

Program Contact

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Important Information

For International Medical Graduates:

International Medical Graduates are required to do a mandatory one-month orientation during the month of June, prior to the July 1st start date. ACLS is included in the orientation. Also, please provide a letter from someone who is known to the Respiriology department, supporting your application.

Supporting Documentation

1. Personal Letter of Application – tell us a little bit about yourself; detail why you are applying to Manitoba & the respirology training program, and what you bring to the program, what are you expecting from the program.
2. CV, including a list of publications, as well as articles submitted for publication, and a list of special meetings and conferences attended. Please include copies of any published documentation.
3. An ORIGINAL copy of your medical school transcripts.
4. Proof of Residency.
5. Proof of MCCEE (Medical Council of Canada Evaluating Exam - photocopy of Certificate.
6. Three Letters of Reference – one must be from your current supervisor, one must be from your current program director, and the third one of your choice.
7. Canadian Citizen or Permanent Resident (Landed Immigrant).

Review Process

Will your program consider applications that arrive after File Review begins? **YES**

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Interviews

We will be conducting interviews between August 31 –October 21, 2011

The Respiriology Program will notify candidates who are selected for an interview. No one can join the program without an on-site interview. Not all applicants will automatically be granted interviews. All interviews will be conducted in Winnipeg and will consist of a panel comprised of faculty members and usually a lunch with the current respiratory residents at a local restaurant.

Candidates will have to be additionally interviewed by two Department of Medicine subspecialty program directors.

During the interview and visit to Winnipeg, candidates will be provided with a complete description of the program. If the interviewees' time permits, there may be a tour of the facilities, including the Clinical Learning Simulation Facility in the Brodie Centre.

There will also be a luncheon arranged at a local Winnipeg restaurant where the candidate will have an opportunity to meet with at least one resident currently in the program to answer questions.

Selection Criteria

The Section of Respiratory Medicine, University of Manitoba, is committed to a fair and transparent application process. All applications are impartially reviewed, independent of race or religion. We maintain the right to be selective with respect to applicants to our program, choosing those who represent the strongest and most qualified for our Respiriology training.

Our selection committee, at the conclusion of the interview process, will review the academic records, interview results, letters of recommendation and interpersonal skills for all candidates.

Research experience will also be strongly considered, if applicable.

Prior elective experience in the Respiratory field would be weighted accordingly.

Program Highlights

Winnipeg has enjoyed a rich and varied history in pulmonary medicine. Our program has been blessed with a long history of internationally-recognized research, and exemplary clinical teachers.

Both of our teaching institutions (see training sites below) have dedicated bronchoscopy suites, as well as a video bronchoscopy system at the Health Sciences Centre. Commencing July 1 2011, we will have interventional bronchoscopy including EBUS. In addition, the University of Manitoba Faculty of Medicine has a world class clinical simulation center, allowing the teaching and practice of bronchoscopic skills in a virtual environment prior to patient exposure.

We are an active lung transplantation centre.

Both teaching sites have multi-media systems available for self-directed learning for radiology, in addition to the standard radiology rotation. Multimedia for self directed learning of pulmonary pathology is also available.

There is ample exposure to tuberculosis, cystic fibrosis and pulmonary hypertension.

Many of our section members are internationally recognized researchers. Research opportunities exist in basic pulmonary sciences, pulmonary physiology, molecular medicine as well as epidemiology.

We have two dedicated full-time pulmonary function labs, as well as complete cardio-pulmonary exercise facilities in both sites.

There is a very-well structured and formalized academic half day scheduled Wednesday afternoons. This includes didactic sessions and pulmonary function testing, comprehensive pulmonary physiology, mechanical ventilation, pulmonary transplantation, and evidence-based medicine.

There is also a Monday morning breakfast lecture series which includes didactic sessions on a very wide range of pulmonary topics.

Multi-disciplinary Sleep Rounds are conducted once a month. There is a dedicated sleep laboratory located at the Misericordia Hospital which is staffed and run by Respiriology clinicians. This provides exemplary exposure to sleep medicine within our training curriculum.

There are monthly combined radiology and pathology rounds which provide invaluable exposure to understanding pulmonary radiology in the context of clinical presentation and pulmonary pathology. These are multi-media presentations with radiology and pathology review.

There are weekly case presentations given by both faculty and residents. This is in addition to a bi-weekly journal club presentation that alternates with Research in Progress seminars.

