

University of Rochester Department of Ob/Gyn Resident Research & Scholarly Activity Curriculum

Scholarship within Graduate Medical Education

Medicine is both an art and a science. The physician is a humanistic scientist who cares for patients. This requires the ability to think critically, evaluate the literature, appropriately assimilate new knowledge, and practice lifelong learning. The program and faculty must create an environment that fosters the acquisition of such skills through resident participation in scholarly activities. Scholarly activities may include discovery, integration, application, and teaching.

The ACGME recognizes the diversity of residencies and anticipates that programs prepare physicians for a variety of roles, including clinicians, scientists, and educators. It is expected that the program's scholarship will reflect its mission(s) and aims, and the needs of the community it serves. For example, some programs may concentrate their scholarly activity on quality improvement, population health, and/or teaching, while other programs might choose to utilize more classic forms of biomedical research as the focus for scholarship.

Program Responsibilities

The sponsoring institution and program must allocate adequate educational resources to facilitate resident and faculty involvement in scholarly activities. The curriculum must advance residents' knowledge and practice of the scholarly approach to evidence-based patient care.

Elements of a scholarly approach to patient care include:

- Asking meaningful questions to stimulate residents to utilize learning resources to create a differential diagnosis, a diagnostic algorithm, and treatment plan
- Challenging the evidence that the residents use to reach their medical decisions so that they understand the benefits and limits of the medical literature
- When appropriate, dissemination of scholarly learning in a peer-reviewed manner (publication or presentation)
- Improving resident learning by encouraging them to teach using a scholarly approach

The scholarly approach to patient care begins with curiosity, is grounded in the principles of evidence-based medicine, expands the knowledge base through dissemination, and develops the habits of life-long learning by encouraging residents to be scholarly teachers.

ACGME Common Core Requirement

The ACGME requires all OB-GYN training programs to create a curriculum that advances residents' knowledge of the basic principles of research including how research is conducted, evaluated, explained

to patients, and applied to patient care. All residents must participate in scholarly activity. At UR, all residents are expected to complete and present a research project.

The goals of our research program include:

1. Teach how to critically review literature & to promote life-long learning
 - a. increase your ability and confidence as a reader and interpreter of scientific literature that impacts your clinical decision making
 - b. understand basic principles of research, types of studies, and the interpretation of statistical results (i.e. p-values, confidence intervals, etc.) that will help you determine the strengths, weaknesses, and validity of the data and conclusions offered
2. Gain direct experience in conducting research for appreciation of the process and to evaluate your interest in including research as part of your career.
3. Teach how to contribute quality research or projects to the public, peers & community
4. Guide residents through the process in a logical way with set expectations
5. Encourage and enable residents to present & publish their findings
6. Provide opportunities for residents interested in academic generalist or subspecialty careers to create a scholarly activity portfolio for job and fellowship applications

These goals will be reached through:

1. Formal didactic curriculum based on year of residency
2. Assigned readings/course work
3. Journal clubs
4. Creation of expectations & time lines by resident year
5. Completion & presentation of project by the end of 3rd year to be presented at the Departmental Resident Research Day (required for graduation)
6. Completion of manuscript by mid-August of 4th year (required by graduation)

It is strongly recommended that every resident submit an abstract from their project to a scientific meeting. It is strongly hoped that every resident will submit their manuscript to a scientific journal.

Acceptable Project Types:

- Research
 - Observational Studies
 - Survey-collected data
 - Cohort study
 - Case-Control Study
 - Cost-effective analysis
 - Meta-analysis or Systematic Review
 - Randomized Controlled Trials
- QI Project utilizing QI Science methodology
 - LEAN or PDSA cycle
 - Data assessing outcomes & impact
 - Must be pre-approved by PD/Research director
- Curriculum Creation

- Requires identified need, defined outcomes & data
- Must be pre-approved by PD/Research director
- Community Outreach Project

All studies should have a well-defined hypothesis to be tested. Retrospective, prospective, and database studies are appropriate. An educational research or quality improvement project may be appropriate depending on study design. Book chapters, case reports, and case series are not appropriate to meet this requirement. You need to think about the time you will have to devote to the project and the feasibility of completion by the deadline.

The Departmental Resident Research Day is held in April or May every year. A guest speaker is invited to provide the opening lecture and participate in the research presentations. All 3rd year residents present their research project using a PowerPoint format similar to that used for oral presentations at scientific meetings. Residents who complete their research early may request to present during their 2nd year and will be accommodated as possible. A committee including the departmental chair, guest speaker, research director, and departmental faculty assesses the presentations and the resident research awards are presented at the end of the year banquet.

Manuscripts will be reviewed by a committee of independent faculty reviewers and residents will receive feedback on their writing skills and completed product. (One week of elective in the 4th year can be used for revisions/submissions of the original draft manuscript if approved by the program director.)

Each resident will have access to an educational fund of \$1800 to be used for conference expenses where they will be presenting. (If this money is not used, it can be used for other educational expenses such as books, on-line education or toward written board exam expenses.)

Timeline:

R1: Beginning Researcher

- HSPP number completed on-line at part of pre-residency preparation.
- Identify a topic/clinical question you are interested in developing into a research project or identify an available project that you would like to contribute to
- Identify a research mentor (appropriate to the topic you are interested in) or associated with the project you chose from a list of available projects).
- Complete the Mentorship agreement and turn in to Education Office.
- Literature Review on your topic for background & project development.

R2: Entering Active Research Phase

- If not already done, complete R1 steps.
- Arrange meeting with you, research mentor, Research Director/Associate Director.
 - Discuss project hypothesis, study type, resources needed, etc.
- Write study protocol and submit to IRB. Complete requested revisions & obtain approval.
- Apply for funding as needed.
- Start recruitment/data collection.
- Identify statistics needs and recruit additional statistics personnel as needed.

- Meet with mentor and statistical personnel (if not the same person) to review study protocol, outcome measures, and plan stats strategy.
- Start entry of data into database.

R3: Active Researcher

- If not already done, complete R2 steps.
- Complete entry of data in to database. Complete any needed database cleaning.
- Submit database for statistical analysis.
- Arrange meeting with you, mentor, and statistics personnel to review stats, make any needed revisions or additional stats, ensure understanding of results.
- Write abstract for Resident Research Day. Submit to Research Director by deadline.
- Edit abstract for submission to scientific meeting according to provided guidelines.
- Present at Resident Research Day.

★ You should aim to have your database ready for analysis no later than December of your 3rd year to allow adequate time for statistical analysis and revisions.

R4: Experienced Researcher

- Write manuscript. Submit to Education Office and to a scientific journal.
- Reflect on your research project and identify any new research questions, offshoots of your project, or potential use of the database you generated that could serve as a research project for another resident. Submit any ideas to the Research Director/Associate Director.

ACGME Tracking of Scholarly Activity

- PMID – PubMed IDs (assigned by PubMed) for articles. This is generally an 8-character number.
- Conference Presentations – Number of abstracts, posters, and presentations given at international, national or regional meetings.
- Textbook Chapters – Number of chapters or textbooks published.
- Research – Participated in funded or non-funded basic science or clinical outcomes research.
- Teaching Presentations – Lectures or presentations (such as grand rounds or case presentations) of at least 30 minutes in duration within the sponsoring institution or program.