

Description of Endocrine Tumors Fellowship

Division of Endocrinology and Metabolism

September 2008 Version

- Name of Institution:** McGill University
- Location:** Royal Victoria Hospital (Base site)
Montreal General Hospital
Montreal Children's 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 housestaff), development and realization of research projects (clinical and/or basic), attendance and participation in endocrine tumour boards, multidisciplinary clinics, and major scientific meetings.
- This training serves as a complement to the one already included in the two-year core curriculum of the Endocrinology & Metabolism Training Program.

Program Information

Number of Fellowship Positions:

Only one such fellowship position can be offered per year. On years when more than one application are received, applications will be studied by the Endocrinology & Metabolism Training Committee and the positions will be awarded on the basis of the originality and impact of the proposed projects. The applicants' past performances during the core curriculum will also be taken into account.

Only 2nd year (PGY5) Endocrinology & Metabolism trainees in good standing are eligible.

Academic Affiliation:

This fellowship is currently exclusively affiliated with the Division of Endocrinology & Metabolism, Faculty of Medicine, McGill University. Affiliations with other faculties or universities may be considered in the future.

Hospitals Involved In Training and Time Spent in Each:

Royal Victoria Hospital (Base site).....	50%
Montreal General Hospital.....	20%
Jewish General Hospital	20%
Montreal Children’s Hospital.....	10%

Background:

Endocrine tumors comprise a wide range of neoplasms originating from hormone-secreting cells or other related cells. This group of tumors share many common features including, in general, a slow pattern of growth, pathological features that are poor predictors of malignant vs. benign behavior, and hormonally regulated growth. Malignant endocrine tumors are also in general insensitive to traditional chemotherapy, and therefore their management differs from other cancers. The endocrinologist plays a central role not only in the management of the clinical syndromes associated to tumor hormonal hypersecretion but also in the medical therapy aimed to tumor growth control. Skills required for endocrine tumor management are specialized, extensive and expanding. Thus endocrine fellows with interest in the treatment of endocrine tumors are encouraged to spend an extra year of training developing these skills.

The prevalence of endocrine tumors in the general population is very high. 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 other 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 paraller lesions: 150-200; thyroid nodules: 300-400; adrenal tumors: 100-150; neuroendocrine tumors: 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.

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.

Publications:

In bold letters, staff and fellows from McGill
Endocrinology program.

1. Mendelson, Asher; **Tamilia, Michael; Rivera, Juan;** Hier, Michael; **Sherman, Mark; Garfield, Natasha;** Black, Martin; Rochon, Louise; Gologan, Olga; Payne, Richard. Predictors of Malignancy in Preoperative Non-diagnostic Biopsies of the Thyroid. *Journal of Otolaryngology-Head & Neck Surgery*, 2008 (in press)
2. Mijovic, Tamara; Gologan, Olga; Rochon, Louise; Hier, Michael; Black, Martin; Young, Jonathan; **Tamilia, Michael; Rivera, Juan;** Payne, Richard. Fine-Needle Aspiration Biopsy of the Thyroid: A Review of Cytopathological Features Predictive of Malignancy. *Journal of Otolaryngology-Head & Neck Surgery*, 2008 (in press)
3. **Rivera J,** Alves S, Bianchi CC, **Al-Mutawa N,** Guiot MC, Zeitouni A. An Unusual Collision Tumor Comprising Prolactinoma and Plasmocytoma originating from sellar and parasellar regions. *Pituitary*, 2008 (in-press)
4. Vallette S, Serri K, **Rivera J,** Santagata P, Delorme S, **Garfield N, Kahtani N,** Beauregard H, Aris-Jilwan N, Houde G, Serri O. Long-term cabergoline therapy is not associated with valvular heart disease in patients with prolactinomas. *Pituitary*, July 2008 (e-pub)
5. Ezzat S, Serri O, Chik CL, Johnson MD, Beauregard H, **Marcovitz S,** Nyomba BL, **Rivera J,** Ur E. Canadian consensus guidelines for the diagnosis and management of acromegaly. *Clin Invest Med*. 2006 Feb;29(1):29-39.
6. Maroun J, Kocha W, Kvols L, Bjarnason G, Chen E, Germond C, Hanna S, Kamra J, Poitras P, Rayson D, Reid R, **Rivera J,** Rorstad O, Roy A, Shah A, Sideris L, Siu L, Wong R. Guidelines for the Diagnosis and Management of Carcinoid Tumors: Part 1- the Gastrointestinal Tract. A statement from Canadian National Carcinoid Expert Group. *Current Oncology* 2006; 13(2):1-10.
7. Ezzat S, Fear S, Gaillard RC, Gayle C, **Marcovitz S,** Mattioni T, Nussey S, Rees A, Svanberg E. Circulating IGF-I levels in monitoring and predicting efficacy during long-term GH treatment of GH-deficient adults. *Eur J Endocrinol*. 2003 Dec;149(6):499-509.

