

# **Description of Endocrine Tumors Fellowship**

## **Division of Endocrinology and Metabolism**

April 2017 Update

**Accrediting Institution**      McGill University

**Location**                      Royal Victoria Hospital (Base site)  
Montreal Neurological Hospital  
Jewish General Hospital

**Type of Fellowship**      A one-year clinical, teaching and research training in endocrine tumors, including pituitary, thyroid, parathyroid, adrenals and other neuroendocrine tumors (NET's).

This extra training is obtained through participation in specialized clinics (clinical care, review of patients with staff, and teaching of junior residents and fellows), development and realization of research projects, attendance and participation in endocrine tumour boards, multidisciplinary clinics, and major scientific meetings.

This training is designed as a complement to the training on endocrine tumors obtained during the two-year core Endocrinology & Metabolism Training Program.

### **Program Information**

#### **Number of Fellowship Positions:**

Only one fellowship position can be offered per year. Applications will be studied by the Endocrinology & Metabolism Training Committee and the position will be awarded on the basis of the applicants' past performance and experience, language fluency, and the originality and impact of the proposed research project.

Second year (PGY5) Endocrinology & Metabolism trainees in good standing are encouraged to apply. Graduates from other endocrine training programs will also be considered provided they can satisfy McGill University requirements.

#### **Academic Affiliation:**

This fellowship is affiliated with the Division of Endocrinology & Metabolism, Faculty of Medicine, McGill University.

#### **Hospitals Involved In Training and Time Spent in Each:**

Royal Victoria Hospital (RVH) ..... 60%  
Jewish General Hospital (JGH) ..... 20%

Montreal General Hospital (MGH) ..... 10%  
Montreal Neurological Hospital (MNH) ... 10%

### **Background**

Endocrine tumors comprise a wide range of neoplasms originating from hormone-secreting or other related cells. This group of tumors share many features including: in general slow growth, poor predictability of aggressive versus indolent behavior based on pathology findings, often good proliferation responsiveness to hormonal manipulations, as well as the potential to secrete hormones and/or their metabolites with resulting hormone hyper-secretion syndromes. By virtue of their slow proliferation rates, most endocrine tumors are also relatively insensitive to conventional cytotoxic chemotherapy and radiotherapy. Therefore their management differs from other cancers.

Endocrinologists, as ‘chronic disease specialists’, play a central role in the diagnosis and management of endocrine tumors. We participate, not only of the diagnosis and management of the clinical syndromes associated to tumor hormonal hyper-secretion but also on the medical therapy aimed to tumor growth control. Skills required for endocrine tumor management are quite specific, extensive and expanding. Therefore endocrine fellows with interest in the treatment of endocrine tumors are encouraged to spend at least an extra year of training developing such skills.

Endocrine tumors in general are quite common. Fortunately only a minority of them have significant health impact. For instance, pituitary adenomas, the commonest intracranial neoplasm, are found in 10-20% of people (Daly et al, *Horm Res.* 2007;68 Suppl 5:195-8); thyroid nodules are detected by ultrasonography in 20-70% of people (McCartney & Stukenborg, *JCEM* 93:3037-3044, 2008); adrenal adenomas are present in at least 3% of people older than 50 years, (Kuruba & Gallagher, *Curr Opin Oncol* 2008, 20:34–46); and parathyroid adenomas causing primary hyperparathyroidism are reported in 1.6-2.6% of post-menopausal women (Lundgren E, *Compr Sum Ups Fac Med* 1999;820:1-51; Lundgren et al. *Surgery* 1997;121:287-294).

Of note, the incidence of endocrine cancers or, at least, the frequency with which they are diagnosed appears to be on the rise in recent decades. For instance, recent reports suggest an increasing incidence of thyroid cancer (CCS and others at <http://www.cancer.ca>) and gastrointestinal NET's (1.25% of all malignancies in 2004 compared with only 0.75% of all malignancies in 1994, a 10%/year increase on SEER database; *Curr Opin Oncol* 20:1–12).

