

Curriculum
Fellowship: Pediatric Endocrinology

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I. Overall goals and objectives:

1. The fellow will become proficient and competent in understanding and managing a broad range of pediatric endocrine problems. These include but are not limited to: type 1 diabetes mellitus, type 2 diabetes mellitus, maturity onset diabetes of youth, neonatal diabetes, short stature, growth failure, hypopituitarism, diabetes insipidus, hypothyroidism, hyperthyroidism, thyroid nodules and malignancy, precocious puberty, delayed puberty, congenital adrenal hyperplasia, adrenal insufficiency of all types, Cushing's syndrome, disorders of calcium metabolism including rickets, hypo- and hyperparathyroidism, hyperlipidemia and obesity, endocrine neoplasia and autoimmune polyendocrinopathy syndromes, and multiple endocrine neoplasia syndromes.
2. The fellow will develop skills in researching a topic in the literature, acquire analytical skills in critically evaluating the literature, and will gain experience in writing a case report.
3. The fellow will acquire skills in developing a research project and carry out the project to completion. This will include gaining an understanding of the ethical principles that guide research involving animal or human subjects. The fellow will analyze the results, present the results at a scientific meeting and write up the project for publication.
4. The fellow will gain computer skills to carry out searches of the literature and other databases, utilize word processor software, prepare PowerPoint presentations, utilize spreadsheet or database software for organizing data and utilize computer statistical packages for analyzing data.
5. The fellow will gain experience in presenting a topic at a local and national level.
6. The fellow will gain competency as a communicator and educator.

II. Curriculum content:

The curriculum consists of a 3 year program which is organized into 13 four week blocks as follows:

	1	2	3	4	5	6	7	8	9	10	11	12	13
1st yr.	Clin	Clin	Res 1	Valc	Clin	Res 1	Res 1	Clin	Clin	Res 1	Clin	Clin	Res 1
2nd yr.	Res 1	Res 1	Clin	Res 1	Res 1	Clin	Res 1	Res 1	Res 1	Res 1	Res 1	Valc	Clin
3rd yr.	Res 2	Res 2	Res 2	Clin	Res 2	Res 2	Clin	Res 2	Res 1	Clin	Valc	Res 1	Res 1

The goal of the Clinical rotation is to gain clinical skills and a proficient knowledge of the basic science of endocrinology, feedback loops, regulation of the various endocrine systems and the interaction between genetics and the endocrine system and between the immune system and the endocrine systems and to apply this information to the interpretation of clinical conditions. The bulk of the time in the first year will be spent in the Clinical Rotation. During this rotation the fellow will participate in the evaluation and management of patients with pediatric endocrine disorders under the direct supervision of an attending in pediatric endocrinology. This will take place either in either of two settings: ambulatory care or in the hospital. Fellows will be paired with a clinical mentor in the first year who will supervise that fellow's continuity clinic. Mentors will meet with fellows a minimum of twice a year, but informally, more often and as needed to monitor progress of the mentee in terms of clinical competencies. Progress will be evaluated by the Program Director quarterly.

The primary goals of the Research 1 and Research 2 rotations are for the fellow to gain an understanding of research methodology. During these rotations, fellows will continue to have exposure to clinical endocrinology through continuity clinics, outpatient clinics, inpatient responsibilities on weekends and weekly conferences.

The competencies, learning activities and evaluation methods are summarized in the following table, and described in detail in the text that follows the table.

