

THE SEVERELY ILL PATIENT IN MATERNITY SERVICES	CLINICAL GUIDELINES Register No: 09095 Status: Public
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Appendix A – Modified Early Obstetric Warning System (MEOWS) Trigger Process

1.0 Purpose

- 1.1 As part of obstetric practice, patients will occasionally develop serious problems. Maternity staff are increasingly in contact with patients who have the potential to become severely ill due to a variety of reasons.
- 1.2 Although it is important to recognise that childbearing will be uncomplicated for many of these patients, it is equally important to be aware that for some of them, their age/health status makes them more likely to become severely ill.
- 1.3 Provision should be made for up to ten high dependency cases and one intensive care admission per 1,000 deliveries. Failure to recognise the severely ill patient leads to a delay in giving appropriate treatment and has been identified as a major contributing factor in over 60% of all maternal deaths in the UK.
- 1.4 The purpose of this guideline is to ensure that those patients who have the potential to develop critical illness, i.e. women with underlying medical problems and, those who develop serious problems during pregnancy and childbirth, are identified early when their clinical condition is beginning to deteriorate- before a serious adverse event occurs. It will also ensure early and appropriate involvement of clinicians outside of the maternity service.

2.0 Equality and Diversity

- 2.1 Mid Essex Hospital Services NHS Trust is committed to the provision of a service that is fair, accessible and meets the needs of all individuals.

3.0 Criterion for the Severely ill Pregnant Patient (including immediate postnatal period)

- 3.1 Most patients are fit and well but as an in-patient, these women require as a minimum twice daily recording of observations, which should be documented in the MEOWS (Maternity Early Obstetric Warning Scoring) chart.
(Refer to the guideline entitled 'Guideline for the management of normal labour in low risk patients' 2.3 (09079))
- 3.2 The following criteria are examples of when closer observation and the continued use of the MEOWS chart is indicated. The list is not exhaustive and it can be used for any patient if warranted by the clinical situation:
 - Severe pre-eclampsia
 - Eclampsia
 - HELLP syndrome: (haemolysis elevated liver proteins and low platelets)
 - Suspected or diagnosed pulmonary embolism
 - Suspected or diagnosed pulmonary oedema
 - Severe APH or PPH i.e. > 500mls or symptomatic (APH - antepartum haemorrhage, PPH - postpartum haemorrhage)
 - Brittle asthma requiring treatment / respiratory concerns
 - Signs of anaphylaxis
 - Severe infection / septicaemia (suspected or diagnosed)
 - Severe and prolonged episodes of chest pain (particularly where there is a history of cardiac problems)
 - Diabetic ketoacidosis

- Antenatal patients
- Post Caesarean section
- Following theatre procedure under spinal/general anaesthesia
- Acute obstetric admission to hospital for observation
- Patients who have pre-existing disease e.g. diabetes, respiratory disease, cardiac disease, sickle cell disease, severe anaemia
- Any other patient clinically indicated

3.3 Where there are deviations from the norm; women should be transferred from a low risk setting to a high risk setting for immediate review i.e. from the Midwife-led Unit or domestic setting to the Consultant-led Unit.

4.0 Equipment

4.1 The following equipment should be available:

- Non invasive blood pressure machine
- Pulse oximetry
- Tympanic thermometer
- ECG (both 12 lead and three lead)
- High flow oxygen and reservoir/face mask
- Blood sugar monitor

5.0 Staff Responsibilities

5.1 The patient must receive one to one care by a midwife/nurse or professional qualified to undertake this role.

5.2 Midwives:

- To ensure that patients who have pre-existing medical conditions are booked for Consultant obstetric care
- To risk assess continuously throughout pregnancy, intrapartum period and the post-natal period. Identifying and referring any risks to the consultant obstetrician
- To calculate the MEOWS score which will be used to determine the management of the patient's care. Midwifery staff will be responsible for notifying the shift co-ordinator when score of 3 or above is noted on the MEOWS chart
- If the MEOWS score is above 6 the anaesthetic registrar should be called to take an arterial blood gas
- To refer any patient for an obstetric review whose clinical condition is giving cause for concern
- To ensure all documentation is recorded contemporaneously in the patient's records and that all test results are filed appropriately (Refer to the guideline for 'Maternity record keeping including documentation in handheld records'; register number 06036)
- To consider throughout the process, mental capacity issues which may adversely affect consent taking process and consider appropriate Mental Capacity Act and Deprivation of Liberty Safeguards (MCA and DOLS) - MCA2 set capacity assessment form (Refer to the policy entitled 'Mental Capacity Act' (2005) Policy; register number 11001)

- All admissions of severely ill women should prompt enquiry as to the safety and whereabouts of her other children, where applicable.

