

South Australian Perinatal Practice Guideline

Prelabour Rupture of Membranes (PROM)

≥ 37 weeks

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Note:

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Explanation of the aboriginal artwork:

The Aboriginal artwork used symbolises the connection to country and the circle shape shows the strong relationships amongst families and the Aboriginal culture. The horse shoe shape design shown in front of the generic statement symbolises a woman and those enclosing a smaller horse shoe shape depicts a pregnant woman. The smaller horse shoe shape in this instance represents the unborn child. The artwork shown before the specific statements within the document symbolises a footprint and demonstrates the need to move forward together in unison.



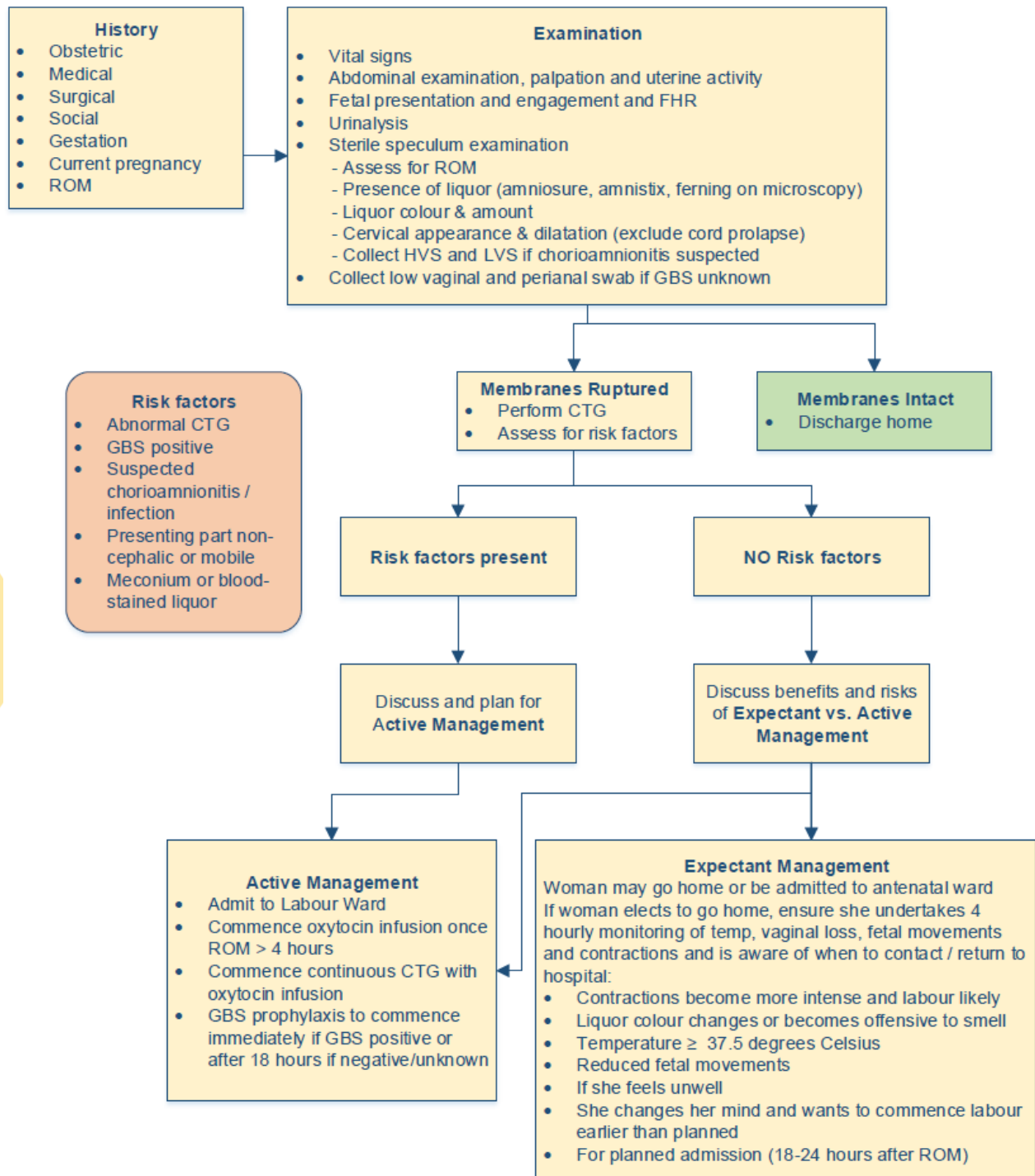
Australian Aboriginal Culture is the oldest living culture in the world yet Aboriginal people continue to experience the poorest health outcomes when compared to non-Aboriginal Australians. In South Australia, Aboriginal women are 2-5 times more likely to die in childbirth and their babies are 2-3 times more likely to be of low birth weight. The accumulative effects of stress, low socio economic status, exposure to violence, historical trauma, culturally unsafe and discriminatory health services and health systems are all major contributors to the disparities in Aboriginal maternal and birthing outcomes. Despite these unacceptable statistics the birth of an Aboriginal baby is a celebration of life and an important cultural event bringing family together in celebration, obligation and responsibility. The diversity between Aboriginal cultures, language and practices differ greatly and so it is imperative that perinatal services prepare to respectfully manage Aboriginal protocol and provide a culturally positive health care experience for Aboriginal people to ensure the best maternal, neonatal and child health outcomes.

