

## **Academic Pediatric Nephrology Fellowship**

**Name of Institution:** McGill University, Department of Pediatrics, Division of Nephrology

**Location:** Montreal Children's Hospital

**Type of Fellowship:** Academic Pediatric Nephrology Fellowship (Clinical and/or Research)

**Fellowship Director:** Bethany Foster

**teaching Faculty:** Dr. Lorraine Bell, Dr. Bethany Foster, Dr. Marie-Michele Gaudreault-Tremblay, Dr. Paul Goodyer and Dr. Indra Gupta

**Number of fellowship positions:** 2/year (maximum)

**Name of hospitals involved in training:** Montreal Children's Hospital, Royal Victoria Hospital, Montreal General Hospital, Jewish General Hospital

**Percent time spent by the fellow in each institution:** will depend on the stream chosen

### **Application process:**

Candidates must apply online through the McGill University website:

<https://www.mcgill.ca/pgme/fellowships/admissions>

The **deadline for application** is Sept 1, of the year preceding the start of the fellowship (i.e. at least 10 months prior to the July 1<sup>st</sup> starting date).

### **PROGRAM INFORMATION: Academic Pediatric Nephrology Fellowship - Extended Expertise in Pediatric Nephrology**

Current Canadian training programs in pediatric nephrology are intended to assure balanced clinical competence, preparing graduates in 2 years to deliver excellent general care to children with kidney disease. However, the nature of pediatric nephrology in North America requires that most, if not all, pediatric nephrologists practice within University-based hospitals, where it is assumed that each staff member will also contribute to academic teaching and to the advancement of new knowledge in the subspecialty. Unlike most American programs, Canadian training has not fully acknowledged the importance of the latter goals.

We now propose a 1-year extension training program to meet the realistic needs of University-based Canadian practitioners. To be eligible, applicants must have done 2-year of clinical training (at MCH or in another hospital). In our new program, all trainees will have the option to develop special skills in one of the following streams:

- A. Clinical Research
- B. Fundamental Research
- C. Teaching or New, Emerging Areas of Clinical Expertise

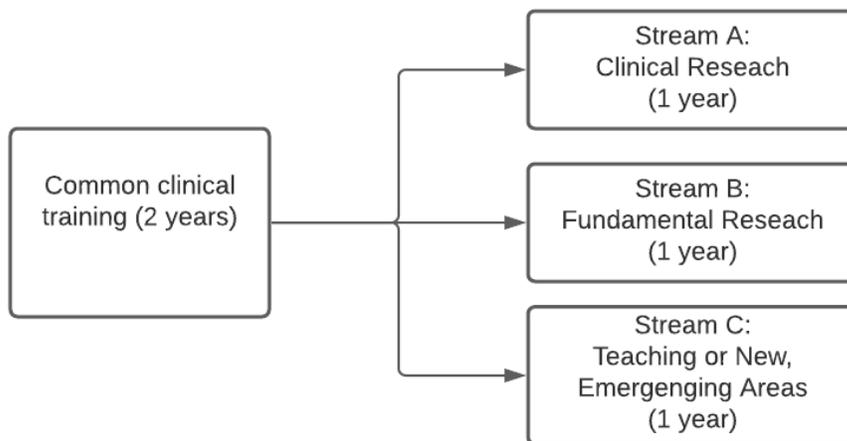
*Extended Streams A and B* can involve enrolment in McGill MSc programs under the supervision of one of our staff members and are intended to serve as an entree to further postdoctoral research training, targeting a career as an independent clinician-scientist.

*Extended Stream C* is intended to generate pediatric nephrologists who can train others and who can advance the field in the University hospital setting by developing new clinical care paradigms.

Funding will need to be sought from recognized sponsoring agencies (e.g., Kidney Foundation of Canada, Montreal Children's Hospital Academic fellowships, recognized sponsors for Gulf state trainees, etc.).

It is important to remember that training undertaken during a clinical fellowship cannot be recognized for credentialing purposes as training leading to certification by the Royal College of Physicians and Surgeons of Canada or the College of Family Physicians of Canada.