5.3 **Labour Ward Co-ordinator:**

- To be aware of all patients in the maternity department who have a **MEOWS score of 3 or above**
- If the MEOWS score is above 6 the anaesthetic registrar should be called to take an arterial blood gas
- To be involved in the management of all severely ill patient
- To ensure that all severely ill patients have one to one care in labour
- To allocate an appropriate member of staff to care for the patient
- To inform the obstetric registrar and anaesthetic registrar on call
- To ensure all care, conversations and decisions have been clearly documented in the healthcare records
(Refer to the guideline for 'Maternity record keeping including documentation in handheld records'; register number 06036)

5.4 **Obstetric Registrar** should be informed of the admission and should be responsible for the following:

- Undertake a full assessment of the patient
- Inform the obstetric consultant on call
- To review all patients who have a MEOWS score of 3 or above
- To inform the consultant obstetrician on-call at an early stage of all sick pregnant patient in the hospital, whether they have a medical or an obstetric problem
- Review and document clearly a multi-disciplinary plan of care in the patient's healthcare records and update regularly
- If the MEOWS score is above 6 the anaesthetic registrar should be called to take an arterial blood gas
- To ensure multi-disciplinary involvement from anaesthetics and other professionals e.g. physicians, surgeons, haematologists, microbiologists as appropriate
- Ensure haemorrhage, sepsis and pre-eclampsia/severe hypertension guidelines are followed as soon as a problem is identified
- To work in partnership with, and keep the Labour Ward Co-ordinator informed of the patient's condition
- Keep the patient and her next of kin fully informed, documenting her involvement in the plan of care
- Ensure all care, conversations and decisions have been clearly documented in the healthcare records
- Consider throughout the process, mental capacity issues which may adversely affect consent taking process and consider appropriate Mental Capacity Act and Deprivation of Liberty Safeguards (MCA and DOLS) - MCA2 set capacity assessment form
(Refer to the policy entitled 'Mental Capacity Act' (2005) Policy; register number 11001)
(Refer to the guideline for 'Maternity record keeping including documentation in handheld records'; register number 06036)

5.5 **Obstetric Consultant** on duty is responsible for:

- Reviewing the patient when the MEOWS score of 3 or above and intervention has not improved the patient's condition
- Deciding in conjunction with the lead midwife where the most appropriate place of care e.g. Labour Ward or HDU
- Being responsible for the co-ordination of the woman's care should transfer to HDU be required
- Reviewing the patient him/herself where appropriate
- Providing expert obstetric care
- Keeping the Labour Ward Co-ordinator informed of the patient's condition
- Keeping the patient and her close family/significant others fully informed
- Ensuring all care, conversations and decisions have been clearly documented in the healthcare record
(Refer to the guideline for 'Maternity record keeping including documentation in handheld records'; register number 06036)

5.6 The anaesthetic registrar should be responsible for:

- Informing the consultant anaesthetist of the patient's admission
- Keeping the Labour Ward Co-ordinator informed of the patient's condition
- Providing ongoing care to the patient and baby if still pregnant
- Ensuring all care, conversations and decisions have been clearly documented in the health care records
(Refer to the guideline for 'Maternity record keeping including documentation in handheld records'; register number 06036)

5.7 The anaesthetic consultant should be responsible for:

- Reviewing the patient him/herself where appropriate
- Providing expert anaesthetic care
- Keeping the Labour ward Co-ordinator informed of the patient's condition
- Ensuring all care, conversations and decisions have been clearly documented in the health care records
(Refer to the guideline for 'Maternity record keeping including documentation in handheld records'; register number 06036)

6.0 **Observations**

6.1 The patient should be cared for in the rooms 6 and 11 to 15 identified as the high dependency area of the Labour ward. Rooms 6, 13, 14 and 15 have additional monitoring equipment including the ability to undertake three lead ECG recordings and CVP readings.

6.2 The patient should have an initial set of baseline observations recorded. This should include:

- Temperature
- Pulse
- Respiratory rate

- Blood pressure (BP) systolic and diastolic with mean arterial pressure (MAP) recordings
 - Oxygen saturation levels
 - Urine output
 - Level of consciousness
- 6.3 In addition to the observations scored by MEOWS the following should be recorded in the patient's healthcare records
(Refer to the guideline for 'Maternity record keeping including documentation in handheld records'; register number 06036)
- Vaginal loss
 - Pain levels
- 6.4 A fluid balance chart must be commenced if intake /output monitoring is indicated. This information should be included in the total MEOWS score.
- 6.5 These should be repeated every **fifteen minutes for the first hour**. If the midwife responsible for the patient is unable to assess and record the observations as stipulated, the following reasons should be documented in the patient's healthcare records as follows:
- Vomiting
 - Out to the toilet
 - Patient declines assessment and recording of maternal observations
- 6.6 Following this period the frequency of the observations should be determined on the patient's condition along with recommendations from accompanying guidelines.
(Refer to 'Guideline for the management of severe eclampsia and pre-eclampsia' Register number 05110; 'Guideline for the management of diabetes in pregnancy'. Register number 04266; 'Guideline for the management of post partum haemorrhage'. Register number 04234)
- 6.7 Urinalysis should be undertaken (where possible a catheter specimen is preferable).
- 6.8 Strict fluid balance must be maintained on the severely ill patient. An indwelling catheter should be inserted and hourly output measurements recorded on the fluid balance chart
- 6.9 All observations must be accurately recorded on a MEOWS chart and documented in the healthcare records. This will allow professionals involved in caring for the patient to recognise trends more easily and accurately.
(Refer to the guideline for 'Maternity record keeping including documentation in handheld records'; register number 06036)
(Refer to Appendix A)
- 6.10 The patient must be assessed using **MEOWS**. This is the early warning system developed within the Trust to recognise signs of deterioration of an ill patient.
(Refer to Appendix A)
- 6.11 Blood samples should be taken and sent category 1 for immediate analysis, ensuring that the laboratory has been informed that the samples are on route. The following investigations should include:

- Full blood count
- Clotting screen
- Urea and Electrolytes levels
- Liver Function Tests
- Group and Save
- LDH (lactate dehydrogenase)

6.12 In cases of pre-eclampsia uric acid levels may also be considered.

6.13 In cases of suspected infection, C-reactive protein should be included as well as blood cultures.

7.0 Interpretation of MEOWS Chart

7.1 The score is used as a guide as to when to refer to medical staff and for the frequency of observations: (Refer to Appendix A)

7.2 The Shift Co-ordinator must be informed of any patients with a **MEOWS score of 3 or above**. (Refer to Appendix A)

7.3 The obstetrician must make an individualised management plan for every patient that is reviewed. This must be documented in the patient's healthcare records.

7.4 It is the responsibility of the midwife caring for the patient and/or the obstetrician involved in the assessment of the patient to complete the severely ill pregnant patient proforma which is attached to the MEOWS chart. This completed audit proforma should be filed in the appropriately labelled tray in the Labour Ward office.

7.0 Outside Specialist Involvement

8.1 The on-call obstetric consultant is responsible for the co-ordination of the patient's care and will liaise with the obstetric anaesthetist and the ITU anaesthetist. Should transfer to HDU be required they will facilitate this.

8.1 Outside specialist involvement should occur when the patient's condition requires specialist involvement outside the expertise of the maternity department

8.2 Other specialities that may need to be involved:

- ITU Nursing Staff
- Haematologist in cases of severe haemorrhage/ disseminated intravascular coagulation (DIC)/clotting disorders
- Physician/surgeon if appropriate
- Radiographer
- Renal physician

9.0 Transfer to Intensive Therapy Unit (ITU)

9.1 In severe cases, transfer of the patient to ITU may be necessary. When this situation arises, the appropriate guideline should be followed (Refer to the 'Guideline for the provision of high dependency care and arrangements for the safe and timely transfer to intensive care'. Register number 04232

10.0 Staffing and Training

- 10.1 All midwifery and obstetric staff must attend yearly mandatory training which includes skills and drills training, maternal resuscitation and early recognition of the ill patient. (Refer to 'Mandatory training policy for Maternity Services (incorporating training needs analysis. Register number 09062)
- 10.2 All midwifery and obstetric staff are to ensure that their knowledge and skills are up-to-date in order to complete their portfolio for appraisal.

11.0 Infection Prevention

- 11.1 All staff should follow Trust guidelines on infection prevention by ensuring that they effectively 'decontaminate their hands' before and after each procedure.
- 11.2 All staff should ensure that they follow Trust guidelines on infection prevention. All invasive devices must be inserted and cared for using High Impact Intervention guidelines to reduce the risk of infection and deliver safe care. This care should be recorded in the Saving Lives High Impact Intervention Monitoring Tool Paperwork (Medical Devices).

12.0 Audit and Monitoring

- 12.1 Audit of compliance with this guideline will be considered on an annual audit basis in accordance with the Clinical Audit Strategy and Policy (register number 08076), the Corporate Clinical Audit and Quality Improvement Project Plan and the Maternity annual audit work plan; to encompass national and local audit and clinical governance identifying key harm themes. The Women's and Children's Clinical Audit Group will identify a lead for the audit.
- 12.2 As a minimum the following specific requirements will be monitored:
- Responsibilities of relevant staff groups
 - Process for the use of a modified early obstetric warning scoring system (MEOWS)
 - Guidance for staff on when to involve clinicians from outside the maternity service
 - Maternity service's expectations in relation to staff training, as identified in the training needs analysis, regarding the recognition of severely ill women
 - Maternity service's expectations in relation to staff training, as identified in the training needs analysis, regarding maternal resuscitation
 - Process for audit, multidisciplinary review of audit results and subsequent monitoring of action plans
- 12.3 A review of a suitable sample of health records of patients to include the minimum requirements as highlighted in point 12.2 will be audited. A minimum compliance 75% is required for each requirement. Where concerns are identified more frequent audit will be undertaken.
- 12.4 The findings of the audit will be reported to and approved by the Multi-disciplinary Risk Management Group (MRMG) and an action plan with named leads and timescales will be developed to address any identified deficiencies. Performance against the action plan will be monitored by this group at subsequent meetings.

12.5 The audit report will be reported to the monthly Directorate Governance Meeting (DGM) and significant concerns relating to compliance will be entered on the local Risk Assurance Framework.

16.6 Key findings and learning points from the audit will be submitted to the Patient Safety Group within the integrated learning report.

16.7 Key findings and learning points will be disseminated to relevant staff.

13.0 Guideline Management

13.1 As an integral part of the knowledge, skills framework, staff are appraised annually to ensure competency in computer skills and the ability to access the current approved guidelines via the Trust's intranet site.

13.2 Quarterly memos are sent to line managers to disseminate to their staff the most currently approved guidelines available via the intranet and clinical guideline folders, located in each designated clinical area.

13.3 Guideline monitors have been nominated to each clinical area to ensure a system whereby obsolete guidelines are archived and newly approved guidelines are now downloaded from the intranet and filed appropriately in the guideline folders. 'Spot checks' are performed on all clinical guidelines quarterly.

13.4 Quarterly Clinical Practices group meetings are held to discuss 'guidelines'. During this meeting the practice development midwife can highlight any areas for further training; possibly involving 'workshops' or to be included in future 'skills and drills' mandatory training sessions.

14.0 Communication

14.1 A quarterly 'maternity newsletter' is issued and available to all staff including an update on the latest 'guidelines' information such as a list of newly approved guidelines for staff to acknowledge and familiarise themselves with and practice accordingly.

14.2 Approved guidelines are published monthly in the Trust's Focus Magazine that is sent via email to all staff.

14.3 Approved guidelines will be disseminated to appropriate staff quarterly via email.

14.4 Regular memos are posted on the guideline notice boards in each clinical area to notify staff of the latest revised guidelines and how to access guidelines via the intranet or clinical guideline folders.

15.0 References

Centre for Enquiries into Maternal and Child Health (2011). Saving Mothers Lives : Reviewing Maternal Deaths To Make Motherhood Safer (2006-2008). London. CEMACE.

CNST Maternity Clinical Risk Management Standards (2010/11) Version 1, Standard 2, Criterion 9; High dependency care.

Maternal Clinical Working Group 2011. Providing Equity of Critical and Maternity Care for the Critically Ill Pregnant or Recently Pregnant Woman. London. RCOA. www.rcoa.ac.uk

Royal College of Obstetricians & Gynaecologists (2011). Maternal Collapse In Pregnancy & the Puerperium. London RCOG. www.rcog.org.uk

With thanks to North Cumbria University Hospitals NHS Trust (2010)

Billington M & Stevenson M (2007) Critical Care in Childbearing for Midwives. Chapter 1. Pub: Blackwell. London.

The Mental Capacity Act Policy. (1101)

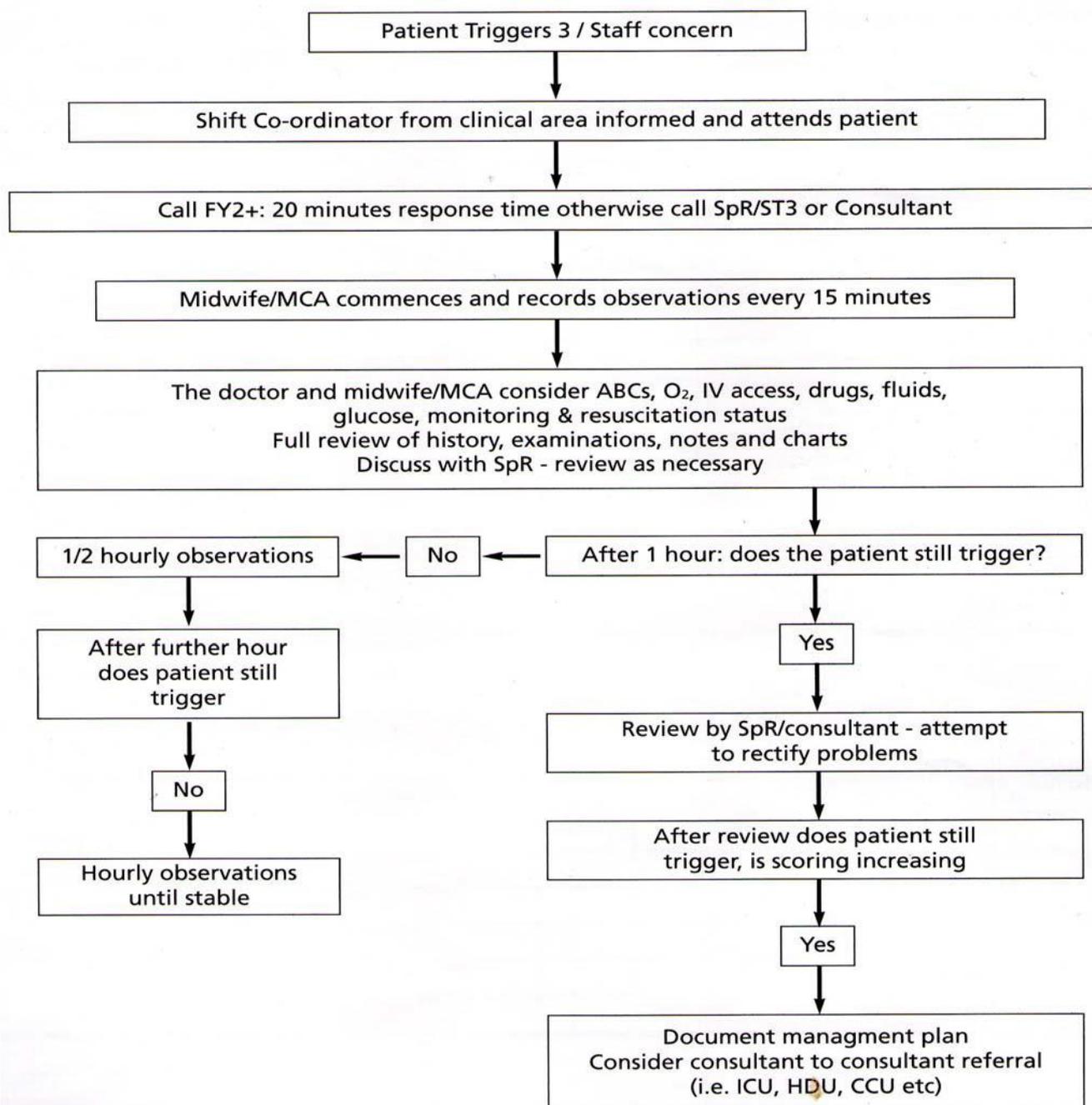
The Mental Capacity Act (2005) Decision making pathway.

MCA05 Guidance to Mental Capacity Act (2005)

MCA13 MCA 2005 A Guidance for service users and carers.

Safeguarding Vulnerable Adults Policy (08034)

MEOW Trigger Process (MEHT)



Pain Score	Sedation Score	Nausea Score	Motor Function - Epidurals only
Score 0 (none) = No pain at rest, no pain on movement. Score 1 (mild) = No pain at rest, mild pain on movement. Score 2 (moderate) - Intermittent pain at rest, moderate pain on movement. *Score 3 (severe) = continuous pain at rest, severe pain on movement. *Call Doctor on pain team	Score 1 = Mild occasionally drowsy easy to rouse. Score 2 = Moderate - frequently drowsy, easy to rouse. *Score 3 = Severe - somnolent, difficult to rouse. *Call Doctor or anaesthetist	Score 0 = Nausea. Score N = Nausea. Score V = Vomitting. *Score R = Refuses treatment.	Score 0 = Normal power. Score 1 = Can not raise leg. Score 2 = Can not bend knee. *Score 3 = No leg power. *Call anaesthetist or pain team

Movement = patient attempts to touch the opposite side of the bed or deep breathe