1. Thoracic Surgery Residency Program

Thoracic Surgery is that branch of surgery concerned with congenital and acquired diseases of the chest wall, mediastinum, lungs, trachea, pleura, esophagus and diaphragm. The Thoracic Surgical Residency Program adheres to the Royal College Accreditation guidelines. Only candidates certified by the Royal College in General Surgery or Cardiac Surgery may be eligible to undertake the examination leading to a certification of special competence in Thoracic Surgery.

The resident, following completion of the program will have fulfilled the Royal College – Thoracic Surgery requirements and is prepared to sit his fellowship exams. The structure and training of the program is under regular review by the Program Committee. The Thoracic Surgical Residency Program is a small program and hence allows a large degree of direct interaction between resident trainee and attending staff. This also allows for the availability of a tremendous clinical volume to which the resident is exposed. Rotation on all services involves resident to resident interactions as well as teaching sessions and seminars.

The goals and objectives of each rotation are set out with an increasingly graded responsibility and skill requirement for each resident. The standard in our surgical program and sub-specialty rotations are already in place throughout the teaching hospitals at McMaster University.

This document outlines the overall goals of the Thoracic Surgery Residency Program. Specifically, what follows is an outline of rotation specific objectives for both the mandatory and elective components of training for the thoracic surgery resident. Whenever possible we have endeavored to incorporate the CanMEDS competencies into these goals and objectives. The training of the Thoracic resident in the key competencies outlined in the CanMEDS Project, Medical Expert. Clinical Decision Maker, Communicator, Collaborator, Manager, Health Advocate, Scholar, and Professional, are not only fulfilled during the General Thoracic Training but are further explored during the various other components of training.

2. Goals and Objectives

2.1 Mandatory Content of Training

**General Thoracic Surgery**
Duration: 18 months
Site(s) of Training: St. Joseph’s Hospital

**Medical Expert/Clinical Decision Maker**
According to the CanMEDS competencies a Medical Expert/Clinical Decision-Maker will possess a defined body of knowledge and procedural skills which are used to collect and interpret data, make appropriate clinical decisions, and carry out diagnostic and therapeutic procedures within the boundaries of their discipline and expertise. The role of
medical expert/clinical decision-maker is central to the function of specialist physicians, and draws on the competencies included in the roles of scholar, communicator, health advocate, manager, collaborator and professional.

**General Requirements**

At the completion of training our resident will:

- Demonstrate diagnostic and therapeutic skills for ethical and effective patient care
- Access and apply relevant information to clinical practice
- Demonstrate effective consultation services with respect to patient care, education and legal opinions.
- Possess a strong knowledge base in thoracic surgery including epidemiology, diagnostic method, prognosis, multimodality cancer care, intensive care medicine in both acute and chronic patients. This will include all aspects of thoracic trauma, thoracic neoplasia as well as disease of the diaphragm and thoracic outlet.
- Experience and participate in preoperative assessment and postoperative care and intensive care unit medicine
- Be familiar with controversies in the multimodality management of thoracic malignancies
- Be familiar with Anesthetic management of thoracic surgical patients including ventilator support and physiotherapy
- Be familiar with Laboratory procedures in the diagnosis of thoracic disease
- Understand Sepsis as it applies to the operative care of thoracic and esophageal disease and sternal wound infections
- Be aware of the range of outcomes from thoracic surgical interventions and to distinguish from unacceptable to unexpected clinical results

**Specific Requirements**

**Core Knowledge**

The Thoracic Surgeon must be able to discuss:

- The principles and practice of surgery include, pathophysiology of shock, nutrition, metabolism, infection, coagulation, immune system, genetics, pulmonary function, biostatistics, bioethics, transplantation, chemotherapy and radiation oncology
- The anatomy, embryology and diseases of the chest wall, mediastinum, lung, trachea, pleura, esophagus, stomach, and diaphragm;
- Respiratory physiology, pulmonary function tests, ventilatory support
- Esophageal physiology, and esophageal motility tests
- Diseases of the heart and great vessels
- The physiology and complications of extracorporeal perfusion

**Clinical Skills**

Specifically the resident is familiar with and able to describe and discuss the:
Pathology and treatment of neoplasia of the lung, trachea, esophagus, and mediastinum and chest wall
Chest wall deformities
Diaphragmatic trauma, hernias and hiatal hernias
Pleural effusions, empyemas, pneumothoraces, and hemothorax
Pericardial disease in thoracic surgery
Thoracic trauma
Tracheal disease
Congenital, structural, and inflammatory disease of the lung
Esophageal physiology and motility
Transplantation and emphysema surgery
Thoracic outlet syndrome

