Pre Labour Rupture of the Membranes (Preterm and Term)

University Hospitals of Leicester NHS Trust

Trust ref: C25/2022

Contents

1. Introduction and Who Guideline applies to

These guidelines have been developed to provide the best available evidence for use in the management of pregnant women and people who present with pre labour rupture of the membranes, either preterm or at term gestations.

This guideline applies to all healthcare professionals providing care for pregnant women and people with pre labour rupture of the membranes receiving care at UHL.

Related documents:

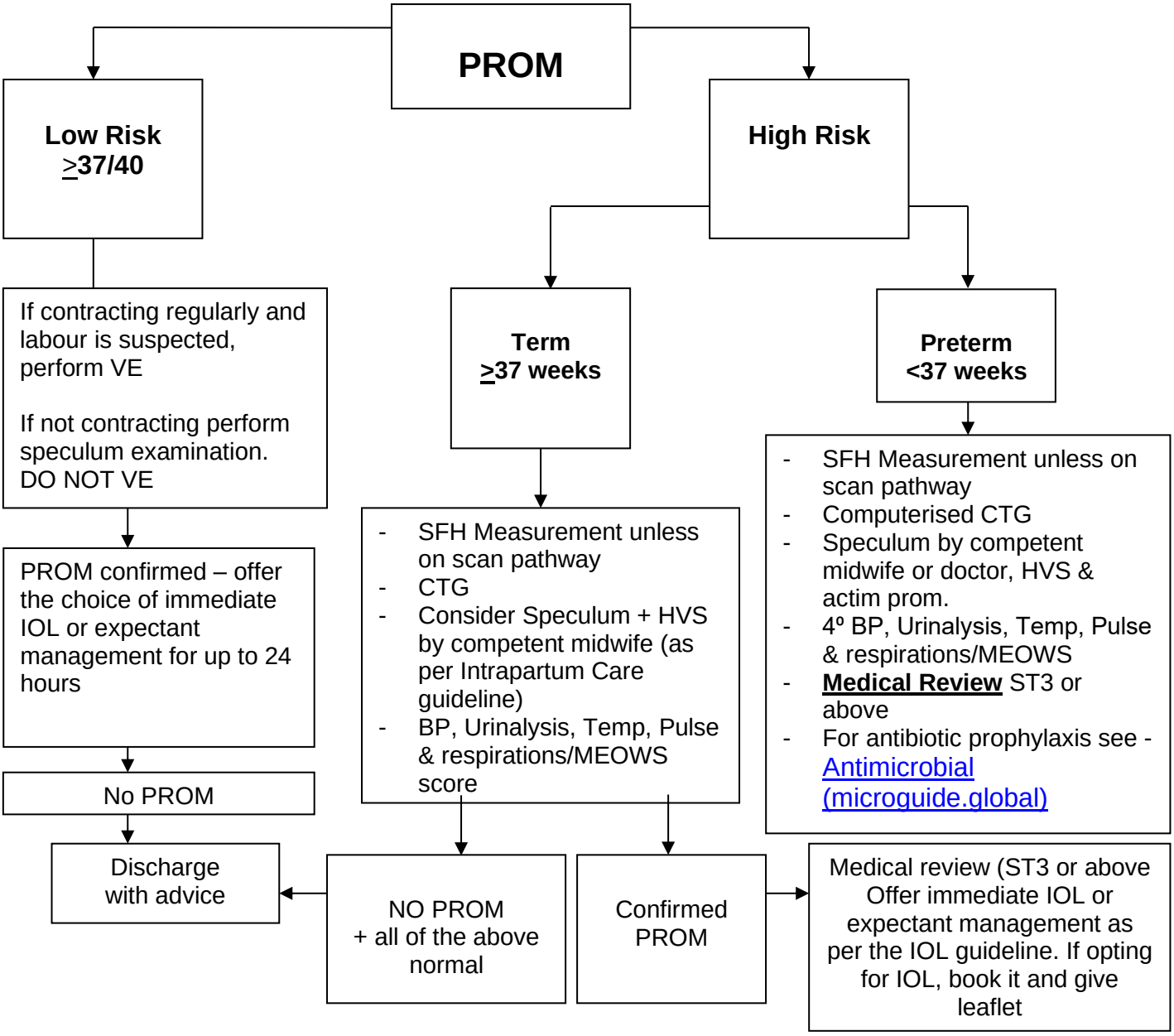
- Induction and Augmentation of Labour UHL Obstetric Guideline.pdf UHL Trust ref: C131/2005
- Group B Streptococcus in Pregnancy and the Newborn UHL Obstetric Guideline.pdf UHL Trust ref:C97/2008
- Vaginal Birth After Caesarean Section UHL Obstetric Guideline.pdf UHL Trust ref:C83/2005
  Fetal Monitoring in Labour UHL Obstetric Guideline.pdf UHL Trust ref: C23/2021
  Intrapartum Care UHL Obstetric Guideline.pdf UHL Trust ref: C60/2019
- Consent to Examination or Treatment UHL Policy.pdf UHL Trust ref:A16/2002
- Chaperone UHL Policy.pdf UHL Trust ref:B39/2008
- Maternity Assessment Unit UHL Obstetric Guideline.pdf UHL Trust ref:C29/2008

