Management of Unanticipated Difficult Tracheal Intubation

2025

DAS AirBite: Airway Assessment (15-minute teaching session for airway managers)

Background and content:

Activities:

- Review the updates relating to airway assessment in the DAS 2025 guidelines
- Perform a structured basic airway examination
- Recognise and discuss relevant history
- Discuss anatomical and physiological factors that may contribute to difficult airway management
- Discuss and review images from ultrasound and nasendoscopic airway assessment (optional)

Equipment required:

- Ultrasound / CT / nasendoscopy images (optional)

Intended Learning Objectives:

Learners should be able to:

- Perform a structured basic airway examination to identify potential predictors of difficult ventilation or intubation.
- Recognise and interpret physiological factors that may contribute to airway management difficulty.
- Apply validated airway assessment tools, including the MACOCHA and HEAVEN scores, to stratify risk and guide planning.
- Describe the role and application of advanced airway assessment techniques, such as ultrasound or endoscopic evaluation, in complex cases.

1. Airway assessment in DAS 2025 algorithm:

- Screening for physiologically difficult airway
- Identifying cricothyroid membrane during airway assessment and choosing eFONA approach
- Use of investigations to anticipate difficulty e.g. nasendoscopy, gastric ultrasound, awake videolaryngoscopy, previous imaging.
- Consider awake tracheal intubation when difficulty is anticipated

2. Basic airway assessment

Faculty demonstration and explanation of relevance of:

- Mallampati score
- Mouth opening
- Thyromental & sternomental distances
- Jaw slide
- Neck movement

Learners to practise in pairs amongst themselves

3. History and investigations

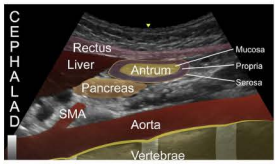
What could be relevant to airway assessment in a patient's history?

Any condition or event that alters airway anatomy or impacts airway management, for example:

- Previous difficult airway
- Previous head and neck surgery or radiotherapy
- Previous tracheostomy
- Congenital or acquired craniofacial abnormalities
- Airways disease e.g. Obstructive sleep apnoea (OSA)
- Chronic conditions e.g. rheumatoid arthritis, ankylosing spondylitis
- Symptoms of airway pathology e.g. stridor, dyspnoea

What investigations can be used for airway assessment?

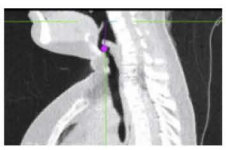
Cricothyroid Membrane (CTM) ultrasound



Gastric ultrasound

Flexible nasendoscopy

Awake VL



Previous imaging

4. Physiologically difficult airway

What is a physiologically difficult airway? What are predictors of a physiologically difficult airway?

HEAVEN criteria – predicting difficult intubation in RSI:
Hypoxaemia
Extremes of size (paediatric <8y or obesity)
Anatomical challenge
Vomit/blood/fluid
Exsanguination
Neck mobility issues

MACOCHA criteria – score >2 predicts difficult intubation in critical care
Mallampati score 3 or 4 (5)
OS**A** (2)
Cervical spine movement limited (1)
Mouth **O**pening <3cm (1)
Coma (1)
Hypoxaemia (1)
Non-**A**naesthetist intubator (1)

Follow up activities:

1. Signpost to DAS website for full guideline, algorithms and educational videos
2. Consider reviewing other DAS educational materials including Sim Drills and AirSim simulation scenarios

Feedback here: