

Lahey Clinic Internal Medicine Residency Program: Curriculum for Endocrinology and Metabolism

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Overview

During the Endocrinology and Metabolism rotation, the resident will be exposed to a variety of conditions listed below:

I. Diabetes Mellitus

- A. Pathophysiology of type I and type II diabetes
- B. Management of acute complications
 1. Diabetic ketoacidosis
 2. Hyperosmolar diabetic states
 3. Hypoglycemia
 4. Use of intravenous insulin infusion
- C. Recognition of chronic complications
 1. Retinopathy by fundoscopic exam
 2. Nephropathy
 3. Neuropathic syndromes
- D. Therapy
 1. Initiation and adjustment of insulin
 2. Proper use of oral hypoglycemic agents
 3. Interpretation of home glucose monitoring and glycohemoglobin determinations

II. Thyroid

- A. Hyperthyroidism
 1. Basic signs and symptoms
 2. Major etiologies
 3. Diagnostic testing: hormone levels and nuclear scans
 4. Treatment options: antithyroid drugs, radioactive iodine, surgery
- B. Hypothyroidism
 1. Diagnosis: exam and laboratory
 2. Therapy with thyroid hormone
- C. Thyroid nodules
 1. Exam to detect goiter and nodules
 2. Appropriate use of isotope scans

3. Indications for needle aspiration

III. Adrenal

- A. Recognition of signs and symptoms of adrenal excess or deficiency
 1. Cushing's: causes (pituitary, ectopic, and adrenal)
 2. Addison's: acute therapy, chronic replacement
 3. Treatment of patient with suppressed pituitary axis under stress conditions
 4. Approach to the incidental adrenal nodule

IV. Gonadal

- A. Differential diagnosis of:
 1. Amenorrhea
 2. Galactorrhea
 3. Hirsutism
 4. Erectile impotence
- B. Assessment and treatment of menopause

V. Calcium and Bone Metabolism

- A. Hypercalcemia
 1. Differential diagnosis special attention
 - a. Primary hyperparathyroidism
 - b. Hypercalcemia of malignancy
 2. Treatment of acute hypercalcemia
- B. Osteoporosis
 1. evaluation of secondary causes
 2. Therapy to include calcium and estrogens
- C. Paget's disease
 1. Recognition by abnormal lab and radiology

VI. Lipid Metabolism

- A. Pathophysiology of lipid pathways
- B. Detection of high risk cholesterol patterns and indications for treatment
- C. Dietary guidelines
- D. Pharmacologic agents, mechanisms and use

VII. Pituitary

- A. Hyperfunction
 1. Hyperprolactinemia
 2. Cushing's disease
 3. Acromegaly

4. Syndrome of inappropriate antidiuretic hormone (ADH)

B. Hypofunction

1. Panhypopituitarism
2. Diabetes insipidus

Principle Educational Goals Based on the ACGME General Competencies

In the tables below, the principle educational goals of the Endocrinology and Metabolism curriculum are listed for each of the six ACGME competencies:

- 1) Patient Care
- 2) Medical Knowledge
- 3) Practice-Based Learning and Improvement
- 4) Interpersonal and Communication Skills
- 5) Professionalism
- 6) Systems-Based Practice

The abbreviations for the type of learning environment and evaluation method are defined below.

Learning Environments:

SDPC	Supervised direct patient care
DL	Didactic lectures
AR	Assigned readings, including national Specialty published guidelines
RP	Resident presentations

Evaluation Methods:

GA	Global assessment
CP	Case presentations to attending
FI	Fellow interaction
MCX	Mini-Cex

1) Patient Care

Objective	Learning Environments	Evaluation Methods
Perform a endocrinologic history, physical examination and assessment	SDPC, RP	GA, MCX CP
Formulate a management plan	SDPC, RP	GA, CP

Clearly document patient management in the medical record	SDPC, RP	GA, CP
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2) Medical Knowledge

Objective	Learning Environments	Evaluation Methods
Recognize endocrine symptoms, signs of variety conditions	SDPC, AR, DL	GA, MCX, FI
Formulate differential diagnosis for common endocrine diseases	SDPC, DL, AR	GA, CP, DL
Management of common endocrine syndromes	SDPC, RP	GA, CP, DL
Use medications Appropriately	SDPC, AR, DL	GA, FI

3) Practice-based Learning and Improvement

Objective	Learning Environments	Evaluation Methods
Identify deficiencies in knowledge base and develop independent means to address them	SDPC, AR	GA
Be able to perform a literature search to answer clinical questions	AR	RP
Facilitate the learning of other health care team members	SDPC	GA , FI, CP

4) Interpersonal and Communications Skills

Objective	Learning Environments	Evaluation Methods
Communicate effectively and compassionately with patients	SDPC	GA
Effectively communicate patient's needs to other providers	SDPC	GA, CP, FI
Facilitate the functioning of the multidisciplinary team	SDPC	GA, FI

5) Professionalism

Objective	Learning Environments	Evaluation Methods
Work to insure elder safety, dignity, comfort, independence and quality of life	SDPC	GA, MCX, RP
Treat all patients, colleagues and hospital/facility staff with respect and equality	SDPC	GA
Maintain patient confidentiality and HIPAA guidelines	SDPC, SGD, AOA, ARDL, LM	GA

6) Systems-based Practice

Objective	Learning Environments	Evaluation Methods
Understand and participate in use of guidelines of care for endocrine conditions health care delivery	SDPC, AR, DL	GA, CP
Work as an equal member of a	SDPC	GA, RP

multidisciplinary team Understand appropriate referrals for diabetes dietitian, educator, podiatry, ophthalmology and medical subspecialties	SPDC	GA, FI, RP
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Endocrinology Curriculum Checklist

	Setting: I (inpatient) O (outpatient)	Date
Adrenal disorders		
Hypocortisolism		
Adrenal insufficiency		
Bone disorders		
Osteopenia/osteoporosis		
Paget's disease		
Diabetes mellitus		
Type I		
Type II		
Metabolic disorders		
Hyperosmolar state		
Hypoglycemia		
Hyponatremia		
Hypernatremia		
Lipid disorders		
Obesity		
Panhypopituitarism		
Parathyroid disorders		
Hypercalcemia		
Hypocalcemia		
Hyperparathyroidism		
Reproductive/sexual disorders		
Change in sexual function		
Menopause		
Menstrual disorders		
Galactorrhea		
Hirsutism/virilization		
Hypogonadism, male		
Thyroid disorders		
Goiter		
Nodule		
Hyperthyroidism		
Hypothyroidism		