Queensland Government

Difficult Airway Alert

Support document and glossary of terms

The *Difficult Airway Alert* form has been developed with the intention of being a concise and effective communication tool regarding a difficult airway event, in order to reduce the risk of future airway morbidity in at risk patients.

The need to balance level of detail with simplicity must be recognised. This form does not take the place of a detailed pre-anaesthetic airway assessment.

This support document is intended to complement the form and clarify potential areas of confusion.

Airway Management

Difficult airway	
The term "Difficult Airway" refers to the presence of any clinically significant threat to oxygenation and/or ventilation with difficulty in any of the key domains of airway management. That is, difficult or impossible bag-mask ventilation, supraglottic airway insertion, tracheal intubation or front of neck access[1,2].	
Bag mask ventilation (BMV)	
BMV can be graded objectively by its outcome on the capnograph[3]. Record the subjective feel of mask ventilation as Easy, Difficult or Impossible and grade the capnograph (A–D). Finally, document airway adjuncts and manoeuvres utilised to achieve the best capnograph, and whether or not muscle relaxant was used.	
Supraglottic airway (SGA) ventilation	
Consider describing difficulty with placing the device(s) as well as adequacy of ventilation.	
Easy	Placement of and adequate ventilation via SGA possible with first or second selected device
Difficult	SGA ventilation clinically inadequate† or unstable despite use of two or more different devices
Impossible	Unable to place or ventilate via SGA device
†Clinically adequate ventilation: greater than 7ml. kg-1 oropharyngeal leak pressure of greater than 20cm H_2O[1,4]	
Tracheal intubation	
Easy	Direct intubation achieved easily
Difficult	Intubation required multiple attempts or additional equipment
Impossible	Intubation failed
Neuromuscular blockade	
The use of neuromuscular blockade is an integral component of airway management. Document the elements of airway management for which muscle relaxant was used.	

Bag mask ventilation

Best capnograph achieved:

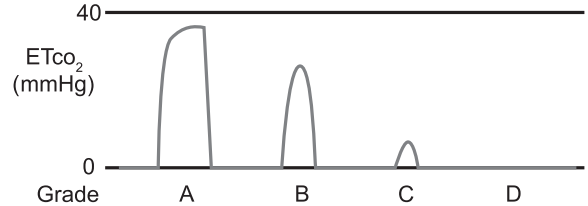

Image 1: Grading mask ventilation best capnograph
(Adapted from Lim & Nielsen. Br J Anaesth. 2016;117(6):828-9)

Grade A: plateau present
Grade B: no plateau, $ETco_2$ ≥10mmHg
Grade C: no plateau, $ETco_2$ <10mmHg
Grade D: no $ETco_2$

How this was achieved:
1 hand for mask
2 hands for mask
Oropharyngeal airway
Nasopharyngeal airway
Neuromuscular blocker

SW885

Direct laryngoscopy

Grades 1 to 4 refer to the view as described by Cormack & Lehane[5]. Where possible, please also refer to modified categorisation as described by Cook[6].

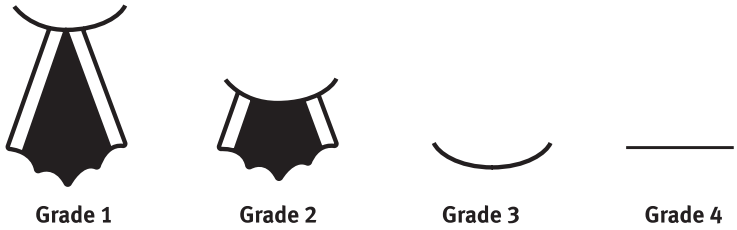

Image 2: Cormack and Lehane views (Clinical Excellence Division, Queensland Health 2018[7])

Modified C&L grade	Description	Direct laryngoscopy was
1	Most of cords visible	Easy
2a	Posterior part of cords visible	Easy
2b	Arytenoids only visible	Restricted
3a	Epiglottis visible and liftable	Restricted
3b	Epiglottis visible and adherent	Difficult
4	No laryngeal structures visualised	Difficult

Adapted from Cook. Anaesthesia. 1999; 54(5):496–7.

Videolaryngoscopy

The percentage of glottic opening (POGO) score represents the portion of the glottis visualised, having a linear span from the anterior commissure to the Interarytenoid notch[8].

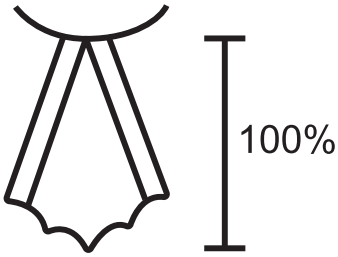

Image 3: POGO score 100% (Levitan et al. Anaesthesia. 1999; 54(10)1009–10)

Can I record my airway assessment?

Patient features contributing to difficulty (e.g. syndromes/ anatomical abnormalities) should be recorded in the free-text section addressing whether or not airway difficulty was predicted. A dedicated area to record airway assessment has not been included as this should be apparent when conducting a pre-operative airway assessment. Any conditions that are reversible or not obvious should be documented.

When should I use a Difficult Airway Alert?

Reason to report should include any clinically significant threat to the maintenance of oxygenation and/or ventilation. Consider the following suggested indications for providing an Alert.

Suggested indications for providing a Difficult Airway Alert

- Difficult or impossible **direct laryngoscopy**:
  - » C&L 4
  - » C&L 3 with difficulty passing ETT
- Difficult or impossible **videolaryngoscopy**:
  - » POGO 0% or difficulty passing ETT
- Impossible **bag-mask ventilation**
- Impossible **supraglottic airway device** placement
- Any airway difficulty requiring awakening the patient and subsequent awake intubation
- Any 'cannot intubate, cannot oxygenate' events with or without emergency front of neck access
- Any permanent space-occupying lesions or barriers with the potential risk of airway obstruction[9]
- Patients where an awake intubation technique was required as the primary airway management plan

References:

1. Bradley P, et al. Airway Assessment. ANZCA, 2016. www.anzca.edu.au/getattachment/eff1ab5d-46cf-46db-95ef-5e65ecb88c26/PU-Airway-Assessment-20160916v1
2. Baker P, et al. How do anaesthetists in New Zealand disseminate critical airway information? Anaesth Intensive Care 2013; 41:334–41
3. Lim, K & Nielsen, J. Objective description of mask ventilation. Br J Anaesth 2016;117(6):828–9
4. Kumar, CM et al. Time to consider supraglottic airway device oropharyngeal leak pressure measurement more objectively. Acta Anaesthesiol Scand 2021;65:142-5
5. Cormack R & Lehane J. Difficult tracheal intubation in obstetrics. Anaesthesia. 1984; 39(11):1105–11
6. Cook T. A grading system for direct laryngoscopy. Anaesthesia. 1999; 54(5):496–7
7. Clinical Excellence Division, Queensland Health 2018
8. Levitan R et al. A grading system for direct laryngoscopy. Anaesthesia. 1999; 54(10):1009–10
9. Shaeuble J & Ganter M. Clarifying the indications for difficult airway alert forms. Anaesthesia. 2015; 70(4):505–6

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