Both sites offer resident libraries which including internet access. Each teaching hospital also has a full, comprehensive medical library to serve the educational needs of all clinicians and researchers.

Program Curriculum

Adult Pulmonary Medicine is two years. The first year may be overlapped with the final fourth year of an Internal Medicine residency.

First Year of the Fellowship Program

This two-year program in respirology is designed to provide clinical training over a period of 18 months with an additional six months of either clinical or research training to fulfill the requirements of the Royal College of Physicians and Surgeons as well as the career goals of the resident. During this period, the residents rotate through clinical and laboratory services at the Health Sciences Centre and at St. Boniface Hospital. The fellowship program is organized as outlined below.

Consultation Services

There are consultation services at both the Health Sciences Centre and the St. Boniface Hospital. The residents will spend approximately 20 weeks at each of these. Both these rotations offer unique and different experiences and are complementary to one another.

The St. Boniface rotation is a busy one, providing day-to-day experience in general respirology and exposure to complex and interesting tertiary care referrals from medical and surgical services as well as family practice and geriatrics. Further, St Boniface Hospital is the designated Cardiac Centre of Excellence, with an extremely busy Surgical Cardiac Intensive Care. Up to 6 cardiac surgical cases are performed daily, often generating pulmonary consultation. Both teaching centers have very busy tertiary care medical and general surgical intensive care units. The HSC rotation is a combined inpatient / consultation service.. The inpatient ward functions as a dedicated respiratory Clinical Training Unit as well as the only provincial tuberculosis centre. The HSC service combines dedicated CTU experience as well respiratory consultations through out the hospital.

Thoracic Surgery

Another four-week ward rotation is on the thoracic surgery inpatient service. Residents are involved in pre- and postoperative care, introduced to various surgical procedures, and enabled to participate in the care of patients who have undergone volume-reduction surgery and lung transplantation.

Furthermore, this rotation provides an opportunity to be involved in the assessment and management of thoracic oncology patients.

Laboratory Rotations:

There are three laboratory rotations. The first is a one month Pulmonary Function Lab rotation at the Health Sciences Centre, a tertiary care referral laboratory for the province. Here, extensive experience with pulmonary function equipment, techniques, and interpretation is provided.

The second is at the Sleep Laboratory. The Sleep Lab is located at the Misericordia Health Centre. This is a dedicated sleep lab with ten beds. As of 2011, there are 6 sleep physicians who staff this lab. During this rotation, the residents learn basic concepts of sleep physiology and sleep disorders. The RCPSC mandates at least 2 months of dedicated sleep medicine training.

The third four-week block is at the Radiology Service at St. Boniface Hospital. This rotation provides residents with expertise in the interpretation of chest radiographs, CT scans of the thorax, and the performance of related procedures, such as percutaneous transthoracic needle biopsy and chest tube insertion.

Ambulatory Care (Outpatient Clinics)

During the fellowship, ambulatory care experience makes up 20% of the training. The residents are required to attend two half-day outpatient clinics per week and are assigned to a longitudinal clinic and a rotating clinic, thus having the opportunity to follow patients after initial workup. Additionally, the residents have the opportunity to work in specialty clinics devoted to tuberculosis, pulmonary hypertension, lung transplantation, and sleep disorders. During the lab rotations, the residents continue to attend outpatient clinics as scheduled.

Procedures

During their training, the residents perform enough procedures to become proficient in bronchoscopy, transbronchial biopsy, thoracentesis, pleural biopsy, pleurodesis, and chest tube insertion.

Second Year of Fellowship

The second year of fellowship has well-defined objectives. There is continuing clinical exposure to meet the requirement of the Royal College for 18 months of clinical training. Rotations at the Sleep Laboratory and on consultation service are scheduled. Additionally, the curriculum of the second year focuses on academic and scholarly activities including research, educational, and teaching activities. Several members of the section of respirology have major research interest in fields including basic physiology, biochemistry, immunology, epidemiology, and molecular biology. Residents are required to initiate and complete a research project under the supervision of one of these faculty members. Furthermore, programs of respiratory research in the departments of pathology, pediatrics, and physiology provide extra opportunities for research training.

Critical Care Medicine

The residents rotate through the tertiary level Intensive Care units of both hospitals for two months of their second year of training. During this rotation, each resident is given a graded responsibility as assessed by the critical care attending staff. Additional months in intensive care can be arranged if desired.

The second year of training is flexible, allowing requests for out-of-town rotations, an elective, or a community rotation to be accommodated.