Purpose and Scope of Perinatal Practice Guideline (PPG)

The purpose of this guideline is to provide clinicians with information on the assessment and management of prelabour rupture of the membranes (PROM) at term. It includes risks, benefits and criteria for both active and expectant management of PROM. Adequate GBS prophylaxis is defined. A printable fact sheet for women electing expectant management at home is provided.

Prelabour Rupture of Membranes (PROM) ≥ 37 weeks

Flowchart: Assessment & Management of PROM



Prelabour Rupture of Membranes (PROM) ≥ 37 weeks

Table of Contents

Purpose and Scope of Perinatal Practice Guideline (PPG).....	1
Flowchart: Assessment & Management of PROM.....	2
Summary of Practice Recommendations.....	3
Abbreviations	4
Definitions.....	4
Introduction.....	4
Risks.....	4
Literature review.....	5
Assessment.....	5
Confirmation of ROM	6
Cardiotocography	6
Criteria for expectant management:.....	6
Criteria for active management:.....	6
Management	6
Counselling.....	6
Expectant Management	7
Active Management	7
Oxytocin induction:.....	7
Induction of labour methods not recommended for use with PROM:	7
Intrapartum antibiotics.....	8
PROM > 18 – 24 hours	8
Chorioamnionitis	8
Diagnosis.....	8
Treatment.....	8
References	9
Appendices	10
Fact Sheet for Women: Expectant management of PROM at home	10
Acknowledgements	11

Summary of Practice Recommendations

The woman and her partner should be counselled about the risks and benefits of both active and expectant management for PROM at term.

Offer IOL to all women with term PROM.

PROM should be confirmed using a sterile speculum examination. Digital vaginal examination should be avoided unless immediate induction is planned.

Women who are carriers of GBS should commence parenteral antibiotics and induction of labour or elective caesarean section if this was planned, as soon as practicable.

Regardless of any other clinical factors, women at term who have ROM >18 to 24 hours should commence parenteral antibiotic cover.

If GBS prophylaxis is inadequate, observation of the newborn for 24 hours in hospital is recommended.

Infants born to women with suspected chorioamnionitis require admission/transfer to a level 5 or 6 neonatal service for observation and treatment with IV antibiotics.



Prelabour Rupture of Membranes (PROM) ≥ 37 weeks

Abbreviations

ABO	Antibiotics
bpm	Beats per minute
CTG	Cardiotocograph
C	Celsius
et al.	And others
FHR	Fetal heart rate
g	Gram(s)
GBS	Group B Streptococcus
IOL	Induction of labour
IUGR	Intrauterine growth restriction
IV	Intravenous
kg	kilogram
LMP	Last menstrual period
MSL	Meconium stained liquor
µL	Microlitre
mg	Milligrams
mmol/L	Millimoles per litre
NICE	National Institute for Clinical Excellence
PPG	Perinatal Practice Guideline
PROM	Pre-labour rupture of the membranes
PE	Preeclampsia
PGE2	Prostaglandin E2
RCOG	Royal College of Obstetricians and Gynaecologists
ROM	Rupture of membranes
Temp	Temperature
USS	Ultrasound

Definitions

Prelabour rupture of membranes (PROM) ¹	Rupture of the membranes prior to the onset of regular uterine contractions
Term PROM ¹	Rupture of the membranes prior to the onset of regular uterine contractions at or beyond 37 weeks gestation

