# CLINICAL PRACTICE GUIDELINE

## Rupture of membranes - spontaneous

This document should be read in conjunction with the [Disclaimer](#).

## Contents

### Pre-viable gestation: Rupture of membranes <23 weeks .................2
- Background information
- Key points
- Assessment, examination, investigations and diagnosis
- Management
- References

### Preterm prelabour rupture of membranes (PPROM): 23-37 weeks ...7
- Suspected PPROM: MFAU quick reference guide (QRG)
- PPROM medical and midwifery management
- Confirmed PPROM: Care on the ward: QRG
- Confirmed PPROM: Outpatient management: MFAU QRG
- Confirmed PPROM: Outpatient management: Flow chart
- References

### Term: Pre-labour rupture of membranes at term .........................21
- Key points
- Assessment
- Special cases
- Confirmed ROM: Management
- References

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1. Key points

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Pre-viable gestation: Rupture of membranes <23weeks

Background information

Mid-trimester preterm rupture of membranes (ROM) is defined as rupture of the fetal membranes before or at the limit of fetal viability, prior to 23 weeks. This is a rare complication, affecting less than 1% of all pregnancies\(^1\). Many pregnancies complicated by pre-viable ROM result in extreme prematurity, or birth prior to viability. It is therefore associated with significant perinatal morbidity and mortality.

Mid-trimester preterm ROM may occur spontaneously or following an invasive procedure such as an amniocentesis or fetoscopy. The pathophysiology of spontaneous ROM is poorly understood but recognised risk factors include infection, multiple pregnancy, antepartum haemorrhage and cervical incompetence.\(^2\) ROM following a medical procedure tends to be associated with a more favourable outcome\(^3\).

Gestational age at the time of birth is strongly predictive of both immediate survival and long term morbidity. Early gestational ROM with an ongoing pregnancy is not without serious complication, which can include pulmonary hypoplasia, musculoskeletal abnormalities, fetal compromise and maternal and fetal infections\(^1,4,5\).

The individual prognosis is difficult to predict and each case presents a unique management situation. A review of local data supports the previously known relationship between gestation at time of ruptured membranes and length of the latent period. The median latent period for very early pre-viable ROM (16-20 weeks) was 18 days, for later pre-viable ROM (20-24 weeks) the latent period was shorter with a median of 7 days. The rate of survival (specified as at the time of discharge) was 17% for ROM between 16 and 20 weeks and almost 40% for 20-24 weeks, with no evidence that increased obstetric intervention beneficially impacted the outcome of the pregnancy\(^6\).

Several studies demonstrate large differences between mean and median latency which is likely explained by the majority of these pregnancies progressing to delivery soon after presentation. Approximately 40 to 70% of women will deliver in the first week following spontaneous pre-viable ROM\(^7,8\).

The management of preterm pre-labour rupture of membranes beyond the limit of fetal viability (between 23 and 37 weeks gestation) is discussed in the next section: Preterm Prelabour Rupture of Membranes

Key points

1. Digital vaginal examination should be avoided unless the woman is in active labour or birth is imminent\(^9\).
2. Early review with senior obstetric and neonatal staff is imperative.
3. Corticosteroids should be considered in consultation with senior obstetric staff when the limit of viability is approached.
4. Clinical signs of chorioamnionitis or maternal sepsis is an indication for broad spectrum antibiotics and expedited birth of the baby, the gestation at which this occurs needs to be in consideration of the requirements outlined in section 334 of the Health Act 1911 (See Termination of Pregnancy: Information and Legal Obligations for Medical Practitioners).

5. Antenatal corticosteroid administration should be timed according to the plan for neonatal management which may change around the limit of neonatal viability.

6. If relevant, see section in this document: Cervical Cerclage

7. Outpatient management can be considered if the woman elects for conservative management in the absence of any risk factors or maternal or fetal compromise.

Assessment, examination, investigations and diagnosis

Key components of initial assessment
- Confirmation of ROM including assessment for differential diagnoses
- Confirmation of gestation
- Assessment of maternal wellbeing
- Assessment of fetal viability

Diagnosis
- The diagnosis of mid-trimester preterm rupture of membranes, similarly to PPROM is made based upon history, physical examination and ultrasound.

History
- Time, type and colour of fluid, amount, presence of signs indicative of infection (odour, abdominal pain, fever).

Assessment for differential diagnosis
- Incontinence, physiological discharge, vaginal infection.

Physical examination
- Abdominal palpation, noting any abdominal tenderness.

