Name of rotation: Clinical Endocrinology **Division: Endocrinology, Diabetes & Nutrition**

Course Director: Thomas Donner, M.D. **Site(s): UMMC & VA**

Duration of rotation: **[ ] one month only**
[x] 2 weeks possible

General description of the rotation including educational purpose, rationale or value:
During this elective, residents will work with first and second year fellows in providing inpatient and outpatient endocrinology subspecialty care. Residents will be responsible for inpatient consultations and outpatient clinics in general endocrinology and diabetes. They will also participate in conferences, didactic sessions, and journal clubs. The purpose of this elective is to expose residents to endocrinology as it is practiced: a primarily outpatient subspecialty with an important role as a consultation service to both medical and surgical services.

Resident responsibilities, including interns and residents: The resident will:
1. Participate in outpatient clinics.
2. Consult on inpatients with endocrine disorders.
3. Review literature on endocrine disorders, and present this information to the endocrine service and consulting physicians.
4. Participate in journal clubs and conferences.

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
1. Describe therapeutic options for management of hyperglycemia in the inpatient and outpatient settings.
2. Describe the standards of care for treatment of diabetes with respect to glycemic, blood pressure and lipid goals, frequency of glucose monitoring, and what testing is needed to be performed on patients at each visit, and on an annual basis.
3. Discuss the immediate and long-term management of hyper and hypocalcemia.
4. Describe the appropriate management of hyperthyroidism among outpatients and critically ill patients.
5. Initiate appropriate therapy for patients presenting in diabetic ketoacidosis and hyperosmolar hyperglycemia states.
6. Discuss the management of patients with a solitary thyroid nodule.
7. Be able to describe the pre and postoperative management of patients with pituitary adenomas.

Medical Knowledge
1. Review the rationale, protocols, and interpretation of endocrine testing.
2. Relate endocrine pathophysiology to clinical disease.
3. Learn which endocrine problems require subspecialty consultation.
4. Describe the pathogenesis and complications associated with hyperglycemia among hospitalized patients.

Practice-Based Learning - See Core Competencies
Interpersonal and Communication Skills – See Core Competencies
Professionalism – See Core Competencies
System-Based Practice – See Core Competencies

During this rotation, the PGY-2 and 3 resident will:
Patient Care
1. Initiate evaluation and management of hyperglycemia in the inpatient and outpatient settings.

2. Detail the standards of care for treatment of diabetes with respect to glycemic, blood pressure and lipid goals, frequency of glucose monitoring, and what testing is needed to be performed on patients at each visit, and on an annual basis.
3. Evaluate and manage the immediate and long-term care of hyper and hypocalcemia.
4. Initiate appropriate management of hyperthyroidism among outpatients and critically ill patients.
5. Initiate appropriate therapy for patients presenting in diabetic ketoacidosis and hyperosmolar hyperglycemia states.
6. Discuss the management of patients with a solitary thyroid nodule.
7. Be able to describe the pre and postoperative management of patients with pituitary adenomas.

Medical Knowledge

1. Describe the rationale, protocols, and interpretation of endocrine testing.
2. Relate endocrine pathophysiology to clinical disease.
3. Detail which endocrine problems require subspecialty consultation.
4. Describe the pathogenesis and complications associated with hyperglycemia among hospitalized patients.

Practice-Based Learning - See Core Competencies
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:

[x]	Attending teaching rounds	[x]	Interdisciplinary rounds
[x]	Patient management discussions	[x]	Small group discussions
[x]	Conferences specific to rotation	[x]	Bedside clinical rounds
[x]	Individual instruction of procedures	[x]	Review of diagnostic studies, including radiology
[ ]	Other: _____		

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

Patients with a variety of endocrine disorders are seen, including diabetes, hypoglycemia, thyroid disorders, adrenal disease, osteoporosis, hypercalcemia, pituitary and hypothalamic disorders and multiple endocrine neoplasia. Particular emphasis is placed on thyroid disease and diabetes. Unique to our mix of diseases is our consultations on patients undergoing pancreatic transplantation. Residents also gain experience in procedures and testing central to the practice of endocrinology including fine needle aspiration of the thyroid and intensive glucose monitoring in diabetes.

Check the principal ancillary education materials used:

[x]	Reading lists	[x]	Pathologic material
[x]	Radiologic studies	[ ]	Other noninvasive studies
[x]	Handouts on relevant topics	[x]	Articles from the literature
[ ]	Other: _____	[x]	Case studies

Methods used to evaluate the resident and the rotation:

- [x] Evaluation of residency performance and professionalism
- [x] Evaluation of attending teaching skills and other attributes
- [x] Rotation assessment by resident
- [x] Observation of resident's clinical competency
- [x] Observation of resident's leadership and teaching skills
- [x] Review of the resident's history/physical exam, progress notes and documentation of procedures in the chart
- [x] Resident's attendance of rounds and conferences monitored
- [x] Other: Quality of performance of clinical investigation (if resident chooses this option)

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

The endocrine division works closely with colleagues in endocrine surgery, pathology, radiology, and other specialty services to provide care for patients with a variety of endocrine disorders. A specific example of this cooperative effort is our division's active role in the University of Maryland's pancreas

transplant service. Residents will also rotate through the Joslin Center for Diabetes where they will work closely with diabetologists, nurse educators, nutritionists, and exercise therapists to manage patients with diabetes.

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

Name	Location	Day	Time
Inpatient Case Discussions	UMMC	Monday	3:00 pm
Research in Progress Conference	UMMC	Monday	3:40 pm
Endocrine Grand Rounds	UMMC	Monday	4:15 pm
Diabetes Clinic Conference	UHC	Friday	12:30
Inpatient Consultation Service	UMMC & VA	Monday-Friday	Varies
Thyroid Conference	Cancer Center Conf Rm	4th Tuesday	8:00 am

Clinics:

Name	Location	Day	Time
Endocrine	VA	Tuesday	am
Diabetes	VA	Tuesday	pm
Endocrine	UHC	Thursday	am
Diabetes	UHC	Friday	am

Other information:

Other options include:

(1) Clinical or laboratory research (2 month blocks)

(2) Seeing patients with attendings in a private practice setting

Contact Tom Donner, M.D. (8-6542) for more information.

Contact Alan Shuldiner, M.D. (6-1623) to discuss clinical or research opportunities

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.