The two-year respiratory fellowship program at the University of Manitoba is designed to provide all the skills required of a respirologist by the Royal College, including the clinical and technical skills needed to function in an ICU. Although the respiratory fellowship program is highly structured, there is

also a good deal of flexibility. The program is designed with a view to helping residents evolve into the role of specialist consultants in respirology.

Faculty

The Respiratory Section is large and strong within the university. Some members are more oriented toward clinical respirology and teaching, others toward research and academics. The latter group is especially notable. They have been successful in obtaining operating grants from many highly competitive sources, allowing for the large body of basic and clinical research produced by the section. These activities allow residents to pursue a wide variety of research interests. In particular, there is ample opportunity for those wishing to follow an academic career.

Research Expectations

Our Residents will have many opportunities to partake in research activity. It is an expectation that each of our residents present a research project at a major International meeting such as the annual American Thoracic Society Meeting and/or the annual Dept of Internal Medicine Resident Research Day.

Academic and Scholarly Activities

Outlined below are the details of the Respiratory Section Educational Half Day as well as other teaching activities.

Academic Half Day

Each Wednesday afternoon is protected time for formal teaching activities. Residents are expected to be present and are exempt from all other activities during this half day, which begins formally on September 1 and runs through to June 30 of the following year. During the summer months (July and August) introductory teaching sessions are organized and the chest conference is continued (see item 4 below). During July and August, trainees are encouraged to attend Department of Medicine lecture series on medical emergencies.

Advanced Pulmonary Physiology (Wednesday 1330 to 1430 hours)

This course is offered to both the first- and second-year residents. Because the subject matter is advanced, trainees often choose to reinforce what they have learned in their first year by attending this course in their second year. A list of the lectures for 2007–2008 is appended. Advanced pulmonary physiology is an accredited course at the University of Manitoba. The residents receive certification upon its conclusion and successful completion of the final examination.

Pulmonary Function Testing

This didactic course on techniques of pulmonary function testing and interpretation is scheduled from September to February of each academic year. Objectives of this course are to prepare residents for the role of consultants who can provide expert interpretation of pulmonary function tests.

Clinical Epidemiology

A short course on epidemiology and biostatistics is organized each year. Usually four lectures of 1 to 1½ hours each cover most of the following topics:

1. **Epidemiologic approach to disease and intervention**
 - Measuring the occurrence of disease
 - Assessing the validity and reliability of diagnostic and screening tests
 - Assessing the efficacy of preventive and therapeutic measures: randomized trials
2. **Using epidemiology to identify the cause of disease**
 - Cohort studies
 - Case-control and cross sectional studies
 - Estimating risk

- Bias, confounding, and interaction
- 3. **Applying epidemiology to evaluation and policy**
Using epidemiology to evaluate health policy, etc.
- 4. **Biostatistics**
 - Types of data analysis
 - Univariate analysis
 - Bivariate analysis
 - Multivariate
 - Probability
 - Hypothesis testing
 - Confidence intervals
 - Statistical power

Clinical Chest Conference, Wednesday 1430 to 1530 hours

The chest conference will follow a strict schedule of presenters (respiratory residents, critical care residents, sleep breathing disorders). The rounds consist of the presentation of two patients, including their radiographs, relevant pulmonary function tests, and relevant pathology. The resident must speak with the pathologist at least two weeks in advance to prepare color slides and arrange for the pathologist to be present at the rounds.

Faculty at the St. Boniface Hospital and at Health Sciences Centre is particularly interested in lung pathology and will review the cases and help residents prepare their cases. These rounds are attended by many groups (radiologists, thoracic surgeons, critical care trainees and support staff; pediatric respirologists, etc.).

Residents are required to limit the didactic portion of their rounds to 10 minutes per case. They are encouraged to ensure that all relevant attendings involved in the care of the patient are present. Residents are evaluated on the quality of these rounds—that is, their preparation, presentation, and so on.

The specific objectives of the clinical conference are as follows:

- Target audience: respiratory residents and faculty, rotating residents, and students and allied health professionals.
- Develop an approach to the differential diagnosis and cost-effective evaluation of patients with respiratory disease.
- Learn a multidisciplinary approach (clinical-pathological-radiological) and teamwork.
- Develop an approach to the management of complex clinical problems.
- Provide a learning experience for the residents in identifying a clinical question, searching the medical literature, and making an informative presentation.
- Prepare the residents for clinical consultations and Royal College examinations.
- Provide scientific, evidence-based literature of the clinical topics as continuing medical education for the target audience.
- Provide an interactive presentation to include both the presenter and the audience.

