

Southern Illinois University

MEDICAL STUDENT RESEARCH POLICY

Revised January 2006

Guidelines and Procedures: Preparation, Submission, and Review of Medical Student Research Proposals

Introduction

The Southern Illinois University School of Medicine offers a broad range of learning opportunities to prepare students for a variety of medical careers. An important educational experience for some students is participation in basic science or clinical research. This report, prepared through the Educational Policy Council (EPC) and the Research Policy Committee (RPC), has the following objectives:

- 1) To encourage qualified students to participate in substantive faculty-supervised research and to implement and reward such participation.
- 2) To set guidelines for elective credit for research activity.

The purpose of this document is to encourage students to become involved in substantive projects.

General Comments

Qualified and interested students are encouraged to participate in mentored research projects. Although participating in research during medical school is not an academic requirement, personal involvement in a research project at this stage of career development has high educational value. Designing a project, collecting and analyzing data, and presenting the conclusions allows the student to apply prospective scientific thought processes, more fully appreciate evidence-based medicine, and experience the practical difficulties inherent in carrying a project to completion. This type of experience will also teach to more carefully evaluate published articles in deciding whether to incorporate new findings into their clinical practice. Further, research experience may expand students' future career opportunities in the choice of residencies or careers in academic medicine.

Motivation to engage in a student research project may come from several sources. A student may simply want limited exposure to research in order to better understand the research process. Some students may welcome the opportunity to work with a specific faculty member or in an area of personal interest. Students may wish to pursue career development in basic or clinical research.

A medical student interested in research should first contact a faculty member who is interested in being a faculty mentor to discuss his or her interest in conducting a research project. A list of faculty mentors is available on the web page of the Office of the Associate Dean for Research and Faculty Affairs.

Types of Research Projects at SIUSOM

Students may become involved in research at several levels. First year medical students can participate in the Mentored Professional Educational Experience (MPEE) program during the summer between their first and second years. Information about the MPEE program is available on the SIU and SIU SOM Websites. In other years, students in the third or fourth years may choose a currently available two- to four-week elective with a specific faculty member. This sort of elective is valuable, yet represents only a brief introductory experience. Students may choose to pursue their projects more extensively and independently, without elective credit. This sort of long-term project often is more rewarding and productive. Elective credit for all research, whether performed on school or on personal time, requires prior approval of the Year 4 Committee as applicable. Each student will be allowed a maximum amount of research elective credit. The student should be aware that to complete a research project, including preparation for presentation or publication may require time in addition to the elective time.

To encourage elective participation in significant research, students must be aware of research possibilities and appropriate awards must be available as described later in this document.

Additional Degree Possibilities

In addition to the M.D. degree, some students may wish to obtain degrees that include research experience and training. For further information on this possibility, the student should contact the Associate Dean for Student Affairs.

Guidelines for Elective Credit for Research

Students seeking brief (2-4 week) electives directly or indirectly related to research should apply in the usual fashion through the Year 4 Elective Committee.

Students seeking major time commitment for elective research should follow the guidelines outlined in this report. All projects should have both scientific and educational merit. Choosing a major research elective is a privilege and a challenge, and marginal students would be better served by focusing on electives more clearly germane to graduation. Therefore, research electives should be approved on an individual basis by the Year 4 Committee using suggestions outlined below. Students will be held accountable for their projects in order to receive elective credit and must receive certification of satisfactory performance by the faculty mentor.

While recognizing that a “critical time block” is necessary to successfully complete a project, other electives are also important for a balanced medical education. Three months of uninterrupted research is considered to be a reasonable maximum time period. Elective research time can be combined with other part-time electives. Actual time involved, however, should be approved in advance by an individual faculty member as well as by the Year 4 Committee. With the agreement of the mentor, students are also free to pursue non-elective research activities on vacation or other personal time, and some students may choose to engage in part-time research throughout their medical school careers. Some students may choose a research elective in year four to complete an ongoing project.

Specific Suggestions for the Encouragement, Implementation, and Reward of Student Research

The faculty and the Office of the Associate Dean for Research and Faculty Affairs hold major responsibility for encouraging student research. Faculty members are responsible for supervising student research, while the major responsibility for regulating student research lies with the Year 4 Committee.

Faculty members are surveyed annually regarding their interest in serving as mentors for elective student research. A list of participating faculty members is distributed annually to all four classes by the Office of the Associate Dean for Research and Faculty Affairs.

Students interested in a substantive research experience should contact the individual faculty members of their choice. After a specific mentor and research area are identified, the student must prepare a written project proposal with the assistance of the faculty member. This document should include a description of the project, a budget and budget justification, and a proposed schedule for completion of the project, as detailed later in this document. The length of the proposal may vary. If the student is participating in an ongoing faculty project, a brief summary of the project and the student’s proposed role in its completion is sufficient. For new projects, students are expected to submit a more detailed protocol. Students are strongly encouraged, but not required, to become familiar with the National Institutes of Health application forms and procedures. The proposal should be submitted to the Office of the Associate Dean for Research and Faculty Affairs, who will then forward it to the Year 4 Committee for assessment of educational merit and appropriateness of elective time requested. If not already approved as part of a pre-existing project, the proposal must also be approved by any other appropriate school committees such as the *Springfield Committee for Research Involving Human Subjects (SCRIHS)*, *Laboratory Animal Care and Use Committee (LACUC)*, *Radiological Control Committee (RCC)*, and/or the *Infection Control and Safety Committee (ICSC)* before the project can begin. The medical student should participate in all approval processes required for the research project. To receive research elective credit, the student must complete the project to the satisfaction of the faculty mentor.

