Dr Michael E Ward, Immediate Past Chairman of the Resuscitation Council (UK) replies

There was concern on the part of the Resuscitation Council (UK) regarding the advice from the Medical Devices Agency (MDA SN 95/03),1 and the Safety Action Notice (SANSC95/03) issued by Scottish Healthcare Supplies, that the recommendation to stop oxygen flow during defibrillation would lead to hypoxia. This recommendation was responded to by a letter to the journal Resuscitation (1996;31:173) with the following advice: "that the breathing system be retained in the hands of the ventilating attendant, but disconnected from and distanced from the patient, ready to be re-attached as soon as defibrillation is completed".

It seems to us that if there have now been two reported cases,1,2 that this would suggest that the incidence of fire is a real one albeit very low. There is no doubt that 10 litres of oxygen flowing adjacent to the patient will increase its concentration and indeed the findings from Crwys supports us in this. After all, 28% concentration of oxygen at the axilla is an increase of one third over ambient, and one of the defibrillator paddles will be situated close to the axillary! Any spark resulting from poor contact will therefore have a good chance of producing a propagating flame if in the presence of combustible material. It is likely that the new edition of the Advanced Life Support Course from the Resuscitation Council (UK) will include the above recommendation. As awareness of the problem is likely to reduce the incidence. We do, however, agree that there is a risk of disconnection of the endotracheal tube, or other ventilating device, and repeat that continuing awareness of this problem through training, etc, is likely to play a significant part in prevention.

1. Lefever J, Smith A. Risk of fire when using defibrillation in an oxygen enriched atmosphere. Medical Devices Agency, 1995 (Feb). (MDA SN N 95/03.)
2. BOC Gas. Safe under pressure, 1997 (Jan).

Pre-hospital emergency rapid sequence induction of anaesthesia

EDITOR,–Graham and Meyer claim that pre-hospital emergency rapid sequence induction of anaesthesia can be safely performed by suitably trained accident and emergency (A&E) staff.1 Unfortunately, the retrospective study they base this on has serious flaws. The first is their definition of rapid sequence induction of anaesthesia. This is widely understood to mean the induction of anaesthesia with a suitably trained airway attendant after preoxygenation, the use of a rapidly acting muscle relaxant to facilitate intubation (usually suxamethonium), and the application of cricoid pressure to prevent pulmonary aspiration of gastric contents.2 In this study, however, cricoid pressure was not used during cricoid pressure in this paper. Cricoid pressure is considered an essential component of a rapid sequence induction, especially in the emergency situation where a full stomach is possible.

The second problem is that out of 26 patients described as having had a rapid sequence induction, only 64% were actually given a muscle relaxant for intubation. Some were not even given drugs that could be described as induction agents. Only 16 patients therefore should have been included in this study.

Three months’ anaesthetic training cannot be considered adequate for the safe administration of such drugs to critically ill patients. The incidence of difficult intubation in the normal population is one in 2500 with nearly nine times as many in obstetric cases.3 Indeed, in this study one of the 16 patients given succinylcholine proved impossible to intubate, was then difficult to ventilate, and required an emergency cricothotryotomy to secure the airway. The authors curiously describe this as a “lack of complications”.

Doctors working in A&E departments may be able to safely perform rapid sequence inductions in the pre-hospital setting, but this paper did not have sufficient evidence to support this conclusion.

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The authors reply

The comments made by Speirs and Webster merit further comment. We clearly stated what “rapid sequence induction” meant for the purposes of our study, and therefore for the purposes of the study, their “widely understood” definition is irrelevant. Given this fact, all 26 patients were entered into the study appropriately according to the criteria we established.

We, however, agree that cricoid pressure is an essential component of any emergency intubation drill and should be provided wherever possible. This can be difficult to perform in the pre-hospital situation, however, where skilled assistance may be limited.

It is interesting to see anaesthetists stating that three months’ anaesthetic training is not adequate for undertaking this type of work in critically ill patients. This is despite the fact that in many hospitals, suitably trained anaesthetic trainees are first on call for emergencies in A&E, the intensive therapy unit, and theatres after only three months’ training. Surely what is adequate for anaesthetists is adequate for A&E doctors.

Difficult intubation is a problem encountered frequently in A&E, certainly more frequently than the one to 2500 patients quoted. The patient who was impossible to intubate underwent cricothotomy appropriately, immediately after the failed intubation attempt. This was the appropriate next step in the failed intubation drill in the circumstances, and rapidly resulted in achievement of the desired goal, namely a secure definitive airway.

We reiterate the fact that no patient acutely deteriorated as result of these drug assisted acute pre-hospital airway interventions. As such, we feel strongly that pre-hospital rapid sequence induction of anaesthesia can be done safely by suitably trained A&E doctors.