2. Pre-labour rupture of the membranes

Pre-labour rupture of membranes (PROM) is the rupture of the fetal membranes before the onset of labour. In most cases, this occurs near term, but when membrane rupture occurs before 37 weeks' gestation, it is known as preterm PROM (P-PROM). Preterm PROM complicates approximately 3% of pregnancies and leads to 30-40% of preterm births.–It increases the risk of prematurity and leads to a number of other perinatal and neonatal complications such as prematurity, sepsis, cord prolapse, pulmonary hypoplasia, chorioamnionitis and placental abruption (RCOG 2019).

Where pregnant women or people present with suspected pre-labour rupture of the membranes, unless there are regular uterine contractions, vaginal examinations (VEs) should be avoided to reduce the risk of infection. Confirmation of ruptured membranes should be assessed through either pad checks or speculum examination.

Pre-labour Rupture of Membranes flowchart
(adapted from Maternity Assessment Unit UHL Obstetric Guideline.pdf)



2.1 Assessing ruptured membranes

Methods of assessment;

- **Verbal history –**
  Gush and continues to leak – assess maternity pad to confirm liquor
  Trickle – request maternity pad is applied and review
  Single episode no further loss - request maternity pad is applied and review
- **Maternity pad check –**
  Colour of liquor
  Clear evidence of ruptured membranes
  Pad dry, no evidence of ruptured membranes but significant history of SRM – offer speculum to assess
- **Speculum -**
  Consider;
  Gestation, Actim Prom Consider at 37 weeks and above if a good history of SROM is provided but pad checks and speculum are inconclusive,

In a pregnant woman or person is reporting symptoms suggestive of PPROM, offer a speculum examination to look for pooling of amniotic fluid and:

- If pooling of amniotic fluid is observed, do not perform any diagnostic test but offer care consistent with having PPROM
- If pooling of amniotic fluid is not observed, perform an Actim Prom. If the results of the Actim Prom test are positive, do not use the test results alone to decide what care to offer, but also take into account their clinical condition, medical and pregnancy history and gestational age, and either:
  - offer care consistent with the pregnant woman or person having PPROM

or

  - re-evaluate the pregnant woman's or persons diagnostic status at a later time point.
- If the results of the Actim Prom test are negative and no amniotic fluid is observed: do not offer antenatal prophylactic antibiotics; explain to that it is unlikely they have PPROM, but that they should return for reassessment if there are any further symptoms suggestive of P-PROM or preterm labour. (NICE NG 25 2022)

2.2 Preterm pre-labour rupture of membranes (PPROM)

From the NICE guideline (NG207 Inducing labour): If a pregnant woman or person has preterm pre-labour rupture of membranes, induction of labour should not be carried out before 34+0 weeks, unless there are additional obstetric indications (for example, infection or fetal compromise). The pregnant woman or person should receive oral antibiotics in line with the Antimicrobial (microguide.global) for 10 days or until delivery of the baby, whichever are sooner and IM steroids if these have not been given previously. The PERIPREM passport needs to be commenced.

If a pregnant woman or person has preterm pre-labour rupture of membranes after 34+0 weeks and before 37+0 weeks, the maternity team should discuss the following factors with them before a decision is made about whether to induce labour or to have expectant management until 37+0 weeks:

- Risks to the pregnant woman or person (e.g. sepsis or possible need for caesarean section)
- Risks to the baby (e.g. sepsis or problems relating to preterm birth)
- Availability of neonatal intensive care facilities

- The pregnant woman or person's individual circumstances and their preferences.

Pregnant women and people with P-PROM from 34+0 weeks onwards who are Group B Streptococcus (GBS) positive should be offered immediate induction of labour or caesarean section (dependent on the plan for mode of birth). See Group B Streptococcus in Pregnancy and the Newborn UHL Obstetric Guideline.pdf

Pregnant women and people with confirmed P-PROM in the first instance must have bloods sent for full blood count (FBC) and CRP. If previously midwife-led care, a referral must be made to PPC clinic if < 34 weeks and the general obstetrics clinic if ≥34weeks for on-going pregnancy management. Pregnant women and people with confirmed P-PROM should initially be managed as an inpatient for a minimum of 72 hours and a scan should be arranged. Following this, if the overall clinical assessment does not indicate active infection or a compromised fetus, the pregnant woman or person may be managed as an outpatient.

Add P-PROM sticker to maternity handheld notes of all pregnant women and people who have P-PROM before 37 weeks gestation, identifying the date and gestation P-PROM occurred.

