Royal Cornwall Hospitals
NHS Trust

Preterm Prelabour Rupture of Membranes (PPROM) Diagnosis and Management Clinical Guideline

V3.3

February 2025

Summary

No Infection		Infection
Discuss risks and benefits of induction of labour versus expectant management until term. + 10 DAYS Erythromycin 250mg qds.	> 34 weeks	Labour induction. + broad spectrum intrapartum antibiotics.
Expectant management. Inform Neonatal team. + TEN DAYS Erythromycin 250mg qds. Neonatal counselling +/- active management in the extreme preterm. + Consider corticosteroids. Transfer to level 3 NICU if required.	22 - 34 weeks	Assessment by Consultant obstetrician for ongoing management plan + IV antibiotics. Neonatal counselling +/- active management in the extreme preterm. + Consider corticosteroids.
Assessment by Consultant obstetrician for ongoing management plan. Expectant management, or Termination Of Pregnancy (TOP).	< 22 weeks	Urgent review by Consultant Obstetrician to discuss TOP

1. Aim/Purpose of this Guideline

1.1. This guideline gives guidance to obstetricians and midwives on the diagnosis and management of preterm prelabour rupture of membranes (PPROM).

1.2. This guideline makes recommendations for women and people who are pregnant. For simplicity of language the guideline uses the term women throughout, but this should be taken to also include people who do not identify as women but who are pregnant, in labour and in the postnatal period. When discussing with a person who does not identify as a woman, please ask them their preferred pronouns and then ensure this is clearly documented in their notes to inform all health care professionals (NEW 2022).

1.3. This version supersedes any previous versions of this document.

Data Protection Act 2018 (UK General Data Protection Regulation – GDPR) Legislation.

The Trust has a duty under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed, and documented. We cannot rely on opt out, it must be opt in.

Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 please see the Information Use Framework Policy or contact the Information Governance Team.

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2. The Guidance

2.1. Preterm prelabour rupture of the membranes (PPROM) is the rupture of the membranes prior to labour, occurring before 37+0 weeks gestation. PPROM is associated with increased perinatal morbidity and mortality, and often leads to preterm birth.

If fetal infection is present spontaneous delivery usually occurs within days of PPROM. In the absence of infection, the pregnancy may continue for weeks or months. Definitive diagnosis of intrauterine infection after preterm rupture of membranes is only possible by culture of amniotic fluid or fetal blood because the majority of cases are subclinical.

Normal maternal observations (temp, pulse, leucocyte count, C - reactive protein (CRP) do not exclude intrauterine infection and vaginal swab cultures yield a high false positive rate. In addition, as intrauterine infection does not affect placental perfusion and fetal oxygenation, non-invasive fetal monitoring cardiotocographs (CTG) and biophysical profiles) may be normal in the presence of infection.

2.2. Diagnosis

2.2.1. Diagnosis is best made on history of a gush of fluid per vaginum (PV) and clinical findings. A liquor pool in the upper vagina is the most reliable sign.

2.2.2. All patients who report symptoms suggesting PPROM should have a sterile speculum examination (30 minutes bed rest is not required). The cervix must be visualised. Maternal coughing or straining may assist identification of liquor from the cervix. Digital examination should be avoided.

2.2.3. Assessment can be performed by any trained professional e.g. doctor or midwife (NEW 2024).

2.2.4. Ultrasound may be useful where fetal presentation, size or well-being is in doubt. Normal amniotic fluid volume on scan, whilst making the diagnosis less likely, does not preclude PPROM. Conversely, reduced amniotic fluid on ultrasound may have other causes.

2.2.5. A routine full blood count (FBC), CRP and a full set of maternal observations should be performed and recorded on a MEOWS chart.

2.2.6. Where diagnosis is uncertain e.g. a strong history but inconclusive speculum (when fluid is noted but not possible to determine if it is liquor or heavy discharge), Actim PROM may be used. Do not use Actim PROM when the history is poor, and no fluid or discharge is seen.

2.2.7. Do not use Actim PROM alone to diagnose PPROM. In some cases, it is reasonable for the diagnosis to be reassessed by a senior obstetrician after a period of observation. (NEW 2024).

2.2.8. If PPROM is excluded routine antenatal care can continue but the woman should be advised to report any further symptoms suggestive of PPROM or preterm labour.

2.2.9. Amniosense should not be used to screen for a diagnosis on PPROM (NEW 2022).

2.3. Prophylactic antibiotics

2.3.1. Administer prophylactic Erythromycin 250mg orally four times daily for 10 days from diagnosis. This has been shown to be of potential modest benefit for the neonate in PPROM. Erythromycin should **not** be prescribed based upon a possible diagnosis from history alone.

