



MRI Facility Access	
SOP Number:	115.03
Date:	12-May-2020

## MRI Facility Access

### 1. Introduction

- 1.1 The Centre for Functional and Metabolic Mapping (CFMM) Core at Western's Robarts Research Institute houses Canada's only collection of high-field (3T human) and ultra-high field (7T human and 9.4T animal) MR systems. The Centre is dedicated to establishing the anatomical, metabolic and functional characteristics of normal brain development and healthy aging across the lifespan; as well as establishing the brain basis of developmental, neuropsychiatric and neurodegenerative deficits. CFMM resources are available to grant funded scientific collaborations, as well as industry sponsored contract studies with appropriate Review Ethics Board (REB) approval.
- 1.2 The static magnetic field in the CFMM MRI areas is *always* present. It is essential that everyone entering the facility is aware of the presence of the magnetic field, since we cannot otherwise detect it (i.e. magnetic fields cannot be seen or felt).
- 1.3 Due to the inherent hazards associated with the static magnetic field, access to CFMM is restricted to ensure the safety of all patients, subjects, visitors, and staff. The CFMM is conceptually divided into four MRI Zones of increasing level of potential risk and access restriction.
- 1.4 Dangerous and potentially lethal levels of electricity are used in all MRI systems. Therefore, it is important that all individuals working around the MRI systems be aware of the dangers and understand the safety issues concerning electricity. Current-carrying cables, connections, and junction points in the vicinity of the main magnetic field are particularly susceptible to damage due to the extreme Lorentz forces created through the normal operation of the system. Periodically, the effects of prolonged mechanical fatigue may result in breakage, thereby causing electrical arcing, sparking and/or high heat levels before the system can shut down. In these instances, there is a high potential for personal injury as well as the possibility of a fire being ignited.

### 2. Security Access

- 2.1 Temporary, supervised access to Zones III and IV of the CFMM Core Facility is subject to the approval of Level 2 MRI Personnel. Level 2 MRI Personnel, including the CFMM Director, MRI Technologists, and MRI Operators, may grant or deny anyone entry to the facility at their discretion.
- 2.2 Anyone requiring Security Access to the CFMM MRI Zone III and IV areas must submit a request in writing (email) to the CFMM Director with an explanation of why access is required.
- 2.3 In the event that Security Access is required by a graduate student or research personnel, the request must come from the supervising Principal Investigator, declaring that they will take full responsibility for the actions of their staff/student, including any acts of negligence which may cause damage to equipment or physical injury to themselves or individuals working under their supervision, while working in the CFMM MRI areas.



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- 2.4 Security Access will not be granted to anyone with MRI contraindications. All access will be subject to the approval and discretion of the CFMM Director and Senior Research MRI Technologist.
- 2.5 CFMM is part of Robarts Research, to gain building access Research Personnel must request access from CFMM’s Research Coordinator, access is only guaranteed for as long as the project is active and must be renewed on an annual basis.

### 3. **Entry Regulations**

- 3.1 Entry into the CFMM MRI Zones III and IV are restricted to the following individuals:
  - 3.1.1 Level 1 and 2 MRI Personnel, including facility staff, MRI Technologists, and MRI Operators, who have been trained, understand, and comply with the regulations outlined “MRI Personnel Training”.
  - 3.1.2 Research Personnel, including staff, students, and other individuals associated with principal investigators, whose presence is necessary for the successful execution and completion of the research project, and have complied with the regulations as per “MRI Personnel Training”.
  - 3.1.3 Facility Visitors who are supervised and accompanied by authorized Level 1 or Level 2 MRI Personnel, who meet and abide by the MRI Safety regulations.
  - 3.1.4 Volunteer Subjects and Patients participating in research studies. It is the responsibility of the investigator to ensure that all studies and their corresponding subjects comply with the regulations set out by an approved Human Subject Review Ethics Board (HSREB) protocol.
  - 3.1.5 Essential Services Personnel required for oversight, technical support and maintenance of the CFMM Core Facility, who meet and abide by the regulations outlined below in Section 4.
- 3.2 All study volunteers and patients within Zones II and III of the MRI Facility must remain under the supervision of Level 1 or Level 2 MRI Personnel.
- 3.3 Before entering Zone IV (magnet room), ALL individuals MUST complete and sign the facility’s “Magnetic Resonance Environment Screening Questionnaire” and have it reviewed, signed, and approved by an authorized Level 2 personnel. Completed screening questionnaires will be securely kept on file within the CFMM Core Facility.
- 3.4 Level 2 MRI Personnel, including the Facility Director, MRI Technologists, and MRI Operators, may refuse anyone entry into Zones III or IV at their discretion.
- 3.5 Research Personnel, patients, research subjects and authorized individuals who regularly require entry into the CFMM MRI Zone IV and have completed the “Magnetic Resonance Environment Screening Questionnaire” do not need to complete a new questionnaire before each admittance. However, it is the responsibility of these individuals to inform the on-duty Level 1 or 2 MRI of any change in status (eg. if they have undergone a surgical procedure, have had an eye injury with metal, or obtained any metallic implants or devices). After any



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change in status these individuals must complete a new screening questionnaire and obtain approval before entering Zone IV (magnet room).

#### 4. **Essential Services Access**

4.1 Essential services are often required to maintain the safety and operation of institutional facilities. These include and are not limited to Fire, Police, ACVS and building maintenance personnel. The following rules for Essential Service Personnel applies:

4.1.1 must NOT enter Zone III of the MRI Facility without the approval and supervision of Level 2 MRI Personnel (e.g. CFMM Director or MRI Technologist),

4.1.2 must NOT enter Zone IV (magnet room) without the explicit approval, accompaniment, and direct supervision of Level 2 MRI personnel and must have completed the “Magnetic Resonance Environment Screening Questionnaire” and reviewed by CFMM Level 2 personnel.

4.1.3 are NOT permitted to bring visitors into the CFMM MRI Zone III and IV areas without the permission and direct supervision of Level 2 MRI personnel.

4.1.4 Western Facilities Management is responsible for educating and instructing the cleaning staff of the MRI Zone restrictions set in place by the CFMM Core Facility.



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Revision Chronology		
Version Number	Date	Changes
100.01	01 March 2010	First Version
115.02	07 April 2020	Combination of 3T 7T and 9.4T
115.03	12 May 2020	Minor revisions (JG)

CFMM Director Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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