Competency Summary Table

Competency	Teaching activity	Evaluation
Patient Care	Inpatient care Inpatient consults Continuity clinic Outpatient clinic	Supervision of consults / notes On the spot feedback Review of referral letters Review of oral presentations Faculty review
Medical Knowledge	In & Outpatients Conference Accessing literature Online search	Quarterly evaluations Observation In Site exam / Board outcome Use of library & online sources On the spot feedback
Practice based learning / improvement	QI projects Credentialing Portfolio Individual learning plan	Presentation of QI project Review of credentials Portfolio review Review of individual learning plan
Interpersonal skills / Communication	Consults Letters to referring MD Diabetic education Outpatient visits Inpatients	Communication evaluation Mentor review of letters Outcome of patient discharge quiz Observation of continuity clinic On the spot feedback
Professionalism	All patient interactions Interactions with other services Interactions with trainees	Promptness / Appropriate dress Quarterly evaluations Nurse evaluations Patient evaluations On the spot feedback Completion of professional duties
Systems based Practice	Quality improvement activity Divisional meetings Initiation of new practice methods	Annual review of QI project Discussion of practice methods Participation in improvements
Teaching	Conference/ Research seminar/ Journal Club Teaching of Trainees Diabetic teaching	Quarterly evaluations / SOC evaluations & feedback Direct on the spot feedback Resident evaluations Communication evaluation
Research	IRB course Research course Literature review IRB application Recruitment of subjects Collection of information Analysis of information Abstract submission Manuscript writing/ submission Grant application	IRB test Research course test Research mentor review / assessment Success of IRB application Accrual rates Data collection Statistical analysis Abstract review with mentor Manuscript review with mentor Submission / outcome

III. Specific learning modalities

Inpatient rotation:

- Objectives:
1. To become aware of HIPAA requirements
 2. To become proficient at diagnosing and treating endocrine disorders encountered in an inpatient setting.

Format: encountered on the inpatient service.

1. Fellows take and must pass an on-line institutional HIPAA course and pass the accompanied quiz to become HIPAA certified.
2. Fellows will take the history and perform a pertinent physical exam, organize a differential diagnosis, formulate an evaluation and treatment plan and communicate with other services under the supervision of the attending pediatric endocrinologist. Fellows will present each case to the supervising pediatric endocrinologist who will then see the patient together with the fellow to clarify ambiguities or deficiencies in the history, confirm or refute physical findings, review and broaden the differential diagnosis as necessary, and discuss findings and recommendations with the patient and family.

Year specific goals:

In the first year, fellows will obtain a complete and accurate endocrine history and physical exam and develop a rudimentary differential diagnosis and treatment plan. As fellows progress, they will broaden their differential diagnoses and consider a broader range of treatment options for particular diseases. By the end of the second year, the fellow will be proficient in communicating these to the patient and family and pertinent other healthcare workers such as the primary physician. For example, beginning fellows will observe the treatment and education of a new patient with type 1 diabetes. By the end of the first year, the fellow will be proficient at managing and carrying out the complete educational component of care, including the teaching and supervision of residents and be able to communicate different treatment options to the family. By the end of fellowship, the fellow should be proficient in the complete management and education of all endocrine problems commonly seen.

Evaluation: 1. HIPAA quiz.

2. The ability of the fellow to meet these clinical goals will be evaluated by the attending physicians with whom they share patient responsibility. The fellow will be expected to summarize each inpatient case at the weekly Pediatric Endocrine conference for the remainder of the division who will also evaluate the fellow's capabilities. Feedback will be provided "on the spot" and as well as in formal written format every quarter. Residents, nurses and patients

or families will also evaluate fellows. Evaluations will be reviewed quarterly with fellows.

Consult service:

Objectives: To become proficient at the art of fielding medical consults. To gain experience in participating in a team effort and collaborate with various specialties in the management of various disorders.

Format: Fellows will obtain the pertinent clinical and social information, formulate a differential diagnosis, evaluation and treatment plan, and summarize and discuss this with the attending Pediatric endocrinologist, who will see the patient together with the fellow to clarify ambiguities and deficiencies in the history and review physical findings. Both will write a consultation evaluation and treatment plan and then communicate recommendations to the referring team.

Year specific goals:

Beginning fellows will obtain an accurate and complete history and acquire clinical examination skills such as the examination of the thyroid. As fellows advance in training, they will become more proficient identifying the questions that are being asked by the consulting physicians, develop a more complete differential diagnosis and treatment plan. improve communication skills and write a more complete consultation note. By the second year, fellows will become proficient at overseeing and educating residents and/or medical students rotating on the endocrine service or on the inpatient service. They will be expected to review the findings and conclusions of residents and students rotating in endocrinology and discuss the differential diagnosis and treatment plan with trainees prior to the presentation to the attending Pediatric Endocrinologist. They will become proficient at communicating this information on the referring healthcare worker. As they progress in the fellowship, they will be expected to evaluate the effectiveness of their own communication and education skills in order to improve.