2.3 Outpatient management P-PROM

Monitoring at home after initial inpatient management can be considered:

- Outpatient management should be made on an individual basis. Distance from hospital and support at home should be taken into account. As well as presentation of fetus (increased risk of cord prolapse if non-cephalic), parity and communication skills (especially if the patient does not speak English).
- Patient education about: Date and time of next ANC appointment and advise that sexual intercourse and tampons should be avoided.
- **If under outpatient management and is 32+0 weeks gestation or less, ensure that the pregnant woman or person knows to present to LRI if they have any concerns**
- The patient should be given the 'signs of threatened preterm labour leaflet'**.**

Pregnant Women and people who are confirmed P-PROM will require:
A referral to the preterm midwives on premprevention@uhl-tr.nhs.uk.
The following information should be included in the referral.-

Referral information required
• Name and S/m Number • Date of PPROM • Gestation of PPROM • EDD • Any other medical concerns and named consultant if they are under a consultant already • Details of bloods taken and recent scan report.

- A minimum of weekly bloods for FBC and CRP taken by the midwives on the wards, in the antenatal assessment area (AAA - LRI) or pregnancy assessment service (PAS - LGH). The results will be followed up by the ward, AAA or PAS midwives (dependent on where the woman is located). The preterm midwives will have an overview of the results.
- 2-3 weekly ultrasound scans for fetal growth, liquor volume and umbilical artery Doppler. The frequency will be decided by the preterm team.
- Premature prevention clinic <28/40 will undertake the scans were possible >28/40 scans will be undertaken 3 weekly by a sonographer.
- If PPROM between <34 weeks they will be seen in PPC, to meet the PPC team and given contacts details on where to get additional support. With a shift to providing better emotional care and continuity from those with PPROM.
- For those that PPROM ≥34 weeks an appointment for consultation with consultant obstetrician for an individualised plan for timing and mode of birth will be made.
- Neonatal input at gestations <35 weeks or if there are additional complications.
- Advise to take maternal temperature 4 hourly in waking hours at home (if the pregnant woman or person has a thermometer) and provide advice of signs of infection. If there are any signs of infection the pregnant woman or person should contact maternity services via SPOC.

A combination of clinical assessment (maternal pulse, blood pressure, respiratory rate, temperature and symptoms), maternal blood tests (CRP and white cell count) and fetal heart rate should be used to diagnose chorioamnionitis in women with P-PROM; these parameters should not be used in isolation. Women should be advised of, and observed for, symptoms of clinical chorioamnionitis (lower abdominal pain, abnormal vaginal discharge, fever, malaise and reduced fetal movements (RCOG 2019).

The timing of birth, whether by induction or caesarean section, should be agreed with an Obstetric Consultant and the method of induction if used should follow that indicated below in the 'Term Pre-labour Rupture of Membranes' section below. Balloon catheter induction and/or propess induction of labour is not appropriate in women with rupture of membranes.

For timings and indications for corticosteroids and magnesium sulphate, please follow the guidance in the Preterm Labour Guidance in the Absence of PPROM UHL Obstetric Guideline

Intrapartum, these birthing women and people will be advised to have intravenous antibiotics in labour in line with the Group B Streptococcus in Pregnancy and the Newborn UHL Obstetric Guideline.pdf

Organise transfer to LRI, if at LGH and <32 weeks gestation.

2.4 Extreme P-PROM EPPROM (membranes rupture <24 weeks)

Rupture of membranes prior to 24+0 weeks gestation occurs in around 1 in 2750 pregnancies. The UKOSS information for Women and their families should be used to counsel pregnant women and people who have EPPROM from 16-22+6 weeks gestation. See Appendix 1The option of termination of pregnancy/ compassionate induction should be discussed.

Referral to the preterm midwives should be undertaken and arrangement of a fetal medicine consultant scan for further counselling. The EPPROM patients will be seen in the preterm clinic and the growth scans will be undertaken in clinic. On occasion the growth scans will need to be with the sonographers if a consultant who scans is not available for that clinic date.

