

# Pulmonary Rehabilitation and Integrated Care of Chronic Respiratory Disease

## 1. ADMINISTRATIVE INFORMATION

**Fellowship:** One year fellowship/Maximum of 2 candidates/year

**Name of Institution:** McGill University

**Location (principal):** Montreal Chest Institute, McGill University Health Centre  
Mount Sinai Hospital, Jewish General Hospital

**Other locations (optional):** **Specialized sites** will be allowed to complement the training in specific areas (2 to 4 weeks); this will require the approval of the training committee:

### **In Montreal**

- Service Régional de Soins Respiratoires à Domicile (Regional Home Respiratory Care Service: SRSAD) for Home Rehabilitation and Palliative Care in respiratory patients (*Specialized home service & Advanced care*)
- Lung Transplant Program / Notre Dame Hospital (CHUM), and Introduce the CNTRP (Canadian National Transplant Research Program) & CAN-RESTORE (Canadian Network for Rehabilitation and Exercise for Solid Organ Transplant Optimal Recovery).

### **Outside Montreal**

- Institut de cardiologie et pneumologie de l'université Laval, Quebec (Outpatient program) (Responsible: Dr Francois Maltais)
- West Park Healthcare Centre, Toronto (Inpatient program) (Responsible: Dr Roger Goldstein and Dina Brook, PhD)
- Edmonton Hospital, Edmonton (Outpatient and tele-medicine program) (Responsibles: Dr Mohit Butani and Michael Stickland, PhD)
- Grenoble (Inpatient respiratory & non respiratory patients and CPE physiology) (Responsible: Dr Bernard Aguilaniu)

**Parent Training Program:** Adult Respiriology

**Fellowship Director:** Dr. Jean Bourbeau  
Director, Pulmonary Rehabilitation  
McGill University Health Centre  
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**Fellowship Co- Director:** Dr. Tania Janaudis-Ferreira

## **Pulmonary Rehabilitation and Integrated Care of Chronic Respiratory Disease**

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Hosmer House, Room 200  
3630 Promenade Sir-William-Osler, Montreal, QC H3G 1Y5

### **Fellowship Coordinators:**

Antje Bier, Respiratory Division, MUHC (Glen Site)  
[responsible for fellows' dossiers and evaluations,  
documentation]

### **Fellowship Training Committee Members:**

Dr J Bourbeau (chair)  
Respiratory Division, Department of Medicine,  
McGill University Health Centre, McGill University

Dr. Tania Janaudis-Ferreira (co-chair)  
School of Physiotherapy and Occupational therapy,  
McGill University

Dr D Jensen (respiratory physiology)  
Department of Kinesiology and Physical Education,  
McGill University

Dr N Saad (Mount Sinai)  
Respiratory Division, Department of Medicine,  
Jewish General Hospital, Mount Sinai Hospital and McGill  
University Health Centre, McGill University

Dr. John Kimoff (ex officio)  
Respiratory Division, Department of Medicine,  
McGill University Health Centre, McGill University  
Director, Adult Respiratory Residency Program Director

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## **2. RATIONALE AND MISSION**

### **2.1 Mission**

The purpose of the McGill fellowship in pulmonary rehabilitation and integrated care of chronic respiratory disease is to allow the respirologist to acquire scientific knowledge in (1) pulmonary rehabilitation for chronic respiratory diseases and (2) rehabilitation techniques including all physical and psychosocial aspects, and expected long and short term benefits.

### **2.2 Rationale**

There is an increased prevalence of chronic disease, largely related to the ageing of the Canadian population. For example, in Canada, chronic obstructive pulmonary disease (COPD) is responsible for the highest rate of hospital admission among major chronic illnesses. COPD has a much higher readmission rate than other conditions such as angina, heart failure, and diabetes. Chronic respiratory diseases account for a substantial part of the actual practice in respiratory medicine, and include COPD, cystic fibrosis (CF), bronchopulmonary dysplasia (BPD), asthma, interstitial lung disease (ILD), pulmonary hypertension (PAHT) and lung cancer. Respirologists also provide medical management for patients with complications from thoracic surgery (lung cancer resection, emphysema, etc) and those with extended stays in the intensive care unit (neuromuscular, post op complications, COPD, etc).

Increasingly, respirologists are responsible for the development/implementation of targeted strategies and pulmonary rehabilitation programs aimed at optimizing the long- term management of patients with chronic respiratory conditions. This practice profile also incorporates elements of palliative care medicine. Thus, there is an overlap of pulmonary rehabilitation and palliative care medicine in the integrated management of chronic respiratory disease. Pulmonary rehabilitation is a relatively new area in respiratory medicine, requiring additional training and expertise in clinical exercise and cardiopulmonary physiology, exercise training (including neuromuscular stimulation, eccentric and concentric training) combined with psychological processes related to motivation, emotional adjustment (anxiety and depression), and chronic disease self-management. Pulmonary rehabilitation combines state-of-the-art medical management with participation in hospital- and home-based programs aimed at alleviating exertional breathlessness, and improving exercise tolerance, mood regulation and coping skills in an effort to increase patients' control over their disease and enhance their overall quality of life.

Additional training in the core elements of pulmonary rehabilitation medicine is essential to provide respirologists who will practice in this area with the background and skills to develop and lead programs that can meet the medical, psychological and social needs of a broad range of patients in various settings as part of an integrated care process. Specialized training will also ensure that respirologists acquire the necessary skills to develop programs that meet established national and international standards. Training in ongoing quality improvement and clinical research skills are necessary to ensure the continuous refinement of care delivery and practices, proper monitoring, and ongoing improvement. Finally, leadership training provides skills in developing and managing programs and multidisciplinary teams across settings and as part of an integrated care process.

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## **3. FELLOWSHIP OBJECTIVES**

We are aiming that the respirologist after this fellowship will have solid knowledge and experience in pulmonary rehabilitation in order to establish a pulmonary rehabilitation program in his area of practice, and ensure its leadership and quality control by teaching and supervising other professionals of the multidisciplinary team

Building upon the foundation of clinical training in respirology, the resident will focus on acquiring knowledge, clinical, and technical and special skills closely linked to groups of patients with chronic respiratory diseases. **Following the practicum, the candidate will have to demonstrate competence in the following fields:**

### **MEDICAL EXPERT**

- 3.1 Understand and implement strategies to optimize care and services, i.e., an approach taking into consideration not only acute episodes, but also the evolution of the chronic illness.
- 3.2 Understand the importance of the non-pharmacological approach to chronic respiratory diseases; recognize the biopsychosocial aspects of illness; and recognize the efficiency of various methods and strategies.
- 3.3 Understand the optimal pharmacological treatment of chronic respiratory diseases such as asthma, CF, BPD, ILD and COPD leading to improvement of symptoms and of ability to exercise as a form of self-directed rehabilitation.
- 3.4 Understand and implement alternatives to hospitalizations for patients with asthma, CF, BPD and COPD exacerbations.
- 3.5 Understand the mechanisms, measurement and management of dyspnea; generate interventions that are better adapted and personalized.
- 3.6 Develop and implement rehabilitative exercise training programs; recognize the principles, benefits, indications and contraindications; select and evaluate patients.
- 3.7 Understand and implement oxygen therapy and other adjunct therapies (e.g., noninvasive ventilation) to optimize the potential benefits of rehabilitative exercise training.
- 3.8 Understand and implement energy conservation concepts, and interventions regarding fatigue.
- 3.9 Understand psychosocial aspects; interventions allowing necessary psychosocial adjustments and better coping with the chronic illness.
- 3.10 Understand and implement end of life and palliative care.
- 3.11 Understand and implement education and teaching of elderly patients; learning principles and barriers, the different steps to ensure adequate patient education; recognizing the knowledge and competence needs of professionals educating patients.
- 3.12 Understand and describe indications, contraindications, benefits and risks for the various pulmonary rehabilitation modalities (concentric training, eccentric training, neuroelectrical stimulation, etc).

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- 3.13 Acquire and demonstrate proficiency in evaluating a rehabilitation program and starting a program according to various possible structures: in-hospital, ambulatory, at-home; become familiar with the different evaluation tools so as to select appropriate ones.
- 3.14 Understand the team approach to pulmonary rehabilitation and the role of different professionals (e.g. physical therapists, respiratory therapists, occupational therapists, dietitians, pharmacists, social workers, nurses, psychologists).
- 3.15 Appreciate the role and importance of research in the advancement of knowledge and treatment.

### **COMMUNICATOR**

- 3.16 Demonstrate clear and compassionate oral communication with patients and family members, while respecting patients' values, cultural and educational backgrounds.
- 3.17 Promote and support informed decision making by patients and family members with respect to investigation and treatment decisions, including suitable discussion of end-of- life and palliative care.
- 3.18 Provide effective oral case presentations and discussions with physicians and other professionals sharing patients' care.
- 3.19 Provide effective written and/or dictated consultation notes to referring physicians and other providers, which clearly outline an accurate, problem-oriented assessment of the patient's condition, and a corresponding, evidence-based management plan.
- 3.20 Provide effective oral presentations at didactic teaching conferences.
- 3.21 Provide effective oral and written communication of research findings.

### **COLLABORATOR**

- 3.22 Participate effectively in shared management of respiratory chronic disease patients with other physicians, health professionals and clinical researchers.
- 3.23 Demonstrate respect for all physician and non-physician team members, professionals in clinical settings (CLSC, respiratory care at home, hospital) and academics (physical education, physiotherapy, nutrition, etc) at all times.

### **MANAGER**

- 3.24 Demonstrate knowledge of the cost of disease management, self-management, pulmonary rehabilitation and palliative care.
- 3.25 Implement a cost-effective approach to the use of novel procedures when and where appropriate.
- 3.26 Set appropriate priorities in evaluating and referring patients.

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## **HEALTH ADVOCATE**

- 3.27 Advocate for his/her patients in planning investigation and treatment in a resource- limited setting.
- 3.28 Advocate for his/her patients by identifying relevant studies or clinical trials in which they may choose to participate.
- 3.29 Advocate for his/her patients by participating in activities that raise public awareness of, and support for, chronic respiratory disease patients.

## **SCHOLAR**

- 3.30 Demonstrate awareness of the importance of self-evaluation and continuing education; willingness to teach others, including students, residents and other health professionals.
- 3.31 Incorporate up-to-date scientific evidence in his/her patient management, including investigation and treatment.
- 3.32 Demonstrate that he/she can access the medical literature effectively, in order to address a clinical management question.
- 3.33 Demonstrate critical review skills for clinical and epidemiologic research articles.
- 3.34 Demonstrate self-directed learning, and an ongoing commitment to scholarship and intellectual growth.
- 3.35 Attend relevant scientific and educational conferences, both locally and elsewhere.
- 3.36 Demonstrate the ability to present an effective, informative educational conference.

## **PROFESSIONAL**

- 3.37 Demonstrate appropriate and ethical professional attitudes and behaviors at all times.
- 3.38 Demonstrate and communicate respect and understanding of patients, family members, colleagues, other team members, and all health care personnel at all times.

## **4. ACADEMIC FACILITIES**

### **4.1 Facilities for clinical and academic pursuit**

The 2 main sites, the Glen and Mount Sinai\* offer all the academic facilities for this fellowship training:

- Access to patients (respiratory intensive care, inpatient, outpatient) with a large variety of chronic respiratory diseases
- Specialized outpatient clinics (COPD, CF, BPD, ILD/IPF, pulmonary rehabilitation,

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smoking cessation)

- Pulmonary rehabilitation programs (respiratory intensive care unit, hospital and home-based programs, tele-medicine in primary, secondary and tertiary care)
- Specialized exercise physiology laboratory and technician expertise
- Research facilities and ongoing research at the Respiratory Epidemiology and Clinical Research Unit (RECRU), and the Center for Innovative Medicine (CIM)

*\*Mt Sinai will provide the trainees an opportunity i) to gain in depth knowledge and practical experience in inpatient pulmonary rehabilitation; ii) practical skills (patient assessment, field exercise tests and other functional/mobility tests, muscle strength testing) and; iii) to interact and collaborate with researchers in the field of physiotherapy/pulmonary rehabilitation.*

### **4.2 Availability of a skills lab**

The Pulmonary Physiology and Cardiorespiratory Exercise Laboratory rehabilitation/exercise physiology at the Glen (clinical) and the CIM (clinical research):

- The Laboratories (Glen and CIM) provide a full range of pulmonary function tests and routine exercise testing with all its variations.
- The Research Respiratory Laboratory Platforms (CIM) also gives clinical trainees access to research investigators, specialized technicians and students in kinesiology/physiotherapy (MSc and PhD) available for:
  - Training, supervision and interpretation of cardiopulmonary testing
  - Information on pulmonary function and exercise testing
  - Assistance in setting up protocols for research studies
  - Information on quality assurance

### **4.3 Partnership with other clinical sites**

See Section 1: Other locations (optional)

## **5. PROGRAM STRUCTURE and CONTENT**

The fellowship consists of one year of additional training after completion of respiratory training. **The training is a clinical training although the fellow will have the possibility to join or to take over a clinical research project and to be exposed to clinical and cardiorespiratory research.** The clinical fellowship training will involve learning and being involved in a “quality improvement” project which is now essential to make the changes that will lead to better patient outcomes (health), better system performance (care) and better professional development. If the fellow decides to be involved in research, he will have the opportunity to take part in clinical and/or cardiorespiratory physiology research.

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The trainee will rotate primarily between the Montreal Chest Institute (MCI) of the MUHC (Glen Site) and Mt Sinai. In addition, the trainee will attend a weekly continuity clinic in CRD and pulmonary rehabilitation with the same supervisor throughout the year and will return to that clinic regardless of his/her assigned rotation (except if the trainee is out of town). The trainee will also take part of other specialized clinic at the Glen and/or other assigned sites (see 5.2 Clinics). He/she will also devote one to two additional half-days per week throughout the year to pulmonary rehabilitation program at the MCI and Mt Sinai.

## **5.1 Training Rotations (4 weeks/rotation)**

- 6-8 rotations Montreal Chest Institute, MUHC
- 2-3 rotations Mount Sinai, Jewish General Hospital
- 1 rotation that combines: i) SRSAD (Home Rehabilitation and Palliative Care) ; ii) Lung Transplant Program / Notre Dame Hospital (CHUM)
- 1 rotation (4 weeks) vacation
- 3 rotations to **other specialized academic sites** will be allowed to complement the training in specific areas (justifications are needed).

Total rotations: 12 x 4-week rotations, plus 4 weeks vacation.

## **5.2 Clinics**

The fellow will have 1-2 clinics per week:

- CRD/COPD pulmonary rehabilitation clinic

The fellow will also take part at minimum during the training year in the following specialized programs/clinics:

- Smoking cessation clinic
- Pediatric to Adult Transition and Orphan Lung disease clinic (PATROL)
- Program and group education in pulmonary rehabilitation (12 weeks: 1 session per week)

## **5.3 Evaluation**

A written evaluation will be completed for every 4-week rotation, in CanMEDS format, by the primary supervisor for that rotation. In addition, evaluations will be completed every 6 months by the fellow's continuity clinic supervisor. Summative evaluations will be synthesized and completed by the fellowship director (an co-directors) every 6 months. In all cases, evaluations will be reviewed with, and co-signed by, the fellow. As with other trainees, it is expected that supervisors will provide informal feedback to the fellow on an ongoing basis, notably at mid-rotation, and that any areas of concern will be flagged at mid-rotation.

The fellow will complete faculty evaluations for every primary faculty supervisor, which will be



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held by the respirology program office and distributed to supervisors accordingly.

### **5.4 Reading materials**

Reading material will be provided in addition to monthly journal club dedicated to the fellowship

### **5.5 Conference and meeting attendance (weekly and other meetings)**

Conference, seminar and teaching at the MUHC/McGill University sites

#### Mandatory

*Multidisciplinary team and pulmonary rehabilitation meetings:*

- Weekly multidisciplinary team meeting of the pulmonary rehabilitation (Wed 9:30-10:30);
- Supervised physical exercise program and interdisciplinary education/SM: nursing, physiotherapy, occupational therapy, nutrition, inhalation therapy (6 wks schedule).

*Teaching activities to the fellow specific to the training program in pulmonary rehabilitation (in collaboration with McGill University departments: kinesiology and physical education, physiotherapy, nutrition, psychology, etc.)*

- Every other week seminar: presentations by department members on subjects related to rehabilitation/disease management or exercise physiology, presentations by residents and students, journal club;
- Renowned invited speakers (4 times per year), recognized in the field of rehabilitation or other related field.

*CORE Respiratory teaching to the resident: every week (Tuesday 8:00-10:30)*

It will be specified to the trainee which of the Core teaching will be mandatory, in particular the cardiopulmonary exercise course on integrated physiology and interpretation

*Respiratory round: every week (Monday 12:00-13:00)*

*The trainee will be presenting once in the year*

*Pare round (Friday 7:30-9:00): clinical round combining case presentations with imaging, pathology and informal presentation with discussion (respirologists, radiologists, thoracic surgery, pathologist)*

*Teaching activities on applied research:*

1. RECRU seminars every week (Friday 15:00-16:00)  
*The trainee will be presenting once in the year*
2. Cardiorespiratory physiology and PR research half days (every 3 months)  
*The trainee will be presenting once in the year*

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### Optional

*Graduate course at the Department of Kinesiology and Physical Education/Department of Physiology: EXMD 507 – Advanced Respiratory Physiology?*

*Graduate course at the School of Physiotherapy and Occupational Therapy (2<sup>nd</sup> year professional masters in PT): PHTH 652: INTEGRATED CLINICAL EXERCISE REHABILITATION (case-based course; 1-2 lectures in the Fall 2016) (topics: PR in stable COPD, PR post-exacerbation and Rehab in transplant patients)*

### Conferences (provincial, national or international)

#### *Mandatory:*

1. Chronic respiratory disease scientific days of the Respiratory Health Network of the FRQS (2 days)
2. Canadian Respiratory conference (3 days),
3. Retreat Glen's multidisciplinary team in pulmonary rehabilitation (1 day);

#### *Optional:*

1. Chest,
2. American Thoracic Society,
3. European Respiratory Society or other conference relevant to Pulmonary Rehabilitation.