



GUIDELINE

Difficult Airway (Neonatal)

Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NICU KEMH, NICU PCH

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [disclaimer](#)

Aim

This guideline outlines the process and algorithm for a failed intubation / management of the difficult airway in a neonate.

Risk

A difficult airway and/or a failed intubation is a time critical situation, which can rapidly become life-threatening.

Principles

Preparedness

- **ALL** [intubations](#) and extubations should be anticipated as potentially becoming difficult airways. Therefore, you should familiarize yourself with the neonatal difficult airway algorithm prior to ANY intubation or extubation.
- In some situations, a difficult airway can be anticipated antenatally, and an appropriate Neonatal Management Plan should be in place for all anticipated complex airways in collaboration with ENT.
- Preterm infants intubated for a prolonged periods should be anticipated as higher risk for becoming difficult airways prior to extubation.

3 BEST attempts at intubation

- After each failed intubation attempt, the airway provider should change at least one thing to optimize their next attempt.
 - Refer to “Endotracheal Intubation” in the Difficult Airway Optimization Checklist for options to consider.

Activation of the Neonatal Difficult Airway Algorithm

- A clinical situation where an experienced practitioner experiences difficulty with face mask ventilation and/or difficulty with tracheal intubation (see below) should immediately prompt activation of the neonatal difficult airway algorithm.
- The airway lead must declare verbally “**this is now a difficult airway situation with (or without) failed intubation**” to ensure the team is aware and the algorithm is activated.

Definitions of and roles of experienced and less experienced practitioners

- A difficult intubation is defined as **3 failed attempts by an Experienced Practitioner**, which would be either a Consultant or Senior Registrar. However, a Registrar can be considered experienced if they have successfully completed >20 intubations).
- Less experienced practitioners (Registrar <20 intubations) should not be attempting intubation where a difficult airway has either been declared or anticipated. Less experienced practitioners should only undertake a routine intubation under the direct supervision of an experienced practitioner. They should be limited to 2 attempts only. In situations where experienced help is not immediately available, the main goal of the less experienced airway provider should be maintaining ventilation and oxygenation until help arrives, and following the algorithm from Plan B.

Assigning a team leader and role allocation

- For the team to operate effectively in a high stress situation a team leader must be assigned and verbally stated to the group, followed by prompt role allocation of the team members.
- Roles include: Team Leader, Airway Provider, Airway Assistant, Medication Nurse, Scribe and Circulatory Nurse. In certain circumstances when unable to get more help, roles may need to be combined.
- Anyone without an allocated role must step back from the immediate clinical area unless instructed otherwise by the team leader. This will prevent overcrowding and noise.

Follow the Algorithm using the “Challenge and Response” technique

- The challenge and response technique is required when implementing the algorithm.
- A team member must be allocated the role of following the algorithm, reading this out loud to the team (challenge) in a stepwise fashion.
- Each question/statement requires a yes/no confirmation at each step, ensuring the team moves forward through escalating care in a co-ordinated way.
- This person **MUST** also challenge the airway provider when they have exceeded their number of intubation attempts, in order to make sure the priorities change to ventilation and oxygenation.

Speaking up for safety

In a difficult airway situation human factors and stress can significantly affect decision making ability and performance. As such all members of the team have a responsibility regardless of rank to speak up for safety if they are concerned whether appropriate steps are not being taken.

Documentation

- A code blue resuscitation chart may be required to accurately document events during intubation of a difficult airway, particularly if resuscitation is required.
- Ensure documentation is complete on the MR493 Intubation/Extubation Record, including notifying the parents/caregiver of events.
- Complete medical and nursing entry in patient progress nurse ensuring clear communication on difficult airway and optimisation measures taken to intubate the patient.

Difficult Airway Neonatal Algorithm

Difficult Airway Optimization Checklist

Preparation

- Assign Team leader to complete checklist
- Pre-intubation checklist complete

Endotracheal Intubation (Plan A)

