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Patient Safety Tip of the Week

April 28, 2026

Patient Safety Events in Radiology

We've published many columns (listed below) claiming that the Radiology Suite is one of the most dangerous places in the hospital. That's not because of the tests being done in that suite. It's mostly not about diagnostic errors in interpreting imaging studies or failure to adequately convey critical test results to the appropriate physician. Rather, we're talking about all the other potentially bad things that can happen to your patients while they are in the Radiology suite. Things like falls, medication errors, patient mix-ups, IV connection errors, running out of oxygen, conscious sedation incidents, suicides, and others. Patients coming to the Radiology suite are often very ill and coordination issues may impair their ability to receive much of the care they are receiving in the ICU's or on the wards. Our October 22, 2013 Patient Safety Tip of the Week "How Safe Is Your Radiology Suite?" really broke down in detail the vulnerabilities for patients in the Radiology suite.

A recent study by Baccei et al. (Baccei 2026) retrospectively analyzed 25 months of safety event reports from a large academic medical center and affiliated facilities. They found that 3.2% of total safety events were radiology-related and 2.7% involved patients. The most common categories were:

- medication & contrast (23.0%)
- communication & coordination (21.5%)
- patient handling & physical safety (19.3%)
- procedural safety (14.7%)
- equipment & environmental (9.2%)
- behavioral & human factors (6.6%)
- diagnostic accuracy & interpretation (5.8%)

Children and older adults were overrepresented in the events. Radiologists were involved in 9.3% of events, primarily in diagnostic and procedural categories. Most patient safety events (71.6%) resulted in emotional distress or no harm, with medication and contrast administration carrying the highest relative risk of patient harm.

The authors conclude that there are recurring harm patterns and vulnerable populations underlying the patient safety events occurring in the Radiology suite.

One of the most important tools to prevent some of these events is the **"Ticket to Ride" checklist**. That was originally developed when it was discovered that about half of intrahospital transports ran out of oxygen. Those "Ticket to Ride" checklists have been much expanded to include many contingencies that might be encountered during a trip to or from the Radiology suite (or any other intrahospital transport).

We hope you'll go back to our October 22, 2013 Patient Safety Tip of the Week "How Safe Is Your Radiology Suite?" for a detailed compilation of all the things that might go wrong and harm your patients in the Radiology suite. In that column we discuss vulnerabilities related to:

- Falls
- Medication issues
- Oxygenation issues
- Wrong patient, wrong site, wrong test, etc.
- Moderate/conscious sedation issues
- Monitoring issues
- IV errors
- Suicides
- Infection risks
- Pregnancy-related issues
- Pressure wounds
- Patient deterioration during prolonged waits
- Contrast-related issues
- Mishandling or mislabeling of specimens
- MRI safety
- Radiation hazards

And there are many more in all the columns listed below.

We encourage you to do Patient Safety Walk Rounds in your Radiology suite (and/or MRI suite). We can pretty much guarantee you will identify things that are patient safety vulnerabilities. Anecdotally, we often make a friendly bet with a hospital CEO or CMO that we can find 3 patient safety vulnerabilities within 90 minutes. One of those is inevitably a hazard for hanging in one of the bathrooms in the Radiology suite.

Some of our prior columns on patient safety issues in the radiology suite:

- October 16, 2007 "Radiology as a Site at High-Risk for Medication Errors"
- February 19, 2008 "MRI Safety"
- September 16, 2008 "More on Radiology as a High Risk Area"
- October 7, 2008 "Lessons from Falls....from Rehab Medicine"
- October 2008 "Preventing Infection in MRI"

