NHS
Mid and South Essex
NHS Foundation Trust

Document Title:	**MANAGEMENT OF PRE-TERM PRE-LABOUR RUPTURE OF MEMBRANES**		
Document Reference/Register no:	08048	**Version Number:**	5.1
Document type: (Policy/ Guideline/ SOP)	Guideline	**To be followed by:** (Target Staff)	Midwives, Obstetricians, Paediatricians
Ratification Issue Date: (Date document is uploaded onto the intranet)	2 October 2019	**Review Date:**	1 October 2022
Developed in response to:	Intrapartum NICE Guidelines RCOG guideline		
Contributes to HSC Act 2008 (Regulated Activities) Regulations 2014(Part 3); and CQC Regulations 2009 (Part 4) **CQC Fundamental Standards of Quality and Safety:**			9,12
Issuing Division/Directorate:	Women's and Children's		
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Hospital Sites: (tick appropriate box/es to indicate status of policy review i.e. joint/ independent)	☐ MSE NHS Foundation Trust ☐ Basildon Hospital ☒ Broomfield Hospital ☐ Southend Hospital ☐ Other (please state)		
Consultation:	(Refer to page 2)		
Approval Group / Committee(s):	n/a	**Date:**	n/a
Professionally Approved by: (Asset Owner)	Miss Rao, Lead Consultant for Obstetrics and Gynaecology	**Date:**	19 September 2019
Ratification Group(s):	DRAG Chairman's Action	**Date:**	1 October 2019
Executive and Clinical Directors (Communication of minutes from Document Ratification Group	**Date:** October 2019	**Distribution Method:**	Intranet & Website. Notified on Staff Focus

Consulted With:	Post/ Approval Committee/ Group:	Date:
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Related Trust Policies (to be read in conjunction with)	04071 Policy for standard infection prevention precautions 04072 Hand hygiene policy 06036 Maternity record keeping including documentation in handheld records 07065 Administration of antenatal steroids 04265 Fetal heart rate monitoring in pregnancy and labour 09097 Management of labour 09095 The severely ill patient in Maternity Services

Document Review History:			
Version No:	**Authored/Reviewer:**	**Summary of amendments/ Record documents superseded by:**	**Issue Date:**
1.0	Julie Bishop		January 2005
2.0	Liz Millican		June 2008
3.0	Sarah Moon		May 2013
3.1	Chris Berner	Clarification to points 6.3, 8.13, 8.14, 9.2, 9.3 & 9.4	May 2014
4.0	Miss Joshi		13th June 2016
5.0	Anita Dutta	Full review	2nd October 2019
5.1	Rachel Smith	Clarification to points 2.1, 6.7, 10.0 and 14.0	09 October 2020

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1.0 Purpose

1.1 To provide doctors and midwives with a guide for the management of patients with ruptured membranes preterm prior to the onset of labour.

2.0 Equality Impact Assessment

2.1 Mid and South Essex NHS Foundation Trust is committed to the provision of a service that is fair, accessible and meets the needs of all individuals.
(Refer to Appendix C)

3.0 Definition

3.1 Pre-labour rupture of membranes is defined as spontaneous rupture of the membranes before the onset of regular uterine contractions. When this occurs before 37 weeks gestation, this is referred to as preterm pre-labour rupture of membranes.

3.2 Prolonged rupture of membranes is defined as 24 hours or more for preterm pregnancies.

4.0 Background

4.1 Within the UK, pre-labour rupture of membranes occurs in 6-19% of all term births.

5.0 Diagnosis

5.1 Loss of fluid per vaginum fluid visualised in posterior fornix.

6.0 Summary for the Diagnosis of Preterm Pre-labour Ruptured Membranes (PPROM)

6.1 Obtain a history i.e. a ‘gush’ of liquor, continual wetting or dampness of underwear, continuing leaking of vaginal fluid post micturition. Note time of rupture of membranes, colour and amount of liquor.

6.2 Routine antenatal assessment i.e. temperature, respirations, pulse, blood pressure, fundal height, abdominal palpation and fetal auscultation (cardiotocograph monitoring (CTG) for over 27 weeks). In addition, the observations 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' (09079); and 'Management of the severely ill pregnant patient' (09095); Guideline for Maternity Record Keeping including Documentation in Handheld Records' (06036)

6.3 Routine ward urinalysis using multi-agency dipstick should be performed in the presence of PPROM. If nitrates of leucocytes are detected then a mid-stream specimen of urine (MSU) must be sent.

6.4 Investigations include sterile speculum examination under good light; ask the patient to cough to see leakage of amniotic fluid, high vaginal swab is taken. Those patients under 37 weeks gestation will need to have the examination performed by the obstetric registrar.