The resident can also:

Obtain an accurate patient history and perform appropriate physical examination.
Develop a weighted differential diagnosis
Outline an appropriate plan of laboratory and radiological investigations
Recommend an appropriate therapeutic plan taking into account such matters as age, general health, risk/benefit ratio, and prognosis
Manage with proficiency and expertise, thoracic surgical emergencies including trauma
Manage pre- and post operative care including intensive care unit (ICU) management.

**Technical Skills**
The Thoracic Surgeon must demonstrate competency and proficiency in the following technical skills in order to properly perform bronchoscopy, esophagoscopy, videothoracoscopy, thoracotomy-opening and closing of the chest, wedge resections, fundoplication, uncomplicated pulmonary lobectomy.
The Thoracic Surgeon must also be able to treat diseases of the chest wall, mediastinum, lungs, trachea, pleura, esophagus, stomach and diaphragm.
Operative skill is gained by initial observation and then assisting in thoracic surgical cases. The resident is then permitted to perform parts of the procedure under direct supervision. Following six months of senior thoracic surgical training, it is expected that the resident can safely perform procedures, such as standard pulmonary lobectomy safely.
In the later six months of senior thoracic training exposure to greater volumes and more complex cases matures the residents technical ability to conduct all thoracic cases regardless of their complexity.
In particular the resident is expected to develop some skills in and be aware of:

Techniques of pulmonary and esophageal biopsy and resection
Mediastinal node biopsy
Traumatic repair of chest wall, major airways, diaphragm and esophagus.
Pulmonary resections
Thoracoplasty
Decortication of the lungs
Tracheal resection and approaches
Resection of the esophagus including replacement with stomach, colon and small bowel
Correction of the chest wall deformity
Surgical procedures of the chest wall and pulmonary infections
Chest wall resections for neoplasia
Surgical therapy of thoracic outlet syndrome
Surgical therapy of pleural effusions and infections
Primary and metastatic pleural tumors
Surgical procedures of benign and malignant diseases of the trachea
Correction of benign esophageal disorders including diverticulus cyst, duplications, motor disorders and hiatus hernia as well as gastroesophageal reflux
Surgery of the superior vena cava syndrome
Primary tumors and cysts of the mediastinum and thymus gland
Pulmonary transplantation
Laser therapy
Video-assisted thoracic surgery for mediastinal lung parenchyma and esophageal disease
Surgical management of complications of thoracic and esophageal procedures

Communicator

As an effective communicator the resident will endeavor to provide humane, high quality care, established effective relationships with patients, other physicians, and other health professionals. Communication skills are essential for the functioning of a specialist, and are necessary for obtaining information from and conveying information to patients and their families. These abilities are critical in eliciting patients’ beliefs, concerns, and expectations about their illness, and for assessing key factors impacting on patients health.

General Requirements

Upon completion of the Thoracic Surgery Residency Program each resident is expected to communicate effectively with patients/families to be compassionate and show an overall understanding of the patient/families and his disease. The resident is also expected to be an effective listener. Residents are expected to gather information not only about the disease but also about the patient’s beliefs, concerns and expectations about the illness, while considering the influence of factors such as patients age, gender, ethnic, cultural and socioeconomic background, and spiritual values on that illness. Residents will communicate with other health care professionals involved in the care of individual patients on the Thoracic Surgery service. These discussions will aim to clearly delineate the roles of each of these allied healthcare professionals and ensure that consistent messages are delivered to patients and their families.

Specific Requirements:

The Thoracic resident must be an effective communicator and good listener. At all times, he/she must communicate with medical colleagues, health team personnel, patients, and
families in a professional, timely, accurate and informative and when appropriate, compassionate manner.

