

**UNIVERSITY OF SOUTH FLORIDA
PEDIATRIC ENDOCRINOLOGY AND DIABETES TRAINING PROGRAM
SCOPE OF PRACTICE**

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1. MISSION STATEMENT

The mission of the pediatric endocrinology training program at the University of South Florida is to educate individuals exceptionally qualified as clinicians, educators and physician scientists. By providing opportunities to learn excellent clinical care and have a meaningful research experience we aim to foster the individual development of our fellows as excellent physician/scientists.

2. GOALS OF THE PEDIATRIC ENDOCRINE PROGRAM

The goal of the fellowship program is to provide an educational experience in the field of Pediatric Endocrinology in an intellectual environment conducive to learning. This is accomplished by providing an organized, progressive educational experience with increasing patient care responsibilities over a three-year period in a setting which has a diverse patient population and a teaching staff with professional ability, enthusiasm and a commitment to teaching. We strive to have a broad experience of structured educational activities including didactic lectures, clinical learning, patient care responsibilities, research opportunities and other academic pursuits. The division faculty also serves as role models for the residents to develop their interpersonal skills and participate in ethical decision-making. Faculty and residents are expected to display attitudes and behaviors that demonstrate commitment to patients, their families, and the highest level of care. Working with the health care team, which includes nursing, nutrition and social services is emphasized. The curriculum of the residency program meets the guidelines of the Accreditation Council of Graduate Medical Education. Goals and objectives of the fellowship are described below.

2A. General Goals

1. Acquire the knowledge and skills to become proficient in the care of pediatric patients with endocrine and related metabolic disorders, including diabetes, obesity, and dyslipidemia;
2. Become committed to life-long learning to remain in the forefront of advancing knowledge;

3. Acquire knowledge and skills in research techniques to prepare for an academic career and to critically interpret clinical and basic research.

2B. Goals of the Clinical Service

The clinical service provides trainees with the knowledge and skills to become proficient in consultative care of inpatients and outpatients with endocrinologic disorders of childhood and adolescence. These skills include: the ability to collect and synthesize data obtained from the history and physical examination as well as from review of laboratory and imaging studies; the ability to formulate a treatment plan and modify it as needed; the ability to communicate effectively with patients, referring physicians, and hospital staff; self-directed learning about common and rare endocrinologic problems.

2C. Continuity Clinic

Following a panel of patients for three years in the fellow's weekly continuity clinic permits deeper understanding of the natural history of endocrine disorders while facilitating the goals of developing independent thinking and understanding of the effect of endocrinologic problems on patients' and families' lives.

2D. Graduated Responsibility

Fellows at each of the three levels of training have the same basic goals. However responsibilities and autonomy will increase as described in the job description.

3. PEDIATRIC ENDOCRINOLOGY CURRICULUM OUTLINE (in brief)

3A. EDUCATIONAL OBJECTIVES

1. Short stature, including constitutional delay
2. Disorders of anterior pituitary hormone physiology, including disorders of the growth hormone-IGF-1 axis
3. Disorders of posterior pituitary hormone physiology, including diabetes insipidus
4. Disorders of hypothalamic hormonal regulation
5. Disorders of thyroid hormone physiology
6. Diagnosis and management of endocrine neoplasia
7. Disorders of the adrenal gland physiology
8. Disorders of androgen and estrogen metabolism, including adolescent reproductive endocrinology
9. Disorders of sexual differentiation and development
10. Disorders of calcium, phosphorus, and vitamin D metabolism
11. Disorders of parathyroid gland physiology
12. Disorders of fluid and electrolyte balance
13. Disorders of carbohydrate metabolism, including diabetes mellitus and hypoglycemia
14. Disorders of nutrition, including recognition of eating disorders
15. The training program will include instruction in related clinical and basic sciences. These include endocrine physiology, pathology, and biochemistry; embryology of endocrine and related systems with emphasis on sexual differentiation; genetics, including laboratory methods, cytogenetics, molecular genetics and enzymology; and aspects of immunology pertinent to understanding endocrine disease and the use of immunoassays.

