Sherwood Forest Hospitals
NHS Foundation Trust

TITLE: PRETERM, PRE LABOUR RUPTURE OF MEMBRANES MANAGEMENT GUIDELINE

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Document Type:	**GUIDELINE**

Keywords:	PTL, prelabour, PPROM, tocolysis, ATOSIBAN, Amnioquick, corticosteroids, dexamethasone, erythromycin, maternity, meconium

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Approved by (committee/group):	MGCG	**Date Approved:**	Dec-2024

Scope/ Target Audience: (delete as applicable and/ or describe)	**Specialty/ Department** • Maternity
Evidence Base/ References:	• NICE Guidance (NG25) Preterm Labour and Birth. November 2015, last updated 2022. • Kenyon SL, Taylor DJ, Tarnow-Mordi W. Broad-spectrum antibiotics for preterm, prelabour rupture of fetal membranes: the ORACLE I randomised trial. Lancet 2001a; 357(9261): 979-88. • Green Top Guideline No. 7. Antenatal corticosteroids to reduce neonatal morbidity. RCOG July 2022. • Morris et al. Immediate delivery compared with expectant management after preterm pre-labour rupture of the membranes close to term (PPROMT trial): a randomised controlled trial. Lancet 2016; 387(10017):403-504. • Preterm prelabour rupture of membranes before 23 weeks' gestation: prospective observational study (UKOSS Mar 2024)

Lead Division:	Women and Children's
Lead Specialty/ Department: (Or Division if 'divisionally' owned)	Maternity
Lead Author: (position/ role and name)	[redacted] - Consultant Obstetrician
Co-Author(s): (position/ role and name if applicable)	Not Applicable
Sponsor (position/ role):	Obstetrics and Gynaecology Service Director

Name the documents here or record not applicable	
(these are documents which are usually developed or reviewed/ amended at the same time – ie a family of documents)	
Associated Policy	N/A
Associated Procedure(s)	N/A
Associated Pathway(s)	N/A

Associated Standard Operating Procedure(s)	N/A
Other associated documents e.g. documentation/ forms	N/A

Consultation Undertaken:	Distributed by email to consultant obstetricians for comments Reviewed by PTB Lead midwife L.Foster

Template control:	v2.0 September 2023

Amendments from previous version(s)

Version	Issue Date	Section(s) involved	Amendment
V7.0	29-01-2025	Section 4.2.3	• Update to reflect change in recommendation of gestation at which to offer corticosteroids , and situations when repeated doses may be appropriate • Evidence base reviewed

CONTENTS

1 INTRODUCTION / BACKGROUND

Preterm prelabour rupture of membrane (PPROM) accounts for about 30% of pre term births (PTB) and affects up to 2-5% of pregnancies. PTB is a major contributor to neonatal and infant morbidity and mortality. About 75% of perinatal deaths occur in infants born prematurely, with two thirds of these arising in the 30-40% of preterm infants who are born before 32 weeks gestation. The recent fall in perinatal mortality has been reciprocated by an increase in short-term morbidity and long-term physical and mental disability in infant survivors of very preterm labour.

2 AIMS / OBJECTIVES / PURPOSE

For the purpose of this guideline pregnant individuals will be referred to as woman/women, however it is recognised that not all pregnant people identify as cisgender and appropriate use of inclusive langualge will be applied where necessary.

This clinical guideline applies to:

Staff group(s)
- Midwives (Community and Hospital)
- Obstetricians
- Paediatricians

Clinical area(s)
- Community
- Antenatal clinics
- Pregnancy day care
- Labour care
- Maternity ward
- Neonatal Unit

Patient group(s)
- Antenatal women
- Postpartum women

Exclusions
- None

Related Trust Documents
- Guideline for the Prevention of Early Onset Group B Streptococcal Infection
- Preterm Labour Management Guideline

3 ROLES AND RESPONSIBILITIES

This guideline provides guidance for the Obstetrician, Paediatrician and Midwives on how to manage pre term pre labour rupture of membranes; there are no set roles and/ or responsibilities.

