JOINT COMMISSION™
ELEVATING CARE. TOGETHER.

Protecting Patients and Providers in Imaging

Millions of people in the U.S. undergo radiology-based imaging tests like MRI, CT, and X-ray scans each year either for diagnostic or emergency use. Quality standards introduced by Joint Commission help to protect people from excessive radiation exposure and MRI-related injuries through requirements to support safe imaging practices.

Background

Since 2008, Joint Commission established specific accreditation standards to address MRI, CT, and fluoroscopy radiation safety.[i] In response to ongoing risks, such as MRI-related patient injuries, unnecessary or inappropriate fluoroscopy dosing, and excessive CT radiation,[ii,iii,iv] Joint Commission maintains specific requirements to promote consistent, evidence-informed protection of patients.

Standards

The imaging safety standards focus on actions to reduce MRI, CT and fluoroscopy radiation safety events. Hospitals must:

- Define and verify qualifications and education requirements for imaging services staff[v,vi]
- Have a designated leader and follow current safe imaging practices[vii,viii]
- Manage imaging safety risks through MRI environmental risk reduction, such as restriction of site access and screening of staff and patients, and adhering to best practices for CT operation, such as dosing as low as reasonably achievable (ALARA)[ix,x]
- Collect data and track and respond to incidents related to imaging safety

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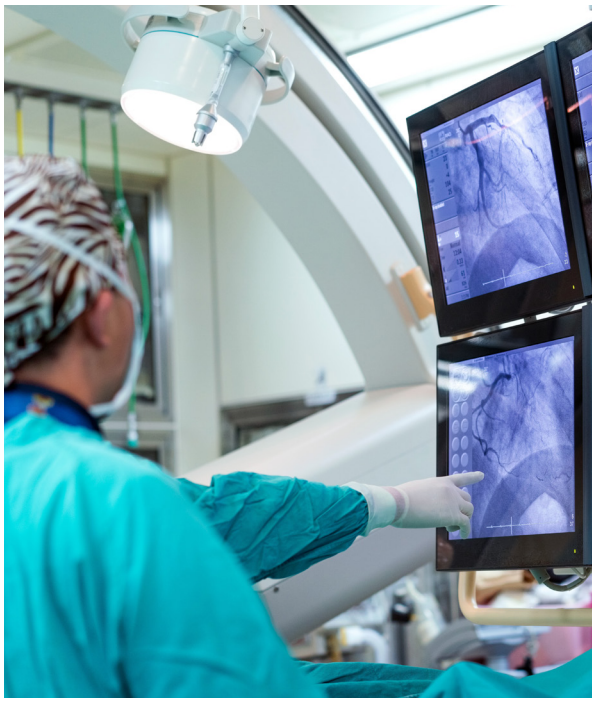
Rationale

- Published literature has documented the dangers of ionizing radiation exposure, CT radiation, and MRI safety risks. These included tissue reactions and alteration of cells and DNA that could lead to future cancers if exposure is prolonged (defined as >25% intended radiation dose), MRI-related injuries such as thermal injuries (burns), projectile events, and acoustic injuries.[xi]
- While Centers for Medicare & Medicaid Services (CMS) Conditions of Participation at 42 CFR 482.26 and 42 CFR 482.53, govern the provision of radiologic and nuclear medicine services, these *National Performance Goal™* standards go beyond the CoPs with requirements supported by multiple professional societies as essential for high-quality care given the continued occurrence of adverse events.[xii,xiii]
- As additional evidence of the continued need for emphasis on MRI pre-procedure screening, the American Medical Association recently added specific payment (CPT) codes for these activities.[xiv]



Related Activities

Joint Commission has defined Sentinel Events ("never events") that include fluoroscopy resulting in permanent tissue injury; delivery of radiotherapy to the wrong patient, wrong body region, unintended procedure, or >25% above planned dose; or patient or staff death or severe injury not related to the natural course of care (such as a burn). Accredited organizations voluntarily report these events so Joint Commission can track them and support organizations in efforts to assess and prevent them.[xv]

i Joint Commission published a sentinel event alert in 2008; however, it has since been retired and is no longer available on our website. Available on PubMed and other sites: https://radser.com/wp-content/uploads/Sen-Event-Alert-38-MRI-Safety.pdf **ii** Delfino JG, Krainak DM, Flesher SA, Miller DL. MRI-related FDA adverse event reports: A 10-yr review. *Med Phys*. 2019;46(12):5562–5571. doi: 10.1002/mp.13768 **iii** Akram S, Chowdhury YS. Radiation Exposure of Medical Imaging. [Updated 2022 Nov 14]. In: *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan. Available from: https://www.ncbi.nlm.nih.gov/books/NBK565909/ **iv** Styan T, Hoff M. The Dangers of Fabric in MRI. *Curr Probl Diagn Radiol*. 2023;52(1):6–9. doi: 10.1067/j.cpradiol.2022.07.011 **v** American College of Radiology. *ACR Manual on MR Safety* (2024). https://edge.sitecorecloud.io/americancoldf5f-acrorgf92a-productioncb02-3650/media/ACR/Files/Clinical/Radiology-Safety/Manual-on-MR-Safety.pdf (revised edition) **vi** ASTRO. Safety is No Accident. 2019 https://www.astro.org/astro/media/astro/patient%20care%20and%20research/pdfs/safety_is_no_accident.pdf **vii** Calamante F, Ittermann B, Kanal E; Inter-Society Working Group on MR Safety, Norris D. Recommended responsibilities for management of MR safety. *J Magn Reson Imaging*. 2016;44(5):1067–1069. doi: 10.1002/jmri.25282 **viii** Institute of Physics and Engineering in Medicine (UK). Position statement: Scientific Safety Advice to Magnetic Resonance Imaging Units that Undertake Human Imaging (2023). https://www.ipem.ac.uk/media/0hyj1rrv/2023-position-statement-mri-units-that-undertake-human-imaging.pdf **ix** American College of Radiology. ACR Manual on MR safety (2024). https://edge.sitecorecloud.io/americancoldf5f-acrorgf92a-productioncb02-3650/media/ACR/Files/Clinical/Radiology-Safety/Manual-on-MR-Safety.pdf **x** Guidelines for ALARA — As Low As Reasonably Achievable **xi** Delfino JG, Krainak DM, Flesher SA, Miller DL. MRI-related FDA adverse event reports: A 10-yr review. *Med Phys*. 2019;46(12):5562–5571. doi: 10.1002/mp.13768 **xii** U.S Food & Drug Administration. MedWatch: The FDA Safety Information and Adverse Event Reporting Program. Available at: https://www.fda.gov/safety/medwatch-fda-safety-information-and-adverse-event-reporting-program **xiii** Murphy, H. Yet another MRI 'freak accident' is making headlines months after it took place. Health Imaging, published September 6, 2024. Available at: https://healthimaging.com/topics/medical-imaging/magnetic-resonance-imaging-mri/yet-another-mri-freak-accident-making-headlines **xiv** American College of Radiology. ACR Coding Source: 2025 CPT Code Changes Relevant to Radiology. https://www.acr.org/News-and-Publications/ACR-Coding-Source-2025-CPT-Code-Changes-Relevant-to-Radiology **xv** Joint Commission Sentinel Event Policy. Accessible at: https://www.jointcommission.org/resources/sentinel-event/sentinel-event-policy-and-procedures/

Scan for more information on NPGs* or visit
jointcommission.org/npgs

**National Patient Safety Goals are now a part of the National Performance Goals.*