Knowledge
The resident must:

- Understand and empathize with the emotion surrounding illness
- Appreciate the dynamics of the traumatized family
- Understand the concerns patients have of loss of control, self worth, and personal dignity.
- Recognize the need for effective use of language
- Understand the need to explain medical matters in simple terms
- Appreciate the fact that interpreters will be required for some patient groups (cultural, deaf)
- Appreciate how differences in race, gender and ethnicity affect patient/families responses to therapeutic suggestions and diagnosis

Clinical Skills
The resident must:

- Address patients concerns with empathy and respect
- Explain details of medical conditions and therapy in understandable terms
- Include all members of the health care team in discussions of therapeutic plan when appropriate
- Communicate with medical colleagues, health team personnel, patients, and families in a professional, timely, accurate, informative and compassionate manner, at all times
- Demonstrate expertise in situations other than those involving direct patient care, such as in medico-legal testimony
- Complete discharge summary records that accurately reflect the hospital stay.

Collaborator
The thoracic resident will work in partnership with others who are appropriately involved in the care of individuals or specific groups of patients. It is, therefore, essential for them to be able to collaborate effectively with patients and a multidisciplinary team of expert health professionals for provisions of optimal patient care, education, and research.

General Requirements
The resident will function as a member of a multi-disciplinary health care team and contribute to the understanding and management of patients with their thoracic disease. All residents will collaborate in the operative cases and ultimate care of the patient in the ward as well as the active, vigorous open intensive care unit at St. Joseph’s Hospital. The senior resident is expected to play a major role in collaboration with the program director in education and working closely with his junior colleagues, clinical clerks and allied health professionals, both in a supervisory and advisory capacity.

Specific Objectives
The resident must be a team player, contributing to and utilizing the knowledge and skills of other physicians and health care professionals, in a manner that benefits patient care and enhances overall knowledge.

**Knowledge**

Identify and describe the role, expertise and limitations of all members of an interdisciplinary team required to optimally achieve a goal related to patient care, a research problem, an educational task, or an administrative responsibility. The thoracic resident will be exposed to a number of different healthcare professionals, including nurse practitioners, other physicians, administrative and research support staff, all within the Thoracic Surgery division. The Thoracic resident is expected to appreciate the unique aspects of care provided by nursing, physiotherapy, and health care technologists.

**Clinical Skills**

Effectively communicate with the members of an interdisciplinary team in the resolution of conflicts, provisions of feedback, and where appropriate be able to assume a leadership role. Participate in an interdisciplinary team meeting, demonstrating the ability to accept, consider and respect the opinions of other team members, while contributing specialty-specific expertise him/herself. Develop a care plan for a patient they have assessed, including investigation, treatment and continuing care, in collaboration with the members of the interdisciplinary team.

**Manager**

The Thoracic Resident will learn the skills to prioritize and effectively execute tasks through teamwork with colleagues, and make systematic decisions when allocating finite health care resources. As managers, residents are expected to take on positions of leadership within the context of professional organizations and the dynamic Canadian health care system.

**General Requirements**

The Thoracic resident learns how to utilize resources effectively to balance patient care, learning needs and outside activities. The resident is actively involved in the appropriate management of the thoracic patient keeping in view of fiscal and expeditious bed management issues. The effective management of beds is important in the Step Down Unit which is responsible for patient care of acutely ill patients. The resident must learn to work effectively and efficiently within the health care environment. The resident must effectively utilize information technology to optimize patient care, lifelong learning and other activities.

**Knowledge**
The resident must understand the basics of health care funding and the different models of health care delivery

**Clinical Skills**

The resident must:

- Undertake quality assurance and quality delivery analyses.
- Develop plans for more effective use of resources
- Apply technology effectively to patient care

The residents must have an understanding of how to:

- Prioritize capital and operational components of care within institutions of clinic
- Participation effectively and constructively in strategic planning.
- Seek alternative funding mechanisms to enhance patient care and research

**Health Advocate**

The resident learns to recognize the importance of advocacy activities in responding to the challenges represented by those social, environmental, and biological factors that determine the health of patients and society. They recognize advocacy as an essential and fundamental component of health promotion that occurs at the level of the individual patient, the practice population, and the broader community. Health advocacy as appropriately expressed both by the individual and collective responses of specialist physicians in influencing public health and policy.

**General Requirements**

The resident becomes aware of the lifestyle issues in managing and avoiding disease processes as they relate to thoracic pathologies. This includes the ability to recognize, assess, and respond to psychosocial, economic, and biologic factors influencing the health of those served. At the doctor patient level, this involves adapting patient management and education so as to promote health, enhance understanding, foster coping abilities, and enhance active participation in informed decision making. Residents must also be able to apply these skills not only to the individual patient but also at the community level. Residents also learn how to recognize and respond to those issues where advocacy is appropriate.

