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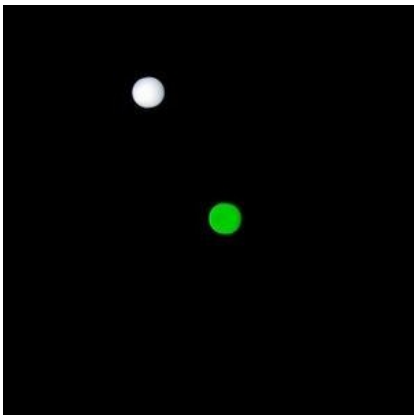
Light-Dimming MRI Safety Feature Trialled



MRI safety depends upon adequate screening for ferromagnetic material. An article published in *Clinical Imaging* describes the effectiveness of a novel supplemental screening technique wherein the lights are dimmed in response to detected ferrous metal within the restricted MRI scanning room.

Magnetic resonance imaging (MRI) offers detailed diagnostic images without ionising radiation. However, there are considerable safety concerns associated with high electromagnetic field strength. With increasing use of high and ultra high (7T) magnetic field strength, adequate patient preparation and screening for ferrous material is increasingly important.

High magnetic field strength can result in thermal burns from metallic objects placed on or in close association with a patient's skin and from patient contact with the bore. Common patient injuries have included burns associated with wires, pulse oximeters, analgesic patches, cardiorespiratory monitors, and tattoos. Screening for such objects is recommended by the Joint Commission and American College of Radiology guidelines.

See Also: MRI Safety: Professionals, Practice, Credentialing

With the novel light-dimming strategy, detectors can create a hard stop for technologists from proceeding with an exam with ferromagnetic material present. "This feature is particularly important in addressing alarm fatigue, which has been extensively documented in the medical literature," write Elizabeth K. Weidman, MD, Department of Radiology, NewYork-Presbyterian Weill Cornell, New York, NY, and co-authors.

With the lights off, the technologist and patient are not able to proceed into the MRI room and perform the examination. The technologist therefore must respond to the light dimming by exiting the room, reactivating lights from a designated safe zone, and ultimately identify the inciting ferrous material as they will be stopped again if ferrous material re-enters the room.

"The goal is that the lights off measure will serve as an additional screening safety net, less prone to human error," the authors write. By providing a hard stop for patients and technologists when ferromagnetic material is identified within the scanning room, the lights off technique establishes another layer in filtering risk and promoting safety, they conclude.

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