



Emergency Code Blue	
SOP Number:	120.02
Date:	11-May-2020

Emergency Code Blue

1. Introduction

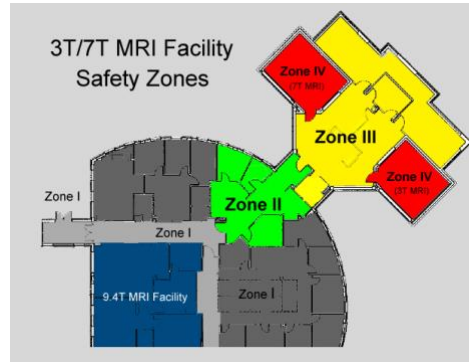
- 1.1 Research involving Magnetic Resonance Imaging (MRI) at high magnetic field strengths present unique hazards to both research subjects and individuals working within and around the MRI system. Consequently, the potential for serious personal injury is present due to the sheer magnitude and strength of the static magnetic field along with the immense flexibility of the research system and associated peripheral hardware.
- 1.2 The static magnetic field in the MRI Facility 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 Dangerous and potentially lethal levels of electricity are used by both the 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 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.
- 1.4 Due to the inherent hazards associated with the static magnetic field, access to the CFMM MRI areas is restricted to ensure the safety of all patients, subjects, visitors, and staff. The MRI Facility is conceptually divided into four Zones of increasing level of potential risk and access restriction.
- 1.5 It is imperative that all personnel who are within and around the MRI Zones III and IV always keep in mind the potential safety risks, and act in accordance with the guidelines set out in the Standard Operating Procedures.

2. Code Blue: Cardiac Arrest

- 2.1 A Code Blue is defined as a cardiac arrest (unexpected loss of heart function, breathing and consciousness).
- 2.2 The CFMM 3T/7T MRI area has LHSC Code Blue coverage for human research participants. In the event of a Code Blue, a trained Team is dispatched from University Hospital (UH) upon contact with the LHSC switchboard and will be directed to the Roberts First Floor (CFMM) MRI if they are notified of a Code Blue emergency in the facility.
 - 2.2.1 Note that the UH Code Blue coverage applies ONLY to Zones II, III, and IV of the 3T/7T MRI area (see figure below). Code Blue coverage does NOT extend into MRI Zone I, the 9.4T MRI or elsewhere within Roberts Research Institute.



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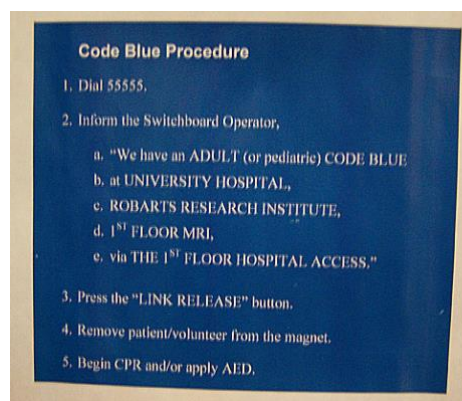
2.2.2 In the event of a Code Blue outside of the defined coverage area, or of any other emergency within Zone III or IV of the MRI Facility, Campus Police/ Emergency Dispatch should be notified by dialling 911 from any campus phone.

2.3 The Level 1 or 2 MRI Personnel present at the time of the incident is/are responsible for following the Emergency Code Blue Procedure as outlined below. The procedure is very explicit and is posted beside the 3T and 7T MRI phones. A first floor hospital security door “**LINK RELEASE**” button can be found on the wall in the Zone III Patient Preparation area.

3. Emergency Code Blue Procedure

3.1 Dial **55555** and inform the Switchboard Operator:

**“ WE HAVE AN ADULT (or PEDIATRIC) CODE BLUE
at UNIVERITY HOSPITAL,
ROBARTS RESEARCH INSTITUTE
1st FLOOR MRI
via the 1st FLOOR HOSPITAL ACCESS. ”**



3.2 The Code Team will need to obtain access to the Robarts building – PRESS the “**LINK RELEASE**” button on the wall in the Patient Preparation area.



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- 3.2.1 This will release the link access doors, and the locked security access doors, for a 10-minute period.
- 3.2.2 Any subsequent presses of the “LINK RELEASE” button will extend the release period by 10 minutes from the time of the subsequent presses.



- 3.3 If possible, instruct another person to wait at the Robarts/UH link access door for the Code Team to arrive, and direct them into the 3T/7T MRI area. You may want to get help (if possible) from other lab members who are nearby at this time.
 - 3.3.1 If you are alone in the MRI Facility, or have no one to meet the Code Team, after pressing the “LINK RELEASE” button, take the orange pylons from on top of Crash Cart and throw them out the door and down the hallway. The Code Team will be looking for these pylons to help direct them to the location of the Code Blue.
- 3.4 If the volunteer/patient is in the scanner, attempt to remove them:
 - 3.4.1 Transfer the volunteer/patient from the MRI bed to the non-magnetic stretcher that is located within the Patient Preparation area by doing the following:
 - 3.4.1.1 In preparation for CPR, take the backboard hanging on the back of the Crash Cart, and place it on the MRI-compatible stretcher.
 - 3.4.1.2 Wheel the stretcher into the scanner room.
 - 3.4.1.3 Pull the bed out of the scanner using the keypad, or if necessary by pressing the red Emergency Stop button and manually pulling the bed out using the handle at the end of the bed.
 - 3.4.1.4 Remove any coils that are on the patient.
 - 3.4.1.5 Position the stretcher beside the MRI bed.
 - 3.4.1.6 Lock the stretcher wheels.
 - 3.4.1.7 Slide the person onto the stretcher using slider board.
 - 3.4.1.8 Unlock the stretcher wheels and raise the sidebars of the stretcher to prevent the person from falling off.
 - 3.4.2 Push the stretcher out of the scanner room and into the Patient Preparation area of Zone III, lock the wheels. Close the Scanner Room door behind you to prevent the Code Team from inadvertently entering Zone IV (magnet room).
- 3.5 If the volunteer/patient is not in the magnet, attempt to move them to Patient Preparation area of Zone III beside the CARDIAC ARREST CART and AED (Automated External



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Defibrillator).

- 3.6 Under no circumstances is the Cardiac Arrest Cart or AED to enter or go near Zone IV (magnet room). It has many ferrous components, and its devices may not work within a magnetic field.
- 3.7 Apply first responder principles (CPR) until the code team arrives. CPR is only effective if the patient is on a hard surface, so if the backboard isn't under the patient, transfer the person from the stretcher to the ground, or carefully roll the patient to one side and place the backboard under them.
 - 3.7.1 Do not perform mouth-to-mouth resuscitation; use the Ambu Bag provided on the cardiac arrest cart by placing the narrow end of the mask over the person's nose and the wide end over the chin.



Ambu Bag

- 3.7.2 If additional CPR-certified personnel are present, they may attempt to hook up the AED (remove the AED from its mount on the wall above the Cardiac Arrest Cart, open it up, turn on the power, and follow its instructions).
- 3.8 If you are unable to transfer the volunteer/patient onto the stretcher or remove them from the MRI bed, apply first responder principles until the Code Team arrives.
 - 3.8.1 Do NOT perform mouth-to-mouth resuscitation; use the Ambu Bag provided on the cardiac arrest cart. This device is non-magnetic and safe to use in the magnet room.
 - 3.8.2 Do NOT bring the AED into the magnet room as it contains components that may be ferrous or may not operate properly within a magnetic field.
 - 3.8.3 When the Code Team arrives, your first priority is to ensure the safety of everyone present. Therefore, ensure the Code Team does NOT bring the CARDIAC ARREST CART into the magnet room, or any other metallic objects they may be wearing.
 - 3.8.3.1 Code Team members have been trained on the safety issues of the MR environment and have completed MRI safety screening by LHSC; however, it is your responsibility to ensure that any Code Team members entering Zone IV (magnet room) are safe to do so.
- 3.9 Notify the CFMM Director, and Campus Police/ Emergency Dispatch (911), immediately following the incident. The facility staff must then file an appropriate incident report documenting the event.



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Revision Chronology		
Version Number	Date	Changes
140.01	July 28 2008	Original Version
120.02	11 May 2020	Updated Version

CFMM Director Signature: _____

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