

Pulmonary Oncology and Interventional Respirology Fellowship

1. ADMINISTRATIVE INFORMATION

Name of Institution: McGill University

Training Sites: McGill University Health Centre (Glen Site, Montreal General Hospital),
Jewish General Hospital

Parent Training Program: Adult Respirology

Fellowship Director: Dr. Linda Ofiara
Respiratory Division
McGill University Health Centre
(Glen Site, Montreal General Hospital)

Fellowship Coordinators: Antje Bier, Respiratory Division
Glen Site
[responsible for fellows' dossiers and evaluations, documentation]

Ms. Naomi Scobie
Department of Oncology, McGill University
[responsible for booking fellows' rotations]

Fellowship Training Committee Members:

Dr. Linda Ofiara (Chair)
Respiratory Division, McGill University Health Centre

Dr. Stephane Beaudoin (Co-Chair)
Respiratory Division, McGill University Health Centre

Dr. Jason Agulnik
Respiratory Division, Jewish General Hospital

Dr. Anne Gonzalez,
Respiratory Division, McGill University Health Centre

Dr Scott Owen
Department of Oncology, McGill University

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

2. RATIONALE AND MISSION

2.1 Rationale

The average pulmonary practice sees a significant number of patients with lung cancer. Indeed, lung cancer is the leading cause of cancer deaths in men and women, and a respirologist in general clinical practice can expect to see at least one new case of lung cancer every week.

An increasing number of respirologists are involved in the diagnosis and management of these patients, which is becoming increasingly specialized and complex. Additional training is essential to perform innovative and invasive diagnostic and therapeutic techniques such as endobronchial ultrasound (linear/radial EBUS and electromagnetic navigation), endobronchial radiation (brachytherapy), medical thoracoscopy, talc pleurodesis, placement of tunneled chest tubes (PleurX). Beyond the choice of patients for chemotherapy, and chemotherapy for patients, provision of optimal care to this patient population requires a coherent understanding of all curative and palliative treatment modalities, including surgical resection and radiation therapy.

Respirologists contribute importantly to care of lung cancer patients by means of their training in interpretation of clinical and chest imaging data, their capacity to perform minimally invasive diagnostic and therapeutic procedures, their understanding of pulmonary complications of disease and therapy, and their commitment to provide continuous care from diagnosis through all phases of treatment, regardless of the nature of that treatment.

Academic centers dedicated to lung cancer care increasingly recognize the importance and relevance of these contributions. At the same time, respirologists wishing to provide ongoing, state-of-the-art care to lung cancer patients require training and experience beyond that afforded by standard core training in respirology. Such care may involve specialized diagnostic and therapeutic interventions via bronchoscopy and sometimes medical thoracoscopy. Respirologists develop substantial training in bronchoscopic procedures as part of their core residency training. The fellowship offers the opportunity to develop additional, specialized knowledge and skills in this area.

2.2 Mission

The purpose of the McGill fellowship in pulmonary oncology and interventional respirology is to provide the respiratory trainee with additional knowledge, skills and experience needed to care for lung cancer patients in all phases of diagnosis and treatment, whether for cure or palliation.

FELLOWSHIP OBJECTIVES

2.3 MEDICAL EXPERT

The fellow in pulmonary oncology and interventional respirology will:

1. Understand the natural history of lung cancer, its genetic and environmental

determinants, molecular and cellular pathogenesis, and prognosis.