Investigations
- Sterile speculum examination including LVS and STI screening if indicated.
- Mid-stream urine.
- Ultrasound examination for fetal growth, presence of fetal heart and AFI (this provides a useful adjunct but is not diagnostic)\textsuperscript{9,11}
Management - After confirmation of ROM in the absence of imminent birth
1. Admit for a minimum of 72 hours for conservative management:
   • Ward 6 if <20 weeks
   • Antenatal ward if 20+ weeks
   • Note: women who are 20+ weeks and at risk of imminent birth are to be admitted to the Labour and Birth Suite (LBS).

2. Maternal baseline assessment should include:
   • Temperature, heart rate, blood pressure, respiratory rate, oxygen saturations, presence of uterine activity, uterine tenderness, details of any vaginal discharge, fetal movements and fetal heart rate (FHR) - ask the woman if she wishes for the fetal heart to be heard.
   • Full blood count, C-reactive protein

3. Commence oral erythromycin 250mg QID for 10 days in women beyond 20 weeks' gestation. There is no evidence currently to support the use of antibiotics in PROM prior to 20 weeks.

4. Maternal education and counselling by senior obstetric staff (Senior Registrar or Consultant):
   • Prognosis and fetal viability
   • Provide pamphlets to the woman and her family on:
     ➢ Pregnancy of Uncertain Viability (publication ID: 0578)
     ➢ Birth of your baby at 23 to 25 weeks
   • Options for management:
     ➢ Continuing the pregnancy with conservative management.
     ➢ Elective termination of pregnancy
     ➢ Continuity of team care
   • To ensure all relevant referrals have been made

5. Ongoing observations:
   • 4 hourly temperature, heart rate, fetal movements, presence of uterine activity, uterine tenderness, details of any vaginal discharge.
   • Daily blood pressure and FHR unless otherwise indicated.

Referrals to consider
1. Neonatology
2. Social work
3. Psychological Medicine
4. Aboriginal Liaison Officer
5. Perinatal Loss Service
6. Pastoral Care
Considerations for discharge
Consider discharge after 72 hours if:

- No evidence of infection
- No signs of preterm labour
- Close accessibility to the hospital
- Woman well informed and understanding of situation and risks

Outpatient management

- Woman to monitor temperature daily and return if above 37 degrees
- Fortnightly USS
- Weekly antenatal clinic review
- There is no role for weekly CRP/FBC or vaginal swabs
- Arrange admission if signs of chorioamnionitis or maternal sepsis
- Woman to return if bleeding, signs of preterm labour, abnormal vaginal discharge
- Woman should be advised to avoid vaginal intercourse, the use of tampons and swimming/bathing
- Consider re-admission around 23 weeks for 48-72 hours for observation, administration of steroids; re-review by neonatology and to allow management planning for the remainder of the pregnancy

Criteria for induction of labour
1. Presence of signs of chorioamnionitis or maternal sepsis*
   - Septic screen including blood cultures
   - Commence broad spectrum antibiotics. Refer to Sepsis Pathway and KEMH Clinical Guideline: Antimicrobial Stewardship: Sepsis and Septic Shock: Antibiotics for Adult Patients at KEMH

2. Confirmed fetal demise

3. Woman’s request*
   * If induction of labour is being considered at 20+ weeks gestation with a live fetus and with no intent for neonatal resuscitation approval must be sought from the Ministerial Panel for Termination of Pregnancy as per section 334 of the Health Act of 1911 (See Termination of Pregnancy: Information and legal obligations for medical practitioners). In situations of overt clinical chorioamnionitis where there is a risk of severe maternal sepsis urgent advice should be sought from the Chair of the Panel so that definitive treatment is not unduly delayed.

Birth
- Birth prior to 32 weeks should occur at KEMH
• Birth beyond 32 weeks should occur at KEMH unless senior obstetric staff have reviewed the woman and approved the transfer of care to a local centre

References


Related WNHS policies, procedures and guidelines

Neonatology guideline: End of Life Care: Palliative Care, Grief and Loss

<table>
<thead>
<tr>
<th>Document owner:</th>
<th>Obstetrics, Gynaecology Directorate (O&amp;GD)</th>
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</thead>
<tbody>
<tr>
<td>Author / Reviewer:</td>
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<tr>
<td>Date first issued:</td>
<td>Sept 2017</td>
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</tbody>
</table>
Preterm prelabour rupture of membranes (PPROM): 23-37 weeks

Suspected PPROM: MFAU quick reference guide (QRG)

