

Training in Awake Tracheal Intubation

Dr Katherine Elliott, Dr James McEwan, Dr Osgar Rylah, Dr Rebecca Sands
Background

The Difficult Airway Society (DAS) report that success in Awake Tracheal Intubation correlates with experience but due to COVID-19 training opportunities have been limited for the last year.¹ This has been a cause of concern for senior trainees approaching CCT who have been diverted from training

lists to critical care. We are pleased to have demonstrated that training in ATI does not have to be paused as demonstrated by our exceptional learning experience at Basingstoke and North Hampshire Hospital (BNHH) using ourselves, trainees, as subjects.

Methods

Trainees read and assimilated the DAS guidelines for awake tracheal intubation in adults². Local ethics approval was obtained, and trainees consented formally. Candidates were fasted in line with elective surgery protocol. All participants performed two lateral flow tests prior to the session and had received at least one COVID-19 vaccine. A COVID-19 health questionnaire and temperature assessment were performed and PPE was used throughout. The teaching took place in an operating theatre with full monitoring and resuscitation equipment and staff immediately available. Saturations monitoring was used. High flow nasal oxygen was available but largely not used, as candidates were not sedated.

Led by the BNHH Airway Lead, four advanced trainees received a short video presentation detailing anatomical considerations, techniques for topicalisation, tips and tricks for flexible intubating bronchoscopy (FB), videolaryngoscopy (VL) and combined approaches to the airway³ (a technique where both FB and VL are used together synergistically). The combined approach is the preferred technique at Basingstoke for the management of both anticipated and unexpected difficult intubation in both anaesthetised and awake patients. Having first practised FB, VL and nasendoscopy on manikins the trainees then performed airway topicalisation, nasendoscopy, laryngoscopy using FB and VL using McGrath® Mac, King Vision™ and Airtraq®. Each trainee performed and experienced a series of combined approaches to the airway including a novel combined technique for patients with very limited mouth opening.



Results

This was a superb training experience and all participants reported significant improvement in their confidence in performing these procedures, as well as in their understanding of the ergonomics and human factors essential to ATI. Clinical confidence was assessed with a 0-10 visual analogue scale, where 0 meant 'not confident to perform technique with direct supervision' and 10 meant 'would confidently perform solo'. For topicalisation, mean score increased from 4/10 to 10/10. For awake flexible intubating bronchoscopy, mean score increased from 3/10 to 8/10, and for awake combined technique, mean score increased from 2/10 to 8/10. No complications were encountered.



Discussion

Clinical opportunities to practise ATI are sparse and probably inadequate for the acquisition of skills demanded by NAP 4⁴. Using candidates as subjects was invaluable and incomparable to manikins. It allowed time for experimentation, leading to vast increases in participant confidence in both performing ATI and their ability to explain and adequately consent patients for the procedure. These gains are attributable in part to participants having experienced each procedure. We hope that other centres will consider providing inspirational educational opportunities such as this when they are able – in ATI and other areas of anaesthesia.

Acknowledgements

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1 Sneyd, J. Robert, et al. (2020), The impact of the COVID-19 pandemic on anaesthesia trainees and their training. *British Journal of anaesthesia*, 125 Vol 4: 450-455. <https://doi.org/10.1016/j.bja.2020.07.011>

2 Ahmad, I., El-Boghdadly, K., Bhargath, R., Hodzovic, I., McNarry, A.F., Mir, F., O'Sullivan, E.P., Patel, A., Stacey, M. and Vaughan, D. (2020), Difficult Airway Society guidelines for awake tracheal intubation (ATI) in adults. *Anaesthesia*, 75: 509-528. <https://doi.org/10.1111/anae.14904>

3 Khan, M.F., Shamim, F., Slote, M.U., Salim, B. and Abbas, S.A. (2021), Combined use of a videolaryngoscope and a flexible bronchoscope for awake tracheal intubation when front-of-neck airway is not an option*. *Anaesthesia Reports*, 9: 12-15. <https://doi.org/10.1002/anr3.12091>

4 NAP 4. Major Complications of Airway Management in the United Kingdom. Accessed via <https://www.nationalauditprojects.org.uk/NAP4>