**Specific Requirements**

**Knowledge**

The resident must:

- Demonstrate knowledge of the epidemiology of thoracic disease.
- Recognize the importance of preventative medicine.
- Understand the means available for constructive support of patient education and preventative medicine intervention.

**Clinical Skills**
The resident must:

- Participate in patient education
- Promote prevention of thoracic disease
- Examine the role of environmental toxins in the genesis of particular patient complaints
- Assist patients in the acquisition and interpretation of health care information
- Advise families of the role of genetics in the genesis of disease.

**Scholar**

Specialists engage in lifelong pursuit of mastery of their domain of professional expertise. Residents will be expected to recognize the need to be continually learning and model this for others. Through their scholarly activities, they contribute to the appraisal, collection, and understanding of health care knowledge, and facilitate the education of their students, patients and others.

**General Requirements**

The residents is expected to engage in the teaching of others (patients, housestaff/students, and other health professionals). Also the resident must develop an understanding and obligation of continuing self-education. In order to accomplish this the Thoracic resident is expected to develop, implement and monitor a personal continuing education strategy.

The resident will also critically appraise sources of medical information as well as contribute to the development of new knowledge.

The resident will also facilitate the learning of patients, house staff, students and other health professionals.

The resident will also contribute to the development of new medical knowledge.

**Specific Requirements**

**Knowledge**

The resident must:

- Be able to critically assess the thoracic surgery literature as it relates to patient diagnosis, investigations and treatment.
- Discuss the application of statistical methods to critical appraisal
- Appreciate the important role of clinical and basic research in thoracic practice
- Acquire the skills to participate in collaborative research projects, quality assurance, and graduate development as it applies to thoracic surgery
- Have an understanding of the scientific method and of outcome bases research
- Understand the importance of continuing medical education (CME)
- Appreciate where information on medical matters is reliably obtained.

**Clinical Skills**

The resident must:

- Question current practice
Apply outcome-based methodology to interpretation of clinical information
Critically appraise the thoracic surgery literature
Develop a plan for continuing personal professional development that includes but is not limited to CME meetings
Teach other health care professionals about thoracic surgery topics
Read relevant medical literature on a regular basis.
Critically assess the thoracic surgery literature as it relates to patient diagnosis, investigations and treatment
Contribute to collaborative research projects, quality assurance, and guideline developments as it applies to thoracic surgery

Professional
The resident will learn and understand the unique societal role of the Thoracic surgeon as a professional with a distinct body of knowledge, skills, and attitudes dedicated to improving the health and well-being of others. Specialists are committed to the highest standards of excellence in clinical care and ethical conduct, and to continually perfecting mastery of their discipline.

General Requirements
The Thoracic resident will deliver the highest quality care with integrity, honesty and compassion. In so doing, the resident must also exhibit the appropriate personal and interpersonal professional behaviours. Finally, the resident must practice medicine in an ethical manner, consistent with the obligations of a physician.

Knowledge
The resident must:

- Have knowledge of ethical responsibilities of a specialist surgeon
- Understand the application of relevant legislation to the practice of thoracic surgeon
- Appreciate how differences in race, gender and ethnicity affect patient/families responses to therapeutic suggestions and diagnosis - The resident is expected to recognize the psycho-social needs of the patient requiring or undergoing thoracic surgery
- Understand the independence of patients
- Recognize the requirement of patient confidentiality
- Understand the principles of biomedical ethics in the practice of a thoracic surgeon
- Understand strategies to balance the personal and professional roles of thoracic surgeons

Clinical Skills
The resident must:

- Be sensitive to the needs of the patient even when they conflict with best medical care
Demonstrate personal and professional attitudes consistent with a consulting surgeon role
Maintain patient confidentiality
Practice in an ethical, honest, and forthright manner
Respond to conflict and abuse constructively and with compassion.

