



ElderCare Q&A

MRI Safety & You

Q: Is it safe for everyone to get an MRI?

A: No. There are some people who should not get MRIs. Magnetic Resonance Imaging (MRI) is a powerful medical tool that plays a critical role in early disease detection, diagnosis, and treatment. MRI is a complicated process that involves a radio frequency pulse passing through strong magnetic fields. As one MRI technician has written, "The biggest and most important component in an MRI system is the magnet. Metal objects can become dangerous projectiles if they are taken into the scan room. For example, paperclips, pens, keys, scissors, hemostats, stethoscopes and any other small objects can be pulled out of pockets and off the body without warning, at which point they fly toward the opening of the magnet (where the patient is placed) at very high speeds, posing a threat to everyone in the room." In addition, patients with implants inside them can make it dangerous for them to be near a strong magnetic field. This could include metallic fragments in the eye, pacemakers, aneurysm clips in the brain, even some magnetic dental implants. Most orthopedic implants and metal staples in most parts of the body are fine. "Each time we encounter patients with an implant or metallic object inside their body," the MRI technician writes, "we investigate thoroughly to make sure it is safe to scan them. Some patients are turned away because it is too dangerous."

A recent survey by the National Council on Aging (NCOA) found that over 90% of physicians agreed that magnetic resonance imaging may be risky for patients with certain electronic implantable devices, such as pacemakers, and very few will order MRIs for these patients. NCOA's survey contacted older adults, caregivers, and health care providers to evaluate their knowledge and awareness of medical imaging safety.

The NCOA survey focused on electronic implantable device patients and their caregivers. NCOA concluded from the study that "communication about the safety of medical imaging for patients with these devices is often inadequate." NCOA says that older people with devices like pacemakers "need better information on the benefits and risks of medical imaging. Our aim is to highlight the results of this survey to increase awareness and facilitate a more productive dialogue between patients, caregivers, and health care providers."

According to NCOA, after the age of 65, a person's chance of needing medical imaging doubles, and between 50% and 75% of patients with electronic implantable devices will likely need medical imaging over their device's lifetime. The survey found that nearly a third of patients --- and more than half of caregivers --- did not recall being informed that they or the person they care for might not be eligible for some forms of medical imaging at the time the device was implanted. The survey also found that 3 in 10 electronic implantable device patients have had an MRI despite the risks, and of this group nearly 20% reported experiencing problems with their device afterwards.

The physicians surveyed by NCOA reported using clinical guidelines often. Nearly all doctors surveyed wanted more education on medical imaging and electronic implantable devices to help ensure awareness of critical guidelines. The doctors said that electronic implantable devices should not be regarded as safe for medical imaging simply because they are labeled as 'modern' or 'recently manufactured.'

The Institute for Magnetic Resonance Safety, Education and Research has issued Guidelines for screening patients for magnetic resonance procedures: "WARNING: Certain implants, devices, or objects may be hazardous to you and/or may interfere with the MR procedure (i.e., MRI, MR angiography, functional MRI, MR spectroscopy). Do not enter the MR system room or MR environment if you have any question or concern regarding an implant, device, or object. Consult the MRI Technologist or Radiologist BEFORE entering the MR system room. The MR system magnet is ALWAYS on." There is a section that lists various implants, devices, and objects to identify anything that could be hazardous to the patient undergoing the MR procedure or that may produce an artifact that could interfere with the interpretation of the MR procedure.

Consumers who are told they need an MRI should check with their doctor or specialist to resolve any concerns they have.