Reply


1Northampton, UK, 2London, UK, 3Edinburgh, UK, 4Coventry, UK, 5Dublin, Ireland, and 6Norwich, UK

*E-mail: Chris.frerk@ngh.nhs.uk

Editor—Thank you for your thoughtful comments regarding the use of cricoid pressure and grading levels of evidence in the DAS guidelines paper.1

We wholly accept that there are two schools of thought on the role and benefit of cricoid pressure. While it is true that there are no large well designed studies showing improved patient safety after the application of cricoid pressure, reports of regurgitation associated with its release2 make it difficult to argue with confidence that cricoid pressure is universally ineffective in preventing this. We acknowledged that the application of cricoid pressure may make some aspects of airway management more difficult, particularly if poorly applied, but noted that any adverse effects may be easily reversed by its removal.

Cricoid pressure has been an integral part of rapid sequence induction in UK anaesthetic practice for many yr and we did debate whether we should attempt to unpick this controversial area within the guidelines paper, but decided that this was probably not within our remit and that it might detract from the overarching aim, which was to provide a strategy for maintaining effective oxygenation in the face of airway difficulty.

We welcome any debate around cricoid pressure that this iteration of the guidelines generates, but felt that clear guidance on how to proceed safely was required wherever the debate might move to in the future. The guidelines could still be followed in countries where cricoid pressure is not used routinely, but in this situation it should be remembered that there will be no additional protection against gastric insufflation/distension if mask ventilation is used before tracheal intubation. We entirely agree with the authors closing sentiment that we owe it to our patients to prove whether properly applied cricoid pressure is effective at preventing regurgitation, then use the technique appropriately or discard it.

We appreciate the comments regarding our decision not to list recommendations against levels of evidence, however our task was to create guidelines for use by the practicing anaesthetist, and feedback from DAS members was clear that they valued the narrative but well referenced style of the 2004 guidelines with simple, didactic flowcharts. The aim of the paper was to provide an airway management strategy based on available evidence without requiring individual practitioners to weigh grades of evidence in a crisis. Whether this stance changes in future versions of these guidelines will be a decision for the next revision group and the author’s comments will certainly be borne in mind.

Declaration of interest

None declared.

References


2. Gundappa N. Cricoid pressure is effective in preventing esophageal regurgitation. Anesthesiology 2003; 99: 242
doi: 10.1093/bja/aew291

Cricoid pressure - already in decline?

M. T. Gwinnutt*, J. A. Gwinnutt and D. Robinson

Liverpool, UK

*E-mail: mgwinnutt@doctors.org.uk

Editor—We read with interest the recently published Difficult Airway Society 2015 Guidelines for the management of the unanticipated difficult intubation in adults,1 and the above debate surrounding the continued inclusion of cricoid pressure (CP) as part of a rapid sequence induction (RSI).

We have recently undertaken a survey of CP use during RSI in trauma patients throughout Europe.2 An anonymised questionnaire was distributed electronically to European Trauma Course (ETC) instructors and received 411 responses. There were marked variations in the reported use of CP amongst both different countries and medical specialties. CP use was reported twice as commonly in the UK (83.1%) compared with all other countries (39.4%), with the lowest use in Denmark (12.5%). Amongst the different specialties, anaesthetists were least likely to use CP (35.6% vs 63.6%). In non-trauma patients where CP has traditionally been advocated (e.g. bowel obstruction, Caesarean section), approximately two-thirds of all respondents indicated that they would not routinely use CP. The two most common reasons cited for not using CP were a perceived lack of evidence of its effectiveness (76.7%) and making intubation more difficult (63.0%).

We believe that this study indicates a growing skepticism about the usefulness and subsequent decline in the use of CP, particularly outside of the UK. It also supports the need for more work to clarify the effectiveness of cricoid pressure, in order that
those needing to perform RSI can follow an evidence-based approach.

Declaration of interest

None declared.

References


‘Bougie-assisted’ cricothyroidotomy technique

T. Lowes*

Middlesbrough, UK

*E-mail: tlowes@doctors.org.uk

Editor—As someone who has been involved in teaching on ATLS/BATLS/Pre-hospital Anaesthesia/SF Trauma courses, I was interested to find out the reasons why the bougie-assisted ETT method was decided on as the ‘didactic scalpel technique’, when there is an alternative technique which is arguably simpler and has been widely taught for many years on trauma courses in the UK.

I was very pleased to see that the guidelines recommend the adoption of scalpel cricothyroidotomy as a technique that should be learned by all anaesthetists.¹ As described in the article, it is the fastest and most reliable method of securing the airway in a CICO situation. This has been the technique of choice for the military and in our Pre-hospital Anaesthesia course for many years, with needle cricothyroidotomy discouraged, other than in small children.

The technique for scalpel cricothyroidotomy that I have always instructed, has essentially followed the ‘4-step’ technique described by Brofeldt² in 1996 (quoted in the article): Palpate—Horizontal incision—hook—size 6.0 tracheal tube (with tracheal tube introducer in place).

The only variation on this technique has been the implement used to open the incision in the cricothyroid membrane to allow passage of the tube. The military have for some years used a purpose made (Portex) surgical cricothyroidotomy kit with small straight forceps—this is the kit that was used for almost every surgical airway performed by UK medics in Iraq & Afghanistan.

The forceps can perhaps be slightly awkward for those not used to holding them, but it seems to have worked well over the years.

Our Pre-hospital anaesthesia course used a set of trousseau tracheal dilators as the item to insert before removing the scalpel and we have had these in several in-hospital surgical airway kits I have used. They are simpler to use than the straight forceps and allow relatively easy passage of the tracheal tube.

Our special forces medics reverted to using a tracheal hook some years ago as per the original technique (hook in under the cricoid cartilage—caudal side of the incision) and this is probably the simplest and most intuitive for the anaesthetist; as sometimes described, the action is not dissimilar to lifting up with a laryngoscope in the left hand to open the hole for the right hand to insert the tracheal tube.

All three techniques can be described in the same way: Palpate—Horizontal incision—instrument in the hole (before removing the scalpel)—size 6.0 tracheal tube in the hole.

The only difference between hospitals/HEMS/Military units is the type of instrument—essentially you use what’s in the kit provided.

The cut down size 6.0 ETT was always the fall-back option if for some reason there was no tracheostomy tube available.

The bougie technique with an ETT has appeared more recently; the first reports I am aware of are in 2010 by Hill and colleagues³ from Minneapolis, who found that the bougie-assisted cricothyrotomy technique was easier and quicker when performed by inexperienced providers on anaesthetised sheep, when compared with the standard technique—this being a midline vertical incision, blunt dissection to the cricothyroid membrane, a horizontal incision in the cricothyroid membrane, a hook lifting the caudal trachea, insertion of tracheal dilators and finally…insertion of a tracheal tube.

The bougie technique was, unfortunately, not compared with the technique described in 1996 by Brofeldt (i.e. simply a horizontal incision, hook lifting caudal trachea and insertion of tracheal tube), which I would strongly wager would have been both quicker and simpler!

Other than taking slightly longer, the bougie technique has a few other issues:

Risks of perforation of the bronchial tree from over insertion of the bougie (much more likely than with oral intubation)

It requires three hands: one to stabilise the thyroid cartilage/trachea (as described in the article), one to hold the bougie still and one to railroad the ETT over the top.

There is no smooth ended tracheal tube introducer, but instead a step around the end of the tube which will potentially ‘catch’ on the cricoid cartilage.

Over-insertion of the ETT and endobronchial intubation.

None of these issues occur with the four step technique and a size 6.0 tracheal tube.