Assessment

**Note: Do not perform a digital examination as it increases risk of infection**

1. Document time and history of the reported vaginal loss. Note type, colour, amount, and any abnormal smelling discharge.
2. Document maternal temperature, pulse and blood pressure (BP), respirations & oxygen saturation.
3. Perform an abdominal palpation noting:
   - Symphysis fundal height
   - Lie (if appropriate depending on gestation)
   - Presentation (if appropriate depending on gestation)
   - Uterine tenderness, irritability / activity
4. Auscultate the fetal heart rate and confirm presence of fetal movements.
5. If ≥24 weeks gestation, commence a CTG if there is any tenderness or uterine activity. If the woman is having uterine tightenings > 1:10 minutes see Clinical Guideline Preterm Labour, and notify the Obstetric Medical team.
6. Sterile speculum examination should be undertaken and swabs sent to microbiology. Check for pooling of amniotic fluid. If no visible pooling, use amnicator, and bedside scan to assess liquor volume.
7. **If PROM is confirmed** perform:
   - Low vaginal swab (LVS) for culture
   - Rectal swab (assessing for group B streptococcus)
   - Endo cervical swab (ECS) – may be collected for Chlamydia trachomatis or Neisseria gonorrhoea if needed. Perform a High vaginal Swab (HVS) if there is a purulent discharge.
   - Collect further pathology, including Full blood picture & CRP, and any booking antenatal bloods and pathology tests as required.
   - See section covering medical and midwifery management on confirmed PROM.
8. **If PROM not confirmed**:
   - Routine antenatal follow up with the usual health provider.
   - Instruct the woman to contact MFAU/ MGP/CMP if there are any further signs of PPROM or change in colour of discharge.
9. **If PROM unknown**: Arrange review by the Obstetric Registrar or above

10. Arrange ultrasound assessment of amniotic fluid volume if there is a history suggestive of PPROM in the absence of clinical signs.

### PPROM medical and midwifery management

**Key points**

1. **Digital vaginal examination** should be avoided unless the woman is in active labour or birth is imminent.¹

2. Sterile speculum examination should be undertaken and swabs sent to microbiology.

3. Between 23 and 23+6 weeks gestation the decision for corticosteroids administration is made following consultation between the Obstetric/Paediatric Medical Team and the parents.

4. A single course of antenatal corticosteroids should be considered for administration to women with PPROM without signs of infection between 23 and 36+6 weeks gestation.

5. If gestation is less than 34 weeks and in the absence of infection or complications and in circumstances when a course of corticosteroids has not been completed, tocolysis may be considered for threatened premature labour. The extension of steroid use to 36+6 weeks does not mean that tocolytic therapy is recommended past 34 weeks.

6. Broad spectrum antibiotic administration is recommended following PPROM to prevent infection and prolong the pregnancy in the short term, leading to a reduction in neonatal and maternal morbidity.² ³

7. It is the Obstetric Consultant’s decision, as to when to deliver a preterm baby. If expectant management continues >34 weeks, women should be advised of the increased risk for chorioamnionitis and the decreased risk of respiratory problems in the neonate.²

8. Provide information on the risks of not delivering at the time of PPROM, including the risk of **cord prolapse** although this is rare (0.3%) and no more common with expectant management than with immediate delivery.⁴ [New May 2018].

9. Infections of the baby can be insidious and unpredictable in PPROM. This must be clearly relayed to the woman. [New May 2018]

10. All CMP clients who report or suspect premature pre-labour rupture of membranes at < 37 weeks gestation must be referred immediately to their supporting hospital for an obstetric review.

11. Outpatient management of women with PPROM must be approved by a consultant obstetrician.
Diagnosis
Diagnosis of PPROM is usually made on the basis of maternal history, physical examination, and ultrasound examination.

Medical history
On admission note and document:
- Time of PPROM
- Type and colour of fluid loss
- Amount of fluid loss
- Signs of infection including 'offensive smelling' vaginal discharge, uterine tenderness, maternal fever, and fetal tachycardia

Assess for a differential diagnosis:
- Leakage of urine (incontinence)
- Physiological vaginal discharge
- Bacterial infection e.g. bacterial vaginosis
- Cervical mucous (show) which may be a sign of impending labour

Physical examination
Abdominal palpation:
- Depending on the gestation abdominal palpation may be appropriate to assess fetal size and presentation
- Note any abdominal tenderness which may indicate infection

Perform speculum:
- If pooling of amniotic fluid, provide care consistent with having PROM.
- If pooling not observed perform amniocentesis test on vaginal fluid, and perform bedside scan for liquor volume.

Ultrasound examination
Arrange ultrasound examination for gestational age, fetal well-being, growth and estimation of amniotic fluid index (AFI). This provides a useful adjunct for diagnosis of oligohydramnios but is not diagnostic.

