A) PROGRAM GOALS AND OBJECTIVES:

The Pediatric Nephrology Training Program is part of an overall Fellowship Program within the Department of Pediatrics at the University of Miami Leonard Miller School of Medicine. The Division of Pediatric Nephrology is under the direction of Gaston Zilleruelo M.D., Professor of Pediatrics. The Fellowship Training Program is under the directorship of Carolyn Abitbol, M.D., Professor of Pediatrics and Medical Director of Pediatric Dialysis. The program includes six full-time board certified pediatric nephrologists, two Voluntary Assistant Professors (Dr Carlos Cuervo and Dr. Leon Ferder), a nurse liaison/case manager, dialysis nursing staff, clinical social worker, dietician, psychologist, and administrative staff. The Division is the main referral center for children with Renal-GU disease in South Florida and it covers a total population of over 4.0 million inhabitants.

The Pediatric Nephrology Fellowship Training Program is a 3-year program designed as a progressive curriculum with each year integrated with clinical and research activities. Each year the degree of clinical responsibility assigned to the Fellow increases while research integration and protected time also increases. Thus, the Fellow is expected to demonstrate improvement in knowledge and expertise each year in each area of the Fellowship Training Program. The following program curriculum should be interpreted as a flexible recommendation and/or guideline for the training in Pediatric Nephrology in our Division. The program is based on previous experiences in the teaching of fellows who have completed training in our Division; also, it follows the general guidelines developed by the American Board of Pediatrics for Training Programs in Nephrology.

GENERAL GOALS:
1. To provide an educational program that will enable our pediatric nephrology fellows to become well-trained clinicians in all areas of pediatric nephrology.
2. To provide a structured training program that will enable pediatric nephrology fellows to become effective consultants assisting their clinical colleagues in the care of their patients with renal diseases.
3. To provide the pediatric nephrology fellows with opportunities to become effective teachers and mentors.
4. To provide the pediatric nephrology fellows with opportunities to develop skills and experience in clinical and laboratory research.
5. To provide the pediatric nephrology fellows with the understanding that clinical and academic medicine is always changing and demands a lifelong commitment to continuing medical education. This program is dedicated to providing examples and opportunities to meet this goal.
6. To provide the pediatric nephrology fellows with sufficient preparation to enable them to successfully obtain certification by the American Board of Pediatrics and the Sub-specialty board in Pediatric Nephrology.

SPECIFIC OBJECTIVES:
Specific educational objectives for the program are based on the 6 competencies as described below:

Patient Care: Working under the close supervision and direction of an attending pediatric nephrologist, the fellows will be involved in the evaluation and management of patients who are hospitalized on the inpatient service and/or who are seen as outpatients in the sub-specialty clinics. They will participate in clinical consultations with the transplant surgeons and pediatric urologists and other patient care physicians first by observation and subsequently on their own after acquiring sufficient experience. The fellows will be involved in the interpretation of laboratory and radiology tests and other clinical consultations concerning clinical problems. Direct patient care skills will be achieved while participating in the in-patient service and dialysis unit. Their ability to effectively perform and solve problems will be evaluated by their respective attending physicians during mutual on-call experiences, professional
behavior, maintenance of the electronic medical record, clinical reasoning skills, technical and organizational skills in implementing therapeutic interventions. The method of evaluation of their patient care skills will be achieved by the daily observation during rounds, written evaluations by the attending nephrologists and the In-Site exam.

Medical Knowledge: Throughout the 3 years of training the fellow will be expected to gain the necessary education in the various topics of the subspecialty requirements through self education, instructional learning by attending nephrologists, inter and intra departmental conferences and problem solving experiences during on-call activities. The expected medical knowledge during the first year includes:

1. Knowledge of the embryology, anatomy, and physiology of the kidney as related to the normally developing fetus, newborn, infant, child, and adolescent.
2. Understanding of the assessment of renal structure and function in health and disease in the pediatric age group.
3. Understanding of the immune pathology and pathophysiology of the kidney and urinary tract in various diseases.
4. Understanding the basis of various technical procedures including percutaneous renal biopsy, renal ultrasound examinations at the bedside and in the clinic, urinalysis and dipstick interpretation, connecting patients to and removing them from the hemodialysis machines, performing peritoneal dialysis including observation of Tenckhoff Catheter insertion, bladder function tests (urodynamics), and renal function studies (clearance methodologies and tubular function evaluation).
5. To learn the basic radiologic techniques in the study of the kidney and urinary tract including routine studies (VCUG), ultrasonography, Nuclear Medicine studies (renal scan and radio nuclide voiding cystogram), CT scan, and magnetic resonance imaging (MRI).
6. To prepare each month a one-half hour clinical nephrology presentation followed by discussion with the pediatric nephrology faculty, residents and students on service on the prevention, evaluation and management of certain common renal-urologic conditions as described in the Program Requirements for Pediatric Nephrology.
8. To attend the Annual Divisional Pediatric Nephrology Seminar, Pediatric Grand Rounds, Clinical Research Forum and one national or regional meeting, which includes kidney disease.
9. To attend assigned weekly renal clinics, in-patient rounds, and out-patient review, all with the pediatric attending in charge.

The method of evaluation of medical knowledge acquired will be by focused observation and attending evaluation and In-Site exam.

Practice Based Learning and Improvement: Fellows are expected to attend all didactic teaching conferences related to the Pediatric Nephrology Specialty and keep up with current literature, and apply their knowledge to their daily practice. The expectations for this knowledge application vary with the level of training, with the residents in the PGY-4 year taking on more of a “discovery” role and residents in the PGY 5-6 taking on more of an “application” role. They are expected to learn how to critically appraise the scientific literature. This is assessed in their daily interactions with the faculty as well as in their Journal Club and weekly case presentations. Fellows should prepare each month a one-half hour clinical nephrology presentation followed by discussion with the pediatric nephrology faculty, residents and students on service on the prevention, evaluation and management of certain common renal-urologic conditions as described in the Program Requirements for Pediatric Nephrology. Fellows should participate in Nephrology Journal Club, combined Renal Urology-Radiology Conference, Renal Biopsy Conference, Rheumatology Conference and Dialysis-Transplantation monthly Conference, Didactic Sessions and Board Review. Fellows should attend the Annual Divisional Pediatric Nephrology Seminar, Pediatric Grand Rounds, Clinical Research Forum and one national or regional meeting, which at least includes kidney disease.

Fellows should attend assigned weekly renal clinics, in-patient rounds, and out-patient review, all with the
pediatric attending in charge. Fellows should participate in the teaching of medical students, nurses and House Staff as required. Evaluation of this competence is included in the Fellow Evaluation Forms.

**Interpersonal and Communications Skills:** Fellows are expected to learn how to communicate effectively with all other hospital personnel. Their responsibilities in the dialysis unit include communication with the dialysis nurses in an effective manner. Performance is evaluated with formal resident evaluation forms. Their responsibilities on the on-call service in the in-patient service include effective communication with all personnel that may contact the service. They effectively perform as the front-line problem solvers for any questions or issues that may arise related to the pediatric nephrology service. Their performance is evaluated every morning with the attending faculty during the in-patient rounds. Oral communication is formally evaluated during in-patient rounds presentations, out-patient reviews and Journal Club; written communication is evaluated with review of case reports, and journal publications. Feedback is provided to the fellows at their semi-annual meetings with the Program Director. Specifically, the fellow must:

1. Demonstrate ability to communicate effectively and efficiently both orally and in writing
2. Demonstrate ability to prepare and deliver effective presentations using a variety of presentation methods (patient sign-out presentations, Power Point, overhead projections, and chalk-board)
3. Demonstrate the ability to interpret constructively and negotiate effectively with others on issues requiring controversial resolutions. Evaluation of this competence is included in the Fellow’s Evaluation Form.

**Professionalism:** Fellows are expected to demonstrate professionalism in their daily work practices. This is demonstrated in their availability, timeliness to all duties, attendance at conferences, thoroughness of their work, honesty in their words and in their actions, promptness in answering their pagers, respect for patient materials, respect for their supervisors as well as colleagues, willingness to work as part of a patient care team as well as physical appearance and dress. This is one of the components of the formal resident evaluation that is filled out on a regular basis by the attending faculty. In addition, specific situations that may be brought to the program director’s attention, either by a faculty member, staff member or fellow resident, related to a breach in professionalism, may result in a formal discussion with the fellow in question, and possibly written documentation in the fellow’s file.

