

DAS Interprofessional Simulation Scenario – Plan A



Scenario: Unanticipated Difficult Tracheal Intubation (Plan A)

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Learners: Anaesthetists – all grades, Airway Assistants and any other staff normally present at induction.

This scenario is designed so that all members of the airway team, regardless of profession, can practice the anaesthetic non-technical (ANTS) and communication skills required during unexpected airway difficulty, following the DAS 2025 algorithm.

Intended Learning Outcomes (ILO's):

By the end of the session the learners should be able to:

1. Demonstrate effective interprofessional clarification and confirmation of the **airway management strategy** prior to induction, ensuring shared understanding of roles, anticipated difficulties, oxygenation plans and escalation criteria.
(ANTS domains: *Planning & Preparing; Teamwork & Communication*)
2. Demonstrate **safe airway management strategy** including evidence based preoxygenation strategies
(ANTS domains: *Planning & Preparing; Teamwork, Situation Awareness*)
3. Establish and maintain a **shared mental model** regarding the evolving balance between intubation difficulty and effective oxygenation throughout the scenario.
(ANTS: *Situation Awareness*)
4. Appraise risks and benefits of continuing **intubation attempts** and apply a structured decision-making approach to modifying technique, equipment, or personnel - including timely escalation to experienced help.
(ANTS: *Decision Making; Teamwork; Leadership/Followership*)
5. Apply structured, concise, and appropriately timed communication during **handover** to arriving help, ensuring minimal interference with ongoing airway interventions.
(ANTS: *Communication & Teamwork*)

Faculty: Experienced in immersive simulation for learning and airway management. Embedded faculty member to guide scenario; role could be changed based on composition of learners. Authentic interprofessional learning will benefit from a multidisciplinary faculty.

Recommended timing: 10 min scenario + 30 min debrief

Background & Setup

Background to Scenario (for faculty): This scenario is an unanticipated difficult intubation in an ASA 2 patient undergoing an elective *cholecystectomy**. Learners are asked to induce anaesthesia and manage the airway. They will be unsuccessful in their initial attempts to intubate but **will** be able to ventilate and peroxygenate with face mask ventilation.

Specific Setup:

- Intubatable manikin
- Trolley/patient bed
- Anaesthetic machine including suction
- Pre and peroxygenation equipment including nasal cannula and high-flow nasal oxygen (HFNO) if available
- Videolaryngoscope (VL) with Macintosh and hyperangulated blades
- Airway equipment (ETT, syringe, bougie, stylet, facemask, OPA (Guedel), 2nd generation supraglottic airway (SAD), anglepiece, catheter mount)
- eFONA kit (size 10 scalpel, size 6.0 ETT, coudé tip bougie)
- Labelled syringes (induction agent, opioid, muscle relaxant, emergency drugs)
- IV cannula and IV fluids
- Copy of DAS 2025 Guidelines for Unanticipated Difficult Airway

Required Roles / Participants:

- Anaesthetist(s) - (learners or embedded faculty)
- Anaesthetic Assistant (learner or embedded faculty)
- Clinical Support Worker (learner or embedded faculty)

Briefing for Learners:

Brief to Learners:

You have been asked to take over in the Anaesthetic room. The anaesthetic consultant has to leave to assist with an emergency difficult intubation in ICU*. It is insert time of day* and there are/are not colleagues available*. The patient has been pre-assessed by your colleague and is appropriately fasted. They are in the anaesthetic room with monitoring applied and checklist completed and ready to start induction. All that is now required is a confirmation of the airway management strategy and start pre-oxygenation.

In scenario briefing:

“Thanks for coming to take over. This is Jo Smith who is a 45-year-old requiring an elective Laparoscopic cholecystectomy*. They are ASA 2, with hypertension and on Amlodipine and NKDA. No previous anaesthetics, airway assessment is MP2, good mouth opening and neck extension, jaw slide A, no reflux and has a BMI of 25. I've put a 16G cannula in, here are the drugs I've drawn up, and we've done the WHO checklist. I was going to perform a routine induction with a size 8 tube, but of course do whatever you think is most appropriate. Thanks so much for taking over, much appreciated.”

Guidance to Faculty

Guidance for Embedded faculty

You are available to support the learners to achieve the ILOs, keep the scenario on track and overcome any difficulties with simulation artefact. There are some example prompts in the template below

Simulating difficult intubation:

Ideally, we would like the participants to be able to insert the videolaryngoscope they have chosen and not be able to get a clear view of the cords. This can be difficult to achieve with most manikins, so it is important to brief them beforehand

that they will be told what intubation grade they are achieving in the scenario, and to go with this (or even use a picture of the grade they are achieving).

