HANDOUT FOR THE GOALS AND OBJECTIVES OF THE RESEARCH ROTATION

Overview of Research Goals and Objectives

The Nephrology Fellowship Training Program is designed to provide individuals with the opportunity to achieve a clinical education in the fundamental knowledge, procedural skills, practical experience, and professional and ethical behavior necessary for the subspecialty of Nephrology, but also to inculcate an appreciation and capacity to understand the tools necessary to create medical knowledge, including an understanding of study design, implementation, analysis, and publication both for clinical and bench research. In instances in which the fellow seeks an academic career, the fellow's educational program will be designed not only to understand these principles, but to actually carry out study design, implementation, analysis, and publication with increasing independence over time.

Nephrology Research Training Program

Research options in the Harbor-UCLA Fellowship program.

For most or our fellows whose goal is to enter the clinical practice of nephrology, research is conducted generally during 4 months, on average, in specific 1-month blocks. For those individuals who are planning a career in academic medicine, individualized programs are designed to meet the Fellow's specific needs. For the individuals wishing to have a career in academic medicine, 1-3 years of time devoted to research has been provided, with designated time for attending didactic courses at local colleges and research institutes, attending courses offered by the GCRC, weekly lab meetings with a designated mentor, laboratory journal clubs separate from the Divisional journal clubs, and performance of research projects under the guidance of faculty mentors who meet at least once a week with the Fellow. All fellows are able to choose their own mentors and projects, after approval of the Training Program Director.

Research Schedule

Fellows meet with all research faculty to discuss possible research projects and mentorship. Fellows may become involved in projects already in progress and are not anticipated to be responsible for completely designing a new project, but, in rare instances, may be able to do so. Clinical fellows are not expected to obtain independent funding to support their salary or research activities. Fellows anticipating a career in academic medicine are expected to actively participate in the writing of grants for the support of the research training, although for such individuals, the Division will make a commitment for salary support in the event such a grant is not obtained after an appropriate effort is made. After identifying a mentor and project, Fellows are actively involved in the research project under the direction of the faculty mentor during the times allotted for research. Additional time may be devoted to this during the Transplant outpatient rotation if the fellow so elects. Thus, during the two years of fellowship, on average each Fellow is assigned approximately 4 months to research, although those interested in a career in academic medicine are encouraged to spend at least 1 year, and some have spent 3 years, devoted to research.

Goals and Objectives of Research Program

- Understand fundamentals of research including basics of research design, data analysis (biostatistics), public policy, economics, health education, designing trials, recruiting subjects, responsible use of informed consent, standards of ethical conduct of research, clinical

epidemiology, outcomes analysis, and in the case of the basic research trainee, an understanding of the basic science area, techniques, study design, and interpretation.

- Gain hands-on experience with conducting a clinical research project including research design (where feasible), data analysis, subject recruitment, data collection, data analysis, and manuscript preparation.
- Understand principles of grant and paper writing.
- Provide sufficient exposure to research to allow Fellows to make an informed decision about pursuing a career involving research.
- Provide sufficient exposure to research to allow Fellows to critically assess basic and clinical research literature and to be competent in using available medical informatics systems. Bibliographic retrieval and critical appraisal skills are of paramount importance.
- Become a co-author on a published manuscript or abstract, or present research at a national meeting.
- Give a Nephrology Grand Rounds lecture at the end of Year 2 based on the Fellow's research project
- For the Fellow with an interest in pursuing a career in academic medicine, submission of a K award with a faculty mentor is encouraged

Progressive Objectives in Research

The objectives of the nephrology fellowship program are designed to reflect a progressive increase in learning and independence. The learning principles are based on progression through the six learning domains: knowledge, comprehension, application, analysis, synthesis and evaluation. Major areas in which a graduated level of function is anticipated in the Research rotation of year 2 include:

- Research
    - Requirement for delivering Nephrology Grand Rounds on the chosen research topic
    - Expectation to submit for publication an abstract or paper covering the work

Educational Training

Didactic courses

GCRC course - Fellows interested in research may attend the GCRC-sponsored courses. Topics covered include basics of research design, ethical conduct of research, responsible used of informed consent, data analysis (biostatistics), public policy, economics, health education, designing trials, recruiting subjects and other epidemiology issues, and outcomes analysis.

Division of Nephrology and Hypertension Clinical Research course – Fellows perform self-directed study on HIPPA and ethics in research using a curriculum available at the Parlow Library, and take on-line tests leading to certification.

The Research Mentor-Fellow relationship is the primary means by which Fellows will achieve training in research and will include specific education that results in an understanding of fundamentals of research including basics of research design, data analysis (biostatistics), public policy, economics, health education, designing trials, recruiting subjects, responsible use of informed consent, standards of ethical conduct of research, clinical epidemiology, outcomes analysis, and in the case of the basic research trainee, an understanding of the basic science area, techniques, study design, and interpretation.

Nature of Supervision - Fellows should select a project and mentor, which must be approved by the Nephrology Fellowship Program Director. The Fellow's research activities will then be guided by the Research Mentor. This involves frequent meetings between the Fellow and mentor during which all aspects of conducting the research projects are addressed.

Means of Fellow Evaluation – The mentor provides the Fellow with ongoing informal feedback. In addition, the mentor meets with the Nephrology Training Program Director semiannually to report on the Fellow's progress. The Training Program Director also discusses the research progress with the Fellow during their semi-annual meetings. Evidence of successful completion of the Fellow research requirement includes presenting an abstract at a national meeting, publishing an abstract or manuscript, and/or presentation of the research to the Division of Nephrology and Hypertension for the one hour research conference and nephrology Grand Rounds.