract for an oral presentation for a national meeting and at least one manuscript submitted to a peer-reviewed journal.

Professionalism education will be provided by:

1. Demonstration of scientific rigor, integrity, thoroughness, and independent-thinking.
2. Work well with others in all aspects of the research process.

Rotation Guidelines

The Division of Otolaryngology will support each Resident Research Rotation to the amount of \$4,000. If the sponsoring faculty already has grant money that can cover this project, then the \$4,000 will not be used. If the costs exceed the \$4,000 limit, the overage will come from the sponsoring faculty.

It is expected that the resident will be the primary/first author of the basic science project. First authorship means that the paper is written and the majority of the work is performed by the first author. *The first authorship will be voided if the resident does not finish the project or if the resident does not write the paper.* If the resident is in the senior and final year of residency and the paper has not been submitted even though the project has been completed, then first authorship will go to any participating investigator who is willing to write the paper. Similar rules will be applicable to the clinical research project. If the project has been completed but the resident does not write the paper, then the first author position will be negotiated to whoever is willing to write the paper. The intent of this rule is to get the research written before the resident leaves the program.

Timeline with Specific Goals and Expectations:

PGY1 Year Research Month: The overall goal of this month is to prepare the resident for IRB, IACUC, and CORE grant submission and to provide a basic foundation of knowledge for Otolaryngology—Head and Neck Surgery. This will allow the resident to begin the main portion of the research project on day 1 of their PGY3 research block.

1. Attend and participate in all didactic lectures, which may include lectures on research ethics, research design, grant writing, IACUC processes and applications, IRB processes and applications, biostatistics, etc.
2. Meet with and select clinical and basic science mentors and projects.
3. Write a research proposal (approved by the research mentors and research director) by the end of the month for the planned research projects.
4. Submit the IRB and/or IACUC for the planned research projects by the end of the month.
5. Complete required online training.
6. Read the Otolaryngology—Head and Neck Surgery review book by Pasha (or other reference approved by the Otolaryngology—Head and Neck Surgery faculty).
7. Take call as required.

PGY2 Research Month: The overall goal of this month is to get the CORE grant ready for submission. This will allow the resident to begin the main portion of their research project on day 1 of the PGY3 research block.

1. Prepare letter of intent (LOI) for CORE grant submission. This is usually due in mid-December, but should be prepared and ready to submit by the end of this research month.
2. Prepare grant application for CORE grant submission. This is usually due in mid-January, but should be prepared and ready to submit by the end of this research month. This includes submission of the grant for review to the research mentor, research director, Otolaryngology—Head and Neck Surgery chair, Office of Sponsored Projects, etc.
3. Edit IRB/IACUC application as needed.
4. Take call as required.
5. Meet regularly with research mentor to help monitor progress.

PGY3 Research Block: The overall goal of this month is to complete the research project and, if possible, begin, complete, and submit manuscript(s) for publication and/or presentation.

1. Complete research projects.
2. Meet regularly with research mentor.
3. Take call as required.
4. In addition to the research responsibilities during the R3 research block, the resident will be responsible for catering the Wednesday grand rounds. The Budget will be two hundred dollars a week. The resident will be refunded prior to the following Wednesday. The resident should also become competent with setting up the computer in classroom C to assist the grand round presenters with set up. They will be responsible for supplying the AV cord, computer, laser pointer, etc. that is kept in the ENT offices.

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