Introduction

Prelabour Rupture of Membranes (PROM) most frequently occurs at term (37 weeks or more of gestation) with the overall incidence of PROM at term being approximately 8%.² Spontaneous onset of labour after term PROM usually follows within 24 hours with 79% of women labouring spontaneously within 12 hours, and 95% within 24 hours.²

PROM at term may be managed expectantly or by elective birth, usually by induction of labour (IOL). Planned elective birth is usually termed active management whereas expectant management involves waiting for labour to occur and then making management decisions (such as inducing labour) if labour does not occur spontaneously after a specified period.²

Risks

The immediate risks of rupture of membranes include cord prolapse, cord compression and placental abruption.³ Delayed risks include maternal and neonatal infection.³



Prelabour Rupture of Membranes (PROM) ≥ 37 weeks

Literature review

In the absence of high-quality data supporting the safety of delaying evaluation, the most prudent approach is prompt assessment to confirm membrane rupture, determine fetal position, evaluate maternal and fetal status, and discuss options for further management.¹

Two meta-analyses provide information regarding the risks of expectant management versus active management.¹ Compared with expectant management, active management resulted in^{1,2}:

- A reduction in time from membrane rupture to birth
- A reduction in maternal chorioamnionitis and/or endometritis / postnatal septicemia
- Increased rate of IOL
- Longer average lengths of labour
- No increase in caesarean birth
- No difference in epidural analgesia
- A reduction in admission to a neonatal special care or intensive care unit
- No difference in definite early onset neonatal sepsis
- No difference in serious maternal morbidity, mortality or perinatal mortality

Note: None of the trials reported on breastfeeding or postnatal depression, however women in the planned active management group reported more positive experiences than those in the expectant group.²

Scorza et al¹ report prompt intervention also reduces the risk for other serious but less common complications during expectant management, such as cord prolapse or abruption however, they confirm labour tends to be longer with induction compared with spontaneous onset of labour.¹

In women known to have vaginal Group B streptococcus (GBS) colonisation, use of prophylactic antibiotics and early induction of labour is recommended.^{1,2,3}

Antibiotic use in term PROM after 12 hours appears to be associated with a reduced risk of maternal infectious morbidity.^{1,2,3}

Women with otherwise uncomplicated pregnancy who would prefer to await spontaneous onset of labour may reasonably choose expectant management. Such women will have no contraindication to labour or vaginal birth, satisfactory fetal monitoring, and no symptoms of chorioamnionitis or other medical or obstetric complications that increase maternal/fetal risk if birth is delayed.¹ Scorza et al¹ suggest developing a time limit for expectant management through shared decision-making, however, any signs of infection or other pregnancy complications are an indication for termination of expectant management. Birth by the most appropriate method for the clinical situation should then occur.¹

Where women elect for expectant management of term PROM, and this is undertaken at home, women must be advised of the importance of surveillance for infection and fetal wellbeing via monitoring of temperature, fetal movements, contractions and liquor.

Assessment

Assessment includes:³

- Confirmation of gestation
- Determining fetal presentation and engagement of presenting part
- Maternal vital signs
- Uterine activity
- Fetal wellbeing
 - Fetal movements
 - Fetal heart rate
 - Liquor colour



Prelabour Rupture of Membranes (PROM) ≥ 37 weeks

Confirmation of ROM

PROM should be confirmed using a sterile speculum examination including:

- The presence of amniotic fluid proteins in vaginal fluid (e.g. Amniosure, Amnistix, ferning on microscopy).
- Estimate cervical dilatation
- Exclude cord prolapse
- Obtain low vaginal and perianal swab if GBS unknown with consent
- Take high and low vaginal microbial swabs if chorioamnionitis suspected

NB. Digital vaginal examination should be avoided unless immediate induction is planned as this has been shown to increase the rate of neonatal infection.

Cardiotocography

If PROM confirmed undertake cardiotocography (CTG) to assess fetal wellbeing (see *Fetal Surveillance (Cardiotocography)* PPG available at www.sahealth.sa.gov.au/perinatal).