4 GUIDELINE DETAILS (including Flowcharts)

It is the responsibility of all clinicians to ensure the appropriate consent has been gained prior to undertaking any examinations, treatment and care. Where relevant the associated documentation must be completed or the information documented in the records. For further information see the Trust's "Consent Policy".

4.1 Diagnosis.

This diagnosis is best made by maternal history followed by observation of liquor by sterile speculum examination (this also allows for visualisation of cervical dilatation). Tests such as the Amnioquick® test can be helpful in certain circumstances.

Clinical Assessment

History

- Detailed history of SROM including the onset, amount, and colour of fluid loss.
- Previous PTL.
- Previous history of PPROM.
- Multiple pregnancy
- Pain.
- Urinary symptoms suggestive of UTI or history of incontinence
- Co-existing APH
- Fetal movements.

Examination

- Maternal observations as per the MEOWS chart and urinary dipstick (with the nitrite/leucocyte stick).
- Any uterine contractions frequency, duration and subjective strength of contractions.
- Any uterine tenderness.
- Lie and presentation (May need ultrasound scan to determine presentation of the fetus).
- Presence/absence of fetal heart beat.
- VE should be avoided unless woman is in established labour.
- Speculum examination to ascertain if there is any liquor visible, whether there is any cervical dilatation, or bulging membranes.

Basic investigations

- Full blood count, group and save, and C-reactive protein (CRP).
- Midstream urine specimen (MSU) to exclude UTI (even if 'dipstick' urinalysis is negative)
- High Vaginal Swab (HVS)
- Blood cultures for women with maternal pyrexia (≥38.^{0}C).
- A CTG should be performed at gestations >26 weeks. Fetal tachycardia is an early sign of chorioamnionitis.

Amnioquick® (Insulin-like growth factor binding protein-1 (IGFBP-1) :

- Use this test if the patient gives a convincing history of ruptured membranes , but there is no liquor to be seen on speculum examination.
- The swab should be taken from high vagina
- The test is both sensitive and specific. This means that if the test is positive, the membranes are likely to have ruptured.
- If the test is negative, it is reasonable to let the woman go home.
- It can still be used if a small amount of bleeding, semen or urine is present.
- It should not be used in the context of no history suggestive of ruptured membranes.

4.2 Management:
Once pre-term pre-labour ROM has occurred this needs to be added as a new risk factor in the pregnancy risk assessment.

4.2.1 < 24 weeks gestation:

Counselling should be carried out by a senior Obstetrician. The management of families dealing with pre term pre labour rupture of membranes before 24 weeks gestation requires a joint approach involving both the obstetrician and the paediatrician and it always represents a challenge. Detailed management plan needs to be documented in the electronic Maternity records, and may need to change if the pregnancy continues to later gestation.

The major issue concerning immediate birth at this gestation is that it can be lethal or associated with serious morbidity. Expectant management has been associated with perinatal infection (25%), pulmonary hypoplasia, fetal restriction limb deformities, perinatal morality (35%-75%) and/or long-term disability. There has been a reported 12% rate of maternal sepsis in singleton and 29% in multiple pregnancies in a recent UKOSS survey.

After 48 hours of observation and appropriate counselling, women may be monitored as outpatients. There are no data to guide outpatient management. The decision and timing of use of erythromycin and steroids must be a consultant decision.

4.2.2 24+0 – 34+0 weeks gestation:

- Assessment and review on SBU by the Registrar
- Admit to the ward with a detailed plan of management to include maternal observations required and frequency and method of fetal monitoring.
- Inform neonatal unit. A paediatrician should review the woman for counselling.
- Daily review by registrar/consultant, whilst an in-patient
- If <28 weeks detailed management plan to be documented, including discussion with the woman and her family.
- In women with gestation <27weeks (or <28weeks for multiple pregnancies) where the baby would require Level 3 NICU care if delivered – discuss with consultant on-call regarding IUT to hospital with Level 3 NICU if birth is considered likely

Prophylactic antibiotics:

- Erythromycin (250mg orally 6 hourly) should be given for 10 days following the diagnosis of PPROM, or until birth if within 10 days.

