

**NAME OF ROTATION:** Endocrinology

**FOCUS OF THIS ROTATION**

- The goal of this rotation is to provide the Internal Medicine trainee (PGY1s, PGY2s and PGY3s) with the opportunity to develop competencies in the assessment and management of patients with endocrine disorders in the emergency department, on the ward, and in the ambulatory clinic setting.
- This rotation will be completed by residents at any level within the Internal Medicine training program. The goals listed will be completed, in part, during the subspecialty rotation. Completion of all goals is expected by the end of the PGY 3 year and will be accomplished through ongoing clinical exposure, participation in the formal academic curriculum and personal learning strategies. Residents are encouraged to prioritize goals during their initial focused clinical exposure to this discipline.

**CBD stage(s) for this rotation:**

- TTD
- FOD
- COD

**Length of this rotation:**

- 1 block

**PGY Level(s) for this rotation:**

- PGY1
- PGY2
- PGY3

**Locations for rotation:**

- SHSC
- SMH
- SHS (MSH)
- UHN-TGH
- UHN-TWH
- WCH

**Required clinical training experiences (Foundations of Discipline = PGY1s):**

- **FOD 1** Clinical training experiences:
  - 1.1.3 Ambulatory care clinics in Endocrinology
  - 1.1.4 Acute care experience with patients presenting to emergency department with endocrine conditions\*
  - 1.1.5 After-hours consultative coverage for a broad spectrum of inpatients and to the emergency department\*
- **FOD 2** Other training experiences:
  - 2.1 Directed and/or independent learning experience, in topics such as medical ethics, critical appraisal, and wellness (e.g. use of journal clubs, online modules, academic rounds)

**Other training experiences (Foundations of Discipline = PGY1s):**

- **FOD 3** Clinical training experiences:
  - 3.3.2 Consultation service in Endocrinology\*
  - 3.3.3 Care of the elderly

**Required training experiences (Core of Discipline = PGY2s and PGY3s)**

- COD 1 Clinical training experiences:
  - 1.1.2 Ambulatory care: clinic, include experience with a broad spectrum of endocrine conditions as well as patients with complex disorders
  - 1.1.3 Service providing Endocrinology consultation to other disciplines or to medical subspecialty inpatient units\*
  - 1.1.4 Service providing preoperative assessment and perioperative care\*
  - 1.1.5 After hours on call coverage for a broad spectrum of inpatients and internal medicine consultation to the emergency department\*
  - 1.1.6 Experience consulting on critically ill patients. This must include ICU, CCU, and internal medicine consultation to the emergency department.\*

**Other training experiences (Core of Discipline = PGY2s and PGY3s)**

- COD 4 Clinical training experiences:
  - 4.4.1 Care for vulnerable/marginalized populations: elderly, pregnant
  - 4.4.2 Interprofessional ambulatory care

\*UHN/SHS; SMH; SHSC; not WCH (only ambulatory there)

**Rotation Plan:**

**Blue = TTD (PGY1, Blocks 1-4); Yellow = FOD (PGY1, Blocks 5-13), Red = COD (PGY2-3)**

EPAs Mapped to this rotation:	<b>Total # of Entrustments</b> Enter the number of entrustments that are expected, or encouraged, on <i>this</i> rotation (i.e. not the number that are expected by the end of the CBD stage).
TTD1 Performing histories and physical exams, documenting and presenting findings, across clinical settings for initial and subsequent care	3
FOD 2B Managing patients admitted to acute care settings with common medical problems and advancing their care plans: Part B: Communication with Patient/Family	3
FOD 3 Consulting specialists and other health professionals, synthesizing recommendations, and integrating these into the care plan.	2
FOD 7 Identifying personal learning needs while caring for patients, and addressing those needs	1
FOD 2A Managing patients admitted to acute care settings with common medical problems and advancing their care plans: Part A: Patient Assessment and Management	3
FOD 2B Managing patients admitted to acute care settings with common medical problems and advancing their care plans: Part B: Communication with Patient/Family	2
FOD 2C Managing patients admitted to acute care settings with common medical problems and advancing their care plan: Part C: Handover	0-1(can do)

<b>EPAs Mapped to this rotation:</b>	<b>Total # of Entrustments</b> Enter the number of entrustments that are expected, or encouraged, on <i>this</i> rotation (i.e. not the number that are expected by the end of the CBD stage).
FOD 3 Consulting specialists and other health professionals, synthesizing recommendations, and integrating these into the care plan.	0-2
FOD 7 Identifying personal learning needs while caring for patients, and addressing those needs	1
COD 2A Assessing and managing patients with complex chronic conditions: Part A: Assessment, Diagnosis, and Management	2
COD 8 Caring for patients who have experienced a patient safety incident (adverse event)	Do whenever possible
COD 2A Assessing and managing patients with complex chronic conditions: Part A: Assessment, Diagnosis, and Management	1
COD 2B Assessing and managing patients with complex chronic conditions: Part B: Patient Education/Communication	0-1
COD 3A Providing internal medicine consultation to other clinical services: Part A: Patient Assessment and Decision-Making	2
COD 3B Providing internal medicine consultation to other clinical services: Part B: Written Communication:	2
COD 3C Providing internal medicine consultation to other clinical services: Part C: Oral Communication	1
COD 6 Assessing capacity for medical decision-making	0-1 (can do)
COD 7 Discussing serious and/or complex aspects of care with patients, families, and caregivers	0-1 (can do)
COD 8 Caring for patients who have experienced a patient safety incident (adverse event)	Do whenever possible
COD 10 Implementing health promotion strategies in patients with or at risk for disease	2

