

# Improving Airway Awareness in Critical Care

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## Background and Aim:

Over the years, managing the airway in the Intensive Care Unit (ICU) has become increasingly challenging due to obesity and patients presenting with numerous comorbidities, making intubations a high-risk intervention for clinicians (Dejong *et al.* 2015). Each year, the National Health Service (NHS) in the United Kingdom administers approximately 2.9 million general anaesthetics to manage the airway (4<sup>th</sup> National Audit Project (NAP4), 2011). This project was initiated due to airway related incidents and a serious incident leading to the death of a patient resulting in an inquest. The main aim of this project is to increase airway management awareness for critical care nurses through an education package.

## Difficult Airway Information



**Why do we need an update?**  
2023 Coroner's Case (Section 28 Regulations)  
**What does the RDH Bedside Airway Cards mean?**  
**Red, Amber, Green, Yellow/Black & supporting document**

- DAS Checklist for Intubation
- DAS Tracheal Intubation of Critically Ill Adults
- DAS Can't Intubate, Can't Oxygenate in Critically Ill Adults
- NAP4 Tracheal Tube Displacement Algorithm
- NAP4 Tracheostomy Displacement Algorithm
- NTSP Emergency Tracheostomy Management
- NTSP Emergency Laryngectomy Management

**Useful Websites:**  
NAP4 Guidelines: Major Complications of Airway Management in the UK  
DAS Intubation Guidelines  
National Tracheostomy Safety Project

**Bed 1**

Patient's Name: \_\_\_\_\_  
Preferred Name: \_\_\_\_\_  
Consultant: \_\_\_\_\_  
Nurse for Today: \_\_\_\_\_  
Today's Date: \_\_\_\_\_  
What Matters to Me: \_\_\_\_\_

**Airway Category**

Endotracheal / Nasotracheal Tube

Grade of Intubation: 1 2 2b 3 4  
Tubes Size / Brand: \_\_\_\_\_  
Length at Teeth / Maxilla: \_\_\_\_\_  
Date of Intubation: \_\_\_\_\_

MDT Plan / Airway Algorithm

Tracheostomy / Laryngectomy

University Hospitals of Derby and Burton NHS Foundation Trust

**Known or Predicted High-Risk Airway**

**Risk Factors Present for Airway Difficulty**

**No Specific Airway Concerns Except ICU Location**

**This patient has a TRACHEOSTOMY**  
There is a potentially patent upper airway (Intubation may be difficult)  
Surgical / Percutaneous

**This patient has a LARYNGECTOMY**

**No Upper Airway Due to Laryngectomy**

Plan: All attempts to ventilate must be via the tracheostomy stoma. All attempts to intubate must be via the tracheostomy stoma or new front of neck access (FONA). Anticipate or request early involvement of surgical airway specialists (ENT).

Patient: \_\_\_\_\_ Bedspace: \_\_\_\_\_ Date reviewed: \_\_\_\_\_

## National Drivers and Methodology:

The National Audit Project (NAP4) reports the number of serious complications related to airway management. For a one year period, 184 airway complication incidents were reported; 36 of these cases are from patients in ICU and 15 are from Accident and Emergency.

The NAP 4 also concludes that at least one out of the four significant airway incidents in a hospital are likely to occur in ICU or A&E. In Critical care, the rate of airway complications is more than 50 times that of anaesthesia, moreover, 61% of these patients died in ICU compared to 31% in A&E. The Difficult Airway Society (DAS, 2015) recommends that planning for a failed intubation should be included in the pre-induction briefing.

It is accepted and noted that in general, difficult airway prediction methodology is potentially unreliable. The best recent review remains the 2019 Cochrane review by Roth *et al.*, 2019. No specialist recommendations currently exist for the setting of sensitivity and specificity of warning classifications for difficult airways. Under triage may lead to harm, but so may over triage through resource diversion and adverse performance pressure effects. The psychology of mentally setting up to fail is well demonstrated. Hence, a pragmatic balanced approach highlighting of foreseeable difficulties may allow for better outcome and planning of care is sought. To aid visual identification RDH ICU has adopted a spectrum of 4 colour coded classifications of potential airway difficulty. The category and suggestions of management options for the individual patient will be displayed in the bedspace and the category and options reviewed and updated as part of the handovers, daily review and ward rounds. The patient's assigned category will be open to experience and interpretation is likely to change depending on the progression or resolution of the factors considered and the patients general state (e.g airway swelling vs oxygenation difficulty).

## The Airway Improvement Project consists of:

01. Bedspace Airway Information Board
02. Bedspace Airway Assessment Signs
03. Standardised Difficult Airway Trolley
04. Airway Simulation Study Day

## Implications for Clinical Practice:

- Improving patient safety – airway information boards and airway assessment cards can help prompt healthcare providers to assess the patient's airway and identify potential difficulties or risks/complications (Mouri *et al.*, 2023).
- Assessing the airway through an information board and airway assessment cards can help anticipate potential challenges and the healthcare team can plan the most appropriate intubation technique for the patient and can reduce airway related complications.
- A standardised airway trolley ensures all intubation equipment are readily available and is organised in a systematic manner. This can save time during an emergency and can reduce the risk of errors or delays in finding an airway equipment (Bjurstrom *et al.*, 2019).
- Airway simulation training can provide a realistic environment for nurses to manage emergency airway scenarios in a safe and controlled setting. Participants can practice hands on approaches to intubation, learn the use of different airway device and experience different scenarios fostering muscle memory, decision making, and critical thinking. Participants can experiment with different approaches, learn from errors without the adverse consequences therefore encouraging a culture of learning, reflection, and continuous improvement (Lorello *et al.*, 2014).
- Simulation sessions encourage interprofessional learning, fostering effective communication and teamwork (Xavier and Brown, 2023).

## Conclusion:

- Critical care can be a precarious place for airway management which may result to patients suffering avoidable harm.
- The recent coroner's report highlights the importance of recognising the gap in the quality of care provided in the local unit, re-evaluating current policy and clinical practice, and focusing on continuously finding ways of improving airway management.
- The potential improvement for patient safety and decreased risk of complications and litigation related to airway management are significant.