

Endocrinology and Metabolism Elective

Inova Fairfax Medical Campus
Internal Medicine Residency Program

Course Director: Michelle Jeffery MD, CDE

1. Educational Purpose and Goals

- a. Expose residents to common endocrine problems seen in the primary care setting.
- b. Evaluate and learn about management of both type I and II diabetes as well as other endocrine and metabolic disorders.
- c. Learn how to take a detailed history pertaining to endocrine and metabolism problems.
- d. Perform and interpret a detailed physical exam in a patient with a suspected endocrine abnormality.
- e. Develop a rational diagnostic and therapeutic approach to problems in endocrinology and metabolism.

Endocrinology and Metabolism will be a PGY1/PGY2/PGY3 level elective for both Inova.

2. Principal Teaching/Learning Methods

- a. *Supervised patient care:* Residents will encounter patients in the hospital endocrinology service as well as in an office setting. In both settings, they will be supervised by an Endocrinologist. Patients will be seen and examined by the resident, who will formulate a hypothesis and a treatment plan and present it to the attending faculty. Both the resident and attending will examine the patient and discuss the plan of care. The attending physician may direct the resident to perform an inpatient consultation based on his or her discretion. In this case, the resident will evaluate in the same fashion as above. In the diabetes center, residents will participate with nurses and dieticians in devising comprehensive diabetes management plans for patients. Residents will be involved in patient education.
- b. *Didactics/Small group sessions*
 - i. Faculty will provide lectures on core endocrinology topics.
 - ii. Attend resident reports, monthly patient safety conference (M and M) and Med-Path-Rad conferences when in the hospital
- c. *Attendance and participation in pertinent hospital committee meetings related to diabetes management*
- d. *Brief (30 minutes) lecture* on an endocrinology topic to faculty during the rotation by the resident.
- e. *Independent reading* – all residents are expected to read about patients they see in the hospital and office (suggested resources below)

3. Educational Content

- a. Patient/Disease mix –Inpatients at Inova Fairfax Hospital who are over 18 years old provide an ethnically diverse patient population with a broad array of common and rare diseases.
- b. Learning venues

- i. Inova Fairfax Medical Campus
- ii. Location of above meeting
- iii. Endocrinology clinics – *in select cases only*
- c. Structure – The rotation is a two to four week block. Residents will not be on call for this service, although they may be on disaster call for the program during this elective. There are no weekend duties. Residents will continue to attend their continuity clinic during this rotation. The educational coordinator will orient the resident to the rotation at the beginning of the block and will review the specific schedule at that time. The majority of time will be spent in the endocrinology clinic. Residents will never work more than 14 hours in a day and typically will work for approximately 10 hours per day, five days per week.

4. **Principal Educational Materials**

- a. At the beginning of the rotation, the educational director will provide materials, including this curriculum, and a resource list.

5. **Methods of Evaluation**

- a. At the end of the rotation, a core faculty endocrinologist will complete a web-based evaluation (MedHub) and review it with the resident.
- b. The residents will also evaluate faculty and the rotation in an anonymous fashion (summarized annually in a composite form).
- c. In-training examination results for self-assessment
- d. Lectures will be evaluated by the supervising faculty immediately after the session and will be a part of the overall evaluation

6. **Resource List**

- a. Becker’s “Principles and Practice of Endocrinology ad Metabolism.”
- b. Endocrinology and Metabolism Clinics of North America (residents are encouraged to use this resource for further review of core endocrinologic diseases).
- c. “Management of Diabetes and Hyperglycemia in Hospitals.” 1999, Diabetes Care.
- d. Harrison’s Principles of Internal Medicine; Part Thirteen (Endocrinology and Metabolism)
- e. *Management of Hyperglycemia in Hospitalized Patients in Non-Critical Care Setting: An Endocrine Society Clinical Practice Guideline, 2012.* (J Clin Endocrinol Metab 97: 16 –38, 2012)
- f. *Guidelines for the Treatment of Hypothyroidism by the American Thyroid Association, 2014.* (DOI: 10.1089/thy.2014.0028)
- g. *NEJM Predisposing Factors for Adrenal Insufficiency, Review Article, 2009.* (N Engl J Med 2009; 360:2328-2339)

