

Changing technology, changing risk – Part II
Patient Sandbags in the MRI Environment

Last summer we told you about a near miss involving a ventilator pulled into the core of an MRI machine. An Oregon hospital has just reported to the Patient Safety Commission that it has had a close call (near miss) involving an MRI and the use of patient “sandbags”. No one was harmed, but the reporting hospital believes that other hospitals could learn from its experience.



Why we are sharing this information: This close call was associated with a common piece of medical equipment that is found throughout the inpatient setting and some outpatient settings — sandbags. However, some “sandbags” do not contain sand, but metal pellets or other magnetic particles. Such was the case with this event.

What happened: A 10-lb sandbag was placed in a pillow case under a patient in order to support an arterial line. The patient was then taken for an MRI. After changing out all of the equipment to MRI-compatible, the patient was taken into the MRI room, at which time the bag flew from under the patient into the MRI core. Staff reported that it happened so quickly, all they heard was the sound of the bag hitting the machine. Removing the bag took 3 staff and the bag split open after being removed, revealing small black grains, similar to graphite. The sandbag was unmarked; it had no manufacturer or other identifying information.

Initial findings (based on work done by reporting hospital): The investigation of this close call is on-going, but the reporting hospital shared its initial insights:

- The sandbag was hidden in the pillow case and in the patient's bed linen; a comprehensive inspection was performed, including pulling down the sheets, but the sandbag was still missed by both the ICU and MRI staff.
- Wandering the patient was not done in this facility and is not universally applied in facilities across the U.S.
- Sandbags were added to the checklist of "not MRI-safe."
- MRI purchased MRI-compatible sandbags for those clinical situations in which a sandbag is absolutely necessary.

Additional Information:

Our review of several websites for medical sandbags showed that generally bags are unmarked and do not indicate the supplier or contents on the bag, which prevents identification of the filler used. Product information on the websites varied, and consistently had information regarding the bag material, but few provided information on bag contents.

Patient Safety Alert (February 5, 2001), the VA National Center for Patient Safety reports a similar incident with a "sand bag" filled with iron pellets and lists several recommendations. The alert is available at: <http://www.va.gov/ncps/alerts.html#2001>

MR Hazard Summary – AUGUST 2001 UPDATE, from the VA National Center for Patient Safety provides highlights and generalities of MRI hazards as well as including sources for more in-depth information. The update is available at: <http://www.patientsafety.gov/SafetyTopics/mrihazardsummary.html>

Patient Safety Advisory (September 2006), the Pennsylvania Patient Safety Authority reports incidents from New Jersey and Pennsylvania involving "sandbags" containing metal particles. They list several strategies for increasing the likelihood these bags may be identified prior to patients entering the MRI environment. The advisory is available at: http://www.psa.state.pa.us/psa/lib/psa/advisories/v3n3september2006/vol_3_no_3_sept_2006_j_sandbags.pdf

Contact us!

If your hospital has observations, or lessons to improve patient safety associated with MRIs, please call Leslie Ray at 503.224.9227. We want to encourage a discussion. In addition, we can connect you to other experts willing to analyze your particular situation. All information will be kept confidential.