Cardiac Surgery Program
Supervisor: I Cybulsky (cardiac surgeon: Director of Cardiac Residency)
Mandatory Content of Training
Duration: 6 months
Style: Block
Level: Junior thoracic year (end of first year)
Site(s) of Training: HHSC Hamilton General
Program Director: Dr. Irene Cybulsky
Secretary: Rachael Swaney
(905) 777-8284
fax: (905) 527-6225

The Cardiac Program is an accredited Royal College Training program. It is situated at the Hamilton General Hospital (HHSC-General Site). Rotations through cardiac surgery provide the residents with exposure to a large volume of cardiac surgery. There are seven (7) cardiac surgeons. The cardiac program is a large clinical service with a RCPS training program. There are 1122 cardio-pulmonary-bypass cases performed annually (833 CABG, 246 valves, 32 ventricular aneurysms and a septal defect repairs, and 11 thoracic aortic cases). In addition there are 200 new pacemaker implants and 50 battery or lead replacements. The service is housed at the Hamilton General Hospital. It has 16 intensive care beds, 10 step down beds and 16 ward beds. The Thoracic resident will join a senior cardiac resident on the service. The cardiac service is active in research.

Goals and Objectives – Cardiac Surgery Program
The resident is expected to perform sternotomy, cannulation of the patient for cardiopulmonary bypass, harvest of conduit for the coronary artery graft. The resident is exposed to a wide variety of cardiopulmonary diseases and has the opportunity to understand cardiac and pulmonary physiology through this exposure. As a part of this rotation the resident spends 4-6 weeks working in the Cardiovascular Intensive Care. Upon completion the resident is capable of independently performing a cardio-pulmonary cannulation and the use of the intra-operative/heart lung machine. He will not be expected to independently perform coronary artery bypass graft or valve replacement.

1. To learn the principles and techniques of cardio-pulmonary bypass and pressure support devices.
2. To learn the principles of management of the unstable cardiac patient in the intensive care unit
3. To learn operative skills associated with cardiac and vascular surgery

The specific goals and objectives of the cardiac surgical residency are outlined and graded as a level of training and are available on request.

ICU Training
Supervisor: Dr F Baxter (Program Director Intensive Care Program McMaster University)
Requirement: Mandatory
Style: Block
Level: junior or prior to entry into Thoracic Program
Duration: 1-3 Months
Site(s) of Training: St. Joseph’s or Hamilton General

At St. Joseph’s Hospital the intensive care unit is a 15 bed open unit. Both medical and surgical patients are managed in this unit. A mandatory one to three month rotation in intensive care is scheduled on the Thoracic Surgical Residency Program. Currently the vast majority of thoracic surgical patients are managed through an intermediate intensive care unit (Stepdown Unit) following their thoracic procedures. Here, the resident and attending thoracic surgeon are responsible for all aspects of post-operative care. When a thoracic surgical patient is in need of intensive care management, the care is transferred to the intensive care unit team with frequent consultation and input from the thoracic surgical service.

Rotation Specific Objectives – ICU
The level of responsibility is determined by the level of residency training prior to entering the intensive care unit rotation. Once the resident has demonstrated the ability to manage the “ICU patient”, the resident is expected to direct the patient’s independently (with backup). The call is one week in three. During the week the resident is responsible for the ICU for 24 hours a day for all 7 days. The resident will be on second call for the remaining two weeks of the rotation. When the resident is on call for the ICU, his/her responsibilities go from Monday morning through Friday afternoon excluding the nights. At that time another of their peers will take over the first call responsibilities.
While on call in the ICU, either first or second call, the resident is expected to attend the Tuesday morning regional rounds and Tuesday afternoon seminar session.
During the course of the resident’s rotation, there is ample opportunity to develop skills and critical appraisal technique, as well as develop an understanding of the physiology and pharmacology of the management of the intensive care patient.

Trauma
Supervisor: Frank Bailey
Requirement: Mandatory
Style: Longitudinal
Level: ALL
Duration: Thoracic trauma beyond that managed by a general surgeon and the trauma team is rare. This phenomenon is true in our region and major trauma cases occur uncommonly (2-4 cases/year). Every attempt is made to engage the resident in every trauma case as it occurs. Trauma Team on-call coverage is part of the cardiac surgical rotation at HHSC. While working at St. Joseph’s Hospital the Thoracic Resident is called to assess and treat all trauma patients that sustain chest injury and present to the Emergency room.
Site(s) of Training: Hamilton Health Sciences Centre – Hamilton General Hospital is the designated trauma centre for the region, however a small amount of trauma is seen at St. Joseph’s Hospital.
The Hamilton General Hospital is a tertiary care trauma centre for Ontario central west region. It is the second busiest trauma centre in the province with approximately 400 major trauma admissions annually. Thoracic residents when rotating through cardiac surgery are on call for trauma resuscitation and work directly with the trauma team leader. The resident assesses the patient and makes decisions regarding investigations and management with the trauma team leader. The junior resident will learn resuscitation management and such skills as central line placement, trauma tube thoracostomy. The thoracic resident will also follow more complex thoracic operative candidates to the operating room with the On-call Thoracic Surgeon. The thoracic resident is required to become ATLS certified.