Management
Management is influenced by gestation age of the fetus, presence of infection, advanced labour and evidence of fetal compromise.
Chorioamnionitis is an indication for delivery.

Observations
1. **On admission** – perform baseline assessment for temperature, pulse, BP, respirations, O₂ saturation, uterine activity or tenderness, vaginal discharge and urinalysis.
2. Ongoing observations include:

   **4 hourly:** Temperature, pulse, fetal activity, uterine activity and/or tenderness, and vaginal discharge – assess colour and amount. Note if discharge is ‘offensive smelling’ which may indicate infection.

   **Twice daily:** Fetal heart rate

   **Daily:** BP and assess bowel activity

**Note:** Unless otherwise instructed by the medical team night-time observations shall be performed at 2200 and 0600.

**Notify the medical team of any deviation from the normal observations. The frequency of observations shall be adjusted according to the maternal and fetal clinical condition.**

Pathology tests

On admission with PPROM collect:

- Full blood picture (FBP)
- C-reactive protein (CRP) if clinically indicated – while studies have shown a CRP is a poor **predictor** of chorioamnionitis, studies cannot conclude that it is ineffective in detection of chorioamnionitis or neonatal sepsis.\(^8\), \(^9\)
- Mid-stream urine (MSU)
- Low vaginal swab (LVS) and rectal swab for culture, including specific Group B Streptococcus testing
- Endocervical swab (ECS) if screening required for Chlamydia\(^10\).

Ongoing follow-up pathology tests may be ordered by the medical team if clinically indicated:

1. FBP and/or CRP if there is suspicion of infection
2. LVS as required.

If a woman is unbooked to KEMH ensure a copy of all tests and results done in her pregnancy are available for review. Order booking antenatal bloods and pathology tests as required. See KEMH Clinical Guideline, O&G: **Antenatal Care Schedule:** Initial visit.

Maternal education

1. Instruct the woman about personal hygiene including changing her sanitary pad 4 hourly or as required. Tampons should not be used.
2. Alert the woman to look out for changes in colour and odour of the PV loss.
3. Encourage frequent leg exercises and instruct the woman to wear graduated compression stockings until full ongoing mobility is assured. Elastic compression stockings assist in the prevention of deep vein thrombosis.\(^11\)
4. Arrange a Paediatric consultation for gestations under 32 weeks or in pregnancies with other complications. Discuss management of preterm birth
e.g. feeding methods, Neonatal Intensive Care Unit (NICU) admissions, risk factors and outcomes.

5. Inform the woman that infections of the baby can be insidious and unpredictable in PPROM. This must be documented in the clinical notes. [New May 2018]

6. Inform the woman about the Health Information Resource Services (HIRS).

7. Advise women that sexual intercourse should be avoided with PPROM.

Referrals
As required offer referral to specialist services:

- Neonatologist- if <32 weeks gestation or other complications such as IUGR
- Aboriginal Liaison Office
- Social worker
- Psychological Medicine
- Physiotherapy
- Parent Education
- Dietician
- Activities Co-ordinator

Fetal surveillance
There is no clear evidence on the optimum frequency to perform fetal surveillance tests for women with PPROM. The frequency of tests is adjusted according to the maternal and fetal clinical situation.

<table>
<thead>
<tr>
<th>Fetal Surveillance</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Fetal Heart Rate (FHR)</td>
<td>On admission perform an initial period of electronic FHR monitoring &amp; uterine activity monitoring ( at ≥ 23 weeks) on admission. Thereafter, FHR twice daily (morning / evening).</td>
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<tr>
<td>Fetal Activity</td>
<td>4 hourly</td>
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<tr>
<td>Cardiotocograph Monitoring (CTG)</td>
<td>Weekly if the gestation is more than 30 weeks. Between 23 -25 weeks gestation CTG monitoring should be discussed with the senior registrar or consultant before commencing.</td>
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<tr>
<td>Ultrasound</td>
<td>If the fetus is more than 23 weeks</td>
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</table>
NOTE: Report any abnormalities to the Medical Obstetric Team.

**Antibiotics**

Certain antibiotic administration to women with PPROM provides short-term benefits by prolonging pregnancy and reducing risk for infection. It has been shown to reduce some markers of maternal and neonatal morbidity and although it does not equate to a statistically significant reduction in perinatal mortality, research indicates it makes it possible to reduce risk or mortality.\(^\text{13}\) The demonstrated delay in onset of labour may allow sufficient time for effective prophylactic corticosteroids. Avoid the use of Amoxicillin/Clavulanate as it is associated with neonatal necrotising enterocolitis in the setting of PPROM.\(^\text{1,7,13}\)

**Antibiotic dosage**

- Oral **Erythromycin** 250mg four times a day for 10 days.\(^\text{1,14}\)
- If the woman has a positive screening result for Group B Streptococcus (GBS) see Clinical Guideline Group B Streptococcal Disease for management.