- Oral penicillin should be considered in women who cannot tolerate erythromycin for maximum of ten days or until the woman is in established labour, whichever is sooner.
- Co-amoxiclav is not recommended for women with PPROM because of concerns about necrotising enterocolitis.
- The use of antibiotics is associated with significant reduction of chorioamnionitis, neonatal infection, and number of babies born within 48 hours and seven days.

Monitoring:

1. On admission, women should be admitted for 48 – 72 hours: management plan to include
2. Triple swabs and MSU on admission as well as bloods for FBC and CRP.
3. 4 hourly MEOWs observations.
4. Daily CTG if more than 26 weeks gestation. If <26 weeks gestation auscultation twice daily (12 hourly)
5. Ultrasound scan for growth (estimated fetal weight) and liquor volume.

On discharge from hospital for outpatient management:

1. Observe for signs of clinical chorioamnionitis - record her temperature every 4-8 hours. Advised to contact the unit if signs of chorioamnionitis:

    a) Maternal pyrexia ≥ 37.8 0C
    b) Maternal/fetal tachycardia.
    c) Uterine tenderness
    d) Offensive PV loss.
    e) Generally unwell.

2. A combination of weekly clinical assessment, maternal full blood count & C-Reactive Protein and fetal heart rate monitoring should be used to monitor for signs of chorioamnionitis.
3. Weekly liquor volume and Dopplers with 2 weekly growth scans as a minimum but women should be informed that these tests are of limited value in predicting fetal infection.

If chorioamnionitis suspected, discuss with on call consultant and refer to Summary Guidelines of Obstetric Antibiotic Prescribing Policies for the Management of Suspected Sepsis in Pregnancy.
In certain circumstances it may be reasonable to continue antibiotics for more than 10 days, however, the potential risks of prolonged antibiotic use such as abnormal changes to the vaginal microbiome and emergence of resistance bacterial organisms. The decision needs to be a consultant decision, and made on balance with risks associated with pre-term delivery

4.2.3 Corticosteroids:

Corticosteroids reduce the incidence of respiratory distress syndrome, intraventricular haemorrhage, necrotising enterocolitis, and neonatal death. The optimal treatment to birth interval is between 24 hours and 7 days.

- Corticosteroids should be offered between 24+0 and 34+6weeks gestation, and can be considered up to 35+6 weeks.
- Two doses of Dexamethasone, 12mg 24hours apart. Contraindications to corticosteroids include clinical chorioamnionitis and in the presence of maternal

pyrexia, do not administer corticosteroids without discussing with the Consultant Obstetrician

- Consider a single repeat course of maternal corticosteroids for women less than 34+0 weeks of pregnancy who have already had a course of corticosteroids when this was more than 7 days ago, and are at very high risk of giving birth in the next 48 hours. A second course must be discussed with a consultant obstetrician, and where the woman is less than 30 weeks or if there is suspected FGR, take into account the possible impact on fetal growth of a repeat course of maternal corticosteroids.

- Caution should be exercised if the woman is on a sympathomimetic, or is diabetic (see Diabetic guidelines).

4.2.4 Tocolysis:

- Tocolysis in women with PPROM is not recommended because this treatment does not significantly improve perinatal outcome, with an increased risk of maternal chorioamnionitis.
- With PPROM in the presence of uterine contractions, it is possible that tocolysis could have adverse effects, such as delaying delivery from an infected environment.
- Use of tocolysis may be considered if transfer to another unit is required but this must be a consultant decision

4.2.5 >34 week's gestation:

- Detailed history and investigation as above.

- Plan birth.

- The decision regarding timing of birth is made based on the balance between the risk of prematurity and infection morbidity and its potential complications to both mother and fetus. The aim should be to reach 37 weeks unless there are additional risks identified.

In the absence of overt signs of infection or fetal compromise a policy of expectant management with continued surveillance of maternal and fetal well-being should be followed in women who present with pre term ruptured membranes close to Term (34-36+6/40). Aim to induce labour at 37 weeks in the absence of any signs or symptoms of chorioamnionitis.

Prior to 34/40 the risk of prematurity outweighs the risks of expectant management. There may be disadvantages with conservative management beyond 34+0 weeks of gestation in the presence of known GBS colonisation and in this group, early intervention may be preferable.

