

# Trainee Matters

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## Multidisciplinary airway simulation workshops: ‘preparing your team for the difficult airway’

Can human factor issues be better addressed within a multidisciplinary learning environment? Would this improve team working and patient outcomes? Are these important training considerations? **Mona Thornton** discusses the experience of a multidisciplinary simulation airway workshop in the unit she works within.

Human factor issues, which include poor communication and teamwork have been identified as contributing to adverse outcomes in up to 40% of ‘difficult airway’ cases [1]. In 2015, the Difficult Airway Society published a number of algorithms to assist with such cases and recognised that, for any management plan to work, frequent rehearsals focusing on both technical and non-technical skills are necessary to improve outcomes [2]. Simulation-based training is an excellent modality to practise complex airway emergencies while avoiding any harm to patients. The importance of simulation in airway management is further highlighted by the fact that the Australian and New Zealand College of Anaesthetists included simulation-based training as part of its continued professional training requirement [3].

Traditionally, many simulation training workshops tend to be one-dimensional and involve only one speciality. However, a number of studies recently have shown that interprofessional simulation team training including multiple disciplines improve team performance [4], quality of care [5] and may improve patient outcomes [6]. Equally, designated multidisciplinary team workshops aiming to improve difficult airway management can provide an ideal platform to practise scenarios together and should include ENT surgeons, anaesthetists, and both anaesthetic and ENT theatre nursing staff. Introducing regular mandatory workshops in the workplace would allow for frequent rehearsal and maintenance of skills.

In July 2018, a collaborative multidisciplinary airway simulation course was developed and launched with the participation of the departments of ENT, anaesthesia, and perioperative nursing at the Irish Centre for Applied Patient Safety and Simulation (ICAPSS) in Galway University Hospital (GUH). A two-part module was developed to educate on all aspects of airway skills and included:

### Module 1. An advanced ‘difficult airway’ simulation workshop

Three complex airway scenarios were developed by senior consultants in collaboration with the Simulation Centre. Under supervision by a consultant anaesthesiologist and otolaryngologist, a team of four participants were exposed to each scenario. Each team comprised a specialist registrar in ENT and anaesthesia, who were accompanied by an ENT surgical nurse and anaesthetic nurse. At completion of each scenario, participants were debriefed on knowledge, technical, and non-technical skills, and all aspects of specific roles and issues relevant to the case were highlighted.

### Module 2. A practical airway workshop

This two-hour workshop incorporated five airway skills stations which were supervised by consultant specialists. The stations included (a) cricothyroidotomy (b) percutaneous tracheostomy (c) fiberoptic intubation (d) high-flow nasal oxygen therapy (e) rigid bronchoscopy. Four individual teams, again including an ENT specialist registrar, an anaesthetic registrar and



Dr Maya Contreras, Consultant Anaesthetist, demonstrating a technique in nasal fiberoptic intubation.



The simulation control room at GUH.



Dr Khalid Majeed begins a simulated clinical scenario.



A difficult airway case in the Simulation Laboratory at UNG.

two theatre nursing staff members rotated through each station, all attempting the procedure at each station.

The feedback from both training modules was overwhelmingly positive. The multidisciplinary simulation workshop specifically highlighted and emphasised individual team member roles within the evolving scenario of a difficult airway case. It also allowed all members of the team to understand the roles of their individual colleagues who would be involved in such an emergency. Demonstration and comparison of a wide variety of different challenging airway cases emphasised the variability within such cases and allowed open discussion about all aspects of management.

The decision to include all team members, both nursing and medical staff, to the practical workshop was equally to upskill all with relation to all aspects of airway management to ensure better flow and understanding of equipment and procedures. The feedback from our

nursing colleagues was overwhelmingly positive, reaffirming our commitment to multidisciplinary team workshops.

Currently we are working with our hospital management group to introduce these workshops on a more frequent basis within our department to maintain these skills and continue to rehearse for the challenging airway case.

### Summary

Simulation is a valuable tool that allows for rehearsal in preparation of 'a difficult airway' emergency. All members of the team involved in such emergencies should have the opportunity to rehearse such emergencies together to maximise patient outcomes. The multidisciplinary approach to training allows all individuals to understand their role with the team, to understand the role of other members and to develop confidence and good communication skills required for a successful outcome.



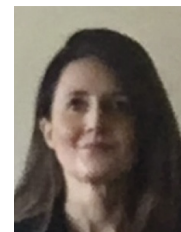
Dr Brian Harte, Consultant Anaesthetist, supervising a cricothyrotomy skills station.

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