

Solution to cross contamination issues

Laryngoscope eliminated as a vector of healthcare associated infections...

A new laryngoscope has been launched onto the market for use in anaesthesia and resuscitation. The single use, fully disposable, one piece device – the Yeescope™ – is designed by an Australian anaesthetist Dr Kevin Yee in an effort to address issues identified over many years of clinical practice. These issues include the poor standard of hygiene practised around endotracheal intubation, cross contamination of laryngoscope handles and blades, and the potential for cross infection.



Dr Yee's concerns related to contamination of the whole laryngoscope by other soiled airway equipment including oropharyngeal airways and intubation forceps, contamination of the laryngoscope handle by the dirty blade being folded after intubation, and subsequently, contamination of the clean blade by the dirty handle. Reports of cross infection attributed to inadequate laryngoscope care are summarised in the inset.

- Foweraker¹ reported four patients with *Pseudomonas aeruginosa* infections in a paediatric intensive care unit, one of which died of nosocomial pneumonia and septicaemia. The source of the infection was attributed to the laryngoscope blade, and a breakdown of cleaning procedure;

- Neal and colleagues² reported that eight babies on the one unit became colonised with a single strain of *Pseudomonas aeruginosa*, where contaminated laryngoscopes may have facilitated the infection between the babies;
- Nelson and colleagues³ reported two cases of neonatal listeriosis. Both infants were resuscitated in the same delivery room after birth, 17 hours apart, by means of a laryngoscope, suction catheter and Ambu bag;
- More recently, a neonatal intensive care unit was closed after two deaths were attributed to *Pseudomonas* cross infection following use of improperly sterilised laryngoscopes⁴.

These reports are not surprising as evidence of bacterial contamination, including multi resistant organisms⁵,⁶, occult blood^{7, 8} and residual protein⁹ contamination is well documented for laryngoscope blades and handles. Esler and colleagues¹⁰ found a varying standard of laryngoscope care in units throughout Great Britain, with 60% of units having no guidelines relating to this.

The laryngoscope is a critical instrument that may breach the mucous membrane during use. AAGBI guidelines on Infection Control in Anaesthesia¹¹ recommend that laryngoscope blades should be re-sterilised between patients, and handles should be regularly washed/disinfected and, if suitable, periodically sterilised. Single use disposable equipment will remove the difficulties of reuse and decontamination procedures, and the

use of such equipment is encouraged by the AAGBI.

The new single use one piece Yeescope™ will help to eliminate the laryngoscope as a vector of healthcare associated infections. It has a bright light to facilitate endotracheal intubation as well as ergonomic design features to minimise dental trauma during laryngoscopy.

- 1 Foweraker J E Journal of Hospital Infection 1995, 29: 315-316.
- 2 Neal T J et al. Journal of Hospital Infection 1995, 30: 315-7.
- 3 Nelson K E et al. American Journal of Diseases of Children 1985, 139: 903-5.
- 4 18th December 2006 Statement. www.whitememorial.com.
- 5 Beamer J E R, Cox R A Anaesthesia 1999, 54: 1010-1.
- 6 Simmons S A. JAANA 2000, 68: 233-236.
- 7 Morell R C et al. Anesthesiology 1994, 80: 960.
- 8 Phillips R A, Monaghan W P JAANA 1997, 65: 241-246.
- 9 Miller D M et al. Anaesthesia 2001, 56: 1069-1072.
- 10 Esler M D et al. Anaesthesia 1999, 54: 582-598.
- 11 Infection Control in Anaesthesia www.aagbi.org November 2002.



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