

Introductory Clinical Magnetic Resonance Imaging Physics
Continuing Educational Course
1998 AAPM Annual Meeting
August 12-13
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MRI Safety

Thursday, August 13th, 10:00-11:00

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MRI has been used as a biologically safe imaging modality for over a decade. This allows serial studies to be performed with no concern for exposure to the radiation used in the procedure. However, several dangers do exist which can cause bodily harm and, in severe cases, death. These dangers are caused by the presence of a strong magnetic field which can exert large forces on ferromagnetic materials, strong electromagnetic fields which can interfere with electronic devices such as pacemakers, and the possibility of electromagnetic burns from overexposure to the RF source. There are also the possibility of patient distress from claustrophobia and auditory noise. All of these dangers are manageable and most preventable with appropriate siting, safety hardware, safety software, and screening by trained technologists and nurses.

Educational Objectives:

The clinical medical physicist will recognize the potential for physical, biological, and psychological injury that occurs for anyone in the vicinity of an MRI scanner, and will understand procedures that minimize risk. The clinical medical physicist will learn the FDA safety guidelines.

Upon completion of the course participants will be prepared to:

1. Identify the physical and biological safety hazards in the vicinity of an MRI scanner.
2. Advise and MRI site concerning siting strategies and procedures for minimizing risk.
3. Site FDA safety guidelines.