Evaluation: The ability of the Fellow to assume this role will be evaluated by the faculty both by “on the spot” constructive criticism as well as in the quarterly evaluations. Patients or families and residents will also provide evaluations which will be reviewed “on the spot” as necessary and at quarterly meetings with the program director.

Outpatient service:

This is divided into continuity clinic and participation in non continuity outpatient activities.

Continuity clinic:

Objectives: To provide fellows with an opportunity to follow specific patients with a variety of endocrine disorders through the three years of fellowship. This has several purposes: 1. to acquaint the fellow with the evolution of the disease and its response to treatment over time; 2. to allow the fellow to develop long term communication skills necessary in the management of patients with chronic illness; 3. to allow the fellow to assume a progressively greater responsibility for the care of particular patients over the fellowship, always under the supervision of an attending pediatric endocrinologist.

Format: Each continuity clinic is supervised by a faculty member who will assume the role of clinical mentor for the fellow in that setting. Each patient is evaluated by the fellow who presents his/her findings and proposes an evaluation and management plan to the attending physician. Both return to see the patient, to review accuracy of the fellow's evaluations and conclusions. The fellow then makes recommendations to the patient and family. This is done with the attending in the room supervising.

Year specific goals: As the fellow gains competence in medical knowledge and communication skills, the fellow will gain independence in this aspect of care to the point that the attending will need to say little to clarify the communication process. By the end of the first year, fellows will be proficient in interpreting basic endocrine laboratory tests and bone age films. By the end of the second year, they will be able to interpret more complex endocrine studies such stimulation and suppression tests and more complex imaging studies such as MRI of the pituitary and thyroid scans and ultrasounds. By the end of the third year, fellows will be to manage all basic endocrine disorders and most complex endocrine disorders.

Evaluation: The mentor will oversee each encounter and provide immediate feedback to the fellow on the outcome of the encounter as well as evaluate the competencies of the fellow in the quarterly evaluations. Following the fellow's evaluation and communication with the patient and family, the patient or family are asked to reiterate what they have understood to the attending as a way of gauging the effectiveness of the communication. Fellows are asked to self evaluate their performance and self critic for improvement. Patients/families are asked to complete an evaluation questionnaire of the fellow's performance at the end of the encounter. These are reviewed with the fellow by the program director at the quarterly evaluations.

Outpatient clinic

Objective: 1. To broaden exposure to a wide array of diagnoses and problems in clinical pediatric endocrinology; and, 2. to broaden the fellows'

exposure to variations in management styles of different pediatric endocrinologists.

Format: Fellows rotate through various outpatient settings and are thus exposed to a variety of faculty members as they evaluate and manage patients with a variety of endocrine disorders. In this setting, patients are not preassigned but are seen by fellows as they come in. This has the advantage that the attending can select patients which might be of particular educational interest for the fellow to see. Each patient encounter is precepted by the attending pediatric endocrinologist who reviews the evaluation and management plan presented by the fellow.

Year specific goals: As fellows progress in training, they are expected to gain accuracy in the history, competency in the physical exam and ability to formulate a differential diagnoses, improve their ability to develop a comprehensive treatment plan and to communicate this to the patient or family. They will also assume a greater role in supervising medical students and residents rotating on the service. The fellow on clinical rotation will meet with appropriate faculty on a weekly basis to discuss laboratory results, and communicate results and plans to patients previously evaluated. The fellow will learn to collaborate with other services as needed (generalists, specialists, surgeons, nutrition, social work, radiology, laboratory).

Evaluation: Fellows are evaluated upon their ability to extract pertinent clinical information, to carry out an accurate physical examination, interpret laboratory and imaging studies and to come up with a differential diagnosis and management plan both “on the spot” as well as in quarterly evaluations which are reviewed with fellows by the program director. A fellow’s ability to interpret simple imaging studies such as the bone age, and more complex imaging studies such as the MRI of the brain will be evaluated by the preceptor.

