

## Ferromagnetic screening prior to MRI

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Sir,

We read with interest the recent case report titled “Magnet-associated intestinal perforation results in a new institutional policy of ferromagnetic screening prior to MRI” [1]. In that paper, the authors report that in accordance with an institutional policy change, following a case of intestinal perforation after an MRI in a 5-year-old boy who ingested several round magnetic objects, all patients are screened with a ferromagnetic detector prior to the MRI scan. Subsequently, we purchased SuperWand hand-held metal detectors (Garrett, Garland, TX), which we use on some patients prior to MRI. Recently, we had a 17-month-old girl who presented for a MRI of the thoracic and lumbar spine. The localizer demonstrated significant artifact. A thorough physical examination did not reveal any foreign body on the girl. The detector was used, but it did not detect anything. The child was then sent for an abdominal radiograph, which demonstrated a round metallic foreign body that looked like a button battery in the left hemi abdomen (Fig. 1). We then focused the detector on the left hemi abdomen, but once again nothing was detected. The MRI was canceled and the referring physician was informed. The girl reportedly passed a watch battery in the stool the next day. This was confirmed by an abdominal radiograph and the girl was rescheduled for the MRI, which was obtained without the previous artifact. We tested the ferromagnetic detector on a similar button battery that was placed on a technologist’s palm. The detector was able to detect the battery when placed directly above the battery but did not detect it through the hand when the detector was placed below the hand.

We think that if one were to screen with a detector and get no response, that should not be construed as a true negative



**Fig. 1** Abdominal radiograph shows a round metallic foreign body in the left hemi abdomen

for foreign objects. Detection depends on the depth and the nature of the foreign body. At present, no ferromagnetic device has been approved by the FDA for finding foreign objects within the body.

### Reference

1. Baines H, Saenz NC, Dory C et al (2012) Magnet-associated intestinal perforation results in a new institutional policy of ferromagnetic screening prior to MRI. *Pediatr Radiol* 42:1506–1509. doi:10.1007/s00247-012-2441-z

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