**Corticosteroids**

Evidence supports the use of a single course of antenatal corticosteroids to accelerate fetal lung maturation in women at risk of preterm birth.\(^\text{1,15}\) This reduces the risk of neonatal death, respiratory distress syndrome, intraventricular haemorrhage, necrotising enterocolitis, infectious morbidity and the need for respiratory support and neonatal intensive care admission.\(^\text{16,17}\)

**Corticosteroid dosage and administration**

- Consider administering corticosteroids between 23 and 36+6 weeks gestation.\(^\text{18}\)
- Between 23 and 23+6 weeks gestation the decision for corticosteroids administration is made following consultation between the obstetric/paediatric medical team and the parents.

See KEMH Clinical Guideline, O&G: Corticosteroids: Use of.

**Amniocentesis**

Routine amniocentesis should not be performed for women with PPROM.\(^\text{2}\) In selected cases it may be an option for detecting subclinical infection.

**Amnioinfusion**

There is currently insufficient evidence to support amnioinfusion for PPROM.\(^\text{12}\)
**Progesterone**
Progesterone should not be commenced in women with PPROM and should be discontinued in women using it prior to PPROM.\(^{19}\)

**Prophylactic tocolysis**
Tocolysis may be used to allow a course of corticosteroids to be completed and if a woman is requiring transfer to a tertiary hospital, but should not routinely be continued after arrival.\(^5\) Use of tocolysis with PPROM does not significantly improve perinatal outcome.\(^2\) Furthermore, the risk of chorioamnionitis is increased when tocolytic therapy is used and further research is required to guide its general use.\(^1,20\)

See also KEMH Clinical Guidelines: O&M: Complications of Pregnancy: [Preterm Labour](#); including section: LBS QRG Nifedipine Tocolytic Therapy.

**Cervical cerclage**

**Cerclage management**
- Remove cerclage due to increased risk of maternal chorioamnionitis and neonatal mortality from sepsis (however antibiotics administration may decrease risks)\(^{21}\).
- Delayed suture removal until labour occurs or when delivery indicated, is associated with an increased risk of maternal/fetal sepsis, therefore is not recommended.
- Send the cervical suture for culture, once removed.

**Magnesium sulphate**
If early preterm birth (<30 weeks) is planned or expected within 24 hours, a magnesium sulphate infusion can be offered (if no contra-indications) to women for potential fetal neuro protection.\(^1\)

See KEMH Clinical Guideline, O&G: Preterm Labour & Birth: [Magnesium Sulphate for Neuroprotection of the Fetus](#), including QRG.

**Outpatient management**
The safety, cost and women’s views about home management with PPROM has not been established through large studies.\(^1,22\)

A woman should **only** be considered for outpatient management **if strict criteria are met** and following Obstetric Consultant review.

The decision is based on:
- Gestation and presentation.
- Close accessibility to the hospital
- Absence of signs of threatened premature labour.
- No evidence of infection.
- Absence of maternal or fetal risk factors.
- Absence of fetal compromise.
If a woman is deemed suitable for outpatient management she should be counselled to:

- Attend weekly outpatient visits to MFAU to monitor the clinical situation. See KEMH Clinical Guideline, O&M: Complications of Pregnancy: Preterm Prelabour Rupture of Membranes MFAU – QRG and / or
- Attend an antenatal clinic appointment for Obstetric Team Consultant review.
- Monitor her temperature. Instruction and demonstration of temperature taking procedure should be performed and documented prior to discharge. The woman is advised to contact KEMH if she notices any signs of infection or has a temperature of above 37 degrees Celsius.
- Wear sanitary pads not tampons, and return to hospital if she has abnormal smelling vaginal discharge, or abnormal appearance of the vaginal discharge.
- Avoid vaginal intercourse.
- Have showers rather than baths, and avoid swimming.
- Monitor fetal movements and notify the hospital (Maternal Fetal Assessment Unit- MFAU) if fetal movements are decreased.
- Notify and return to the hospital if any signs of threatened preterm labour, vaginal bleeding, or abdominal pain / tenderness.