Research 1

The objectives of this rotation are for the fellow to:

1. Identify a research mentor and project
2. Carry out background literature research related to the topic utilizing electronic data bases and search engines
3. Develop and write up a research proposal
4. Formally present the research topic to the scholarly oversight committee
4. Obtain approval to carry out the proposal from appropriate regulatory agencies (IRB, etc).
5. Carry out the organizational work required to get the project started.
6. Meet periodically with the research mentor

Format: Year 1: Formal required course provided by Dept. of Preventive Medicine. This course introduces fellows to the methodology of research, ethics of clinical and animal research, hypothesis development, research planning, data acquisition and management and application of statistical tools for analysis. The goal is to provide fellows with a broad introduction to research design and technique.

Fellow discusses research options available with program director and identifies research mentor. Meets with research mentor to discuss project, reviews literature, plans approach and writes proposal, presents topic to scholarly oversight committee and submits project to the appropriate IRB.

Year 2: Fellow meets regularly with research mentor and team.

Finalizes approval by IRB and GCRC oversight committee if needed

Project launched with recruitment as needed.

Evaluation: Fellows will be evaluated upon their progress in this endeavor in their quarterly evaluation by research mentor, faculty who attend presentation of research project, program director and research oversight committee.

Research 2

Objectives: The objectives of this rotation are for the fellow to:

1. Complete the research project under the supervision of the research mentor.
2. Analyze data
3. Present findings to research oversight committee
4. Write abstract for presentation at national meeting
5. Present abstract
6. Write and submit manuscript for publication

Format: Year 3: Fellow meets regularly with research mentor and research team. Fellow will be actively carrying out research effort to complete by mid part of 3rd year. Fellow will analyze data and prepare presentation to the research oversight committee, and ultimately submit an abstract to a national meeting and submit a manuscript for publication.

Evaluation: Research mentor will discuss project, evaluate fellow's effort and provide feedback as needed to further the research effort. Program director will communicate periodically with research mentor and fellow and discuss evaluation with fellow at quarterly meeting. Scholarly oversight committee will provide written appraisal of progress.

Research Courses:

Objectives: 1. To acquaint fellows with the principles of research design, ethics of research, oversight regulation, data acquisition and handling, data analysis, statistics, grant writing.

Format: 1. Formal course required course provided by Dept. of Preventive Medicine and generally taken in the 1st yr. of training. This course introduces fellows to the methodology of research, ethics of research, hypothesis development, research planning, data acquisition and management and application of statistical tools for analysis. The goal is to provide fellows with a broad introduction to research design and technique.

2. Formal “on line” course provided by the Committee on Research Involving Human Subjects introducing fellows to ethical issues involving human subjects and safeguards which have been instituted to protect human subjects involved in research.

Evaluation: Fellows are evaluated by faculty giving the Research training course and feedback is given directly to fellows. Fellows also evaluate the course to provide feedback. In the case of the “on line” course of research involving human subjects an “on line” quiz is provided at the end of each module. Fellow must pass the quiz in all modules in order to be certified to participate in research involving human subjects.

Conferences:**Pediatric Endocrine Conference**

Objectives: 1. To keep all fellows and faculty up to date on inpatients and select outpatients of interest; 2. To broaden the ability to formulate differential diagnosis; 3. To review topics of Pediatric Endocrinology, particularly those not covered in the combined Adult/Pediatric Endocrine Conference; 4. To allow fellows an opportunity to organize and deliver a presentation, usually using PowerPoint; 5. To allow fellows an opportunity to present progress on their research project to the Research Oversight Committee; 6. To teach fellows how to critically review a research manuscript using principles of evidence based medicine; 7. To collectively brainstorm about novel pathophysiologies of disease or treatment options that may lead to research questions; 8. To provide a venue for issues of quality assurance and improvement.