2. Implement appropriate assessment, investigation, and staging of patients with suspected or known lung cancer, using suitable laboratory, imaging, endoscopic, and invasive modalities.
3. Use the results of clinical examination and relevant investigations to determine the extent of disease and formulate an appropriate, evidence-based therapeutic plan for a patient with new or recurrent lung cancer.
4. Understand and apply the basic principles of chemotherapy, including the pharmacology and metabolism of the chemotherapeutic agents utilized in the treatment of lung cancer, evidence-based indications for use of various types and classes of agents (including biologic agents) in a variety of clinical settings (lung cancer and other solid tumours), and identification and management of potential side effects.
5. Understand the basic principles of radiation therapy, including indications and contraindications for external and endobronchial irradiation, planning of dosage, ports and fractionation in lung cancer, diagnosis and management of common toxicities.
6. Reliably and effectively diagnose and manage medical emergencies arising from lung cancer or its treatment.
7. Understand and implement appropriate palliative therapies for patients with lung cancer.
8. Acquire and demonstrate proficiency in technical interventions relevant to lung cancer diagnosis, staging and management including: diagnostic and therapeutic thoracentesis with ultrasound guidance, medical thoracoscopy, talc pleurodesis for malignant pleural effusions, placement of standard and tunneled chest tubes, endobronchial ultrasound, transbronchial (Wang) needle aspirates, endobronchial radiation brachytherapy, endobronchial cryotherapy, endobronchial electrocautery.
9. Understand and describe indications, contraindications, benefits and risks for the pleural and bronchoscopic procedures just listed.
10. Acquire and implement knowledge of the conduct, analysis, interpretation, and application of clinical trials to the practice of cancer management.

2.4 COMMUNICATOR

The fellow in pulmonary oncology and interventional respirology will:

1. Demonstrate clear and compassionate oral communication with patients and family members, respecting patients' values, cultural and educational backgrounds.
2. 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.
3. Provide effective oral case presentations and discussions with physicians and other

professionals sharing patients' care.

4. 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.
5. Provide effective oral presentations at didactic teaching conferences.

2.5 COLLABORATOR

The fellow in pulmonary oncology and interventional respirology will:

1. Understand the role of the multidisciplinary team in lung cancer care, including physicians and surgeons from other disciplines, nurses, respiratory therapists, pharmacists, and social workers.
2. Participate effectively in shared management of lung cancer patients with other physicians and health professionals, including interactions with medical oncologists.
3. Demonstrate respect for all physician and non-physician team members, at all times.

2.6 MANAGER

The fellow in pulmonary oncology and interventional respirology will:

1. Demonstrate knowledge of the cost of investigations and treatment (e.g. CT, PET scan, bronchoscopy, chemotherapeutic agents, biologic agents, etc.).
2. Implement a cost-effective approach to the diagnosis and staging of lung cancer, including novel diagnostic procedures when appropriate.
3. Implement a cost-effective, evidence-based approach to the treatment of lung cancer.
4. Set appropriate priorities in referring patients for diagnostic and therapeutic interventions.

2.7 HEALTH ADVOCATE

The fellow in pulmonary oncology and interventional respirology will:

1. Advocate for his/her patients in planning investigation and treatment in a resource-limited setting.
2. Advocate for his/her patients by identifying relevant clinical trials in which they may choose to participate
3. Advocate for his/her patients by participating in activities that raise public awareness of, and support for, lung cancer patients (e.g. the Lung Association, Canadian Cancer Society).

2.8 SCHOLAR

The fellow in pulmonary oncology and interventional respirology will:

1. Incorporate up-to-date scientific evidence in his/her patient management, including investigation and treatment.
2. Demonstrate that he/she can access the medical literature effectively, in order to address a clinical management question.
3. Demonstrate critical review skills for clinical and epidemiologic research articles.
4. Demonstrate self-directed learning, and an ongoing commitment to scholarship and intellectual growth.
5. Attend relevant scientific and educational conferences, both locally and elsewhere.
6. Demonstrate the ability to present an effective, informative educational conference.

2.9 PROFESSIONAL

The fellow in pulmonary oncology and interventional respirology will:

1. Demonstrate appropriate and ethical professional attitudes and behaviours at all times.
2. 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

Glen Site Clinical and Academic Facilities:

Medical Oncology, Respiratory, and Radiation Oncology outpatient clinics
 Interventional bronchoscopy suite (linear and radial endobronchial ultrasound with biopsy, electromagnetic navigation bronchoscopy) Medical thoracoscopy suite
 Portable ultrasound machine for bedside imaging of pleural disease Outpatient lung cancer clinic, with nurse case manager
 Radiation brachytherapy equipment and bronchoscopy suite for endobronchial brachytherapy
 Medical Oncology, Respiratory and Radiation Oncology inpatient consultation services
 Hematology-Oncology and Thoracic Surgery
 Palliative Care: outpatient and inpatient consultations, day hospital, inpatient ward
 Thoracic Surgery operating room
 Multidisciplinary lung cancer outpatient clinic Multidisciplinary mesothelioma interest group
 Lung cancer tumour board
 Specialized oncology and lung cancer nurses/case managers
 Local and multicentre clinical trials in lung cancer
 Hematology-oncology, respirology, radiation oncology weekly rounds
 Pulmonary pathology laboratory

Jewish General Hospital Clinical and Academic Facilities:

Medical Oncology, Respiratory, and Radiation Oncology outpatient clinics
Medical Oncology, Respiratory and Radiation Oncology inpatient consultation services
Bronchoscopy suite including endobronchial ultrasound, cryotherapy, electrocautery
Hematology-Oncology inpatient ward
Multidisciplinary lung cancer outpatient clinic in the Segal Comprehensive Cancer Center
Lung cancer tumour board
Local and multicentre clinical trials in lung cancer
Hematology-oncology, respirology, radiation oncology weekly rounds
Specialized oncology and lung cancer nurses/case managers

Libraries and Information Technology:

Electronic access to McGill Life Sciences Library from computers in dedicated resident/fellow rooms at each site; hospital libraries accessible at all training sites.

5. PROGRAM STRUCTURE AND CONTENT

The fellowship in pulmonary oncology and interventional respirology consists of one year of additional training after completion of two years of respiratory training. Rotations in medical oncology, radiation oncology, interventional respirology, palliative care and thoracic surgery ensure that the trainee acquires the clinical competence to investigate, diagnose and manage lung cancer patients. The program does NOT meet requirements for certification in medical oncology. The fellowship will ordinarily admit one fellow per year.

The trainee will rotate primarily between the Glen Site, Montreal General Hospital, the Jewish General Hospital. In addition to training rotations the trainee will attend a weekly continuity clinic in lung cancer with the same supervisor throughout the year and will return to that clinic regardless of his/her assigned rotation. He/she will also devote one to two additional half-days per week throughout the year to interventional bronchoscopic and/or pleural procedures, depending on their scheduling.

5.1 Training Rotations

6 rotations Medical Oncology (3 JGH, 3 Glen): consultation service, subspecialty outpatient clinics with an emphasis on lung cancer, but exposure to patients with other solid tumours e.g. breast, colorectal, prostate, etc.
2 rotations radiation oncology (MGH)
2 rotations thoracic surgery/interventional bronchoscopy (GLEN/MGH/JGH)
1 rotation palliative care (Glen)
1 rotation cancer epidemiology/clinical trial design courses (McGill University)
1 rotation (4 weeks) vacation

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

5.2 Case load

Evaluation of 15-20 new patients and 15-20 followup visits each week, including patients with

lung cancer and patients with other solid tumours. Patients with lung cancer will represent 50% of the overall case load. Over the course of the fellowship year, the fellow will be supervised in the performance of at least 75 endobronchial ultrasounds with biopsies, and 30 medical thorascopies.

5.3 Evaluation

A written evaluation will be completed for every 4-week rotation, in CanMEDS format, by the primary supervisor for that rotation. The only exception will be for the epidemiology courses, where the fellow's grade as recorded by McGill University will serve as his/her overall evaluation. In addition, evaluations will be completed every 6 months by the fellow's continuity clinic supervisor, and by the faculty members responsible for supervision of bronchoscopic and pleural procedures. Summative evaluations will be synthesized and completed by the fellowship director 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. Evaluations will be performed electronically.

The fellow will complete faculty evaluations for every primary faculty supervisor electronically, which will be held by the respirology program office and distributed to supervisors accordingly.

