Educational Goals and Objectives for Endocrinology & Metabolism

Location: Tufts Medical Center
Lahey Clinic
Lemuel Shattuck Hospital/Faulkner Hospital

Type of Rotation: Elective
Length of Rotation: 4 weeks

Overview

During the Endocrinology and Metabolism rotation, the TY 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. Hyperthyrodisim
   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:**
- ME Monthly evaluation
- CP Case presentations to attending
- MCX Mini-Cex

**1) Patient Care**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Learning Environments</th>
<th>Evaluation Methods</th>
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<tbody>
<tr>
<td>Perform a endocrinologic history, physical examination and assessment</td>
<td>SDPC, RP</td>
<td>ME, MCX, CP</td>
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<tr>
<td>Formulate a management plan</td>
<td>SDPC, RP</td>
<td>ME, CP</td>
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<tr>
<td>Clearly document patient management in the medical record</td>
<td>SDPC, RP</td>
<td>ME, CP</td>
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**2) Medical Knowledge**

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<tr>
<th>Objective</th>
<th>Learning Environments</th>
<th>Evaluation Methods</th>
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</thead>
<tbody>
<tr>
<td>Recognize endocrine symptoms, signs of variety conditions</td>
<td>SDPC, AR, DL</td>
<td>ME, MCX</td>
</tr>
<tr>
<td>Formulate differential diagnosis for common endocrine diseases</td>
<td>SDPC, DL, AR</td>
<td>ME, CP, MCX</td>
</tr>
<tr>
<td>Management of common endocrine syndromes</td>
<td>SDPC, RP</td>
<td>ME, CP</td>
</tr>
<tr>
<td>Use medications Appropriately</td>
<td>SDPC, AR, DL</td>
<td>ME</td>
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**3) Practice-based Learning and Improvement**

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<tr>
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<th>Evaluation Methods</th>
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<tbody>
<tr>
<td>Identify deficiencies in knowledge base and develop independent means to address them</td>
<td>SDPC, AR</td>
<td>ME</td>
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<tr>
<td>Be able to perform a literature search to answer clinical questions</td>
<td>AR</td>
<td>ME</td>
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<tr>
<td>Facilitate the learning of other health</td>
<td>SDPC</td>
<td>ME, CP</td>
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### 4) Interpersonal and Communications Skill

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</thead>
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<tr>
<td>Communicate effectively and compassionately with patients</td>
<td>SDPC</td>
<td>ME</td>
</tr>
<tr>
<td>Effectively communicate patient's needs to other providers</td>
<td>SDPC</td>
<td>ME, CP</td>
</tr>
<tr>
<td>Facilitate the functioning of the multidisciplinary team</td>
<td>SDPC</td>
<td>ME</td>
</tr>
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### 5) Professionalism

<table>
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<th>Evaluation Methods</th>
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</thead>
<tbody>
<tr>
<td>Work to insure elder safety, dignity, comfort, independence and quality of life</td>
<td>SDPC</td>
<td>ME, MCX</td>
</tr>
<tr>
<td>Treat all patients, colleagues and hospital/facility staff with respect and equality</td>
<td>SDPC</td>
<td>ME</td>
</tr>
<tr>
<td>Maintain patient confidentiality and HIPAA guidelines</td>
<td>SDPC, AR, DL</td>
<td>ME</td>
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### 6) Systems-based Practice

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<th>Evaluation Methods</th>
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<tr>
<td>Understand and participate in use of guidelines of care for endocrine conditions health care delivery</td>
<td>SDPC, AR, DL</td>
<td>ME, CP</td>
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<tr>
<td>Work as an equal member of a multidisciplinary team</td>
<td>SDPC</td>
<td>ME</td>
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<tr>
<td>Understand appropriate referrals for diabetes dietitian, educator, podiatry, ophthalmology and medical subspecialties</td>
<td>SPDC</td>
<td>ME</td>
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## Endocrinology Curriculum Checklist

<table>
<thead>
<tr>
<th>Category</th>
<th>Conditions</th>
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<tbody>
<tr>
<td>Adrenal disorders</td>
<td>Hypercortisolism, Adrenal insufficiency</td>
</tr>
<tr>
<td>Bone disorders</td>
<td>Osteopenia/osteoporosis, Paget's disease</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>Type I, Type II</td>
</tr>
<tr>
<td>Metabolic disorders</td>
<td>Hyperosmolar state, Hypoglycemia, Hyponatremia</td>
</tr>
<tr>
<td>Lipid disorders</td>
<td>Hypernatremia</td>
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<tr>
<td>Panhypopituitarism</td>
<td></td>
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<tr>
<td>Parathyroid disorders</td>
<td>Hypercalcemia, Hypocalcemia, Hyperparathyroidism</td>
</tr>
<tr>
<td>Reproductive/sexual disorders</td>
<td>Change in sexual function, Menopause, Menstrual disorders</td>
</tr>
<tr>
<td>Thyroid disorders</td>
<td>Goiter, Nodule, Hyperthyroidism, Hypothyroidism</td>
</tr>
</tbody>
</table>

- Goiter
- Nodule
- Hyperthyroidism
- Hypothyroidism