8. Ezzat S, Fear S, Gaillard RC, Gayle C, Landy H, **Marcovitz S**, Mattioni T, Nussey S, Rees A, Svanberg E. Gender-specific responses of lean body composition and non-gender-specific cardiac function improvement after GH replacement in GH-deficient adults. *J Clin Endocrinol Metab.* 2002 Jun;87(6):2725-33. Erratum in: *J Clin Endocrinol Metab* 2002 Oct;87(10):4461.
9. Schneider W, **Marcovitz S**, **Al-Shammari S**, Yago S, Chevalier S. Reactivity of macroprolactin in common automated immunoassays. *Clin Biochem.* 2001 Sep;34(6):469-73.
10. Cote V, Sands N, Hier MP, Black MJ, **Tamilia M**, MacNamara E, Zhang X, Payne RJ. Cost savings associated with post-thyroidectomy parathyroid hormone levels. *Otolaryngol Head Neck Surg.* 2008 Feb;138(2):204-8.
11. Payne RJ, Hier MP, Côté V, **Tamilia M**, MacNamara E, Black MJ. Postoperative parathyroid hormone levels in conjunction with corrected calcium values as a predictor of post-thyroidectomy hypocalcemia: review of outcomes 1 year after the implementation of a new protocol. *J Otolaryngol.* 2005 Oct;34(5):323-7.
12. Payne RJ, Tewfik MA, Hier MP, **Tamilia M**, Mac Namara E, Young J, Black MJ. Benefits resulting from 1- and 6-hour parathyroid hormone and calcium levels after thyroidectomy. *Otolaryngol Head Neck Surg.* 2005 Sep;133(3):386-90.
13. Nessim S, **Tamilia M**. Papillary thyroid carcinoma associated with amyloid goiter. *Thyroid.* 2005 Apr;15(4):382-5.
14. **Alfadda A**, **Tamilia M**. Preeclampsia-like syndrome that is associated with severe hypothyroidism in a 20-week pregnant woman. *Am J Obstet Gynecol.* 2004 Nov;191(5):1723-4.
15. Payne RJ, Hier MP, **Tamilia M**, Mac Namara E, Young J, Black MJ. Same-day discharge after total thyroidectomy: the value of 6-hour serum parathyroid hormone and calcium levels. *Head Neck.* 2005 Jan;27(1):1-7.

16. Payne RJ, Hier MP, **Tamilia M**, Young J, MacNamara E, Black MJ. Postoperative parathyroid hormone level as a predictor of post-thyroidectomy hypocalcemia. *J Otolaryngol.* 2003 Dec;32(6):362-7.

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 the Endocrine Tumors Fellowship Will Enhance Residency Training:

The Endocrine Tumors Fellowship will 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.