Specifically, fellows are required to:

1. Show respect, compassion and integrity during the management of chronically ill children,
2. Show responsiveness and accountability to the needs of patients and their families and other physicians that supersedes self-interest, including timely completion of consultation reports and discussion of laboratory results with doctors and families.
3. Maintain strict patient confidentiality in all clinical and personal patient information following HIPPA regulations.
4. Demonstrate respectful behavior towards other health care professionals.
5. Handle appropriately when involved in stressful/emotional situations by maintaining self-control and attempting to diffuse the situation.
6. Respond to pager and telephone calls promptly and courteously.
7. Regularly and punctually attending conferences, meetings, assigned rotations and other obligations and comes prepared to make contributions.
8. Demonstrate a commitment to professional and personal development by keeping abreast of developments in the medical literature and participating in research projects.
9. Maintain appropriate personal hygiene and professional dress during clinical patient encounters and on rounds except for extenuating situations.

Evaluation of this competence is included in the Fellow Evaluation Form.

**System-Based Practice:** Fellows are instructed in Pediatric Nephrology Service Management through a series of departmental lectures. One way the service program assesses their understanding of important issues related to the management of a service and the interdependencies of the service with the rest of the health care systems is by way of the “on call” service. The “on-call” fellow is expected to act as the front-line person who makes such decisions as whether or not to admit a patient or order certain tests and discuss a plan of management. Many of these decisions are based on their understanding of the patients’ disease processes, as well as whether or not the procedure in question is cost-effective. The fellows have
access to an attending input at all times but may assume increasing independence throughout their training. Performance is assessed by attending faculty during daily rounds and out-patient clinics.

Fellows are expected to demonstrate an awareness and understanding of the role of the pediatric nephrologist in the health care delivery system and the importance of reliable, cost effective and timely laboratory and imaging interpretation in clinical decision making.

Fellows are expected to review radiology films and renal biopsy slides with the attendings as soon as they become available.

Evaluation of this competency is included in the Fellow Evaluation Form.

B) Relationship to Other Programs

Second and third year Pediatric residents have elective rotations of one-month duration in Pediatric Nephrology. During this rotation, the residents are assigned to the in-patient attending/fellow for supervision and distribution of daily activities. Fellows in clinical activities have direct supervision of the pediatric resident and review their initial consultations and clinic notes before discussion with the attending. Pediatric residents rotating through our service are encouraged to follow any new patient during their in-patient experience.

Fellows interact with other subspecialty fellows regarding patient consultation and referral. They participate actively in the education of pediatric residents and medical students by giving lectures, medical literature on specific subjects and discussing patients in Pediatric Staff Conferences. In addition, fellows are exposed to active collaboration with other programs/departments including Nuclear Medicine, Pediatric Urology, Renal Transplant, Pathology and Adult Nephrology.

PEDIATRIC NEPHROLOGY FELLOWSHIP SCHEDULE

The annual schedule is designed to provide a progressive integrated curriculum that meets the clinical and research requirements of the fellowship program. This is provided below in block scheduling and a brief narrative explanation of the rotations:

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In-patient: (12 months) The Inpatient rotation is split between general nephrology and transplant nephrology. The fellow is exposed to consultations from other pediatric sub-specialty services and critical care nephrology in the pediatric and neonatal intensive care units.

Dialysis: (6 months) The outpatient dialysis program serves a census of 17-20 hemodialysis and 6-10 peritoneal dialysis patients. The hemodialysis unit is open for 2 shifts 6 days per week. During the dialysis rotation the fellow will be responsible for the monthly individual patient assessments and treatment plans. During the 3 year fellowship, the fellow should design, implement and complete a quality improvement project related to pediatric dialysis. The fellow will learn the technical aspects of maintaining quality assurance and safety of all dialysis modalities as well as compliance with Medicaid and Medicare (CMS) regulations and reporting. This includes all aspects of Crown Web and NHSN reporting.
Clinics: (6 months) There are 10 outpatient clinics weekly including the Children’s Chronic Kidney Failure Clinic (CCKFC), Transplant Clinics (Pre and Post- Transplantation), General Nephrology and CHARMS (Children’s Hypertension and Renal Metabolism Services) which provides ambulatory blood pressure measurements and interpretation and renal ultrasound and vascular stiffness assessments.

