OVERALL EDUCATIONAL GOAL:

The goals for the residents rotating on the Endocrine service are to consolidate his/her general understanding of the function of the endocrine system; to become competent in the basic elements of assessing physical growth; to be able to recognize deviations in physical growth and develop a basic plan for the assessment of children with disorders of growth. Residents will recognize common endocrine disorders, such as diabetes mellitus and hypothyroidism, establish diagnoses, and develop principles of treatment. They also will understand when to refer patients with complicated problems and how to follow patients with endocrinology consultants.

OBJECTIVES:

1. Demonstrate understanding of how to begin the assessment of children with disorders of statural growth by: (MK)
   - Describing the patterns of and variations in normal growth including the rapid and decelerating rate early in life.
   - Measuring length/height accurately, using devices suitable for these measurements.
   - Showing knowledge of the basic principals for using growth-attained charts and growth velocity charts.
   - Understanding the shifts between centile channels among children in the first 2 years of life.
   - Showing knowledge of the relationship between statural growth and acquisition of secondary sexual characteristics.
   - Demonstrating basic skills in taking medical history and in performing and interpreting physical examinations on children with short stature. Understanding the relationship between excessive weight gain or of weight loss and statural growth.
   - Showing knowledge of the principal tests needed for screening for disease in children with growth disorders.

2. Demonstrate understanding of the sequence of events that characterize normal and abnormal puberty. Specifically, knowing the age limits for onset and progression of puberty; explaining the hormonal events that bring about normal puberty; and distinguishing precocious puberty from premature thelarche and premature adrenarche. (MK)

3. Demonstrate knowledge of the signs and symptoms of thyroid gland disease, particularly hypothyroidism. (MK)
   - Demonstrating competency in assessing a child for evidence of hypothyroidism or hyperthyroidism.
   - Ordering the appropriate commonly used laboratory tests of thyroid function.
   - Showing competency in recognizing and evaluating abnormal laboratory tests obtained from neonatal thyroid hormone screening.
   - Understanding the principals of thyroid hormone replacement therapy.

4. Show evidence of knowing how to respond when faced with a newborn with ambiguous genitalia by: (MK, PC)
   - Knowing how to give counsel and reassurance to parents.
   - Knowing that early referral is mandatory.

5. Show competency in recognizing and beginning the assessment of patients with excesses of sex hormones by: (MK, PC)
   - Knowing the physical changes produced by excess androgens and estrogens.
   - Knowing that growth accelerations are hallmarks of sex hormone excess.

6. Demonstrate competency as a primary caregiver in the diagnosis and management of diabetes mellitus. (PBL)
   - Knowing that there are 2 principle forms of diabetes mellitus; one with insulin deficiency and one with insulin resistance.
   - Describing the presenting signs, symptoms and physical findings and laboratory data of a patient with type I diabetes mellitus with and without ketoacidosis.
   - Showing evidence of knowing how to begin fluid reesitation and insulin therapy of a child with diabetic ketoacidosis, and knowing when to refer such children.
   - Showing understanding of the principles of long-term management of children with insulin-dependent diabetes with regard to:
     - Glucose monitoring
     - Insulin dosage time and course of action
Influence of diet
Influence of exercise on insulin sensitivity
Influence of illness on insulin sensitivity

EVALUATION:

The resident’s performance on the rotation is evaluated by direct faculty observation. While these observations encompass several areas/situations, four stand out as particularly useful:

1. Direct one-on-one observations by faculty of the resident’s interaction, knowledge and skill with patients in the weekly endocrine and weekly diabetes outpatient clinics.

2. Direct observation by faculty of the resident’s performance during in-patient consultations on patients with endocrine problems.

3. Direct observation by faculty of the resident’s level of preparation and performance in twice weekly didactic teaching sessions (see below).

4. Through an online evaluation form that is completed by each faculty member having contact with the resident on the rotation.

LEARNING ACTIVITIES OF THE ROTATION:

The resident is assigned patients in the general children’s endocrinology clinic and in the children’s diabetes clinic, and is precepted by faculty.

The resident collects laboratory data on assigned patients, formulates and dictates the chart note, and reviews the note with the faculty.

The resident is an active participant in the clinical conference held at 1:15 PM each Thursday where patients that have been seen in the clinics are discussed in detail. The resident attends and participates in the Medicine/Pediatric weekly seminar held at 4:30 PM each Thursday.

The resident is directed to following web site: uncpeds.org. At this location there are links to 5 sets of organ oriented cases, with questions and references. At scheduled times, the resident meets with faculty, recites and discusses the answers and the case-related questions and has direct interchange with faculty.