	Policy Title: Practice and Procedures MRI Screening of Participants
	Date Created: Dec 19, 2019 Updated:

Objective

The MRI Screening of Participants policy must be followed to screen and ensure participant and personnel safety in the MRI Unit.

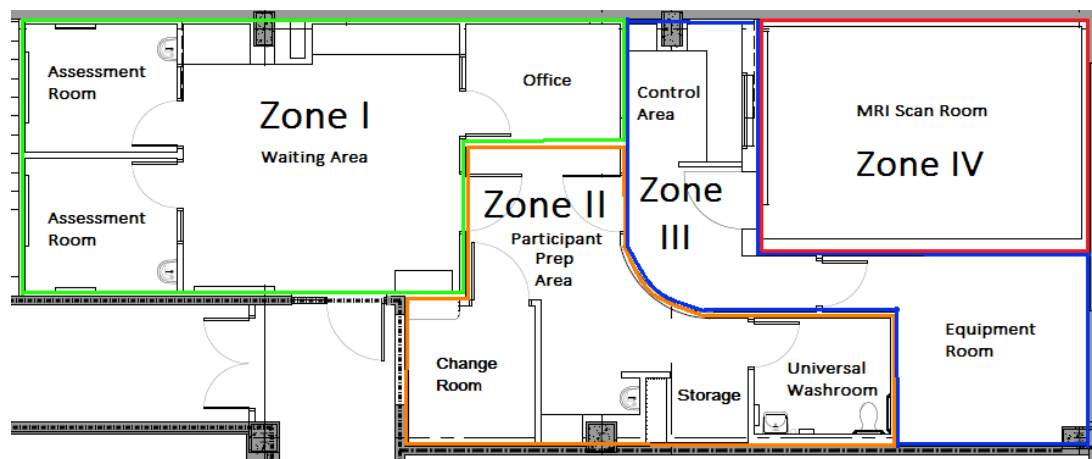
Definitions

Zone I: Readily accessible areas by the general public outside MR environment (waiting room)

Zone II: Area between Zone I and Zone III where individuals are supervised by MR personnel (participant prep area)

Zone III: Restricted transition area between Zone II and Zone IV that is supervised and controlled by MR personnel (control room and restricted waiting area)

Zone IV: Area controlled and strictly supervised by Level Two MR personnel. This is a potentially hazardous area with presence of very strong magnetic fields. (MR Scan Room)




Level Two MR Personnel: Individuals who work in MR environment and have extensive education on MR safety issues that is renewed on a yearly basis (i.e., MRI Technologist, MR Physicist)

Level One MR Personnel: Individuals who work in MR environment that have completed and passed minimum MR safety education (administered by a Senior MRI Technologist certified in MR safety) that is renewed on a yearly basis. (e.g., Clinical Coordinators, Research Assistants, Imaging Analyst)

Authorized non-MR Personnel: Staff that enter the MR environment occasionally and have completed and passed minimum MR safety education (administered by a Senior MRI Technologist certified in MR safety) that is renewed on a yearly basis. (e.g., building-services staff)

Visitors: Any person other than the MR and non-MR personnel specified above

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Access to MRI Unit: The personnel listed above will be provided with electronic and key access to MRI Unit. The MRI Technologist will also have key access to the MR scan room (Zone IV). For emergency access to the MR scan room, a key will be stored in a breakable glass case located in the MR control room

Policy

All individuals entering the Magnetic Resonance (MR) environment must be screened by authorized personnel due to the potential hazards from the strong magnetic field, changing gradient field and radio frequency field. Access to Zone IV is strictly controlled by Level Two Personnel.

Procedure

Scheduling

Before participants are to be scheduled, they are to complete and submit the MRI Screening form. An appointment will only be booked with a completed form. On the day of their MRI scan, the MRI technologist will review the MRI screening form with the participant and/or a family member. The MRI technologist will investigate any forms that indicate implants, surgeries, or other concerns that may contraindicate the participant from having a MRI. Should the participant have any implants, documentation about the implant will be required. Participants with any contraindications will not be scheduled.