Research (12 months) The fellowship should begin with an outlook towards developing research project goals that can be accomplished within the time allotted. Ideally, a number of projects can be completed by the end of the 2nd year so that analysis and presentation of the data can be accomplished during the 3rd year. Projects and presentations can and should include case report(s), quality improvement identification and implementation and hypothesis driven basic or clinical research. By the time of graduation, a final manuscript of a hypothesis generated study design should be prepared and approved by the Scholarly Oversite Committee and submitted to a peer-reviewed journal. There are many opportunities for both clinical and laboratory and translational research activities. A timeline for developing these activities for each individual fellow is outlined below:

**Projects, Presentations and Publications:**

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ASN: American Society of Nephrology; ASPN: American Society of Pediatric Nephrology; PAS: Pediatric Academic Societies; FSN: Florida Society of Nephrology

Other affiliated opportunities include collaborations with the North American Pediatric Renal Trials and Collaborative Studies (NAPRTCS) and the Midwest Pediatric Nephrology Consortium (MWPNC).

**Teaching & Learning:** One of the pillars of a subspecialty fellowship in Pediatrics is to develop a culture of collegiality and a mutual learning environment among peers and colleagues. Our fellows in Pediatric Nephrology are recognized as outstanding teachers who take every opportunity to cultivate a feeling of mutual respect and an exchange of ideas that inherently leads to better patient care with every patient consult and encounter. The electronic medical record is viewed as an important tool for organized patient care and safety, accurate recording of events and an inviolate portrayal of our commitment to the highest level of medical management. We expect our fellows to perform in accordance with these expectations. Each will participate in the educational “half-days” given quarterly to the residents and, by the 3rd year, will give the UM medical student lectures related to nephrology. In addition, there are many opportunities to counsel and support younger colleagues when time allows. Each of the fellows has an
opportunity and obligation to attend and participate in the annual Miami Pediatric Nephrology Seminar, Renal Pathology Course and Pediatric Critical Care Nephrology Workshop.

Certification Requirements: To succeed in Pediatric Nephrology it is important to be certified by the American Board of Pediatrics (ABP) in General Pediatrics and, after completion of the fellowship, in the subspecialty boards in Pediatric Nephrology. The fellowship program is committed to providing a comprehensive and ongoing assessment of the fellow’s aptitude and learning style to achieve successful scores on each board exam. Each of our faculty has successfully achieved board certification (and re-certification) in Pediatrics and Pediatric Nephrology and we are eager to support the development of test-taking skills for the fellows. Each year, the fellows will complete a “site exam” in Pediatric Nephrology which provides an ongoing assessment of baseline knowledge and the progression of knowledge relative to achieving board certification. We all understand that board certification does not necessarily equate to medical skills performance but it is a requirement of the AAP and an important requirement credentialing requirement for hospital privileges and career development and employment. It is also a metric for the certification of our fellowship program!!! In addition to the in-site exam, we maintain a Pediatric Nephrology Board Review with regular sessions covering the exam highlights. We also provide membership to the American Academy of Pediatrics (AAP) with free access to the PREP course and questions to allow our fellows to “practice” questions regularly. This also allows our program to monitor board review activity and remediation when indicated.

Curriculum: The Pediatric Nephrology Curriculum is designed within the context of the clinical rotations, radiology and pathology conferences, didactic presentations, journal reviews and board reviews. There is an important sharing of research and didactic presentations with our adult nephrology colleagues. A detailed schedule is posted monthly. The conferences that relate to the Pediatric Nephrology Curriculum are mandatory attendance for the fellows. Fellows are required to prepare and present at least 1 didactic and 1 journal review every 3 months when on outpatient or research rotations.

Self-Assessment: A career in medicine, regardless of specialty or focus, should be tendered with a personal assessment of life’s goals and commitments to patients and family. Medicine is a unique and privileged life course which holds obligations and rewards that are not experienced through other career paths. It is a “fraternity” of sorts in which we share obligations, joys and commitments to ourselves, our patients and our families. Each year, we are asking our fellows to explain confidentially their life’s goals as it relates to Pediatric Nephrology so that we can better assist and guide them towards success.