Fig. 1: Summary of Fellowship Streams



## **DESCRIPTION OF THE CLINICAL RESPONSABILITIES DURING THE FELLOWSHIP**

### Description of Training Content and Sites:

#### *1. Inpatient service*

- Admitted nephrology and consult patients

Primary responsibility for nephrology service patients, new consultations and their follow-up, and teaching of junior house staff. If there is/ are also pediatric resident(s) and/or student(s) on the In-patient service, the

nephrology fellow is responsible to be aware of all the issues of each patient the junior resident or student is following, and to help supervise the care of those patients in collaboration with the attending staff.

- Emergency room consultations
- Hemodialysis  
Daily assessment of HD patients, acute and chronic HD orders, weekly HD rounds with HD nurse and dietician
- Continuous Renal Replacement Therapies  
Evaluation of potential candidates for CRRT, prescription of treatment and ongoing monitoring
- Site: Montreal Children's Hospital

## 2. *Outpatient service*

- Transplant  
Weekly clinics (1 to 2), emergency drop-in patients, weekly transplant rounds with nurses, adolescent transition transfer summaries and pre-Tx donor assessment
- Peritoneal Dialysis  
Weekly clinic, emergency drop-in patients, weekly PD rounds with nurse and dietician
- Chronic Kidney failure  
Weekly clinic(s), weekly rounds with nurse and dietician
- General Nephrology  
Weekly clinics (1-2) with new consultations and follow-up for a wide spectrum of nephrology patients, including those with hypertension, glomerulonephritis, structural malformations, and renal genetic disorders
- Nephrology Residents' Clinic  
Weekly clinic (FRI) for pediatric nephrology residents/fellows only includes new consultations and long-term follow-up of a wide and *representative* spectrum of nephrology patients
- The goal is to do the equivalent of 3 clinics per week while on this service; generally Mon, Wed and Thu; if there is no Monday clinic, then Wed, Thu and Fri.
- Site: Montreal Children's Hospital

## 3. Adult Nephrology (depending on fellow's interest)

- Dialysis – 4 weeks (hemodialysis &/or PD)
- Transplantation – 4 weeks (inpatient and outpatient service)
- Sites: Royal Victoria Hospital, Jewish General Hospital or Montreal General Hospital

### Fellow Clinical Duties and Responsibilities:

#### 1. Clinical experience

See section *Description of Training Content and Sites*.

## 2. Call responsibilities to cover service

- Call duties are from home.

According to the fellow contract, there are up to 9 calls per month from home. The fellow may have to come to the hospital during their calls if there are any urgent cases, such as urgent dialysis or kidney transplantation (see New transplant section below). When there are more than 3 residents/fellows per block, the total number of calls will be less. Each fellow is expected to cover at least 1 full weekend per block (and 2 every other block depending on the number of fellows). Statutory holidays need to be covered by a fellow. The fellow may then take an extra vacation day for the statutory holiday that he / she has worked. These extra vacation days include those taken over the Christmas / New Year period.

- Nephrology patient emergency room visits

Generally, if a nephrology patient presents to the Emergency Room, it is the Nephrology fellow's responsibility to see the patient. Exceptions are for conditions unlikely to be related to the underlying nephrology problem, or for minor problems late in the evening or overnight.

- During weekends, it is the fellow's responsibility to do inpatient and hemodialysis rounds as well as urgent nephrology consultations with the supervising attending. These rounds are in-house. However, the fellow can leave the hospital when these rounds are completed.

- New transplant patients

It is important to see as many fresh transplants as possible to gain management experience. On the day of a transplant, the fellow is expected to remain in the hospital to closely follow the patient for at least the first 5-6 hours after the patient comes out of the operating room (longer if the patient is unstable). The fellow should also attend the operating room during the procedure, particularly for the time period immediately before and during the anastomosis and vascular clamp release.

