

## SCLERODERMA AND MYOSITIS CLINICAL RESEARCH FELLOWSHIP

LENGTH OF FELLOWSHIP: 1 year training in scleroderma and/or myositis (after Core Rheumatology)

ACADEMIC AFFILIATION: McGill University

NAME OF HOSPITALS: Jewish General Hospital

FELLOWSHIP PROGRAM DIRECTOR: Marie Hudson

FUNDING: Candidates must secure funding (as per PGME guidelines) to apply for this fellowship.

NUMBER OF FELLOWSHIP POSITIONS: Maximum 1 per year

PROGRAM ENTRY REQUIREMENTS: Scleroderma and myositis (SM) fellows must have completed Rheumatology core training at an institution with Royal College certification or equivalent for foreign fellows. Knowledge of diagnosis and management of systemic autoimmune rheumatic diseases (SARD) is considered part of core rheumatology training, and the ability to function as a rheumatologist is a prerequisite for the SM Fellowship. The ability to perform an appropriate history, physical examination and conduct appropriate investigations related to SARD is assumed to be integral to general rheumatology training.

BACKGROUND: Since 2004, the Jewish General Hospital has become a quaternary referral center for patients with systemic sclerosis and autoimmune myositis, providing state-of-the-art care including nailfold videocapillaroscopy, multi-disciplinary lung evaluations, assessment for autologous hematopoietic stem cell transplantation and advanced serological testing. Patients are referred from across Quebec, the Atlantic provinces and as far west as Winnipeg in Canada, and from various other parts of the world, in particular France. Trainees have also come from across the province and country, and returned to increase scleroderma and myositis care capacity in numerous universities.

RESEARCH ACTIVITY: The Canadian Scleroderma Research Group (CSRG) and the Canadian Inflammatory Myopathy Study (CIMS) are multi-centered research cohorts established at the Jewish General Hospital. CSRG has recruited over 1700 patients (both prevalent and incident) some with more than 13 years of follow up. CIMS has over 300 subjects with incident idiopathic inflammatory myopathies some with up to 7 years of follow up. CSRG and CIMS have become internationally recognized research programs, as evidenced, among other things, by participation in Scleroderma Clinical Trials Consortium, Myositis Clinical Trials Consortium, CLASS and GCOM.

RESEARCH MISSION: The research mission at the JGH is to Train, Translate and Treat to improve the lives of people living with scleroderma and myositis.

### Train

In addition to the rich scleroderma and myositis clinical environment at the JGH, the CSRG and

CIMS databases provide outstanding resources to train students at all levels, from medical students and residents, to graduate students. Trainees have published in high impact journals, presented at international meetings and become respected clinicians and clinician-scientists at McGill and other universities across Canada. SM Fellows will participate in research activities, while being given great latitude in pursuing projects / topics that interest them and with their choice of supervisor, with commensurate protected research time.

### Translate

Collaborations with laboratory scientists are essential to work towards finding cures for these devastating disease. CSRG and CIMS have numerous such collaborations at local, national and international levels with scientists with expertise, among other things, in omics technologies, serological discovery, *in vivo* modelling, cell therapies and machine learning. This provides SM Fellows a rich environment to understand mechanisms of disease and novel therapeutic targets, and participate in discovery science and knowledge translation.

### Treat

Many of our projects focus on measuring the effectiveness of various treatments on outcomes of importance using observational study designs and advanced statistical modelling. We have also undertaken investigator-initiated studies in cellular therapies, including hematopoietic stem cell transplant and mesenchymal stromal cells, and in precision medicine in myositis. We participate in industry-funded Phase II/III trials to provide patients early access to potentially new therapeutic interventions. SM Fellows are at the forefront of practice-changing clinical research.

### RESEARCH SUPERVISORS:

Drs Marie Hudson MD MPH is a rheumatologist and epidemiologist at the Jewish General Hospital and Lady Davis Institute in Montreal, and Associate Professor at McGill University. She is a founding member of the CSRG and Director of CIMS. She has held salary awards from CIHR, FRQS, The Arthritis Society and the Canadian Arthritis Network. She has published over 300 full-length peer-reviewed papers and 9 book chapters. Her Google scholar *h-index* is over 60. She has supervised research trainees at all levels and her students have excellent track records in terms of securing funding, presenting their results at national and international scientific meetings and publishing in high-impact journals.

Dr Leclair MD PhD is a rheumatologist and epidemiologist at the Jewish General Hospital and Lady Davis Institute in Montreal, and Assistant Professor at McGill University. In 2023, Dr Leclair completed her PhD in outcomes research in myositis at the Karolinska Institutet in Stockholm, Sweden. She is a founding member of CIMS, and has a specific interest for precision medicine in myositis.

Dr Geneviève Gyger is a co-investigator of both CSRG and CIMS. She also performs nailfold videocapillaroscopy for both clinical and research purposes. She provides co-supervision on selected projects.

### RESEARCH PERSONNEL:

The established infrastructure and experienced research staff are key assets that facilitate this work and ensure that we can accelerate progress in these devastating diseases. The research

personnel includes one full-time nurse, one full-time research coordinator, one full-time research assistant and one part-time biostatistician.

#### FACILITIES:

Research trainees at the JGH have a dedicated office space, access to a conference room with audio-visual equipment, full access to hospital computers, internet and library databases, as well as dedicated PACS station.

**CURRICULUM:** The curriculum of the SM fellowship will focus on cognitive skills, technical skills, education and research, as described below using the Royal College CanMEDS framework ©. In addition, the Fellow will be provided with the opportunity of taking one summer epidemiology and one summer biostatistics course at McGill University. In certain circumstances where appropriate, the Fellow may register as a master's student in epidemiology at McGill and will take the required courses for that program.

At the end of the fellowship, SM Fellows will have acquired the following competencies:

#### Medical expert

- Demonstrate knowledge of the broad spectrum of manifestations of scleroderma and myositis, including clinical features, serologies, imaging findings and histopathology, with particular attention to sex and gender differences
- Demonstrate expertise and technical competence in the performance of the following: physical examination, dermatoscopy, nailfold videocapillaroscopy and skin biopsies
- Demonstrate problem solving and clinical decision-making, including the ability to correlate, evaluate, and prioritize information acquired by clinical assessment
- Formulate an appropriate problem list
- Integrate evidence-based medicine to properly develop and implement a diagnostic and therapeutic plan
- Identify and appropriately respond to relevant ethical issues arising in patients with life-altering and life-threatening diseases
- Demonstrate the ability to prioritize professional duties when faced with multiple patients and problems
- Demonstrate compassionate and patient-centered care
- Function effectively as a consultant

#### Communicator

- Educate patients around their complex issues and treatment plan
- Complete comprehensive consultation and follow up notes outlining findings and suggested management plan
- Obtain informed consent appropriately
- Participate actively in teaching medical students and medical residents
- Prepare and present rounds / journal clubs as scheduled
- Present research findings at local, national, and international meetings
- Draft and submit manuscripts reporting results of their research project

- Meet patient advocates and communicate knowledge in lay language

#### Collaborator

- Work with the house-staff, treating rheumatologists and multi-disciplinary care team (including respirologists, cardiologists, and dermatologists) to assess, plan, provide and integrate care for both in-patient and out-patient scleroderma and myositis patients
- Work with the clinical personnel to ensure tests and follow up visits are scheduled promptly
- Work with the research team to collect data and biological samples, analyze data and prepare research reports
- Respect differences and address misunderstandings and limitations in other members of the clinical and research team
- Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension

#### Leader

- Develop a timeline with milestones and deliverables for a research project
- Take on the responsibility of submitting a research project to ethics and ensuring appropriate inter-institutional contracts are in place
- Collect the data for a research project
- Initiate regular meetings with research supervisors
- Circulate drafts of abstracts or manuscripts to the research team
- Submit abstracts and manuscripts for peer-review

#### Health Advocate

- Counsel patients on important lifestyle modifications to improve their health (eg. smoking cessation, exercise)
- Assist patients and care team to access services (eg. rehabilitation) and restricted or off-label drugs
- Interact with patients and patient support groups to understand their needs and identify possible mechanisms to address these

#### Scholar

- Conduct a structured research project and develop the skill to critically appraise original data
- Access and interpret evidence relevant to scleroderma and myositis
- Critically review relevant published material
- Educate other physicians, other health professionals, members of the public, or government officials about aspects of scleroderma and myositis
- Recognize gaps in knowledge regarding patient problems and develop strategies to fill the gap through reading and consulting other members of the health care team

#### Professional

- Regularly attend various clinical and research rounds

- Deliver care and conduct research with integrity, honesty and compassion
- Understand the professional, legal and ethical codes to which physicians are bound

#### FELLOWS' DUTIES AND RESPONSIBILITIES:

SM Fellows are expected to arrive before 08:00 am every working day, except for agreed upon opportunities (eg. conferences, research activities), holidays or in the case of illness. Fellowships will:

- participate in selected clinics, including Multidisciplinary Lung clinic, CSRG and CIMS clinics, Pulmonary arterial hypertension clinic, Videocapillaroscopy clinic;
- participate in the care of complex in-patients;
- see scleroderma and myositis patients, write letters of consultation and follow up notes, and complete relevant case report forms for study patients;
- be involved in teaching of house-staff around relevant cases and research methodologies;
- attend and present JGH cases at Karpati Carpenter Neuromuscular Rounds (1-2 hours/month) and McGill Intra-divisional ILD rounds (1 hour/month);
- present from time-to-time at institutional journal clubs/rounds;
- complete the IMACS assessment tool on-line training (NIH database);
- present 1 or more abstract at national and international meetings, including the Systemic Sclerosis World Congress or the International Workshop on Scleroderma Research. Although expenses to attend the World Congress or the International Workshop on Scleroderma Research are not covered by the fellowship, fellows can apply to the Scleroderma Clinical Trials Consortium for a travel award to attend either of these meetings;
- submit 1 or more manuscript to a peer-reviewed journal, including the Journal of Scleroderma and Related Disorders. It is understood that the publication process may be lengthy, and the Fellow will be expected to participate in the process until completion (and therefore beyond the term of the fellowship)
- if there is opportunity, participate in writing grants.

#### EVALUATIONS

The fellow will receive an evaluation of his/her performance every 3 months on the Mres system (One45). The fellowship director will present the fellow's progress to the Rheumatology Competency Committee every 6 months and at the end of the fellowship. An evaluation at the completion of the fellowship will be submitted to the Program Director and will be placed in the fellow's completion file. The McGill Evaluation and Promotion in Postgraduate Training Program Guidelines will be applied and respected. The Residency Training Committee and Program Director will evaluate the Fellowship Program Director annually with respect to teaching, scholarly research activity and feedback by residents and current fellows. The fellow will evaluate his/her supervisors, and annually the assessments of the teaching faculty will be updated on file and available for review. The Program Director and its Residency Training Committee will assess the quality of the curriculum and the extent to which the fellowship has met its educational goals regularly.

#### IMPACT

The JGH provides an outstanding environment to train fellows in scleroderma and myositis, while building clinical and research capacity, allowing patients to participate fully in the research experience, and promoting world-class care for Canadian patients with scleroderma and myositis. We truly believe that our group has the necessary expertise, experience and infrastructure to offer selected candidates an instructive and rewarding learning experience, at the end of which they will fully meet the necessary qualifications required by the appropriate governing bodies.