



ALBERT EINSTEIN COLLEGE OF MEDICINE
OF YESHIVA UNIVERSITY
CHILDREN'S HOSPITAL AT MONTEFIORE
DEPARTMENT OF PEDIATRICS
SECTION ON NEPHROLOGY

Pediatric Nephrology Residency Training Program



Overview & History

Pediatric nephrologists are physicians with unique and valuable expertise in the care of children and adolescents with kidney conditions and their special concerns such as growth and development, psychosocial development, nutritional needs, drug dosages, bone disease, dialysis and transplantation.

In the past 40 years, over 100 individuals have received their training in pediatric nephrology at the fully accredited, National Institutes of Health supported program at Albert Einstein College of Medicine. Most have remained in academic medicine and continue their research contributions, and include many Directors of Pediatric Nephrology Sections and Chairmen of Pediatric Departments worldwide. The Division has conducted scholarly work in many areas of basic and clinical nephrology and is credited with over 300 scientific publications, and is one of five National Institutes of Health supported Training Programs.



Children's Kidney Center Faculty & Staff - June 2003

The Pediatric Nephrology Residency Training Program consists of one year of intensive clinical experience at the Children's Hospital at Montefiore, followed by two years of basic or clinical research training. Upon completion, the Pediatric Nephrology Resident will have acquired the capability and experience with which to diagnose and manage renal diseases and to understand the physiology of fluid and electrolyte regulation, with emphasis on the development and maturation of the kidney, and have acquired scientific skills necessary for a career as an independent physician investigator.



Children's Hospital at Montefiore lobby

The Resident will also be trained to recognize the psychosocial aspects of life threatening and chronic diseases, and to provide support and education to patients and their families. The Resident will develop an understanding of ethical, socioeconomic, medical/legal, and cost containment issues as they apply to the provision of patient care and graduate medical education.

The Children's Kidney Center

The Ira Greifer Children's Kidney Center of the Children's Hospital at Montefiore (CHAM), located in the Bronx, NY, is a state of the art facility dedicated to providing family-centered comprehensive care to pediatric patients with kidney problems from birth to adulthood. The Children's Kidney Center is one of the foremost institutions nation- and world-wide, providing leadership in evaluation, diagnosis, and treatment in the field of pediatric kidney disorders since 1966. The Dialysis and Transplantation services were started in 1972 for infants, children and adolescents with End Stage Renal Disease, where one of the first kidney transplants in children was performed. Currently, approximately 2000



Children's Hospital at Montefiore front entrance

patients are seen yearly in the outpatient pediatric nephrology faculty practice, approximately 20 children are on maintenance dialysis, and 10-15 pediatric patients per year receive kidney transplants. Approximately 45 children from throughout the region attend the Ruth Gottscho Children's Kidney Program at Frost Valley YMCA, a unique program of the Section, which began in 1975 and was the first pediatric dialysis summer camp facility to include mainstreaming of the campers with various kidney conditions including chronic kidney failure and transplantation.

A multi disciplinary team approach with expertise in all aspects of pediatric nephrologic, urologic and transplantation medicine has over 30 years of experience in caring for patients and their families with renal disease in an atmosphere of compassionate, family-centered care. A broad referral base and a large group of patients with a variety of renal disorders provide opportunities for the development and implementation of clinical research projects.

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Pediatric patient & nurse in Children's Dialysis Center

First Year

During the first year of training, the Resident will assume major patient care responsibilities in the ambulatory and in patient Pediatric Nephrology Services at CHAM. Six months of the first year are spent consulting on the in and outpatient services, including transplantation; the other six are devoted to covering the Children's Dialysis Unit. An appreciation for the pathophysiology and management of nephrologic disorders will be emphasized, while implementation of therapeutic regimens will utilize the newest modalities and be critically evaluated for efficacy and safety. Medical management of children prior to transplantation, in the operating and recovery rooms, and following transfer to the Pediatric ICU, is the responsibility of the Resident and Pediatric Nephrology Attendings.



Transplant patient & twin sister at camp

Throughout their training, the Resident is part of an interdisciplinary team that includes dialysis nursing staff, nutrition, social work, pediatric psychiatry, child life specialists, transplant nurse-coordinator, transplant surgeons, pediatric urologists and other specialists.