- March 17, 2009 "More on MRI Safety"
- March 2009 "Risk of Burns during MRI Scans from Transdermal Drug Patches"
- August 11, 2009 "The Radiology Suite…Again!"
- January 2010 "Falls in the Radiology Suite"
- August 2010 "Sedation Costs for Pediatric MRI"
- January 25, 2011 "Procedural Sedation in Children"
- February 1, 2011 "MRI Safety Audit"
- October 25, 2011 "Renewed Focus on MRI Safety"
- March 13, 2012 "Medical Emergency Team Calls to Radiology"
- August 2012 "Newest MRI Hazard: Ingested Magnets"
- October 22, 2013 "How Safe Is Your Radiology Suite?"
- February 25, 2014 "Joint Commission Revised Diagnostic Imaging Requirements"
- July 2014 "New MRI Risks: for Staff!"
- July 1, 2014 "Interruptions and Radiologists"
- November 2014 "More Radiologist Interruptions"
- October 21, 2014 "The Fire Department and Your Hospital"
- June 23, 2015 "Again! Mistaking Antiseptic Solution for Radiographic Contrast"
- August 25, 2015 "Checklist for Intrahospital Transport"
- March 22, 2016 "Radiology Communication Errors May Surprise You"
- August 2016 "Guideline Update for Pediatric Sedation"
- October 2016 "MRI Safety: There's an App for That!"
- January 17, ,2017 "Pediatric MRI Safety"
- August 8, 2017 "Sedation for Pediatric MRI Rising"
- November 14, 2017 "Tracking C. diff to a CT Scanner"
- March 2018 "MRI Death a Reminder of Dangers"
- March 2018 "Cardiac Devices Safe During MRI But Spinners!?"
- April 2018 "Radiologists Get Fatigued, Too"
- May 2018 "Cost of Interrupting a Radiologist"
- November 2018 "OMG! Not My iPhone!"
- December 11, 2018 "Another NMBA Accident"
- April 2, 2019 "Unexpected Events During MRI"
- September 2019 "New MRI Hazard: Magnetic Eyelashes"
- October 15, 2019 "Lots More on MRI Safety"
- November 5, 2019 "A Near-Fatal MRI Incident"
- November 12, 2019 "Patient Photographs Again Help Radiologists"
- November 26, 2019 "Pennsylvania Law on Notifying Patients of Test Results"
- January 7, 2020 "Even More Concerns About MRI Safety"
- July 14, 2020 "A Thesis on Intrahospital Transports"
- August 25, 2020 "The Off-Hours Effect in Radiology"
- October 2020 "New Warnings on Implants and MRI"
- January 2021 "New MRI Risk: Face Masks"

- May 25, 2021 "Yes, Radiologists Have Handoffs, Too"
- June 1, 2021 "Stronger Magnets, More MRI Safety Concerns"
- November 2021 "Yet Another Risk During MRI"
- January 2022 "MRI Safety Issues"
- February 2022 "Managing Incidental Findings"
- June 2022 "Where Are You Barcoding?"
- July 12, 2022 "Radiologists Racked by Interruptions"
- July 26, 2022 "More Risks in the Radiology Suite"
- May 2023 "Factors Associated with Radiology Diagnostic Errors"
- September 12, 2023 "Radiology and Hospital-Acquired Infections"
- October 24, 2012 "Serious MRI Accident at Unregulated MRI Center"
- November 21, 2023 "Another Terrifying MRI Accident"
- January 2024 "Guns and MRI Don't Mix"
- June 11, 2024 "Nursing in the MRI Suite"
- August 13, 2024 "Preventing Thermal Injury During MRI"
- October 2024 "Another MRI Accident Reveals Gap in Oversight
- October 2024 "MRI Special Patient Considerations"
- October 8, 2024 "First Responders and MRI"
- April 22, 2025 "Updated ACR Manual on MRI Safety"
- July 8, 2025 "Applying Human Factors Concepts to Radiology"
- July 22, 2025 "What the Heck are LLM's?"
- November 2025 "MRI Hazards - Big and Small"
- January 6, 2026 "Here's Why Firefighters Need MRI Training"
- March 10, 2026 "The Invisible Force Podcast"

Some of our prior columns on intrahospital transports and the "Ticket to Ride" concept:

- April 8, 2008 "Oxygen as a Medication"
- November 18, 2008 "Ticket to Ride: Checklist, Form, or Decision Scorecard?"
- August 11, 2009 "The Radiology Suite…Again!"
- March 13, 2012 "Medical Emergency Team Calls to Radiology"
- August 25, 2015 "Checklist for Intrahospital Transport"
- September 1, 2015 "Smarter Checklists"
- November 2016 "Oxygen Tank Monitoring"
- February 2018 "Oxygen Cylinders Back in the News"
- May 22, 2018 "Hazardous Intrahospital Transport"
- October 30, 2018 "Interhospital Transfers"
- March 31, 2020 "Intrahospital Transport Issues in Children"
- June 23, 2020 "Telemetry Incidents"
- July 14, 2020 "A Thesis on Intrahospital Transports"
- August 4, 2020 "Intravenous Issues"
- February 2021 "Risk from Intrahospital Transfer: Healthcare-Associated Infection"
- May 25, 2021 "Yes, Radiologists Have Handoffs, Too"

- July 2021 "Unique Way to Rapidly Identify Oxygen Flow"
- April 2022 "Safety Issues in Interhospital Transports"
- January 31, 2023 "Alert on Oxygen Cylinder Use"
- June 20, 2023 "What Can Go Wrong on Intrahospital Transport?"
- November 19, 2024 "Oxygen Disruption Events"
- March 4, 2025 "Perioperative Intrahospital Transports"
- December 9, 2025 "Intrahospital Transport of Critically Ill Children"

References:

Baccei SJ, El Kaddouri B, Kifjak D, et al. Systemic Patterns of Patient Safety Events in Radiology: When, Where, and Why Things Go Wrong. Current Problems in Diagnostic Radiology 2026; Available online April 8, 2026 https://www.sciencedirect.com/science/article/abs/pii/S0363018826000733?via%3Dihub

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What's New in the Patient Safety World Archive