*Management of diabetes and hyperglycaemia in the hospital 2021. (Lancet Diabetes & Endocrinology, The, 2021-03-01, Volume 9, Issue 3, Pages 174-188)***Learning Venues**

- 1. Supervised patient care/Attending rounds if hospital patients seen/Attending review of cases in clinic
- 2. Small group and Didactic sessions
- 3. Hospital Committee meetings
- 4. Lecture to Endocrine group

5. Independent reading
6. Hopkins Modules – access provided by the department

Methods of Evaluation

- A. Attending evaluation
- B. Inova Diabetes center evaluation
- C. Direct observation with feedback
- D. Lecture evaluation
- E. ITE exam scores for residents' self-assessment

The following goals and objectives as well as the assessment methods are applicable equally to PGY1, PGY2 and PGY3 level residents doing Endocrinology elective

Competency: Patient Care	Learning Venues	Evaluation Methods
Demonstrate the ability to use history, physical exam, laboratory, and ancillary tests to assess the adrenal status of a patient	1,2,5,6	ACE
Demonstrate the ability to use history, physical exam, laboratory, and ancillary tests to assess the thyroid status of a patient	“	“
Demonstrate ability to generate differential diagnosis, diagnostic strategy, and to define appropriate therapeutic plan and modifications to ongoing therapy in patient with diabetes, diabetic ketoacidosis, or hyperglycemic, non-ketotic coma	1,2,3,5,6	ABCE
	1,2,5,6,	ACE
Demonstrate the ability to generate differential diagnosis, diagnostic strategy, and to define appropriate therapeutic plan and modifications to ongoing therapy in patient with disorders of water balance	“	“
Demonstrate the ability to generate differential diagnosis, diagnostic strategy, and to define appropriate therapeutic plan and modifications to ongoing therapy in patient with adrenal and pituitary disorders	“	“
Demonstrate the ability to generate differential diagnosis, diagnostic strategy, and to define appropriate therapeutic plan and modifications to ongoing therapy in patient with thyroid disorders	“	“
Competency: Medical Knowledge	Learning Venues	Evaluation Methods
Articulate the pathophysiology, evaluation, and management of diabetes	1-6	A-E

Articulate the pathophysiology, evaluation, and management of calcium and bone disorders	1,2,4,5,6	A, C-E
Articulate the pathophysiology, evaluation, and management of disorders of the adrenal cortex and medulla	“	“
Articulate the pathophysiology, evaluation, and management of gonadal disorders	“	“
Articulate the pathophysiology, evaluation, and management of hypothalamic and pituitary disorders	“	“
Articulate the pathophysiology, evaluation, and management of thyroid disorders	“	“
Competency: Interpersonal and Communication Skills	Learning Venues	Evaluation Methods
Communicate effectively with ancillary staff and consulting physicians	1	ABC
Show understanding of differing patient preferences in diagnostic evaluation and management of endocrine disorders	1	“
Competency: Professionalism	Learning Venues	Evaluation Methods
Treat team members, ancillary staff, and patients with respect	1	ABC
Actively engage in the academic process	1-6	A-E
Attend and participate in all scheduled conferences and meetings	2-5	ABC
Competency: Practice-Based Learning	Learning Venues	Evaluation Methods
Identify limitations of medical knowledge in evaluation and management of patients with endocrine disorders and use medical literature (primary and reference), colleagues, attendings, and ancillary staff to address these gaps in medical knowledge	1,2,4,5,6	A-E
Competency: Systems-Based Practice	Learning Venues	Evaluation Methods
Understand barriers to optimal care of patients with diabetes, obesity, and chronic endocrine problems	1,2,3	ABC
Understand how financing of diabetes care and care for chronic medical/endocrine conditions can influence patient care	“	“

<p>Understand need for effective communication between multiple caregivers and sites (e.g., endocrinologists, primary care physicians, diabetes nurse educators, nutritionists, surgeons, interventional radiologists, social workers, hospitals, in- and out-patient units) in delivering optimal care to patients with diabetes and other chronic endocrine problems</p>	“	“
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