| Enhanced Maternity Care (previously High Dependency Care) | University Hospitals of Leicester NHS Trust<br>**Trust ref: B47/2011** |
|---|---|

## 1. Introduction and Who Guideline applies to

The majority of women remain healthy during pregnancy and childbirth. The UK has one of the lowest maternal mortality rates in the world. Nevertheless, there has been an increase in the number of women who become unwell around the time of childbirth, due to factors including increasing maternal age, increasing rates and levels of obesity and other comorbidities. Women who become acutely unwell during pregnancy, labour and postnatal period should have immediate access to critical care, of the same standard as other sick patients, delivered by teams skilled in providing critical care to the acutely deteriorating obstetric patient. The aim of this document is to make recommendations regarding collaborative working between maternity units and critical care units alongside others specialist support (eg psychologists, paediatrics in case of teenage pregnancy), so that critically ill women are provided with the appropriate level of care in a timely manner. This is Document provides guidance on Enhanced Maternity care at UHL.

## Enhanced maternal care (EMC)

EMC is driven by a set of competencies required to care for women with medical, surgical or obstetric problems during pregnancy peri and post-partum but without the severity of illness that requires admission to a critical care unit. This care can be provided by any practitioner with the necessary skills.

## Who the guideline applies to

This guideline applies to Obstetric, Midwifery and Anaesthetic staff working within the Maternity Unit and also for reference to DART / Adult intensive care team.

## Related Documents

Postpartum Haemorrhage Guideline for management
Pre-Eclampsia and Eclampsia - Severe UHL Obstetric Guideline
Unexplained Intra or Postpartum Collapse UHL Obstetric Guideline
Guidelines for the Management of Diabetic Ketoacidosis (DKA) in Adults
Availability and accessibility of medical equipment on Delivery Suite



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## 2. Guideline Standards and Procedures

The level of care women require is based on criteria identified by the **Department of Health review of Adult Critical Care Services:**

| | |
|---|---|
| **Level 0** | Patients whose needs can be met through normal ward care in an acute hospital. (midwife to midwife) |
| **Level 1** | Patients at risk of their condition deteriorating, or those recently relocated from higher levels of care, whose needs can be met on an acute ward with additional advice and support from the critical care team. The patient's condition will be assessed using the MEOWS chart / HDU chart. |
| **Level 2** | Patients requiring more detailed observation or intervention including support for a single failing organ system or post-operative care and those 'stepping down' from higher levels of care. |
| **Level 3** | Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organ systems. This level includes all complex patients requiring support for multi-organ failure. |



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## Guidance

## Provision of Enhanced Maternity Care within UHL

All women requiring critical care from 20 weeks pregnancy onwards should be cared for in a unit with rapid access to a maternity unit.

Within the Maternity Unit, care should be provided in the most appropriate location to meet the criteria listed below

<table>
<tr><td>Level 0</td><td>Level 0 care can be provided on the Postnatal wards.</td></tr>
<tr><td>Level 1</td><td><ul><li>Level 1 care can be provided within the Delivery Suite, in the standard delivery rooms with support and advice from senior obstetric and anaesthetic staff.</li><li>Care is recorded on specifically designed ‘High Dependency Charts / MEOWS/Nerve centre or other appropriate tools.</li><li>Care can also be provided on the postnatal ward if not requiring HDU observations and staffing levels are appropriate.</li></ul></td></tr>
<tr><td>Level 2</td><td>Level 2 care can be provided on delivery suite by midwives with EMC competencies and DART support or within the High Dependency Unit /General critical care outside of the Maternity Unit by critical care nurses /DART team who have attended MDT training led by the Anaesthetic and Obstetric Team.<br><br>Criteria for women needing level 2 care are as follows:<ul><li>Massive Obstetric Haemorrhage</li><li>Severe Pre-Eclampsia/Eclampsia</li><li>HELLP syndrome</li><li>Cardiac Arrhythmia</li><li>Congenital Heart Defect</li><li>Severe Respiratory Disease</li><li>Diabetic Ketoacidosis</li><li>Renal failure associated with persistent oliguria</li><li>Early Sepsis</li><li>Women transferred back from ITU if they are being admitted back onto the Delivery Suite</li></ul>This list is not exhaustive as EMC may also be requested by the senior clinician based on clinical need.<br>The decision to admit a woman to the High Dependency Unit/Intensive Care Unit outside the Maternity Unit should be made by the Consultant Obstetrician or the Consultant Anaesthetist.<br><br>Women with level 2 requirements who are considered unstable should be notified as early as possible to the Intensive Care Unit including the Consultant on call for ITU. This should be a Consultant to Consultant discussion.<br>Depending on the underlying condition, Consultants from other Specialties may need to be involved (e.g. respiratory, renal, cardiology, hematology etc). It remains the responsibility of the Consultant Obstetrician to ensure referrals are made.<br>All patients requiring level 2 care should be referred to the DART teams for review.<br>The decision and plan of care should be documented in the hospital notes.</td></tr>
</table>