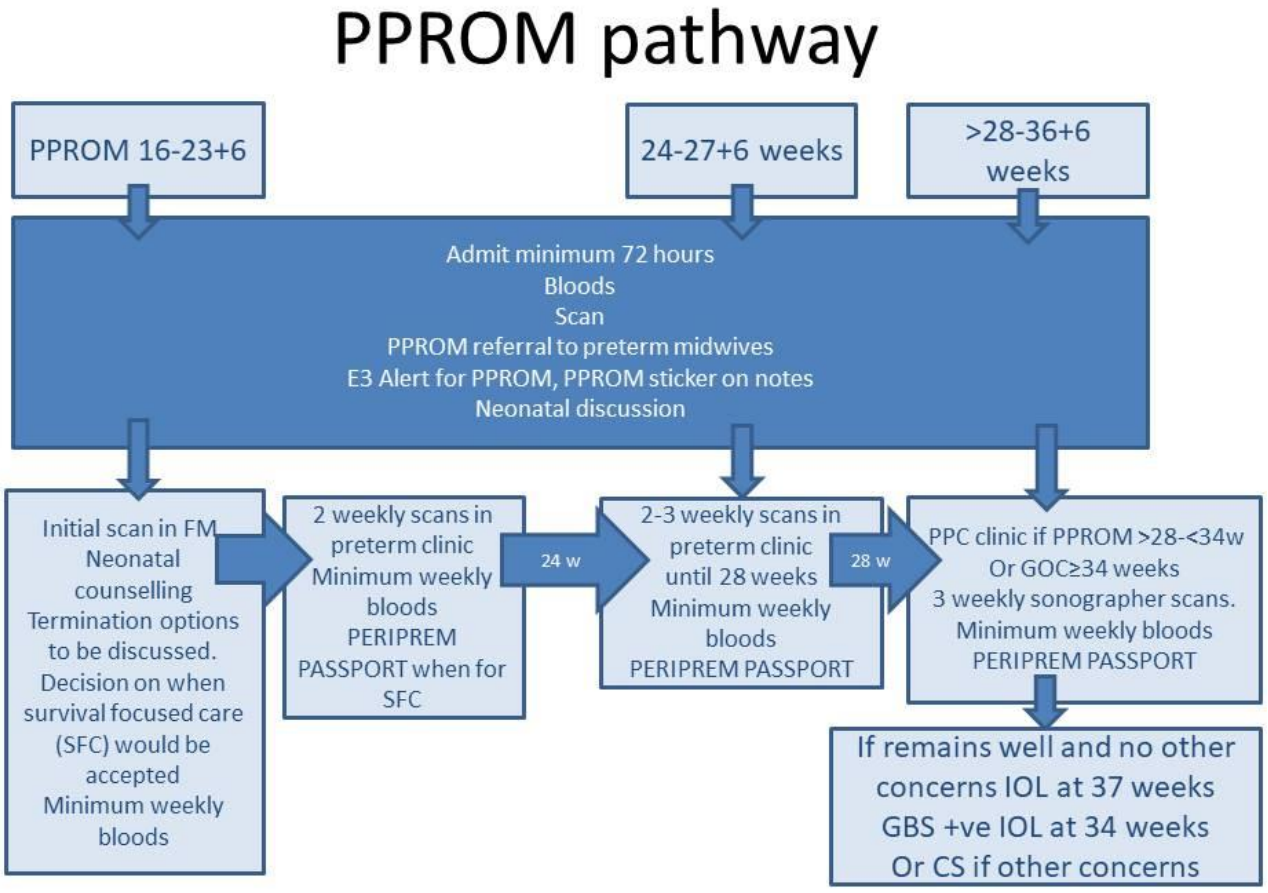
The probability of neonatal death and morbidity associated with EPPROM decreases with longer latency and advancing gestational age. Neonatal survival rates in patients expectantly managed for EPPROM were much higher following membrane rupture after 22 weeks of gestation compared with membrane rupture before 22 weeks of gestation (58% versus 22%, respectively). EPROM is associated with a significant risk of lethal pulmonary hypoplasia which cannot be predicted on ultrasound. It is more likely with persistent oligohydramnios and EPROM at early gestations. The baby is at risk of miscarriage or extremely preterm labour and extreme prematurity comes with its associated comorbidity and mortality. Long terms issues associated with fetal limb contractures and chronic pulmonary morbidity can occur. Whilst, prognosis is guarded, maternal choice should be respected. Good counselling if the clinical picture changes and there are concerns regarding maternal wellbeing and conservative management becomes riskier. Antibiotics may be considered as part of expectant management. However, corticosteroids, magnesium sulphate and tocolytics are only considered in highly selected cases near 24 weeks gestation and should be a consultant decision. One study of 93 fetuses with EPROM, showed termination of 27.4%, miscarriage risk of 27.4% and live birth rate of 45.2%. Overall intact survival of the live births was 45%.

Counselling on expectant versus termination of pregnancy for medical reasons (TPMR) is a key part of the care. The recent UKOSS data on 364 women, highlights the maternal morbidity and infant outcomes of PPROM between 16+0 and 22+6 weeks gestation. Around 2/3rds continued their pregnancy. Of those, 14% developed sepsis and there was 0.5% maternal mortality. Sepsis was more likely with a multiple pregnancy. Immediate TPMR did not always remove the risk of maternal sepsis.

