



Correspondence

Re: The role of radiology in anatomy teaching in UK medical schools: a national survey



Sir— We read with interest the article by Sadler *et al.*¹ in the Journal. We are medical students at King's College London. Throughout our year 1 and 2 medical studies, we learnt anatomy by dissecting a cadaver and using projections. Some of us are undertaking an iBSc in Anatomy, Developmental and Human Biology and are learning surgical-related anatomy with the use of lectures. There is an opportunity in the second semester to perform a dissection replicating a surgical technique while also showing the relevant anatomy for that technique.

We believe that the amount of radiology in anatomy teaching is less than it should be. During some lectures, we are shown radiological images that showcase the relevant anatomy in some systems but we believe that radiology should be incorporated in to every teaching session on anatomy. The exposure to imaging and anatomy is important as this could affect the ability to interpret anatomy when using imaging for investigations as a junior doctor.

Exposure to radiology when teaching anatomy can be increased by adding images to every lecture and ensuring relevant images are shown and explained alongside the anatomy of cadavers during dissection teaching sessions. Heptonstall *et al.*² investigated the teaching time dedicated to radiology and recommended that “combining radiological resources with traditional anatomy teaching methodology in a blended approach is most beneficial”. In addition, radiologists should teach alongside anatomists, especially in the iBSc, as surgery is guided mainly with the use of images. Surgeons must work closely with radiologists to establish what they need to operate on and the best method of entry (if invasive). Dettmer *et al.*³ described that the combination of teaching surgery, radiology, and anatomy “leads to high acceptance and interest” with “improved anatomical comprehension”. This highlights the importance of direct integration.

Declaration of interests

The authors declare no conflict of interest.

References

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Re: performing MRI on patients with MRI-conditional and non-conditional cardiac implantable electronic devices: an update for radiologists. A reply



Sir—We thank Drs Bhuvu *et al.* for their interest in our article¹ and their thoughtful comments. We would like to address the concerns expressed by calling attention to the text of our article.

First, the authors are concerned that we advocate for usage of radiopaque markers on the CIED device or its leads as the sole method of device identification. Early MRI-conditional pulse generators and leads could be identified solely by radiography; this was by design so that the radiologist could sign off on the device, but, as we describe in the paper, this is currently rare, particularly due to leads not

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being radiographically identifiable. It should be noted that although there have been leads that have been reclassified as MRI conditional (as the writer notes), to the best of our knowledge, there have been no cases in which MRI-conditional cardiac implantable electronic device (CIED) equipment have been reclassified as MRI unsafe. Therefore, if the device or leads can be definitively identified based on radiography and the necessary records cannot be obtained, it would seem appropriate to use this evidence as a means to approve MRI. As the authors themselves say, imaging should not be denied to patients for whom there is good evidence that imaging can be performed safely.

On the other hand, the authors warn that “Using radiography alone may therefore lead to misidentification of a system as non-MRI-conditional, meaning that clinically important scans are unnecessarily denied to patients.” We never state that a scan should be denied based solely on radiographic identification.

The authors second area of concern is regarding the flowchart in Fig. 4 that indicates, in their words, that when the “MRI conditions cannot be fulfilled [the request is] rejected”. In fact, we were careful to not use the word “reject” in the flowchart. Instead, we used the words “Exam not approved,” indicating that when using a standard review of the case, the study should not be initially approved in this situation; rather, it requires further investigation with consideration of risks, benefits, and alternatives. The flowchart is describing a pathway via which if there are no hurdles, patients can reach the “schedule study” endpoint efficiently in routine cases, with minimal delay. It should be reiterated that for patients with CIEDs that are not labelled as being MRI conditional, the institution must decide whether these patients will be imaged and what protocol will be used. Ultimately, each institution must decide whether it is safe and feasible to image patients with non-MRI-conditional CIEDs.

We appreciate the authors other important points regarding the role of radiologists in the performance of MRI in patients with CIEDs, namely in purchasing and upgrading of MRI equipment, and in checking studies while the patient is still in the scanner room. This is particularly relevant for devices that have an autodetect feature, which resumes the device’s normal mode of operation after the patient leaves the MRI environment (e.g., Biotronic MRI autodetect function). As MRI-conditional CIED use increases and the need and indications for MRI expands, the role of radiologists in this workflow will continue to grow.

Conflict of interest

The authors declare no conflict of interest.

Reference

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Re: Performing MRI on patients with MRI-conditional and non-conditional cardiac implantable electronic devices: an update for radiologists



Sir—We read with interest the review article by Cunqueiro and colleagues regarding performing magnetic resonance imaging (MRI) in patients with cardiac implantable electronic devices¹ and are pleased to see this important area highlighted to the radiology community. With the increasing reliance of many clinical care pathways on MRI alongside expanding rates of cardiac device implantation, the demand for imaging in this patient population will continue to rise.² Meeting this clinical demand remains challenging and requires dedicated workflows, and therefore recommendations for delivering MRI to cardiac device patients are welcome; however, we are concerned regarding two of the authors’ recommendations. Firstly, that radiologists should determine MRI conditionality from a combination of patient medical records and radiographic markers on the cardiac implantable electronic device (CIED). Although pacemaker and defibrillator generators and leads may have radio-opaque markers labelling their identity, no device manufacturer currently recommends this as the method for device identification. Instead both industry and the various guidelines endorsed by radiology and cardiology national bodies recommend that medical records should always be consulted for device identification,^{3–5} with chest radiography reserved only for exclusion of abandoned/fractured leads or other contraindications to scanning. Manufacturers frequently change the classification of device components, with older (previously “non-MRI conditional”) leads often tested and re-designated “MRI conditional”. Using radiography alone may therefore lead to

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