1. Introduction

The purpose of this SOP is to outline comprehensive instructions for ensuring safe MRI scanning practices. The safety of research participants, staff, and equipment is of utmost importance in MRI environments due to the powerful magnetic fields and radiofrequency energy involved.

2. Scope

This SOP applies to all research personnel (PI, research coordinator, research staff, students), conducting research in the CIRC.

3. Definition

Study Team – Faculty, staff and students.

Research Volunteer– An individual volunteering for a research project.

Parents/Guardians – A parent or legal guardian is someone who is authorized to complete the MRI Safety Screening Form and escort the research volunteer to the study.

4. Policies and Procedures

The procedures are sub-divided into before, during, and after scanning. All the subtasks in each category are outlined below.

4.1. Before Scanning

Interview research volunteer over the phone to ensure they are eligible to participate (use the phone interview questionnaire).

4.1.1. Research team members must have badge access to the CIRC before beginning a study.

4.1.2. Collect the MRI Safety Screening Form from the research volunteer, ensuring that it is signed on the day of scan.

4.1.3. If the individual is 0-17 years of age, their parents or guardians are responsible to complete the MRI Safety Screening Form.

4.1.4. If the individual has answered yes to any of MRI safety or medical history questions, discuss it with the MRI technologist before scheduling the MRI.

4.1.5. If the subject is eligible, schedule your scan on iLab using iLAB Scheduling Instruction.

4.1.6. Depending on your study, if you require a nurse or a procedure room, schedule these on iLab as well.
4.1.7. Advise the research volunteer to avoid wearing makeup on the day of the scan.

*NOTE:* The research volunteer may complete the screening form on the day of scan; however, the study team must be aware that if the MRI technologist determines that the participant is not eligible due to unsafe implants or a medical condition, the scanning will be canceled, and the study team will be charged.

4.2. On the Day of the Scan

To ensure the safety of everyone involved in the study, please adhere to the following instructions:

4.2.1. Study team is responsible for providing research volunteers with instructions regarding the visitor parking locations on campus and the entrance to the SEIR building (Figure 1).

4.2.2. Have research volunteers arrive at the CIRC (SEIR building B52) a minimum of 45 minutes prior to the scheduled MRI start time to prevent delays and disruptions to subsequent studies. Research volunteers should wait in the CIRC lobby (Zone 1 waiting area) unless accompanied by a member of the study team or CIRC staff.

4.2.3. Escort the research volunteer from the waiting area to the change room. Instruct research volunteers to remove all items (*watches, jewelry, pagers, cell phones, body piercings, cosmetics containing metallic particles such as eye makeup, magnetic eyelashes, and hair product, clothing, and underwear*), and change into scrubs (provided by the CIRC). Ensure research volunteers secure their belongings in the CIRC provided lockers.

4.2.4. Escort participant to Zone III where the MRI technologist/certified operator will review the screening form with them.

4.2.5. The MRI technologist/certified operator will perform the final safety check to ensure no contraindication.

4.2.6. The MRI technologist/certified operator or qualified research personnel will escort the participant into the magnet room (zone IV). Participant is provided with earplugs. Participant is positioned in the bore of the scanner by the MRI technologist/certified operator.

4.2.7. The MRI technologist will communicate verbally with the participant during scanning process.
4.3. After Scanning

After the scanning is finished, follow the guidelines below to ensure the safe termination of your research study.

4.3.1. The MRI technologist/certified operator or qualified research personnel will remove the participant from the bore of the MRI and out of the magnet room.
4.3.2. The participant changes back into their own clothes.
4.3.3. Ensure the research volunteer is safely guided out of the facility.
4.3.4. Ensure all the surfaces that came into contact with the research volunteer are sanitized.
4.3.5. MRI technologist/certified operator will push DICOM images to Ambra (online webpax system). If additional data is needed, it is the responsibility of the study team members to retrieve this information (or work with the technologist/operator to retrieve the information) immediately after the scan.
4.3.6. Refer to CIRC’s Service Agreement regarding data accessibility and retrieval policies to ensure compliance with all the guidelines.
4.3.7. In the case of an emergency, ensure to report the incident adhering to the instructions outlined in SOP005.

5. Document History

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<td>Original Version</td>
<td>Aida Nasirian &amp; Mike Nelson</td>
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Figure 1. Visitor parking map.