Fellowship Program Director:

Dr. Juan A. Rivera

Teaching Faculty and Roles:

Dr. Juan RiveraPituitary, thyroid, adrenals, GI
neuroendocrine tumors (RVH
and MGH)

Dr. Natasha Garfield....Pituitary tumors and endocrine
tumors during pregnancy
(RVH)

Dr. Sorana Marcovitz ...Neuroendocrinology (MGH)

Dr. Robert BenoitNeuroendocrine tumors (MGH)

Dr. Michael TamiliaThyroid tumors (JGH)

Endocrine Tumors Fellowship

Dr. Stavroula Christopoulos ...Adrenal tumors (JGH)

Dr. Jacques HowThyroid tumors (MGH)

Collaborators:

Dr. Richard LeblancNeurosurgery
Dr. Richard Payne.....ENT (Thyroid)
Dr. Anthony ZeitouniENT (Skull base)
Dr. Roger TabahGeneral Surgery (Thyroid
and parathyroids)
Dr. Liane FeldmanGeneral Surgery
(Adrenals)
Dr. Peter MetrakosGeneral Surgery (GI-
NETs)
Dr. Olga Gologan.....Pathology (Thyroid,
NETs)
Dr. Marie-Christine GuiotPathology (Pituitary)
Dr. David ValenteRadiology and Imaging
Radiation Oncologists
Nuclear Medicine specialists

Academic Facilities

Facilities for Clinical and Academic Pursuit:

Training will take place in the Endocrinology & Metabolism ambulatory clinics of the above sites, as well as on the wards of the RVH, MGH, JGH and MNI for the evaluation and care of perioperative and other complications of 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 Up-To-Date, Endo-Text, AccessMedicine, CISTI database, and others. In addition, fellows have access 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:

Occasional *home call* for perioperative endocrine oncology care and for patients admitted under endocrinology care for radioiodine therapy.

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 housestaff, 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:

See above. 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.

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, dieticians,

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

Intended Case Load:

At the beginning, each half-day clinic will comprise 2-3 new consultations, to which will gradually be added more return visits as the fellow's proficiency grows.

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.

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. Richard Leblanc (Neurosurgeon), Dr. Anthony Zeitouni (ENT, Skull base specialist), and Dr. Juan Rivera (Endocrinology). This half-day clinic takes place on the 2nd and 4th Wednesday mornings of each month.
2. Skull Base / Pituitary Tumour Board: These one-hour sessions take place once a month on the 2nd Wednesday of the month at noon, at the MNH. In addition to the above-mentioned MDs, these sessions are attended by neuroradiologists (Dr. Denis Melancon), neuropathologists (Dr. Guiot), radiation oncologists (Dr. David Roberge, Dr. Thierry Muanza, Dr. Luis Souhami). Other neurosurgeons and endocrinologists are also often in attendance

Endocrine Tumors Fellowship

3. Head & Neck / Thyroid Cancer Clinic: this clinic is conducted by Dr. Richard Payne (ENT, thyroid surgery specialist), Dr. Juan Rivera (Endocrinology), Dr. Karen Kost (ENT), Dr. Anthony Zeitouni (ENT), and Dr. George Shenouda (Radiation Oncology). This clinic takes place once a month, on 3rd Thursday afternoon of each month.
4. Thyroid and Parathyroid Tumour Board: these one-hour sessions take place once a month, on the 3rd Friday on the month at 8AM, at the MGH. These sessions are attended by endocrinologists (Dr. Rivera, Dr. How, Dr. Laryea), surgeons (Dr. Payne, Dr. Tabah), pathologists (Dr. Gologan), and nuclear medicine specialists (Dr. Mark Hickson).
5. Neuroendocrine Tumour Board: these one-hour sessions take place once a month on the 1st Monday of the month at 8AM, at the RVH. Surgeons (Dr. Metrakos, Dr. Chaudury, Dr. Barkun), radiologists (Dr. David Valente, Dr. Giovanni Artho), endocrinologists (Dr. Rivera) are in attendance.
6. Neuroendocrine Tumor Multidisciplinary Clinic: this clinic is under development. It will take place (tentatively) on Monday afternoons and will be attended by Dr. J. Rivera, Dr. P. Metrakos (Surgery), Dr. P Chaudhury (Surgery), Dr. L. Feldman (Surgery), Dr. D. Valente (Radiology).

Weekly Conference Schedules:

The fellow continues to attend all McGill endocrine conferences and events, and these can be accessed on the McGill Endocrinology website:
www.mcgill.ca/endocrinology.