Research

Also during the first year, the Resident will become familiar with the clinical and basic research projects within the Division, including multicenter clinical investigations of the Council of Pediatric Nephrology/Urology of the Kidney and Urologic Foundation of America, NIH-NIDDK Clinical Trials, and other collaborative studies. The Resident is encouraged to pursue either an existing study or research and propose an original investigation with the support of the Pediatric Nephrology Attendings and the Research Laboratory of the Section.

The research resources of the Section including technical assistance, scientific instruments and supplies, and funds for the investigations, provide an excellent opportunity for the Resident to learn in depth many state of the art research techniques in cellular and molecular biology. If needed, the resources of the laboratories of the Section of Nephrology, Department of Medicine, and other basic research laboratories, are also available. Under the supervision of the Pediatric Nephrology Faculty, the Resident is able to generate original data by the end of the second year of training, thus providing them the framework for preparing and submitting a scientific manuscript as the first author for critical review, during the third and final year of training.



Dialysis patient at camp

Current Research Efforts

- Focal segmental glomerulosclerosis in children and young adults - clinical trial (NIDDK)
- Chronic kidney disease in children (NIDDK)
- Role of VEGF and semaphorins in vasculogenesis and renal morphogenesis (NID/NIDDK)
- Clinical trials in pediatric hypertension
- Role of IGF I and its binding proteins, bone cell turnover, and body composition in children with chronic kidney failure;
- Mechanisms of bone abnormalities in renal transplant recipients;
- Role of nitric oxide in hemodialysis associated hypotension;
- Mechanisms of apoptotic pathways in human renal allografts,
- Identification of biomarkers in progressive glomerular diseases, and
- Pathophysiology of essential hypertension in relationship to obesity and diabetes in minority populations.

Teaching

In addition to the clinical and research training of the Residents, the program provides numerous opportunities for them to develop their teaching abilities. The Residents are required to conduct seminars, clinical conferences and lectures that are given at the various Section education meetings, and will assume responsibility for teaching other Pediatric Residents and medical students in

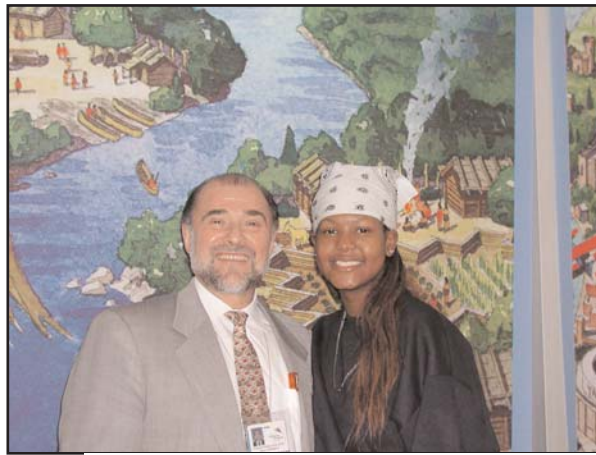
Second & Third Year

The second and third year Residents will still have ongoing clinical responsibilities for one weekly Pediatric Nephrology out patient session for continuity of patient care, and the occasional night and weekend coverage with the other Residents. Each Resident is given the opportunity to spend one week each summer at the Section's program at the Frost Valley YMCA, to broaden the Resident's appreciation of the obstacles encountered by pediatric nephrology patients as they attempt to rehabilitate and continue with their development.

All second year Residents are required to complete the 9 month Fellow's Course offered by the Department of Pediatrics, covering topics including ethics, scientific inquiry, research planning, human investigation, continuing medical education, and statistics. Each Resident is encouraged to participate in the various institutional committees such as the Committee on Graduate Medical Education and other Departmental responsibilities. The Resident is given the opportunity to attend 2 national scientific meetings annually and is encouraged to submit abstracts for review.

Additional Training

For trainees who have a clinical investigative career goal and who would benefit from the experience of working closely with a mentor with expertise in clinical research, The Clinical Research Training Program is an NIH funded two year program consisting of didactic curriculum emphasizing epidemiology, biostatistics, study design, computer methods, and research ethics; and a mentored experience in clinical research. This curriculum leads to the preparation of a thesis for the Master of Science Degree in Clinical Research Methods at the Albert Einstein College of Medicine. For those who may desire further postgraduate medical education, Master's and Doctoral programs in selected fields are also available.



Dr. Kaskel and Dialysis Patient

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