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| | |
|---|---|
| **Level 3** | Women with Level 3 care needs will usually need to be transferred to the Intensive Care Unit.<br>Specific examples of women who may have Level 3 requirements include:<br><br>• Massive Obstetric Haemorrhage with coagulopathy<br>• Need of ventilatory support Intermittent positive pressure ventilation or CPAP<br>• Anuric renal failure<br>• Cardiac failure<br>• Sickle cell crisis<br>• Recurrent seizures<br>• Severe hypertension resistant to IV therapy as per Severe Pre-eclampsia Guideline<br>• Pulmonary oedema with oliguria<br>• Compromised myocardial function<br>• Septic shock<br><br>Women with level 3 requirements should be notified as early as possible to the Intensive Care Unit including the Consultant on call for ITU - this should be Consultant-to-Consultant referral.<br><br>Depending on the underlying condition, Consultants from other specialties may need to be involved (e.g. respiratory, renal, cardiology, haematology etc). It remains the responsibility of the Consultant Obstetrician to ensure referrals are made.<br><br>The obstetric team consisting of a Consultant Obstetrician, a Consultant Anaesthetist and a Senior Midwife with EMC competencies should review the woman once in a 24 hour period.<br><br>Critical care should not mean separation of the mother and baby. If the baby is well the contact between mother and baby should be encouraged in liaison with the postnatal ward / NICU/NNU staff.<br><br>Routine care like breastfeeding should be supported – refer to trust breastfeeding guideline.<br><br>The responsibility for the baby while admitted on the postnatal ward lies with the allocated midwife. When the baby is visiting the mother in ITU or HDU safety measures need to be followed:<br>• Baby check needs to be performed prior to leaving the ward<br>• Designated carer to be decided and documented in records (usually other parent)<br>• Only visiting of baby on postnatal ward with the designated carer present<br>• When baby visits the mother, to be signed out on the ward<br>• Baby to be escorted by a member of staff unless designated parent is known to staff<br>• Baby log to be filled in and used<br>• Information leaflet to be given to mother and designated parent |



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**Medical Devices**

The following equipment should be available in all rooms on Delivery suite

- BP monitors
- Thermometers
- Oxygen saturation monitors
- Oxygen and suction in every room
- AMBU bag and mask

In addition, the following equipment should be available in all EMC rooms on delivery suite

- Advanced O2 therapy equipment
- Fluid resuscitation equipment
- Resuscitation trolley
- Multipara monitoring like ECG/ NIBP/Invasive BP/ CVP monitoring

See separate equipment availability process for further details ('Delivery suite medical equipment' guideline).

**Transfer to General ITU outside the Maternity Unit**

Critically ill pregnant or recently pregnant patients who undergo intra- or inter-facility transfer should be transferred in accordance with standards equivalent to the Intensive Care Society's Guidelines for the transport of the critically ill adult. The transfer is to be done by Anaesthetic team with support of DART team.

