Navigating difficult airways
'A pilot's perspective'

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Introduction:

The work pioneered by Captain Martin Bromiley (CHFG) highlighted why aviation human factors are critical in healthcare. Poor judgement and lack of training are the commonest cause of events reported to NAP4[1]. Clinical education has responded positively with novel teaching methods and curricula[2].

The Covid-19 pandemic led to the opening of 'Project Wingman Lounges' in scores of hospitals, with grounded aircrew providing 'First Class' service to NHS staff. The first of these was at the Whittington Hospital, which led to the involvement of airline pilots in a multi-specialty in-situ simulation programme, since widened to other hospitals.

Anaesthetics plays a prominent role in this programme, given their frequent interaction with other departments. Scenarios centred around difficult airways have emphasised the value of checklists, effective communication and verbalising of potential threats ('what ifs').

[1] https://academic.oup.com/bja/article/106/5/617/279879
[2] https://bjanaesthesia.org/article/S0007-0912(17)33765-0/fulltext

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Methods:

Implementation of a weekly simulation programme, with human factors feedback delivered by airline pilots. Learning points are illuminated with comparable aviation examples, and individualised written feedback is provided.

Scenarios covered include:
- Difficult Airway (DAS)
- Front of Neck Access (FONA)
- Remote site anaesthesia
- Obstetric airways
- Covid-19 pathways

Latent clinical and non-clinical safety threats identified are recorded, escalated and mitigated; before being incorporated into future sims. Continual feedback is collected from participants.

Conclusions applicable to airway management:

- **'Avoid, Trap, Mitigate' (ATM)** – the importance of briefing and the pre-emptive recognition and communication of latent safety threats in a timely manner to the wider team. Threats can include differing environments, communication barriers of full PPE, experience levels within teams, and fatigue.

- **Checklists** – exposure to checklist usage through simulation addresses the false perception that they reduce efficiency. Verbalising algorithms and airway plans raises MDT knowledge, situational awareness and team utilisation.

- **Immediate 'read-back'** - adoption of aviation-style communication into the clinical environment serves to mitigate the risks of error (drugs and critical tasks). Members of the team repeating back the instruction they have just been given, prevents any possible miscommunication, particularly when full PPE is worn and radios are being used.

- **Clinical Governance** - simulation involving in-situ airway skills without participant priming, reveals and addresses unanticipated situational challenges. This enables identification of systems and environmental factors which can adversely affect clinical outcomes. This is of particular significance when overcoming logistical and communication challenges in the continually-changing climate of the current pandemic.

References:
Brindley, P, Reynolds, S. Improving verbal communication in critical care medicine. JCC 2011
Kapur, N et al. Aviation and Healthcare: a comparative review with implications for patient safety. JRSM 2016