Future pregnancy
The KEMH Preterm Birth Prevention Clinic may be considered in future pregnancies for women with PPROM who continue on to have a preterm birth. The clinic aims to reduce the rate of preterm birth, and referral details can be found in The Whole Nine Months: Lasts a Lifetime booklet or website.
Confirmed PPROM: Care on the ward: QRG

Avoid digital examination unless birth is believed to be imminent

Maternal Assessment

On admission

Full set of observations*
Vaginal loss, uterine activity / tenderness

4 hourly

Temperature, pulse, vaginal loss, uterine activity / tenderness
If abnormal perform a full set of observations*

Daily

Blood Pressure
Bowel activity
If abnormal perform a full set of observations*

Overnight

Observe and perform observations only as required between 22:00 and 06:00

Fetal Assessment

4 hourly

Fetal Movement
Report any decrease in movements or change in usual pattern of movements

BD

Fetal heart rate
Report any abnormalities promptly

CTG

Gestation > 30 weeks
Once weekly

Immediately if contracting

* Full set of observations includes Blood Pressure, Pulse, Temperature, Respiration, O2 Saturation and conscious state.
**Procedures to be considered**
- Low vaginal swab – repeat as required
- GBS screening may need to be repeated depending on gestation
- Antibiotics see below for details
- Corticosteroids – consider a single course between 24 and 36+6 weeks gestation
- Maternal laboratory investigations – FBP and CRP if there is suspicion of infection

**Education**
- PPROM
- Plan of care, tests and procedures
- Caesarean section
- Preterm birth
- Special care Nursery
- Breastfeeding
- Personal hygiene

**Activity**
- Consider bedrest with toilet and shower privileges for the first 48 hours
- Subsequent activity to be determined by the medical officer

**Documentation**
- MR 285 Observation sheet
- MR 810 Medication chart
- MR 250 Progress notes
- MR 410 Neonatal History sheet
- Baby notes prepared
- STORK perinatal database record updated

**Referrals to be considered**
- Neonatologist
- Aboriginal Liaison Officer
- Anaesthetic department
- Dietician
- Parent Educator
- Physiotherapist
- Psychological
Confirmed PPROM: Outpatient management: MFAU QRG

Assessment
Women with confirmed PPROM are assessed once a week on an outpatient basis. The Multiple Visit Record Sheet MR 226 is to be used each visit to record the assessment and any test results or treatment given.

Weekly assessments
1. Arrange weekly assessments on the woman’s Obstetric Team day with Team Consultant.
2. Check and record maternal temperature, pulse and blood pressure, respirations & oxygen saturation. Ensure the woman has been taking her temperature at home daily, and that recordings have been <37°C.
3. Check vaginal loss recording the amount and nature of the loss.
4. Perform abdominal palpation noting:
   - Symphysis fundal height
   - Lie (if appropriate depending on gestation)
   - Presentation (if appropriate depending on gestation)
   - Uterine tenderness, irritability / activity
5. Perform a urinalysis and send an MSU for MC&S where there is proteinuria of >1+
6. Take a LVS, without using a speculum, for MC&S.
7. If the fetus is > 23 weeks gestational age arrange assessment of fetal wellbeing:
   - Ultrasound assessment for amniotic fluid index (AFI) and umbilical artery (UA) Doppler velocities at each visit
   - Fetal biometry every 2 weeks
   - CTG at each visit if / when > 30 weeks gestational age
8. Consider the woman for a single course of corticosteroid if the gestational age is between 23 and 36+6 weeks. At gestations between 23-23+6 days, the decision to give steroids should take into account the parent’s wishes for the management of the neonate.
9. Ensure the woman has received or has been commenced on a ten-day course of erythromycin 250mg QID. Obtain and review any results from the previous visit if these have not already been documented.
10. Provide the woman with information of management for PPROM after discharge. See section ‘PPROM: Medical and Midwifery Management’ in this document for detailed advice and care.
Confirmed PPROM: Outpatient management: Flow chart

Women presents to MFAU for **weekly** review and Assessment on her Obstetric Team day.

Midwife / Resident performs the assessment as outlined in the QRG.

Midwife / Resident reviews all maternal and fetal Assessments and test results.

Are all the assessments and results normal? (see yellow box)

- **Yes**
  - Inform the Obstetric Team of results and arrange review in the ANC or in MFAU as appropriate.

- **No**
  - Inform Obstetric Registrar or above and arrange review.

**Follow-up Management**
Continue weekly assessment in The Maternal Fetal Assessment Unit and/or ANC with Team Consultant review.

