

DAVE

Difficult Airway Video Experience

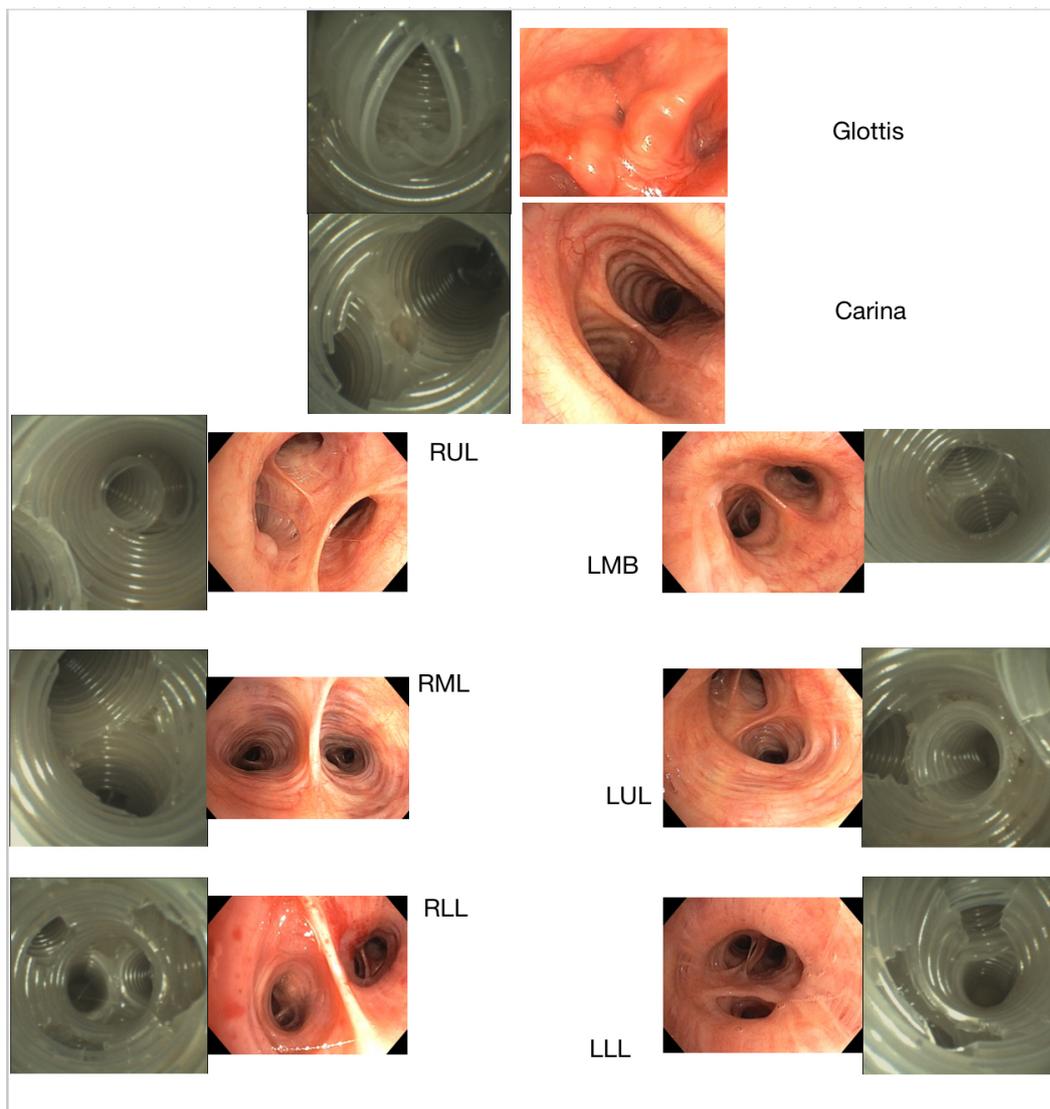
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Introduction:

Core training in a DGH means that awake fiberoptic intubation (AFOI) and bronchoscopy are often undertaken by more senior members of the anaesthetic and intensive care team. Therefore, there is a potential area for training to be enhanced through the use of simulation. Internet and supplier research suggest that fiberoptic simulators cost £2,500-£10,000; an outlay which is likely too expensive for the majority of DGHs.

Methods:

Spare ventilator tubing was used to create an anatomical bronchial tree and upper airway. This was fixed into a plastic box using expanding foam and a hole was cut allowing access to the nasal passage. A drawing representing a face and bronchial tree was attached to the front of the box as a guide. We use an out of date Ambu Scope to probe and explore DAVE. Total expenditure was £12.00.



Use:

We plan to use DAVE in teaching sessions for all anaesthetists.

Novices and SHOs can scope DAVE before and/or after witnessing an, or assisting with, a bronchoscopy or AFOI

Senior trainees, SAS and Consultants can use DAVE during update days or for focused airway teaching sessions.

Feedback so Far:

Informal feedback so far has been excellent. People feel that DAVE is anatomical and very similar to navigate in comparison with a human airway and bronchi. We have planned teaching sessions for both junior and senior groups and will gather formal feedback. Main points for improvement include the visual appearance of the model, and development of a system to identify scope location.

Future plans:

DAVE2 is already planned and in development. We aim to build a higher fidelity model using either coloured resin or 3D printing to match mucosal colouring. Electronics would be effective to show the performing endoscopist which terminal bronchus the scope is in. We would like DAVE2 to have an exchangeable larynx so that we are able to alter the difficulty of intubation. Preliminary production costs for DAVE2 lie in the region of £100.

The final end point of developing such a model is to establish an AFOI and bronchoscopy novice teaching programme as well as update sessions for more senior members of the department. We plan on making the sessions multi-disciplinary so that ODPs, ITU nurses and the theatre team can be more aware of what preparation is needed and what assistance can be given during fiberoptic procedures.