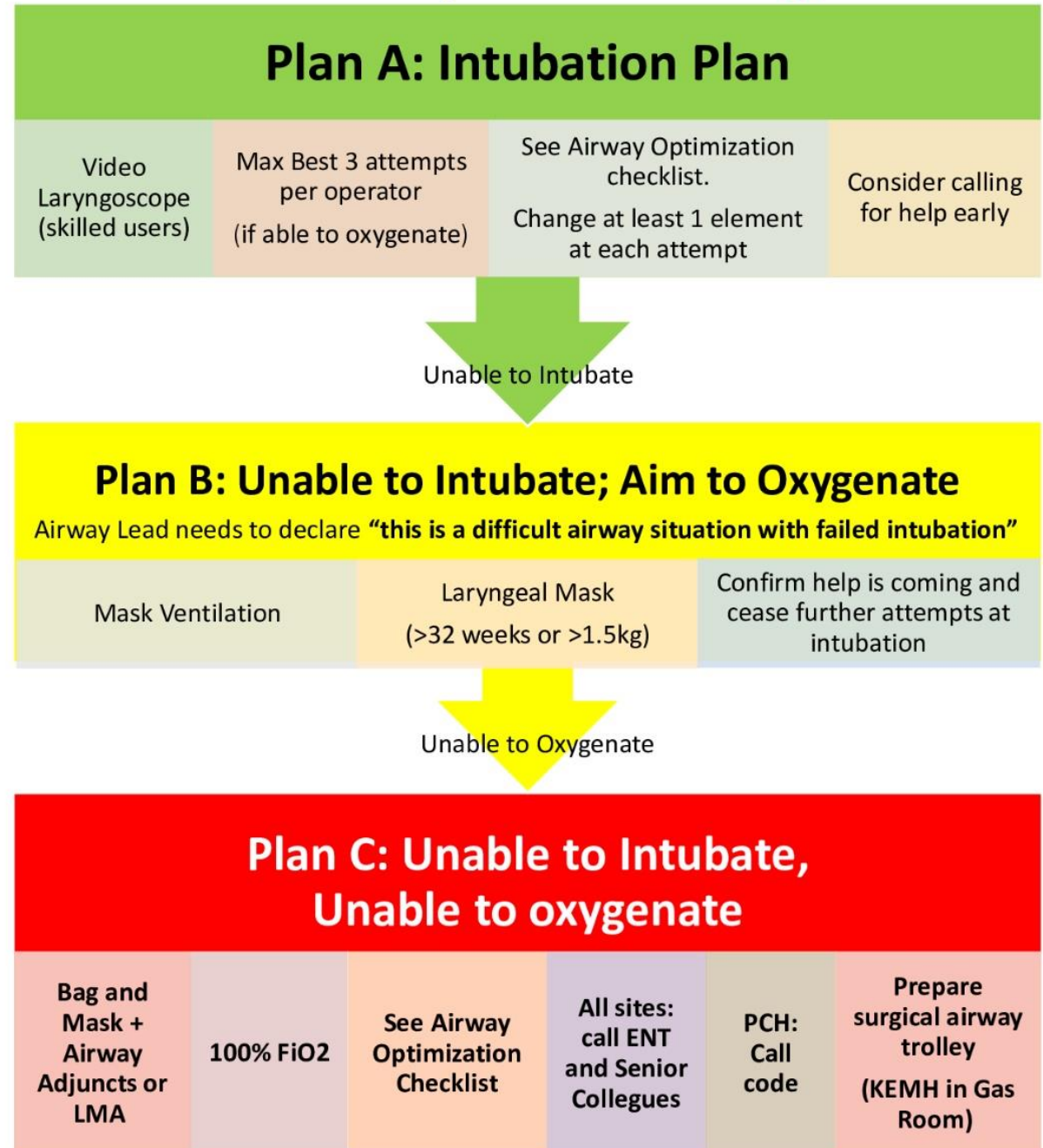
- Muscle relaxation/Premedication
- Video laryngoscopy
- Smaller ETT
- Different blade
- Introducer
- Cricoid pressure

Mask Ventilation (Plan B and C)

- Patient position optimized
- Head position neutral
- Mask size appropriate
- 2 – person mask ventilation
- Consider higher pressure if poor chest rise
- Adequate PEEP
- Bag and Mask Ventilation
- 100% FiO₂
- ETCO₂ attached to neopuff/self-inflating bag
- Deflate air in stomach

Airway adjuncts (Plan B and C)

- Nasopharyngeal airway (use ETT)
- Oropharyngeal airway (Guedel)
- LMA if >1.5kg



Related CAHS internal policies, procedures and guidelines

[CAHS Communicating for Safety](#)


[Intubation](#)

[Recognising and Responding to Clinical Deterioration](#)

References and related external legislation, policies, and guidelines

1. Managing the Difficult Airway in the Neonate: A Framework for Practice. 2020. British Association of Perinatal Medicine. <https://www.bapm.org/resources/199-managing-the-difficult-airway-in-the-neonate>
2. Difficult airway management: children are different from adults, and neonates are different from children! British Journal of Anaesthesia. 2021. 126(6): 1086e-1088.
3. Intubation difficulty in neonatology: are you experienced? O'Donnell CPE. Arch Dis Child Fetal Neonatal Ed. 2019. 104:F458-F460.

This document can be made available in alternative formats on request.

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