

Many thanks to all of you who have taken the time to submit comments and opinions for our second 'hot topic'. Dr Elena Fernandez from Great Ormond Street has kindly provided us with an up to date summary of the topic in the editorial below.

HOT TOPIC 2: Summer/Autumn 2014

The Difficult Airway Trolley

- What's on your trolley and how is it organised?
- Does your department have a separate paediatric trolley, and one in all areas where children are anaesthetised?
- How do you manage/maintain your trolley and who is responsible for this?

EDITORIAL

The recent 4th National Audit Project of The Royal College of Anaesthetists¹ 'Major complications of airway management in the United Kingdom' included reports from 13 paediatric cases. Equipment issues were not implicated in any of these cases however the report went on to make the recommendation that *'theatres, ICU and emergency department areas where children are cared for should have advanced airway equipment rapidly available to manage airway difficulty in children'*.

There are some basics to consider when designing and setting up a Paediatric Difficult Airway Trolley (PDAT). It should be portable, clearly labelled and include a list of contents and a copy the paediatric difficult airway algorithms. If there are more than one PDAT in the hospital its contents and layout should be standardized. Paediatric equipment should be kept in a separate trolley from adult equipment. Only advanced paediatric airway equipment should be included. Flexible bronchoscopes are stored in a separate sterile cabinet. It is practical to organize the contents of the trolley following the steps of the difficult paediatric airway guidelines. A breakable seal prevents missing equipment. Means of relocation tracking like a white board enables to locate it when in use. A responsible person (ODP/anaesthetic nurse) should check and stock it regularly. All anaesthetic staff should be familiar with its contents and have experience in their use. Data collection forms allow detailed documentation of every case in which the equipment is used for audit, research and appraisal.

An international survey of experience and training with the PDAT was published in 2012². Of the 693 responders 90% were consultants and 61% worked in tertiary paediatric centres. 92% have a PDAT in their theatre suite, 98% knew its location, 59% had used it within the previous 6 months and 56% had had formal PDAT training. There was disparity between the desirability of equipment for inclusion on the PDAT and anaesthetists' confidence. A third of anaesthetist had experienced problems with PDAT equipment (20% missing, 7% unfamiliarity, 4% faulty).

Suggested Equipment to be included in the PDAT:

1. Special aids to direct laryngoscopy:

- Laryngoscope Blades (Obtuse, Polio, McCoy)
- Laryngoscope Handles (Short, narrow, and adjustable), batteries and bulbs

- Cole tubes
- Bougies and stylets
- 2. Special Supraglottic airways:**
 - Pro-Seal (sizes 1-5, introducer and deflator)
 - Intubating (sizes 3-5)
 - Igel (sizes 1-5)
- 3. Indirect laryngoscopes and adjuncts:**
 - Airtraq (laryngoscopes in all sizes, screen and camera)
 - GlideScope sheaths and stylets
- 4. Flexible Bronchoscopes adjuncts:**
 - Fiberoptic oral airways (VBM 0,2,4)
 - Fiberoptic face masks (VBM small, medium and large) and spare membranes
 - Catheter mounts and fish-eye connectors
 - Anti-fog solution
 - Suction valves
 - Cook airway exchange catheters (8-19F)
 - Guide Wires
- 5. Surgical Airway equipment:**
 - Cricothyroidotomy Set
 - Ravussin needle
 - Minitraqueostomy set
 - High Flow Ventilation System

References

1. Fourth National Audit Project of the Royal College of Anaesthetists and the Difficult Airway Society. Major complications of airway management in the United Kingdom. Report and findings. Cook TM, Woodall N, Frerk C. London, England. Royal College of Anaesthetists. March 2011. <http://www.rcoa.ac.uk/nap4>
2. Calder A et al. The difficult airway trolley in pediatric anesthesia: an international survey of experience and training. Pediatric Anesthesia 2012 Dec; 22(12):1150-4.