BRITISH ASSOCIATION OF PERINATAL MEDICINE

Neonatal Support for Stand Alone Midwifery Led Units (MLUs)

A Framework for Practice

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Neonatal support for Stand Alone Midwifery Led Units (MLUs): a framework for practice

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Scope

This document refers specifically to the provision of neonatal support for delivery units that are not co-located with obstetric services and where there is no immediate access to neonatal or paediatric staff. This type of service is provided across the UK in Stand Alone Midwifery Led Units, Community Midwifery Units, Free-standing Midwifery Units and Birthing Centres. For brevity these will be referred to as MLUs throughout this document. It is intended as a framework to inform development of local, regional and network guidelines. It does not deal with midwifery-led units that are located within or alongside consultant obstetric units. Links to midwifery standards for MLUs are provided under additional resources.

Introduction

Alongside the development of neonatal and maternity networks and reviews and reorganisations of maternity services there has been increased interest in the establishment of Stand Alone Midwifery Led Units (MLUs). These units provide midwifery care for women satisfying locally agreed criteria for low-risk births. They tend to serve smaller communities that may be remote and rural where the maintenance of a consultant-led obstetric and/or paediatric service is impractical for both workload and training purposes. They are attractive to women in providing a choice for 'non-medicalised' birth. There are national standards for all locations in which NHS staff attend births [Joint Royal Colleges Working Party, Safer Childbirth; BAPM Service Standards for Hospitals providing Neonatal Care]. However it is important that MLUs have a clear locally agreed strategy to manage risk and deal with emergencies.

Whilst operational protocols should minimise the chance of sick babies being born in an MLU the potential exists for babies to become unexpectedly unwell, or for unexpected preterm birth, and

these rare occurrences need to be anticipated with clear guidelines to manage the situation. It is clearly essential that careful consideration is given to recognising the need for and providing appropriate support for any baby requiring anything above routine care both at delivery and in the immediate postnatal period.

The following areas should be considered:

- Governance
- Patient selection
- Patient information
- Management of a woman who wishes MLU delivery against professional advice
- Staff skill mix
- Setting, environment and equipment
- Neonatal training for staff including Resuscitation and Safeguarding
- Emergency procedures and Communication
- Neonatal transfer

Governance

- For every MLU a clearly defined body should be established that oversees and ensures appropriate and safe pathways for neonatal care within the framework of a designated neonatal service. This body will be responsible for:
  - Nominating a clinician as the primary neonatal lead.
  - Neonatal training for staff.
  - Developing pathways for emergency neonatal care.
  - Case reviews of adverse outcomes, including babies requiring resuscitation or transfer to a neonatal unit.
  - Risk assessment of the care environment.
  - Audit and data collection [NICE 55, 2007].
  - Ensuring alignment with existing midwifery governance.
- Guidelines common to the local/regional/network neonatal service should be readily available to MLU staff. These should be in electronic and hard copy format.
- Guidelines supplement the discussion with the neonatal team, ensuring consistency, and are not a replacement for telephone advice which must be sought in all cases where there are concerns.

[back to top]

Patient selection

- Because of the inherent limited support available in MLUs, only women whose pregnancy is deemed "low risk" should be offered delivery in such a facility [NICE 55, 2007].
- Predicting pregnancy outcome is extremely difficult [Campbell 1999]. Although there is no universally established and accepted definition of "low risk", guidance is available [NICE 55, 2007].
- Risks to the wellbeing of both mother and baby will be considered when establishing local criteria.
- Any issue that might predictably cause the newborn baby to require more than routine standard care usually indicates the need to deliver in a facility that can provide a higher level of care.
- A clear mechanism for deciding, recording and actioning when a woman moves from being considered "low risk" to a higher risk category during antenatal care should be established.
- A clear mechanism for deciding, recording and actioning when a woman moves from being considered "low risk" to a higher risk category during labour should be established.
- The criteria considered may vary between different MLUs depending on the precise model of care being provided and geographical factors.
- Local MLU delivery criteria should be developed following consultation with and between a number of professional groups and staff which might include (depending on geographical factors and local setup):

