

Endocrinology Subspecialty Training Program

Pediatric Endocrinology Rotation Goals and Objectives

Description

The University of Florida-Jacksonville Endocrinology Training Program is a two-year program encompassing both clinical and research experiences. A rotation for second year fellows includes one-month through the division of pediatric endocrinology at the Nemours Clinic Jacksonville and Wolfson Children's Hospital Jacksonville Florida. Fellows participate in the evaluation and management of ambulatory and inpatient pediatric patients at both locations under the guidance of a pediatric endocrinology faculty member. Instruction methods include hospital attending rounds, direct instruction in the clinic of the faculty member and conferences. Recurring conferences include endocrine case conference, endocrine journal club, pediatrics grand rounds and endocrine research conference. Disease mix includes all endocrine and metabolic diseases of children. Appropriate uses of biochemical testing, imaging and biopsy, as well as review of above studies, cytology and pathology are discussed. Evaluation methods include direct observation and feedback at the time of patient encounters and the month end evaluation by pediatric endocrinology faculty members.

Overall Program Goals

The goals of the University of Florida Jacksonville Endocrinology Subspecialty Educational Program at Nemours Clinic and Wolfson Children's Hospital are:

1. Provide comprehensive education in clinical pediatric endocrinology with an emphasis on adolescents, including evaluation and treatment of disorders of the hypothalamus, pituitary, parathyroid, thyroid, endocrine pancreas, gonadal and adrenal glands, as well as diabetes mellitus, obesity, dyslipidemias, hypertension, bone diseases, neuroendocrine diseases, and metabolic disorders sufficient for the fellow to acquire additional experience in the field of pediatric endocrinology.
2. Introduce the principles of clinical and laboratory research and to provide experience in relevant endocrinologic investigations in pediatric subjects.
3. Additional experience and teaching is provided in communication and treatment approaches with young patients

Medical Knowledge

Goal

Fellows will must acquire knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the apply this knowledge to pediatric patient care.

Specific objectives:

1. Fellows are expected to:
 - a. Define and apply biochemistry and physiology, including cell and molecular biology, as related to endocrinology, diabetes, and metabolism, and will be expected to:
 1. Employ genetic principles as they relate to endocrine diagnosis of diseases.
 2. Describe developmental endocrinology, including growth and development, sexual differentiation, and pubertal maturation.
 3. Describe endocrine physiology and pathophysiology in systemic diseases and principles of hormone action.
 4. Acquire the concepts of signal transduction pathways and biology of hormone receptors.
 5. Describe immunologic aspects of diabetes and other endocrinologic diseases.
 6. Describe pathogenesis and epidemiology of diabetes mellitus.
 7. Safely and effectively evaluate and manage ambulatory and acutely ill children with type 1 and type 2 diabetes mellitus, including:
 - a. acute, life-threatening complications of hyper- and hypo-glycemia;
 - b. intensive insulin management in critical care and surgical patients;
 - c. long term goals, counseling, education and monitoring;
 - d. intensive management of glycemic control in the ambulatory setting;
 - e. prevention and surveillance of microvascular and macrovascular complications;
 - f. diabetes detection and management during pregnancy; and
 - g. multidisciplinary diabetes education and treatment program
 8. Assess appropriate utilization of intensive diabetes management, as well as the role of whole organ and islet cell pancreatic transplantation in the pediatric patient.
 9. Safely and effectively evaluate and manage disorders of fluid, electrolyte, and acid-base metabolism; disorders of bone and mineral metabolism, with particular emphasis on the diagnosis and management of osteoporosis; calcium, phosphorus, and magnesium imbalance; endocrine adaptations and maladaptations to systemic diseases; endocrine aspects of psychiatric diseases; parenteral nutrition support; nutritional disorders of obesity, anorexia nervosa, and bulimia; diagnosis and management of lipid and lipoprotein disorders of children.

10. Formulate the appropriate evaluation and management of hormonal problems including diseases, infections, neoplasms and other causes of dysfunction of the following endocrine organs:
 - a. hypothalamus and pituitary;
 - b. thyroid;
 - c. adrenal cortex and medulla;
 - d. pancreatic islets;
 - e. ovaries and testes; and
 - f. parathyroid.

11. Select appropriate utilization and interpretation of clinical laboratory, radionuclide, and radiologic studies for the diagnosis and treatment of endocrine and metabolic diseases, as well as knowledge of basic laboratory techniques, including quality control, quality assurance, and proficiency standards as they specifically relate to pediatric patients at different stages of life.

Patient Care

Goal

Fellows must provide patient and provider care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health in the pediatric patient.