Any participants that have had a penetrating eye injury with metal must undergo orbital x-ray to rule out any foreign bodies in the eye. Documentation of previous orbital screening may be accepted as long as the participant has not had any other eye injury since then.

Participants with Implants

Participants with implants in their body will require MR compatibility and safety information on the implant. Written documentation provided must indicate:

1. Type and location of implant
2. Date implant was inserted
3. Implant model number
4. MR safety category
5. Implant manufacturer MR safety information (if any)

MR safety categories are:

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1. MR Safe - An object that is safe for the participant and is not associated with any known hazards in MR environments. These objects have undergone testing to demonstrate they are safe or are made of non-conducting, nonmetallic and nonmagnetic e.g. plastic, silicone and glass.




2. MR Conditional – An object that is not associated with any hazards for a participant undergoing an MR procedure or an individual in the MR environment depending on specific conditions of use. The object’s specific use may be limited to magnetic field strength, spatial gradient and scan delay time post implantation.



3. MR Unsafe—An object that is known to pose hazards in all MR environments.

Participants with questionable implants will not be scanned. Some implants that are safe may cause significant artifact that may render the participant unsuitable for the study.

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Safety Exclusions for Participants

Conditions that Rule Out a Participant	Conditions that Might Rule Out a Participant	Other Screening Considerations
Cardiac Pacemaker	Ear Implants	Claustrophobia
Surgical Aneurysm Clips	Metal Rods, Plates or Screws	Physical Discomfort
Neurostimulator	Injury to Eyes Involving Metal	Movement Disorders
Implanted Pumps	Previous Surgery	Vision/Hearing Problems
Metal Fragments in Body/Eyes	IUD	Problems Using Response Devices
Pregnancy	Hearing Aids	
Nitroglycerin Patch	Dentures	
Certain Cochlear Implants	Prosthetic Heart Valve	
Weight >440lbs	Braces	
	Hair Extensions	
	Tattoos or Permanent Eyeliner	
	Nicotine Patches	


Day of Exam

On the day of the participant's MRI scan, the screening form that they have completed will be reviewed by the MRI technologist with the participant to verify all the questions are correctly answered and relevant medical history has been disclosed. The participant (or legal guardian) and the MRI technologist must sign and date the form in the space provided before being admitted to Zone IV. Any new information presented about the participant's medical history that could make them ineligible for the scan will be at the discretion of the MRI technologist. The scan may be postponed until more information is obtained if there are any questions about the safety of the participants.

Participants will be provided a set of hospital clothing and are required to change into them for their exam. All metallic objects and electronic devices such as mobile phones, hearing aids, jewelry, watches, hair pins, and rings must be removed.

If there is a chaperone for the participant that must be present in the scan room, they will be required to complete the MRI screening form and remove all personal items from their pockets as outlined in the MRI Screening of Visitors and Personnel Working in the MRI Unit Policy.

Example of items not to bring or wear in MRI Scanner

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- ANYTHING in your pockets
- Metal jewelry (face and body piercing items should be removed)
- Watches
- Hair accessories
- Eye glasses
- Metal on or in clothing (metal buttons, snaps or trimming, underwire bras, belt buckles, metallic fibers)
- Eye shadow (many contain metallic specks that can heat up)

Access Restriction

The door to the scan room (Zone IV) is to remain closed at all times and must be locked if the scanner is not in operation of there is no Level Two Personnel present.

References

ACR Guidance Document for Safe MR Practices: 2013. JOURNAL OF MAGNETIC RESONANCE IMAGING 37:501–530 (2013)

Shellock, F. G., Magnetic Resonance Procedures: Health Effects and Safety, Pre-Magnetic Resonance Procedure Screening, 2009