Research in Progress (RIP), Wednesday 15:45 to 1700 hours

Ongoing research activity is presented at these rounds. First-year residents are encouraged to attend, especially if the topic is relevant to an area of research in which they intend to be active. These rounds are compulsory for the second-year respirology residents. These rounds begin in September.

Journal Club Wednesday 15:45 to 1700 hours (alternated with Research in Progress)

Critical appraisal of literature is formally taught through the biweekly journal clubs. Articles for review are circulated to all section members a week in advance. Currently these meetings are held every other Wednesday at 1545 hours.

The McMaster University format is recommended to critically evaluate each article. Please read the enclosed articles in the section 'Critical Appraisal of Medical Literature.' The objectives of the journal clubs are to provide an understanding of medical literature by:

- Reviewing articles reporting major new clinical observations.
- Learning how to review the literature critically.
- Learning the application of principles developed by the Evidence-Based Medicine Working Group about how to use an article dealing with diagnosis, therapy, and prevention.
Developing an evidence-based approach to the evaluation and management of a wide variety of respiratory disorders

Other Formal Teaching Activities

Pulmonary Review Course, (Breakfast Lectures) Monday 0800 to 0900 hours.

A pulmonary review course organized by the residents for coverage of topics not well covered in existing teaching venues. In last few years we have invited various experts from and outside the section to either give a didactic lecture or have an interactive teaching session with the residents.

- **Lung Pathology**

Residents are expected to participate in the pathology review lectures that have been incorporated into the academic teaching program. In these lectures the format of the American College of Chest Physicians Lung Pathology Course is followed. The syllabus from ACCP is available in the residents' library and at St. Boniface Hospital. It is highly recommended that residents plan to attend the ACCP Lung Pathology Review Course organized every year by the ACCP.

- **Joint Radiology-Pathology/Thoracic Surgery Rounds**

These joint rounds will be held from 11:30 to 12:30 hours on the first Wednesday of the month in the Oncology Conference Room at St. Boniface General Hospital. They have been organized by the radiologist, pathologist, thoracic surgery, and chest medicine. Through these rounds we hope to interact with the local thoracic surgical group on a regular basis.

The purpose of these rounds is to enhance the radiologic-pathologic correlations of lung diseases, with emphasis on the radiology and pathology of both common and rare conditions. These rounds will have a different focus and different objectives from the weekly chest conference. The thoracic surgical group has agreed to present the radiologic and pathologic aspects; the clinical context will also be discussed. A large number of cases will be reviewed to increase residents' and residents' familiarity with a wide variety of lung diseases. These rounds will be scheduled monthly. Presentations will alternate between thoracic surgery and chest medicine.

- **CanMEDs Rounds**

CanMEDs rounds will be held four times per year. This is an informal round at a social setting. Discussion will center on the CanMEDs objectives. Target audience is the Respiratory Residents. These rounds have a circulated agenda with minutes taken at each session.

- **Multidisciplinary Sleep Rounds**

These multidisciplinary rounds are attended by the faculty interested in sleep disorders (Respirology, neurology, psychology, general internal medicine and otolaryngology), sleep technologists, home ventilatory assist devices program personnel, respiratory therapists and others interested or involved in providing care to

the patients with sleep disorders. The rounds are designed to meet the educational goals of all attendees and often utilize case presentation format with didactic lecture to cover wide variety of topics. They are scheduled last Monday of each month and continue through the summer. Additionally, these rounds also serve as a forum to bring the various sleep professional together at University of Manitoba.

- **Mechanical Ventilation**

This is an interactive course on invasive and noninvasive modes of mechanical ventilation. This course is delivered in the form of five one-hour discussions.

Biomedical Ethics

Ethical questions pertaining to respirology will be debated in the following forums:

1. Rounds centering on individual cases identified by a particular resident during their clinical rotations and outpatient experience.
2. Wednesday afternoon Clinical Chest Conferences: at least two conferences per year will be devoted to a clinical ethics debate. Particular attention will be given to the following topics:
 - a. Lung transplantation
 - b. Home ventilation
 - c. Discontinuing mechanical ventilation
 - d. Economics versus responsibility to the patient
 - e. Sleep apnea (motor vehicle licensing, disability, etc.)
 - f. Smoking cessation

Training Sites

The Adult Respiratory Program at the University of Manitoba consists of two teaching hospitals, an off-site dedicated sleep laboratory at the Misericordia Hospital, A description of the major centres is provided below.