6.5 A blood test is required to include the following: full blood count (FBC), creatinine reactive protein (CRP)

6.6 If no liquor seen on speculum and history not conclusive for rupture of membranes, the patient must be reviewed by the obstetric registrar for a plan of care specific to her individual clinical picture prior to discharge.

6.7 For Women that give a good history of pre-labour rupture of membranes, with an inconclusive speculum examination, a diagnostic ROM+ test can be performed as per the ROM+ instructions for use, to confirm or rule out rupture of membranes.

6.8 If liquor is visualised then admit if less than 37 weeks gestation and following review by the obstetric registrar a discussion should ensue with the woman's named consultant or consultant on call to formulate a plan of care.
(Refer to Appendix A)

6.9 If you are unsure of presentation on palpation, request an obstetric consultant, or registrar with accredited ultrasound qualification, who should perform an ultrasound scan in the unit in the first instance, or arrange a departmental ultrasound scan to avoid unnecessary vaginal examination.

7.0 Rationale

7.1 To determine wellbeing of mother and baby and to determine presentation and engagement.

7.2 To determine appropriate plan of care.

7.3 Allow visualisation of cervix and liquor; obtain a high vaginal swab (HVS) to note any infection of the lower genital tract and/or amniotic cavity as this is one of the most important causes of prolonged rupture of membranes (PROM).

7.4 Digital examination increases risk of infection, this does not aid diagnosis of spontaneous rupture of membranes (SROM).

7.5 Also, full blood count, raised CRP – can indicate infection.

8.0 Management for Preterm Pre-labour Ruptured Membranes

8.1 If there are any co-existing fetal, possibly infective or maternal problems or disorders, the case needs to be considered on an individual basis with named consultant or consultant on call.

8.2 For patients who are more than 23 and less than 35 weeks gestation should be given betamethasone 12 milligrammes (mg), intramuscularly (IM) as soon as possible. A second dose of betamethasone 12mg IM should be administered 12 hours later.
(Refer to appendix A for management of pre-labour ruptured membranes)

8.3 Women who are less than 23 and up to 36 weeks and between 36-37 weeks gestation should receive antibiotics in line with local antimicrobial prescribing guidelines found on Microguide.

8.4 Twice weekly cardiotocograph (CTG) should be performed on women less than 37 weeks gestation.

8.5 Once weekly FBC, CRP should be obtained, or when symptomatic.

8.6 Fortnightly growth and liquor ultrasound scans to be performed.

8.7 Chorioamnionitis can be diagnosed clinically by the following:

- Increased fetal or maternal heart rate;
- Abdominal pain;
- Altered vaginal loss (blood, meconium, offensive discharge);
- Increased temperature;
- Test results abnormal.

8.8 The time in hospital can be spent assessing suitability for outpatient management.

8.9 If the criteria has been met, further discussions with the woman's consultant or consultant on call can ensue regarding future management and treatment as an outpatient attending the Day Assessment Unit.

8.10 Women should be educated regarding any changes in clinical conditions which may compromise fetal wellbeing.

8.11 All patients should be seen on 1-2 weekly basis in the antenatal clinic by the consultant obstetrician.
(Refer to Appendix B for summary of Day Assessment Unit management)

8.12 In relation to induction of labour, the RCOG recommends that induction should be undertaken at 37 completed weeks gestation i.e. 36 weeks and 6 days after discussion with the woman (RCOG GTG 73). MEHT guidance supports the induction at 36 completed weeks gestation; unless there is evidence of chorioamnionitis or maternal choice.

8.13 All women with PPROM who are booked for an elective LSCS must receive antibiotic prophylaxis as per Microguide. The role of Magnesium Sulphate for neuroprotection should be given at 33 weeks and 6 days.
(Refer to 'Fetal Neuroprotection prior to pre-term birth; register number 15000)

9.0 Intrapartum Management of Pre-labour Preterm Ruptured Membranes

9.1 Consider intrapartum antibiotic prophylaxis using intravenous antibiotics as per Microguide to prevent early-onset neonatal infection for women in preterm labour if there is pre-labour rupture of membranes of any duration.

9.2 Bacteriological testing for GBS is not recommended for women with PPROM. Intrapartum antibiotic should be given once labour is confirmed or induced irrespective of GBS status (RCOG GTG- 36). In a woman with PPROM and a known GBS carrier in previous or current pregnancy delivery should be expedited at or after 34 weeks Offer empiric antibiotics as per Microguide as the first line choice for intrapartum antibiotic prophylaxis, unless individual group B streptococcus sensitivity results or local microbiological surveillance data indicate a different antibiotic.

9.3 All placentas of PPROM must be initially swabbed, then submerge in formalin and sent to histopathology.

9.4 In line with the East of England guidance, the paediatrician must be informed when the membranes have been ruptured for more than 18 hours in a pre-term birth.

