OBSTETRICS AND GYNAECOLOGY
CLINICAL PRACTICE GUIDELINE

Meconium Stained Amniotic Fluid (MSAF)

Scope (Staff):	Clinical staff
Scope (Area):	Midwifery and Obstetrics

This document should be read in conjunction with the Disclaimer.

Contents

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 Obstetrics and Gynaecology Clinical Practice Guideline: Labour and Birth: Neonatal Team Attendance at Births.

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

- 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, SpO2. 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 and resources

1. Edmonds DK, editor. Dewhurst's textbook of obstetrics & gynaecology. 8th ed. West Sussex: Wiley-Blackwell; 2012.
2. RANZCOG. Intrapartum fetal surveillance: Clinical guideline- 4th ed. East Melbourne, VIC:RANZCOG; 2019. Available from: https://ranzcog.edu.au/wp-content/uploads/2022/05/Intrapartum-Fetal-Surveillance.pdf
3. Bhat R, Vidyasagar D. Delivery room management of meconium-stained infant. Clinics in Perinatology. 2012;39(4):817-31. Available from: http://www.ncbi.nlm.nih.gov/pubmed/23164180
4. National Institute for Health and Care Excellence. Intrapartum **C**are: NICE; 20**23**. Available from: https://www.nice.org.uk/guidance/ng235
5. Australian Resuscitation Council, New Zealand Resuscitation Council. ANZCOR guideline 13.4: Airway management and mask ventilation of the newborn infant: ARC / NZRC; 2016. Available from: https://resus.org.au/guidelines/
6. Australian Resuscitation Council, New Zealand Resuscitation Council. ANZCOR guideline 13.3: Assessment of the newborn infant: ARC/ NZRC; 2016. Available from: https://resus.org.au/guidelines/
7. Green C, editor. Maternal newborn nursing care plans. 3rd ed. Burlington, MA: Jones & Bartlett Learning; 2016.

References and resources

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 procedures and guidelines

WNHS Obstetrics and Gynaecology Clinical Practice Guidelines:

- Fetal Heart Rate Monitoring
- Labour and Birth: Neonatal Team Attendance at Births
- Labour: Shoulder Dystocia
- Neonatal Care
- Transfer from Home to Hospital (VMS/MGP/CMP)

Useful resources (including related forms)

Newborn Observation and Response Chart (NORC) (MR426 (KEMH); MR75.1 (OPH))

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Version History

Version Number	Date	Summary
1.0	January 2009	First version
	October 2012	Revised version
	February 2015	Amended layout
	July 2015	Revised version
	February 2019	Revised version

5.0	August 2020	Revised version
6.0	August 2024	Clinical decision by Executive to extend review by 12 months

The health impact upon Aboriginal people has been considered, and where relevant incorporated and appropriately addressed in the development of this policy.

This document can be made available in alternative formats on request for a person with a disability.