McGill University
Department of Diagnostic Radiology
Combined Research and Clinical Fellowship in Head and Neck Imaging

**FELLOWSHIP DIRECTOR:** DR. REZA FORGHANI  
**RESIDENCY PROGRAM DIRECTOR:** DR. JANA TAYLOR  
**PROGRAM ADMINISTRATOR:** CATHY TORCHIA

*General Overview*

The Department of Radiology at the Jewish General Hospital offers a 1-year Clinical & Research fellowship in Head and Neck Imaging. The fellowship program offers clinical exposure as well as exposure to clinical research in Head and Neck Imaging with a focus on head and neck oncology, advanced imaging techniques such as dual-energy CT, and artificial intelligence assisted radiomics for clinical endpoint prediction. The clinical component of the fellowship will expose the fellow to all areas of head and neck cross-sectional imaging with a special focus on CT and MRI. The fellowship provides an integrated experience of research, multidisciplinary clinical care through participation in tumor boards, and teaching. **To be eligible, applicants must have completed at least one year of clinical fellowship or staff position in Neuroradiology.**

The Jewish General Hospital a 637 bed acute care hospital and is a McGill University teaching hospital. It is the main hospital and referral center in an integrated network of 8 institutions. An estimated total of approximately 180,000 non-interventional radiologic procedures are performed per year. In addition, the hospital is the designated supra-regional ENT oncology centre.

**Duration:** 1 Year

*Objectives/Guidelines*

**At the end of the fellowship, the fellow will be able to:**

1. Effectively approach and work up different head and neck pathology using CT, MRI, or US when appropriate.
2. Effectively protocol CT scans and be familiar with site specific maneuvers that results in optimal lesion visualization.
3. Apply different DECT reconstructions and advanced DECT processing for the evaluation of head and neck pathology.
4. Be familiar with approaches for reducing artifact (eg dental), including angled image acquisition and high energy DECT reconstructions.
5. Recognize detailed normal head and neck anatomy in different planes and be familiar with the imaging classification of lymph nodes in the neck.
6. Recognize and effectively evaluate and characterize different benign and neoplastic head and neck pathologies.
7. Act as an effective consultant, providing a clinically relevant evaluation of head and neck pathology.
8. Appropriately stage head and neck tumors, including using the AJCC cancer staging system.
9. Be familiar with general treatment algorithms for different head and neck sites (eg, surgery, radiation/chemotherapy, etc.).
10. Effectively perform ultrasound guided biopsy of head and neck lesions within or outside the thyroid gland.
11. Effectively perform fluoroscopically guided lumbar puncture and myelographic procedures for evaluation of CSF leaks or diseases of the spine.
12. Design a research project with a clear hypothesis and sound methodology to address the question.
13. Perform a thorough literature search to identify the relevant investigations pertaining to the research question.
14. Be familiar with basic research analysis and statistics.
15. Draft a scientific manuscript describing the original research, research article, or book chapter.
16. Participate in writing of a research grant (if requested/depending on the project and available grants).

Fellow’s Responsibilities & Schedule

- This is an advanced fellowship providing the fellow with the opportunity to function as a junior attending in an academic setting. As such, the fellow is expected to function as a diagnostic imaging expert, patient and quality advocate, manager and organizer, researcher, and teacher.
- Learn to function autonomously as an expert consultant in head and neck imaging.
- Learn how to manage the workload, prioritize cases on a daily basis, and effectively pursue scholarly and research activities.
- Perform image guided invasive procedures.
- Learn how to manage on-call workload and identify/manage urgent cases.
- Teach residents and medical students, organize teaching rounds, collaborate and/or help in the supervision of trainee research projects.
- Actively participate in all aspects of research projects including their design and execution.
- Draft and submit original manuscripts, review articles, and/or book chapters for publication.
- Prepare and participate in multi-disciplinary head and neck and neuroradiology rounds and tumor board.
Structure

The expected case load will vary depending on the modality and approximately half of the assigned fellow time will be for research. Typically, the minimum expected case load are 10-15 cross-sectional imaging cases per half day of clinical time. The expected number of procedures will vary depending on the scheduling and standard practice and will be balanced by the diagnostic studies being performed.

Evaluation

- The fellow is evaluated on a daily basis by the attending staff
- A formal written evaluation is completed every 3 months, using the CanMEDS roles scheme. The fellow will meet the Fellowship director of his section for direct feedback.