A senior clinician (Obstetric Consultant) should be directly involved in escalation decisions within one hour of any deterioration. DART team should work collaboratively with the critical care unit and maternity unit to ensure seamless transition of care between units.

If there are delays in transfer, ongoing critical care should be provided regardless of the setting by Consultant and the senior midwife responsible for the high dependency maternity unit.

Handover must be documented by the Obstetrician and / or Anaesthetist using the "Maternity HDU/ ITU Transfer Record (Appendix 1)

**Lead clinicians**

**Anaesthetics:**

Anthony Joseph (LGH)

Andrew Ling ( LRI)

Apsara Leslie (LGH Intensivist)

Dan O'Neil (LRI Intensivist)

**Obstetrics:**

Manjeri Khare (LRI)

Natasha Archer (LGH)



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## 3. Education and Training

Women requiring EMC should be cared for by midwives with EMC competencies or nurses who have attended cross-speciality MDT training.

All Band 6 Midwives who have completed the Recovery Competency will then follow the pathway to achieve EMC Competency.

- Competency identified as relevant to job role by Line Manager
- Line Manager nominates MW to undertake training to Education Team or Simulation Team
- Allocated to attend EMC study day and/or simulation day
- Completes Pre-course A&P workbook provided by Education Team
- Allocated and attends EMC study day and/or simulation day.
- Allocated and attends placement in ITU/HDU
- Competencies highlighted in blue in 'Recovery and EMC competency booklet' (**see separate guidance for further details**) to be signed by ITU /HDU assessor.
- Completes the 'Recovery & EMC competency booklet' and LCAT for 'Sampling from Arterial Line
- Competency is recorded on HELM account and certificate provided by Education Team

## 4. Monitoring Compliance

| What will be measured to monitor compliance | How will compliance be monitored | Monitoring Lead | Frequency | Reporting arrangements |
|---|---|---|---|---|
| EMC Competency | Via HELM | Education Team | Yearly | Board |
| Incidents/near misses/claims | Datix | Jenny Russell | Monthly | Board |
| Availability of required medical equipment in rooms | Audit | Guidelines Lead for Women's | Yearly | Board and Audit Meeting |

## 5. Supporting References (maximum of 3)


1. Department of Health. Comprehensive Critical Care: A Review of Adult Critical Care Services. DOH. 2000 London.
2. The Association of Anaesthetists of Great Britain and Ireland / The Obstetric Anaesthetists Association Guidelines for Obstetric Anaesthesia Services. 1998. London.
3. Royal College of Obstetricians and Gynaecologists. Confidential Enquiry into Maternal Death. RCOG Press.2001. London.
4. Bhuinneáin MéabhNí, Barry-Kinsella C, Coughlan BM, Bosio P, McKenna PF. Critical Care Admission of Obstetric Patients. Irish Medical Journal. 2001. 94:1.
5. Lewis G ed Why mothers die 2000-2002: the sixth report of the Confidential Enquiries into maternal deaths in the United Kingdom. London: RCOG Press, 2004
6. Care of the critically ill woman in childbirth; enhanced maternal care; August 2018 ;Royal College of Anaesthetists


## 6. Key Words

High dependency care Enhanced maternity care critical care




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**The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.**
**As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.**

| DEVELOPMENT AND APPROVAL RECORD FOR THIS DOCUMENT | | |
|---|---|---|
| **Author / Lead Officer:** | T Singhal and L Matthews | **Job Title:** Consultant Obstetrician and Specialist Midwife – Quality and Safety |
| **Reviewed by:** | Joseph Antony - Consultant Anaesthetist<br>Kunte Radha - Higher Specialist Level Doctor | |
| **Approved by:** | Maternity Service Governance Group | **Date Approved:** 27.10.14<br>17.12.14 |