3B. FEEDBACK

Feedback will be given at every level of interaction. It may be formal or informal. It should be timely, objective, and given with the objective of reinforcing strengths and correcting deficiencies. Fellows at all levels are responsible to receive and to give feedback.

3C. FELLOW TEACHING RESPONSIBILITIES

Medical student and PGY1-3 teaching is an important fellow activity. Attending morning report at least monthly in the first year and preparing at least 1 noon core lecture/year for the pediatric residents and medical students will be expected. Fellow teaching of students and residents also occurs in the setting of the endocrine/diabetes outpatient clinic.

3D. AMERICAN BOARD OF PEDIATRIC IN-TRAINING EXAMINATION

Each year, all fellows are required to take the ABP In-training examination. The examination feedback provides a method to determine individual strengths and weaknesses in cognitive knowledge. Examination scores are one measure of the fellow's clinical performance.

3E. EDUCATIONAL PROGRAMS

The resident will attend one national meeting per year during which a variety of didactic state of the art lectures in endocrinology are presented. Didactic lectures are also presented by faculty at residents' noon conference, the VA noon conference and Grand Rounds on a wide variety of pediatric, public health and endocrine topics. A graduate level course on Molecular biology and biochemistry will be taken by the fellow in the Spring of the first year. A formal lecture series covering medical statistics, research design, electronic literature searches, and medical/grant writing is offered every year and will be taken in the fall of the first or second year, and repeated if desired. Discussion among faculty, residents and students on a variety of endocrine topics occurs at weekly endocrine journal club, and at a monthly combined meeting of Adolescent medicine-OB/Gyn-Genetics- Endocrinology.

3F. PEDIATRIC EDUCATIONAL CONFERENCE SCHEDULE

All fellows are expected to attend scheduled conferences.

Journal Club: Second, third, fourth, and fifth Fridays at 1:30 PM. Critical discussion of 2-3 published papers in the field of Endocrinology/diabetes. Critical review is lead by physician choosing the articles which rotates among faculty and residents. New, interesting or difficult patient issues are discussed afterward with input from the entire faculty.

Monthly seminars: First Friday of the month at 1:30 PM. Seminars are prepared on basic science aspects of various topics in pediatric endocrinology (see 3A. Educational objectives) by the residents to be organized and presented to the faculty, residents and medical students on the endocrine service. The first year fellow does 8 out of 12 monthly seminars. The other four are prepared by the second and third year fellows. The goal is to cover the majority of endocrine disorders by the completion of the third year. After the basic science presentation, one or more faculty will present clinical cases related to the topic of the seminar as a basis for clinical correlation.

Pediatric Grand Rounds (All Children's Hospital) weekly 12:30 PM Friday - These conferences are generally an update on new developments in an area of broad pediatric interest. Visiting professors and faculty may present. Conferences are primarily clinical but also include research topics, quality assurance, systems based practice and other community topics related to care of children.

Adolescent-Gynecology &Obstetrics–Endocrine-Genetics Conference (Tampa General Hospital) monthly first Wednesday, 7:30 AM- This conference consists of case presentations and discussion of a variety of pediatric/gynecologic/genetic/endocrine issues by residents and faculty from these respective Departments.

Quarterly USF/UF Clinical case conference (all day-Gainesville or Tampa) - difficult or interesting cases are presented by the faculty and residents of the pediatric endocrine divisions of USF/UF in an all day conference. Endocrinologists from Orlando, Palm Bay, and Miami also participate occasionally

Optional conferences:

Pediatric Grand Rounds (Tampa General Hospital) weekly 8 AM Thursday- Though not required, this is an additional offering on a variety of pediatric topics. This grand rounds is now teleconferenced to St. Petersburg and will be easier to attend via this mechanism.