### Protected Teaching Time:

- Summer Pediatric Nephrology boot camp (July-August)  
Wednesday 15:00-17:00 and Thursday 13:00-13:45
- Monday 16:30-17:30  
Radiology-Urology-Nephrology rounds (monthly)
- Tuesday 12:00-13:00  
Dialysis and transplantation meetings
- Wednesday 15:00 – 17:00 (Sep-June)  
Academic Half Day Montreal Children's Hospital
- Thursday 13:00-14:30  
Journal Club and patient discussion (each 45 - 60 minutes)  
Sometimes, one of these items will be replaced by topic review, Quality Assurance/ Risk Management or Pathology Rounds.
- Friday 8:00-9:00

- Montreal-Bhopal-Bangalore-Dubai Nephrology Conference (monthly)
- Friday 12:00-13:00  
MUHC Nephrology Conference

## **DESCRIPTION OF STREAM A AND B**

### General Information:

- Goal: To train pediatric nephrologists interested in pursuing a research career as a clinician scientist with the necessary clinical training and with a strong foundation of research training in either basic or clinical research.
- The candidate will be encouraged to apply to an affiliated graduate program in one of the following departments: Epidemiology and Biostatistics, Human Genetics, or Experimental Medicine. These programs are limited and funding support needs to be approved in advance by the supervisor.
- A fellow pursuing these streams will be supervised by a research committee, composed of at least one member of the Division of Pediatric Nephrology, as well as two other faculties.
- Three potential primary supervisors are available from within the Division: Dr. Beth Foster (Epidemiology and Biostatistics), Dr. Paul Goodyer (Human Genetics, Experimental Medicine) and Dr. Indra Gupta (Human Genetics, Experimental Medicine).
- Research activity and publications related to fellowship and supervisors' CVs are available upon request.

### How this fellowship will enhance Pediatric Nephrology residency training?

- This comprehensive fellowship will fill an important gap in the training of clinician scientists in the area of Pediatric Nephrology, greatly expanding the options available to trainees interested in an academic career.
- Completion of this program will significantly enhance the trainee's competitiveness for external awards to fund further research training and for academic faculty positions.

### Teaching Faculties:

#### *1. Dr. Beth Foster*

- Role: Supervisor or Co-supervisor, Clinical Research, Clinical Nephrology
- Summary of clinical practice: Attending pediatric nephrologist (MCH), Research Scientist (MCH Research Institute), Associate Member of Department of Epidemiology and Biostatistics
- Major strengths: Clinician-scientist with interest in chronic kidney disease and transplantation, former KRESCENT New Investigator awardee participated in comprehensive research training program, MSc – clinical epidemiology (MSCE)

#### *2. Dr. Paul Goodyer*

- Role: Supervisor or Co-supervisor, Basic Research, Clinical Nephrology

- Summary of clinical practice: Attending pediatric nephrologist (MCH), Research Scientist (MCH Research Institute), Associate Member of Depts. of Human Genetics and Experimental Medicine
- Major strengths: Internationally recognized researcher in renal development; currently working on prenatal determinants of renal development and post-natal impact, including collaboration with nephrologists in India

### 3. *Dr. Indra Gupta*

- Role: Supervisor or Co-supervisor, Basic Research, Clinical Nephrology
- Summary of clinical practice: Attending pediatric nephrologist (MCH), Research Scientist (MCH Research Institute), Associate Member of Depts. of Human Genetics and Experimental Medicine
- Major strengths: Basic science researcher in kidney, urinary tract and bladder development and genetics of rare kidney disease.

### Academic Facilities:

- The fellow will be provided with a work area with a desk, computer, internet access, and telephone.
- The fellow choosing the basic science stream will work within either Dr. Goodyer's or Dr. Gupta's laboratory, and will be provided with all the necessary laboratory equipment for their chosen research project.
- The fellow choosing the clinical science stream will work within Dr. Foster's laboratory, and will be provided with the necessary statistical and data management software packages.
- Library access, materials relevant to fellowship training: readily obtainable through McGill University