5.4 Reading materials

ACCP lung cancer guidelines (3rd edition May 2013)
NCCN lung cancer guidelines
DeVita textbook of clinical oncology
Journal of Clinical Oncology
Additional material to be suggested by rotation supervisors as appropriate

5.5 Weekly conference attendance

Medical Oncology: Core resident teaching, weekly didactic/case conferences

Radiation Oncology: Weekly didactic/case conferences as appropriate

Respirology: Weekly clinical-radiologic-pathologic case conference (Friday mornings at RVH or JGH), weekly didactic conference (Monday noon at MGH, or Thursday noon at JGH)

Thoracic Surgery: Service rounds when assigned to thoracic surgery service

Lung Cancer tumour board: Every Thursday at Glen/MGH (12:00-13:00), Tuesday (11:30-1:30) at JGH

Role of fellow: Presentation of cases at case conferences e.g. tumour board, with review of all relevant radiologic and clinical data beforehand, review of cases with pathologist

Presentation of didactic conference at medical oncology and/or respirology rounds—at least once

every two months.

6. FELLOW DUTIES, RESPONSIBILITIES AND RESOURCES

6.1 Call

Home call as per FMRQ contract.

a) During Medical Oncology rotations, the fellow will take home call for medical oncology—includes patient phone calls plus hospital pages, inpatient/emergency room consults, and backup coverage of the hematology-oncology inpatient ward as is the case for medical oncology residents.

b) During other rotations: home call for respirology—includes inpatient/emergency room consults, as is the case for respirology residents.

6.2 Resident supervision

The fellow does not supervise residents or medical students.

6.3 Teaching

The fellow will be expected to prepare didactic presentations for academic rounds held by the service where he/she is on rotation, as is the case for other trainees.

6.4 Academic activities

The fellow will attend hematology-oncology, respirology, morbidity and mortality rounds, lung cancer tumour board, and other tumour boards as appropriate. He/she will attend core teaching lectures provided to the medical oncology residents, and participate in their journal club. He/she will take courses in cancer epidemiology and clinical trial design, offered as part of the annual McGill summer session in epidemiology.

6.5 Support staff

Administrative tasks related to the fellow's training dossier (evaluations, correspondence) will be managed by the respirology training program coordinator. Scheduling of rotations will be handled by the medical oncology training program coordinator.

6.6 Meetings

The fellow will be expected to attend the American Society of Clinical Oncology conference, held each May. He/she may also choose to attend one or more respirology conferences, e.g. Chest, American Thoracic Society.

6.7 Research

The fellow will be expected to participate in the initiation of at least one clinical trial in lung cancer at McGill, including review of all documentation, presentation to the lung cancer clinical trials group, and attendance at the appropriate research ethics board meeting. This will be done with the faculty supervisor responsible for the research protocol. In addition, the fellow will be expected to conduct an original research project with a faculty supervisor, which could be a chart review, quality improvement, systematic review, etc.

7. TEACHING FACULTY

Respiratory Division:

Dr. Linda Ofiara: Fellowship director, primary supervisor of fellows while on rotation at Glen site. Train fellow in radiation brachytherapy for lung cancer, linear/radial EBUS and ENB.

Respirologist with additional subspecialty training in medical oncology

Outpatient practice devoted almost exclusively to lung cancer, including administration of chemotherapy in medical oncology clinic, Glen Site, and weekly attendance/supervision at multidisciplinary lung cancer clinic and tumour board, Glen Site.

Major strengths: Oncology training, chemotherapy expertise, expertise in clinical respiratory medicine as applied to cancer settings.

Sample publication: LM Ofiara MD, A Navasakulpong MD, S Beaudoin MD and AV Gonzalez MD MSc. Optimizing tissue sampling for the diagnosis, subtyping and molecular analysis of lung cancer. *Front Oncol* 2014 4:253

Dr. James Gruber: Co-supervision of fellows while on rotation at Montreal General Hospital. Train fellow in radiation brachytherapy for lung cancer.

Respirologist with longstanding interest and expertise in lung cancer. Outpatient practice includes ~25% lung cancer patients, as well as weekly attendance/supervision at multidisciplinary lung cancer clinic and tumour board, Montreal General Hospital.