The Division of Endocrinology and Metabolism of McGill University features a group of clinicians dedicated to the study of this kind of neoplasms. As a group, we see a large number of each one of these tumors. Estimated numbers of new cases per year are as follows: sellar and parallar lesions: 150-200; thyroid nodules: 300-400; adrenal tumors: 100-150; neuroendocrine tumors:

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50-60. In all cases, we work as part of multidisciplinary teams of specialists, most of which have reached the supra regional, quaternary care center status granted by the *Agence de lutte contre le cancer* of the Quebec government. Such is the case of the McGill Brain Tumor Program, which includes the Skull base / Pituitary program; the Head and Neck Cancer Program, which includes the Thyroid Cancer Program; the Hepatic Pancreatic Biliary and Colon Cancer Program, which includes the Neuroendocrine Cancer program. All this guaranties that the fellows enrolled in the Endocrine Tumors program will have enough exposure to state-of-the-art practice to acquire the skills critical to this field.

### **Mission**

To complement the core curriculum in Endocrinology & Metabolism with specialized knowledge and skills in endocrine oncology, ultimately to foster superior patient care, outstanding teaching, and original research in this field.

### **How does the Endocrine Tumors Fellowship Enhances Residency Training**

The Endocrine Tumors Fellowship serve as an extension to the present core curriculum in Endocrinology & Metabolism for fellows interested in developing in-depth skills in the management of endocrine tumors. The field of endocrine oncology is in fact very broad and specialized. In brief, fellows applying for this fellowship will be able to choose among different *emphasis of training*, including thyroid, adrenals, pituitary or neuroendocrine tumours. Additionally, this fellowship enriches the existing core curriculum by exposing more junior Endocrine trainees to fellows with complementary training in these disorders.

### **Faculty**

#### **Fellowship Program Director**

Dr. Juan Rivera

#### **Teaching Faculty**

Dr. Juan Rivera

Dr. Michael Tamilya

Dr. Stavroula Christopoulos

#### **Pertinent Subspecialty (Base Site)**

Neuroendocrinology, thyroid ultrasound and NET (RVH)

Thyroid tumors (Endocrinology JGH)

Adrenal tumors (Endocrinology JGH)

#### **Associate Faculty**

Dr. Natasha Garfield

Dr. Sorana Marcovitz

Dr. Denis Sirhan

Dr. Anthony Zeitouni

Dr. Nader Sadeghi

Dr. Richard Payne

Dr. Keith Richardson

Dr. Liane Feldman

Dr. Elliot Mitmaker

Neuroendocrinology (RVH)

Neuroendocrinology (MGH)

Neurosurgery, Pituitary Surgery (MNH)

ENT: skull base and thyroid surgery (RVH, MNH)

ENT, thyroid and parathyroid surgery (RVH)

ENT, thyroid and parathyroid surgery (RVH, JGH)

ENT: thyroid and parathyroid surgery (RVH, JGH)

General Surgery, Minimally Invasive (Adrenal) Surgery (MGH)

Endocrine Surgery (RVH)

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Dr. Peter Metrakos	Hepato-pancreato-biliary surgery, NET (RVH)
Dr. Derin Caglar	Pathology (Thyroid, NET)
Dr. Marie-Christine Guiot	Neuropathology
Dr. David Valente	Radiology, Invasive Radiology (RVH)
Dr. Tatiana Cabrera	Radiology, Invasive Radiology (RVH)
Dr. Donatela Tampieri	Neuroradiology (MNH)

### **Academic Facilities**

#### **Facilities for Clinical and Academic Pursuit:**

Training will take place in the Endocrinology & Metabolism ambulatory clinics of the MUHC and JGH, as well as on the wards of the RVH, MGH, JGH and MNI for the evaluation and care of peri-operative and other events requiring admission of patients with endocrine tumours.

#### **Library Access and Other Relevant Materials:**

All three sites have a collection of endocrine textbooks and journals, in addition to unlimited web access including institutional access to UpToDate, EndoText, AccessMedicine, CISTI database, and others. In addition, fellows have access to the McGill LifeScience Library electronic and physical archives. Full audiovisual facilities are available for formal presentations. Professional photography service is also available.

### **Fellow Duties and Responsibilities**

#### **Call Responsibilities:**

*On-calls* for general endocrinology and endocrine oncology may be assigned by the Program Director of the McGill Endocrinology and Metabolism program.

#### **Supervision of Residents by Fellow:**

The fellow will be required to supervise and teach more junior housestaff, from medical students to Endocrinology Residents.

#### **Outpatient Clinic Responsibilities:**

In addition to supervising junior house staff, the fellow will evaluate and treat patients both as new consultations as well as return visits. The fellow will also be responsible for giving and supervising informal teaching sessions either at the beginning or end of those clinics, and lead discussions about some of the notable patients seen in those clinics.