**Pediatric Thoracic Surgery**

Supervisor: Mark Walton  
Requirement: Mandatory  
Style: Longitudinal  
Level: All levels  
Duration: Longitudinal  
Site(s) of Training: Hamilton Health Sciences Centre – McMaster University Medical Centre  
Dr. Walton is aware of the limited number of pediatric cases and makes an effort on an ongoing bases throughout the year to notify the Thoracic service of upcoming cases. The senior thoracic resident is encouraged to join the Pediatric Surgeon to review the case, discuss management and participate in the operative procedure.

**Emergency Care**

Supervisor: JD Miller (Program Director)  
Requirement: Mandatory  
Style: Longitudinal  
Level: ALL  
Duration: Coverage of Emergency Department is part of the Thoracic rotation at St. Joseph’s Healthcare  
Site(s) of Training: St. Joseph’s Hospital

**Overall/Specific Objectives:**

The resident is expected to see and assess most thoracic patients that arrive in the emergency department. The resident is expected to make decisions regarding investigation and management of the patient and discuss plans with the attending Thoracic Surgeon or the Thoracic Surgeon on call.

**Transplant**

Supervisor:  
a) S. Kashavji (Director Lung Transplantation Program Toronto General Hospital University of Toronto, Toronto ON Canada)  
b) A. Patterson (Director Lung Transplantation Program Washington University St. Louis MO)  
Requirement: Mandatory  
Level: junior or senior years  
Duration: 3 months
Site(s) of Training: Toronto, St. Louis, or Edmonton
An agreement with the Toronto General Hospital Thoracic Surgical Program and Barnes Hospital Washington University has been struck and exposure to lung transplantation and a transplantation fellowship is available during the enrichment year as requested by the resident in training.

**Rotation Specific Objectives – Transplant**

**Overall Objectives:**

1. To learn the principles of solid organ transplantation.
2. To learn the assessment of recipient candidates for lung transplantation
3. To learn the assessment of donor candidates for lung transplantation
4. To learn the operative technique of lung and heart transplantation
5. To learn the post operative care and follow-up of transplant recipients

**Specific Objectives**

1. To learn the principles and methods of organ preservation
2. To understand A Histocompatibility
3. To understand the role of the immune system in acute and chronic graft rejection
4. To learn the clinical findings, implications and principles of management of graft rejection
5. To learn the clinical finding, implications and principles of management of immunosuppression
6. To learn current approaches to immunosuppression, the specific medications and their mechanism of action
7. To learn to identify the complications of transplantation and immunosuppression

**Professionalization and Physician Self Awareness (PPSA)**

Supervisor: L. Edey, C. Risdon, JD Miller (co-planners/founders of PPSA program)
Requirement: Mandatory
Style: Longitudinal
Level: Junior of Senior Years
Duration: two years 3 hours per month, 24 consecutive months
Site(s) of Training: McMaster University

**Overall Objectives**

To become more self aware including how personal functioning affects patients and colleagues.
To become more aware of one’s own values, attitudes and assumptions and how these affect the practice of medicine.
To recognize the impact of the practice of medicine on oneself as an individual
To become more able to use the resources of others for support, dialogue and feedback in ways that integrate one’s personal characteristics into one’s role as a physician.
To develop skills of communication, conflict management, giving and receiving feedback.

**GI Motility**
Overall Objectives:

To understand the following tests – esophageal motility, 24hr PH, Bernstein Test etc.

Laparoscopic Hiatal Hernia and Anti-Reflux Surgery:

Overall Objectives

To develop skills and understanding of the role of laparoscopic Anti reflux surgery
To learn preoperative, operative and postoperative management of patients with GERD, and esophageal motility diseases

Specific Objectives

To learn preoperative assessment and patient selection
To learn different techniques of laparoscopic anti-reflux surgery
To learn techniques to manage the A short esophagus
To understand the relationship between GERD and cough
To learn techniques to deal with post operative complications such as dysphagia, bloating, and gastric atony.

