

**McGill University**  
**Department of Diagnostic Radiology**  
**Women's Imaging Fellowship**

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**FELLOWSHIP DIRECTOR: DR. MELANIE THERIAULT**

**RESIDENCY PROGRAM DIRECTOR: DR. JANA TAYLOR**

**PROGRAM ADMINISTRATOR: CATHY TORCHIA**

*General Overview*

The Women's imaging fellowship consists of 6 months in Body MRI/Cross sectional abdominal imaging and 6 months in Breast Imaging.

The McGill University Health Center (MUHC) is the tertiary care teaching institution of McGill University that comprises approximately 1,000 total impatient beds and performs approximately 400,000 radiologic examinations per year. As well, the department of Radiology annually performs 6,000 interventional procedures. Fellows are exposed to a high volume of diverse cases and are supervised by a dynamic and dedicated group of abdominal and breast imagers with subspecialty training.

The Breast imaging section annually performs over 12,000 mammograms, 6,000 breast ultrasounds, 500 stereotactic and 1 600 ultrasound guided core biopsies, and 150 localizations per year. In addition, the MR division performs approximately 20 breast MRIs per week. MR-guided biopsies are also performed.

The Body MRI fellowship includes rotations in MRI, CT and US, with primary focus on MRI.

Duration: 1 year

**Six Months Body MRI/ Cross sectional abdominal imaging**

*Objectives/Guidelines*

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

- 1. Detect any abnormality on ultrasound, CT and MRI, give a pertinent differential diagnosis and propose appropriate management**
- 2. Know the principal indications/contraindications for MRI**
- 3. Understand MRI physics principles**
- 4. Learn how to protocol and monitor MRI imaging**
- 5. Perform ultrasound and CT-guided procedures safely**
- 6. To serve as the first line consultant to referring clinicians, including participation at tumor board**

**7. Participate in the teaching of medical students and residents.**

**8. Participate in scholarly projects**

*Structure*

Clinical activities take place at the Montreal General Hospital (MGH) and Royal Victoria Hospital (RVH) sites of the MUHC. The fellows will be scheduled at both hospitals during phases of their training. The fellowship includes access to advanced, state-of-the art imaging equipment: 3T MRI system, three 1.5T MRI systems, two PET-CT scanners, 6 CT scanners and 15 ultrasound units.

The fellow will have daily assignments in US, CT or MRI. He or she will progressively assume the role of junior-staff and will be supervised by staff radiologists. The fellow will benefit from progressive autonomy during the academic year and will be able to further develop their leadership skills.

The procedures performed include: US - guided thyroid and abdominal biopsies, paracentesis, thoracentesis and abscess drainages. Procedures under CT guidance (drainages and biopsies) are also frequently performed.

*Fellow's responsibilities& Schedule*

- Learn to function autonomously as a radiology consultant in US, CT and MR interpretation
- Develop expertise in MRI abdominal imaging
  - efficiently protocol and supervise Body MRI cases
  - Be familiar with basic and advanced pulse sequences and their clinical applications
  - Know the basic imaging artifacts relevant to abdominal imaging
- Perform and manage non-vascular interventional procedures safely.
- Learn how to manage the workload and prioritize cases on a daily basis
- Teach residents and medical students, organize teaching rounds.
- Participate in at least one scholarly project, with the goal of publishing in a major peer-reviewed journal.
- Learn how to manage on-call workload and identify / manage urgent cases
- Participate in Tumor Board
  
- EXPECTED CASE LOAD (daily)
  - MR rotation: 10
  - CT rotation: 15
  - US rotation: 20 diagnostic + 4 procedures

*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 supervisor for direct feedback

## **Six Months Breast Imaging:**

### *Objectives/Guidelines*

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

1. **Diagnose breast cancer at very early stage**
2. **Use the BIRADS lexicon, recommend appropriate management.**
3. **Perform imaging guided biopsies (US, stereotactic, and MRI guided) safely**
4. **Perform pre-operative needle localizations**
5. **Act as an expert consultant for all diseases of the breast.**

### *Structure*

The breast imaging section is integrated into the Cedars Breast Clinic which offers to its patients a “one stop shop” whereby in the same visit, the patient consults her breast surgeon, has her mammogram performed as well as any additional work up including additional mammographic views, sonographic examination and imaging guided biopsies as required.

State-of-the-art equipment includes:

- 2 CAR accredited digital mammography units (tomosynthesis)
- 3 state of the art US machines with the highest resolution transducers and Doppler capabilities.
- 1 prone digital biopsy table with vacuum assisted core biopsy capabilities
- Two high field MRI systems with a dedicated Sentinel breast coil and the integrated interventional CAD

### *Fellow's responsibilities& Schedule*

- To read mammograms, perform sonographic examinations, interpret MRIs and perform imaging guided biopsies and needle localizations prior to surgery.
  - Act as a consultant in the multidisciplinary team
  - Attend Tumor Board and Working Rounds during which interesting and challenging cases are presented and discussed between, surgeons, radiologists and pathologists.
  - Participate in the teaching process of the residents during their rotation in the breast center and if they wish, in any scholarly project.
  - Be responsible for the post-biopsy reading of all the interventional procedures they performed during their rotation, so they will be able to assess the pathologic-radiologic concordance of all the lesions biopsied.
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- **EXPECTED CASE LOAD (daily unless specified)**

- Mammograms: 25
- Ultrasounds: 10
- Biopsies: 10, US guided and 4 stereotactic per week
- MRI (weekly): 10
- Needle localization: 4

***On-Call Responsibilities***

- The fellow will be assessed in his/her first few months to determine what type of call will be assigned, as formal Breast-Imaging call does not exist at the MUHC. The Residency Program Director, in consultation with the Breast Imaging Fellowship Director, shall decide on an appropriate call duty for the fellow.

**FELLOW 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 supervisor for direct feedback