James Haley VA Endocrinology conferences (Tuesday at noon) - A variety of speakers from different disciplines give lectures on a variety of endocrine related topics.

4. JOB DESCRIPTION

Graduated Levels Of Responsibility

Residents wishing pursue Pediatric Endocrine subspecialty training requires an additional 3 years of fellowship following successful completion of an accredited Pediatric core program. These residents have considerable autonomy during fellowship, especially in the tasks already mastered in the core program. At each level of training, there is a set of competencies that the resident is expected to master. As these are learned, greater independence is granted the resident in the routine care of the patient at the discretion of the faculty who, at all times, remain responsible for all aspects of the care of the patient. Examples of expected competencies and responsibilities for each level follow in the job description below.

First Year of Subspecialty Training (PGY 4)

Supervision and Objectives of Training:

Individuals in the PGY 4 year are closely supervised by endocrine faculty. Examples of tasks that are expected of PGY 4 physicians in pediatric endocrinology include: perform a history and physical exam necessary for an endocrine evaluation, develop a problem list and differential diagnosis, order appropriate diagnostic tests, collect and analyze endocrine test results and communicate those to the other members of the team and faculty, determine if a problem is endocrinologic in nature, prescribe appropriate medication, obtain informed consent, develop competency and understanding of insulin dynamics and management of diabetic medications, and assist with procedures and stimulation tests at the discretion of the responsible faculty member. The subspecialty resident is expected to exhibit a dedication to professional preparation that emphasizes primacy of the patient as the focus for care. The first year fellow must develop and implement a plan for study, reading and research of selected topics that promotes personal and professional growth and be able to demonstrate successful use of the literature in dealing with patients. The resident should be able to communicate with patients and families about the disease process and the plan of care as outlined by the attending. The resident will document all interactions with families in the medical record in a complete and organized manner. At all levels, the resident is expected to demonstrate an understanding of the socioeconomic, cultural, and managerial factors inherent in providing cost effective care.

Time Commitment:

- 10 months on the clinical endocrinology service
- 5 weeks of required coursework: research design, statistics, grant writing, doing literature searches, molecular biology and biochemistry, cytogenetics, metabolic and molecular biology laboratory experience, clinical genetics. Becoming familiar with the research opportunities at the University of South Florida and identifying a research mentor
- 3 weeks vacation

Clinical Endocrinology Service:

Patient Care Responsibilities

- Work up all inpatient consults when on call (1 week every 3 weeks)
- Screen all new patient referrals when on call
- Answer after hours phone calls to the endocrine/diabetes service while on call including consultation from referring physicians.
- Attend outpatient diabetes, endocrinology, and metabolism clinics every day except Monday and Tuesday afternoons. This includes working up at least 1 new patient a week. All patient encounters are discussed with an attending physician on the pediatric endocrinology faculty. The resident will keep a list

of every patient they see. Thus, a list of patients seen by the pediatric endocrine residents and their diagnoses will be tracked. All pediatric endocrine residents will be observed by the Program Director or Co-Director doing an entire history and physical examination at least twice during the first year, and at least yearly thereafter. A checklist with all the pertinent points of the history and physical examination skills will be filled out for each encounter and feedback given immediately.

- ½ day continuity clinic weekly composed of patients seen by the resident as an inpatient or new interesting patients referred to the Division. These patients will identify the resident as their primary endocrine provider, though all patients will be seen by a staff physician.

The resident will undertake at least one quality assurance task with the aim of improving patient care within the Division.

Reading

Fourth year residents should concentrate on the reading of standard, classic endocrinology textbooks and recent review articles. They should acquire an understanding of all glands with respect to:

- Embryology
- Anatomy
- Physiology
- Biochemistry
- Genetics

Residents should have a detailed understanding of all COMMON endocrine diseases.