When to expedite birth?

Birth should be expedited at any gestation if there is evidence of fetal or maternal compromise, e.g. chorioamnionitis, meconium, or APH. If there is evidence of group B streptococcus (GBS) then refer to GBS guidelines.

- Women with pre-term ROM who are admitted in labour or for augmentation of labour should be offered intravenous antibiotic prophylaxis as soon as labour is diagnosed and it should be given at least 2 hours prior to birth for maximum benefit.

- Women in whom birth is imminent or should be offered Magnesium sulphate as neuro-protection when less than 30weeks and considered up to 33+6weeks if there are other fetal risks, such as FGR (See Management of Pre-Term Labour Guideline)

5 EDUCATION AND TRAINING

No additional training is required in implementation of this guideline

6 MONITORING COMPLIANCE AND EFFECTIVENESS

7 EQUALITY IMPACT ASSESSMENT

- Guidance on how to complete an Equality Impact Assessment
- Sample completed form

Name of service/policy/procedure being reviewed: Guideline for the Management of Preterm, Pre Labour Rupture of Membranes.			
New or existing service/policy/procedure: Existing			
Date of Assessment: October 2024			
For the service/policy/procedure and its implementation answer the questions a – c below against each characteristic (if relevant consider breaking the policy or implementation down into areas)			
Protected Characteristic	a) Using data and supporting information, what issues, needs or barriers could the protected characteristic groups' experience? For example, are there any known health inequality or access issues to consider?	b) What is already in place in the policy or its implementation to address any inequalities or barriers to access including under representation at clinics, screening?	c) Please state any barriers that still need to be addressed and any proposed actions to eliminate inequality
The area of policy or its implementation being assessed:			
Race and Ethnicity:	None	N/A	N/A
Gender:	None	N/A	N/A
Age:	Applicable to Preterm Babies only	N/A	N/A
Religion:	None	N/A	N/A
Disability:	None	N/A	N/A
Sexuality:	None	N/A	N/A
Pregnancy and Maternity:	None	N/A	N/A
Gender Reassignment:	None	N/A	N/A

Marriage and Civil Partnership:	None	N/A	N/A
Socio-Economic Factors (i.e. living in a poorer neighbourhood / social deprivation):	None	N/A	N/A

What consultation with protected characteristic groups including patient groups have you carried out? • None
What data or information did you use in support of this EqIA? • None
As far as you are aware are there any Human Rights issues be taken into account such as arising from surveys, questionnaires, comments, concerns, complaints or compliments? • None

Level of impact
From the information provided above and following EqIA guidance document (insert link), please indicate the perceived level of impact:

Low Level of Impact *(Delete as appropriate)*

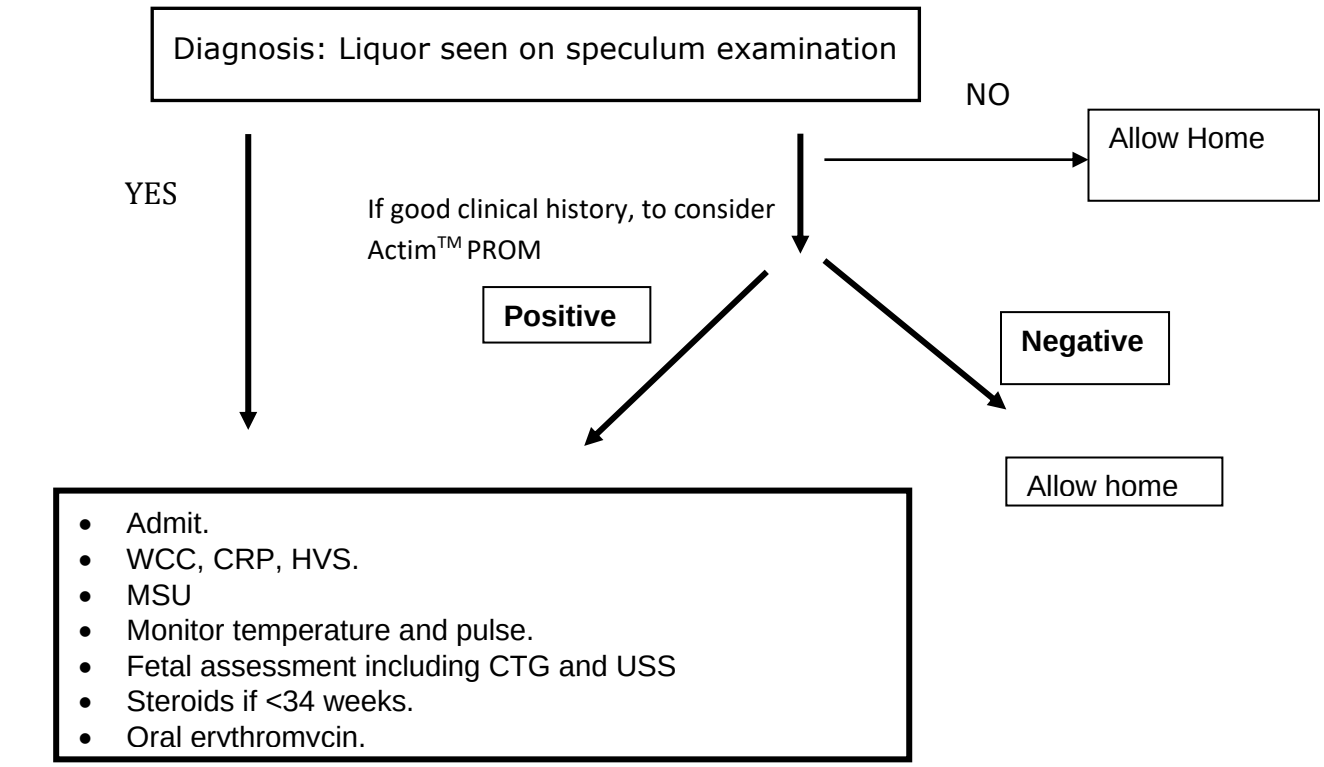
For high or medium levels of impact, please forward a copy of this form to the HR Secretaries for inclusion at the next Diversity and Inclusivity meeting.

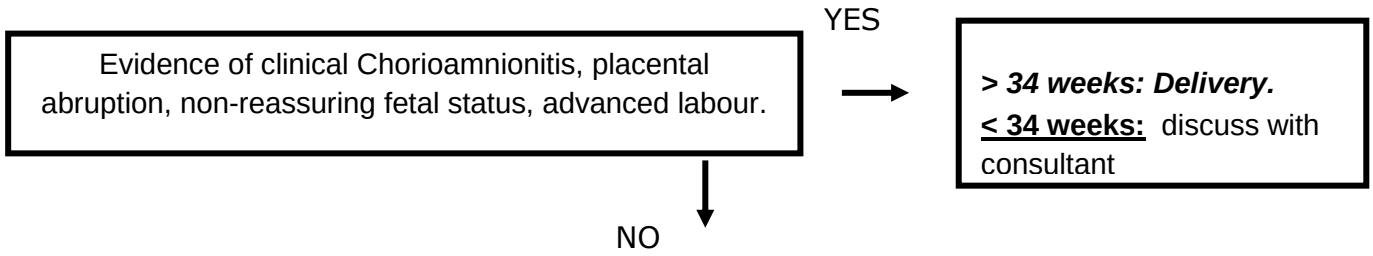
Name of Responsible Person undertaking this assessment:
Signature: Sharon Tao
Date: October 2024

8 APPENDICES

Appendix A – Algorithm for Preterm prelabour rupture of membranes

Appendix A: Algorithm for preterm prelabour rupture of membranes





<24 Weeks	24-34 weeks	34-36 weeks
1. Admission. 2. Counselling by consultant obstetrician. 3. If opted for conservative management can be as outpatient with weekly follow up of USS, and temperature.	1. Admission 2. Steroids. 3. Erythromycin. 4. Monitoring. 5. Birth: Timing of birth to be decided by consultant	1. Admission. 2 Timing of birth to be decided by obstetric Consultant.