	<b>Other assessments during this rotation:</b>	<b>Tool Location / Platform (e.g. POWER, Entrada):</b>
1.	ITAR	POWER

	<b>Key Goals for this Rotation:</b> By the end of the rotation the resident should be able to ...	<b>CanMEDS Role(s):</b>
1.	Performs an accurate and detailed history and physical examination to elicit details of common endocrine disorders.	Medical expert
2.	Correlates relevant pathophysiology to the ordering and interpretation of laboratory and imaging investigations commonly used in the assessment of endocrine disorders.	Medical expert
3.	Demonstrates a cost-effective, patient-centred approach to and evidence-informed rationale for the management of common chronic endocrine disorders.	Medical expert

	<b>Key Goals for this Rotation:</b> By the end of the rotation the resident should be able to ...	<b>CanMEDS Role(s):</b>
4.	Demonstrates the ability to appropriately investigate and treat acute endocrine disorders.	Medical expert
5.	Demonstrates familiarity with the important determinants of health affecting patients, such as smoking and obesity, and advises appropriate lifestyle or other preventative measures.	Health Advocate
6.	Communicates effectively with physicians and the interprofessional team in oral and written formats, including well organized, timely and legible orders, progress notes and consultation letters.	Communicator
7.	Demonstrates a rational approach to the initiation and adjustment of insulin therapy and other anti-hyperglycemic agents.	Medical expert
8.	Effectively manages time in the ambulatory setting.	Leader
9.	Critical appraises and effectively presents the literature in an endocrine rounds presentation.	Scholar

**Royal College Internal Medicine Competencies emphasized on the Endocrinology rotation.**

Numbers refer to items identified in the Royal College Competencies document

Symptoms

Identify the causes and be able to use history, physical exam and investigations to arrive at a differential and provisional diagnosis for each of the following:

- Amenorrhea 1.4.6.1.1. PGY2 AHD
- Fatigue and malaise 1.4.6.1.2.
- Galactorrhea and gynecomastia 1.4.6.1.3. PGY2 AHD
- Hirsutism 1.4.6.1.4. PGY2 AHD
- Loss of libido 1.4.6.1.5. PGY2 AHD
- Weight gain and loss 1.4.6.1.6.

Findings

Identify the causes and be able to use history, physical exam and investigations to arrive at a differential and provisional diagnosis for the following:

- Hyper- and hypocalcemia 1.4.6.2.1.
- Hyper- and hypoglycemia 1.4.6.2.2.
- Obesity 1.4.6.2.3.

Investigations

Be able to order and interpret each of the following:

- A1c, fasting and random glucose levels, lipids
- Baseline hormone testing (ACTH, cortisol, renin, aldosterone, DHEAS, total, free and bioavailable testosterone, estradiol, LH, FSH, prolactin, GH, IGF-1, sTSH, free T4, free T3, anti-thyroid antibodies, calcium, PTH)
- Stimulation and suppression testing: ACTH stimulation test, oral glucose tolerance test, oral glucose suppression test, insulin tolerance test
- Thyroid ultrasound, radioactive iodine uptake, thyroid scan, CT abdomen, MRI sella, bone mineral densitometry

Disorders

Using results of history, physical examination and investigations, be able to confirm the diagnosis of each of the following, and propose a management plan. The plan may include further investigations and treatment, taking into account the underlying cause and any complications. Must be able to manage endocrine emergencies.\*

- Adrenal masses 1.4.6.3.1. PGY1 AHD
- Adrenal hypertension
- Diabetes mellitus: type 1 and type 2 1.4.6.3.2.

- Complications of diabetes including retinopathy, neuropathy, vascular disease and ulcers 1.4.6.3.2.1.
- Diabetic ketoacidosis and Hyperosmolar hyperglycemic syndrome
- Diabetes and pregnancy
- Perioperative management of diabetes
- Hyper- and hypoadrenalism 1.4.6.3.3. PGY1 AHD
- Hyper- and hypoparathyroidism 1.4.6.3.4.
- Hyper- and hypothyroidism 1.4.6.3.5.
- Thyroid storm and myxedema coma PGY1 AHD
- Lipid disorders 1.4.6.3.6.
- Male hypogonadism and gynecomastia 1.4.6.3.7. PGY2 AHD
- Metabolic bone disease, especially osteoporosis
- Female hypogonadism PGY2 AHD
- Pancreatic endocrine neoplasms 1.4.6.3.8.
- Pituitary masses 1.4.6.3.9.
- Thyroid enlargement and nodules

## Therapies

Integrate knowledge of the indications/contraindications, side-effects and pharmacokinetics of the following therapies in the care of patients with endocrine disorders:

- Diet, oral hypoglycemic agents and insulin
- Thyroid hormone
- Thionamides
- Glucocorticoid hormone replacement
- Mineralocorticoid hormone replacement
- Bisphosphonates