- Epidemiology
- Clinical Presentation
- Differential diagnoses
- Clinical and Anatomic Pathology
- Treatment
- Prognosis

They should be aware of most rare pediatric endocrine diseases and know triggers that should prompt them to reasonably include them in a differential diagnosis of a specific patient. They should be able to locate resources that guide clinicians through the management (diagnosis and treatment) of these rare diseases.

Teaching Responsibilities

The fellows have an important role in housestaff education. They will quickly come to be recognized as an authority by the nurses, students, interns, and residents. They are expected to read about their cases and to impart that information to the residents and medical students on the service.

- Be a resource for house officers so that they can learn to manage their patients with endocrine problems

- Educate residents and students on the endocrine rotation on common endocrine problems.
- Provide recent literature on relevant topics for house officers
- Give prepared presentations on common endocrine problems to residents and medical students in the setting of morning report.
- Give a formal didactic noon conference to residents, students and pediatric faculty on an endocrine topic each year.

Research Rotations:

The fellow will attend a didactic course in grant writing, medical statistics, use of electronic databases, and research design in the beginning of the first or second year. By the end of the first year the resident will have identified a basic or clinical research project of interest that will be pursued the following year. The resident is encouraged to identify a small clinical project (chart review, case report) that can be completed in the first year of fellowship and submitted as an abstract to a national meeting and ultimately, for publication. The resident may also be asked to participate in co-authoring a chapter or invited review by an endocrine faculty member.

With guidance from the faculty the first year fellow must identify a research mentor with whom he/she will design a research project. The research program provides the fellow with the opportunity to apply the scientific method to a specific project. The fellow will identify an area of interest and spend ½-1 day a week in the last 2 months of the first year in the research laboratory of the investigator working in the area of interest. The fellow will begin to be exposed to the various techniques used in that research lab. Ideally, the mentor should be funded so that the fellow does not need to spend time writing grants to support the research project. Each fellow will have an oversight committee composed of the research mentor, fellowship director, and 1-3 additional faculty to oversee the progress of the fellow. This committee will meet toward the end of the first year and yearly.

Conferences:

- Weekly journal club/seminar (every Friday)
- Monthly Adolescent-Ob Gyn-Endocrine-Genetics conference (1st Wednesday AM)
- Quarterly UF/USF clinical conference
- Pediatric grand rounds All Children's Hospital (every Friday)

Writing:

Fellows are expected to learn to write. Fellows will be encouraged to write a review with a faculty member, a case history, results of a clinical research study or retrospective chart review. The first year fellow will be encouraged to write an abstract to be submitted to the Fellows Forum and to a national meeting. The fellow will also develop a research plan for the second year project. Initially, most fellows will need extensive coaching to prepare a paper that is suitable for publication. Faculty provides considerable mentorship in writing style and content for grants and manuscripts. Writing from the initiation of training is a valuable experience.

Call:

The nursing staff handles most daytime endocrine and diabetes calls. If unavailable, or if nursing staff needs guidance, the fellow on service will take call with back-up by the attending physician on service. During the first-year, fellows take first call from home for one week including the weekend per every three weeks with attending physician backup.

Second Year of Subspecialty Training (PGY 5)

Supervision and Objectives of Training

Individuals in the second year of subspecialty fellow training are expected to perform independently the duties learned in the first year. Although supervised by the attending endocrinologist, PGY 5 level residents are expected to be competent in the management of critically ill patients, including, but not limited to, diabetic ketoacidosis, hypoglycemic seizures and adrenal crisis. The PGY 5 should be able to demonstrate continued sophistication in the acquisition of knowledge and skills in pediatric endocrinology and to demonstrate increased independence in evaluating patient problems and

developing a plan for patient care. The resident at the second year level of subspecialty training will respond to consults and learn the elements of an appropriate response to consultation in conjunction with the faculty member. The subspecialty resident should take a leadership role in teaching the core pediatric residents and medical students the practical aspects of patient care and be able to explain complex diagnostic and therapeutic procedures to the patient and family. The resident should be adept at the interpersonal skills needed to handle difficult situations. The PGY 5 should be able to incorporate ethical concepts into patient care and discuss these with the patient, family, and other members of the health care team.