#### **Role of Fellow toward Residents on Service:**

In addition to coordinating informal teaching and patient-related discussions, the fellow will 'keep his/her finger on the pulse' of the endocrine in-patient consultation service, to track down and follow patients with endocrine tumors

by acting as resource person in all aspects of patient evaluation and management.

**Fellow Teaching Responsibilities toward Residents:**

The Fellow will also be required to participate by presenting in Endocrine Grand Rounds once or twice per year, as well as in the weekly Endocrine Journal Club.

The Fellow will be required also to present and discuss cases in tumor board sessions, accompanying their presentation with short reviews of the literature on a key issue related to the case presented.

**Support Staff Available to the Fellow:**

The fellow will dispose of the entire multidisciplinary team already in place for endocrine patients (nurses, dietitians, technicians, psychologists, etc). He will also have access to the Endocrine Fellowship director's secretary, to the medical secretaries of the endocrine division as well as to clinic clerks and assistants. Professional photographer, informatics service specialists, statisticians and research assistants are also available.

**Proposed Meetings to be Attended by the Fellow:**

Fellows will be strongly encouraged to attend and participate in at least one major specialized meeting during the fellowship, depending on the *emphasis* of training selected.

Meetings to be considered include:

- ◇ The European Neuroendocrine Tumor Society (ENETS)
- ◇ The North American Neuroendocrine Tumors (NANETS) meetings
- ◇ The Pituitary Society Meeting
- ◇ The Endocrine Society Annual Meeting
- ◇ The American Thyroid Association (ATA) Annual Meeting
- ◇ The ATA Annual Summer Workshops
- ◇ The International Congress of Neuroendocrinology
- ◇ Thyroid ultrasound workshops

**Research Productivity and Publications by the Fellow:**

Each fellow will carry at least one research project during the year of training, and should both present his/her work at a major forum and submit it in a peer-reviewed publication. Research projects must be discussed with the fellowship director and the proposed supervisor as early as possible before the start of the training. Progress report should be presented to the fellowship director every 3 months.

### **Curriculum**

Each fellow will have his / her schedule individually developed, in discussions with the program director, selecting from the available clinics to satisfy special needs and interests and to allow for about 50% of time available for research.

### **Clinical Activities**

#### **Intended Case Load**

At the beginning, each half-day clinic will comprise 1-3 new consultations, in addition to 5-10 return visits.

#### **Intended Variety of Cases:**

The nature of the various subspecialty clinics lends itself to a wide variety of patients, as these disorders cover the entire spectrum of age and do not discriminate on gender. The tertiary / quaternary centers in which these clinics are held also assure a wide spectrum of pathologies of varying complexity. By the end of the fellowship the fellow would have seen and participated in the care of:

1. NET of all primary locations
2. Non-functioning as well as all functioning pituitary
3. A minimum of 50 thyroid ultrasounds and USG-FNAC would have to be done by the end of the fellowship (fellow must keep record).
4. All the spectrum of adrenal lesions and paragangliomas
5. All main types of familial endocrine neoplasias
6. Parathyroid adenomas

#### **Subspecialty Endocrine Clinics**

See table schedule below.

#### **Multidisciplinary Clinics and Tumor Boards:**

Fellows will be required to attend the following multidisciplinary clinics and tumour boards:

1. Skull Base / Pituitary Clinic: this clinic is conducted by Dr. Denis Sirhan (Neurosurgeon), Dr. Anthony Zeitouni (ENT), and Dr. Juan Rivera (Endocrinology). This half-day clinic takes place on the 2<sup>nd</sup> and 4<sup>th</sup> Wednesday mornings of each month.
2. Skull Base / Pituitary Tumour Board: These one-hour sessions take place once a month on the 2<sup>nd</sup> Wednesday of the month at noon, at the MNH (teleconferenced to MGH and RVH).
3. Thyroid and Parathyroid Tumour Board: these one-hour sessions take place once a month, on the 3<sup>rd</sup> Friday on the month at 7:30AM, at the RVH.

4. Neuroendocrine Tumour Board and multidisciplinary clinics: these sessions take place once or twice a month at the RVH. Details are to be found out with Dr. Rivera.
5. Adrenal Multidisciplinary Clinic: this clinic takes place on Tuesday afternoons at the Surgical Clinics at the RVH.

**Weekly Conference Schedules:**

The fellow is required to attend **all** McGill Endocrine Conferences, rounds, teaching sessions, special meet-the-professor sessions, research retreats, and educational dinners. Details of these sessions can be accessed on the McGill Endocrinology website: [www.mcgill.ca/endocrinology](http://www.mcgill.ca/endocrinology).