In terms of a catchment area for pulmonary referrals, this includes all of Manitoba and parts of north-western Ontario, Nunavut and the Northwest Territories. This area encompasses approximately 1.5 million people. This contributes to a very large plethora of pulmonary pathology and exposure to cystic fibrosis, pulmonary hypertension and tuberculosis, not normally available to centres of our size.

We have an active bone marrow transplant program as well, contributing to an ample opportunity for diagnostic bronchoscopy.

Resources for Residents

We have resident libraries located at both Health Sciences Centre and St. Boniface General Hospital. Both libraries also host a computer, as well as internet access. There are multi-media components available for self-directed teaching for thoracic radiology in addition to the standard radiology rotation of one-month.

Health Sciences Centre

There are approximately 800 beds available at this location.

Number of Emergency Room patients per year: approximately 41,000.

Health Sciences Centre is a large tertiary care referral centre. In terms of relevance to Adult Pulmonary medicine, it includes a very large medical teaching unit system in addition to two tertiary care Critical Care units -- one medical and the other dedicated to surgical trauma.

This centre alone provides exposure to essentially all aspects of pulmonary medicine.

St. Boniface General Hospital

There are approximately 600 beds available at this location.

Number of Emergency Room patients per year: approximately 37,000.

St. Boniface General Hospital is the second largest hospital in Winnipeg. It is also a tertiary care centre, with a ten-bed tertiary combined medical-surgical critical care unit, a ten-bed dedicated cardiac sciences intensive care unit, and a coronary care unit. It also has robust internal medicine teaching units as well as family medicine practice, geriatric medicine programs, dialysis, tertiary care interventional radiology, complete cardiac catheterization laboratories, MRI scanner, and oncology services.

At St. Boniface General Hospital, our residents are exposed to all aspects of pulmonary care.

Misericordia Health Centre

A new state-of-the-art sleep laboratory is now located at this site. This is staffed by four Respiriology faculty members. This site is extremely active in the diagnosis, management, and all aspects of sleep pathology. This centre provides trainees with exemplary training in sleep medicine and the potential for further training upon completion of their two-year subspecialty residency.

Additional Information

Can Med Rounds

We have instituted CanMed Rounds for our residents. This consists of an evening academic session four to six times yearly. During these sessions which are held at a local restaurant, CanMed domains are discussed and reviewed. On each rounds, two or three CanMed domains are in particular selected for review and discussion of how they apply to the pulmonologists. These rounds have both agendas and minutes associated with them.

Frequently-Asked Questions

Salary

The salary for residents is set by the Professional Association of Residents & Interns of Manitoba (PARIM) contract. In 2010 the salary for a fourth year resident was \$66,401.00. A fifth year resident in 2010 was paid \$71,153.00.

Lifestyle

Winnipeg is a friendly, multi-cultural city of approximately 700,000, situated in the centre of Canada. It is fairly laid back as a city with a friendly atmosphere, but has more culture than most of the large cities across Canada.

Winnipeg is home to the Royal Winnipeg Ballet, the Winnipeg Symphony Orchestra, Manitoba Opera, and many theatre companies, including Rainbow State and Manitoba Theatre Centre. We are also known for our variety of excellent restaurants, serving food from all parts of the world. The Winnipeg Blue Bombers, the Manitoba Moose and the Winnipeg Goldeyes are ever popular for the sports fan.

Summers in Winnipeg are filled with festivals, including the Folk Festival (which is outstanding!), the Jazz Festival, the Fringe Festive, and unique to Winnipeg, Folklorama.

As Winnipeg is in close proximity to numerous lakes, parks and beaches, there is no shortage of places to camp, fish and hike. The summers are sunny and very hot for the most part. This also makes ideal weather for many summer sports including ultimate Frisbee, football and running (through our numerous parks).

Winnipeg is also known for its cold winter months. The readily-available snow allows for a variety of winter sports and gives an ideal setting for the Festival du Voyageur. We are also home to many professional and amateur sports teams, including the Winnipeg Blue Bombers (football), Winnipeg Goldeyes (baseball) and the Manitoba Moose (hockey).

Finally, Winnipeg has an affordable cost of living in Canada. It is easy to find a very nice apartment within ten minutes of either hospital for a reasonable cost. Food, gas and car insurance are also quite a bit less expensive than other provinces, so your money goes further.