



# Research MRI Safety Committee Standard

## **ACCESS CONTROL TO THE MAGNETIC ENVIRONMENT**

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Category: Magnetic Resonance Imaging (MRI) Safety

Procedure #: MR.SOP. 01

Applies to: Investigators, study personnel, Medical College of Wisconsin (MCW) staff

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### **PURPOSE:**

The Medical College of Wisconsin has maintained safe MRI scanning procedures in research studies using MRI for more than 30 years. The purpose of controlling access to Zone II, Zone III and Zone IV is to prevent injury, which could be fatal, to individuals entering the area. Access control also prevents damage to equipment due to the ever present and uncontrollable attraction of objects within the magnetic field of the scanner. The purpose of this document is to describe the guidelines pertaining to points of access, personnel with access to the appropriate zones, and equipment allowed in the magnetic environment.

### **DEFINITIONS:**

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. Individuals who may have cardiac pacemakers or other implants and devices may be at risk to enter the magnetic environment. The magnetic field is always present and is three dimensional around the scanner. This environment lies within Zone IV.

MR Personnel Level 1: An individual that has received MR safety training within the past 12 months.

MR Personnel Level 2: An individual who has received **extensive** MR safety training and competency within the last 12 months.

MRI: Magnetic Resonance Imaging which uses a strong static or main magnetic field, radio frequency pulses and time varying magnetic fields or gradients to produce anatomic images, spectroscopy, angiography, and functional data (fMRI).

MRI Safety Training: The required procedure that must be completed prior to working within Zones III and IV.

Non-MR Personnel: An individual who has not received MR safety training within the last 12 months and requires supervision in the MR environment.

Safety Screening: The process of inquiring about the safety of individuals, including research subjects prior to entering Zones III and IV. Safety screening also applies to checking equipment for safety prior to being used in Zone IV.

Tesla: The unit of measurement for magnetic field strength. 1 Tesla equals 10,000 gauss.

Zone I: An unrestricted area that is accessible to the general public. This area contains no risk to the general public.

Zone II: This area is accessible to the general public under the supervision of an MR personnel level 1 or 2. This area includes the patient or participant  
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