

Name of rotation: Endocrine and Diabetes Research

Division: Endocrinology,  
Diabetes & Nutrition

Course Director: To be arranged with individual faculty members Site(s): UMMC

Duration of rotation:  one or two months only  
 2 weeks possible

**General description of the rotation including educational purpose, rationale or value:**

Advances in the treatment and prevention of disease come from discoveries at the laboratory bench that provide molecular and cellular insights into disease processes that are ultimately translated to clinical care. The purpose of this rotation is for the resident to participate in basic and/or clinical research in diabetes and endocrinology. The resident will work closely with a faculty mentor to plan a research project. They will work in the laboratory or clinical research setting to obtain data, perform analysis, interpret results, plan future experiments, and write and publish a manuscript describing the advance. Ongoing research projects in basic and clinical research include studies of diabetes, osteoporosis, hypertension, cardiovascular disease, celiac disease, obesity, dyslipidemia, and aging/longevity. A detailed description of the faculty and their research interests can be found at [www.medschool.umaryland.edu/endocrinology](http://www.medschool.umaryland.edu/endocrinology). Residents will also participate in weekly journal and data club meetings, which will provide the opportunity to learn how to critically review the research literature, and to clearly present the results of their research findings.

**Resident responsibilities, including interns and residents:**

The resident will have the responsibility of choosing a mentor that matches their research interests. Together, they will plan a research project. The resident will be responsible for working in the laboratory and/or clinical research setting to learn research methods and to obtain data. They will work with their mentor to analyze and interpret data. The resident may also be responsible for assisting in manuscript preparation for the publication of the results. The resident will be responsible for presenting his/her data at Journal/Data club meetings.

**Educational Objectives:** An expanded version of the competencies is listed under Core Competencies in Internal Medicine. Those listed here are specific to this rotation. Since residents may choose this elective during any year of training, PGY-1 goals and objectives are distinct for those for upper level residents, and PGY-2 and 3 goals and objectives are similar.

**During this rotation, the PGY-1 resident will:**

**Patient Care** – Not applicable

**Medical Knowledge** - Not applicable

**Practice-Based Learning**

1. Learn how to frame a research question into an answerable hypothesis and to design an experimental approach to answer the hypothesis.
2. Acquire the knowledge and technical skills to perform basic and/or clinical research of endocrine diseases.
3. Obtain basic statistical skills to analyze and interpret the results of data obtained through basic and/or clinical research.
4. Learn how to critically review the scientific literature.
5. Effectively share the results of new research information through presentation of their research results and journal articles during meetings and conferences.

**Interpersonal and Communication Skills** – See Core Competencies

**Professionalism** – See Core Competencies

**System-Based Practice** – See Core Competencies

**During this rotation, the PGY-2 or 3 resident will:**

**Patient Care** – Not applicable

**Medical Knowledge** - Not applicable

**Practice-Based Learning**

1. Frame a research question clearly into an answerable hypothesis and to design an experimental approach to answer the hypothesis.
2. Acquire the knowledge and additional technical skills to perform basic and/or clinical research of endocrine diseases.

3. Obtain basic statistical skills to analyze and interpret the results of data obtained through basic and/or clinical research, and enhance those learned at the PGY-1 level.
4. Critically review the scientific literature in an independent manner.
5. Present research results through research meetings, journal articles and regional and national meetings.

**Interpersonal and Communication Skills** – See Core Competencies

**Professionalism** – See Core Competencies

**System-Based Practice** – See Core Competencies

**Check all principle teaching methods used during this rotation:**

<input type="checkbox"/>	Attending teaching rounds	<input checked="" type="checkbox"/>	Interdisciplinary rounds
<input type="checkbox"/>	Patient management discussions	<input checked="" type="checkbox"/>	Small group discussions
<input checked="" type="checkbox"/>	Conferences specific to rotation	<input type="checkbox"/>	Bedside clinical rounds
<input checked="" type="checkbox"/>	Individual instruction of procedures	<input type="checkbox"/>	Review of diagnostic studies, including radiology
<input checked="" type="checkbox"/>	Other: 1-on-1 mentoring with research faculty		

**Describe the most important educational content, including the mix of diseases, patient characteristics, types of clinical encounters, procedures and services:**

The resident will become immersed in a basic and/or clinical research project to obtain the technical and intellectual skills necessary to perform leading edge basic and/or clinical research in endocrinology and diabetes.

**Check the principal ancillary education materials used:**

<input checked="" type="checkbox"/>	Reading lists	<input type="checkbox"/>	Pathologic material
<input type="checkbox"/>	Radiologic studies	<input type="checkbox"/>	Other noninvasive studies
<input checked="" type="checkbox"/>	Handouts on relevant topics	<input checked="" type="checkbox"/>	Articles from the literature
<input checked="" type="checkbox"/>	Other: Hands on participation in research	<input type="checkbox"/>	Case studies

**Methods used to evaluate the resident and the rotation:**

<input checked="" type="checkbox"/>	Evaluation of residency performance
<input checked="" type="checkbox"/>	Evaluation of attending teaching skills and other attributes
<input checked="" type="checkbox"/>	Rotation assessment by resident
<input type="checkbox"/>	Observation of resident's clinical competency
<input type="checkbox"/>	Observation of resident's leadership and teaching skills
<input type="checkbox"/>	Review of the resident's history/physical exam, progress notes and documentation of procedures in the chart
<input checked="" type="checkbox"/>	Resident's attendance of rounds and conferences monitored
<input checked="" type="checkbox"/>	Other: Performance in a research setting

**Identify strengths and limitations specific to the resources of the sponsoring institution:**

The Division of Endocrinology, Diabetes and Nutrition has 15 full time faculty that are engaged in basic and/or clinical research. They are housed together in 7,000 square feet of laboratory space in Howard Hall. In 2005, the Division's annual research budget is more than \$7 million. Expertise of the faculty span from basic molecular and cellular research, genetics and functional genomics, genetics, epidemiology and statistical genetics, and clinical and translational research. The resident will have the opportunity to choose from among a wide variety of ongoing research projects and work in a multidisciplinary research team's setting to obtain skills in research. The resident will have the opportunity to work at the Amish Research Clinic in Strasburg, PA where many of our genetic studies are performed. In addition to a first-rate clinical research experience, the resident will have the opportunity to interact directly with Amish research volunteers providing a unique scientific and cultural experience.

**Conferences or Attending/Patient Care Rounds:** (Journal club, division rounds, etc.)

<u>Name</u>	<u>Location</u>	<u>Day</u>	<u>Time</u>
Endocrine Grand Rounds	UMMC	Monday	3:30-5:00pm
Journal/Data Club	UMMC	Thursdays	9:00-10:30am
Research Conferences	Varies	Varies	Varies

*The resident and faculty members of the Postgraduate Education Committee reviewed and edited the content of this curriculum at its meeting on 7/18/07.*