**Abnormal / Reportable Results**
- Maternal temperature ≥ 37°C
- Maternal pulse ≥ 100 bpm
- Positive LVS or MSU
- Vaginal loss which is offensive and / not clear
- WCC > 17 or 10⁹/l or a WWC that is rising
- CRP >10mg/l
- AFI (MVP <2cms)
- Fetal biometry < 1⁰th centile
- UA doppler > 9⁵th centile
- Non-reactive CTGx2
- Fetal tachycardia
Rupture of membranes - spontaneous

References


Rupture of membranes


**Related KEMH guidelines**

Obstetrics & Gynaecology guideline: Emergency Procedures: *Cord Prolapse*

**Useful resources**

KEMH patient information book: *Pregnancy, Birth and your Baby*

**Keywords:** PPROM, prelabour preterm rupture of membranes, suspected rupture of membranes, rupture of membranes in pregnancy,

**Document owner:** Obstetrics, Gynaecology Directorate (O&GD)

**Author / Reviewer:** O&GD Medical Co-Director -Nov 2019

**Date first issued:** September 2002
Term: Pre-labour rupture of membranes at term

Aim
To provide a management plan for the woman with prelabour rupture of the membranes at term.

Definition
Pre-labour Rupture of Membranes (PROM) at term is defined as rupture of the amniotic sac prior to the onset of labour at or beyond 37 weeks gestation. Rupture of membranes (ROM) is colloquially known as “breaking the waters” or as “one’s waters breaking”.

The incidence of PROM at term is 8%.

Key points

1. Women with PROM at term should be informed of the risks and benefits of the options of active and expectant management.
2. Expectant management is appropriate in women who are group B streptococcus (GBS) negative or GBS unknown and have no signs of infection or other complications.
3. Induction of labour (IOL) with vaginal prostaglandins is associated with an increased risk of chorioamnionitis and neonatal infection in comparison with an oxytocin induction.
4. Oxytocin rather than vaginal prostaglandins is preferred for the IOL in the presence of PROM at term.
5. GBS positive women who present with PROM should be commenced on IV antibiotics immediately, and have an IOL within 6 hours of rupture of the membranes.
6. If the woman has any signs of infection then advise immediate IOL.
7. If a woman is GBS negative or unknown and elects for expectant management she will be advised to:
   - Check her temperature every 4 hours during waking hours and report if she has a raised temperature of over 37.4°C
   - Avoid sexual intercourse
   - Report to treating hospital/health practitioner
     - if she is feeling unwell
     - any change in colour or smell of her vaginal loss
     - changes in fetal movements
8. If a woman declines the recommended management outlined in this guideline an individual non-standard management plan must be documented in the woman’s notes following a discussion between the woman, midwife and the Senior Registrar or more Senior Medical Officer.

Assessment

Assessment of women presenting with PROM at term should include:

- Confirmation of ROM
- Confirmation of gestation and presentation
- Performing maternal and fetal observations

Digital vaginal examination is to be avoided unless immediate induction is planned or cord prolapse is suspected.

Special cases

**Cervical suture** – if ROM is confirmed or uncertain the woman should be reviewed by the LBS Registrar or more Senior Medical Officer. If a cervical suture is present, there is a very high risk of sepsis. The suture should be removed as soon as possible and prompt birth must be considered.

Confirmed ROM: Management

**Expectant management**

**Criteria for expectant management**

- GBS negative / unknown
- Cephalic presentation
- Clear liquor
- No signs of infection (maternal tachycardia, fever, uterine tenderness)
- No cervical suture
- Woman able to assess
  - Temperature 4 hourly
  - Vaginal loss
  - Fetal movements
- Reactive CTG
  - CTG only required if additional risk factors present
At 18 hours following ROM
- Commence IV antibiotics. These may be commenced in the hospital, FBC or community setting.
- If woman in labour at 18 hours continue labour care.
- If woman NOT in labour at 18 hours
  - Administer IV antibiotics as per Table 2
- The second dose of IV antibiotics (at 22 hours following ROM) can be given in MFAU/FBC/community if they have not established in labour at this time.
- IOL should be commenced when the membranes have been ruptured for 24 hours.

At 24 hours following ROM
- If woman NOT in labour transfer to hospital for clinical review and IOL.
- If the woman is in active labour prior to 24 hours post ROM she may continue to labour in her intended birth setting (FBC/community)

Active management
Criteria for active management
- GBS positive
  - Known carriers of group B streptococcus who present with PROM at term should be treated with IV antibiotics, and have labour induced within 6 hours of rupture of the membranes.²
- Cephalic presentation

If the woman is GBS –ve or unknown and is requesting IOL this may be facilitated dependent on the activity/acuity within the birthing unit.