Baby survival noted a trend of improvement with increasing PPROM gestation. The strongest correlation was with gestation at birth. Baby outcomes were range adjusted to account for best and worse outcome for the termination group. Showed livebirths of 44%, (range 30-62%). Survival to discharge 26% (range 17-53%), survival to discharge without severe mortality 18% (range 12-48%). An excellent infographic for patients is available. See Appendix 1

The time between PPROM and birth was calculated for those not undertaking TPMR. The medium time to delivery was 13 days after PPROM (interquartile range 3-50 days). The majority (27%) delivered within 72 hours. This given a high risk of delivering a preterm neonate with its associated sequelae. The BAPM framework infographic breakdowns survival and disability per week gestation from 22-26 weeks gestation and is an helpful patient resource. The BAPM framework does not adjust for EPPROM so this should be noted within the counselling. The neonatal discussion is key to helping patients make an informed choice, see appendix. Given the parental decisions this clinical presentation required, consideration of the emotional wellbeing of the parents should be of high priority. The evidence and advice can be confusing and difficult for families to process. Charities such as Little Heartbeats can provide support. www.little-heartbeats.org.uk.

2.5 Scan and clinic pathway for PPROM



2.6 Term pre-labour rupture of membranes

Pregnant women and people at ≥ 37+0 weeks gestation, with current or previous Group B streptococcus, HIV, Hepatitis B or C infection should all be offered immediate induction of labour following confirmation of rupture of membranes.

Pregnant women and people with confirmed pre-labour rupture of membranes without the above risk factors at ≥ 37+0 weeks gestation should be advised that:

- Risk of serious neonatal infection is around 1%
- 60% will labour spontaneously within 24 hours (NICE ng 235 2023)

These pregnant women and people should be offered a choice of:

- Expectant management for up to 24 hours after the time of rupture of membranes.
- Immediate induction of labour with oxytocin

Discuss the benefits and risks of these options with the pregnant woman or person, taking into account her individual circumstances and preferences.
There will be times where immediate induction of labour may not be possible due to staffing and capacity; these issues should be discussed with the pregnant woman or person, coordinator, on call consultant and matron, and an individualised documented plan made regarding when the induction can be facilitated.

Vaginal prostaglandins in the form of prostin rather than Propess® should only be administered in individualised cases and should be the decision of ST5 or above. One dose of prostin 3mgs only should be given for birthing women or people with a closed or very unfavourable cervix, followed 6 hours later by oxytocin infusion. The decision to administer prostin should only be undertaken following an SBAR review by an obstetrician ST5 or above, taking into account current MEOWS score and other risk factors which will determine the individual's suitability for prostin rather than immediate induction with oxytocin infusion.

Balloon catheter induction is not appropriate with ruptured membranes.

To reduce the risk of infection VE's should be kept to a minimum. If the birthing woman or person is not contracting, a vaginal examination should **not** be performed before starting oxytocin infusion. Following the commencement of oxytocin contractions should be established for 4 hours before vaginal examination unless there are maternal or fetal concerns.

2.7 Induction of labour for pre-labour rupture of membranes with vaginal birth after caesarean section (VBAC)

For birthing women and people having VBAC, they should not receive either Propess or Prostin. Instead, a vaginal examination by a senior obstetrician should be offered. Where the cervix is favourable, they should proceed to oxytocin infusion after careful counselling about the increased risk of uterine rupture (approximately increase from 1:200 to 1:100) compared with spontaneous labour. Where they do not wish to proceed with IOL, or where IOL is felt to be clinically inappropriate, they should be offered a category 3 caesarean section within 24 hours following rupture of the membranes (unless there are other maternal or fetal concerns - this should ideally occur within daytime hours but not unduly delayed).

2.8 Declined induction of labour

Pregnant women and people may choose to decline induction of labour and we support them in their right to do so. Where induction of labour has been offered for either maternal or fetal indications (rather than solely for maternal request), it is important that the risks and benefits of declining induction have been fully discussed and understood by the pregnant woman or person. The pregnant woman or person should be offered the opportunity to discuss this further with an Obstetric doctor (ST3 or above). For pregnant women or people at home or at St Mary's birth centre and declining induction for pre-labour rupture of membranes, it is appropriate to invite them to attend the Maternity Assessment Unit so that further assessment can be made, appropriate counselling given and an individual management plan made. All conversations should be fully documented in the maternal notes and in the electronic maternity records.

2.9 PROM monitoring advice

Pregnant women and people who are not contracting and are an inpatient with PROM should have maternal observations for BP, pulse, respirations and temperature, and fetal heart rate auscultation with a Doppler, performed a minimum of 4 hourly in waking hours.

High risk pregnant women and people with PROM, or where the membranes have been ruptured for greater than 24 hours, should have an individualised plan made by the obstetric team regarding the frequency of CTG monitoring. Where a pregnant woman or person starts to have contractions a CTG should be repeated and observations and fetal heart rate should then continue.