10.0 Staffing and Training

10.1 All qualified midwifery and obstetric staff are fully trained to assess women for spontaneous rupture of membranes. Those patients under 37 weeks gestation will need to have a speculum examination performed by the obstetric registrar.

10.2 Regular updates for venepuncture are available from the Practice Development Midwife. Midwifery students may undertake venepuncture once they have received the theoretical knowledge and while under supervision of a midwife or obstetrician.

10.3 **Guideline Management**

10.3.1 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.

11.0 Professional Midwifery Advocates

11.1 Professional Midwifery Advocates provide a mechanism of support to women and midwives. Professional Midwifery Advocates are experienced practicing midwives who have

undertaken further education in order to advise and support midwives and women in their care choices.

12.0 Infection Prevention

12.1 All staff should follow Trust guidelines on infection prevention by ensuring that they effectively decontaminate their hands before and after each procedure and when taking bloods samples and performing speculum examinations to use the Aseptic Non-Touch Technique (ANTT).

13.0 Audit and Monitoring

13.1 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.

13.2 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.

13.3 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.

13.4 Key findings and learning points from the audit will be submitted to the Clinical Governance Group within the integrated learning report.

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

14.0 Approval and Implementation

14.1 A quarterly 'maternity newsletter' is issued to all staff to highlight key changes in clinical practice to include a list of newly approved guidelines for staff to acknowledge and familiarise themselves with and practice accordingly. Midwives that are on maternity leave or 'bank' staff have letters sent to their home address to update them on current clinical changes.

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

15.0 References

National Institute for Clinical Excellence (2008) Inducing labour CG70 London:NICE. Available at:
https://www.nice.org.uk/guidance/cg70

Royal College of Obstetricians and Gynaecologists (2017) Group B Streptococcal Disease, Early-onset (Green-top Guideline No. 36) London:RCOG. Available at:
https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg36/

Royal College of Obstetricians and Gynaecologists (2019) Care of Women Presenting with Suspected Preterm Prelabour Rupture of Membranes from 24^{+0} Weeks of Gestation (Green-top Guideline No. 73). London:RCOG. Available at:
https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg73/

Appendix A

Flow Chart for Pre-labour Ruptured Membranes

Less than 35 weeks gestation	36 – 37 weeks gestation
If gestational age more than 23 weeks then give betamethasone 12 milligrammes (mgs) as soon as possible with second dose 12 hours later In both <-> 23 weeks give antibiotics erythromycin 250mgs, 6 hourly for ten days or until delivery (whichever is the shorter) Tests: Mid stream specimen of urine (MSU), HVS, FBC, CRP taken More than 27 weeks daily CTG.	Antibiotic cover erythromycin 250mgs – 6 hourly for 10 days or until delivery (whichever the shorter) If IV erythromycin used. Dilute in 100mgs of normal/saline and give over 20 minutes to minimise vein irritation. If nitrates of leucocytes are detected then a mid-stream specimen of urine (MSU) must be sent.

Appendix B

Antenatal Day Assessment Management of Pre labour Ruptured Membranes in Singleton Pregnancy

Less than 37 weeks gestation on DAU
Day Assessment management subject to home and social circumstances
Patient takes temperature 4-6 hourly during waking hours at home
Check all previous test results HVS swab, urine, FBC, CRP (If nitrates of leucocytes are detected then a mid-stream specimen of urine (MSU) must be sent)
Patient should be on erythromycin 250mgs, 6 hourly or alternative if allergic to erythromycin for ten days
Twice weekly FBC and CRP, alternate day CTG, fortnightly growth and liquor volume scan
Chorioamnionitis can be diagnosed clinically – increased fetal or maternal heart rate, abdominal pain, altered vaginal loss (blood, meconium, offensive discharge), increased temperature, test results abnormal.
Patient should be educated regarding any changes in clinical conditions which may compromise fetal wellbeing or developing compromise. All patients should be seen on 1-2 weekly basis in the antenatal clinic by obstetric consultant.

Appendix C: Preliminary Equality Analysis

This assessment relates to: Management of Pre-Term Pre-Labour Rupture of Membranes/ 08048

A change in a service to patients		A change to an existing policy	X	A change to the way staff work	
A new policy		Something else (please give details)			

Questions	Answers
1. What are you proposing to change?	Full Review
2. Why are you making this change? **(What will the change achieve?)**	3 year review
3. Who benefits from this change and how?	Patients and clinicians
4. **Is anyone likely to suffer any negative impact as a result of this change?** If **no**, please record reasons here and sign and date this assessment. If **yes**, please complete a full EIA.	No
5. a) Will you be undertaking any consultation as part of this change? **b) If so, with whom?**	Refer to pages 1 and 2

Preliminary analysis completed by:

Name	Anita Dutta	**Job Title**	Consultant Obstetrician	**Date**	September 2019