



CLINICAL PRACTICE GUIDELINE  
NEWBORN EMERGENCY TRANSPORT SERVICE (NETS WA)

## Meconium Aspiration Syndrome (MAS)

This document should be read in conjunction with the [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.
  - 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 WNHS policies, procedures and guidelines

[NETS WA Clinical Guidelines: Hypoxic Ischaemic Encephalopathy \(HIE\) / Asphyxia](#)

[NETS WA Clinical Guidelines: Persistent Pulmonary Hypertension of the Newborn \(PPHN\)](#)

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