Antibiotic prophylaxis
Antibiotic prophylaxis in the event of PROM at term for:
- GBS positive women
- GBS negative and unknown women whose ROM ≥ 18 hours

Table 2

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
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</thead>
<tbody>
<tr>
<td>Benzyl penicillin</td>
<td>3g then 1.8g</td>
<td>IV</td>
<td>4 hourly</td>
</tr>
<tr>
<td>Clindamycin (if sensitive to penicillin)</td>
<td>900mg</td>
<td>IV</td>
<td>8 hourly</td>
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</tbody>
</table>
Woman presents to the Maternal Fetal Assessment Unit or attended by midwife at FBC/home

Midwife/resident takes a history and performs a physical examination and acts upon findings as outlined in the Quick Reference Guide

Are the membranes ruptured?

No

Notify Obstetric Registrar if in MFAU.
Discharge home.
An US/CTG or speculum is not required.
Routine review with usual health care provider

Unsure

Review by Registrar or above in hospital

Yes

GBS Status

Negative OR unknown

Expectant management

Positive

Active management

Following PROM at Term if any of the following occur the woman is to be referred to hospital:
- Maternal pyrexia/fever
- Maternal uterine tenderness
- Decrease in FM
- Vaginal loss is NOT clear

Confirm:
- No s/s of infection
- Clear liquor
- No cervical suture
- Woman able to perform 4 hourly observations (see clinical guideline)
- Reactive CTG*
*CTG only required if additional clinical risks present

At 18 hours – commence IV antibiotics (in hospital/FBC/community)

At 18 hours is woman in labour?

No

Continue to give IV A/B’s (in hospital/FBC/community)

At 24 hours is woman in labour

Yes – continue labour care

No

Yes – continue labour care

Transfer to hospital for IOL

At 18 hours is woman in labour?

No

Yes – continue labour care
References


Related KEMH guidelines

KEMH Clinical Guidelines: Obstetrics & Gynaecology [Restricted Area Guidelines available to WA Health employees through Healthpoint]: Induction Of Labour: Artificial Rupture of Membranes

<table>
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<th>Keywords:</th>
<th>PROM, prelabour rupture of membranes, term rupture of membranes, waters breaking at term</th>
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<td>Document owner:</td>
<td>Obstetrics, Gynaecology Directorate (O&amp;GD)</td>
</tr>
<tr>
<td>Author / Reviewer:</td>
<td>O&amp;GD Medical Co-Director</td>
</tr>
<tr>
<td>Date first issued:</td>
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</table>
Rupture of membranes - spontaneous

References

See individual sections for references

Related legislation and policies

*Health Act 1911* (section 334)

Related WNHS policies, procedures and guidelines

KEMH Clinical Guidelines:

- Antimicrobial Stewardship: [Sepsis and Septic Shock: Antibiotics for Adult Patients at KEMH](#)
- Neonatology guideline: [End of Life Care: Palliative Care, Grief and Loss](#)
- Obstetrics & Gynaecology:
  - [Antenatal Care Schedule](#): Initial visit
  - [Cord Prolapse: Umbilical](#)
  - Cevical Cerclage: [Corticosteroids: Antenatal Use of](#)
  - [Group B Streptococcal Disease](#)
  - **Induction Of Labour**: Artificial Rupture of Membranes [Restricted Area Guideline available to WA Health employees through Healthpoint]
  - [Preterm Labour](#) and [Magnesium Sulphate for Neuroprotection of the Fetus](#)
- Pharmacy Medications: [Erythromycin](#)

Useful resources (including related forms)

Forms:

- MR 283: Maternal Sepsis Pathway (>20 weeks gestation and up to 42 days postpartum)
- MR 284: Adult Sepsis Pathway

Patient resources:

- [Birth of your baby at 23 to 25 weeks](#) (PDF, 565.74KB)
- [Pregnancy, Birth and your Baby booklet](#) (PDF, 5.93MB)
- Pregnancy of Uncertain Viability (publication ID: 0578)
- [Termination of Pregnancy: Information and legal obligations for medical practitioners](#) (PDF, 256.22KB)
- [The Whole Nine Months: Lasts a Lifetime](#) (external website, PDF, 6.24MB) booklet or [website](#) (external website)
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<td><strong>Nov 2019:</strong> RCA recommendation to revise and amalgamate guidelines involving spontaneous rupture of membranes (all gestations) into one document</td>
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<td>Date first issued:</td>
<td>Nov 2019</td>
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<td>Reviewed dates:</td>
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<td><strong>History:</strong> In Nov 2019 amalgamated three individual guidelines on spontaneous rupture of amniotic membranes dating from Sept 2002</td>
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<td>2. Preterm Prelabour Rupture of Membranes (PPROM) (dated May 2018)</td>
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<td>3. Pre-labour Rupture of Membranes at Term (dated May 2017)</td>
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