CLINICAL PRACTICE GUIDELINE

Meconium stained amniotic fluid (MSAF)

This document should be read in conjunction with the Disclaimer

Aim

To provide guidance when there is meconium staining of the amniotic fluid (MSAF).

Key points

1. If the amniotic fluid has been clear in labour and then becomes meconium stained, the fetus may be compromised.[1, 2]
2. Amnioinfusion should not be used for the routine treatment of suspected fetal compromise with MSAF.[3]
3. The birth should be attended by a neonatal RMO and Registrar competent in neonatal intubation and tracheal suctioning.

Definitions of types of MSAF

There is limited evidence of the use of a grading system for MSAF and its impact on neonatal outcomes.

Management of MSAF

Prelabour

All women who have MSAF prior to the commencement of labour should be assessed in the Maternal Fetal Assessment unit (MFAU) or Labour and Birth Suite (LBS).

First and second stage of labour

- Continuous electronic fetal heart rate monitoring is required.[2]
- All women admitted to the Family Birth Centre (FBC) or CMP clients in the community who have or develop MSAF **must be transferred** to the LBS or supporting hospital. The decision to transfer shall take into account the woman's parity and stage of labour, if the birth is imminent call the paediatric RMO and Registrar to FBC. CMP clients call 000 for ambulance attendance. See guideline, O&G: Transfer from Home to Hospital

Birth

The birth should be attended by a RMO and Registrar competent in neonatal intubation and tracheal suctioning. See also KEMH Clinical Guideline: Labour: Neonatal team attendance at birth.

The midwife will:

- Notify the neonatal RMO and Registrar of the upcoming birth and relevant antenatal and intrapartum factors.
- Provide clinical handover to the Neonatal team on arrival to the birth room.

Suctioning at birth

Suctioning 'on the perineum' of the neonates mouth and pharynx before birth of the shoulders is not recommended for routine practice.[3-5] The priority is the birth of the baby.

In the event of a delay in the birth consider Shoulder Dystocia and take appropriate measures.

Neonatal: Immediate care

- Clean the mouth and nose of any visible meconium.
- Suctioning is not required if the neonate is term and vigorous at birth[3-5] and the neonate can be dried and remain with the mother.
- A vigorous preterm neonate shall be assessed on the neonatal resuscitaire.
- A non-vigorous neonate at birth shall not be stimulated (including drying) and receive a laryngoscopy and tracheal suctioning[6] under direct vision by the Neonatal Medical Officer. Tracheal suction is performed promptly and before any assisted or spontaneous respirations.[5] The Neonatal Medical Officer should consider the potential benefits of suctioning meconium against the urgent need for other resuscitation methods.[5]
- For suctioning: The meconium aspirator device is attached to the adapter of the endotracheal tube (after intubation), then connected to a negative pressure source (not exceeding 100mmHg), occluding the side port and withdrawing over a few seconds. Repeated intubation may cause further delays in resuscitation and is not routinely encouraged[5].

Subsequent care[7]

- Observations shall be performed as for all births, including continuous SpO_2 for 2 hours after birth (see O&G Clinical Guideline: Neonatal Care)
- After the initial routine hourly observations, assess 3 hourly (until 12 hours of age), and document on the Newborn Observation and Response Chart (NORC):
  - Respiratory rate, SpO_2. heart rate, temperature,
  - Any respiratory distress (e.g. abnormalities in chest wall movements (pattern & effort), colour, activity/ tone /feeding
- If any observations are outside the normal parameters, escalate as per NORC
- Cluster neonatal cares
- Educate the parents about the regular observations and the signs of respiratory distress, to promote understanding, reduce anxiety, and increase parental confidence[7].

References

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7. Green C, editor. Maternal newborn nursing care plans. 3rd ed. Burlington, MA: Jones & Bartlett Learning; 2016.

Additional resource:

Chettri, S., Adhisivam, B., & Bhat, BV. (2015). Endotracheal suction for nonvigorous neonates born through meconium stained amniotic fluid: a randomized controlled trial. J Pediatr. 2015; 166: 1208-1213.el. doi: 10.1016/jpeds.2014.12.076.

Related WNHS policies, procedures and guidelines

KEMH Clinical Guidelines, Obstetrics & Gynaecology:

- Fetal Surveillance: Fetal Heart Rate Monitoring
- Labour: Neonatal Team Attendance at Birth
- Labour: Shoulder Dystocia
- Neonatal Care
- Transfer from Home to Hospital

Forms: MR 426: Newborn Observation and Response Chart (NORC)

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