It is expected that the fifth year residents will establish a major research project. At the same time, they should continue to hone clinical skills so that by the end of the year, they can cover almost any clinical situation that comes their way. As a fourth year resident, they were exposed to the range of approaches of various attending physicians. As a fifth year resident they should establish which approaches appear to be best for them, based on their experience, reading and personal style. They should be able to access important clinical reference articles, be familiar with the use of medical/scientific databases and should be able to make efficient use of recent literature to sort out difficult or unfamiliar problems.

Time commitment

- 11.25 months pursuing research project
- 3 weeks vacation

Clinical Endocrinology Service:

Patient Care Responsibilities

The outpatient clinical responsibilities of the resident will be limited to ½ day continuity clinic. Responsibilities for inpatient consultations will be limited to the time the resident is on call. General objectives are unchanged; however 2nd year fellows are expected to begin to function independently and formulate detailed plans for patient care. A supervisory faculty member oversees decisions and plans.

Teaching Responsibilities

When on call doing inpatient consultations, the 2nd year fellow performs the same duties as the first year fellow. The fellow will give at least 1 formal didactic lecture at noon conference on an endocrine topic to pediatric residents, medical students and pediatric faculty.

Research Rotations:

Residents must understand the published literature in their field and become familiar with the major investigators in that field. They must equip themselves with a repertoire of useful experimental methods. These should be focused into a general area so that they can assemble a series of linked tools that will allow them to logically test hypotheses. They should learn and perform all of the major, important laboratory procedures needed for their research and understand the limitations of the techniques. They should work closely with their mentor on experimental design and interpretation, and initiate the chosen research project.

Conferences:

As in first year, with the addition of conferences related to the field of research

Course work (for second and third year):

Specifics will be dictated by individual program design.

Writing:

- Write an abstract to be submitted to the Fellows Forum and to a national meeting
- Write an article based on current clinical or basic research, unusual case study, or a review article for publication in a peer reviewed journal
- They may also write (with extensive assistance from the mentor) a grant for supplies and equipment for the subsequent year.

Call:

The fellow will be on call one week for every 3 weeks, however during Monday through Thursday the fellow will be responsible for phone calls and inpatient consultations only in the evenings so as not to interfere with daytime research efforts. The resident will be expected to see those inpatient consults during the week that the attending feels present a unique learning experience. The fellow will be first call for inpatient consultations and phone calls all day Friday through Sunday.

Third Year of Subspecialty Training (PGY 6)***Supervision and Objectives of Training***

In the third year, the subspecialty resident should be capable of managing patients with virtually any routine or complicated endocrine condition and of supervising the core pediatric residents (PGY 1-3) in their daily management of endocrine outpatient and inpatient care. The PGY 6 can perform progressively more complex consults and evaluations under the supervision of the endocrine faculty. It is expected that the third year subspecialty resident be adept in the use of the literature and routinely demonstrate the ability to research selected topics and present these to the team. At the completion of the third year, the resident should be ready to assume a level of responsibility consistent with the endocrine faculty.

Time Commitment

- 11.25 months research
- 3 weeks vacation

Clinical Endocrinology Service:***Patient Care Responsibilities***

The outpatient clinical responsibilities of the resident will be limited to ½ day continuity clinic. Responsibilities for inpatient consultations will be limited to the time the resident is on call as in the second year of fellowship. General objectives are unchanged, however third year fellows are expected to be able to function independently and formulate detailed plans for patient care. Oversight is provided by a member of the pediatric endocrine faculty; however the plan of care is almost entirely devised by the senior fellow.

