Airway management techniques at Royal Perth Hospital

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Introduction
Anaesthetists are expected to be proficient in a wide variety of airway management techniques. ANZCA stipulates a minimum Volume of Practice that trainees must undertake for several of these¹, however the actual number that should be performed to achieve proficiency is likely to be much higher².

To examine the current preferences in airway management and the implications these may have on trainee learning and anaesthetist maintenance of skills, we undertook a retrospective audit of airway management techniques performed at Royal Perth Hospital (RPH), a tertiary hospital in Western Australia.

Aims
1. Review the airway management techniques performed at Royal Perth Hospital (RPH), a 450 bed tertiary hospital in Western Australia
2. Consider the implications of airway management techniques on teaching and maintenance of airway management skills

Method
Approval was obtained from our Governance, Evidence, Knowledge, Outcomes committee to retrospectively review the anaesthetic charts of all patients who attended RPH theatre in one week of June 2015, as identified by our electronic Theatre Management System. The charts were examined by the authors, and data collected and analysed using Microsoft Excel version 15.0. We recorded details of the chosen intra-operative airway management technique.

Results
275 patients were identified. 3 patient files were unobtainable and 55 patients were excluded as their procedure was cancelled or did not require sedation or anaesthesia. Figure 1 shows the airway management techniques utilised. 32 patients (15%) did not require airway support (regional techniques and/or sedation only), 72 patients (32%) had a supraglottic airway device (SGAD) inserted (of which 3 were subsequently converted to an endotracheal tube), and 113 patients (52%) were intubated as their initial airway management technique (Figure 1).

Gaining (and maintaining) adequate exposure to the many techniques of performing endotracheal intubation can also be challenging. Unfortunately, documentation of the device(s) used to perform endotracheal intubation was poor (not described in 82 of 115 patients intubated as their initial airway management technique). Of those documented, 13 were intubated using conventional direct laryngoscopy (12 Macintosh, 1 Miller), 14 using a C-MAC® (variable blades), 1 using a Glidescope Titanium T4®, and 5 using a flexible intubating bronchoscope (FIB) (3 asleep and 2 awake). 4 of the 5 intubations using a FIB (including both awake intubations) were performed by registrars, which may be of reassurance for training purposes, but maintenance of skills amongst consultants must also be considered.

Conclusion
Increasing use of regional anaesthesia and LMA's poses problems for anaesthetic trainees trying to gain proficiency in airway management. However we found a higher than expected proportion of patients intubated, possibly reflecting the degree of emergency workload, type of surgery and patient comorbidity at RPH.

The high proportion of cases in which the lead airway management clinician was a consultant (37%) may also reflect this casemix, but may also be due to recent changes in staffing that have reduced the number of junior staff at RPH. This may represent an underutilised learning opportunity in our institution. Even in a high acuity setting, exposure to awake intubation (for both consultants and junior staff) remains limited.

References