Criteria for expectant management:

- ≥ 37 weeks gestation
- Fixed cephalic presentation.
- Group B streptococcus (GBS) negative or unknown
- No signs infection (maternal tachycardia, fever, uterine tenderness)
- Normal CTG
- No cervical suture
- Commitment to 4 hourly self-monitoring of maternal temperature, vaginal loss and fetal movements³
- Travel time to hospital < 45 minutes (up to 60 minutes negotiated with care provider)

Criteria for active management:

- Maternal choice
- High head
- Non-cephalic presentation
- GBS positive in current pregnancy or previous neonate with GBS sepsis
- Maternal infection or suspicion of chorioamnionitis
- Meconium/blood stained liquor
- Concern for maternal or fetal wellbeing
- PROM > 24 hours
- Vaginal birth contraindicated⁵

Management

Counselling

The woman and her partner should be counselled about the risks and benefits of both active and expectant management for PROM at term, as detailed in the [literature review](#) (above).

It is recommended that women who are carriers of Group B Streptococcus commence parenteral antibiotics and are induced as soon as practicable.

Offer IOL to all women with term PROM and involve the woman and her partner in any decision-making process.

Regardless of any other clinical factors, women at term who have ROM >18 to 24 hours should commence parenteral antibiotic cover. Where GBS prophylaxis is inadequate ([see below](#)), it is recommended that newborns are observed in hospital for 24 hours following birth.



Prelabour Rupture of Membranes (PROM) ≥ 37 weeks

Expectant Management

Women with term PROM who have screened GBS negative or have unknown GBS carrier status and choose expectant management must be offered admission for parenteral antibiotic prophylaxis for GBS before PROM exceeds 18 – 24 hours (see *Antibiotics in the Peripartum Period* PPG available at www.sahealth.sa.gov.au/perinatal).

Induction of labour may be deferred to a more convenient time at the discretion of the clinical staff and the woman, but not longer than 24 hours.

If conservative management at home is the woman's preferred option then:

- She may go home if the CTG is normal
- Ask the woman to record her temperature every 4 hours and to observe vaginal loss, fetal movements and uterine contractions
- Advise the woman to return to the hospital if she develops a fever (> 37.5° C), the colour or the odour of vaginal loss changes, the baby does not move as much as previously or contractions become more intense (see appendix for a [Fact Sheet](#) that can be printed and given to women)
- Advise the woman to report to the hospital for admission before PROM exceeds 24 hours to commence parenteral prophylactic antibiotics and for consideration of IOL if labour has not established.
Note: the agreed timing for return to hospital should be negotiated with the woman for between 18 and 24 hours. She should understand that once ROM exceeds 24 hours, intravenous antibiotics need to be administered at least 4 hours prior to birth to avoid a minimum postnatal admission of 24 hours for infant observations due to increased risk of infection.
- Advise the woman to avoid vaginal intercourse

Active Management

Women who elect active management should be admitted to a Labour and Birth Unit for maternal and fetal observations and commencement of IOL or elective caesarean section if this was planned.

It is recommended that women who are carriers of GBS commence parenteral antibiotics and induction of labour or elective caesarean section, if this was planned, as soon as practicable.

Oxytocin induction:

If labour does not establish after a latent period of 4 hours from PROM, then an oxytocin infusion should be started. Be prepared for a prolonged latent phase of cervical dilatation.

Induction of labour methods not recommended for use with PROM:

- Prostaglandin induction

Most studies, including the International Term PROM trial, have used prostaglandin E₂ but in Australia the manufacturers do not recommend its use with ruptured membranes. Available evidence does not support the safety or efficacy of prostaglandin E₂ in the presence of PROM at term.

- Balloon catheter

Limited evidence on the use of balloon catheters for cervical ripening following PROM found an increased risk for chorioamnionitis with no difference between their use and oxytocin alone.¹



Prelabour Rupture of Membranes (PROM) ≥ 37 weeks

Intrapartum antibiotics

PROM > 18 – 24 hours

Parenteral antibiotic prophylaxis for GBS is required in all cases of PROM > 18 to 24 hours (irrespective of GBS status). See *Antibiotics in the Peripartum Period* PPG at www.sahealth.sa.gov.au/perinatal for antibiotic choice.

