

## Robert J Dole VAMC MRI Safety Awareness

Magnetic Resonance Imaging (MRI) facilities and hospitals have specific rules and precautions for the areas surrounding the MRI Suite. However, some general rules apply to all MRI facilities and hospitals.

The most basic and important rule is to only bring MRI-compatible equipment into the controlled access areas. All items should be tested and labeled before entering controlled access areas of the facility. The greatest type of hazard is bringing magnetic items into the MRI Suite, which can be rapidly drawn into the magnet of the scanner. This is known as the Missile Effect.

Any hand tools or housekeeping supplies used in the magnet room must be made entirely of non-magnetic material such as brass, plastic, rubber or carbon fiber. Never bring power tools or mechanical cleaners, such as floor buffers, into the MRI suite. All furniture in the controlled access areas of the MRI suite must be completely free of metal, including screws or fasteners.

Surgically implanted medical devices can be negatively affected by the magnet. Pacemakers can malfunction near the MRI scanner and aneurysm clips can be pulled out of place. The magnet can negatively affect any metallic fragments, bullets or shrapnel inside the body.

Minor emergencies in the MRI suite can turn into more dangerous situations (situations that are more dangerous) when proper procedures are not followed. During an emergency inside the MRI suite, three simple steps should be followed:

- 1) Evacuate the MRI scanner room;
- 2) Secure the room to prevent entry.
- 3) Alert a senior technologist or manager.

If the emergency involves the health of a person, such as cardiac arrest or a seizure, remove the person from the magnet room using MRI-compatible equipment before administering medical treatment. Do not attempt to resuscitate or defibrillate anyone inside the MRI scanner room.

If a fire occurs in the MRI suite, evacuate the scanner room, secure the door, sound the alarm and call 3300 for CODE RED. Once the MRI suite is evacuated, only properly trained personnel should attempt to contain the fire, using only MRI tested and approved extinguishers. Untrained or unsupervised personnel should never enter the MRI Suite. Not all firefighters or other first responders are aware of the hazardous magnetic field.

If the Missile Effect pulls an item into the scanner, a potential emergency situation may occur. Only after an object has completely settled on the magnet should a careful attempt be made to remove it. If the object cannot be removed by two people without the aid of tools, an MRI service company should be called. The service company may have to ramp-down the MRI system, which slowly reduces the strength of the magnetic field.

Pressure from released cryogen gas can force inward-swinging doors shut. If this occurs while inside the MRI suite, break the glass or a window to release the pressure. Remember, the priorities in an emergency are to evacuate the MRI suite, sound the alarm, secure the scanner room, and alert the proper personnel.

**ALWAYS SPEAK WITH MRI PERSONNEL PRIOR TO ENTERING THE MRI SUITE**