2.3.2. Co-amoxiclav should not be used because of the association with necrotising enterocolitis.

2.3.3. Appropriate antibiotics should be given in suspected intrauterine infection, either intrapartum or to cover caesarean section.

2.4. Corticosteroids

2.4.1. Steroids should be considered at 24+0 - ≤33+6 week's gestation. The decision to prescribe them at earlier gestations 22-23+6 weeks should be made by the Obstetric Consultant from following joint counselling with the neonatal team.

2.4.2. Dexamethasone/Betamethasone 12mg IM, two doses, 24 hours apart should be administered. This interval can be expedited to 12 hours if in active labour

2.4.3. In cases of PPROM, steroids do not increase the risk of neonatal sepsis or chorioamnionitis but do increase the risk of endometritis.

Please refer to South West Regional Principles for Use of Antenatal Corticosteroids to Optimise Outcomes after Pre-term Birth. Use link Pre-Term Optimisation — South West Neonatal Network.

2.5. Inpatient management

2.5.1. The length of inpatient management should be individualised, taking into account the gestation, other obstetric risk factors, where the woman lives and her social circumstances.

2.5.2. Women should be advised that they will be admitted for at least 48 hours in view of the increased risk of infection during this time.

2.5.3. During inpatient management a woman should have 4hrly observations documented on a Modified Early Obstetric Warning Score (MEOWS) chart and twice daily Cardiotocography (CTG). Any abnormalities or clinical concerns of infection should be urgently escalated to the Obstetric registrar or Consultant. (NEW 2024).

2.5.4. The Neonatologists should be informed if a diagnosis of PPROM is made. The woman and her partner should be offered an opportunity to discuss neonatal care (NEW 2022).

2.5.5. In cases of extreme preterm (Gestations < 27 weeks singleton <28 weeks multiple or estimated fetal weight <800g) with confirmed PPROM wanting active management following joint perinatal counselling in utero transfer is required to a level 3 NICU. (NEW 2024) see inutero transfer guideline

2.6. Outpatient Management

2.6.1. Expectant management at home is safe after initial observation in hospital. The Information leaflet should be given to support verbal instructions.

2.6.2. The woman should be advised of the following:

- Check her temperature 4 to 8 hourly.
- Avoid intercourse.

The woman should be instructed to ring maternity triage line 01872 258000 and invited in for urgent assessment if:

- Contractions establish.
- There is vaginal bleeding.
- The liquor is green or offensive.
- She feels unwell or has a raised temperature of 37.5°C or greater.
- Fetal movements are reduced.
- She experiences pelvic or abdominal pain/period pain.

2.6.3. If expectant management is appropriate, the woman should have weekly assessment in the maternity triage including WCC and CRP, computerised CTG/Fetal heart rate auscultation (depending on gestation) and review if patient concerns.

2.6.4. If there are any clinical concerns or abnormalities in maternal assessment, blood tests of CTG/Fetal heart rate the woman should be escalated to the registrar or consultant for review (NEW 2024).

2.6.5. Any additional assessments, in the community or maternity triage, will be at the discretion of the obstetric team. If liquor drainage stops, the accuracy of the diagnosis should be re-evaluated.

2.7. Timing of delivery

2.7.1. Unless there are other contraindications to continuing the pregnancy, women should be offered expectant management until 37+0 weeks.

2.7.2. Delivery should be expedited if there are any overt signs of infection or fetal compromise.

2.7.3. At 37+0 weeks, delivery should be offered because the maternal and neonatal morbidity associated with term delivery for this indication is low. The relative merits of induction of labour and caesarean section should be discussed. However, the woman may, in discussion with a consultant, opt for on-going expectant management.

2.7.4. Irrespective of the gestational age, care must be made to ensure that the diagnosis of PPROM remains accurate before initiating delivery in order to minimise the risk unnecessary intervention.

2.8. Diagnosing Infection (NEW 2024)

2.8.1. A combination of clinical assessment, maternal blood tests and CTG/fetal heart rate should be used to diagnose clinical infection. These may need to be repeated if inconsistent with each other or symptoms change. Be aware that WCC will rise 24 hours after corticosteroid administration but should return to baseline after 3 days.

2.8.2. Any concerns about potential infection should be escalated to the Obstetric Registrar or Consultant. If infection is suspected or diagnosed expediting delivery should be recommended.

2.9. Spontaneous preterm labour

2.9.1. If labour is suspected, tocolysis is not recommended because it does not significantly improve perinatal outcome and may increase the risk of chorioamnionitis. However, it's use should be considered to allow inutero transfer.

2.9.2. If labour establishes preterm, Magnesium sulphate should be administered for neuroprotection until 33+6 weeks as per the Preterm Prevention Clinical Guideline.