Technical Skills:
- Renal Biopsy: Perform and participate in interpretation
- Hemodialysis: Acute and Chronic
- Peritoneal Dialysis: Acute and chronic
- Therapeutic Plasma Exchange
- Renal Ultrasound: Perform and interpretation
- 24 Hour Blood Pressure Monitoring: Program and interpretation

IN-PATIENT EXPERIENCE
Fellows on clinical rotations have an assigned attending faculty to supervise their activities at all times. A Schedule with all the clinical activities for the whole academic year is distributed to the staff at the end of May each year. This Calendar reflects on a weekly basis the distribution for all the faculty and corresponding fellows including time out for vacations or attendance to meetings. Unless, in an emergency, the in-patient fellow should not become involved in patient care from other rotations (i.e dialysis or out-patient clinics).

During the in-patient experience, fellows are required to see and discuss evaluations and plans of care for each patient admitted to the renal service or consultations with the attending Pediatric Nephrologist. This is usually done during the daily rounds, but if considered necessary, patient discussion may occur at any time day or night. Attending faculty should be readily available to discuss complex or difficult patients and give recommendations.

Attending faculty will assume final responsibility for all the decisions implemented by the fellows under their direct supervision.
Fellows should be able to discuss with the attending faculty at a mutually agreed time on a daily basis all the patients admitted to the renal service and any new consultations.

Fellows have the responsibility to obtain a thorough history, physical examination and laboratory up-date in all the patients followed by the renal service and be ready to present them for discussion with the attending faculty.

Fellows have the responsibility to supervise the house staff regarding the specific implementation of the plan of care for the patients assigned to their team.

If a fellow considers it necessary to come in at night to the hospital to see a patient, attending faculty should be properly notified.

Attending faculty should provide a back up support system when patient care responsibilities are unusually difficult or prolonged or if unexpected circumstances create resident fatigue sufficient to jeopardize patient care or result in over fatigue of the Fellow.

Fellows carry the first-call beeper for all inpatient consultations and admissions of the patients being followed by the Division of Pediatric Nephrology. They are responsible for the evaluation and plan of care for these patients after proper discussion with the nephrology attending. All new admissions are placed under a pediatric house staff team and followed by the renal service on a daily basis. The attending in the pediatric nephrology service supervises the Fellow and makes daily rounds seeing and examining each patient. Usually rounds are done daily or more frequently as required, depending on consultations and acute unstable patients (PICU, NICU). During the first year of the program the pediatric nephrology trainee is responsible for rendering consults to other services such as Pediatric Intensive Care Unit, Pediatric Surgical Unit, and Newborn Special Care Units. The trainee does the initial evaluation and assessment of the patient’s problem(s) and presents these findings to the attending pediatric nephrologist and discusses the patient care management issues and potential therapeutic interventions. The trainee and the attending pediatric nephrologist will develop a final plan of recommendations regarding the consultation. Fellows acquire experience in various procedures including renal biopsy during the inpatient rotation. Under attending supervision the fellow is required to perform renal biopsies under ultrasound guidance during the second and third years of the training programs.

Fellows may also be required to see patients in the emergency room in consultation. The pediatric emergency room is located in the first floor of the Children’s Hospital Center in the East Tower. After the patient is seen in the emergency room the fellow will discuss the patient with the pediatric nephrology attending.

OUTPATIENT CLINICAL EXPERIENCE
Outpatient clinics are held Monday through Thursday in different locations throughout the Medical Center. Fellows are responsible for starting the clinics on time, coordinate with nurse liaison census for each clinic and provide and easy flow of patients to be seen. In addition, fellows are assigned continuity clinics on a rotating basis during the periods in which they are not on the inpatient service. Still, when they cannot attend clinics, they remain involved in the follow up of their patients through the discussion in the weekly outpatient review. After each patient is seen in clinic, the fellow writes his/her note and discusses findings and plan of care with the renal attending. Fellows are responsible to follow all clinic laboratory results from patients seen in the corresponding clinic and implement plans of care discussed during the outpatient clinic review. Participation at the weekly transplant conference will teach the criteria of selection for transplant and management of complications post-renal transplant.