### Fellow Academic Duties and Responsibilities:

- Protected academic time is assigned to all fellows for the purpose of carrying out research projects. 70% of the time will be dedicated to academic activities. The academic time dedicated to a research project will be reviewed on a quarterly basis with the research committee.
- The program includes a clinical commitment of 30% of the time in pediatric nephrology and commitment to related oversight, teaching, administrative and other related duties at the Montreal Children's Hospital (see section *Description of the Clinical Responsibilities during Fellowship* above).
- The fellow will be expected to participate in research projects: planning, coordinating, implementing one or more projects; trial data analysis, presenting results at local level, and preparing final peer-reviewed manuscripts for publications.
- Fellows will be expected to undertake, to collaborate or to support research studies under the mentorship of a research supervisor.
- At the completion of the fellowship, the Department requires the fellow to prepare one manuscript, suitable for publication, for each year of fellowship training.
- As part of the research, the fellow should participate in Research Seminars and Research Day as well as to undertake teaching duties as required within the training program.
- The fellow will be expected to participate in all educational activities, including but not limited to patient discussion, journal clubs as well as research and clinical rounds. Each pediatric nephrology fellow is

expected to give at least 1 presentation every 2 blocks, whether it be critical appraisal of a journal article, a topic review, or research presentation.

- Fellows will be expected to teach/supervise residents who are assigned to pediatric nephrology program and may be called upon to teach in some courses and other educational events.
- The fellow will be strongly encouraged to attend the American Society of Nephrology meeting each year. Other meetings of relevance to the fellow's chosen research area will also be available (i.e. Transplantation meetings, Dialysis meetings).

### Evaluations:

- The fellow will be evaluated on monthly basis by supervisors combining direct and indirect observations for clinical and research work.
- Clinical commitment will be evaluated by using the available forms on One45 (ITERS). Oral exam and/or OSCE could also be used 1-2X per year.
- Research work will be evaluated by research evaluations.
- The fellow will also be evaluated on his/ her presentations. Factors that will be considered will be preparation, appropriate outline of learning objectives, content, final summary of the talk, clarity of delivery and time management.

## **DESCRIPTION OF STREAM C**

### General Information:

- It involves construction of a personalized program with a primary mentor, crafted within one of the principle areas of Divisional strengths below.
- The program should include clear academic goals which may be a scholarly clinical research or quality assurance/ risk management project, major literature review intended to culminate in a peer-reviewed publication, or it could involve construction of a detailed teaching module.
- A draft of the program will be presented to a Stream C committee by April 1<sup>st</sup> of the first Nephrology Fellowship year; the committee will consist, of the proposed mentor, at least one other member of the Pediatric Nephrology Division and one member from outside the Division. Any revisions to the proposed program should be completed by June 1<sup>st</sup> of the same year, allowing final committee approval by July 1<sup>st</sup>.
- A fellow pursuing stream C will be supervised by an advisory committee, composed of the proposed mentor and one other member of the Division of Pediatric Nephrology. Official meeting with this committee will happen at least 2-3 times per year.

### Elective Content of Training and Sites:

- Epidemiology McGill Epidemiology Courses (May-June)
- Renal Pathology 4 weeks Royal Victoria Hospital
- Urology Clinics, urodynamics, surgery observation 4 weeks Urology Division

#### Montreal Children's Hospital

- Research 2 to 6 blocks, each of 4 weeks Renal Division, Montreal Children's Hospital or in related area at MUHC
- Renal Imaging 1 block of 4 weeks Hôpital Ste-Justine
- Medical Education 1-4 blocks McGill University Medical Education
- Scholarly Project\*\* (e.g. case report(s), comprehensive topic review suitable for submission for publication, quality assurance/ patient safety project) 1-3 block Montreal Children's Hospital
- Extramural Clinical Rotation\*\* 1-3 blocks requiring approval by Pediatric Nephrology Program Director. Some, such as extramural clinical rotations, may also require approval by the Associate Dean of Post Graduate Medical Education
- Electives marked with an asterisk require that the resident take responsibility for their arrangement, with clearly defined written goals and objectives. This should be done 3-6 months prior to the projected start date of the elective and further in advance for those that may require approval by the Associate Dean. Once clearly outlined the elective must be approved by the Pediatric Nephrology Program Director; Some electives, such as extramural clinical rotations, may also require approval by the Associate Dean of Post Graduate Medical Education and RAMQ (for RAMQ funded positions).