2.9.3. If labour establishes preterm then Group B Streptococcal (GBS) antibiotic prophylaxis should be offered as per the preterm labour guideline.

2.10. PPROM and asymptomatic Group B Streptococcus

Bacteriological testing for GBS carriage is not recommended but Intrapartum Antibiotic Prophylaxis (IAP) should be given once labour is confirmed or induced irrespective of GBS status:

- Expectant management is appropriate if PPROM occurs before 34 weeks' gestation and there is no evidence of infection.

- If a woman has preterm rupture of membranes between 34+0-36+6 weeks gestation offer immediate delivery if a woman is a known GBS carrier. (NEW 2024).

2.11. Extreme PPROM less than 22 weeks gestation (NEW 2024)

2.11.1. Pre-viability ruptured membranes have a high morbidity for both mothers and babies. The neonatal survival rate of expectedly managed pregnancies in the recent UKOSS data was 26% (18% without severe disability) with a trend towards better outcomes at later gestations of PPROM. There was a 14% maternal sepsis rate with 0.5% maternal death rate.

2.11.2. On diagnosis the family should have a conversation with a senior obstetrician to discuss the fetal and maternal risks, including spontaneous miscarriage, pulmonary hypoplasia, neonatal death and maternal sepsis. Management options of expectant management and termination of pregnancy should be discussed.

2.11.3. If expectant management is chosen the family should be aware expediting delivery would be recommended if evidence of maternal infection.

2.11.4. A fetal medicine scan should be arranged.

2.11.5. There is minimal evidence for the use of erythromycin at early gestations. Therefore, after a discussion around the uncertainties it is reasonable to offer erythromycin to women choosing expectant management.

2.12. Subsequent pregnancy

Women should be referred to the Preterm Prevention Clinic, if PPROM occurred before 34 weeks in any previous pregnancy.

3. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	• The audit will take into account record keeping by obstetric, anaesthetic and paediatric doctors, midwives, nurse, students and maternity support workers. • The results will be inputted onto an excel spreadsheet. • The audit will be registered with the Audit Review Team.
Lead	Audit Midwives
Tool	1. Was a routine full blood count (FBC), CRP and a full set of maternal observations should be performed and recorded on a MEOWS chart? 2. Was prophylactic Erythromycin 250mg orally four times daily for 10 days prescribed from diagnosis? 3. Were steroids discussed at ≤33+6 weeks gestation? 4. Was the woman advised admission for at least 48 hours in view of the increased risk of infection during this time? 5. Expectant management-was the woman advised to check her temperature 4 to 8 hourly and avoid intercourse? 6. Was the woman advised to attend the maternity triage weekly for clinical evaluation and CTG?
Frequency	This audit will be added to the rolling audit programme and will take place every three years unless earlier indicated through the patient safety process.
Reporting arrangements	Audit Review Team

Information Category	Detail of process and methodology for monitoring compliance
Acting on recommendations and Lead(s)	Audit Review Team
Change in practice and lessons to be shared	Any lessons learnt will be fed back through the Audit Review Team and shared via the monthly Patient Safety Newsletter

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the Equality Diversity And Inclusion Policy or the Equality and Diversity website.

4.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Information Category	Detailed Information
Document Title:	Preterm Prelabour Rupture of Membranes (PPROM) Diagnosis and Management Clinical Guideline V3.3
This document replaces (exact title of previous version):	Preterm Prelabour Rupture of Membranes (PPROM) Diagnosis and Management Clinical Guideline V3.2
Date Issued/Approved:	February 2025
Date Valid From:	February 2025
Date Valid To:	June 2025
Directorate/Department responsible (author/owner):	Dr Helen Le Grys, Consultant Obstetrician
Contact details:	01872 25 2365
Brief summary of contents:	This guideline gives guidance to obstetricians and midwives on the diagnosis and management of preterm prelabour rupture of membranes (PPROM).
Suggested Keywords:	Rupture, membranes, PPROM, PROM, SROM, ruptured, membranes, prolonged, speculum, Erythromycin, steroids, premature, Betamethasone.
Target Audience:	**RCHT:** Yes **CFT:** No **CIOS ICB:** No
Executive Director responsible for Policy:	Chief Medical Officer
Approval route for consultation and ratification:	Maternity guideline group
Manager confirming approval processes:	Caroline Chappell
Name of Governance Lead confirming consultation and ratification:	Tamara Thirlby
Links to key external standards:	None
Related Documents:	RCOG Clinical guideline No. 73 2019 Care of women presenting with suspected preterm prelabour rupture of membranes from 24+0 weeks of gestation

