



Center for Biomedical Imaging (CBI), Boston University School of Medicine

MRI Safety Training Policy:

- 1) MRI safety Training is required for all individual who will be entering Zones 2, 3 or 4 of the CBI without an escort (see CBI zones policy for a description of the various zones). This is to ensure safety of the researchers, research subjects and personnel of the CBI.
 - a. All researchers should have completed MRI health safety screening by the Research Occupational Health Program (or its equivalent if from a different institute) before making a request for MRI safety training.
- 2) Requests for MRI Safety Training should be made to the CBI operations manager. The operations manager in consultation with the Director of the CBI will approve or deny these requests.
- 3) There are three levels of MRI Safety Training.
 - a. Basic MRI Safety Training (often referred to as level 1 in the MRI field). This level of safety training is required of all individuals requesting unescorted access to Zone 2.
 - i. This level of training is designed to give individuals a basic understanding of the MRI spaces and the risk that they are encountering in each zone. Individuals who have completed this level of training may enter Zone 2 unescorted and may escort others through Zone 2.
 - b. Advanced MRI Safety Training (often referred to as level 2 in the MRI field). This level of safety training is required of all individuals requesting unescorted access to Zones 3 & 4.
 - i. Basic MRI Safety Training must be successfully completed before Advanced MRI Safety training can be undertaken.
 - ii. This level of training is for individual who will be entering into zones 3 & 4 to either set up for a study or for cleaning up after a study has been completed.

c. Scanner Operator Training (often referred to as level 3 in the MRI field). This level of training is required for all individuals requesting privileges to operate the MRI scanning independently.

i. As is the convention in the MRI field, scan operators are expected to be responsible for the safe operations of the MRI scanner and for all of the personnel entering into MRI Zones 3 & 4.

4) Basic MRI Safety Training requires:

- a. Viewing of the Philips Medical Systems MRI safety video
- b. Review of the CBI policy on access, zones and MRI privileges
- c. Site specific orientation highlighting the various MRI Zones and spaces.
- d. Site specific orientation to include an overview of emergency response procedures in the event of a fire, quench or other emergency events.
- e. Site specific orientation to include an overview of responses to procedures in the event of non-emergency events such as HVAC system failure or water leaks.

5) Advanced MRI Safety Training requires:

- a. Completion of all components of Basic MRI Safety Training
- b. Viewing of the ISMRM/SMRT advanced MRI Safety Video (<http://www.ismrm.org/smrt-advanced-mri-safety-video/>)
- c. Successfully passing the ISMRM/SMRT test for Certificate of Participation for the advanced safety video.
- d. Orientation to subject screening and subject preparation
- e. Orientation to the MRI scan room and MRI equipment (i.e. coils, "squeeze ball" hearing protection etc.) and the proper handling of these devices.
- f. Emergency Procedures Training: Instructions in procedures related to emergency situations involving medical emergencies or those presenting an immediate threat to human life or to the facility infrastructure.
- g. Orientation on the Philips Quench buttons and on the procedure for the evacuation of a subject during an adverse event.

6) Scanner Operator Training requires:

- a. Completion of all components of the Basic MRI Safety Training and the Advanced MRI Safety Training.
- b. Minimum of 8 hours of shadowing an approved MRI scanner operator performing MRI operations
- c. Additional minimum of 5 hours of shadowing an approved MRI scanner operator using the same MRI sequences that the Trainee will be using.
- d. Overview of MRI artifacts and corrections.
- e. Overview of MRI system start-up and shutdown procedures
- f. Overview of MRI system add-ons such as "patches"
- g. Overview of MRI system access levels (i.e. clinical mode, service mode and clinical science modes)

- h. Overview of required clean-up after each study's use.
- i. Orientation to MR equipment room and power supply
- j. Supervised execution of routine scanning procedures
- k. Overview of study specific incidental finding protocol.

7) Exceptions can be made at the discretion of the Director for individuals who have appropriate training/experience at other facilities.