



Educational Objectives for Clinical Fellowship

This form is for recognized specialists whose postgraduate medical training program is designed to give them additional expertise but does not lead to additional credentials for practice. The College of Physicians and Surgeons of Ontario (CPSO) requires the submission of a statement of objectives before issuing a postgraduate education certificate of registration for a clinical fellowship appointment.

- Fellowship
- SEAP – Subspecialty Examination Affiliate Program
- AFC – Areas of Focused Competence Diploma Program

Trainee Information

Name of Clinical Fellow: _____
First name *Last name*

Specialty Certification:

Title of Certification: Radiology

Country Issuing Certification: _____

General Information

Department Name: Medical Imaging

Division Name (If applicable): _____

Name of Fellowship (*Will appear on the Certificate of Completion issued by PGME – please inform PGME of any changes to name of fellowship*): Neuroradiology (Clinical/Research in MRI Biomarkers in Multiple Sclerosis)

Fellowship Site: St. Michael's Hospital

Fellowship Start Date: _____
Month, Day, Year

End Date: _____
Month, Day, Year

If re-appointment:

Reappointment Start Date: _____
Month, Day, Year

End Date: _____
Month, Day, Year

Dr. Aditya Bharatha & Dr. Suradech

Name of Supervisor: Suthiphosuwan

Fellowship Overview

*Please provide a brief statement of the clinical focus and educational purpose of the fellowship:
The answer space below will expand to accept point form or paragraph entries. If this fellowship is a re-appointment, please describe the clinical focus and educational purpose of the re-appointment only.*



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The Clinical Research Neuroradiology Fellowship in MRI Biomarker in Multiple Sclerosis will be located at St. Michael's Hospital, Toronto. The fellowship will be comprised of both Clinical (imaging evaluation of Multiple Sclerosis) and primary research in Magnetic Resonance Imaging (MRI) related to Multiple Sclerosis. The fellowship will be conducted within the resources of the BARLO Multiple Sclerosis Centre at St. Michael's Hospital; as well as the MRI clinical research division of the Department of Medical Imaging, St. Michael's Hospital.



Fellowship Objectives: CanMEDS Roles

Where applicable, please provide objective(s) for each of the following:

The answer space below will expand to accept point form or paragraph entries; enter "N/A" if individual CanMEDS role is not applicable

1. Medical Expert

As Medical Experts, physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centered care. Medical Expert is the central physician Role in the CanMEDS framework

- a. To consolidate and evaluate best practices in the imaging and care of patients with Multiple Sclerosis who are investigated, followed and treated at the Multiple Sclerosis Clinic, St. Michael's Hospital, Toronto, Canada.
- b. To understand the pathophysiology and natural history Multiple Sclerosis.
- c. To be familiar with the signs and symptoms of Multiple Sclerosis.
- d. To become expert in the diagnostic tools, interpretation, monitoring, and management of patients with Multiple Sclerosis.
- e. Know the indications and contraindications of specific treatments of Multiple Sclerosis.
- f. To access and apply relevant information to clinical and imaging practice in Multiple Sclerosis.

2. Communicator

As Communicators, physicians effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

To enhance communication skills with interdisciplinary team.

3. Collaborator

As Collaborators, physicians effectively work within a healthcare team to achieve optimal patient care.

- a. To participate on an interdisciplinary research team and successfully implement studies.
- b. To attend and participate in interdisciplinary Multiple Sclerosis rounds.

4. Leader

*As Managers, physicians are integral participants in healthcare organizations, organizing sustainable practices, making decisions about allocating **resources**, and contributing to the effectiveness of the healthcare system.*

To learn to supervise other members of the research and clinical team with graded responsibility.

5. Health Advocate

As Health Advocates, physicians responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

- a. To assess patient risks and benefits of varying MR imaging sequences and gadolinium contrast in the evaluation of Multiple Sclerosis.
- b. To acquire expertise in risks and benefits of varying treatments for patients with Multiple Sclerosis.

6. Scholar

As Scholars, physicians demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.

- a. To acquire basic knowledge of protocol development including literature searches, research design, statistical analysis, and interpretation of results.
- b. To develop basic skills in clinical epidemiology, which includes study design, basics of statistical analysis, data collection and publication - The fellow is responsible for study design, data collection and analysis.
- c. To attend U of T seminars in basic/intermediate statistics and research related topics in general.
- d. To participate and intermittently lead resident/fellow teaching rounds and seminars devoted to neuroradiology, MRI and neurology related to Multiple Sclerosis.
- e. Be able to design, conduct and analyze clinical/research data.
- f. To develop and conduct research projects specific to Multiple Sclerosis:



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- i. Comparison of varying advanced high-field MRI imaging techniques for lesion conspicuity, with emphasis on spinal cord imaging.
- ii. To evaluate advanced (“physiologic”) MRI techniques such as diffusion-tensor imaging (DTI), susceptibility-weighted imaging (SWI), resting state functional MRI (fMRI), magnetization transfer imaging (MTI), and arterial-spin labeled (ASL)/perfusion/permeability imaging in MS brain and spinal cord lesions.
- iii. To correlate imaging biomarkers of brain atrophy with disability, disease progression, and response to therapy in Multiple Sclerosis.
- g. To present the results of research at conferences and/or publish in journals related to Neuroimaging, Neurology, Multiple Sclerosis, etc.
- h. To meet regularly with clinician/research mentors.
- i. To attend one or more Multiple Sclerosis conferences.
- j. To promote translation of advanced imaging techniques into methods that can be used in standard clinical practice.
- k. To identify legal, ethical, and regulatory aspects of research.
- l. To complete institutional review board training.
- ml. To participate and train in regulatory aspects related to protocol development and implementation of trials.
- n. To be responsible for multiple sclerosis database management.
- o. To identify funding opportunities and develop grant writing skills.

7. Professional

As Professionals, physicians are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

- a. Exhibits appropriate personal and interpersonal professional behaviors.
- b. Appraise his own professional performance.

Additional Comments (Optional)

On completion of the Clinical/Research Fellowship in MR Biomarker in Multiple Sclerosis (affiliated to St. Michael’s Hospital, University of Toronto), the graduate physician will be competent in understanding the methodology of clinical research and will appreciate the importance of basic research and outcome analysis. The graduate physician will acquire expertise in imaging evaluation and management of patients who are diagnosed with Multiple Sclerosis.