Format: Mandatory 1 hr. weekly conference attended by the entire division of Pediatric Endocrinology. Each week, announcements are made, inpatient cases are reviewed and discussed, and quality assurance or improvement issues are discussed. Format for the rest of the hour rotates as follows:

Case discussion: Review of selected patients of interest who are of particular interest or who pose difficult diagnostic or therapeutic dilemmas. Fellows present the case and lead the discussion. Faculty provides input to broaden or sharpen the diagnoses and therapeutic options.

Year specific goals: First year fellows will be able to present a case completely and discuss rudimentary issues involved in the case.

Second year fellows will, in addition, be able to discuss the controversies surrounding the evaluation and management of complicated cases.

Third year fellows, in addition, will be familiar with the literature surrounding the complexity of the case.

Core Topic Review: 12 core topics are reviewed each year for a total of 36 topics over the 3-year fellowship. Each fellow and each faculty reviews two topics a year. Topics are proportioned approximately according to the weighting on the Pediatric Endocrine Boards in order to assure a wide range of coverage.

Year specific goals: First year fellows will be able to present a topic completely and display a rudimentary understanding of the complexities of the topic.

Second year fellows will, in addition, be able to discuss the controversies surrounding the topic.

Third year fellows, in addition, will be familiar with the literature surrounding the complexity of the topic.

Journal club: Responsibility rotates equally among faculty and fellows. Rotating residents or medical students are “worked into” the schedule as needed. Generally, new fellows, rotating residents and medical students present clinical papers. As fellows gain understanding in endocrinology and experience in research, articles become more research oriented. Following the review, faculty provide input and feedback in an attempt to teach principles of research design, data handling and reporting statistical analysis and limitation of conclusions to those supported by the findings of the study.

Year specific goals: First year fellows will be able to present a simple research study accurately.

Second year fellows, in addition, will be able to evaluate and discuss the methodology involved in the research and provide a critical analysis of it.

Third year fellows, in addition, will be familiar with the literature surrounding the complexity of the research.

Research review: This venue is used to provide fellows an opportunity to present their research ideas, proposed project, research design and plan or results when the research is complete. This venue is often combined with the review by the research oversight committee for the particular project.

Year specific goals: First year fellows will be able to present a basic hypothesis and review of the literature.

Second year fellows, in addition, will be able to evaluate and discuss the methodology involved in the research, IRB issues, problems associated with subject recruitment (if a clinical study), and data handling.

Third year fellows, in addition, will be able to present and analyze data and draw conclusions from the study. In addition, third year fellows will present the findings of their study at a national meeting and submit a fully written manuscript describing the study to a peer reviewed journal.

Evaluation: Fellows are given prompt feedback on individual presentations as well as evaluated upon their abilities to carry out these tasks at the quarterly evaluations which are reviewed with the program director.

Combined Pediatric / Adult Endocrine Conference

Objective: 1. To review core curriculum topics; 2. To broaden exposure to adult manifestations of endocrine disease; 3. To facilitate interaction with colleagues in adult endocrinology; 3. to review literature and present research; 4. To gain experience in presentation; 5. to aid in the transition of patients from pediatric to adult care.

Format: Mandatory weekly conference lasting 1.5 hr divided into two 45 min sessions. Topic categories are:

1. Core curriculum conference. Essential topics in endocrinology are Topics are reviewed by faculty and fellows on a rotating basis so that in the course of 2 years most broad topics are reviewed including genetics, pathophysiology and molecular biology.
2. Rotating didactic conference; journal club, research seminar. These are given by fellows, faculty and outside faculty.

Core Topic Review: 12 core topics are reviewed each year for a total of 24 topics over the 2-year adult endocrine fellowship.

Year specific goals: First year fellows will be able to present a topic completely and display a rudimentary understanding of the complexities of the topic.

Second year fellows will, in addition, be able to discuss the controversies surrounding the topic.

Third year fellows, in addition, will be familiar with the literature surrounding the complexity of the topic.

Journal club: Responsibility rotates equally among faculty and fellows.

Year specific goals: First year fellows will be able to present a simple research study accurately.