Major strengths: longstanding expertise in investigation and management of lung cancer, expertise in clinical respiratory medicine as applied to cancer settings, specific expertise in occupational lung diseases including lung cancers and mesothelioma.

Sample publication: Hirsh V. Soulieres D. Duclos M. Faria S. Del Vecchio P. Ofiara L. Ayoub JP. Charpentier D. Gruber J. Portelance L. Souhami L. Phase II multicenter trial with carboplatin and gemcitabine induction chemotherapy followed by radiotherapy concomitantly with low-dose paclitaxel and gemcitabine for stage IIIA and IIIB non-small cell lung cancer. *Journal of Thoracic Oncology*: 2(10):927-32, 2007 Oct.

Dr. David Small: Pulmonary division chief at the Jewish General Hospital. Co-supervision of fellows while on rotation at the Jewish General Hospital. 25% of outpatient practice devoted to lung cancer, including administration of chemotherapy in medical oncology clinic at the Jewish General Hospital, and weekly attendance/supervision at multidisciplinary lung cancer clinic and tumour board at the Jewish General Hospital.

Sample publication: Sakr, L Small, D Kasyjanova, G Suissa, S Ernst, P. Phenotypic heterogeneity of potentially curable non-small cell lung cancer: cohort study with cluster analysis. *J Thorac Onco* 2015 May 10 (5) 754-61

Dr. Jason Agulnik: Co-director of the Peter Brodje Lung Cancer Centre, Jewish General Hospital. Co-supervision of fellows while on rotation at the Jewish General Hospital. Respirologist with additional subspecialty training in thoracic oncology. Train fellow in interventional bronchoscopy including endobronchial ultrasound (EBUS), cryotherapy, and electrocautery. Outpatient practice devoted mostly to lung cancer, including administration of chemotherapy in medical oncology clinic at the Jewish General Hospital, and weekly attendance/supervision at multidisciplinary lung cancer clinic and tumour board at the Jewish General Hospital. Research interests: clinical trials, EGFR mutations in lung cancer. Major strengths: Thoracic oncology training, interventional bronchoscopy training, chemotherapy expertise, expertise in clinical

respiratory medicine as applied to lung cancer.

Sample publication: Esfahani, K, Agulnik, JS, Cohen, V. A systemic review of resistance mechanisms and ongoing clinical trials in ALK rearranged non-small cell lung cancer. *Front Oncol* 2014 July 21(4) 174.

Dr. Carmela Pepe: Co-supervision of fellows while on rotation at the Jewish General Hospital. Respiriologist with additional subspecialty training in thoracic oncology. Outpatient practice devoted mostly to lung cancer, including administration of chemotherapy in medical oncology clinic at the Jewish General Hospital, and weekly attendance/supervision at multidisciplinary lung cancer clinic and tumour board at the Jewish General Hospital. Research interests: Lung cancer in the elderly. Major strengths: Thoracic oncology training, chemotherapy expertise, expertise in clinical respiratory medicine as applied to lung cancer.

Sample publications: Pepe, C, Hasan B, et al. Adjuvant vinorelbine and cisplatin in elderly patients: National Cancer Institute of Canada and Intergroup Study JBR.10. *J Clin Oncol*. 2007.

Dr. Anne Gonzalez: Supervision of interventional bronchoscopic and thoracoscopic procedures at the Glen Site. Was trained at the Lahey Clinic (Boston), with expertise in linear and radial endobronchial ultrasound (and ultrasound-guided transbronchial needle biopsies), pleural procedures, rigid bronchoscopic procedures. Has also just completed an MSc degree in epidemiology. Research interests: respiratory epidemiology, evaluation of new respiratory technologies. Sample publication: Silvestri GA, Gonzalez AV, Jantz MA, Margolis ML, Gould MK, Tanoue LT, Harris LJ, Detterbeck FC. Methods for staging non-small cell lung cancer: Diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. *Chest*. 2013 May;143(5 Suppl):e211S-50S.

Dr Stéphane Beaudoin : Supervision of interventional bronchoscopic and thoracoscopic procedures. Was trained at l'Institut Universitaire de Cardiologie et de Pneumologie de Québec, Université Laval. Expertise in linear and radial endobronchial ultrasound, navigational bronchoscopy, pleural procedures, rigid bronchoscopic procedures. Sample publication: Beaudoin S1, Martel S, Pelletier S, Lampron N, Simon M, Laberge F, Delage A. Randomized Trial Comparing Patient Comfort Between the Oral and Nasal Insertion Routes for Linear Endobronchial Ultrasound. *J bronchology Interv pulmonol*. 2016 April 12 (1) 39-45.

Dr. John Kimoff. Director/Program director for the Adult respiratory residency program.

Division of Medical Oncology:

Dr. Lawrence Panasci, JGH: Medical oncologist with primary clinical interest in breast cancer; also treatment of gastrointestinal malignancies and lung cancer. Program director for McGill's Royal College-accredited medical oncology residency training program. Provides core lectures on pharmacology of anticancer agents. Major research interests: development of new anticancer agents, investigations of DNA crosslinking drug resistance vis-à-vis DNA repair.

Sample publication: Chia S, Clemons M, Martin LA, Rodgers A, Gelmon K, Pond GR, Panasci L. Pegylated liposomal doxorubicin and trastuzumab in HER-2 overexpressing metastatic breast cancer: a multicenter phase II trial. *Journal of Clinical Oncology* 24(18):2773-8, 2006 Jun 20.

Dr. Victor Cohen, JGH: Medical oncologist with primary clinical interest in lung cancer; research interest in use of biologic agents in lung cancer therapy. Co-lead lung disease site team Rosy cancer network. Role: clinical supervision of fellows, didactic teaching as part of core medical oncology lectures.

Sample publication: Ellis PM, Shepherd FA, Millward M, Perrone F, Seymour L, Liu G, Sun S, Cho BC, Morabito A, Leighl NB, Stockler MR, Lee CW, Wierzbicki R, Cohen V, Blais N, et al, NCIC CTG; Australasian Lung Cancer Trials Group; NCI Naples Clinic. Dacomitinib compared with placebo in pretreated patients with advanced or metastatic non-small-cell lung cancer (NCIC CTG BR.26): a double-blind, randomised, phase 3 trial. *Lancet Oncol* 2014 Nov 15(12) 1379-88.

Dr. Vera Hirsh, MUHC: Medical oncologist with primary clinical interest in lung cancer; extensive research experience with lung cancer clinical trials. Role: clinical supervision of fellows.

Sample publication:

Park K, Tan EH, O'Byrne K, Zhang L, Boyer M, Mok T, Hirsh V, Yang JC, et al. Afatinib versus gefitinib as first-line treatment of patients with EGFR mutation-positive non-small-cell lung cancer (LUX-Lung 7): a phase 2B, open-label, randomised controlled trial. *Lancet Oncol* 2016 April 12(16) S1470-2045

Dr. Scott Owen, MUHC: Medical Oncologist with primary interest in lung cancer. Co-lead lung disease site team Rosy cancer network. Department of Oncology resident training director. Role: clinical supervision of fellows. Sample publication:

Owen S, Souhami L. The management of brain metastases in non-small cell lung cancer. *Front Oncol* 2014 Sept 15(4) 248.

Department of Radiation Oncology:

Dr. Thierry Muanza, JGH

Dr. Bassam

Abdulkarim, MUHC

Dr. Neil Kopek, MUHC

Dr. Marie Duclos, MUHC

Dr. Sergio Faria MUHC/JGH

Dr. Hani Al Halabi, MUHC

Division of Thoracic Surgery:

Dr. David Mulder, MUHC

Dr. Christian Sirois, MUHC/JGH

Dr. Lorenzo Ferri, MUHC

Dr. Jonathan Spicer, MUHC

Division of Palliative Care:

Dr. Bernard Lapointe, Director and Eric M. Flanders Chair

Dr. Manuel Borod, MUHC

Department of Pathology:

Dr. Richard Fraser, MUHC

Dr. Sophie Camilleri-Broet