DIALYSIS EXPERIENCE
During the dialysis rotation fellows will acquire longitudinal experience in the therapeutic modalities of hemo and peritoneal dialysis. First rotation in dialysis will serve as an orientation to all the patients managed with End Stage Renal Disease in the Program and to learn basic aspects of dialysis which will be taught by the dialysis attending for that month. Fellows will learn about the indications for dialysis, evaluation of dialysis efficiency, nutritional requirements in dialysis and most common complications. Fellows will make rounds on a daily basis on each hemodialysis patient. Patients are seen with the
pediatric dialysis nurse in charge and consultation to the dietary services and social worker will be decided as needed. Acute dialysis, hemofiltration and transplant experience is obtained during the inpatient rotation and also at the transplant clinic located in the transplant center. Fellows are responsible for completing a monthly clinic evaluation note for all the patients receiving treatment at the Pediatric dialysis Unit and should participate actively with the members of the interdisciplinary team in the weekly dialysis patient review. Fellows will attend Quality Assurance/ Quality Improvement (Dialysis Governance Meetings) and learn how to supervise the ESRD care of the patients. Particular attention will be given to cover topics of renal osteodystrophy, anemia management, hypertension and electrolyte abnormalities. Fellows will study the Kidney Diseases Outcome Quality Initiative (K-DOQI) of the National Kidney Foundation in order to understand the clinical pathways used in ESRD care.

Fellows are encouraged to participate in all administrative discussions of the pediatric nephrology facility particularly in reference to the Dialysis Unit and outpatient clinics.

TRANSPLANT EXPERIENCE
The pediatric kidney transplant program began in 1979 and has performed more than 400 kidney transplants in children. From January 2013 to December 2016, we performed the largest volume of kidney transplants in Florida and are the third largest combined adult and pediatric kidney transplant center in the US. In the same period we ranked fifth in pediatric kidney transplant volumes (<18 years) in the US. We are the largest pediatric kidney transplant center in Florida. The program provides state of the art care for patients from age 0-21 years. Our team of surgeons have the expertise in performing both isolated kidney and combined organ transplants in a wide variety of childhood conditions. The interaction of multiple disciplines including neonatology, maternal-fetal medicine, pediatric urology, pediatric surgery and interventional radiology have enabled us to provide care for children with complex congenital and acquired conditions. Our kidney paired donation program offers increased opportunity for transplanting highly sensitized patients who have difficulty finding a compatible match on the deceased donor list. Recently, this program facilitated transplantation in a highly sensitized child. We are proud of our 100% 1-year graft survival in our pediatric transplant recipients. Our program is led by Dr. Jayanthi Chandar who is the Medical Director of Pediatric Transplantation and has led various research and quality improvement related projects in particular improvement of adolescents’ adherence to transplant medications as well as the transition to adult transplant practitioners.

As a fellow you have consistent exposure to the various aspects of pediatric kidney transplantation in both the inpatient and outpatient arenas. On the inpatient service you will care for new kidney transplant patients in the perioperative period 1:1 with the transplant surgery and intensive care team as well as post kidney transplant patients with a variety of complications. On the outpatient rotations, you will attend transplant clinic and assess pre- and post-transplant patients as well as other transplant recipients with renal related complications of transplantation. We have the fortunate support of a multidisciplinary transplant team including 3 nurse coordinators, a medical assistant, social worker and dietician dedicated to the care of transplant patients. Fellows become well versed in the management of immune suppression and the various intricacies related to the care of the kidney transplant patient.

RENAI PATHOLOGY EXPERIENCE
Each trainee will be exposed to issues of immunopathology by direct contact with the renal pathologist and will be taught the basic principles of this discipline. Trainees will be expected to understand the patterns of immunofluorescent microscopy and their relationship to the pathogenesis, diagnosis and prognosis of renal diseases. Transplantation immunology and tissue typing will be taught by the tissue-typing laboratory.