Second year fellows, in addition, will be able to evaluate and discuss the methodology involved in the research and provide a critical analysis of it.

Third year fellows, in addition, will be familiar with the literature surrounding the complexity of the research.

Research review: This venue is used to provide fellows an opportunity to present their research ideas, proposed project, research design and plan or results when the research is complete. This venue is often combined with the review by the research oversight committee for the particular project.

Year specific goals: First year fellows will be able to present a basic hypothesis and review of the literature.

Second year fellows, in addition, will be able to evaluate and discuss the methodology involved in the research, IRB issues, problems associated with subject recruitment (if a clinical study), and data handling.

Third year fellows, in addition, will be able to present and analyze data and draw conclusions from the study. In addition, third year fellows will present the findings of their study at a national meeting and submit a fully written manuscript describing the study to a peer reviewed journal.

Evaluations: Fellows are evaluated “on the spot” on the ability to organize and deliver a presentation as well as formally in the quarterly evaluations which are reviewed with the program director.

Grand Rounds:

Format: Optional weekly 1 hr. presentation of a topic related to pediatrics.

Periodically, fellows present or discuss a case, or present results of research.

Evaluations: “On the spot” verbal evaluations by program director of faculty in pediatric endocrinology. Audience also completes evaluation forms.

Research Seminars:

Formats:

1. Optional monthly research seminar provided by the General Clinical Research Center. Topics vary widely, some are pertinent to Pediatric Endocrinology, others not. Useful venue for broadening exposure to research community and techniques available at SUNY, Stony Brook.
2. Monthly research conferences in Department of Pediatrics.
3. Periodic presentation by fellow of research to Research Oversight Committee.

Evaluation: Fellows are evaluated in their presentations by faculty and Research Oversight Committee members. As fellows progress in their

project, they are expected to improve in their ability to assimilate and present background information, explain the purpose and design of the research, analyze any data they may have obtained, and accurately interpret the data.

Quality assurance:

Objective: To acquaint fellow with the importance and methodologies of quality assurance to improve patient care.

Format: Monthly meetings of pediatric QA committee. Attended by faculty, nursing, fellows, and residents as appropriate depending upon what cases are to be discussed. In addition, quality assurance issues are discussed at weekly pediatric endocrine conference.

Quality improvement (QI):

Objective: To acquaint fellow with quality improvement initiatives.

Format: Discussed as issues are identified at weekly pediatric endocrinology conference. Twice yearly Pediatric Endocrine conference is devoted to discussing individual fellow's quality improvement projects.

Year specific goals: Year 1: To identify a specific QI project and carry it out.

Year 2 and 4: To a QI project, carry out a pre and post evaluation to determine the efficacy of intervention.

Diabetes camp

Objective: To introduce fellows to the day to day management of type 1 diabetes in a setting outside of the traditional outpatient area.

Format: The camp takes place for 2 weeks during the month of July. Fellows participate with other health care professionals in the oversight of managing blood sugars in this population of children.

Evaluation: Performance is evaluated by the staff of the camp who relay impressions to the Program Director who will then provide feedback to the Fellow.

Teaching Retreat

Objective: The goal of this seminar is to acquaint Fellows with current concepts and techniques of adult education.

Format: ½ day off site retreat in informal setting attended by program directors, fellows and faculty with expertise in adult education. Combination of didactic talks, review of videos, role playing and group discussions.

Evaluation: Retreat is evaluated by attendees at the end of the session.

Divisional Meetings

Objective: To discuss administrative issues of the division and program issues of the Pediatric Endocrine Fellowship program with an eye towards improvement.

Format: Once yearly off site retreat to discuss fellowship program. Quarterly divisional meeting held in conjunction with Pediatric Endocrine Conference. Formal anonymous written evaluation of program by endocrine division members.

Year specific goals: Year 1 fellows are invited to contribute feedback and may or may not have specific suggestions for improvement. Year 2 and 3 fellows are expected to provide insight into the workings of the division and the fellowship program and make concrete suggestions for improvements.