Women who are outpatients with PROM should be advised, where possible, to take their temperature at least 4 hourly in waking hours. They should be advised to contact the hospital **immediately** if:

- The colour of water changes to yellow or green or has an offensive smell
- They feel unwell, hot , shivery or sweaty
- They have a temperature over 37.5 degrees centigrade
- They lose any blood other than a “show”
- They have altered fetal movements
- They have sharp pains that are there all the time
- They are worried at all

2.10 Postnatal

For care of the newborn and risk factors for sepsis please refer to; Antibiotics for Neonatal Infection UHL Guideline.pdf

*Refer to Pyrexia and Sepsis in Labour UHL Obstetric Guideline in addition to discussion with obstetrician to review maternal history, clinical status, antibiotic treatment and investigations (including CRP, blood culture if available)

3. Education and Training

None

4. Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Appropriate intravenous antibiotic prophylaxis administered in labour	Audit	Periprem leads		
Appropriate timing (7 days) of antenatal corticosteroids	Audit	Periprem leads		
Appropriate administration of MgSO4	Audit	Periprem leads		
Neonatal discussion with parents has taken place	Audit	Periprem leads		

5. Supporting References

NICE (2015 – updated 2022) Preterm labour and birth https://www.nice.org.uk/guidance/ng25 (accessed 28/06/22)

NICE (2021) Inducing Labour NG207 https://www.nice.org.uk/guidance/ng207 (accessed 28/06/22)

RCOG (2019) Care of Women Presenting with Suspected Preterm Prelabour Rupture of Membranes from 24+0 Weeks of Gestation (Green-top Guideline No. 73), https://www.rcog.org.uk/guidance/browse-all-guidance/green-top-guidelines/care-of-women-presenting-with-suspected-preterm-prelabour-rupture-of-membranes-from-24plus0-weeks-of-gestation-green-top-guideline-no-73/ (accessed 28/06/22)

Hocq C, Van Grambezen B, Bernard P, Debauche C. Impact of gestational age at PPROM on the short-term outcome of children born after extreme and prolonged preterm prelabor rupture of membranes in an experienced care center. Signa Vitae 2017;13(2):63-70 .