General Instructions on Writing a Research Proposal

The following general comments about writing a research proposal are taken from National Institutes of Health (NIH) grant application instructions. They are relevant to writing any research proposal.

Although students are not required to follow federal guidelines in preparing a research proposal, doing so will familiarize them with the requirements they will encounter should they decide to submit grant applications to NIH later in their careers. Further information about the NIH application process can be obtained from the Office of the Associate Dean for Research and Faculty Affairs.

The research plan portion of a proposal should be written so that it is specific and informative but without redundancies. Brevity and clarity in the presentation of the research plan are considered to reflect the investigator's approach to a research objective and ability to conduct a superior project. While being succinct, the investigator should, on the other hand, never assume that reviewers of the proposal are already familiar with the research proposed. Therefore, complete information should be provided. The most successful applications contain a well-defined problem with a well-defined approach. The research plan should answer the following questions:

- What do you intend to do?
- Why is the work important?
- What has already been done?

NOTE: Please be judicious in compiling the bibliography. It should be relevant and current, not exhaustive.

Facilities

Indicate the facilities to be used, and briefly describe their capacities and capabilities.

Lay Research Summary (One paragraph is sufficient.)

In lay, not technical language, briefly summarize the medical or scientific importance of the proposed research project to the public.

Submission of Research Proposal

The research proposal must be signed by the student and the faculty mentor before being submitted to the Office of the Associate Dean for Research and Faculty Affairs (ADRFA). The faculty mentor's signature indicates his or her approval of the proposed amount of time to be spent on this project as well as approval of the project itself. The Office of the Associate Dean for Research and Faculty Affairs will forward the proposal to the Year 4 Committee for review and approval. Students should be mindful that the complete review process can take up to four months, especially if the proposal involves the use of human subjects or animals. Students are encouraged to be directly involved in the committee application and revision process.

Request for Funding and Budget Justification

The principal funding source for medical student research resides with individual faculty members and their departments. Should department resources be insufficient, the Office of the Associate Dean for Research and Faculty Affairs will consider sharing costs for medical student research. This funding will be limited to expenditures for commodities and contractual services will generally be limited to \$1,000 per project, and will represent no more than 50% of the cost of the entire project. The department of the faculty mentor should be willing to fund at least half of the cost. Exceptions to this funding limit will be considered. The supervising faculty member will be the chief fiscal officer for all approved funds. Students can request such support by submitting the proposal, including budget and budget justification, with an appropriate cover letter explaining and justifying the need for support, to the Office of the ADRFA. Faculty members selected by the ADRFA will review the proposal for scientific merit. Decisions on funding will be based on scientific merit and availability of funds. If, during the course of a research project, the student anticipates a delay in its completion, he/she must notify the Office of the ADRFA to request an extension.

- The budget request can include only commodities and contractual services. Personal stipends are not permitted because this program is viewed as an educational experience and not as employment.
- Itemize the specific commodities needed. Commodities are defined as items that individually cost less than \$50 (e.g., glassware, chemicals, animals, animal housing costs (per diem), radioisotopes, and in-house printing; and the specific contractual services, such as Biomedical Communications and the Research Imaging Facility).
- Justify all items requested.

- Should an award be made by the Office of the Associate Dean for Research and Faculty Affairs for this research proposal, the student's faculty mentor will be the fiscal officer for the award, and an account will be established in the faculty member's name.

Students are also encouraged to apply for outside grants and scholarships. For information on external research funding available to medical students, contact the Office of Student Affairs and/or the Office of the ADRFA. .

Human Subjects, Laboratory Animals, Radioisotopes, Biohazards

- If the research proposal involves the use of human subjects, laboratory animals, radioisotopes, or biohazards, the proposal must also be submitted to and approval obtained from the following appropriate committee(s) before the proposed research can be implemented: Springfield Committee for Research Involving Human Subjects, Laboratory Animal Care and Use Committee, Radiological Control Committee, and/or the Infection Control and Safety Committee. The Office of the ADRFA (545-7936) should be contacted to obtain the necessary forms and instructions for preparing protocols for review by these committees. Review by these committees can take place simultaneously with the review of the research proposal, but funds will not be awarded and final approval will not be given until all committee approvals are in place.

Review of the Research Proposal

Research proposals submitted for projects for which elective credit is requested will be reviewed as follows to determine the appropriateness of elective time required, the educational merit, and the amount of funding, if any, to be awarded:

Year 4 Elective Committee: The Year 4 Elective Committee, as applicable, will review to assess the proposal's educational merit and the appropriateness of the proposed elective time and credit.

Office of the Associate Dean for Research and Faculty Affairs (if funding is requested): This office will arrange for review of the proposal by faculty members to assess scientific merit. A decision on funding will be based on the scientific merit and the amount of resources available.

Reporting Requirements

- Mandatory

At the completion of the research project, the faculty mentor must certify that the student has performed satisfactorily. Both the student and faculty member must fill out the appropriate paperwork for credit to be awarded.

- Optional

Students are strongly encouraged to report on their research accomplishments in the form of an oral presentation with slides at the annual Combined Research Symposium, which is planned and organized by the Office of the ADRFA in conjunction with Alpha Omega Alpha Honor Medical Society and SIUC Chapter of Sigma Xi. This event is held in the spring of each year. Presentations are judged, and awards are presented for the best medical student projects of the year. Students are encouraged to submit worthy projects for publication.

Travel for Presentations

Students who complete a substantive research project are encouraged to orally present their research at national meetings. The sponsoring department, the Office of Student Affairs, and the ADRFA will each contribute one-third of the travel costs with a maximum total of \$1,200.