Note: the *Early Onset Neonatal Sepsis* PPG (available at www.sahealth.sa.gov.au/perinatal) defines adequate GBS prophylaxis as:

- **If GBS positive:** At least one dose of penicillin (or equivalent if penicillin hypersensitivity) > 4 hours before birth
- **If GBS negative or unknown and birth 18-24 after ROM:** At least one dose of penicillin (or equivalent if penicillin hypersensitivity) before birth (timing of dose is not critical).
- **If GBS negative or unknown and birth > 24 hours after ROM:** At least one dose of penicillin (or equivalent if penicillin hypersensitivity) > 4 hours before birth

If GBS prophylaxis is inadequate, observation of the newborn for 24 hours in hospital is recommended.

Chorioamnionitis

Diagnosis

The diagnosis of chorioamnionitis relies on clinical presentation and may be difficult to diagnose in its early manifestations.

Diagnosis of chorioamnionitis relies on clinical presentation:

- Maternal temperature (>38°C) with any 2 of the following:
 - Maternal tachycardia (>100 bpm)
 - Fetal tachycardia (>160 bpm)
 - Uterine tenderness
 - Offensive smelling vaginal discharge / liquor
 - Increased white cell count (> 15 x 10⁹ / L)
 - C-Reactive Protein > 40
- Histological examination of placenta and membranes with evidence of acute inflammation may confirm diagnosis post birth

Consideration should also be given to check for any other site of infection (e.g. urinary or respiratory tract) which could cause these changes.

If in doubt consultation with a senior obstetrician, maternal fetal medicine or infectious disease physician should be considered.

Treatment

See *Antibiotics in the Peripartum Period* PPG available at www.sahealth.sa.gov.au/perinatal for antibiotic choices.

Do not inhibit labour, but consider hastening birth under intravenous antibiotic cover.

Consider optimal mode of birth (LSCS versus vaginal birth) on the basis of the assessment and the anticipated duration until birth.

Consider ongoing treatment with antibiotics postnatally (See *Antibiotics in the Peripartum Period* PPG available at www.sahealth.sa.gov.au/perinatal for guidance).

Infants born to women with suspected chorioamnionitis require admission/transfer to a level 5 or 6 neonatal service for observation and treatment with IV antibiotics (see *Early Onset Neonatal Sepsis* PPG available at www.sahealth.sa.gov.au/perinatal).



Prelabour Rupture of Membranes (PROM) ≥ 37 weeks

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Fact Sheet

Prelabour rupture of the membranes (PROM): Expectant management at home

Approximately 8% of women will rupture their membranes (break their waters) before labour starts. Most women (up to 95%) will start labour spontaneously within 24 hours. For women without risk factors, it is reasonable to wait up to 24 hours for labour to start at home.

Expectant versus active management of PROM

A number of trials have compared active management of prelabour rupture of membranes (starting labour and antibiotics straight away) with expectant management (waiting for up to 24 hours before inducing labour and starting antibiotics). Compared with active management, expectant management of PROM resulted in:

- > An increase in time from membrane rupture to birth
- > An increase in infection rates before and after birth for the woman
- > Decreased rates of induction of labour (i.e. increased rate of spontaneous onset of labour)
- > Shorter average lengths of labour
- > No increase in caesarean birth
- > No difference in epidural analgesia
- > An increase in newborn admissions to a neonatal special care or intensive care unit
- > No difference in definite early onset infection in babies but a trend towards increased infection rates
- > No difference in serious maternal or infant complications or death of mother or infant

None of the trials reported on breastfeeding or postnatal depression, however women in the planned active management group reported more positive experiences than those in the expectant group.

Monitoring at home

It is important to check for signs of infection and to monitor your baby's wellbeing at home every 4 hours or earlier if you are concerned. You can record this on the table below:

Observation Post-PROM	Temperature	Vaginal fluid / discharge	Baby's movement	Contractions
4 hours				
8 hours				
12 hours				
16 hours				
20 hours				

When to contact the hospital or return to hospital

- > If your contractions become more intense and you think you have gone into labour
- > If the colour of your liquor (fluid that is leaking) changes (e.g. red or green/brown)
- > If your liquor or vaginal discharge starts to 'smell'
- > If your temperature is 37.5 degrees Celsius or above
- > If your baby is moving less than it normally would
- > You feel unwell
- > You change your mind and want to commence labour earlier than planned

After your membranes have been ruptured for between 18 and 24 hours, you should return to hospital to commence intravenous antibiotics and to induce labour if it hasn't started.

For more information

Contact your local hospital on: _____

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Prelabour Rupture of Membranes (PROM) ≥ 37 weeks

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