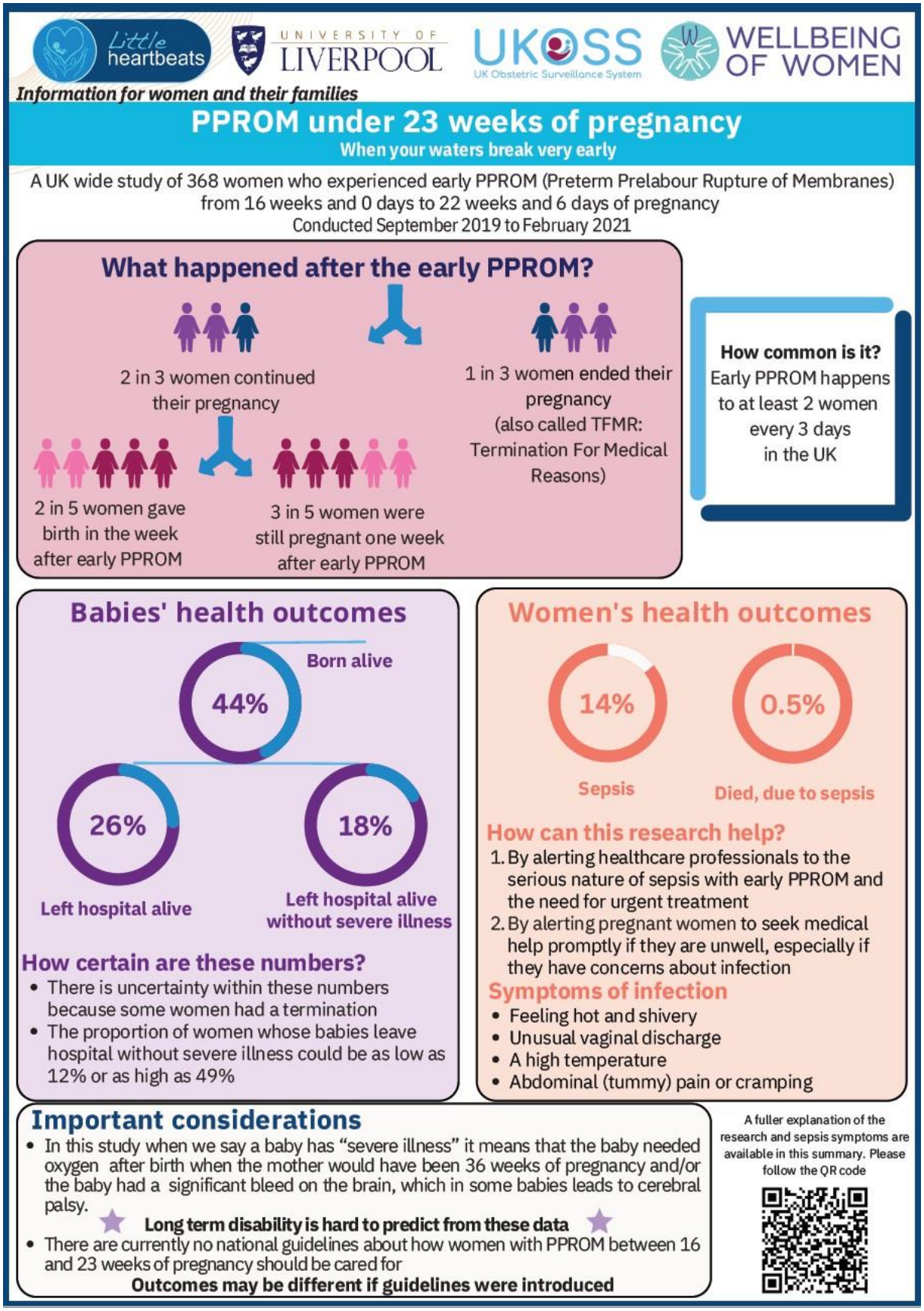
6. Key Words

Actim prom, Induction of labour, Fibronectin, Liquor

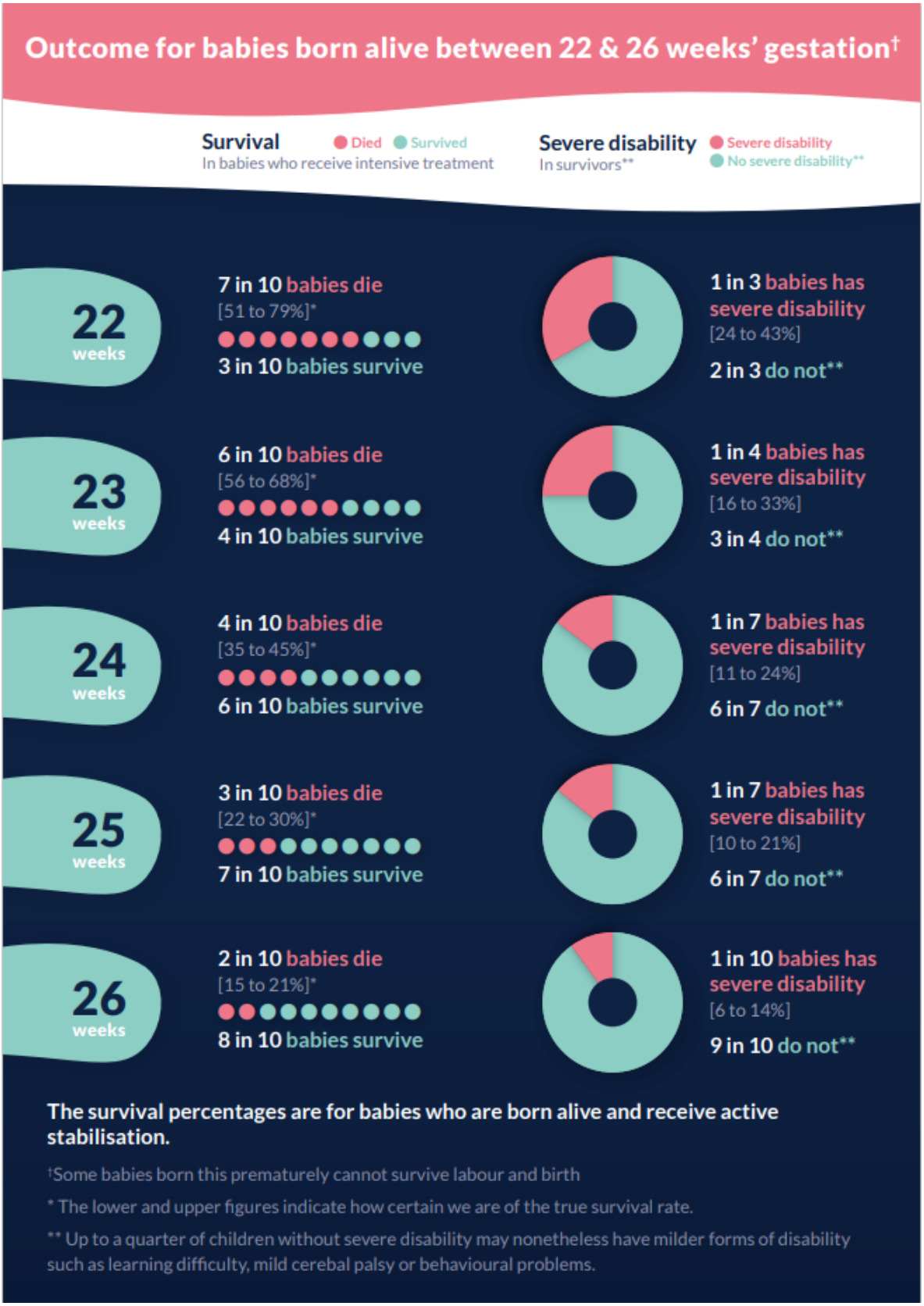
The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
As part of its development, this policy and its impact on equality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

