Lipidology & Preventive Cardiology (2 years) (2023)

The mission of the **Lipidology and Preventive Cardiology Fellowship** is to promote and advocate the understanding of dyslipidemia and the primary and secondary prevention of atherosclerotic cardiovascular disease (ASCVD). The primary goal of this specialized training is to reduce the morbidity and mortality from dyslipidemia and related diseases by bridging basic knowledge and recent understanding of vascular biology and molecular genetics and their relevance to the basis of high risk screening and prevention of disease in a clinical setting.

This fellowship is offered to residents having completed Internal Medicine Residency, Medical Biochemistry Residency or Cardiology Residency. Exceptionally, physicians having completed family practice will be considered.

Lipidology and Preventive Cardiology Fellowship *1-year (clinical and clinical-based research)*

Lipidology and Preventive Cardiology Fellowship *2-year (clinical and laboratory-based research)*

Content

Clinical Training

During the course of the clinical part of this fellowship, the fellow will be exposed to preventive cardiology and the prevention of cardiovascular diseases, severe disorders of lipoproteins and the management of orphan diseases . It is expected that the fellow will learn the principles of cardiovascular risk stratification using the presently recommended algorithms. The Fellow will also understand the clinical, demographic, genetic, anthropometric and biochemical variables required for proper cardiovascular risk assessment. He or she will also be trained in clinical genetics understanding the basic rules of Mendelian heredity, polygenic disorders and genome-wide association studies and will be expected to perform one or more family studies during the course of his training. It is expected that the Fellow will be exposed to a wide variety of acquired and genetic lipoprotein disorders, their diagnosis and treatment. The Fellow will also be exposed to common genetic disorders such as familial hypercholesterolemia, elevated lipoprotein (a) [Lp(a)], as well as rare (orphan) lipoprotein disorders and many other disorders predisposing to cardiovascular diseases. He or she will learn to assess biomarkers, surrogate endpoints of cardiovascular risk as well as conventional and advanced imaging techniques of the cardiovascular system.

The Fellowship will enhance residency training in many ways, including being kept up-to-date in the clinical management of dyslipidemia for disease stabilization and cardiovascular event reduction and prevention. This will include multidisciplinary training in the primary areas of risk assessment, lipid research, implementing biochemical and molecular diagnosis techniques, designing and evaluating preventive strategies, initiating and evaluating a research protocol. Optional secondary areas of training will include developing teaching styles to educate a wide range of audience including patients, medical students, medical residents, physicians and laboratory personnel.

Research Program

The Research Program will be tailored to suit the individual's abilities to perform clinical or population-based research. It is expected that the Fellow will be teamed up with a PhD student to understand the basic laboratory techniques of PCR, Western blotting analysis, and the bioinformatics analyses required for advanced genetic and genomic, proteomic and lipidomic studies. The student will be also exposed to a variety of cell culture techniques and small animal (rodent) work.

Scholarly activity will mainly be in research in the field of lipidology, and fellows will be expected to design and execute at least one research project in the area of atherosclerosis pathogenesis or lipid management during their training period. They will also be expected to work on publications.

Areas of research experience to be emphasized include research design, recruitment techniques, data acquisition, and analysis. The fellow will be encouraged to present the research at national meetings and publish the data in established, peer-reviewed journals.

Teaching Faculty

- Dr. Jacques Genest (Co-Director)
- Dr. George Thanassoulis (Co-Director)
- Dr. Jamie Engert
- Dr. Hong Choi
- Dr. Isabelle Ruel PhD, RA

Academic Facilities

Outline facilities for clinical and academic pursuit: The clinic is located in the Cardiology Division of the MUHC and includes several clinicians trained in preventive cardiology. A full-time nurse has oversight of the patient's charts and clinical protocols in use for the past 30 years, of which 20 at the MUHC.

Principle investigators, chief technicians, and laboratory research assistants with many years of experience in specialized world class test performance and literature reviewing, are able to facilitate the applicant's role. The laboratory has gained international recognition in the field of lipoprotein metabolism and genetics.

Fellow Duties and Responsibilities

- No calls are required to cover any service

- The applicant will take an active part and full responsibility in the twice per week outpatient clinic (including diagnosis, management, health advocacy, sex and gender differences in the perception and manifestation of disease)
- The applicant will have teaching responsibilities towards students and residents on service and on many occasions will chair journal clubs and medical rounds.
- Support staff, including the laboratory program coordinator, research nurse, cardiovascular staff and secretarial staff are available to the applicant.
- Proposed meetings to be attended by the fellow: National Lipid Association, American Heart Association, Canadian Lipoprotein Conference and Canadian Cardiology Congress. The fellow is also expected to attend multiple courses and conferences during this period.
- The Fellow is expected to complete the training in lipidology and complete the American Board of Clinical Lipidology offered by the National Lipid Association

Curriculum

Varieties of primary (80%) and acquired (20%) cases of dyslipidemia are anticipated during both clinic and research activities. Classic textbooks, various journal and reading materials in the field on lipids and lipoproteins are suggested and provided in the laboratory library and online. Conferences and weekly schedules:

• Bi-weekly laboratory research meeting RI-MUHC E1.2225
• Weekly medical grand rounds – Tuesday (optional)
• Weekly cardiovascular grand rounds – Thursdays MUHC
• Journal club – RI-MUHC E1.2225

The applicant will have the opportunity to attend, present, supervise and organize some of these activities.

How to Apply

Please visit the McGill PGME Website for details

Description of the two-year Preventive Cardiology / Advanced Lipidology Research Fellowship

Name of Institution: McGill University Health Centre Location:
Cardiology Division,
McGill University Health Center
1001 boul. Decarie
Montréal, Québec, H4A 3J1

Type of Fellowship: Preventive Cardiology / Advanced Lipidology fellowship training program
Duration: 2 years (Clinical and laboratory-based research)
Program Information This fellowship is offered to residents having completed Internal Medicine Residency, Medical Biochemistry Residency or Cardiology Residency. Exceptionally, physicians having completed family practice will be considered.
Number of fellowship positions requested: One fellow per supervisor.

Every fellowship will be reviewed to ensure that there are the appropriate resources for the fellow in terms of an educational experience.
Training sites: McGill University Health Center Hospital (Glen site and Montreal General Hospital) where the candidate will spend most of the time.

Clinical Training

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Supervision:
Dr. Jacques Genest, Professor, Dept. of Medicine and Dr. George Thanassoulis, Associate Professor, Dept. of Medicine Division of Cardiology McGill University Health Centre Montreal, Quebec