All fellows will be required to attend the monthly Pediatric Renal Biopsy Conference. They will be responsible for presenting the clinical history relating to a particular patient along with the impression of the diagnosis based upon the light microscopy, fluorescent antibody stains and electron microscopy. Each trainee will be required to evaluate all renal biopsies, which they perform with the renal pathologist on a timely basis. During the second year of training, it is expected that the trainee will perform the biopsy procedure itself under the supervision of the attending nephrologist after counseling the patient and family with regard to the risks and benefits of the procedure. Moreover, it will also be expected that the trainee discuss the biopsy results with the patient and family after reviewing this with one of the faculty members.
to be certain that appropriate information is transmitted to the family. This latter step will require that the trainee review the renal biopsy with both the faculty member who will be supervising the trainee as well as the renal pathologist before discussion with the family. For one month, during the first two years, the fellows will have a full-time experience in pathology. During this time, they will be expected to become familiar with the immunopathology of the kidneys as it relates to various diseases and to transplantation. Also, the fellows will review with the Pediatric Pathologist and renal attending all renal and urologic specimens and, in particular, kidneys that have been removed and tumors of the kidney. Feedback for the evaluation of this experience will be provided directly by the Renal Pathologist to the Program Director.

RADIOLOGY EXPERIENCE
Fellows will develop expertise in the interpretation of imaging tests during the weekly Uro-Radiology Conferences where they are in charge of selecting cases, collecting all images and reviewing them during and after the conference. With individual cases, the fellow will be go to the Radiology Department to observe and learn the various renal/bladder imaging modalities, including renal/bladder ultrasounds, VCUG, CT scans, MRI. Special emphasis will be in Nuclear Medicine where they will learn how to read and interpret renal scans.

TEACHING EXPERIENCE
The trainee’s responsibility for teaching will include informal discussions with medical students and pediatric house officers. Medical students and medical house officers on elective in pediatric nephrology will work closely with the fellow during the four months that he/she is on the in-patient service. During the clinic rotation, the teaching of students and house officers will be done by the fellow together with the renal attending. The fellows’ presentations will be reviewed prior to their delivery at a conference; there will be a critique of the conference provided by the pediatric nephrology faculty. A strong emphasis on developing teaching skills and the ability to communicate complex information will be the goal of this training program as these skills are particularly pertinent to the care of children with renal disorders. The trainee will be supervised by the renal attending in all areas of patient care. However, the level of responsibility in teaching and patient care will increase during each year of the training.

Fellows will be encouraged to participate in the teaching of medical students by giving periodic lectures on the subject of UTI, nephrotic/nephritic syndrome.

Fellows may also participate in formal lectures for House Staff and Board Review Sessions.

Fellows should make every effort to attend all the teaching/scholarly activities scheduled for the Division. Attending faculty should facilitate and encourage timely attendance to these activities.

D) RESEARCH PROGRAM
There is an active research component involving both faculty and fellows. Faculty and fellows actively participate in clinical discussions, rounds and conferences to promote a spirit of inquiry and scholarship. Research experience for the fellows is progressive and supervised as described in section C. There is an extensive list of possible research areas with several ongoing funded research projects. Fellows participate in periodic meetings with the Faculty to review on-going research protocols and future research projects. Fellows are exposed to cutting edge research in the field during the Annual Pediatric Nephrology Seminar.

Each of our faculty in Pediatric Nephrology are actively involved in clinical and translational research related to the broad scope of pediatric renal disease in children. There are funded projects that include developmental nephrology, the nephropathy of prematurity, acute kidney injury, hypertension and cardiovascular disease in children with chronic kidney disease and end stage renal disease as well as transplantation immunology. Fellows are encouraged to pursue and develop individual research projects with mentors within and outside the Division. There are also extra-mural collaborations with the MWPNC and NAPRTCS that encourage participation of research projects by fellows.

E) SERVICE DUTIES
Night-call responsibilities: during the eight months of direct patient care in the first year of the training program, the trainee is responsible for week night call four out of seven days for four months. During the
second year there are four months of inpatient experience in which they have night calls four out of seven days for four months and during the third year of training four out of seven days for four months. Always, fellows have the backup of a full-time faculty member who is serving as the attending pediatric nephrologist. Weekend and holiday periods are shared by a trainee and a faculty attending. Every effort is made to be certain that the night-call activity does not interfere with the trainee’s ability to learn and actively participate in the care of patients. In those situations where the service becomes too busy, the attending physician may assume a primary role with regard to night-call responsibilities. Fellows are not allowed to participate in moonlighting activities.