  - Midwives
  - Obstetricians
  - Paediatricians/Neonatologists
  - Neonatal nurses
  - Anaesthetists
  - GPs
  - Neonatal/perinatal network
  - Neonatal transport service
  - Ambulance service
  - User group representation (eg maternity service liaison committee)
  - Trust senior management
  - Trust clinical governance and risk management teams

[back to top]

Patient information

Written and verbal information provided to women who book for delivery in MLUs must include:

- The availability and level of maternal and newborn care for women and babies who become unexpectedly unwell in the MLU: this should cover the rare but unpredictable need for neonatal resuscitation, stabilisation and transfer.

- The distances and time involved along with the locally-agreed mechanisms for transfer if a transfer is required should be explicitly discussed at booking. This information is particularly important for women who are booked to deliver in remote/rural MLUs.

[back to top]

Management of a woman who wishes MLU delivery against professional advice

In these circumstances medical and midwifery staff are obliged to follow the guidance issued by the GMC and NMC respectively:

- "The patient has the right to accept or refuse an option for a reason that may seem irrational to the doctor or for no reason at all."
- "A competent pregnant woman can refuse treatment even if that refusal may result in harm to her or her unborn child."

If the perceived risk is to the unborn baby some basic principles should be considered:

- Only senior experienced staff should counsel women in such situations: involve the supervisor of midwives [NICE 55, 2007].
- The perceived or actual risk should be clearly described to the woman, including the reasons why MLU delivery is considered inappropriate.
- The resource that may be needed to care for the newborn baby should be described along with what is available in the MLU.
- Any discussion and decision reached should be documented.
- If appropriate a second opinion should be offered.
- The issue should be revisited as appropriate at each subsequent contact with the woman through her pregnancy.

If a woman with known contraindications to delivery in a MLU presents in labour, ways of managing anticipated problems faced by the newborn baby should be considered, including:

- The provision of basic ongoing support for the baby.
- How to obtain appropriate, timely advice.
- How to transfer the baby to an appropriate neonatal unit as needed.

Once the baby is born, staff will have Safeguarding responsibilities and must act in the best interest of the baby even without parental consent [Fertleman M 2003].

[back to top]

Staff skill mix

- The numbers and skill mix of staff in a MLU will vary depending on the number of deliveries undertaken, the exact model of care provided and the geographical location.
- Staff should be able to:
  - Provide normal perinatal care to both mother and baby.
  - Identify acute deterioration in the condition of either the mother or baby.
  - Initiate and provide appropriate acute resuscitation and stabilisation, including in the rare event of both mother and baby becoming unwell simultaneously.
  - Access additional support as required, including initiation of either maternal or neonatal transfer without compromising care of either patient.

[back to top]

Setting, environment and equipment

Resuscitation & Stabilisation

- Advice on the equipment required for unexpected newborn resuscitation and stabilisation including piped gases, electrical sockets and suction, should be sought from the nearby Consultant Unit Newborn Resuscitation Lead. Separate gas sources should be available for both mother and baby in the event that both require simultaneous resuscitation. Gas sources for the infant must be pressure limited.
- The equipment should be stored in a dust-free area that is easily accessible in an emergency, and should be separate from equipment required for the mother. A portable resuscitaire is ideal and could be kept outside the delivery room when not in use thus maintaining the appropriate environment for low risk deliveries.
- The equipment for resuscitation and stabilisation should be checked on a daily basis and re-checked following use.
- The Consultant unit newborn resuscitation team are encouraged to visit each MLU facility that refer newborns to them, to assist in the development and ongoing audit of newborn resuscitation and stabilisation facilities and guidelines.
- Suggested minimum equipment for neonatal resuscitation is listed in the Appendix.

[back to top]

Neonatal training for staff

- Areas of care that need to be considered include:

  - Examination of the newborn.
  - Common neonatal problems.