Ambulatory Care

Overall Objectives

Residents are expected to spend a considerable amount of time during their training in the staff surgeons office to learn about the preoperative assessment of patients undergoing
thoracic surgery. Residents are expected to follow patients seen in the office for their preoperative assessment, through their operative care, to the post operative care in the Friday clinic. Attendance in the outpatient clinic on Friday morning is mandatory for all residents on the service. There are no scheduled operations to conflict with the outpatient clinic.

2.2 Elective Content of Training

Anesthesia

Elective Content of Training
Duration: 4 weeks
Style: Block
Level: Junior year
Site(s) of Training: 1-3 months
Program Director: Fred Baxter

The McMaster Anaesthesia Residency Programme consists of over 50 staff anaesthetists and 18 residents. Consistently ranked one of the best post-graduate programmes by all McMaster residents, this department is proud of its commitment to teaching and its residents.

The faculty and residents are active outside of the operating room in the areas of critical care, acute and chronic pain, and trauma care in the emergency department. The General and Henderson Hospital sites of the Hamilton Health Sciences (HHS) have one of the busiest cardiac programmes and trauma programmes in Canada. The other two teaching centres, St. Joseph's Healthcare, and Chedoke and McMaster Hospital sites of HHS are also very busy hospitals that, together, provide the full compliment of anaesthesia disciplines mandated by the Royal College.

Rotation Specific Objectives – Anesthesia

1. To understand the relationship between Anesthesiology and Thoracic Surgery and how the integrated approach to patient management benefits patient care.
2. To witness and understand respirologic physiology
3. To learn the principles of ventilator management
4. To learn airway management skills
5. To learn basic principles of fluid management, including management strategies for blood loss, hemodynamics, shock, acid base problems, and oxygen transport.

Respirology

Elective Content of Training
Duration: 1-3 months
Style: Block
Level: First year
Site(s) of Training: St. Joseph’s
Program Director: Dr. Lisa Huzel
Assistant: Diane
Asst. Tel: (905) 522-1155 x3714
The respirology service in an active clinical service with both an in-patient and out-patient activity. There are over 10,000 out-patient visits annually and approximately 1,000 in-patient visits serviced on a 12 bed unit which is geographically located adjacent to the thoracic surgical service.

The core Respirology rotation will include a mixture of inpatient and outpatient care. The resident will be expected to gain expertise in the following at a level appropriate to that of a practicing general internist.

At the completion of the rotation the resident should be able to have an organized approach to the diagnosis and management of

- COPD, asthma, cough: inpatient and outpatient
- Interstitial lung disease (UIP, sarcoid, BOOP)
- Tuberculosis
- Hemoptysis
- Pulmonary embolism
- Pulmonary renal syndromes
- Solitary pulmonary nodule
- Lung cancer
- Respiratory failure: Acute/chronic
- Respiratory Tract infections in: the normal host, host with risk factors, immunocompromised host, ICU patient
- Bronchiectasis
- Pleural effusion
- Sleep disorder breathing/hypoventilation syndromes
- Postoperative respiratory complications (including preoperative assessment)

Competency in prescribing and monitoring

- Oxygen therapy (including home Oxygen)
- Invasive/non-invasive ventilation

Be able to perform and interpret:

- Physical examination as it pertains to respiratory/thoracic disease
- Arterial blood gases
- Thoracentesis

Have an organized approach to interpretation of chest radiology

Understand the theory and indications for Pulmonary Function Testing

The resident will display effective technical skills:

- Arterial Blood gas
- Thoracentesis

**Rotation Specific Objectives – Respirology**
1. To understand the relationship between Respirology and Thoracic surgery and how the integrated approach to patient management benefits patient care.
2. To learn the assessment and management of patients with complex Respirology problems
3. To assist the pulmonologist and thoracic surgeon in the post operative care of the complex respirologic problems.
4. To witness and understand living respirologic physiology

**Specific Objectives**

1. To learn the principles of ventilator management
2. To learn the assessment of pulmonary function studies, exercise testing
3. To learn basic principles of post operative fluid management, metabolic and nutritional care of the operative patient, acid base problems, and oxygen transport.

**Radiology**

**Elective Content of Training**

- **Duration:** 1-3 months
- **Site(s) of Training:** St. Joseph’s
- **Program Director:** Dr. K. Finlay
- **Assistant:** Monica Schmidt
- **Tel:** (905)521-2100 x75294

Currently, it is possible to undertake an elective at 4 hospitals in Hamilton. In addition to general radiology, each of these Radiology departments offer additional exposure to subspeciality interests.

- **Neurosurgery and Traumatology at the Hamilton General Hospital**
- **Oncology at the Henderson General Hospital**
- **Chest medicine, Renal medicine and Pediatrics at the St. Joseph's Hospital**
- **Pediatrics, Obstetrics and Gynecology at the McMaster University Medical Centre.**

The radiologists in these departments are enthusiastic and motivated teachers. In most cases, it is possible to tailor an elective to suit your needs.

We are one of only a few centers to have a dedicated digital Fuji chest unit capable of dual energy subtraction. The department is fully networked. Fellows have ample opportunity to perform lung biopsies, pleural drainage, and if they wish, pulmonary angiography and bronchoscopy. For those with an interest in nuclear imaging, McMaster has a PET scanner under the direction of Dr. Coates, a member of the Fleishner Society.

Fellow responsibilities include daily readout sessions with residents, daily rounds with ICU staff, and participating in teaching rounds for medical students, residents, and staff. The chest fellow takes part in the general on call rota, approximately once every six weeks. There is a separate rotation for the interventionalists.

There is ample exposure to the full spectrum of chest disease. McMaster University is fortunate to have an internationally recognized group of respirologists who provide the referrals and have an excellent working relationship with Radiology. Surgical procedures include lung reduction. Most fellows choose to spend a month with one of our two dedicated pulmonary pathologists who provide an invaluable learning opportunity with lung cuttings, and review of daily biopsy and surgical specimens.
An excellent teaching file is available for review and fellows are encouraged to begin creating their own file. Research is encouraged and fellows are given one day a week academic time. Some seed money is available for fellows to begin projects. A generous travel allowance for meetings and AV material is available.

**Rotation Specific Objectives – Radiology**

Elective Students will be involved in the reviewing of general radiographs throughout the time of the elective. The general radiographs include chest, musculoskeletal, general pediatric, gastric and renal x-rays. Students are encouraged to spend time in Computed Tomography (CT), fluoroscopy, angiography/interventional, as well as ultrasound.

1. **Cross-Sectional Imaging Rounds** - Mondays at 16:30 in the Radiology Conference Room (G1127). There is usually a variety of recent CT and MRI cases.

2. **Radiology Resident Half-Day Sessions** - Wednesday afternoons beginning at 13:00 hours at McMaster University Medical Centre's Diagnostic Imaging Department. Students with an interest in Diagnostic Imaging are encouraged to attend these rounds which consist of a formal presentation, either from a radiologist or radiology resident, followed by quiz cases shown among the residents. These quizzes teach the students how to describe the findings on the radiographs and to discuss the various differential diagnoses.

3. **Gastrointestinal / Surgical Rounds** - 2nd Wednesday of each month at 16:30 hours in the Radiology Conference Room (G1127). The student is encouraged to check the weekly radiology schedule to note whether they are being held during their rotation. GI/radiological cases are presented for discussion.

4. **Chest Rounds** - Fridays at 08:00 hours in the Firestone Regional Chest and Allergy Unit. Chest problem cases are presented for discussion.

5. **Medical Grand Rounds** - Wednesdays at 08:00 hours in the Fontbonne Amphitheatre.

6. **Intensive Care Unit (ICU) Rounds** - daily at 11:20 hours in the ICU. These rounds are conducted by a radiologist and the x-rays of each patient in the ICU are discussed after presentation of clinical history and findings. These are helpful to the medical students, as a variety of medical and surgical emergencies such as pulmonary edema, pneumothorax, etc., are discussed.

7. **Radiology Resident Rounds** - daily at 14:30 hours in the Diagnostic Imaging Department. These rounds are geared toward the radiology resident but the medical student may attend and partake in the discussion. The time of these rounds may vary depending on the radiologist's workload, therefore, the student is advised to check the time with the residents.

8. **Regional Chest Rounds** - Tuesday a.m. Students are encouraged to attend radiology-related presentations.

**Community**

Elective Content of Training
Duration: 1-3 months
Site(s) of Training: St. Catharines
A strong relationship with two surgeons who practice general and thoracic surgery at St. Catharines General Hospital has provided in the past the opportunity for some of our fellows to experience community thoracic surgery as part of their training.

Rotation Specific Objectives – Community

2.3 Royal College Objectives of Training and Specialty Training Requirements

Click here for the Royal College Objectives of Training and Specialty Training Requirements in Thoracic Surgery