| REVIEW RECORD | | | |
|---|---|---|---|
| **Date** | **Issue Number** | **Reviewed By** | **Description Of Changes (If Any)** |
| 10.03.14 | V2 | As above | Insertion of MOH to criteria for referral to ITU<br>Arterial cannulae added to equipment list<br>HDU equipment separated out from basic equipment |
| 12.16 | V2 | E Hart and K Kondov | No change |
| May 2017 | V3 | L Matthews | Level 2 care not provided on Delivery Suite |
| December 2020 | V4 | J Antony and K Radha | Introduction and Enhanced Maternity Care (EMC) added in. Hyperlinks added for related documents. All women requiring critical care from 20weeks of pregnancy should be cared for in a unit with rapid access to maternity services.<br>Outreach team changed to DART team.<br>Equipment – AMBU bag and mask added in. EMC rooms to have 02 therapy, Fluid resus and resus trolley. |

| DISTRIBUTION RECORD: | | | |
|---|---|---|---|
| **Date** | **Name** | **Dept** | **Received** |
| 18.12.14 | All Obstetricians, Midwives and Obstetric Anaesthetists | Maternity | |
| December 2020 | All obstetricians, Midwives and Obstetric Anaesthetists. | Maternity | |
| | | | |
| | | | |



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APPENDIX 1

# HDU/ITU Transfer Record

| **Full Name** |
|---|
| **Address** ……………………………………………………… ……………………………………………………………… ……………………………………………………………… |
| **NHS Number** |
| **Hospital Number** |
| **Date of Birth** |

**Patients Details**
***(Addressograph Label)***

| **Transfer From** | **Transfer To** |
|---|---|
| **Date and Time of Transfer** | **Details if appropriate** |
| **Antenatal/Postnatal Gestation (*delete as appropriate*)** | |

**Indications for Transfer (*Tick as Appropriate*)**

| | | | |
|---|---|---|---|
| **Pre-Eclampsia** | *(Tick)* | **Respiratory** | *(Tick)* |
| **Eclampsia** | *(Tick)* | **CNS** | *(Tick)* |
| **Massive Obstetric Haemorrhage** | *(Tick)* | **CVS** | *(Tick)* |
| **Sepsis** | *(Tick)* | **Renal** | *(Tick)* |
| **Other (*please state)*** | *(Tick)* | **Details** | *(Tick)* |

**Interventions (*Tick as Appropriate)***

| | | | |
|---|---|---|---|
| **Intubated** | *(Tick)* | **IV Fluids** | *(Tick)* |
| **Oxygen** | *(Tick)* | **Blood products** | *(Tick)* |

**Infusions (*Tick as Appropriate)***

| | | | |
|---|---|---|---|
| **Magnesium Sulphate** | *(Tick)* | **Syntocinon** | *(Tick)* |
| **Labetolol** | *(Tick)* | **Inotropes** | *(Tick)* |

**Monitoring (*Tick as Appropriate*)**

| | | | |
|---|---|---|---|
| **ECG** | *(Tick)* | **NIBP** | *(Tick)* |
| **Oxygen Saturations** | *(Tick)* | **Arterial Line** | *(Tick)* |
| **CVP Line** | *(Tick)* | **Urinary Catheter** | *(Tick)* |
| **Capnography** | *(Tick)* | **Other (*please state*)** | *(Tick)* |

**Discussed With (*Tick as Appropriate*)**

| | | | |
|---|---|---|---|
| **Obstetric Consultant** | *(Tick)* | **Anaesthetic Consultant** | *(Tick)* |
| **ITU Consultant** | *(Tick)* | **Maternity Bleep Holder** | *(Tick)* |
| **Nurse In Charge of ITU** | *(Tick)* | **Other (state details)** | *(Tick)* |

**Transferred By (*Tick as Appropriate*)**

| | | | |
|---|---|---|---|
| **ITU/HDU Staff** | *(Tick)* | **Obstetric Anaesthetist** | *(Tick)* |
| **ODP** | *(Tick)* | **Other (state details)** | *(Tick)* |

**Handover to ITU staff**

| | | |
|---|---|---|
| **SBAR handover given** | *(Tick)* | **Handover given by** |



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