- Recognition of early signs of neonatal illness.
- Identification of the unexpectedly vulnerable baby (eg unrecognised IUGR).
- Acute/immediate resuscitation of the newborn.
- Post resuscitation care and stabilisation of the sick newborn prior to transfer.
- Logistics of emergency procedures including the use of emergency equipment.
- Transport of the sick newborn including knowledge of the transfer environment.
- Safeguarding.
- Telemedicine training.

- The newborn care provided in MLUs will largely focus on care of the well baby but depending on the exact model of care provided and the geographical location, it may be necessary for staff to be in a position to provide more than this for a limited period of time.
- Staff training needs will depend on the model of care provided and may vary in different MLUs.
- Midwives practising in MLUs should attend an accredited course for newborn examination. The neonatal team can support this process by providing the practical training required on the Consultant unit during the initial phase and the updates as required by the course unless there is an established training midwife for this purpose; advanced neonatal nurse practitioners are ideally suited to provide this.
- Any abnormalities detected or concerns identified are discussed with the neonatal team. Local arrangements for liaising with the appropriate clinician(s) including contact details should be established and readily accessible on the MLU.
- The neonatal team need to ensure that consistent clear advice is given in keeping with local guidelines. This process should be explained at induction for new staff.
- Any advice given must be clearly documented by all parties involved.
- Staff groups that should undergo training/continued professional development will also depend on the precise model of care offered but might include:

  - Midwives
  - Healthcare assistants/Maternity support workers
  - Obstetricians
  - Paediatricians/Neonatologists
  - Neonatal nurses
  - Anaesthetists
  - GPs
  - Ambulance personnel

[back to top]

Neonatal resuscitation

- The Maternity Services NSF states that "all staff who attend a woman in childbirth…irrespective of the place of delivery, have been trained in neonatal life support".
- There is at present no national agreement on the specific level of training required, how it should be assessed or how often it should be updated. Local Health and Safety Executive regulation may support frequency recommendations.
- Training programme[s] should incorporate induction of new staff as well as regular updates for existing staff. This should include resuscitation training, such as the NLS and NRP courses which teach basic newborn life support.
- Resuscitation skills lapse over time, especially if used infrequently, so re-training (facilitated practice in a simulation setting) and re-certification at regular intervals will be needed and might be supplemented with rotation to a nearby obstetric unit.
- Rotation to an acute neonatal unit may also be considered.

[back to top]

Emergency procedures and Communication

- These situations are rare and unexpected.

Procedures

- Robust clear procedures must be in place that can be easily followed in the event of an emergency.
- Simple, effective means of communicating the level of urgency should be considered, eg colour coding.
- A guideline detailing communication procedures with a single point of contact within the Consultant Unit, and subsequent cascading of information by this contact to the neonatal team, transfer team/paramedic and other staff who may be able to assist within the MLU site, is essential.
- Clear pathways of care should be established for stabilisation and transfer of sick and stable newborns in and from each MLU, with guidelines to support the process easily available in written form in addition to intranet access. These pathways will vary depending on the geography and neonatal service provision of the Consultant Unit.
- The fastest way for a mother or baby to travel to the nearest appropriate hospital may be by 999 ambulance accompanied by the midwife who leads on and delivers any required newborn resuscitation and stabilisation procedures, whilst supported by the ambulance personnel.

- In areas/regions where neonatal transfer teams are used, often due to geographical considerations, the baby may need to remain on the MLU for several hours. In these circumstances locally agreed stabilisation procedures and training are required which may include the possibility of using other clinical staff to support the infant.

Communication

- MLU staff require access to a telephone in the delivery room so that they can call a pre-established single point of contact in an emergency. Similar direct contact is also required for neonatal concerns, eg the neonatal unit. This allows MLU staff to provide immediate support to the mother and baby.
- The telephone number for the contact(s) should be displayed in all delivery rooms.
- In order to maximise necessary information in the shortest possible time a pre-established checklist for caller and receiver should be available by the telephone. Checklists might utilise the SBAR approach to safer communication (Situation, Background, Assessment, Recommendation) [NPSA 2008].
- MLU staff may also need to talk to a senior member of the neonatal team as they may require emergency telephone advice.
- The direct line numbers for all MLUs should be available on the neonatal unit, Consultant labour ward and appropriate switchboards.
- These communication procedures should be tested as a live skills drill.

