



## NEWBORN EMERGENCY TRANSPORT SERVICE MEDICAL GUIDELINES

### CLINICAL GUIDELINES

Meconium Aspiration Syndrome  
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Newborn Emergency Transport Service Medical Guidelines  
King Edward Memorial/Princess Margaret Hospitals  
Perth Western Australia  
Authorisation and review by NETS WA

## Meconium Aspiration Syndrome (MAS)

### Key points:

- These are often very sick neonates, in severe respiratory distress. **Always discuss all decisions with the on-call neonatologist.**
- Unique & 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 be suffering from HIE. See section 11.2.12.

### 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 & 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 &  $FiO_2 > 50\%$ .) **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 &/or Midazolam.)
  - Muscle relaxation for very sick, unstable infants may be necessary.
  - Treat pulmonary hypertension. Inhaled nitric oxide is now available on transports. See policy on PPHN (NETS11.2.10). Consider infusion of Prostaglandin E1 &/or Milrinone. Consider Sodium bicarbonate infusion for alkalinisation.
  - Shocked infants may require fluid boluses (to improve pre-load) &/or inotropes. Consider Milrinone, Dobutamine, Dopamine or Adrenaline.
  - If evidence of gas trapping consider flying with Sea Level Cabin. RFDS Pilot must be informed.