



In case of a medical emergency (such as cardiac or respiratory arrest) within Zone IV, MR personnel should immediately initiate basic life support or CPR as required by the situation while the individual is being emergently removed from Zone IV to a predetermined, magnetically safe location such as Zone II.

Zone IV (the scanner room) must be locked at all times when an MR technologist is not present.

MR PERSONNEL AND NON-MR PERSONNEL

MR Personnel

At each MR facility, Radiology Administration should carefully assess and determine who needs regular *unescorted* access within Zones III or IV, whether to provide regularly patient care or to work periodically on the MR equipment. Once identified, these individuals must complete MR safety training that is approved by the MR Medical Director. Such training must be completed annually and may be in the form of a live or pre-recorded presentation. (Radiology Administration is responsible for maintaining training documentation.)

Individuals who complete the annual MR safety training approved by the MR Medical Director are designated as *MR personnel*. There are two levels: Level 1 and Level 2 – and a list of these individuals should be kept in MR Zone III for quick reference to ascertain that their MR safety training is up-to-date.

Level 1 MR Personnel

Level 1 MR personnel are those individuals who have completed basic MR safety education to ensure their own safety as they work within Zones III and IV. Accordingly, they are permitted *unaccompanied* access throughout the MR Control Area and the MR Scanner Room, respectively. They are also explicitly permitted to be responsible for accompanying non-MR personnel into and throughout Zone III, excluding Zone IV. However, **Level 1 MR personnel are not authorized to admit, or be designated responsible for, non-MR personnel in Zone IV.**

Examples of Level 1 MR personnel may include MR operations assistants or other Radiology team members charged with escorting patients through Zone II and into Zone III. Other examples include service engineers, cryogen suppliers, and consulting physicists who have been acknowledged by Radiology Administration and allowed to work in Zone IV even after routine business hours.

Level 2 MR Personnel

Level 2 MR personnel have been trained more extensively and educated in the broader aspects of MR safety, including topics like potential thermal burns to patients. The Medical Director is responsible for identifying those individuals who qualify as Level 2 personnel.



Only MR technologists are designated as Level 2 MR personnel. As such, only MR technologists are authorized to admit non-MR personnel into Zone IV. Furthermore, they are responsible for supervising all non-MR personnel in Zone III or IV.

In the event of a shift change or break for lunch or dinner, no Level 2 person may relinquish his/her responsibility to supervise non-MR personnel still remaining within Zone III or IV until such supervision has been formally transferred to another Level 2 person.

Non-MR Personnel

Non-MR personnel include patients, accompanying family members, and medical staff members such as nurses, anesthetists, or respiratory therapists who may be required periodically to monitor patients undergoing MR scans. These individuals must be under the immediate supervision of and in visual or verbal contact with one specifically identified MR technologist for the entire time they are in Zone III or IV.

SCREENING OF MR PERSONNEL AND NON-MR PERSONNEL

Just as patients enter the magnet bore to undergo an MR scan, non-MR personnel may also enter the bore of the MR scanner during the imaging process. For example, a mother may lean into the magnet to comfort her crying child undergoing a scan. Likewise, a respiratory therapist may lean into the bore to manually ventilate a patient undergoing a scan. All non-MR personnel wishing to enter Zone III must first complete and pass the MR safety screening process. The screening process that utilizes written screening forms is basically the same for MR and non-MR personnel. However, the patient questionnaire is longer, and requires more detailed medical history information.

All screening records must be maintained by each facility. Empty responses on the screening forms are unacceptable – each question must be answered with a “YES” or “NO” and specific information must be provided as requested on the form. Furthermore, whenever possible, each form must be signed appropriately – by the patient/guardian or the MR/non-MR person undergoing screening and by the screening MR staff member(s).

While the patient screening forms must be scanned into PACS, the screening records of MR personnel and non-patients may be conveniently organized in a loose-leaf binder or notebook. If any person other than the patient wishes to enter at least Zone III, the MR technologist should cross-check the notebook to attest that the person has been screened properly within the past year and that nothing has changed since he/she completed the form. Otherwise, he/she cannot enter Zone III or IV without completing a new form and being cleared by the MR technologist.

Authorization to Perform Safety Screening

Only Level 2 MR technologists and Level 1 MR personnel with additional training related to screening (i.e., operations assistants who have been trained to screen by a Level 2