Information Category	Detailed Information
	RCOG Clinical Guideline No.36: Prevention of early onset neonatal group B streptococcal disease. NICE Guideline NG25 (2015) Preterm Labour and Birth.
Training Need Identified?	No
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet and Intranet
Document Library Folder/Sub Folder:	Clinical / Midwifery and Obstetrics

Version Control Table

Date	Version Number	Summary of Changes	Changes Made by
November 2008	1.0	Initial issue	Rob Holmes, Obstetric Consultant
November 2010	1.1	Updated	Rob Holmes, Obstetric Consultant
January 2014	1.2	Minor changes and updated to new best evidence	Rob Holmes, Obstetric Consultant
May 2017	2.0	Full review - Minor changes and updated to new best evidence	Rob Holmes, Obstetric Consultant. Magda Kudas, Antenatal Lead Midwife
April 2019	1.4	2. 2.1, 2.2.2, 2.2.3 Information re the use of AmnioSense pads. 2.6.3 Addition of bullet point 'She experiences pelvic or abdominal pain/period pain'. 2.6.4 Frequency of blood tests. 2.9 Group B Strep information.	Rob Holmes, Obstetric Consultant. Magda Kudas, Antenatal Lead Midwife

Date	Version Number	Summary of Changes	Changes Made by
May 2022	V3.0	Timely review, update and additions. 2.2.7 Amniosense should not be used to screen for a diagnosis on PPROM. 2.5.3 Addition of clinical assessment information. 2.5.4 The Neonatologists should be informed if a diagnosis of PPROM is made, and delivery is anticipated.	Rob Holmes, Obstetric Consultant
July 2023	V3.1	Addition of 2.4.4. Amendments of 2.6.3 and 2.6.4 for clarification.	Sarah Harvey-Hurst, Maternity Matron.
August 2024	V3.2	Additions of 2.2.3, 2.8 and 2.11.	Dr Helen Le Grys, Consultant Obstetrician
February 2025	V3.3	Update to gestation in 2.4.	Jane Pascoe, Fetal wellbeing Lead

All or part of this document can be released under the Freedom of Information Act 2000.

All Policies, Strategies and Operating Procedures, including Business Plans, are to be kept for the lifetime of the organisation plus 6 years.

This document is only valid on the day of printing.

Controlled Document.

This document has been created following the Royal Cornwall Hospitals NHS Trust The Policy on Policies (Development and Management of Knowledge Procedural and Web Documents Policy). It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2. Equality Impact Assessment

Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the Trust to identify where a policy or service may have a negative impact on an individual or particular group of people.

For guidance please refer to the Equality Impact Assessment Policy (available from the document library) or contact the Equality, Diversity, and Inclusion Team rcht.inclusion@nhs.net

Information Category	Detailed Information
Name of the strategy/policy/proposal/service function to be assessed:	Preterm Prelabour Rupture of Membranes (PPROM) Diagnosis and Management Clinical Guideline V3.3
Directorate and service area:	Obstetrics and Gynaecology
Is this a new or existing Policy?	Existing
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Catherine Wills, Practice Development Midwife
Contact details:	01872 255019

Information Category	Detailed Information
1.Policy Aim - Who is the Policy aimed at? (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	To give guidance to obstetricians and midwives on the diagnosis and management of preterm, Prelabour rupture of membranes (PPROM).
2.Policy Objectives	To ensure women receive an accurate diagnosis and appropriate management of preterm Prelabour rupture of membranes
3.Policy Intended Outcomes	To ensure women receive a diagnosis and correct management for preterm prelabour rupture of membranes according to best evidence.
4.How will you measure each outcome?	Compliance Monitoring Tool.
5.Who is intended to benefit from the policy?	All pregnant women.

Information Category	Detailed Information
6a. Who did you consult with? (Please select Yes or No for each category)	• Workforce: Yes • Patients/visitors: No • Local groups/system partners: No • External organisations: No • Other: No
6b. Please list the individuals/groups who have been consulted about this policy.	**Please record specific names of individuals/groups:** Maternity Guidelines Group
6c. What was the outcome of the consultation?	Guideline Agreed
6d. Have you used any of the following to assist your assessment?	**National or local statistics, audits, activity reports, process maps, complaints, staff, or patient surveys:** No

7. The Impact

Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
Age	No	
Sex (male or female)	No	
Gender reassignment (Transgender, non-binary, gender fluid etc.)	No	
Race	No	
Disability (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	No	
Religion or belief	No	
Marriage and civil partnership	No	

Protected Characteristic	(Yes or No)	Rationale
Pregnancy and maternity	No	
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	No	

A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment: Catherine Wills, Practice Development Midwife.

If a negative impact has been identified above OR this is a major service change, you will need to complete section 2 of the EIA form available here:
Section 2. Full Equality Analysis