ILO	Scenario State	Transition Trigger (actions that will give you the material for the debrief)	Faculty Prompts (if needed)	Additional notes/debrief points
1: Airway Management Strategy Clarification	Patient Awake SpO₂ 100% RA, HR 80bpm, BP 124/88	Clarification of airway plan (may use checklist if available) Learners confirm roles, airway management strategy, escalation criteria	If no airway plan discussion: <i>"Is it ok if we quickly check the airway plan together?"</i> <i>"What's our peroxygenation strategy? Positioning? CPAP? HFNO?"</i>	Debrief: Discuss airway strategy (plan A-D), equipment choices, where/who to get help etc. Stress the importance of team clarification and shared mental model.
2: Demonstrate safe airway management strategies including preoxygenation	Pre-induction head-up position, optimal preoxygenation SpO₂ 100% RA, HR 80bpm, BP 124/88	Evidence the team optimises oxygenation (positioning, device choice, ETO ₂ target, HFNO/CPAP if available)	If not optimised: <i>"Would you like head-up/CPAP/HFNO to optimise preoxygenation?"</i>	Debrief: discuss anticipation, monitoring, and prioritising oxygenation over intubation.
3: Shared mental model: Can't intubate, can ventilate	Induction complete, first intubation attempt fails (<i>grade4*</i>) can ventilate. SpO₂ 98%; HR 90; BP 100/60; ETCO₂ 5.5. Can drop sats slightly (e.g., 98→92%) to encourage corrective behaviour / if attempts are prolonged.	Clarification and verbalisation of situation: 'This is a Failed intubation, but I can oxygenate and ventilate'. Team acknowledges position on DAS algorithm. Awareness of change in patient observations d during laryngoscopy AND resumes ventilation promptly	If no verbalisation: <i>"How is the airway at the moment – can you ventilate?"</i> If no attempt at peroxygenation with facemask ventilation between attempts: Point to box on DAS algorithm: <i>"Shall we try and ventilate with the facemask"</i>	Focus on team verbalisation of the current situation and plan - should be reassuring that we can oxygenate and ventilate. Faculty should time the intervals from laryngoscopy to declaration of difficulty – this will give objective information to discuss at debrief.

<p>4: Further attempts: Decision making</p>	<p>Failed second attempt (<i>grade 3/4 or unable to pass ETT*</i>).</p> <p>Obs stable: SpO₂ 98%; HR 100; BP 100/60; ETCO₂ 4.0. SpO₂ drifting down slightly if attempts prolonged.</p> <p>Gentle deterioration (blood in airway, ventilation slightly harder) can help trigger appropriate decision-making.</p>	<p>Discussion of how many attempts will be made, risk of too many attempts, need of meaningful change (blade, VL, stylet, ELM) and potential for 3+1 with “more experienced” help.</p> <p>Ensure patient asleep and muscle relaxation</p> <p>Ensure help has been requested</p>	<p>If there is no change in technique: <i>“Do you want me to get a different laryngoscope or blade?”</i></p> <p>If too many attempts consider prompting the guidelines, or suggesting that airway getting a bit bloody or ventilation less effective.</p>	<p>Debrief: risk of task fixation and need to prioritise oxygenation. Can also discuss the ‘gambler’s fallacy’ threat here <i>‘if I have just one more go I’ll get it in.</i></p> <p>Discuss the importance of the assistant in monitoring attempts and elapsed time as well as prompting and providing optimism suggestions and assistance. Graded assertiveness tools can be used to facilitate communication.</p> <p>Ensure team clarity about what constitutes ‘an attempt’ and can transition to plan B at any point</p>
<p>4: Help arrives-handover</p>	<p>Obs remain as above.</p> <p>Embedded faculty as expert help - ideally arrive during or between attempts to simulate real-world complexity.</p>	<p>Learners give structured, concise, appropriately timed communication during handover to arriving help</p>	<p>If mid attempt: <i>“Let’s wait until this attempt before handing over”</i></p> <p>If need direction in handover: <i>“So, is this a failed intubation but can oxygenate and ventilate situation?”</i> <i>“What have we tried so far?”</i></p>	<p>Debrief: how to be clear, concise and timely in the handover. What handover structure to use here (danger of ambiguity leading to multiple goes and turning into a can’t oxygenate situation).</p> <p>Also dangers of poorly timed handover, multiple helpers crowding, cognitive overload. Discuss strategies for this e.g. gatekeeper, closed-loop communication.</p>
<p>End scenario</p>	<p>Successful intubation on third attempt by embedded faculty OR appropriate move to SAD with oxygenation and ventilation preserved</p>	<p>Verbalise sustained ETCO₂ with a two-point check</p>	<p><i>“Shall we perform a two-point check?” ‘Is there sustained exhaled ETCO₂?’</i></p>	<p>Thank participants and end the scenario there.</p>

Suggested questions for “analysis” section of debrief:

ILO1: Making an airway management strategy

- *How did the team find the discussion of the airway strategy?*
- *What do you find are the challenges of everyone having a clear airway strategy in real clinical contexts?*
- *How do we make it easier for everyone in the team to speak up if something isn't clear in this plan?*

ILO2: Demonstrate safe airway management strategies including preoxygenation

- *If preoxygenation was felt to be inadequate, how could the airway assistant voice these concerns? (Prompting and Graded assertiveness)*

ILO3: Sharing mental model

- *How did the team stay on the same page that this was a can't intubate **can** oxygenate situation, and where you were on the algorithm?*
- *What do people do when it's not so clear in real clinical contexts?*

ILO3: Decision making on further intubation attempts

- *How do you make decisions about whether to have further attempts in these situations?*
- *What do you do if you find someone is becoming task fixated, or taking too many attempts with no changes?*
- *What are the dangers of repeated attempts? (i.e. turning this into a can't oxygenate situation)*

ILO4: Handover when help arrives

- *It looked like help arrived right in the middle of a laryngoscopy attempt; how does this affect the handover?*
- *What do you think are the most critical pieces of information to get across in this type of situation?*

Further resources / Feedback

- DAS 2025 guidelines
- AirSim Facilitators User Guide
- Human Factors Appendix, DAS 2025
- QR code for facilitator and learner feedback

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