Letter

To the Editor: The novel use of a toothpick in the Magnetic Resonance Imaging (MRI) suite

The requirement for anaesthesia services in the MRI suite are increasing, and require that the anaesthetic equipment is adequate to ensure patient safety, is MRI compatible, and has a negligible effect on image quality.1 The pilot balloon valve of a conventional endotracheal tube (ETT), and the pilot balloon springs of oral RAE tubes and some laryngeal mask airways have been implicated in MRI degradation.1–3 A twenty-five-year old male patient was operated on for haemoperitoneum. Intra-operatively, the surgeons were unable to locate and control the bleeding. They therefore closed the abdomen after packing the abdominal cavity. The patient was moved to the post anaesthesia care room after haemodynamic stabilisation. An abdominal MR angiography was planned in an attempt to identify the source of the bleeding. The patient was moved to the MRI suite after giving informed consent. The MRI suite was equipped with an MRI compatible anaesthesia machine and monitor, but the portex ETT with which the patient’s trachea was intubated had a metal spring in its one-way valve (See Figure 1 Arrow 1), and thus was MRI incompatible. Since we did not have an MRI compatible ETT we cut the inflation tube above the pilot balloon to remove it and occluded its lumen with a snugly fitting toothpick after inflating the cuff (See Figure 1 Arrow 2). The efficacy of the toothpick in occluding the inflation tube and maintaining the cuff inflation of the ETT had already been checked in vitro. The MR angiography was carried out uneventfully. After the procedure this ETT was replaced with a cuffed PVC endotracheal tube and the patient was moved to ICU. The portex cuffed ETT has a metallic spring within its one-way valve which may distort MR images. It is recommended that within the 50 Gauss line only non-ferromagnetic equipment should be used. Hence we thought it was best to use the tube as described earlier since there was no other option available to us at the time.

References:

Figure 1: Arrow 1: Tooth pick in pilot tube maintaining cuff inflation
Arrow 2: Metallic spring in one-way valve