IV. Competencies

Throughout the three-year program, fellows will be expected to progressively gain competency in each of the following areas:

- a. Patient care
 - b. History and physical examination
 - c. Procedure skills (see addendum)
 - d. Diagnostic and therapeutic decision making
 - i. Differential diagnosis
 - ii. Organizing an evaluation of a particular disorder
 - e. Organization skills
 - f. Function under stress

Evaluation and feedback:

During process of patient evaluation and management in both in- and out-patient setting.

Feedback given “on the spot” and in quarterly evaluation process

- b. Medical knowledge
 - a. Knowledge of physiology and endocrine feedback loops.
 - b. Knowledge of pathophysiology of disease.
 - c. Knowledge of treatment options, advantages and disadvantages and potential complications of each.
 - d. Ability to independently pursue knowledge through use of computerized databases and literature searches.
 - e. Use of evidence based medicine

Evaluation and feedback:

During process of patient evaluation and management in both in- and out-patient setting.

Feedback given “on the spot” when deficiencies noted and in quarterly evaluation process

- c. Practice based learning

- a. Ability to perform self evaluation.
- b. Response to feedback
- c. Use of information technology (Library, databases, internet sources)

Evaluation and feedback:

During routing interaction between faculty and fellow in assessing whether fellow responds in a positive fashion to constructive feedback.

Observation of fellow skills in use of information technology in searching for answers to questions that arise in the course of patient care and research.

- d. Interpersonal and communication skills
 - a. Relationships with patients and families
 - b. Education and counseling skills. The role of the physician as a patient educator.
 - c. Chart work: clarity, conciseness, readability
 - d. Teamwork and collaboration (how well fellow works with other healthcare providers)
 - e. Leadership skills. The ability of the fellow to lead residents and students in the proper evaluation and treatment of a particular disease state

Evaluation and feedback:

Direct observation of fellow's communication skills with patients, families, and other health workers.

Direct feedback "on the spot"

Quarterly evaluation and feedback

- e. Professionalism
 - a. Honesty, integrity, reliability, respectfulness, compassion and punctuality
 - b. Self awareness and self improvement: the ability of the fellow to improve his/her capabilities and respond to criticism.
 - c. Risk management and liability.
 - d. Completion of tasks required in a timely fashion.

Evaluation and feedback:

Direct observation of work habits and reliability and response to constructive

criticism

Quarterly evaluation and feedback.

- f. Systems based Practice
 - a. The ability of the fellow to network with other health care providers (general practitioners, various specialists, social workers, nutritionists, laboratory personnel, nursing personnel, physical or occupational therapists) to insure good patient care
 - b. Improvements in systems of care. The ability of the fellow to improve methods of patient management, forms, etc.

Evaluation and feedback:

Direct observation of fellow's ability to coordinate care with colleagues in other aspects of health care. Observation of participation in QA and QI discussions

Quarterly evaluation and feedback.

g. Teaching

- a. The ability to organize medical information to impart to those less knowledgeable. This includes patients, family members, junior physicians and medical students.

Evaluation and feedback:

Direct observation and “on the spot” feedback regarding interaction with residents, students and nurses.

Observation of ability to organize and present a presentation.

Quarterly evaluation and feedback.

h. Research

- a. Gaining an understanding of research methodology, research design, data acquisition, analysis and summarization
- b. Gaining an understanding of institutional requirements for protection of human or animal research subjects
- c. Passing required courses to carry out research
- d. Acquiring the ability to communicate the aim and results of research in the form of grants, abstract presentations and manuscript submission.
- e. Organization of data acquisition.
- f. Analysis of data
- g. Interpretation of data

Evaluation and feedback:

Observation of research mentor and program director

Evaluation of presentation

Feedback of research oversight committee

V. Methods of evaluating trainee competence:

Competencies of the fellow as outlined above are evaluated on a quarterly schedule using Web based New Innovations software. These evaluations are electronically sent to the fellows who are notified upon the completion of the evaluation and can access them immediately. Fellows are also evaluated by residents, students, nurses and patients. Those evaluations also are reviewed quarterly with the fellows by the program director. Scores on the annual in-service pediatric exam are analyzed for evidence of progress and deficiency of information or thinking ability. These are reviewed with the fellows. Fellows have ongoing access to their evaluations through the New Innovations web site.

