

## ENDOCRINOLOGY / DIABETES ROTATION

### Faculty:

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**Goal:** Develop competency in pediatric endocrinology/diabetes and/or endocrine research.

*Clinical Inpatient & Outpatient Endocrinology/Diabetes*

### Learning Objectives:

1. Know fundamentals of, evaluation, diagnosis and treatment of common outpatient endocrine and metabolic (diabetes) problems.
2. Gain experience in the evaluation and management of endocrine/metabolic problems requiring inpatient hospital management.
3. Select and interpret appropriate endocrine laboratory tests for evaluation of clinical disorders
4. Correlate clinical endocrinology with basic biochemistry and molecular biology.
5. Gain experience in team management of chronic endocrine disorders with M.D. as a team leader.
6. Know techniques to prevent progression or deterioration of endocrine disorders.

### Curriculum Content:

1. Problems evaluated/managed independently by a general pediatrician:
  - a. Growth and developmental abnormalities in children
  - b. Obesity of children
  - c. Delay or advancement of sexual development.
  - d. Failure to thrive
  - e. Prevention of rickets
  - f. Acquired hypothyroidism
  - g. Prevention of acute adrenal insufficiency/iatrogenic adrenal insufficiency.
  - h. Prevention of DKA & Diabetes sick days
2. Problems managed by a general pediatrician with consultation:
  - a. Aberrations of growth in children
  - b. Chronic hypoglycemia of infancy to childhood
  - c. Chronic management of diabetes mellitus
  - d. Chronic thyroiditis
  - e. Goiter and hyperthyroidism
  - f. Congenital virilizing adrenal hyperplasia
  - g. Chronic adrenal insufficiency
  - h. Cushing's syndrome
  - i. Sexual ambiguity
  - j. Delayed puberty
  - k. Precocious puberty
  - l. Pan Hypopituitarism diagnosis and management
  - m. Diabetes insipidus and ADH excess
  - n. Endocrine hypertension

- o. Parathyroid disorders, hypocalcemia, hypercalcaemia
  - p. Growth excess
  - q. Severe obesity
  - r. Rickets
3. Diseases to be recognized immediately by the general pediatrician as life threatening.
    - a. Severe diabetic ketoacidosis
    - b. Acute adrenal insufficiency
    - c. Ambiguous genitalia as manifestation of life threatening endocrine dysfunction
    - d. Thyroid storm
    - e. Hypoglycemia
    - f. Hypocalcemia
    - g. Endocrine Hypertension
    - h. Endocrine disorders of fluid balance.
  4. Endocrine conditions that a general pediatrician should be able to prevent deterioration to life threatening states.
    - a. Diabetic ketoacidosis & sick days.
    - b. Causes of adrenal insufficiency
    - c. Ambiguous genitalia in a newborn
    - d. Congenital hypothyroidism
    - e. Congenital pituitary deficiency
    - f. Causes of Hypoglycemia
    - g. Causes of Hypocalcemia

**Skills Acquisition:**

1. Interpreting and recognizing the importance or significance of laboratory results:
  - a. Blood sugar reading of diabetics
  - b. Infant metabolic screens
  - c. Electrolytes with respect to children with diabetes insipidus
  - d. Thyroid function tests
  - e. Hormone levels as they pertain to endocrinopathies.
2. Preparation of consultation report on endocrine patients.
3. Critical evaluation of journal literature in journal club.

**Reading:**

1. A reading list will be provided to enhance clinical experiences and to familiarize the resident with major topics of interest in endocrinology/diabetes to achieve learning objectives.
2. Textbooks to be recommended during rotation.

**Rotation Requirements:**

1. Residents will attend assigned endocrine and diabetes clinics.
2. Residents will discuss each case seen with attending in a timely fashion.
3. Residents will be assigned to see consultations and patient in-hospital and will present patients on consultation rounds.
4. Residents will participate in preparation of written communication to referring physicians.

5. Residents will participate in admitting and follow-up care of patients assigned to the pediatric endocrine service.
6. Residents will participate in the Endocrine Division activities/meetings.
7. Residents will read literary reviews of pertinent information to specific cases.

### *Clinical Research in Pediatric Endocrinology*

#### **Introduction:**

This elective can be customized individually. It is designed to teach basics of clinical or research by having the participant actively engaged in a specific project with one of the attendings as mentor. Some participation in clinical activities listed above would also be possible.

#### **Learning Objectives:**

1. Expose residents to techniques and methods of endocrine research.
2. Provide residents with the opportunity to participate in hypothesis development and tests.
3. Give residents experience in data collection and analysis.
4. Give residents experience in communication of research results.