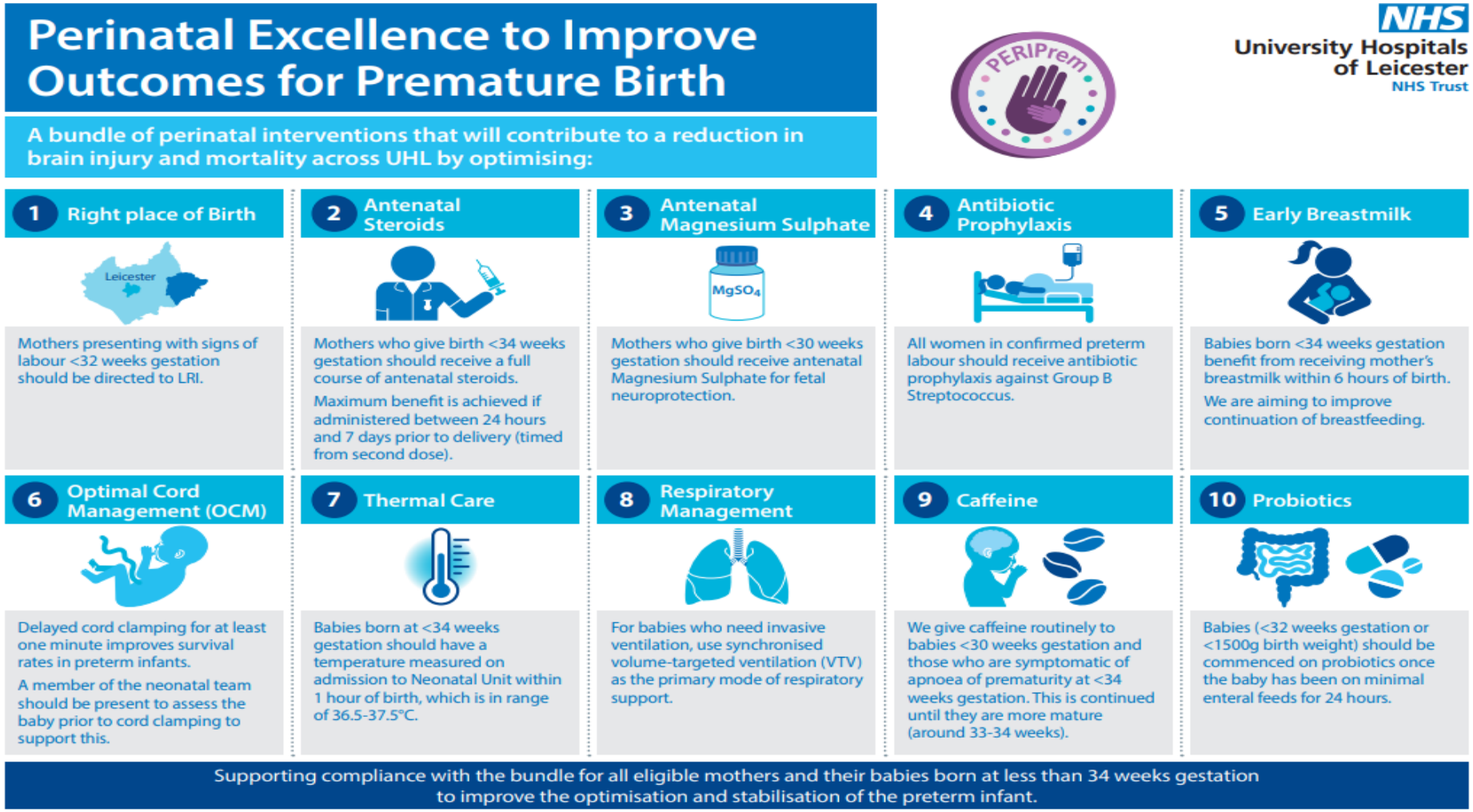
CONTACT AND REVIEW DETAILS			
Guideline Lead (Name and Title) H Fakoya – Consultant Midwife			**Executive Lead** Chief Nurse
Details of Changes made during review:			
Date	**Issue Number**	**Reviewed By**	**Description Of Changes (If Any)**
June 2022	**1**	Neonatal Consultants S Dunkerton – Cons Obstetrician Maternity guidelines group Maternity Governance Committee	**New guideline**
July 2024	**2**	S Dunkerton – Cons Obstetrician	**MAU flowchart, added follow scan pathway if SFH not appropriate** **Assessing SROM – Actim Prom – added 'consider at >37 weeks if good h/o SROM but pad check and speculum inconclusive.** **PPROM – Added refer to PPC if <34/40, admit for 72 hrs and arrange USS. PPROM sticker to be placed in the nortes. <28/40 USS performed in PPC, >28/40 USS buy sonographer** **Extreme PPROM – new section added** **Prostin administration for IOL must be the decision of ST5 or above**

Appendix: 1 Information for families



APPENDIX: 2 Outcome for babies





Appendix:3 PERIPrem