Teaching Responsibilities

When on clinical service (call), the 3rd year fellow performs the same duties as the second year fellow. In addition, the 3rd year fellow should have the ability to organize a lecture and impart information in an informative and interesting manner. He/she should develop skills for teaching house staff and medical students in a busy clinical setting.

Research Rotations:

- Complete research project and begin analysis of data, if feasible.
- Write a competitive grant, with assistance and guidance of mentor, if not already done in second year.
- Write a manuscript about the research project for submission to a peer-reviewed journal.
- Write an abstract for submission to Fellows Forum and to a national meeting.

Writing:

A manuscript worthy of publishing in a peer-reviewed journal should in most cases be completed by the end of the 3rd year of fellowship. Completion of one of the following work products is necessary to sit for the subspecialty boards: 1) A peer-reviewed publication in which the fellow played a substantial role, 2) an in-depth manuscript describing a completed project, 3) a thesis or dissertation written in connection with the pursuit of an advanced degree, 4) an extramural grant application that has either been accepted or favorably reviewed, 5) a progress report for projects of exceptional complexity, such as a multi-year clinical trial.

Call:

The call responsibilities are the same as for the second year fellow.

ALL YEARS

Interpersonal and Communication Skills

Communication skills between residents and patients as well as other health care professionals are assessed by close, personal observation and will be evaluated using evaluation tools developed by the Department of Pediatrics. In addition, patients are asked to evaluate their clinic experience, including interactions with medical personnel, at least once a year. Residents at every level are expected to treat all other members of the health care team with respect and recognize the value of the contribution of others involved in the care of patients and their families. The highest level of professionalism is expected at all times. Racial, ethnic or cultural slurs are never acceptable.

Professionalism

The residents will be monitored for on-time attendance at lectures and clinic, prompt answering of pages, and timely completion of patient charts and lab follow-up. This will be assessed at 6 monthly intervals using the departmental evaluation tool.

Fellows at every level are expected to treat all other members of the health care team with respect and with recognition of the value of the contribution of others involved in the care of patients and their families. The highest level of professionalism is expected at all times. Racial, ethnic or cultural slurs are never acceptable. It is expected the fellows will treat all others with the respect and consideration they would expect for themselves. The fellow is expected to develop a personal program of reading. Besides the general reading in the specialty, fellows should do directed reading daily with regard to problems that they encounter in patient care. The fellow is responsible for reading before performing or assisting in procedures that he/she has not yet had the opportunity to see. Fellows are expected to attend all conferences offered by the program. Fellows shall follow University and Hospital policies and procedures and support the mission, vision, and values of the organizations. Fellows shall maintain a professional appearance and concern for the safety of the patient. Grand Rounds and group discussion on the topics of patient safety, preventing medical errors, and ethical issues in pediatrics are presented throughout the year at All Children's Hospital, required conferences, at yearly national meetings, and in the clinic.

Systems based practice

At the completion of their training, residents are expected to demonstrate knowledge about the various present day approaches to the organization, financing and delivery of pediatric and adolescent endocrine health care. Residents are expected to demonstrate the ability to manage their practices efficiently and to demonstrate an understanding of the conflicts of interest inherent in various financial and organizational arrangements for the practice of pediatric endocrinology. Residents are expected to demonstrate a commitment to actively support traditional public health care practices to provide care for pediatric and adolescent endocrine patients unable to pay and to advocate for the improvement of access to health care for everyone. Residents are expected to demonstrate knowledge about the principles of outcome based medicine and how to make cost effective health care decisions about the utilization of limited medical resources.

EVALUATIONS

Clinical progress will be evaluated on an ongoing basis by the entire faculty. Semi-annual formal evaluations with the program director will also take place which will include input from the entire faculty, and evaluations from nursing staff and patients. This meeting is not meant to be intimidating or threatening. It will take the form of a dialogue in which the resident will also provide the program director with an evaluation of the faculty and the program. The resident's mentor will evaluate progress in research. At the end of residency, a formal written evaluation of all aspects of the resident's experience is generated.

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