Fellows’ accomplishments are recorded in a portfolios maintained individually by the each. These accomplishments are reviewed with the program director. Additionally, fellows are asked to reflect upon their goals for the next year and devise a learning plan to achieve those goals. This learning plan is reviewed with the program director and maintained in the fellow’s folder.

VII. Methods of evaluating faculty.

Faculty is evaluated semiannually by the fellows. These evaluations are bundled with the evaluation of the general pediatric residents to provide anonymity and then made available by the program director to the faculty for feedback. Any deficiencies are addressed at this time.

VI. Methods of evaluating curriculum:

Fellows In-Site service exam scores are reviewed annually to identify and rectify deficiencies.

Fellows are expected to participate in ongoing review of the fellowship program and to suggest changes in the fellowship program as well as in the manner of doing business in the division. Fellows are asked for written anonymous feedback at least once a year. Results are reviewed at an annual off site retreat focused on evaluating and improving the program.

Program is reviewed every 3-5 years by internal review committee of the Residency Review Committee. Program is also reviewed by the ACGME every 3-5 years. Deficiencies are identified and rectified.

VII. References:

The following textbooks are recommended for general reading. Fellows are encouraged to use Medline and other search engines and databases to review current literature on selected pertinent topics.

Pediatric texts:

Sperling (2008); Clinical Pediatric Endocrinology
Lifshitz, Fima (2006): Pediatric Endocrinology
Kappy, Allen, and Gefner: The Diagnosis & Treatment of Pediatric
Endocrine Disorders
Pescovitz (2004): Pediatric Endocrinology

Adult texts:

Williams: Textbook of Endocrinology
Becker: Principles & Practice of Endocrinology & Metabolism
DeGroot: Endocrinology
Greenspan & Baxter: Basic & Clinical Endocrinology

Useful Online Sources:

www.ncbi.nlm.nih.gov/omim

Database of many syndromes with periodic updates

www.uptodate.com

Summary of disease states and current treatments

www.emedicine.com

Summary of disease states and current treatments

www.lwpes.org

Web site of Lawson Wilkins Pediatric Endocrine Society

www.endo-society.org

Web site of the Endocrine Society

www.diabetes.org

Web site of the American Diabetes Association

www.aace.com

Web site of the American Association of Clinical Endocrinologists

www.hgfound.org

Web site of Human Growth Foundation

www.magicfoundation.org

Web site for Magic Foundation

www.turnersyndrome.org

Web site of Turner Syndrome Association

www.klinefeltersyndrome.org

Web site of Klinefelter Syndrome Support group

www.pwsausa.org

Web site for Prader Willi Associati

Learning Activity Schedule

Monday	8:00	Morning report Inpatients
	13:00	Endocrine Clinic Lane Fellow A Continuity clinic (Endo A)
Tuesday	8:00 - 12:00	Endocrine clinic Wilson Lane
	13:00-17:00	Endocrine clinic Wilson
	17:00 – 21:00 pm	Endocrine Clinic Lane
	17:00 – 20:00	Inpatients
Wednesday	8:00 - 9:00	Grand Rounds
	9:00 - 13:00	Clinics: Wilson Lane (Patchogue)
	pm	Inpatients
	16:00 – 17:00	Pediatric Endocrine Conference Attendance mandatory Rm 020, HSC 11
Thursday	8:00 - 13:00	Endocrine clinic Wilson Fellow B Continuity clinic (Endo B)
	14:00-	Inpatients Review lab results Review records
Friday	800 - 12:00	Clinics: Lane Wilson Fellow C Continuity clinic (Endo C)
	13:00 - 14:00	Inpatients
	14:00 - 15:30	Combined Ped-Adult Conf Attendance mandatory Rm 23, T-16 HSC
	15:30	Inpatients
	16:00	Monthly GCRC Research Seminar

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