Anaesthesia, 2006, **61**, pages 962–974 doi:10.1111/j.1365-2044.2006.04755.x

REVIEW ARTICLE

# Needle *vs* surgical cricothyroidotomy: a short cut to effective ventilation

**I. Scrase**[1] **and M. Woollard**[2]

*1 Faculty of Pre-hospital Care Research Fellow, 2 Director and Visiting Professor in Pre-hospital Emergency Care, Faculty of Pre-hospital Care Research Unit, Department of Academic Emergency Medicine, Academic Centre, The James Cook University Hospital, Marton Road, Middlesbrough TS4 3BW, UK*

**Summary**

Cricothyroidotomy can be performed using three techniques. This literature review seeks to determine which is more appropriate for use in prehospital can't intubate/can't ventilate scenarios where laryngeal mask airways prove ineffective. The common approach of inserting a 14-gauge cannula and using low-pressure ventilation via intermittent occlusion of an opening in oxygen tubing (15 $l.min^{-1}$ flow) results in ineffective ventilation within 60 s or less, depending on the degree of airway obstruction. In the absence of a high degree of upper airway obstruction, ventilation can be effective if the cannula is attached to a high pressure (45 psi) jet ventilator, but such devices are rare in UK prehospital practice. A self-inflating bag used with a cuffed tube inserted through a horizontal scalpel incision provides sustained adequate ventilation, has a relatively low complication rate compared to needle cricothyroidotomy and is a skill that can be easily taught to paramedics, nurses and doctors.

*Correspondence to: M. Woollard*
*malcolm.woollard@btinternet.com*
*Accepted: 20 June 2006*

Early access to and control of the airway is one of the few prehospital interventions that has been shown to improve outcome significantly for the severely injured patient [1–4]. Cricothyroidotomy is a temporary, life-saving procedure, indicated immediately it is determined that the airway and ventilation cannot be maintained in any other

distinct treatment strategies with very different physiological effects, and that the term 'jet ventilation' is sometimes inaccurately applied to low pressure systems. The third approach is the 'surgical airway', requiring a scalpel incision through the cricothyroid membrane through which a cuffed tube is inserted into the trachea





## Needle vs surgical cricothyroidotomy: a short cut to effective ventilation

I Scrase, M Woollard

No abstract available

**Anaesthesia**
2006 vol. 61 (10) pp. 962–974

doi 10.1111/ana.2006.61.issue-10
citekey Scrase:2006p14
published Oct 01, 2006

imported ☑ Aug 27, 2008 – 10:15 PM
read ☑ Jan 23, 2009 – 01:52 PM
printed ☐ Not printed