#### Other options:

1. *Advanced training in Renal Genetics (Mentor: Dr. Paul Goodyer)*

This will involve attendance in selected academic activities in the Montreal Children's Hospital (MCH) Medical Genetics unit, experience with molecular genetic diagnostics, exposure to interpretation of leukocyte cystine monitoring results, attendance of weekly prenatal ultrasound diagnostic program, participation in development of new therapeutic strategies for hereditary renal disease and exposure to antenatal counselling for inherited renal disease. Trainees will conduct a clinical research project concerning the clinical phenotype, therapy or diagnosis of a particular hereditary renal disease and will have the option to perform original laboratory analyses relevant to the study. This will culminate in an original peer-reviewed publication.

2. *Advanced training in renal transplantation (Mentors: Dr. Lorraine Bell and Dr. Marie-Michele Gaudreault-Tremblay)*

The goal of this stream is to enhance training for those who wish to practice clinical pediatric transplantation. It will include rotations through the Adult Nephrology Transplantation service to ensure exposure to large number of renal transplants, HLA laboratory experience, and a minimum of basic training in clinical epidemiology and biostatistics. The trainee will attend the operative procedures for both deceased and living donor transplantations at the Montreal Children's Hospital and donor multi-organ procurements at the MUHC hospitals. He /she will participate in teaching pediatric nephrology residents specialized transplantation topics and in clinical supervision of residents during their transplantation rotations at the

Montreal Children's Hospital. He/she will be expected to do a scholarly project in clinical transplantation.

Suggested areas include:

- Collaboration with Dr. Foster in analysis of public transplant databases and plan an original clinical research project concerning renal transplantation or an analysis of current health policy on renal transplantation, with the aim of producing a peer-reviewed publication.
- Collaboration with researchers in the MUHC Adult Solid Organ Transplantation
- Program with the goal of writing a peer-reviewed publication

3. *Advanced training in congenital kidney and urinary tract malformations (Mentor: Dr Indra Gupta)*

This extended stream will focus on an in-depth understanding of malformations in the upper and lower urinary tract. The trainee will attend the bi-weekly Urology-Nephrology Clinic with practical training in interpretation of urodynamic studies. The trainee will also have practical training in various imaging techniques (ultrasound, MRI etc.) through elective time in the MCH Radiology Department.

Academic Facilities:

- The fellow will be provided with a work area with a desk, computer, internet access, and telephone
- Library access, materials relevant to fellowship training: readily obtainable through McGill University.

Fellow Academic Duties and Responsibilities:

- Protected academic time is assigned to all fellows for the purpose of carrying out academic activities. The academic time dedicated to a scholarly project will be reviewed by the advisory committee. Depending on the program chosen, up to 50% of the time will be dedicated to academic activities.
- The program includes also a clinical commitment of up to 50% of time in pediatric nephrology and commitment to related oversight, teaching, administrative and other related duties at the Montreal Children's Hospital (see section *Description of the Clinical Responsibilities during Fellowship* above).
- At the completion of the fellowship, the fellow will be expected to present his/her scholarly project to the pediatric nephrology division.
- The fellow will be expected to participate in all educational activities, including but not limited to patient discussions, journal clubs as well as research and clinical rounds. Each pediatric nephrology fellow is expected to give at least 1 presentation every 2 blocks, whether it be critical appraisal of a journal article, a topic review, or quality assurance/ patient safety review.
- Fellows will be expected to teach/supervise residents who are assigned to pediatric nephrology program and may be called upon to teach in some courses and other educational events related to their special area of interest.
- The fellow will be strongly encouraged to attend the American Society of Nephrology meeting each year. Other meetings of relevance to the fellow's area of interests will also be available (i.e. Transplantation meetings, Dialysis meetings).
- The fellow will be expected to produce at least one manuscript for publication.

### Evaluations:

- The fellow will be evaluated on monthly basis by supervisors combining direct and indirect observations for clinical and academic work.
- Clinical commitment will be evaluated by using the available forms on One45 (ITERS). Oral exam and/or OSCE could also been used 1-2X per week.
- Academic commitment will be evaluated by scholarly project/ research evaluations.
- The fellow will also be evaluated on his/her presentations. Factors that will be considered will be preparation, appropriate outline of learning objectives, content, final summary of the talk, clarity of delivery and time management.