Specific objectives:

Fellows must develop an evaluation and management plan for endocrinologic diagnosis and treatment and must be able to order and interpret appropriate laboratory tests and imaging procedures with the following specific objectives:

1. Fellows will develop skills in the evaluation and management of hormonal problems including diseases, infections, neoplasms and other causes of dysfunction of the following endocrine organs:
 - a. Hypothalamus and pituitary
 - b. Thyroid gland
 - c. Adrenal cortex and medulla
 - d. Pancreatic islets
 - e. Ovaries and testes

Technical and Other Skills:

1. Fellows will develop skills in the performance of the following:
 - a. Interpretation of laboratory studies, including the effects of growth and nonendocrine disorders on these studies.
 1. Interpretation of hormone assays at various stages of maturity.
 2. Selection and interpretation of stimulation and suppression tests (including tests of the adrenal-pituitary-hypothalamic axis, water deprivation tests, growth hormone stimulation and suppression tests, renin-aldosterone suppression and stimulation tests 72 hour fast for hypoglycemia, and glucose tolerance tests for diabetes and metabolic syndromes).
 - b. Interpretation of radiologic and imaging studies for diagnosis and treatment of endocrine and metabolic diseases including:
 1. radionuclide uptake and localization studies of endocrine tissue
 2. ultrasonography of the soft tissues of the neck
2. Fellows will develop skills in interpretation of imaging and how images change with the age of the patient:
 - a. Radiologic measurement of bone density and other tests used in the management of osteoporosis and other metabolic bone diseases.
 - b. Radiologic studies used in the evaluation of patients with endocrine disorders, such as CT, and MRI.

Practice- Based Learning and Improvement

Goal

Fellows investigate and evaluate their care of pediatric patients, to appraise and assimilate scientific evidence, and to improve continuously patient care based on constant self-evaluation and lifelong learning. Fellows are expected to develop skills and habits to be able to:

Specific objectives:

1. Fellows will:
 - a. Locate, appraise, and assimilate evidence from scientific studies related to their pediatric patients' health problems and use information technology to optimize learning (e.g., computer based information systems).

- b. Describe ways to systematically analyze practice, using quality improvement methods, and implement changes with the goal of practice improvement.
2. Fellows are expected to review current literature and apply evidence-based medical practices in the care of pediatric patients.
3. All fellows will attend the endocrine Conference, Journal Clubs and other specific conferences at Nemours Children's Clinic.
4. Identify strengths, deficiencies, and limits in one's knowledge and expertise;
5. Set learning and improvement goals; identify and perform appropriate learning activities;
6. Systematically analyze practice, using quality improvement methods, and implement changes with the goal of practice improvement;
7. Participate in the education of patients, families, students, fellows and other health professionals.

Systems Based Practice

Goal

Fellows must acquire awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

Specific objectives:

1. Locate, appraise, and assimilate evidence from scientific studies related to a systems based issue that influences pediatric patient care.
2. Describe ways to analyze systematically the elements in the process, using quality improvement methods.
3. All fellows are expected to:
 - a. Recognize and utilize medical, surgical, and psychological consultation services available within Nemours Clinic, as well as methods for patient referral to diabetes education, nutrition, rehabilitation, and social services.

- b. Identify patient resources within the community relevant to needs of patients with diabetes and disorders of the endocrine system (e.g., educational resources, consumer organizations, advocacy and support groups, and professional societies).
- c. Retrieve patient records and laboratory data from within the local system, and from referring health care providers, or previous and concurrent sites of patient care.
- d. Identify avenues for obtaining laboratory and imaging tests and recommended therapies for patients belonging to contracted health management organizations and insurance providers.
- e. Participate as a team member in situations requiring interdisciplinary patient care in both inpatient and outpatient settings.
- f. Assist with the transition of acute care at Wolfson Children's Hospital to ambulatory care.

Professionalism

Goal

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

1. Fellows are expected to demonstrate:
 - a. Compassion, integrity, and respect for others
 - b. Responsiveness to patient needs that supersedes self-interest
 - c. Respect for patient privacy and autonomy
 - d. Accountability to patients, society, and the profession
 - e. Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation
 - f. Commitment to scholarship through presentations of conferences, literature reviews, or publications related to personal research and clinical cases.
 - g. Development of effective teaching skills for instruction of patients, peers, and other health care professionals through conference presentations and on an individual level.

Interpersonal and Communication Skills

Goal

Fellows must practice interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates.

Specific objectives:

1. Fellows are expected to:
 - a. Communicate effectively with patients and families across a broad range of maturity, socioeconomic and cultural backgrounds.
 - b. Use simple nontechnical language for oral and written communications and instructions
 1. Use appropriate interpreters for language barriers and/or sensory impairments.
 - c. Communicate effectively with physicians, other health professionals, and health related agencies.
 - d. Write timely, appropriately comprehensive consultation notes and letters with clear assessments and management plans.
 - e. Write or relay unambiguous orders, instructions, and recommendations.
 - f. Maintain comprehensive, timely, and legible medical records
 - g. Present effective teaching conferences using logical organization and appropriate audio-visual media.
 - h. Effectively teach and share literature resources with students, other residents, and referring physicians on an individual basis.