[back to top]

Neonatal transfer

- Neonatal transfer from a MLU will occur rarely.
- Arrangements regarding transfer will vary depending on the model used and local geography.
- Liaison with ambulance services should be through the nominated person taking responsibility for the MLU (see **Emergency procedures**).
- The equipment required for transport of sick newborns should be determined, documented and made accessible for each MLU. The teams used and the equipment required to provide transport are dependent upon local geography and will vary between areas.
- The equipment for neonatal transport should be checked on a daily basis and re-checked following use. All checks must be clearly documented.
- The Consultant unit newborn resuscitation team should be encouraged to visit each MLU facility that refer newborns to them, to assist in the development and ongoing audit of transfer facilities and guidelines.
- Suggested minimum equipment for neonatal transfer is listed in the Appendix.

[back to top]

REFERENCES

- British Association of Perinatal Medicine. 2010. Service Standards for Hospitals providing Neonatal Care. http://www.bapm.org/documents/publications/BAPM%20Standards%20Final%20-%20Aug%202010.pdf
- Campbell R. Review and assessment of selection criteria used when booking pregnant women at different places of birth. Br J Obstet Gynaecol 1999;550-6.
- Fertleman M., Fox A. 2003. The law of consent in England as applied to the sick neonate. The Internet Journal of Pediatrics and Neonatology 2003 : Volume 3 Number 1. http://www.ispub.com/journal/the_internet_journal_of_pediatrics_and_neonatology/volume_3_number_1_46/article_printable/the_law_of_consent_in_england_as_applied_to_the_sick_neonate.html
- General Medical Council. 2008. Consent: patients and doctors making decisions together. http://www.gmc-uk.org/static/documents/content/Consent_0510.pdf
- Joint Royal Colleges Working Party, Safer Childbirth: Minimum standards for the organisation and delivery of care in labour. 2007. http://www.rcog.org.uk/womens-health/clinical-guidance/safer-childbirth-minimum-standards-organisation-and-delivery-care-la
- National Institute for Health and Clinical Excellence. 2008. Antenatal care. Routine care for the healthy pregnant woman. http://www.nice.org.uk/nicemedia/live/11947/40115/40115.pdf
- National Institute for Health and Clinical Excellence. 2007. Intrapartum care. Care of healthy women and their babies during childbirth. http://guidance.nice.org.uk/CG55/NICEGuidance/pdf/English
- National Institute for Health and Clinical Excellence. 2010. Specialist Neonatal Care. Quality Standard. http://www.nice.org.uk/guidance/qualitystandards/specialistneonatalcare/specialistneonatalcarequalitystandard.jsp
- National Patient Safety Agency. 2008. Patient Safety First. The 'How to Guide' for Reducing Harm from Deterioration. http://www.patientsafetyfirst.nhs.uk/ashx/Asset.ashx?path=/How-to-guides-2008-09-19/Deterioration%201.1_17Sept08.pdf
- Nursing and Midwifery Council. 2004 (2007). Midwives Rules and Standards. NMC. http://www.nmc-uk.org/Documents/Standards/nmcMidwivesRulesandStandards.pdf

Additional resources

- Campaign for normal birth: Birth Centre Resources. http://www.rcmnormalbirth.org.uk/practice/birth-centre-resources/
- Generic Instructor Course. UK Resuscitation Council. http://www.resus.org.uk/
- Generic Instructor Training Course. Scottish Multiprofessional Maternity Development Programme, NHS Education Scotland. http://www.scottishmaternity.org/Courses/Introduction%20to%20The%20Courses/instructor_training.html
- Newborn Life Support [NLS]. UK Resuscitation Council. http://www.resus.org.uk/
- Newborn Resuscitation Programme [NRP]. American Academy of Pediatrics and American Heart Association. http://www.aap.org/nrp/nrpmain.html
- Paediatric & Neonatal Safe Transfer and Retrieval (PaNSTaR). Advanced Life Support Group, UK. http://www.alsg.org/en/?q=en/panstar
- Royal College of Midwives policy & practice guidelines. http://www.rcm.org.uk/college/policy-practice/guidelines/
- Scottish Neonatal Resuscitation Course. Scottish Multiprofessional Maternity Development Programme, NHS Education Scotland. http://www.scottishmaternity.org/Courses/Introduction%20to%20The%20Courses/newborn_resuscitation.html
- Scottish Neonatal Pre-Transport Care Course. Scottish Multiprofessional Maternity Development Programme, NHS Education Scotland. http://www.scottishmaternity.org/Courses/Introduction%20to%20The%20Courses/pretransport_care.html
- Scottish Routine Examination of the Newborn Course. Scottish Multiprofessional Maternity Development Programme, NHS Education Scotland. http://www.scottishmaternity.org/Courses/Introduction%20to%20The%20Courses/Exam_Newborn.html
- The S.T.A.B.L.E Programme. http://www.stableprogram.org/
- Staffing in maternity units: Getting the right people in the right place at the right time. http://www.kingsfund.org.uk/publications/maternity_unit_staff.html

APPENDIX

Equipment for resuscitation and neonatal transfer

Resuscitation

- The following equipment is suggested and should be latex free:

Thermal control & assessment:

- Newborn Life Support algorithm
- Warm dry towels, food-grade plastic bags & hats of various sizes
- Overhead heater
- Good light source
- Stethoscope
- Clock/stop watch
- A flat dedicated surface with a secure changing mattress

Airway:

- Pressure-limited gas supply such as Tom Thumb device or resuscitaire
- Circuit with T-piece and adjustable PEEP valve
- Self-inflating bag 500ml with 40cmH_2O blow off valve
- Separate air & oxygen gas supply with tubing to connect to pressure-limited device
- Appropriate masks for term and preterm newborns, 2 of each
- Oropharyngeal airways: 2 each of 000, 00 & 0
- 2 paediatric Yankauer suckers
- 2 laryngoscopes with one long & one short blade, and spare batteries & bulbs
- Soft suction catheters wide-bore (12 or 14FG)
- Advanced airway devices as agreed locally (such as tracheal tubes)
- Nasogastric tubes – 6, 8, 10 & 12 FG & oral syringes to connect
- Tape, scissors & small forceps

Circulation:

- Disposable gloves, goggles & aprons
- Umbilical catheters size 3.5 & 5.0
- Mosquito artery clamps & umbilical vein probes
- Syringes selection of: 1, 2, 5 & 10ml

- Selection of needles
- Sterile saline 0.9% & water ampoules 5 or 10ml
- Extension set with 3-way tap
- Disposable scalpel size 11 blade
- Alcohol skin prep wipes
- Umbilical cord tie tape
- Gauze or dressing pack
- Tape, stitch, small forceps & scissors
- Drugs: 1:10,000 Adrenaline, 4.2% Sodium Bicarbonate, 10% Dextrose
- Fluids: 0.9% saline

Additional items:

- Oxygen saturation monitor/probes
- Bedside blood glucose measuring equipment

Neonatal Transfer

- Transport pod or incubator for thermal control & security
- Warming mattress
- Disposable gloves
- Stethoscope
- Laryngoscope with straight blade and spare batteries & bulbs
- Oropharyngeal airways (sizes 000, 00 & 0)
- Paediatric Yankauer with portable suction device
- Pressure –limited device with mask & T-piece (Tom Thumb device, 500ml self-inflating bag with 40cmH_2O blow off valve) & gas source
- Advanced airway devices as agreed locally (such as tracheal tubes)
- Dry towels/blankets
- Portable light e.g. torch
- Clock/stop watch
- Mobile telephone