F) LIBRARY FACILITIES
There are two libraries available to the fellows, School of Medicine Main Library (Calder Library) located in the medical center campus, and the Pediatric Library located in the Holtz Children’s Hospital, East Tower 6th Floor. Both are readily accessible to the fellows and they have Medline and other computerized literature search facilities. In addition, the fellows have access to the Pediatric Nephrology Division library located in the Institute Annex Bldg 5th Floor.

Each Fellow has an individual desk with computers with Internet access.

G) FELLOWS EVALUATION
The trainee’s performance is evaluated utilizing the following methods:

1) In-training examinations provided annually by the American Board of Pediatrics (In-Site Exam). These will evaluate the level of cognitive information the trainee has at the beginning of each of those program years. After the first year, the Site Exam should demonstrate areas of weakness within the program. It also allows us to compare the level of knowledge of our trainees with those of other programs. Finally, we should be able to judge the progress of a trainee from year to year.

2) Direct observation of skills. The trainee will have a check list of procedures that he/she is expected to learn during his/her training including kidney biopsy, bedside initiation of peritoneal dialysis, connecting patients on and taking them off the hemodialysis machine and peritoneal dialysis machine. This group of procedures will be taught and subsequently monitored by the renal attending. Direct observation of the trainee performing these procedures will allow us to assess the skill in these areas. Fellows are required to keep a log of these procedures and have them signed by the supervising attending. In addition, we will observe the trainee’s patient-doctor relationship as well as his/her ability in handling consultations, teaching, and working with others in research techniques. We will seek information from pediatric house staff and nursing personnel with regard to the trainee’s ability to communicate with these groups and their teaching performance. Feedback from other medical personnel will be provided directly to the program director who will have the responsibility for communicating with the trainee. In the event that a trainee is having substantial difficulties, a written review of the discussions with the trainee with regard to specific problems will be placed in the trainee’s file for documentation relative to certification of competence in the future.

3) Faculty are mandated to provide a formal written evaluation of each fellow in the program using a special evaluation form every 6 months in addition of the feedback given to the fellows at the end of each clinical rotation. The Program Director gives a summary of all the evaluations to the fellows individually, during a face to face meeting and the fellows acknowledge receipt of the evaluation. These evaluations are kept up to date in a permanent file at all times. The Program Director, in consultation with the teaching staff, provides a written final evaluation to each fellow who completes the program. This evaluation includes a review of the fellow’s performance during the final period of training. Verification that the fellow has demonstrated sufficient professional ability and acquisition of appropriate clinical and procedural skills to practice competently and independently is provided. This final evaluation is part of the fellow’s permanent record maintained by the institution.

4) Minimal procedure requirements to complete fellowship include:
   • Participation in at least 40 in-patient consultations
   • Participation in at least 20 acute dialysis/CRRT prescriptions
- Performance of at least 10 percutaneous renal biopsies
- Performance of at least 10 renal ultrasounds

4. EVALUATION OF THE FACULTY. Fellows evaluate each faculty twice a year using the appropriate form in an anonymous way. These forms are kept confidential by the Program Director, who periodically gives a summarized feedback to each faculty on an individual basis. If a consistent deficiency is found in these evaluations, the faculty member will be requested to develop a plan for improvement.

5. PROGRAM EVALUATION. A form has been developed to be used by the fellows to evaluate the Program on an Annual basis. This written evaluation specifically will document the volume and variety of patients available for educational purposes, the performance of the teaching staff, quality of supervision of fellows, educational goals and quality of curriculum, clinical and research responsibilities of the faculty, and needs of the fellows. One senior fellow representative participates in the periodic and annual review of the Program.

The Director of the program reviews the program’s objectives quarterly with the Division teaching faculty and the fellows. On a quarterly basis, the Program Director meets with the Fellow to review the progress as related to each of the objectives and faculty, house staff and student evaluations. Any acute problems that develop are reviewed immediately with the trainee by the Program Director.

Watch our Pediatric Nephrology Team Video: https://www.youtube.com/watch?v=aQ4kXC7PiFo

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Publications during the past 5 years (Approximately 6 per year):


Pictures to include in the website: