

McGill Interventional Respirology Fellowship Program

Administrative Information

Name of Institution: McGill University

Training sites: McGill University Health Center (Montreal General and Glen sites), Jewish General Hospital

Parent training program: Adult respirology

Program director:

Dr Stéphane Beaudoin stephane.beaudoin@mcgill.ca

A list of teaching faculty and training committee members can be found in **Appendix A**.

Capacity of the program:

1 trainee per academic year

Fellowship duration:

1 year (from July to June)

Program administrative coordinator:

Cynthia Libertella

Glen Campus - McGill University Health Centre

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****Please note that applicants must have proof of funding. Acceptable sources of funding include a government, scientific or international organizations, a university, a government hospital, or a faculty of medicine. Self-funded fellowships are not allowed. Admission requirements can be found here: <https://www.mcgill.ca/pgme/fellowships/admissions>**

Rationale

The diagnosis and management of thoracic malignancies and pleural effusions depend on advanced procedures and expertise provided by interventional respirologists. They are involved throughout the continuum of care, from diagnosis to therapy, and including palliation.

Respirology residency training does not allow trainees to develop the expertise required in interventional respirology. Hence, additional training is necessary to master the knowledge and skills relevant to interventional respirology.

Mission

The fellowship program's mission is to allow trainees to develop the skills and knowledge necessary to practice in the field of interventional respirology.

We aim to train physicians who will become leaders in their community by setting up an interventional respirology program. Furthermore, the program aims to promote academia in interventional respirology and to encourage graduates to develop an academic profile.

Eligibility Criteria

To be eligible, candidates must fulfill the following criteria:

- Be medical doctors who are graduates of medical schools listed in the Faimer Directory.
- Be certified in respirology (or eligible to sit for the exam) by the Royal College of Physicians & Surgeons of Canada or an equivalent certification body (for out of Canada applicants).
- Hold a scholarship from their home government, university or Faculty of Medicine (applicants from the Province of Quebec must apply for "formation complémentaire" and get funded by the RAMQ).

The application deadlines, required documents, and a description of the online application process can be found here: <https://www.mcgill.ca/pgme/fellowships/admissions>

The training environment

The McGill University Health Centre is a tertiary teaching hospital and a regional referral centre for thoracic oncology. The services offered include thoracic surgery, radiation oncology, medical oncology, palliative care, interventional radiology, interventional respirology, and the full spectrum of medical and surgical specialties. Lung transplantation is not offered however.

The respiratory services are provided at the Montreal Chest Institute located at the Glen site. It includes a large outpatient clinic, a pulmonary function laboratory, a day hospital & endoscopy unit, a 20-bed inpatient unit, a 6-bed sleep laboratory, and a 7-bed respiratory ICU.

Program Structure

The focus is on mastery of skills and knowledge required to practice linear EBUS, radial EBUS, navigation bronchoscopy, as well as thoracic ultrasound, chest drain insertion, indwelling pleural catheter insertion (IPC), and medical thoracoscopy.

Trainees will achieve competence in the evaluation, diagnosis, staging, and interdisciplinary management of thoracic cancers. Management of complex benign and malignant pleural disorders is also a major focus. Additionally, competence in the management of malignant airway obstruction will be achieved. However, although the fellow will be exposed to the management of benign airway obstructions, it is not a major focus. Transplant-related airway complications are not part of the training experience.

The fellow will be exposed to the following approximate number of procedures:

- Linear EBUS: 450-500
- Radial EBUS: 60-80
- Navigation bronchoscopy: 10-15
- IPC insertion: 90-100
- Medical thoracoscopy: 20-30
- Superficial biopsies (chest wall, pleura, adenopathy): 5-10
- Therapeutic bronchoscopy: 30
(including rigid/flexible bronchoscopy with stent insertion, tumor debulking, airway dilatation, and brachytherapy)

A complete list of the learning objectives can be found in **Appendix B**.

Duties & responsibilities of the fellow

EBUS procedure days (thrice weekly) usually run from 7h30 am until 12h-14h, depending on the number of cases and their complexity. Most IPC insertions are scheduled on Wednesdays, but urgent requests can be done on other days. Thoracoscopies are done on Wednesdays. Those activities take place in our endoscopy rooms and day hospital.

The fellow is responsible for triaging procedure requests and reviewing cases ahead of time, obtaining informed consent, performing the procedure, and taking part in the post-procedure patient evaluation, under the direct supervision of the staff.

In addition, the fellow sees outpatient and inpatient therapeutic bronchoscopy consultations, under the supervision of a faculty. Therapeutic bronchoscopy cases are scheduled throughout the week in the daytime based on the operating room availability and case urgency.

Outpatient clinics

The fellow participates longitudinally in the lung cancer rapid investigation clinic (one afternoon per week), where they see referrals for suspected lung malignancy. They take ownership of the patients' care, supervised by a faculty.

In addition, outpatient referrals for complex pleural diseases and medical thoracoscopy as well as follow-ups of therapeutic bronchoscopy patients are seen throughout the year.

On-call Duties

There are no formal on-call duties, but for occasional cases occurring outside regular hours or on weekends, the fellow will be asked to participate.

Academic activities

The fellow must attend the following weekly meetings:

- Respiriology academic conference
- Respiriology clinical cases' rounds
- Thoracic Oncology Tumor Board conference

The fellow will also actively participate in the monthly Interventional Respiriology conference by presenting periodically during the year (a combination of didactic, quality-improvement, and journal club meetings). The fellow will also participate in divisional mortality and adverse events rounds.

Simulation Learning

The fellow participates in the Quebec Provincial bronchoscopy course in early July, a full day of didactic and hands-on practice on low and high-fidelity models.

Within the first month of the fellowship, EBUS skills' acquisition is enhanced using a high-fidelity EBUS simulator under the supervision of one of the faculty.

A pleural procedures' workshop also takes place each year in July, to practice chest drain and IPC insertion.

Rigid bronchoscopy and ultrasound-guided superficial biopsy practice sessions also take place several times during the year.

Didactic Learning

The bronchoscopy course includes a half-day of lectures. Topics in pleural care are available through an online platform, as are the lectures of the bronchoscopy course. In addition, didactic presentations take place during the interventional respirology rounds and on ad hoc basis for specific topics.

Subscription to the AABIP website will be provided for one year, so that the fellow can access webinars and other educational material.

Teaching

Because procedural teaching is an integral part of interventional respirology, the fellow is expected to teach and supervise certain procedures for respirology and medicine residents, especially as the fellow gains more experience. In addition, formal didactic teaching sessions for respirology residents will take place once or twice per year. Teaching done by the fellow is supervised by a faculty.

Research

The fellow is expected to get involved in ongoing research projects lead by faculty of the program. The publication of at least one peer-reviewed article is expected, and presentation at national / international conferences is strongly encouraged.

Dedicated time for administration, learning and research activities is available on Tuesdays and Fridays in the afternoon.

Fellows can take courses in epidemiology/biostatistics offered through McGill University. Classes usually take place in afternoons, for 2-3 weeks total in the spring, allowing the fellow to still participate in most clinical activities. A description of the options can be found here: <https://www.mcgill.ca/epi-biostat-occh/academic-programs/summer>

Fellows can also pursue additional respiratory research training through a one-year program under the supervision of an interventional faculty. Details can be found here: https://www.mcgill.ca/pgme/files/pgme/respiratory_research_fellowship_nov2019.pdf

Vacation & Conferences

Fellows can take up to 4 weeks of vacation, and up to 7 days of conference leave.

The costs of one conference will be reimbursed by the program.

Support Staff & Workspace

Administrative and clerical support is available for all clinical and research activities. A workspace with computer access is provided in the same building where all the clinical activities take place.

Evaluation

Fellows will receive verbal feedback from faculty following procedures and other patient interactions.

Quarterly formal evaluations will be filled based on the feedback of all physicians and other health-care workers working with the fellow. The program director will meet with the fellow to review those evaluations.

Fellows must maintain a procedure log to track volumes for each procedure, diagnostic yield, and complication rates. The procedure log will also be reviewed quarterly with the program director.

Weekly schedule template

	Monday	Tuesday	Wednesday	Thursday	Friday
am	EBUS	EBUS	Thoracoscopy & IPC insertion	EBUS & Therapeutic bronchoscopy	7h30-9h Respirology clinical conference
12h-13h		EBUS		Respirology academic rounds	IP rounds (monthly)
pm	Lung Cancer investigation clinic	Research/learning/admin time	IPC insertion & pleural cases f/u	Thoracic Oncology Tumor Board	Research/learning/admin time

Appendix A

Fellowship Training Program Committee

Dr Stéphane Beaudoin (chair)

Dr Linda Ofiara

Dr Anne Gonzalez
Dr Benjamin Shieh

Teaching Faculty

In addition to three fellowship-trained interventional respirology faculty (Dr Beaudoin, Dr Gonzalez, Dr Shieh), fellows will work with one advanced diagnostic bronchoscopist (Dr Ofiara), and two advanced pleural proceduralists (Dr Kevin Schwartzman and Dr Dick Menzies).

Appendix B

Training Program Learning Objectives

Learning objectives are detailed according to the CanMEDS framework (<http://www.royalcollege.ca/rcsite/canmeds/canmeds-framework-e>)

In general, graduating fellows are expected to function as consultants in the field of interventional respirology. Their unique expertise and consultancy skills will be characterised by high-level procedural abilities, evidence-based practice, as well as compassionate and patient-centered care.

Medical Expert

At the end of the program, the fellow will be able to:

1. Describe the pathophysiology, natural history, risk factors, clinical manifestations, physical exam findings, radiologic and physiologic features, diagnostic requirements, prognosis, & management (including its complications) of the following conditions:
 - a. Lung cancer
 - b. Mesothelioma
 - c. Pulmonary neuroendocrine tumors and thymic malignancies
 - d. Non-lung cancer airway tumors (benign and malignant)
 - e. Malignant airway obstruction
 - f. Benign airway obstruction & stenosis
 - g. Massive hemoptysis of any cause
 - h. Bronchopulmonary fistula
 - i. COPD / emphysema, related to bronchoscopic volume reduction
 - j. Pneumothorax
 - k. Malignant pleural effusion
 - l. Undiagnosed pleural effusion
 - m. Recurrent benign effusions (CHF, cirrhosis, TB, drug, etc)
 - n. Chylothorax
 - o. Pleural infection
2. Specifically with regards to lung cancer, apply the following principles:
 - a. Lung cancer prevention, including smoking cessation and screening
 - b. Invasive and non-invasive staging
 - c. Determination of a therapeutic strategy in an interdisciplinary fashion, including suitability for surgical resection
 - d. Understand the roles and indications for chemotherapy, targeted therapy/immunotherapy, and radiation therapy, including the implications related to tissue sampling

- e. Describe and intervene on acute & chronic complications of lung cancer itself or its treatment (surgery, chemotherapy/targeted therapy/immunotherapy, and radiation)
3. Obtain the relevant medical, social, occupational history data related to the conditions in item 1 by conducting a concise yet efficient patient interview
4. Provide expert interpretation of the following tests:
 - a. PFTs in the context of central airway obstruction & pre-op lung cancer
 - b. Exercise studies in the context of pre-op lung cancer
 - c. Quantitative lung perfusion scans in the context of pre-op lung cancer
 - d. CXR
 - e. Chest CT scan, especially with regards to central and peripheral airway anatomy, mediastinal lymph nodes, and pleural anomalies
 - f. Thoracic ultrasound
 - g. Pleural fluid analyses
5. Describe the equipment requirements, the indications, the contraindications, the complications, the consent process, the pre-procedure patient preparation, the post-procedure assessment, and finally the necessary documentation for the following procedures:
 - a. Flexible bronchoscopy & narrow-band imaging
 - b. Linear EBUS
 - c. Radial EBUS (guide-sheath & ultrathin)
 - d. Electromagnetic navigation bronchoscopy
 - e. Rigid bronchoscopy (including mechanical debulking)
 - f. Thermal ablative endobronchial therapies (APC, laser, electrocautery, cryotherapy)
 - g. Endobronchial brachytherapy
 - h. Airway stent insertion (silicone and metallic)
 - i. Airway dilatation (balloon and rigid)
 - j. Foreign body removal (using flexible or rigid instruments)
 - k. Superficial biopsies (chest wall, adenopathies)
 - l. Thoracentesis

- m. Conventional chest drain insertion
 - n. Small-bore chest drain insertion
 - o. Indwelling pleural catheter insertion
 - p. Medical thoracoscopy
 - q. Talc pleurodesis (poudrage or slurry)
6. Perform safely and efficiently the procedures listed above
 7. For any of the above diagnostic procedures, describe and implement adequate sample processing standards
 8. Initiate adequate non-invasive palliative measures in patients with any of the conditions listed in item 1 who experience suffering or who are at the end of life.

Communicator

At the end of the program, the fellow will be able to:

1. Communicate clearly and with compassion with patients and family members, respecting patients' values, preferences, cultural and educational backgrounds, in a way that optimizes patient understanding and autonomy
2. Obtain informed consent for the above-mentioned procedures in a way that encourages patients to ask questions and maximizes their understanding of the procedure.
3. Engage in a discussion with patients and family members in challenging situations, including but not limited to:
 - a. End-of-life care
 - b. Initiation of controversial, potentially toxic or dangerous treatments
 - c. Diagnostic uncertainty
 - d. After complications (and / or errors) have occurred
 - e. Delivering bad news
4. 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 care
5. Provide adequate case presentations and discussions with physicians and other professionals sharing patients' care

6. Provide adequate 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 clear plan
7. Communicate clearly and in a manner that promotes safety with colleagues and other health professionals during procedures
8. Document clearly and efficiently the procedures listed above.

Collaborator

At the end of the program, the fellow will be able to:

1. Participate in interdisciplinary patient care and research by demonstrating the following:
 - a. Understanding of and respect for the roles and responsibilities of other health professionals
 - b. Promptly seeking the help of other professionals when appropriate
 - c. Implementing safe and effective patient handovers
 - d. Contributing to shared-decision making with other professionals
 - e. Respect for divergence of opinions
2. Demonstrate conflict prevention and resolution skills

Leader

At the end of the program, the fellow will be able to:

1. Describe the costs and resources use burden of the common tests and procedures used in interventional respirology
2. Use health care resources appropriately and in a cost-efficient manner
3. Apply quality-improvement principles to his own practice and in his community
4. Demonstrate leadership in his community by working to improve health care delivery and promoting change, either through the implementation of new practices or systems' improvement

5. Effectively lead a respiratory endoscopy unit in terms of budget management, human resources planning, quality control, and infection control practices.

Health Advocate

At the end of the program, the fellow will be able to:

1. Identify the determinants of health affecting patients and their access to health care
2. Advocate for their patients to have access to the following, in the context of a resource-limited setting:
 - a. Diagnostic investigations
 - b. Therapeutic interventions
 - c. Psychosocial support
 - d. Worker's compensation for occupational diseases or disability
3. Incorporate disease prevention, health promotion, and health surveillance into interactions with individual patients
 - a. Apply smoking cessation assessment and counselling principles
 - b. Discuss lung cancer screening
4. Identify the determinants of health and the health care needs of their community
5. Develop strategies to address the above in order to improve the health of members of the community
 - a. Implement strategies to improve access to health care, such as streamlined lung cancer or pleural investigations for instance

Scholar

At the end of the program, the fellow will be able to:

1. Develop and implement a personal learning plan to maintain and enhance their knowledge and skills
2. Demonstrate the ability to improve their practice through periodic practice audits and performance assessments, particularly with regards to diagnostic and therapeutic procedures

3. Answer clinical questions through review and critical appraisal of the literature
4. Adapt their practice based on the best available evidence and their critical appraisal of it
5. Educate patients and their families about their disease, the procedures they need, and the ongoing care they require to empower them and promote their participation in their care
6. Teach colleagues, residents, students, and other health care professionals about interventional respirology topics
 - a. Adapt the teaching method to the setting and the learning needs of the participants
 - b. Promote interactivity in the learning encounters
 - c. Deliver an effective lecture / workshop / presentation
7. Provide procedural supervision characterized by the creation of a safe environment for both patient and learner and by appropriate and timely feedback
8. Contribute to the creation and dissemination of knowledge and practices by participating in research activities, at all steps of the process (including formulation of the question, ethics considerations, study design, data acquisition & interpretation, and findings dissemination)

Professional

At the end of the program, the fellow will be able to:

1. Exhibit professional behaviours in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality
2. Demonstrate a commitment to excellence in all aspects of practice
3. Recognize and respond to ethical issues encountered in practice
4. Fulfill and adhere to the professional and ethical codes, standards of practice, and laws governing practice
5. Recognize and respond to unprofessional and unethical behaviours in physicians and other colleagues

6. Participate in peer assessment and standard-setting
7. Exhibit self-awareness and manage influences on personal well-being and professional performance
8. Manage personal and professional demands for a sustainable practice throughout his/her career
9. Recognize when other professionals are in need and respond appropriately