



CLINICAL GUIDELINE	
Meconium Aspiration Syndrome (MAS)	
Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NICU KEMH, NICU PCH, NETS WA

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

Key Points

- These are often very sick neonates, in severe respiratory distress.
Always discuss **all** decisions with the on-call neonatologist.
- Unique and complex combination of airflow obstruction, atelectasis and lung inflammation.
- Air leak is common.
- Meconium causes chemical pneumonitis and surfactant inactivation.
- **High risk of developing PPHN. If $FiO_2 > 0.4$ TAKE NITRIC OXIDE ON RETRIEVAL.**
- Infants may also have HIE. See Guidelines for [Hypoxic Ischaemic Encephalopathy \(HIE\) / Asphyxia](#).

Management


- Aim for **pre-ductal** $SpO_2 > 95\%$.
- Headbox O_2 for milder cases.
- CPAP can be considered for moderate respiratory distress. Preferably exclude air leak before commencing CPAP.
- Transcutaneous or end-tidal CO_2 monitoring should be used in all cases of MAS / PPHN / severe RDS.
- For severe respiratory distress, intubate and ventilate **after premedication**.
 - Consider insertion of UAC / UVC for hypoxic infants.
 - Consider using longer inspiratory time (0.4-0.5 seconds), with longer expiratory time, to avoid gas trapping. Consider decreasing PEEP (but may lose recruitment of areas prone to atelectasis).
 - Consider dose of surfactant (if severe distress and $FiO_2 > 50\%$). **This must always be discussed with the on-call neonatologist, as babies may deteriorate after Surfactant administration.**
 - Sedation is beneficial in decreasing pulmonary arterial pressure (Morphine and/or Midazolam).
 - Muscle relaxation for very sick, unstable infants may be necessary.

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- Treat pulmonary hypertension. Inhaled nitric oxide is available on transports. See Guideline for [Persistent Pulmonary Hypertension of the Newborn \(PPHN\)](#). Consider infusion of Prostaglandin E1 (Alprostadil) and/or Milrinone. Consider Sodium bicarbonate infusion for alkalinisation.
- Shocked infants may require fluid boluses (to improve pre-load) and/or inotropes. Consider Milrinone, Dobutamine, Dopamine or Adrenaline.
- For air transports: If evidence of gas trapping consider flying with Sea Level Cabin. RFDS/Medical Air Pilot must be informed.

Related CAHS internal policies, procedures and guidelines
<p>NETS WA Guideline</p> <ul style="list-style-type: none"> • Hypoxic Ischaemic Encephalopathy (HIE) / Asphyxia • Persistent Pulmonary Hypertension of the Newborn (PPHN)

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File Path:			
Document Owner:	Neonatology		
Reviewer / Team:	Neonatal Coordinating Group		
Date First Issued:	August 2009	Last Reviewed:	1 st July 2017
Amendment Dates:		Next Review Date:	1 st July 2020
Approved by:	Neonatal Coordinating Group	Date:	26 th September 2017
Endorsed by:	Neonatal Coordinating Group	Date:	
Standards Applicable:	NSQHS Standards: 		
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