



# Center for Imaging Research Standard

## MRI CHANGING PROCEDURE

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Category: Center for Imaging Research Standard

Procedure #: CIR.SOP.6HS

Applies to: MRI patients and participants, study staff, MRI staff

### **PURPOSE:**

Establish processes that must be followed before entering the MRI environment. Including when a patient has a non-removable personal belonging (e.g., jewelry, piercings, devices, or accessories) to ensure the patient may be scanned without risk of burn or injury.

### **DEFINITIONS:**

- Bovine Magnet: department supplied handheld magnet
- CIR: Center for Imaging Research
- Magnetic Environment: The area where the magnetic field is greater than 5 gauss resulting in:
  - The potential for objects to become missiles or projectiles as they are attracted into the magnetic field of the scanner.
  - The potential to interfere with the functioning of electronic devices like pacemakers, medicine pumps, and other critical devices.
  - Individuals who may have cardiac pacemakers or other implants and devices, or who are carrying magnetic items may be at risk to enter the magnetic environment. The magnetic field is always present and is three dimensional around the scanner. This lies within Zone IV.
- Zone III: An area that has direct access to Zone IV. Entry is limited to only-MR personnel and non-MR personnel who have been screened by level 2 MR personnel. Non-MR personnel must always be observed by level 2 MR personnel. Zone IV: A highly regulated area that contains the MR unit. No non-MR personnel are allowed in this area without the direct supervision of level 2 MR personnel.

### **POLICY:**

- A. Prior to the MRI appointment patients will be notified of the need to change into clinic provided MRI safe attire. This will require but is not limited to the removal of clothing, undergarments, hair clips, handheld electronic devices, jewelry, wallet, and keys.
  - a. Any electronic wearables (ex. rings or watches) must be removed.

- b. Signage will be posted in the changing rooms reminding patients of items that need to be removed prior to entering Zones III and IV.
  - a. Patient and participant personal handheld electronic devices will not be allowed into Zone III.
- B. Patient/Participant is responsible for the removal of their own jewelry. CIR staff are not permitted to assist in the removal of the object but may provide patients with an object to aid in removal.
  - a. The Center for Imaging Research cannot be held responsible for lost or damaged jewelry on the premises. Patients and participants are encouraged to leave valuable jewelry at home or store it in the clinics secure changing room lockers.
    - i. If a person declines to remove their jewelry, the technologist will proceed to perform a risk assessment. Education on the risks of proceeding will be provided to the patient.
      - 1. If the person declines to proceed, the appointment will be canceled, and reason will be documented in the appointment notes in Epic or by study staff.
      - 2. If the risk assessment provided is deemed unsafe to proceed, for documentation purposes, under *Procedures* follow section "B", subsection "a" below.
      - 3. If the risk assessment provided is deemed safe to proceed, for documentation purposes, under *Procedures* follow section "B", subsection "b" below.

## **PROCEDURES:**

- A. Assess the shape and configuration of the object that cannot be removed
  - a. If it is a closed loop, the object must be removed prior to MRI scanning, except for a wedding band/ring located on the hand, smaller than 3 cm.
  - b. Assess the object using the approved "bovine" magnet for ferromagnetic properties by touching the object with the magnet
    - i. If it displays any ferromagnetic attraction, the object must be removed prior to MRI scanning. If there is any question as to safety, consult a MRSO.
    - ii. Regarding a clinical patient, if still unsure, Technologist is to follow Froedtert policies for final determination of safety risks and approval for scanning.
- B. Document the Occurrence
  - a. If there is refusal or inability to remove ferromagnetic or looped jewelry, the appointment will be canceled. The technologist must document the reason in the appropriate place as follows.
    - i. Clinical Patients: Their appointment notes in EPIC

- ii. Research Participant: The cancellation event notes in iLab and with the study team.
- b. If the object is found to be non-ferromagnetic and does not contain a closed loop, the object is permissible in the MRI environment. When applicable the technologist should document as follows:
  - i. Clinical patients: Document the location of this object within the "Other Implant Details" section of the NMR dot-phrase. (Example: non-ferromagnetic dermal piercing)
  - ii. Research participants, document the location of this object and testing completed along with the completing Technologists initials on the MR Screening Safety Form.

C. Provide patient with emergency squeeze-ball.

- a. Instruct the patient to squeeze the emergency squeeze ball if they feel any warmth or unusual sensation
- b. If Technologist is informed of warmth or a sensation, Technologist is to remove the patient immediately from the scanner and assess the site for any redness or irritation. An ice pack will be provided to the patient or participant and follow up with a provider will be recommended.
  - i. If a Safety Event occurs, the scanning Technologist is to follow the MR Safety Standard [INSERT HERE].

***Approval Date:***

***Effective Date:***

***Review Due:***

***Revision History:***

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