

Centre for Neuroscience Studies

fMRI Facility

Standard Operating Procedure #06

Emergency Procedure

1. Introduction

- i. 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 size and strength of the static magnetic field along with the flexibility of the research system and associated peripheral hardware.
- ii. The static magnetic field in the 3T MRI facility is always present. It is important that all those entering the facility be aware of the presence of the field, as it cannot be detected by our person in any way, i.e. magnetic fields cannot be felt, seen or smelled.
- iii. As a result of the potential for serious injury, access to the 3T MRI Facility is restricted, and requires permission. See SOP# 01 "Authorization for Access to the 3T MRI Facility", and SOP# 02 "3T MRI Facility Visitor Approval Policy."
- iv. Working within and around the high field MRI requires in depth training on safety and Standard Operating Procedures, and documented proof of other necessary training. See SOP# 03 "Safety and Operator Training Procedures."
- v. It is imperative that all personnel who are within and around the 3T MRI facility always keep in mind the potential safety risks, and act in accordance with the guidelines set out in the Standard Operating Procedures.

2. Emergency

- i. An emergency is specifically defined as a situation in which a person requires medical attention.
- ii. The operator at the time of the incident is responsible for following the Emergency Procedure set out below. If the operator is somehow compromised, one of the experimental support personnel must follow the Emergency Procedure set out below. This procedure is very explicit and is posted on the wall.
- iii. The signs of an emergency are a person exhibiting a change in behaviour or responsiveness.
- iv. The signs of a cardiac arrest are all of the following collectively:
 - a. The person is not reactive
 - b. The person is not breathing
 - c. And the person does not have a pulse

- v. If it is noticed that someone within the 3T MRI Facility is showing signs of cardiac arrest or other emergency, the Emergency Procedure as set out below must be followed.

3. Emergency Procedure

If a person exhibits a change in behaviour or responsiveness:

OPERATOR – Stop the scan if in progress

OPERATOR – Withdraw the subject from the magnet (see SOP #10 “Exiting A Person From The Magnet In An Emergency”)

OPERATOR – Assess the subject’s condition

OPERATOR – Decide if emergency response is required

EXPERIMENTAL SUPPORT PERSONNEL – Call Queen’s Emergency: 36111

OPERATOR – Extract the person from the magnet room on the MR patient bed

EXPERIMENTAL SUPPORT PERSONNEL – Close the magnet room door

OPERATOR – Start life-saving measures as needed

EXPERIMENTAL SUPPORT PERSONNEL – Open external door and wait for Emergency Response team, and guide them to the Control Room when they arrive.