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 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

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**Difficult Airway Neonatal Algorithm**

**Plan A: Intubation Plan**

- Video Laryngoscope (skilled users)
- Max Best 3 attempts per operator (if able to oxygenate)
- See Airway Optimization checklist.
- Change at least 1 element at each attempt
- Consider calling for help early

**Plan B: Unable to Intubate; Aim to Oxygenate**

*Airway Lead needs to declare “this is a difficult airway situation with failed intubation”*

- Mask Ventilation
- Laryngeal Mask (>32 weeks or >1.5kg)
- Confirm help is coming and cease further attempts at intubation

**Plan C: Unable to Intubate, Unable to oxygenate**

- Bag and Mask + Airway Adjuncts or LMA
- 100% FiO2
- See Airway Optimization Checklist
- All sites: call ENT and Senior Colleagues
- PCH: Call code
- Prepare surgical airway trolley (KEMH in Gas Room)
Difficult Airway (Neonatal)

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


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

Document Owner: Neonatology
Reviewer / Team: Neonatology
Date First Issued: May 2022
Last Reviewed: May 2022
Amendment Dates: June 2022 – Algorithm updated
Next Review Date: 24th May 2025
Approved by: Neonatal Coordinating Group
Date: 24th May 2022
Endorsed by: Neonatal Coordinating Group
Date:
Standards Applicable: NSQHS Standards: 1,10
Child Safe Standards: 1,10

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