**Research Activities**

Candidate fellows are required to submit a research proposal as part of their application. Accepted projects include clinical and/or basic research in any subfield of endocrine oncology: epidemiology, pathology, pathophysiology, clinical semiology, imaging, or management; related to pituitary, thyroid, parathyroids, adrenals or neuroendocrine tumors. We encourage research collaborations with colleagues of related specialties, including pathology, ENT, general surgery, neurosurgery, medical oncology, radiation oncology, medical imaging, and nuclear medicine.

**Selected Recent Publications:**

- Singh S, Asa SL, Dey C, Kennecke H, Laidley D, Law C, Asmis T, Chan D, Ezzat S, Goodwin R, Mete O, Pasieka J, Rivera J, Wong R, Segelov E, Rayson D. (2016). Diagnosis and management of gastrointestinal neuroendocrine tumors: An evidence-based Canadian consensus. *Cancer Treat Rev.* 47(June): 32-45.
- Larouche V, Correa JA, Cassidy P, Bearegard C, Garfield N, Rivera J. (2016). Prevalence of autoimmune disease in patients with prolactinomas and non-functioning pituitary adenomas. *Pituitary.* 19(2): 202-209.
- Vallette S, Ezzat S, Chik C, Ur E, Imran SA, Uum S, Rivera J, Caspar-Bell G, Serri O. (2013). Emerging Trends in the Diagnosis and Treatment of Acromegaly in Canada. *Clin Endocrinol.* 79(1): 79-85.
- Nhan C, Dolev Y, Mijovic T, Rivera JA, Kallai-Sanfaçon MA, Mlynarek AM, Payne RJ. (2012). Vitamin D Deficiency and the risk of Hypocalcemia Following Total Thyroidectomy. *J Otolaryngol Head Neck Surg.* 41(6): 401-406.
- The T4/T3 quotient as a risk factor for differentiated thyroid cancer: a case control study. Sasson M, Kay-Rivest E, Shoukrun R, Florea A, Hier M, Forest VI, Tamilia M, Payne RJ. *J Otolaryngol Head Neck Surg.* 2017 Apr 4;46(1):28
- The role of repeat fine needle aspiration in the management of indeterminate thyroid nodules. Jooya A, Saliba J, Blackburn A, Tamilia M, Hier MP, Mlynarek A, Forest VI, Rochon L, Florea A, Wang H, Payne RJ. *J Otolaryngol Head Neck Surg.* 2016 Oct 18;45(1):51.

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- Long-Term Outcomes of Patients with Papillary Thyroid Cancer Undergoing Remnant Ablation with 30 milliCuries Radioiodine. Mujammami M, Hier MP, Payne RJ, Rochon L, Tamilia M. *Thyroid*. 2016 Jul;26(7):951-8
- The McGill Thyroid Nodule Score's (MTNS+) role in the investigation of thyroid nodules with benign ultrasound guided fine needle aspiration biopsies: a retrospective review. Khalife S, Bouhabel S, Forest VI, Hier MP, Rochon L, Tamilia M, Payne RJ. *J Otolaryngol Head Neck Surg*. 2016 May 4;45(1):29
- Sophie Vallette, Karim Serri, Juan Rivera, Patricia Santagata, Sophie Delorme, Natasha Garfield, Nora Kahtani, Hugues Beauregard, Nahla Aris-Jilwan, Ghislaine Houde, Omar Serri. (2008). Long-term cabergoline therapy is not associated with valvular heart disease in patients with prolactinomas. *Pituitary*. 12(3): 153-157.

**McGill Endocrinology and Metabolism Training Program**  
**Endocrine Tumors Fellowship Schedule**

Time	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8-9 AM			PITUITARY TUMOR BOARD (once a month)	ENDOCRINE GRAND ROUNDS at RVH	THYROID TUMOR BOARD (once a month)
9-12AM	Endocrine Tumor Clinic at RVH with Dr. Rivera	Endocrine Tumor Clinic at RVH with Dr. Rivera	PITUITARY CLINIC at RVH with Dr. Rivera	THYROID CLINIC at JGH with Dr. Tamilya	Thyroid ultrasound Clinic at RVH with Dr. Rivera
12-1PM				ENDOCRINE JOURNAL CLUB	
1-5 PM		Adrenal Multidisciplinary Clinic at RVH (once a month)			